U.S. Department
of Transportation
Federal Transit Administration

REGION VIII
Colorado, Montana,
North Dakota,
South Dakota,
Utah and Wyoming

1961 Stout Street
Suite 13301
Denver, Colorado 80294
(303) 362-2400 (voice)

July 27, 2023

Mr. Carlos Braceras
Executive Director
Utah Department of Transportation
4501 South 2700 West
P.O. Box 141265
Salt Lake City, UT 84114-1265

Re: NEPA Approval for the **FrontRunner Forward Program – North of Clearfield Double Track Project**

Dear Mr. Braceras:

Thank you for providing the environmental documentation for the **FrontRunner Forward Program – North of Clearfield Double Track** project. The project is planning to utilize Federal Transit Administration (FTA) Capital Investment Grants (CIG) Program funding to develop a double track alignment from the FrontRunner Clearfield Station to the 2300 North at-grade crossing in Davis County, Utah.

FTA funding is requested to design and construct a 3.6-mile section of double track located from the FrontRunner Clearfield Station extending north to the 2300 North at-grade crossing along the existing FrontRunner commuter rail system. The project would improve reliability and reduce delays of the service. The project would involve filling and grading along the east side of the existing rail corridor to widen the existing mainline track bed, including installation of rail ballast to support the new mainline track. The project would shift the existing mainline track where needed, remove an existing turnout and construct a new turnout at the north end of the alignment, and extend culverts where needed. Approximately 3,000 linear feet of new and reconstructed retaining walls would be constructed to avoid impacts to existing roadways and adjacent properties.

Based on the findings of the Categorical Exclusion (CE) for the project, FTA understands the following mitigation measures will be implemented:

- All acquisitions and construction easements will comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 USC Chapter 61).
- In the event of the inadvertent discovery of human remains and/or archaeological resources are found during construction, construction will be halted, and the State Historic Preservation Office will be contacted immediately.
- The City of Clearfield will be coordinated with regarding impacts to Train Watch Park including compensation for the acquired area and replacement and restoration of affected areas to the same condition or better than the current condition. Train Watch Park will remain open during construction. Refer to the project CE worksheet for additional details regarding mitigation.
- Noise impacts will be mitigated by utilizing a spring-rail frog which closes the gap in the tracks in the through direction. Approximately 300 feet of ballast mat will be utilized beneath the turnout.
- Two Operable Units within the Hill Air Force Base are classified as involving contaminants posing a medium risk of being encountered during the development of the project. Construction impacts in the northern portion of the alignment (in the vicinity of the contamination plumes) will require

coordination with the site's remedial project managers from the Utah Department of Environmental Quality Division of Environmental Response and Remediation, United States Environmental Protection Agency, and Hill Air Force Base to determine any special requirements for construction within the plume area.

- Due diligence will be conducted during final design to identify whether hazardous materials are present prior to property acquisitions and construction. As part of this due diligence, a Phase I Environmental Site Assessment (ESA) in accordance with ASTM standards will be conducted for any property acquisitions and conduct any recommended Phase II ESA investigations.
- Plans for hazardous materials handling and disposal will be developed for the project, and this will include coordination with state and federal agencies with jurisdiction over the properties.
- A soil and groundwater management plan will be prepared prior to construction. This plan will describe the necessary soil and groundwater investigations needed to characterize pollutant concentrations in soil and groundwater, describe the protection measures that will be used to prevent the spread of contamination, communicate the health risks to construction workers, define appropriate disposal or treatment methods, and help better identify construction-related impacts.
- An evaluation will be completed to determine if final design will require revision to the flood map. If necessary, a pre-construction Conditional Letter of Map Revision (CLOMR) will be submitted to FEMA. After construction a Letter of Map Revision (LOMR) will be submitted to FEMA, if required. Sunset City, the floodplain administrator for the area, will be coordinated with regarding this process. In addition, a floodplain development permit will be obtained from Sunset City.
- If stormwater infrastructure elements need to be relocated, they would be replaced in kind following the applicable drainage design criteria as stated in UTA's Commuter Rail Design Criteria (2015).
- Coverage under the Utah Pollutant Discharge Elimination System (UPDES) Construction General Permit UTRC00000 (CGP) will be obtained prior to construction through the Utah Division of Water Quality. In compliance with this permit, a stormwater pollution prevention plan (SWPPP) will be developed.
- If United States Army Corp of Engineers (USACE) determines that wetlands in the project area are jurisdictional, the project will obtain authorization under Nationwide Permit (NWP) 14 Linear Transportation Projects, which will require submittal of a Pre-Construction Notification. Best management practices (e.g., protective fencing and sediment barriers) will also be implemented to minimize impacts to wetlands during construction.
- Utility providers will be coordinated with on utility impacts as the project design advances to avoid lapses in service during construction.
- Local noise ordinances will be complied with during construction.
- Construction work will be scheduled to minimize impacts to commuter rail passengers (nights, weekends, and/or holidays).
- Implementation of construction mitigation to control fugitive dust and stormwater runoff.
- Roadway regrading near crossing work will be coordinated with the local roadway jurisdiction to provide detours, temporary closures, or lane restrictions. Work will be scheduled on nights or weekends, when possible, to reduce impacts to the roadway traffic. Special consideration will be coordinated with the roadway owner to provide necessary pedestrian mitigation during this grade crossing work.
- Traffic control plans will be developed to obtain proper permitting from local roadway jurisdiction for temporary lane closures, roadway closures, and detours.
- Any required state and local permitting and compliance requirements for the project will be adhered to and/or obtained.

Based on the documentation provided by your office, FTA concurs with the finding that the proposed project meets the definition of a CE pursuant to 23 CFR §771.118(c)(8). If you have any questions regarding this finding, please contact Robyn Kullas in my office at Robyn.Kullas@dot.gov or (303)362-2389. Please keep FTA informed of any additional changes to the project should they occur.

Sincerely,

DAVID L BECKHOUSE

Digitally signed by DAVID L BECKHOUSE
Date: 2023.07.28 09:25:18 -06'00'

Cindy Terwilliger
Regional Administrator

Cc:
Brian Allen, Utah Department of Transportation
Jay Fox, Utah Transit Authority
Janelle Robertson, Utah Transit Authority
Patti Garver, Utah Transit Authority
Autumn Hu, Utah Transit Authority

Hu, Autumn (NEPA Project Administrator)

From: Kullas, Robyn (FTA) <robyn.kullas@dot.gov>
Sent: Friday, July 28, 2023 11:11 AM
To: cbraceras utah.gov
Cc: Brian Allen; Hu, Autumn (NEPA Project Administrator); Robertson, Janelle (Project Manager III); Garver, Patti (Mgr Environmental & Grant Svcs); Beckhouse, David (FTA); Terwilliger, Cindy (FTA); MacDonald, Tracey (FTA); Lynch, John (FTA); Gonzales, Terry (FTA); Hadley, Peter (FTA); Evanoff, Kristina (FTA); Tunison, Ranae (FTA); Fox, Jay (Executive Director)
Subject: FrontRunner Forward North of Clearfield Double Track Project - FTA NEPA Approval
Attachments: FTA_R8 UTA_FRF_Clearfield_DoubleTrack_CE_Approval_072723.pdf; FTA_R8_FRF_Clearfield Double Track CE Worksheet_072623.pdf

Carlos,

Based on the documentation provided for FrontRunner Forward Program – North of Clearfield Double Track Project, FTA concurs with the finding that the proposed project meets the definition of Categorical Exclusion (CE) List C Type 8, pursuant to 23 CFR §771.118(c)(8). Please see the FTA Region 8 NEPA Approval Letter attached, and note the environmental commitments identified in the letter based on the findings of the CE. I have also attached the project CE worksheet for your records.

Please let me know if you have any questions.

Thank you!

Robyn Kullas
Environmental Protection Specialist | Region 8
Federal Transit Administration | U.S. Department of Transportation
1961 Stout Street, Suite 13-301 | Denver, CO 80294-3007
(303) 362-2389 robyn.kullas@dot.gov **|** www.fta.dot.gov

FTA REGION 8
CATEGORICAL EXCLUSION WORKSHEET

FTA Region 8 provides this Categorical Exclusion (CE) worksheet to help project sponsors (recipients) comply with the National Environmental Policy Act (NEPA). The information collected will help to better define the project scope for environmental analysis, identify potential impacts, and determine if other environmental laws and permits apply. If sufficiently completed, it can enable FTA to determine that the project does not result in significant environmental impacts and meets the criteria for a CE. All activities and projects to be supported with federal funds require a NEPA environmental finding as a prerequisite to award of funds.

This CE Worksheet should be completed for C-List projects involving construction and *all* D-List projects. **If a C-List project does not involve construction, you do not need to complete this worksheet.** All parts below must be completed prior to FTA review. Compliance with other environmental requirements must also be completed before FTA will issue a determination that the project meets the criteria for a CE. Certain project activities may not begin until this process is complete. For guidance on completing this worksheet, please refer to the CE Worksheet Instructions.

Prior to transmitting a grant application, complete and submit this CE Worksheet using the CE Worksheet Instructions allowing sufficient time for FTA review, especially if other environmental laws or permits apply. For assistance, please contact your assigned FTA Region 8 Pre-Award Manager, or you may call the office at 303-362-2400. To "check" a box, double-click on the box and select "checked" under default value.

PART A: PROJECT INFORMATION

Project Sponsor *Utah Transit Authority (UTA)*	FTA Application No/FAIN *CIG*
Project Contact (include mailing address, email address and phone number) *Janelle Robertson* *Project Manager II* *Utah Transit Authority* *801-237-1951* *jarobertson@rideuta.com* *669 West 200 South* *Salt Lake City, UT 84101*	
Project Title *North of Clearfield Double Track Project – FrontRunner Forward Program*	
Project Description *The Utah Transit Authority (UTA) is proposing to construct a new double track section along approximately 3.6 miles of existing single track FrontRunner commuter rail line from the FrontRunner Clearfield Station at the south end of the alignment to the 2300 North at-grade crossing at the north (project) in Davis County, Utah (see Figure 1 in Attachment 1). This section runs parallel to the existing Union Pacific (UP) rail corridor to the west. The project would improve reliability and reduce delays of the FrontRunner service. The purpose and need of the project and further detail about investments associated with the FrontRunner Forward Program are included in a separate report, FrontRunner Forward Strategic Double Track Recommended Service Alternative Overview – A Planning and Environmental Linkage Study (PEL) (May 2023).* *Figure 2 in Attachment 1 shows the various project elements, and a detailed plan set is included as Attachment 2. The project would involve filling and grading along the east side of the existing rail corridor to widen the existing mainline track bed, including installation of rail ballast to support the new mainline track adjacent to and parallel*	

with the existing FrontRunner mainline track. The project would shift the existing FrontRunner mainline track where needed, remove an existing turnout and construct a new turnout at the north end of the alignment, and extend culverts where needed.

The project would add an additional set of tracks at existing at-grade roadway crossings at 1300 North and 1800 North, which would require modification of the roadway profile and relocation of the quad-gate system of signals and crossing arms at each intersection. No bridge or abutment work is anticipated for the below grade crossings at 700 South, Center Street, 300 North, or 800 North. Approximately 3,000 linear feet of new and reconstructed retaining walls would be necessary to avoid impacts to existing roadways and adjacent properties. The approximate height of these walls is anticipated to be between 3 and 10 feet, but heights may change during final design.

Preliminary track design modeling shows the estimated excavation from top of existing ground to bottom of proposed subballast or track ditch for proposed trackwork construction would range from 2 to 5 feet. Depth of excavation for utilities would range from 7 to 8 feet deep. Retaining walls could require excavation between 2 and 20 feet deep, depending on the type and size of the wall, which would be determined during final design.

Project construction is anticipated to take approximately one year. Construction staging and laydown may require new access points to the rail corridor and temporary use of adjacent properties or rights-of-way. The project would intersect and require modifications to several above- and underground utilities; however, no major interruptions or relocations are anticipated. Please see the response to questions 17 and 18 under Part C for more detail about utilities and construction impacts, respectively.

Throughout the worksheet, the term "project area" is used to describe the area of potential project impacts from construction and right-of-way acquisition. The boundary of the project area ranges between 70- to 200-foot-wide corridor following the rail alignment as shown in Figure 2 in Attachment 1. The term "study area" is used to describe the area within which a specific resource was studied. The study area for each resource is the project area unless otherwise stated.

Project Location (Include physical address)

Linear project along FrontRunner corridor between MP N 29.9 and MP N 26.2, from Clearfield to Sunset, in Davis County, Utah.

Is this project included in the current approved TIP and/or STIP?

☐ YES – TIP/STIP ID/Page No.: ☒ NO – When will it be added? Pending

The adopted Wasatch Front Regional Council's (WFRC) 2023–2050 regional transportation plan (RTP) includes the full length of the proposed double track projects. The TIP would be updated in the fall of 2023 to include this project, which is anticipated to be constructed within the next 5 years.

Is this a re-evaluation of a project previously evaluated/approved or currently under construction?

☒ NO

☐ YES

PART B: PROPOSED CATEGORICAL EXCLUSION DETERMINATION

Select the CE category under 23 CFR 771.118(c) or (d) that best describes the proposed project (select only one). FHWA and FRA CEs also may be used, if applicable. CE descriptions are included in the CE Worksheet Instructions.

CE (e.g., C-9 or D-6): *FTA C-8: Maintenance, rehabilitation, and reconstruction of facilities that occupy substantially the same geographic footprint and do not result in a change in functional use, such as: improvements to bridges, tunnels, storage yards, buildings, stations, and terminals; construction of platform extensions, passing track, and retaining walls; and improvements to tracks and railbeds.*

PART C: ENVIRONMENTAL EVALUATION

For each of the following resources, identify, evaluate and describe any adverse impacts to the built (including social and economic) and natural environment resulting from the proposed project. Select NO, if a resource is not present on or near the proposed project area, or if there are no adverse impacts. Select YES, if a resource is present and will be impacted; and succinctly describe the impacts, any mitigation necessary to minimize impacts, and any permits required. Please explain your answer. The level of detail you provide should be commensurate with the complexity of the project. For guidance on how to evaluate each resource for impacts, see the CE Worksheet Instructions. If, through your evaluation, you believe the project *will* result in significant environmental impacts or you aren't sure, and/or it is likely to generate substantial controversy on environmental grounds, contact FTA Region 8.

1. Land Use and Zoning

Is the proposed project incompatible or inconsistent with existing or future land use and/or zoning in the project area? Describe the surrounding land use and zoning. Provide a map with project location and surrounding land uses.

☒ NO

☐ YES

The project falls within the municipal boundaries of Sunset, Clinton, and Clearfield, Utah. Figure 3 in Attachment 1 shows the zoning for each of these cities.

Zoning in Sunset City, which is located on the northeast portion of the alignment, is composed of R-1 Residential, C-2-C Commercial, and C-2 Commercial. Future planning for Sunset would not change the current zoning adjacent to the project alignment, and the project is not incompatible or inconsistent with current or future zoning in the area.

Zoning in Clinton City adjacent to the alignment is currently made up of various residential types, including R-M, R-1-8, and R-1-8A. Future use zoning does not include any changes to the areas bordering the project alignment and includes no impacts or inconsistency with the project.

Zoning in Clearfield City adjacent to the alignment is composed of predominantly M-1 Industrial on the west side of the alignment. The east side of the alignment within Clearfield is made up of various residential zones, including R-3 Residential, TR Town Neighborhood Residential, UR Urban Mixed Residential, and R-1-8 Residential, it also includes TC Town Mixed Commerce, M-U Mixed Use, A-1 Agricultural, and CV Civic. Future use zoning for Clearfield is similar to current zoning, with some changes to the east side of the project area: the A-1 Agricultural and R-3 Residential are consolidated into one Residential zone, the current TC Town Mixed Commerce becomes Commercial area, and the current UR Urban Mixed Residential becomes Mixed Use area.

The project is not incompatible or inconsistent with the current land uses or future land use map and zoning in the area.

2. Land/Property Acquisition, Relocation, Leases and Easements

Does the proposed project require any land/property acquisition, easement or permit? Note: for acquisitions over $1 million, FTA concurrence with the property's valuation is also required (see Circular 5010.E). Explain.

☐ NO

☒ YES

The project would require a number of property acquisitions. These acquisitions include partial acquisitions of residential properties to allow for the installation of the double track. To allow room for the second track, the project would require approximately 184,700 square feet (sq. ft.) (4.2 acres) of right-of-way acquisition from residential and vacant properties, including approximately 1,300 square feet from a Sunset City Public Works Maintenance Facility property and approximately 300 sq. ft. from a park in Clearfield City. Figure 4 in Attachment 1 shows a map of all parcels affected by acquisition, and Table 1 in Attachment 1 lists affected parcels and provides more detailed information on the acquisitions. These acquisitions would not displace residents, but may require the removal or relocation of existing non-residential structures such as sheds or outbuildings from individual properties and from within existing UTA right-of-way.

Temporary easements would be required for utilities and other construction activities. These easements would not require permanent conversion of properties and sites would be restored to previous existing conditions or better. Permanent easements or other property rights may be necessary and would be determined during final design. All acquisition and construction easements will comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 USC Chapter 61).

At this preliminary level of design, UTA does not yet know exactly where temporary construction easements would be needed. However, the design footprint used to assess impacts to resources includes the anticipated limits of physical disturbance, including space for potential temporary construction workspaces, and the limits of any anticipated right-of-way and temporary easement acquisition. Actual locations of temporary construction easements would be determined during final design. UTA will coordinate with property owners during final design to minimize impacts to properties; where possible retaining walls would be constructed on UTA right-of-way in place of property acquisition.

3. Environmental Justice

Is the proposed project located in a neighborhood containing minority or low-income residents or businesses? If yes, will it result in disproportionately high and adverse impacts? Explain.

☐ NO

☒ YES

The project is located within neighborhoods with minority and populations that are below the federal poverty level. Project impacts include potential noise and vibration impacts from the installation of a new turnout at the north terminus of the double track section and partial acquisitions of parcels adjacent to the project alignment. However, the noise and vibration impacts would be mitigated (see Attachment 5, Noise and Vibration Assessment).

The project would not displace residents or businesses but could result in minor strip takes and the removal of non-residential structures, trees, and other vegetation from individual properties and adjacent UTA right-of-way. Property owners would be compensated for the removal of any structures from their property, and trees and vegetation would be replaced where possible outside the rail corridor clear zone. Provisions for acquisitions would be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (1970) and FTA requirements. The project would not have disproportionately high or adverse impacts to minority or low-income populations. The project would benefit the population of surrounding neighborhoods, including low-income and minority populations, by improving FrontRunner transit service capacity and reliability.

3. (continued)

For the purposes of this analysis and in line with Census definitions, minority populations are defined as individuals who have identified as Black or African American, Asian, American Indian and Alaska Native, Native Hawaiian and Other Pacific Islander, Hispanic or Latino, some other race alone, or two or more races. Low-income residents are defined as households with an income level at or below the federal poverty level for a 4-person household as determined by the Department of Health and Human Services ($25,750 for a family of four in 2019).

To determine if environmental justice communities or populations are present in the project vicinity, American Community Survey (ACS) 5-year estimate data from 2019 was used. Using a geographic information system (GIS), all block groups that within a half-mile buffer of the project were analyzed and compared to Davis County, Clearfield City, Clinton City, and Sunset City. Figure 5 in Attachment 1 shows the location of each block group in the Project area.

Table 2 in Attachment 1 shows total population, minority population, populations below the federal poverty level, and the percentages of the total population for those groups in Davis County, Clearfield City, Clinton City, and Sunset City, in each individual block group that intersects the 0.5-mile study area, and in the 0.5-mile study area (all block groups). Most block groups in the study area contain minority and low-income residents. Individual block groups within the study area that have a minority or low-income population above the average percentage of the city in which they are located are identified in Table 2.

In addition, a corridor-wide environmental justice analysis has been conducted to evaluate potential impacts of the future anticipated service increase along the FrontRunner corridor. The corridor-wide environmental justice analysis is documented in a separate report, FrontRunner Forward Corridor Level Environmental Justice Technical Memorandum (May 2023) and summarized in the PEL (May 2023).

4. Cultural, Historic and Archaeological Resources

Are there any cultural, historic or archaeological resources on or near the proposed project site? If yes and the proposed project has the potential to affect such resources, the Section 106 process must be followed and a Section 4(f) evaluation may be required. Explain, including what steps were taken to make the determination.

☐ NO

☒ YES

A cultural resource survey was conducted in spring 2022. For the purposes of this analysis, the project area serves as the Area of Potential Effect (APE). One archaeological site was identified within the project APE, [redacted], which has been determined eligible for the National Register of Historic Places. During the survey, 131 properties that could have historical significance were identified. From these, 41 buildings were identified that are determined to be NRHP eligible based a site reconnaissance level survey considering age and integrity only.

If YES resources are present, does Section 106 apply? Explain.

☐ NO

☒ YES – Provide Section 106 Consultation Documentation

*Project construction would avoid removing or relocating [redacted]. The project would result in **no historic properties affected** under Section 106 for 26 of the eligible properties (the archaeological site and 25 buildings). For the remaining 16 eligible properties it was determined that the planned strip acquisitions would result in **no adverse effect** under Section 106. SHPO concurred with the Section 106 finding on March 3, 2023. The Section 106 consultation documentation is included in Attachment 3.*

4. (continued)

In the event of the inadvertent discovery of human remains and/or archaeological resources are found during construction, construction will be halted, and SHPO should be contacted immediately.

If YES resources are present, does Section 4(f) apply? Explain.

☐ NO

☒ YES – Provide Section 4(f) Evaluation

As project construction would avoid removing or relocating [redacted] *and would not affect 25 of the NRHP-eligible buildings, the project would result in* ***no historic properties affected*** *under Section 106 and would have* ***no use*** *of those 26 historic sites under Section 4(f). Property acquisitions from the 16 remaining NRHP-eligible properties would result in* ***no adverse effect under*** *Section 106 resulting in a* ***de minimis*** *impact finding under Section 4(f). SHPO was submitted notification of the de minimis finding in the Section 106 consultation referenced above.*

In addition, a corridor-wide cultural resources survey has been conducted to evaluate potential cumulative impacts along the FrontRunner corridor. The corridor-wide survey is documented in a separate report, A Cultural Resources Survey for the Utah Transit Authority's FrontRunner Forward Double Track and Rail Realignment Project; Davis, Salt Lake, and Utah Counties, Utah (July 2022) and summarized in the PEL (May 2023).

5. Visual/Aesthetics

Will the proposed project degrade the existing visual/aesthetic character or quality of the site, its surroundings, and/or recognized view sheds? Explain.

☒ NO

☐ YES

There are no visual or aesthetic resources, unique visual characteristics, or sensitive viewpoints in the vicinity of the project that would be impacted from temporary construction or long-term operational activities. The study area for this resource includes the project area and its surroundings, which consist of mostly industrial and residential land uses and the I-15 corridor, with no prominent visual or aesthetic resources. The additional track would be visually consistent with the existing commuter rail and freight rail corridor and their related facilities, and the project, much of which is below the grade of the surrounding areas, would not introduce visually prominent features that would be out of scale or character for the area.

Current usage of the alignment would not change during or after construction; however, there would be minor visual changes in the area during and after construction. Visual changes include the addition of the second track and proposed retaining walls between 3 and 10 feet along the length of the project. The additional rail track would be approximately 20 feet closer to current residential areas and recreational facilities. The project would not obstruct views of visual resources in the larger vicinity.

6. Park and Recreation Resources

Are there any public parks and/or recreation resources on or near the proposed project area that would be impacted? If the proposed project has the potential to impact publicly-owned parks or recreation areas, a Section 4(f) evaluation may be required. If a park is funded with LWCF funds, Section 6(f) may apply. Explain.

☐ NO

☒ YES

There would be an acquisition of a strip of property from the western edge of Train Watch Park located at 200 W 250 N, Clearfield, UT 84015. This park is owned by the Clearfield City and was not funded with LWCF funds. Train Watch Park is a 1.56-acre park, and has a small play area, as well as lawn, trees, and picnic tables, some of which are on the west side of the park adjacent to the railway. The additional rail tracks would be built within UTA existing right of way, which would require removing the existing fence and vegetation, including trees and shrubs that border the park and obscure views of the railroad corridor from the park. The project would involve a strip acquisition of approximately 300 square feet (0.006 acre) from the west edge of the park to maintain required safety clearance for the railway and 1,100 square feet (0.025 acre) of temporary construction easement. The existing fence would be replaced along the length of the park and rebuilt further into the park in the southwest corner to accommodate the clear zone for the new rail. This could result in the potential removal of one tree within the park near the fence. Other trees within the park would be avoided.

The acquisition would not affect the active recreation (playground). Some of the picnic tables would be closer to the additional railroad tracks than they are today, but would not be directly affected. Removal of trees and shrubs within with UTA right-of-way, outside the park boundary, would provide a better view of the rail corridor and will enhance the train watching experience at Train Watch Park. UTA would coordinate with Clearfield to provide compensation for the acquired area and to replace and restore affected areas to the same condition or better than the area today. Temporary construction easements would be needed to construction the new fence, but it would not impact the active recreation (playground) or use of nearby areas in the park. The park would remain open to the public during construction.

Non-affected parks in the vicinity of the Project and a detail of impacts to Train Watch Park are shown on Figures 6 and 7 in Attachment 1.

If YES, does Section 4(f) apply? Explain.

☐ NO

☒ YES – Provide Section 4(f) Evaluation

*FTA submitted a letter to Clearfield City, the Official with Jurisdiction for the park as defined by Section 4(f), on February 28, 2023 describing project improvements in the park area, associated impacts, and proposed mitigation measures. The letter states FTA's determination that the effects of the proposed project to Train Watch Park are considered a **de minimis** impact and requests concurrence from Clearfield City regarding the finding. Clearfield City concurred with the finding, associated impacts, and mitigation on February 28, 2023 (Attachment 4).*

As required for a Section 4(f) de minimis finding, a two-week public comment period was provided in January 2023 for the public to review the park improvements and impacts. The notice of the public comment period was printed in the Standard-Examiner, posted at Train Watch Park, and distributed through email and social media. Two comments were received requesting information regarding the project website and section phasing as well one comment supporting the project.

If YES, does Section 6(f) apply? Explain.

☒ NO

☐ YES – Provide documentation

This park was not funded with LWCF funds.

7. Noise and Vibration

Are there any noise and/or vibration sensitive receptors located near the proposed project that would be impacted? Explain.

☐ NO

☒ YES

The project area includes residences, which are noise and vibration sensitive receivers, along both sides of the rail alignment from approximately Center Street north to the end of the project at 2300 N (approximately 2.4 miles). A Noise and Vibration Impact Assessment conducted in May 2022 determined that there would be three moderate noise impacts and four vibration impacts to sensitive receivers on the east side of the tracks due to the new turnout at the northern end of the section, just to the south of 2300 N. These impacts would be mitigated by utilizing a spring-rail frog, which closes the gap in the tracks in the through direction, and approximately 300 feet of ballast mat beneath the turnout. Halving the number of trains that cross the gap through use of the spring-rail frog would sufficiently reduce cumulative noise levels below the impact threshold and reduce the number of trains producing additional vibration. The ballast mat would provide additional vibration mitigation that would further reduce impacts from the turnout.

For the remainder of the sensitive receivers on the east side of the tracks, the increase in noise and vibration levels would not be large enough to exceed the thresholds for impact. For all the receivers on the west side of the tracks, there would be a slight decrease in the noise levels, and no change in vibration levels due to half the FrontRunner trains being moved further from the sensitive receivers on that side of the tracks.

For additional information see the Noise and Vibration Assessment in Attachment 5.

The FrontRunner corridor from Ogden to Provo is an established Federal Rail Administration (FRA) quiet zone corridor for both FrontRunner and freight train traffic. In a quiet zone, railroads have been directed to cease the routine sounding of their horns when approaching public grade crossings. Train horns may still be used in emergency situations. For this noise assessment, train horn noise was not included.

In addition, a corridor-wide noise and vibration analysis has been conducted to evaluate potential impacts of the future anticipated service increase along the FrontRunner corridor. The corridor-wide noise and vibration analysis is documented in a separate report, FrontRunner Forward Corridor Level Noise and Vibration Technical Memorandum (May 2023) and summarized in the PEL (May 2023).

8. Air Quality

Is the proposed project located in an Environmental Protection Agency (EPA)-designated non-attainment or maintenance area?

☐ NO

☒ YES - indicate the criteria pollutant and contact FTA to determine if a hot spot analysis is necessary.

- ☐ Carbon Monoxide (CO)
- ☐ Sulfur Dioxide (SO2)
- ☐ Lead (Pb)
- ☐ Nitrogen Dioxide (NO2)
- ☒ Ozone (O3)
- ☐ Particulate Matter (PM10)
- ☒ Particulate Matter (PM2.5)

Does the proposed project require a conformity analysis or regional analysis under 40 CFR Part 93?

☐ NO

☒ YES

If the non-attainment area is also in a metropolitan area, is the proposed project required to be and included in the MPO's air quality conformity analysis for the Transportation Improvement Program (TIP)?

☐ NO

☒ YES - Date of FHWA/FTA conformity finding

The project is located in Davis County, which is currently designated as a Marginal Non-Attainment Area for ozone (O_3) and a Serious Non-Attainment Area for PM with a diameter ≤2.5 micrometers ($PM_{2.5}$).

Because the project is located in a nonattainment area and is not exempt from a conformity analysis under 40 CFR 93.126, a General Conformity applicability assessment is needed, and the project must be listed on a conforming Metropolitan Transportation Plan and Transportation Improvement Plan. The Wasatch Front Regional Council (WFRC) considers air quality as part of its Regional Transportation Plan (RTP). The 2023-2050 WFRC RTP and Air Quality Conformity Memorandum #41 were adopted in May 2023 and include the full length of the proposed double track projects.

In addition, a corridor-wide air quality analysis has been conducted to evaluate potential impacts of the future anticipated service increase along the FrontRunner corridor. The corridor-wide air quality analysis is documented in a separate report, FrontRunner Forward Corridor Level Air Quality Technical Memorandum (June 2023) and summarized in the PEL (May 2023).

9. Hazardous Materials

Is there any known or potential contamination at the proposed project site that would be impacted? Describe the steps taken to make the determination (Phase I ESA, etc.) and results. Note the mitigation and clean-up measures that will be taken to remove hazardous materials from the project site, if applicable.

☐ NO

☒ YES

A Hazardous Materials Assessment (Attachment 6) was completed using pertinent state and federal regulatory database information procured from Environmental Data Resources, Inc. (EDR) and publicly available sources to identify contaminated sites within 0.25 mile of the project area that have the potential to impact the project. Most sites identified in the project vicinity were not determined to have potential to impact the proposed project. Additionally, the sites are not expected to result in additional impacts to the environment as a result of the project. All sites within the 0.25-mile study area are shown in Figure 2, Attachment 6.

Within the 0.25-mile study area, two Operable Units within the Hill Air Force Base are classified as involving contaminants posing a medium risk of being encountered during the development of the project (Figure 3 in Attachment 6). The sites are part of the Hill Air Force Base Superfund Site on the National Priority List and consist of delineated contamination plumes that cross or abut the project alignment. Construction impacts in the northern portion of the alignment (in the vicinity of the contamination plumes) would require coordination with the site's remedial project managers from the Utah Department of Environmental Quality Division of Environmental Response and Remediation, United States Environmental Protection Agency, and Hill Air Force Base to determine any special requirements for construction within the plume area.

In accordance with FTA Standard Operating Procedures and applicable regulatory requirements, UTA would conduct due diligence during final design, identifying whether hazardous materials are present prior to property acquisitions and construction. As part of this due diligence, UTA would conduct a Phase I Environmental Site Assessment (ESA) in accordance with ASTM standards for any property acquisitions and conduct any recommended Phase II ESA investigations. Plans for hazardous materials handling and disposal would be developed for the project, and this would include coordination with state and federal agencies with jurisdiction over the properties.

UTA would prepare a soil and groundwater management plan before construction. This plan would describe the necessary soil and groundwater investigations needed to characterize pollutant concentrations in soil and groundwater, describe the protection measures that would be used to prevent the spread of contamination, communicate the health risks to construction workers, define appropriate disposal or treatment methods, and help UTA better identify construction-related impacts.

10. Farmland

Are there any prime or unique farmlands located at the proposed project site that would be impacted? Explain.

☒ NO

☐ YES

The project area is located in the Ogden-Layton, UT Urbanized Area as designated by the U.S. Census Bureau (see Figure 8 in Attachment 1), and therefore is not subject to the Farmland Protection Policy Act.

11. Floodplains

Is the proposed project located within the Federal Emergency Management Agency (FEMA) 100-year floodplain or within the floodway? If yes, this project may require further evaluation under EO 11988. Explain.

☐ NO

☒ YES

A FEMA Special Flood Hazard Zone is within the project area, located between stations 44950+00 and 44945+00 (near 1800 North). See Figure 9 in Attachment 1.

The Project will add ballast within the flood hazard area to support the second set of tracks. The final design would include additional storage capacity or other modifications within the flood zone to minimize any increase in the base flood elevation. An evaluation would be completed to determine if the final design would require revision to the flood map. This would be coordinated with Sunset City, which is the floodplain administrator for this area. If necessary, a pre-construction Conditional Letter of Map Revision (CLOMR) would be submitted to FEMA. After construction a Letter of Map Revision (LOMR) would be submitted to FEMA. This process would be coordinated with Sunset City. In addition, a floodplain development permit would be obtained from Sunset City.

The USDOT Order 5650.2 implementation procedures for EO 11988 support a finding that the project would not represent a significant encroachment because it expands a portion of an existing railroad already within a floodplain. There also would not be a practicable alternative because a routing other than along the railroad would not achieve the project's purpose for achieving reliability improvements for the commuter rail line. UTA Commuter Rail Design Criteria state that county flood control and FEMA guidelines should be followed.

12. Water Resources and Water Quality

Are there any surface or ground water resources present, including an EPA-designated sole source aquifer (SSA), near the proposed project that would be impacted? Explain.

☒ NO

☐ YES

The project is not in the vicinity of any surface or ground water resources.

Is there an increase in impervious surface (e.g., roofs, driveways, streets, parking lots, etc.) or restored pervious surface greater than one acre? If YES, a NPDES/storm water permit may be needed and must be acquired prior to construction. Explain.

☒ NO

☐ YES

A long-term facility storm water permit would not be required. The project design does not include any new parking areas or other impervious surfaces directly related with the commuter rail system.

The project would add a small amount of additional runoff from the project site after construction has been completed. The existing FrontRunner system already has infrastructure in place to handle any stormwater runoff from the ballasted track and embankments, and this infrastructure could be analyzed and expanded, if needed, to handle the additional runoff. If these stormwater infrastructure elements need to be relocated, they would be replaced in kind following the applicable drainage design criteria as stated in UTA's Commuter Rail Design Criteria (2015).

Construction of the Project would disturb more than 1 acre of ground surface, which would require coverage under the Utah Pollutant Discharge Elimination System (UPDES) Construction General Permit UTRC00000 (CGP). Coverage under the CGP would be obtained prior to construction through the Utah Division of Water Quality. In compliance with this permit, a stormwater pollution prevention plan (SWPPP) would be developed for the construction phase of the Project.

13. Wetlands and Waters of the U.S.

Are there any wetlands or waters of the U.S. on or adjacent to the proposed project area that would be temporarily or permanently impacted? Explain.

☐ NO

☒ YES

If YES, is a permit from the US Army Corps of Engineers required? Explain.

☒ NO

☐ YES

In October 2022, biologists conducted a field investigation of the study area. The field investigation and wetland delineations were completed in accordance with the guidelines and procedures in the current USACE wetland delineation manual. See Attachment 7, Aquatics Resources Delineation Report, for more detail.

Nine wetland areas (CF-01 through CF-09) were identified and delineated within the project area (see Figure 2 in Attachment 7). These wetlands lack a hydrologic connection to any traditional navigable waters or tributaries of traditional navigable waters and do not appear to meet the U.S. Army Corps of Engineers (USACE) definition of jurisdictional waters as defined in the 2008 Rapanos guidance. Therefore, these wetlands are likely not under USACE jurisdiction.

Project construction would result in approximately 0.27 acre of permanent impact (e.g., grading, excavation, or fill) and 0.02 acre of temporary impact (e.g., grading, excavation, or fill) to six of the nine wetlands that are located on the east side of the existing UTA track, as described in Table 3. Figure 10 in Attachment 1 shows the areas of permanent and temporary impact to the six wetlands.

Table 3. Summary of Wetland Impacts for North of Clearfield Double Track Project

Wetland	Type	Wetland Size (acre)[1]	Permanent Impact Area (acre)	Temporary Impact Area (Acre)
CF-01	Scrub-shrub	0.12	0.06	0.02
CF-02	Emergent	0.02	0.00	0.00
CF-03	Emergent	0.08	0.00	0.00
CF-04	Emergent	0.04	0.07	0.00
CF-05	Emergent	0.19	0.00	0.00
CF-06	Emergent	0.03	0.05	0.00
CF-07	Emergent/Scrub-shrub	0.01	0.01	0.00
CF-08	Emergent	0.01	0.02	0.00
CF-09	Emergent	0.03	0.06	0.00
TOTAL			**0.27**	**0.02**

[1]Total wetland size mapped during the October 2022 field investigation.

Upon request, USACE would make a jurisdictional determination. If USACE determines that these wetlands are jurisdictional, the project would need authorization under Nationwide Permit (NWP) 14 Linear Transportation Projects, which would require submittal of a Pre-Construction Notification. UTA would also implement best management practices (e.g., protective fencing and sediment barriers) to minimize impacts to wetlands during construction. The USACE requires compensatory mitigation for any wetland impacts over 0.1 acre. Since the estimated impact to each wetland is less than 0.1 acre, compensatory mitigation would not be required.

14. Threatened and/or Endangered Species

Are there any listed threatened and/or endangered species (plant or animal) or critical habitat present on or near the proposed project area that would be impacted? How was this determined? If yes, Section 7 of the Endangered Species Act may apply. Explain.

☒ NO

☐ YES

The study area for threatened and/or endangered species includes a boundary 0.25 mile from the project alignment, to encompass areas where project construction and operation could disturb or affect habitat quality for sensitive plants and animals.

The U.S. Fish and Wildlife Service does not identify any ESA-listed species as potentially present in the study area. In addition, no designated critical habitat for any ESA-listed species is present within 10 miles of the project area. The State of Utah does not maintain a list of threatened and endangered species separate from the U.S Department of Fish and Wildlife's ESA list, which was consulted for the study area.

Based on the above, no threatened and/or endangered plant or animal species are known or expected to be present in the study area.

15. Natural and Biological Resources

Are there any natural areas, biological resources (fish, birds, wildlife and habitat) or sensitive areas present on or near the proposed project area that would be impacted? If the proposed project has the potential to impact wildlife or waterfowl refuges, a Section 4(f) evaluation may be required. Explain.

☒ NO

☐ YES

If YES, does Section 4(f) apply? Explain.

☐ NO

☐ YES – Provide Section 4(f) Evaluation

The study area for natural and biological resources includes all areas within 100 feet of the project area, to encompass areas where Project construction and operation could affect these resources.

There are no National Wildlife Refuge system lands within 10 miles of the study area. The Howard Slough Waterfowl Management Area, which is owned and managed by the Utah Division of Wildlife Resources, is approximately 6 miles west of the project and would not be affected by project construction. The Great Salt Lake Shorelands Preserve, which is owned and managed by the Nature Conservancy, is approximately 3 miles west of the project and would not be affected by project construction. Vegetation along the project corridor consists primarily of disturbed areas dominated by non-native grasses, shrubs, and volunteer trees, including along the edge of Train Watch Park. No clearing of mature woodland vegetation is anticipated. In accordance with the Migratory Bird Treaty Act, tree removal work would either occur outside of the minimum migratory bird nesting season (April 1 – July 15) or pre-construction surveys would be conducted to identify occupied nests within the impact area. If an occupied nest is found, it would not be disturbed until after fledglings leave the nest. No known biologically sensitive areas, designated critical habitat, wildlife corridors, essential fish habitat, or other sensitive habitats are present along the proposed Project alignment.

16. Traffic and Parking

Does the proposed project have the potential to permanently impact traffic and/or parking (on and off street) in the project area? Explain.

☐ NO

☒ YES

The project would have traffic and parking impacts on two streets with at-grade crossings of the railroad: 1300 North and 1800 North in Sunset. Raised medians were not originally constructed at those crossings due to the proximity of nearby side streets. In lieu of raised medians, 4 railroad crossing gates (instead of the standard 2 gates) known as quad-gates were installed as the needed safety features. The quad-gate system will continue to be used at these crossings, no medians are proposed.

1300 North in Sunset: *1300 North is a two-lane minor collector at the crossing. The second Frontrunner track would be located on the east side of this crossing. 1300 North has an AADT of about 1,200 vehicles per day. The nearest intersection (475 West) is approximately 75 feet from the existing track on the east side; therefore, the second Frontrunner track would reduce the spacing between the rail and the intersection to approximately 60 feet. This reduces queue storage for vehicles turning left onto 475 West; however, this is not anticipated to be a concern as the left-turn volumes are likely to be very low on this local road.*

There is no designated on-street parking near the existing railroad crossing. However, there is sufficient shoulder width on 1300 North to fit on-street parking adjacent to residential lots on the south side of the roadway east of the tracks. The second Frontrunner track would reduce the potential on-street parking by one to two spaces on the southeast side of the crossing. There are currently no bike lanes on 1300 North.

1800 North in Sunset: *1800 North is a two-lane minor arterial at the crossing. The second Frontrunner track would be located on the east side of this crossing. 1800 North has an AADT of 15,000 vehicles per day. The nearest intersection (475 West) is approximately 75 feet from the existing track on the east side; therefore, the second Frontrunner track would reduce the spacing between the rail and this 3-legged intersection to approximately 60 feet. There is also a driveway access into Sunset City Public Works that generally functions as the north leg of the 1800 North/475 West intersection, and the addition of the second Frontrunner track would similarly reduce the spacing to approximately 60 feet between the tracks and the driveway access.*

There is no designated on-street parking near the existing railroad crossing. However, there is sufficient shoulder width on 1800 North to fit on-street parking on the north side of the roadway between the tracks and the first driveway access. The second Frontrunner track would likely reduce this on-street parking completely in the northeast quadrant of the crossing, resulting in the loss of two or three spaces; however, this loss of parking is not expected to have an adverse impact because there is available parking both on-street and off-street nearby.

There is a new I-15 interchange planned for 1800 North and I-15 which is ½ mile east of the rail crossing. The project is scheduled to begin construction in 2025 and would include widening 1800 North and building a grade-separated bridge at the 1800 North crossing. This project would accommodate the second set of FrontRunner tracks.

At the 1800 North crossing, the Unified Plan shows a Phase 1 bike lane project planned for 1800 North from 3000 West east through the crossing to Aspen Avenue. Additionally, a Phase 1 project is planned at the railroad crossing for an overhead bike/pedestrian crossing. These projects are likely to be addressed with the grade-separated crossing included with the interchange and 1800 North widening project. The double-track project would not preclude these bicycle and pedestrian improvements.

In addition, a corridor-wide traffic and safety analysis has been conducted to evaluate potential impacts of the future anticipated service increase along the FrontRunner corridor. The corridor-wide traffic and safety analysis is documented in a separate report, FrontRunner Forward Corridor Level Traffic and Safety Technical Memorandum (May 2023) and summarized in the PEL (May 2023).

17. Utilities

Are there any utilities that could be impacted by the proposed project? Explain.

☐ NO

☒ YES

For evaluation of the utility impacts on this project, a base map was created using the utility files from the FrontRunner North and South projects along with mapping that was requested from the utility owners. Utility impacts are based on the proximity of the utility to the tracks and the significance of the impact. UTA would coordinate with utility providers on these changes as the project design advances to avoid lapses in service during construction. The project is not anticipated to impact the Lumen/MCI long-haul fiber that has been relocated outside of the project area as part of a previous project. The utilities anticipated to be impacted by the new track are as follows:

- *The UTA communications duct bank would be impacted for the entire length of the project (20,510 LF)*
- *Rocky Mountain Power 1 Phase overhead power line parallels track (325 LF)*
- *Dominion Gas line parallels the track (325 LF)*
- *Clearfield 24" storm drain (1,450 LF)*
- *Several poles of the Rocky Mountain Power overhead power crossing*
- *Clearfield sewer line (550 LF)*
- *Clearfield 10" water line (175 LF)*
- *Clearfield 36" storm drain (206 LF)*
- *Clearfield 12" water line crossing casing would need to be extended.*
- *Weber Basin 12" water line crossing casing would need to be extended.*
- *Clearfield 8" Sewer line (250 LF)*
- *Dominion Gas line casing would need to be extended at several locations.*
- *Clinton City Water line crossing casing would need to be extended.*
- *Chevron Petroleum lines parallel the track, there is a conflict with cut for new track. (5,900 LF)*

18. Construction Impacts

Will the proposed project result in impacts (e.g., noise, air, water, staging, parking, traffic detours, etc.) during construction? Explain.

☐ NO

☒ YES – Provide mitigation commitments

There would be some minor impacts during construction. Construction equipment such as trucks, bulldozers, graders, and rollers would add nominal noise to an already very loud, active freight and commuter rail corridor. Work would comply with local noise ordinances.

If temporary construction access is needed from a private property owner, it would be obtained through the proper federal right-of-way acquisition process. Minor temporary utility disruptions may occur for utility relocations or new service installations. These outages would be coordinated with the utility provider and any customers that may be affected.

Installation of switches would require temporary track shutdown that could disrupt FrontRunner service. Work would be scheduled to minimize impacts to the passengers (nights, weekends, holidays). If necessary, bus bridges would be provided for continuation of service.

The contractor would be required to control fugitive dust and storm water runoffs (see additional details in Section 21 State and Local Permits) and follow the soil and groundwater management plans specified under section 9, Hazardous Materials.

A public communication plan would be developed to coordinate construction activities with local residents, stakeholders, and businesses that may be affected by the work. Any changes to transit service due to construction would be communicated to riders.

Where an additional track would be added to existing grade crossings, regrading of the roadway would be required to provide a smooth, safe profile over the track. This grade crossing work would be coordinated with the local roadway jurisdiction to provide detours, temporary closures, or lane restrictions. Work would be scheduled on nights or weekends, when possible, to reduce impacts to the roadway traffic. Special consideration would be coordinated with the roadway owner to provide necessary pedestrian mitigation during this grade crossing work. Some temporary lane restrictions may be needed for utility relocations. Traffic control plans would be developed to obtain proper permitting from local roadway jurisdiction for temporary lane closures, roadway closures, and detours.

19. Public Outreach and Agency Coordination

Was any public outreach and/or agency coordination conducted? Explain.

☐ NO

☒ YES

UTA in partnership with UDOT are committed to involving state and local agencies, area stakeholders and the public as the project evolves. The project team has been coordinated with the Metropolitan Planning Organizations (MPOs) including the Mountainland Association of Governments (MAG) and the Wasatch Front Regional Council (WFRC), and surrounding cities. The project team has developed an Engagement Plan to steer involvement actives throughout the Project. Engagement would be tailored based on the needs and potential impacts in the Project area and may include a combination of corridor-level communication and Project-specific, one-on-one meetings.

20. Safety and Security

Are any measures required for the safe and secure operation of the proposed project after its construction? Explain.

☐ NO

☒ YES

The project would not change how employees or passengers would interact with the FrontRunner corridor and would not impact safety of those users. It would not impact the security of the FrontRunner facilities and would not have potential construction safety concerns on those facilities.

UTA standard commuter rail design criteria would be followed to ensure that the project meets safety and security requirements. This includes the Supplemental Safety Measures (SSM) and/or Alternative Safety Measures (ASM) at each affected grade crossing in order to maintain the established quiet zone. Also, UTA activation process would be followed which includes several safety and security reviews and a potential hazard analysis to ensure the design includes typical and site-specific safety and security measures.

21. State and Local Permits, Policies and Ordinances

Does the proposed project require compliance with any applicable state and local permits, policies and ordinances? Explain.

☐ NO

☒ YES

The Project is anticipated to require the following permits and approvals:

- *UPDES GCP from Utah Division of Water Quality*
- *Floodplain development permit from Sunset City*
- *Fugitive Dust Control Plan to be submitted to the Utah Division of Air Quality*
- *Section 404/401 permit (NWP 14) with the U.S. Army Corps of Engineers for wetland impacts (if required)*

WORKSHEET COMPLETED BY (RECIPIENT NAME AND TITLE):	**DATE SUBMITTED:**
Autumn Hu *NEPA Project Administrator* *Utah Transit Authority*	*07/26/23*

Note: CE Worksheet must be signed by the Recipient of Funds

Attachment 1:
North of Clearfield Double Track Project
Figures

Figure 1. Project Vicinity

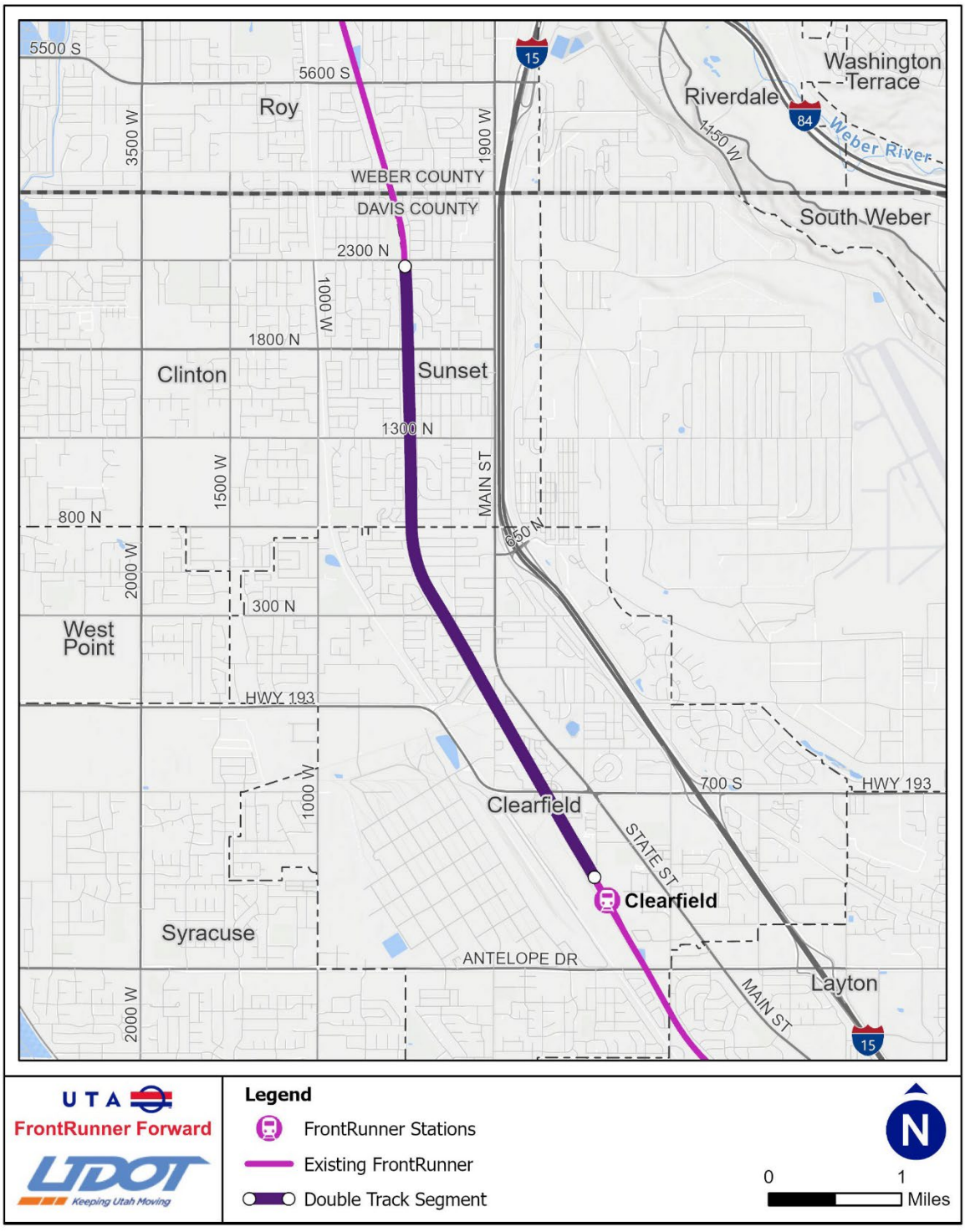


Figure 2. Project Overview, 1 of 4

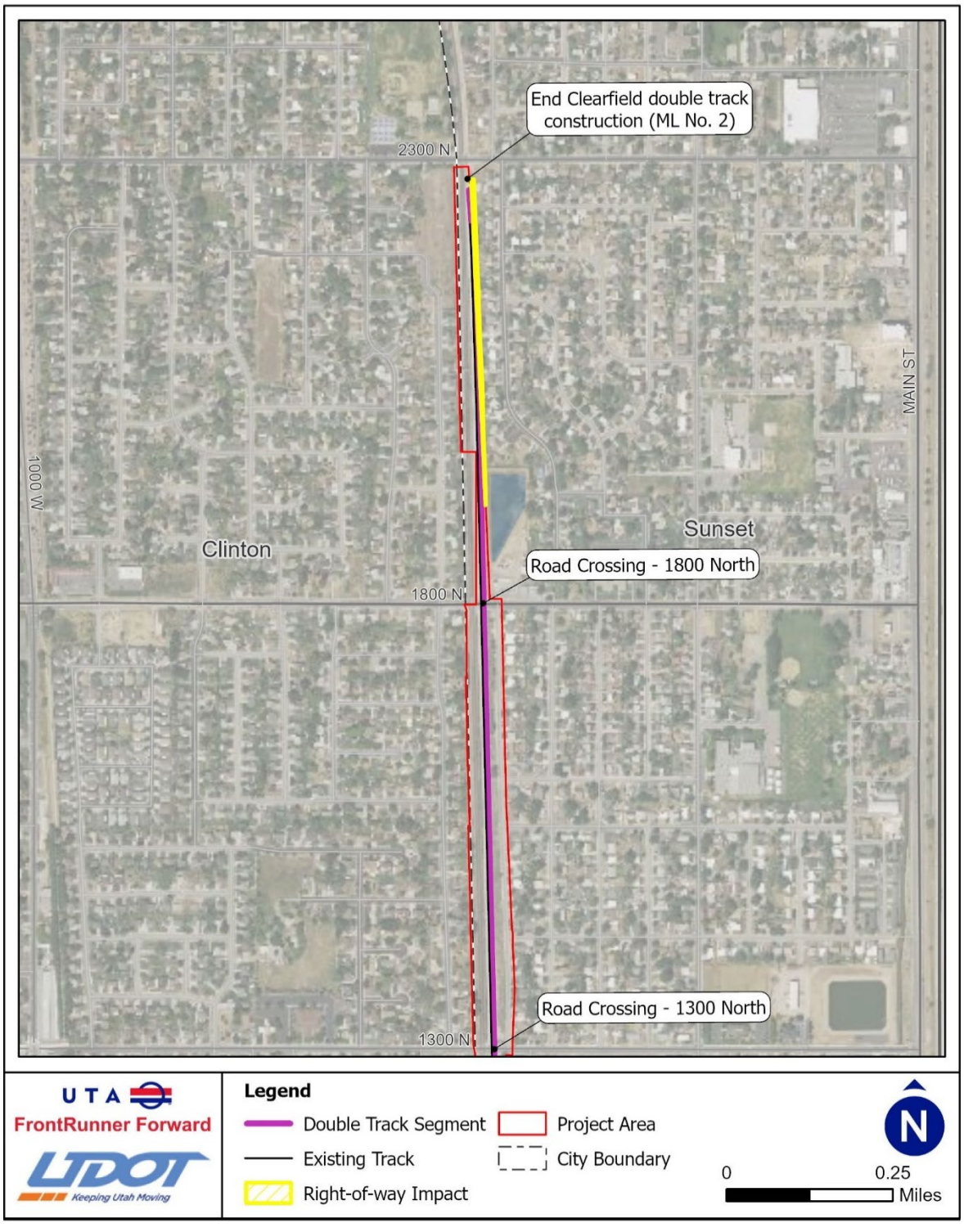


Figure 2. Project Overview, 2 of 4

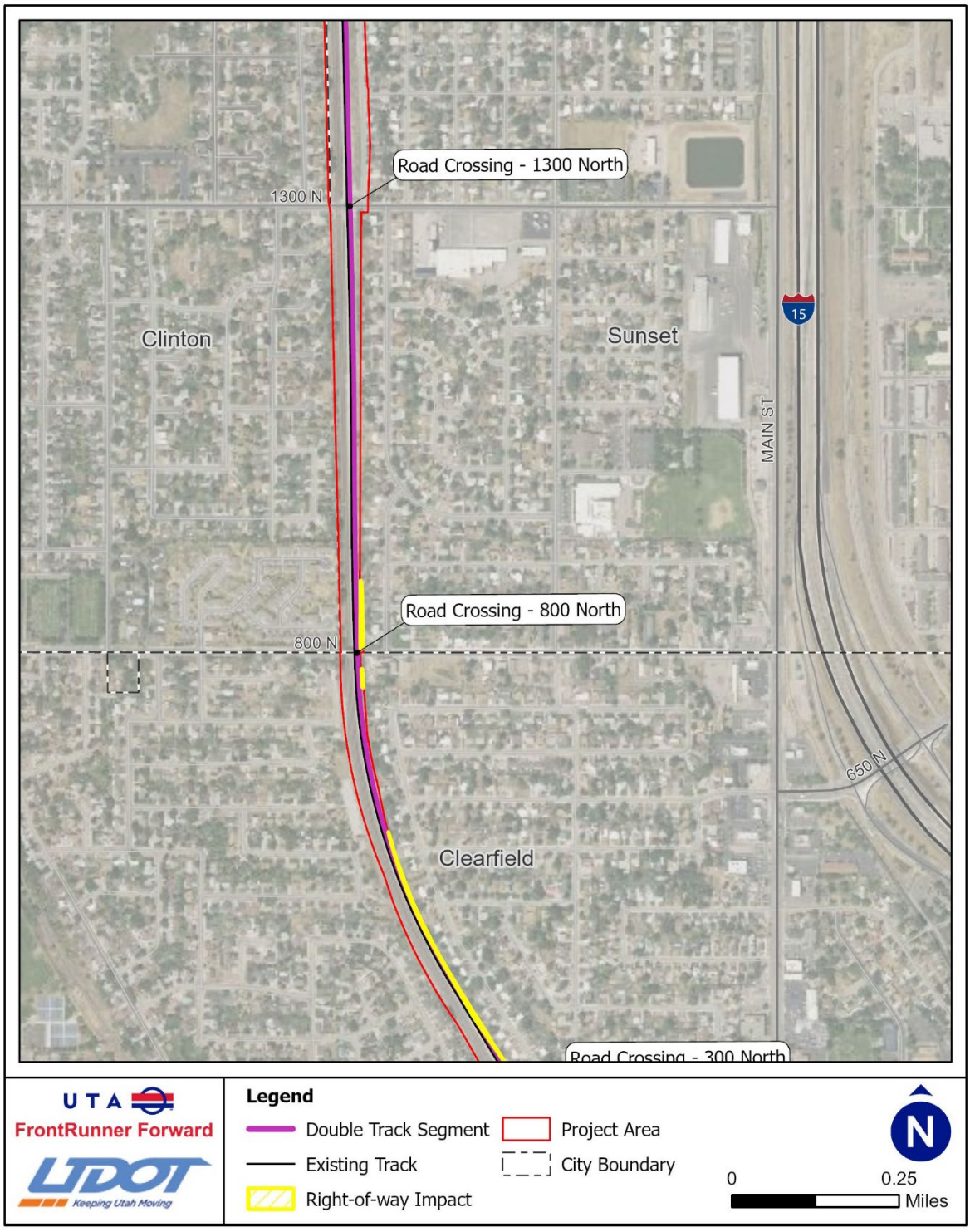


Figure 2. Project Overview, 3 of 4

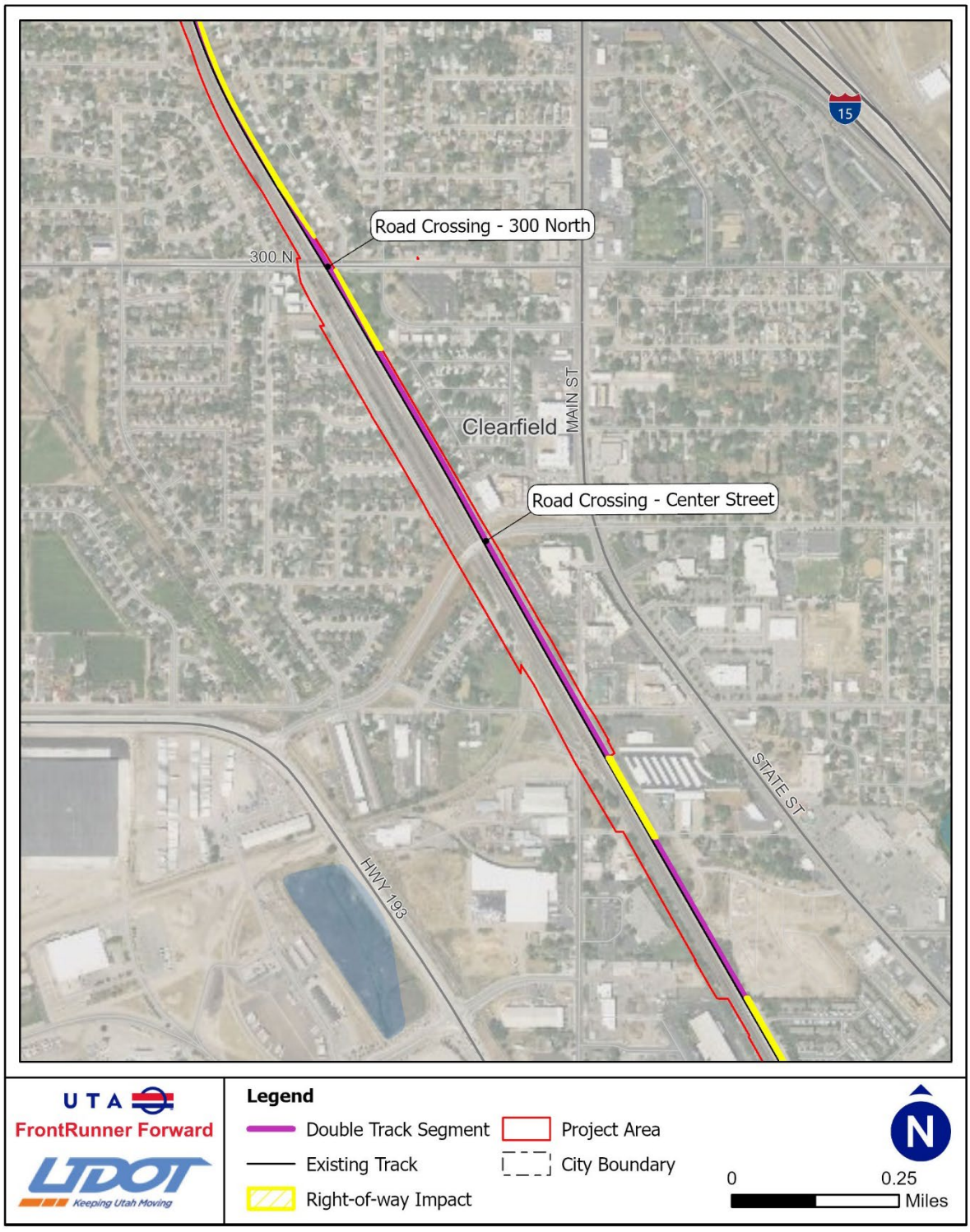


Figure 2. Project Overview, 4 of 4

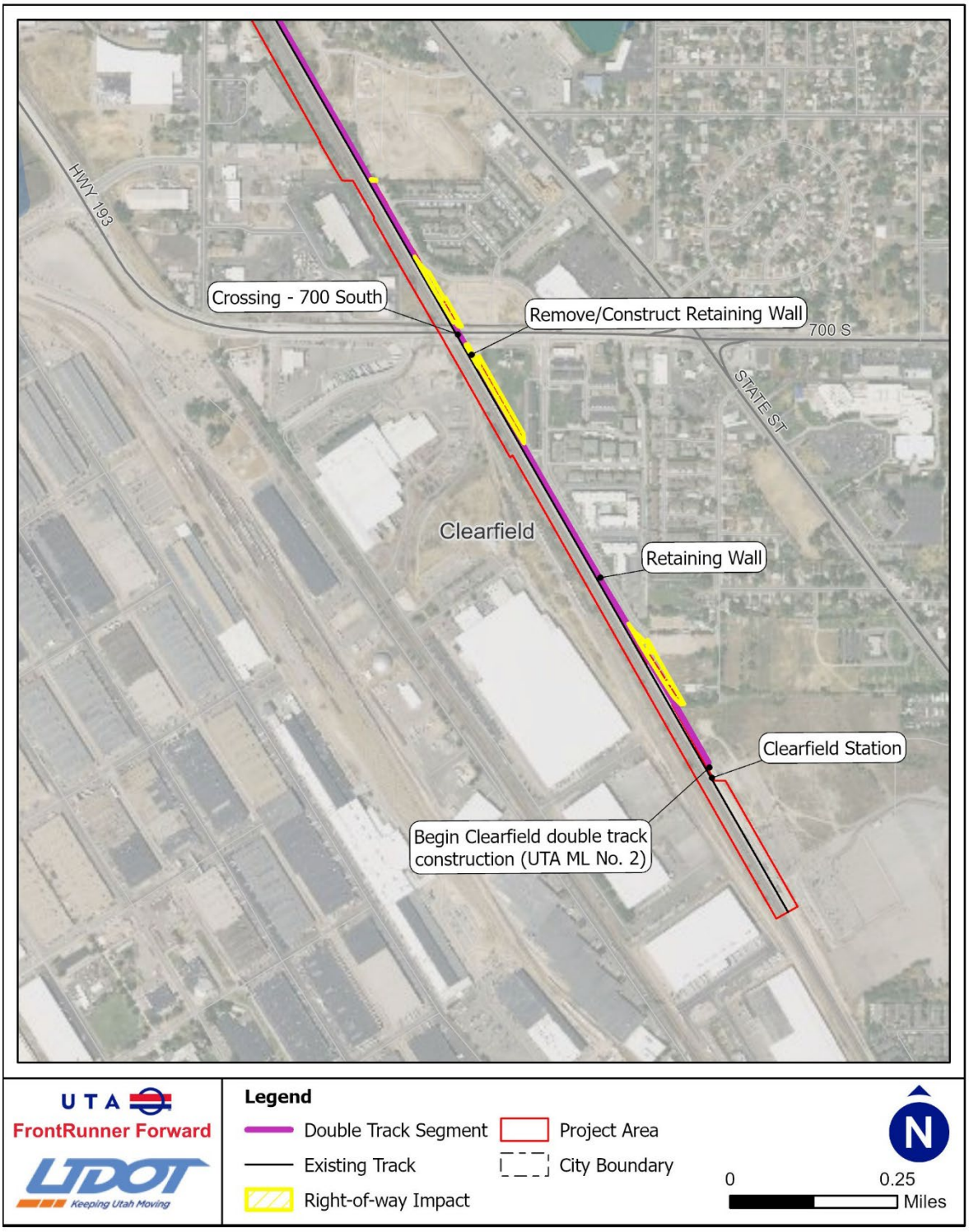


Figure 3. North of Clearfield Doubletrack Project Alignment Zoning, 1 of 3, Sunset City Zoning

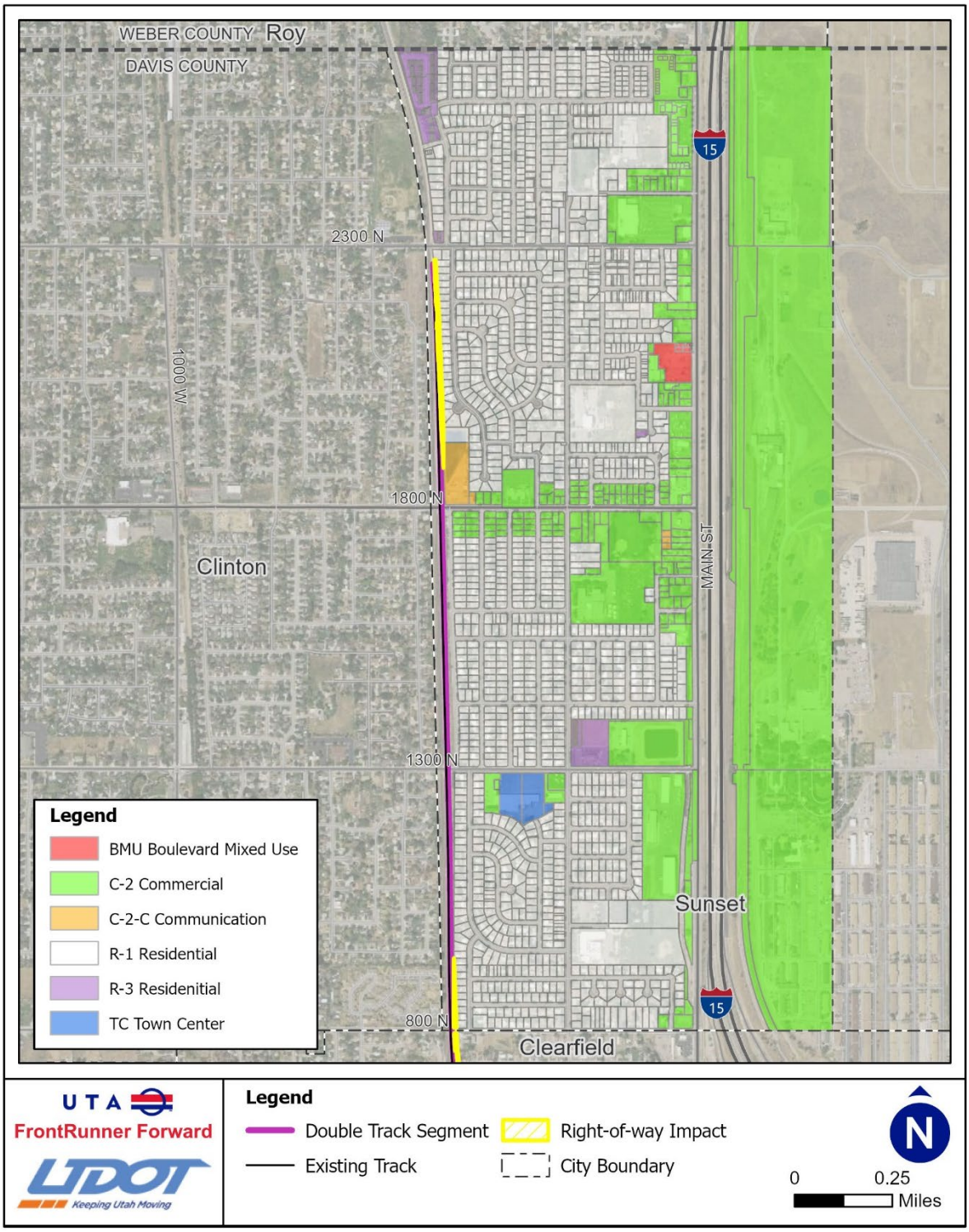


Figure 3. North of Clearfield Doubletrack Project Alignment Zoning, 2 of 3, Clinton City Zoning

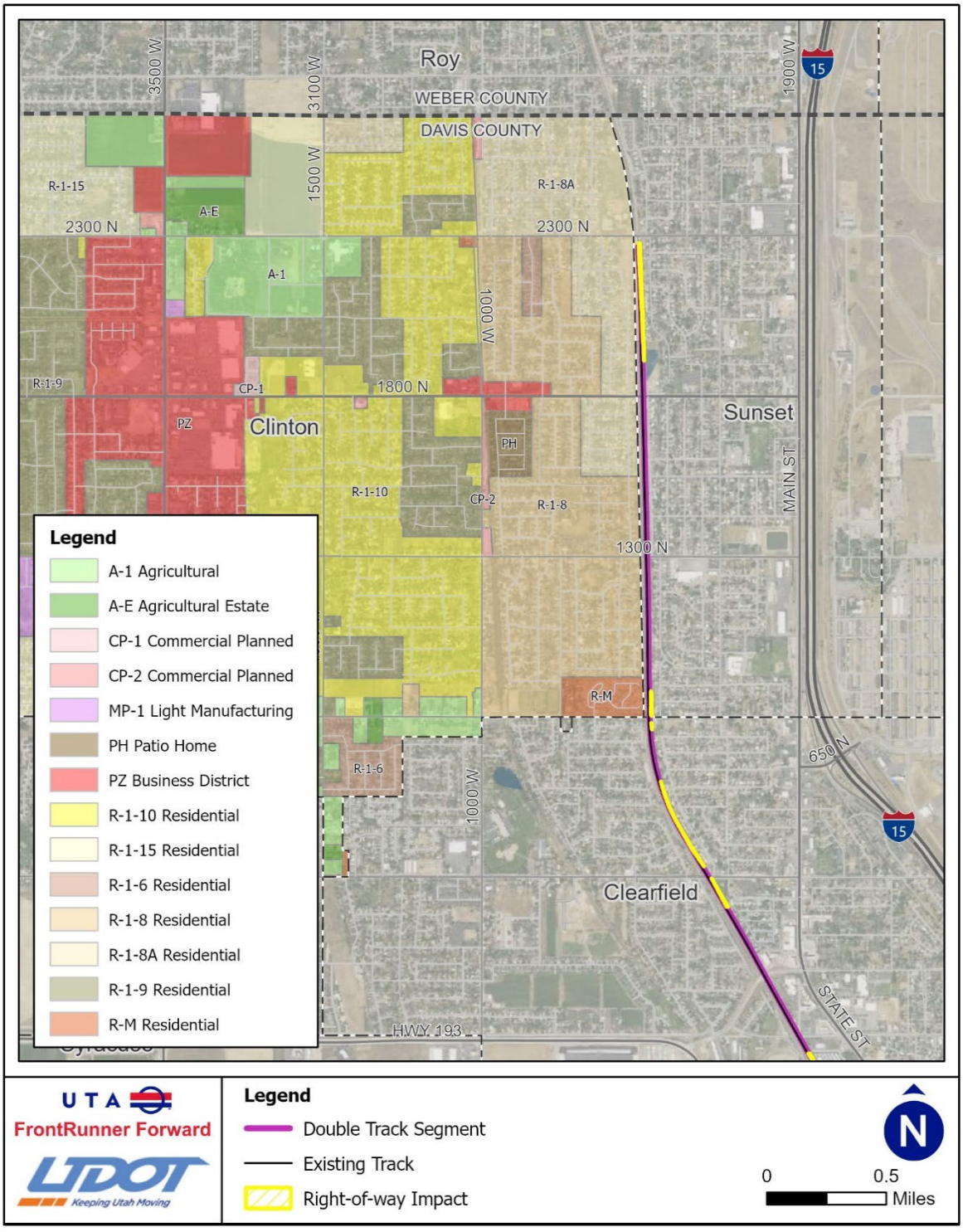


Figure 3. North of Clearfield Doubletrack Project Alignment Zoning, 3 of 3, Clearfield City Zoning

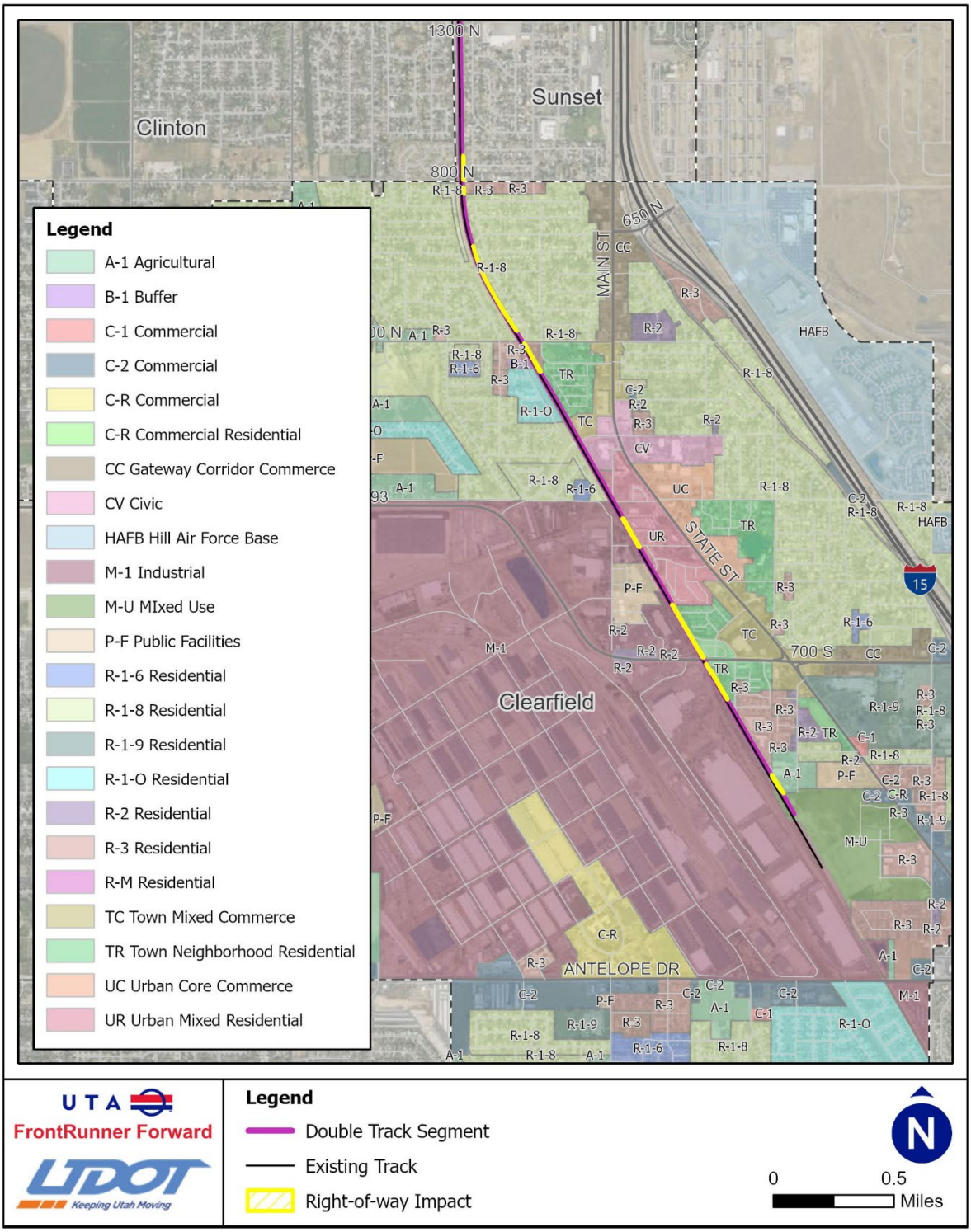


Figure 4. Location of Affected Parcels, 1 of 3

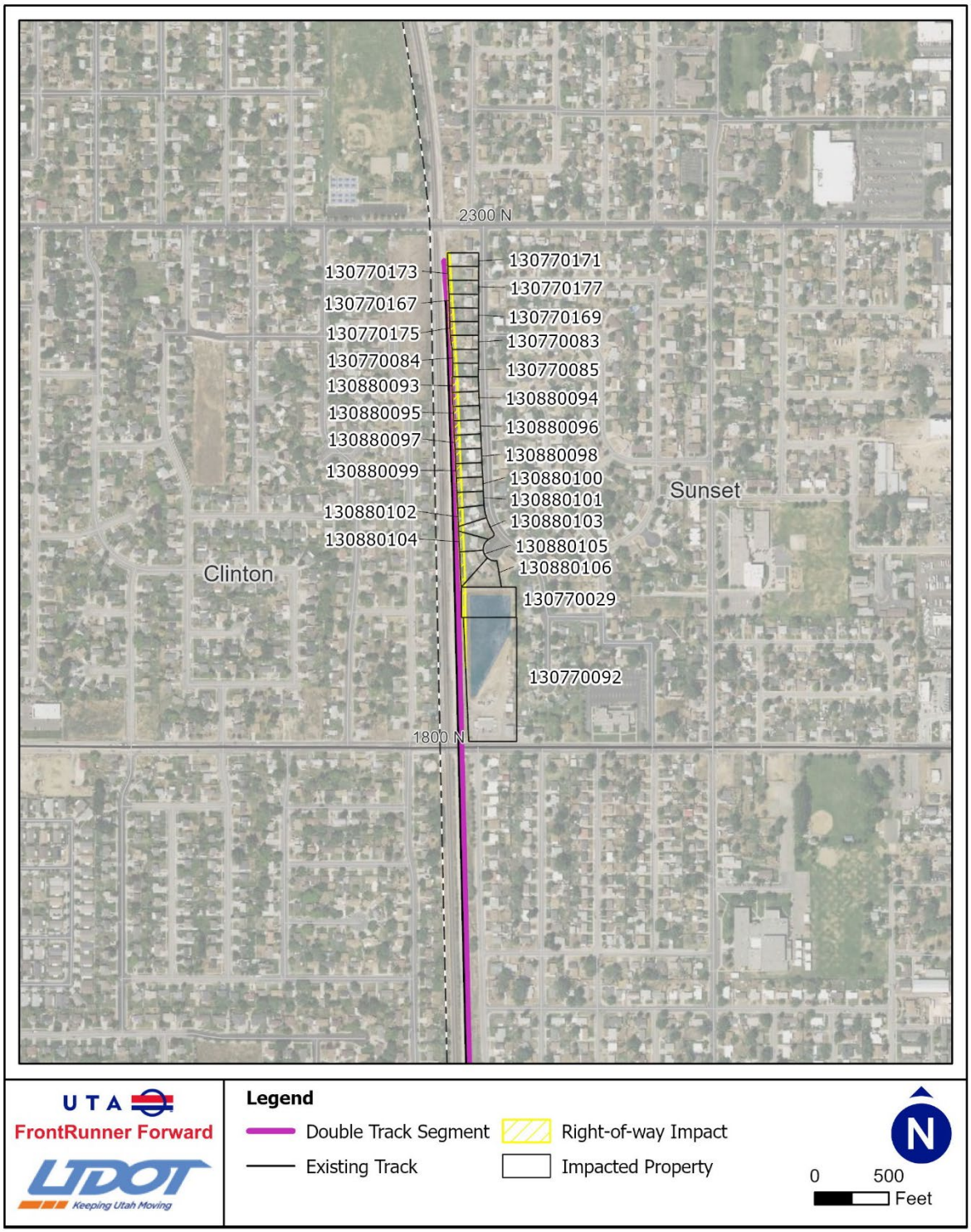


Figure 4. Location of Affected Parcels, 2 of 3

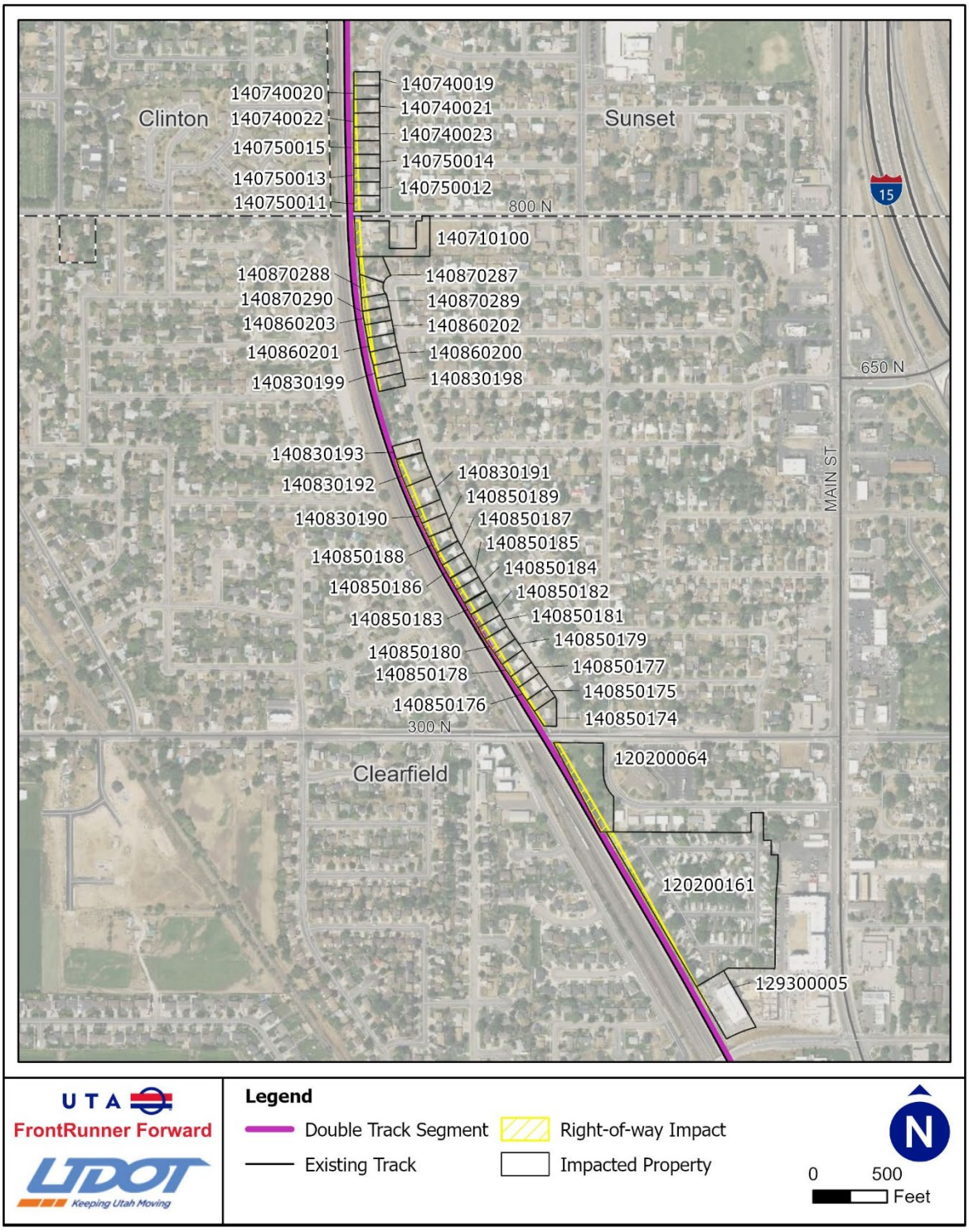


Figure 4. Location of Affected Parcels, 3 of 3

Table 1. Affected Parcels and Right-of-Way Impacts

Parcel ID	Parcel Address	Parcel City	Ownership Type	Owner	Existing Use	Partial Or Full Acquisition	Area of Impact (Square Feet)	Relocation Necessary
120030274	N/A	Clearfield	Public	Clearfield Community	Street	Partial	24,928	No
120030305	442 S State St	Clearfield	Private	Clearfield City	Residential	Partial	254	No
120200064	N/A	Clearfield	Public	Clearfield City Corp	Park	Partial	300	No
120200161	75 W 250 N	Clearfield	Private	Hidden Community, LLC Mobile Home Park	Residential	Partial	Nominal, if needed	No
120660139	314 E 700 S	Clearfield	Private	Gunderson, Joyce F -	Vacant	Partial	17,751	No
120670059	1040 S 550 E	Clearfield	Private	Park, Debbie And Car	Residential	Partial	1,595	No
120670137	1080 S 550 E	Clearfield	Private	Vasquez, Anthony P	Residential	Partial	4,897	No
120670140	N/A	Clearfield	Private	Stephenson, Bruce B	Residential	Partial	8,988	No
128500003	N/A	Clearfield	Private	West Square LLC	Vacant	Partial	1,830	No
129300005	49 N Main St	Clearfield	Private	Clearfield Junction	Residential	Partial	176	No
130770029	N/A	Sunset	Public	Sunset City	Vacant	Partial	2,678	No
130770083	2177 N 450 W	Sunset	Private	Kuni, Gary K & Chris	Residential	Partial	1,452	No
130770084	2163 N 450 W	Sunset	Private	VM Master Issuer LLC	Residential	Partial	1,271	No
130770085	2149 N 450 W	Sunset	Private	Green, Debra L	Residential	Partial	1,419	No
130770092	N/A	Sunset	Public	Sunset City	Public Works	Partial	1,300	No
130770167	2219 N 450 W	Sunset	Private	Palmer, Wayne Ellis	Residential	Partial	1,213	No
130770169	2205 N 450 W	Sunset	Private	Mckendrick, Shawn O	Residential	Partial	1,332	No
130770171	2261 N 450 W	Sunset	Private	Rivas, Vanessa M	Residential	Partial	839	No
130770173	2247 N 450 W	Sunset	Private	Lunt, Katie & Jason	Residential	Partial	976	No
130770175	2191 N 450 W	Sunset	Private	Cinbilgel, Burhan &	Residential	Partial	1,496	No
130770177	2233 N 450 W	Sunset	Private	Bowers, Harold Eugen	Residential	Partial	1,098	No
130880093	2137 N 450 W	Sunset	Private	Main, Thomas W & Man	Residential	Partial	2,154	No
130880094	2123 N 450 W	Sunset	Private	Shirley, Robert A	Residential	Partial	1,964	No
130880095	2117 N 450 W	Sunset	Private	Munoz Ibarra, Jaime	Residential	Partial	1,938	No
130880096	2111 N 450 W	Sunset	Private	Tips Leasing LLC	Residential	Partial	1,931	No
130880097	2101 N 450 W	Sunset	Private	Crowder, Colby J & B	Residential	Partial	1,857	No
130880098	2081 N 450 W	Sunset	Private	Jensen, Bruce G	Residential	Partial	1,823	No
130880099	2063 N 450 W	Sunset	Private	Bishop, Brock	Residential	Partial	1,785	No
130880100	2047 N 450 W	Sunset	Private	Lesue, Carlos C & An	Residential	Partial	1,754	No
130880101	2039 N 450 W	Sunset	Private	Hasler, Verla - Trus	Residential	Partial	1,849	No
130880102	2025 N 450 W	Sunset	Private	Pearson, Sean E	Residential	Partial	2,093	No
130880103	2013 N 450 W	Sunset	Private	Wagstaff, Donna B -	Residential	Partial	671	No
130880104	1999 N 450 W	Sunset	Private	Dowden, Adam S & Min	Residential	Partial	2,246	No
130880105	1989 N 450 W	Sunset	Private	Anderson, Dale & Mar	Residential	Partial	3,574	No
130880106	1983 N 450 W	Sunset	Private	Morain, Cliff R	Residential	Partial	229	No

Parcel ID	Parcel Address	Parcel City	Ownership Type	Owner	Existing Use	Partial Or Full Acquisition	Area of Impact (Square Feet)	Relocation Necessary
140710100	411 W 800 N	Clearfield	Private	Lawrence Mills Trust	Residential	Partial	4,839	No
140740019	905 N 450 W	Sunset	Private	Reeves, Philip J	Residential	Partial	102	No
140740020	891 N 450 W	Sunset	Private	Flores, Everado & Er	Residential	Partial	301	No
140740021	877 N 450 W	Sunset	Private	Iniguez, Brittany Da	Residential	Partial	500	No
140740022	863 N 450 W	Sunset	Private	Bybee, Gary Z & Saun	Residential	Partial	700	No
140740023	849 N 450 W	Sunset	Private	Jackson, Miles James	Residential	Partial	900	No
140750011	807 N 450 W	Sunset	Private	Villavicencio, Milto	Residential	Partial	2,064	No
140750012	815 N 450 W	Sunset	Private	Cranney, Kris & Mega	Residential	Partial	1,694	No
140750013	823 N 450 W	Sunset	Private	Pilling, Matthew & J	Residential	Partial	1,495	No
140750014	831 N 450 W	Sunset	Private	Pais, Karen And Debo	Residential	Partial	1,295	No
140750015	839 N 450 W	Sunset	Private	Carpinelli, David	Residential	Partial	1,090	No
140830190	550 N Ann St	Clearfield	Private	Hahn, Neil & Laura -	Residential	Partial	2,039	No
140830191	564 N Ann St	Clearfield	Private	Anderson, John & Kar	Residential	Partial	3,464	No
140830192	578 N Ann St	Clearfield	Private	Jimenez, Betty M	Residential	Partial	3,678	No
140830193	600 N Ann St	Clearfield	Private	Porter, Dorin Glen &	Residential	Partial	58	No
140830198	658 N Ann St	Clearfield	Private	Lakeside Property Ma	Residential	Partial	375	No
140830199	668 N Ann St	Clearfield	Private	Hoffmann, Nichole Br	Residential	Partial	453	No
140850174	314 N Ann St	Clearfield	Private	Treto, Santos	Residential	Partial	688	No
140850175	336 Ann St	Clearfield	Private	Munn, Bailey Brooke	Residential	Partial	758	No
140850176	350 Ann St	Clearfield	Private	Green, Jerry D	Residential	Partial	1,169	No
140850177	364 N Ann St	Clearfield	Private	Fink, Della J	Residential	Partial	1,308	No
140850178	378 Ann St	Clearfield	Private	Mendoza, Crisostomo	Residential	Partial	1,794	No
140850179	392 N Ann St	Clearfield	Private	Forbush, Colby & Apr	Residential	Partial	1,860	No
140850180	406 Ann St	Clearfield	Private	Witherby, Jace D And	Residential	Partial	2,689	No
140850181	420 N Ann St	Clearfield	Private	Russell, Kevin Clark	Residential	Partial	2,156	No
140850182	434 N Ann St	Clearfield	Private	Callahan, Jeffrey	Residential	Partial	2,229	No
140850183	448 N Ann St	Clearfield	Private	Forbes, Deann	Residential	Partial	1,799	No
140850184	460 N Ann St	Clearfield	Private	Fowler, Mercedez NA	Residential	Partial	2,094	No
140850185	474 N Ann St	Clearfield	Private	Mcmillan, Alexander	Residential	Partial	1,530	No
140850186	486 N Ann St	Clearfield	Private	Schildknecht, Darrel	Residential	Partial	1,711	No
140850187	500 N Ann St	Clearfield	Private	Andersen, Sheldon R	Residential	Partial	1,292	No
140850188	518 N Ann St	Clearfield	Private	Rosario, Hector	Residential	Partial	1,792	No
140850189	534 N Ann St	Clearfield	Private	Ball, Alaina C	Residential	Partial	1,902	No
140860200	676 N Ann St	Clearfield	Private	Schick, Bailey And O	Residential	Partial	606	No
140860201	684 N Ann St	Clearfield	Private	Potter, Timothy & Te	Residential	Partial	851	No
140860202	700 N Ann St	Clearfield	Private	Roberts, Christopher	Residential	Partial	1,078	No
140860203	708 Ann St	Clearfield	Private	Johansen, Thomas V	Residential	Partial	1,428	No
140870287	756 N Ann St	Clearfield	Private	Schaer, Stephanie	Residential	Partial	1,301	No
140870288	742 N 200 W	Clearfield	Private	Gonzalez, Elvira And	Residential	Partial	2,020	No

Parcel ID	Parcel Address	Parcel City	Ownership Type	Owner	Existing Use	Partial Or Full Acquisition	Area of Impact (Square Feet)	Relocation Necessary
140870289	730 N Ann St	Clearfield	Private	Santos, Isidro And D	Residential	Partial	1,438	No
140870290	N/A	Clearfield	Public	Davis County Corp	Vacant	Partial	41	No
150540153	672 S 400 E	Clearfield	Private	Sierra Homebuilders	Residential	Partial	53	No
150540154	670 S 400 E	Clearfield	Private	Sierra Homebuilders	Residential	Partial	51	No
150540155	668 S 400 E	Clearfield	Private	Sierra Homebuilders	Residential	Partial	49	No
150540156	664 S 400 E	Clearfield	Private	Sierra Homebuilders	Residential	Partial	45	No
150540157	662 S 400 E	Clearfield	Private	Sierra Homebuilders	Residential	Partial	43	No
150540158	660 S 400 E	Clearfield	Private	Sierra Homebuilders	Residential	Partial	41	No
150540159	N/A	Clearfield	Private	Union Townhomes Owned	Residential	Partial	11,073	No
150540159	N/A	Clearfield	Private	Union Townhomes Owned	Residential	Partial	11,073	No
Total Area of Impact (Square Feet)							184,672	

Figure 5. Census Block Groups within 0.5 Mile of Project Alignment

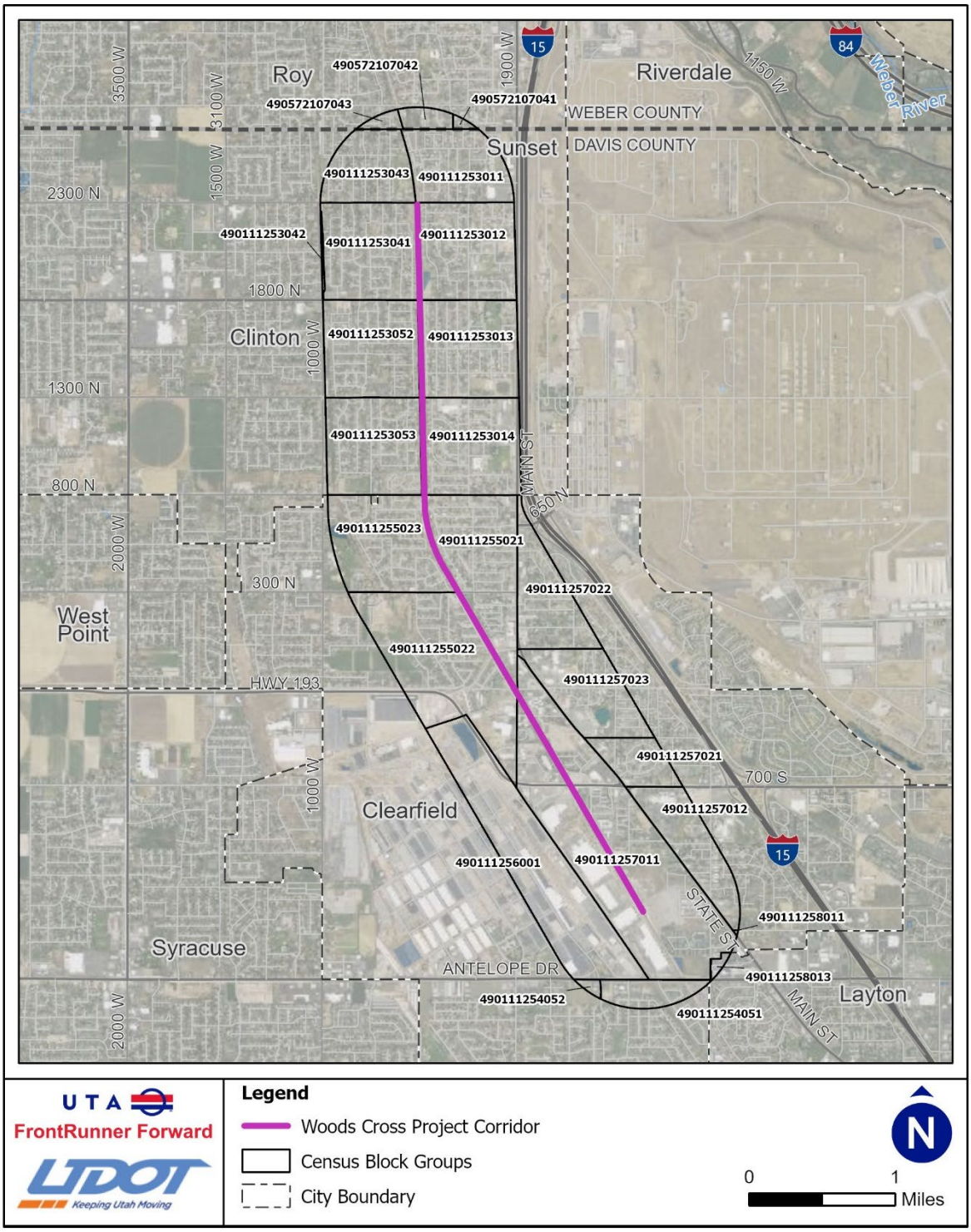


Table 2. Project Area Minority and Low-Income Populations as Compared to Surrounding Jurisdictions

Local Geography	Total Population	Minority Population	Percent Minority	Total Population for whom Poverty Status is Determined	Population below Federal Poverty Level	Percent Population below Federal Poverty Level
Davis County	345,767	55,895	16%	343,234	18,571	5%
Clearfield City	31,364	8,629	28%	31,231	3,037	10%
Clinton City	21,890	4,175	19%	21,847	605	3%
Sunset City	5,278	1,354	26%	5,257	626	12%
Block Group ID						
Clearfield City						
490111254051	475	112	24%	472	29	6%
490111254052	**35**	**10**	**30%**	**35**	**2**	**7%**
490111255021	**1,715**	**594**	**35%**	**1,715**	**188**	**11%**
490111255022	1,411	343	24%	1,411	65	5%
490111256001	**79**	**7**	**9%**	**77**	**24**	**31%**
490111257011	**2,757**	**1,224**	**44%**	**2,746**	**664**	**24%**
490111257012	**517**	**121**	**23%**	**515**	**133**	**26%**
490111257021	**469**	**178**	**38%**	**458**	**30**	**7%**
490111257022	**735**	**168**	**23%**	**735**	**130**	**18%**
490111257023	896	176	20%	875	15	2%
490111258011	**2**	**1**	**50%**	**2**	**0**	**0%**
Clinton City						
490111253041	1,315	96	7%	1,315	8	1%
490111253052	**1,527**	**297**	**19%**	**1,527**	**98**	**6%**
490111253043	**1,000**	**243**	**24%**	**994**	**10**	**1%**
490111253053	**2,058**	**452**	**22%**	**2,058**	**113**	**6%**
490111255023	**1,452**	**248**	**17%**	**1,452**	**52**	**4%**
Sunset City						
490111253011	**996**	**299**	**30%**	**996**	**125**	**13%**
490111253042	13	3	23%	13	0	0%
490111253012	**1,424**	**261**	**18%**	**1,406**	**208**	**15%**
490111253013	**1,042**	**204**	**20%**	**1,042**	**153**	**15%**
490111253014	**938**	**361**	**38%**	**938**	**36**	**4%**
Roy City						
490572107043	85	32	37%	85	5	6%
490572107041	8	1	17%	8	1	8%
490572107042	120	16	13%	120	0	0%
Layton City						
490111258013	26	5	21%	25	1	3%
All Block Groups	**21,092**	**5,454**	**26%**	**21,018**	**2,092**	**10%**

The Federal Poverty Level is determined by the 2019 U.S. Department of Health and Human Services' poverty threshold, or $25,750 for a family of four.* ***Bold* *indicates percentages of minority or low-income populations within Census block groups that are greater than the surrounding jurisdiction.*

Note: Block Groups located in Roy and Layton cities were not compared to the county as the total population for those specific groups is significantly smaller than other groups.

Figure 6. Recreation and Park Resources within the Project Area, 1 of 4

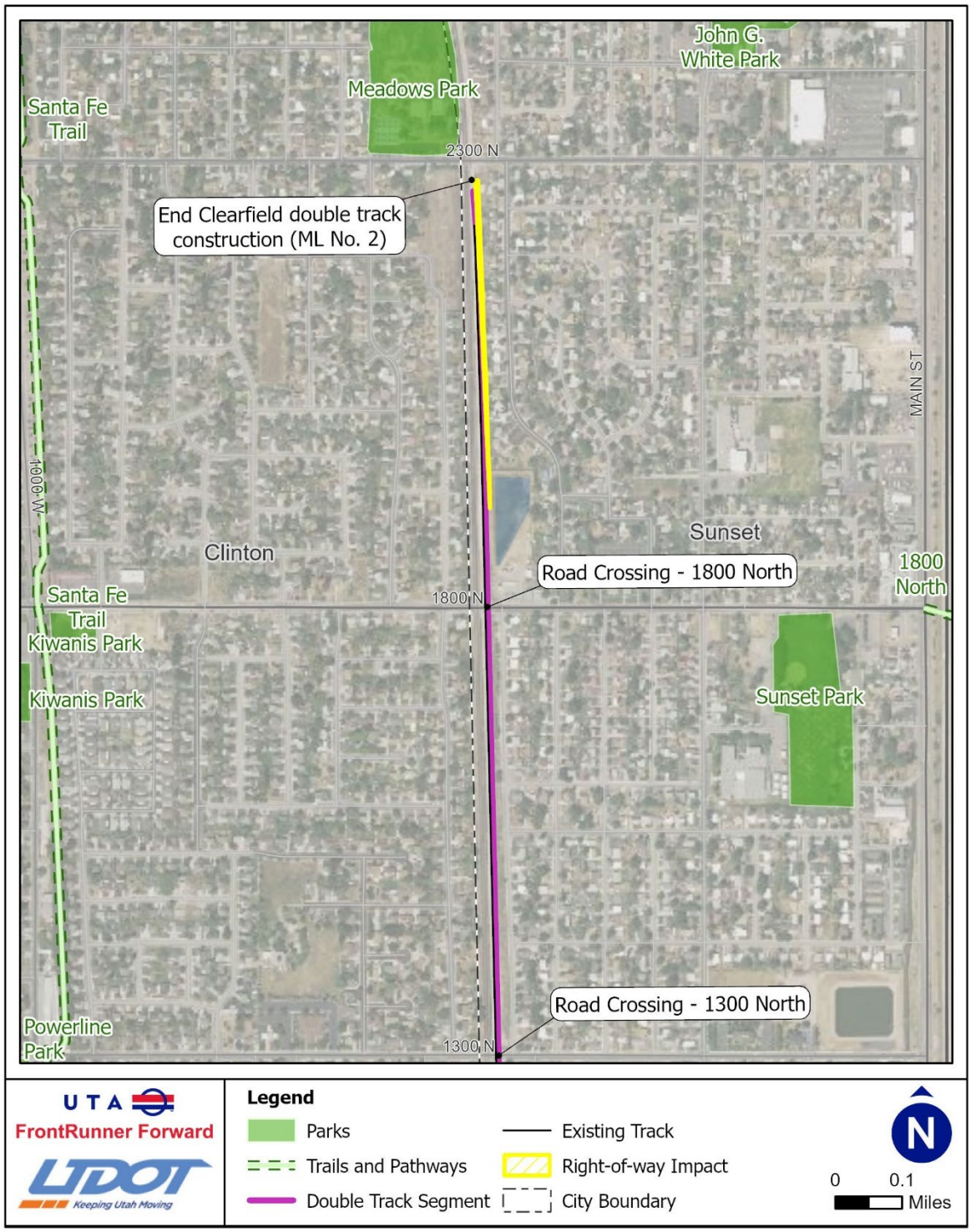


Figure 6. Recreation and Park Resources within the Project Area, 2 of 4

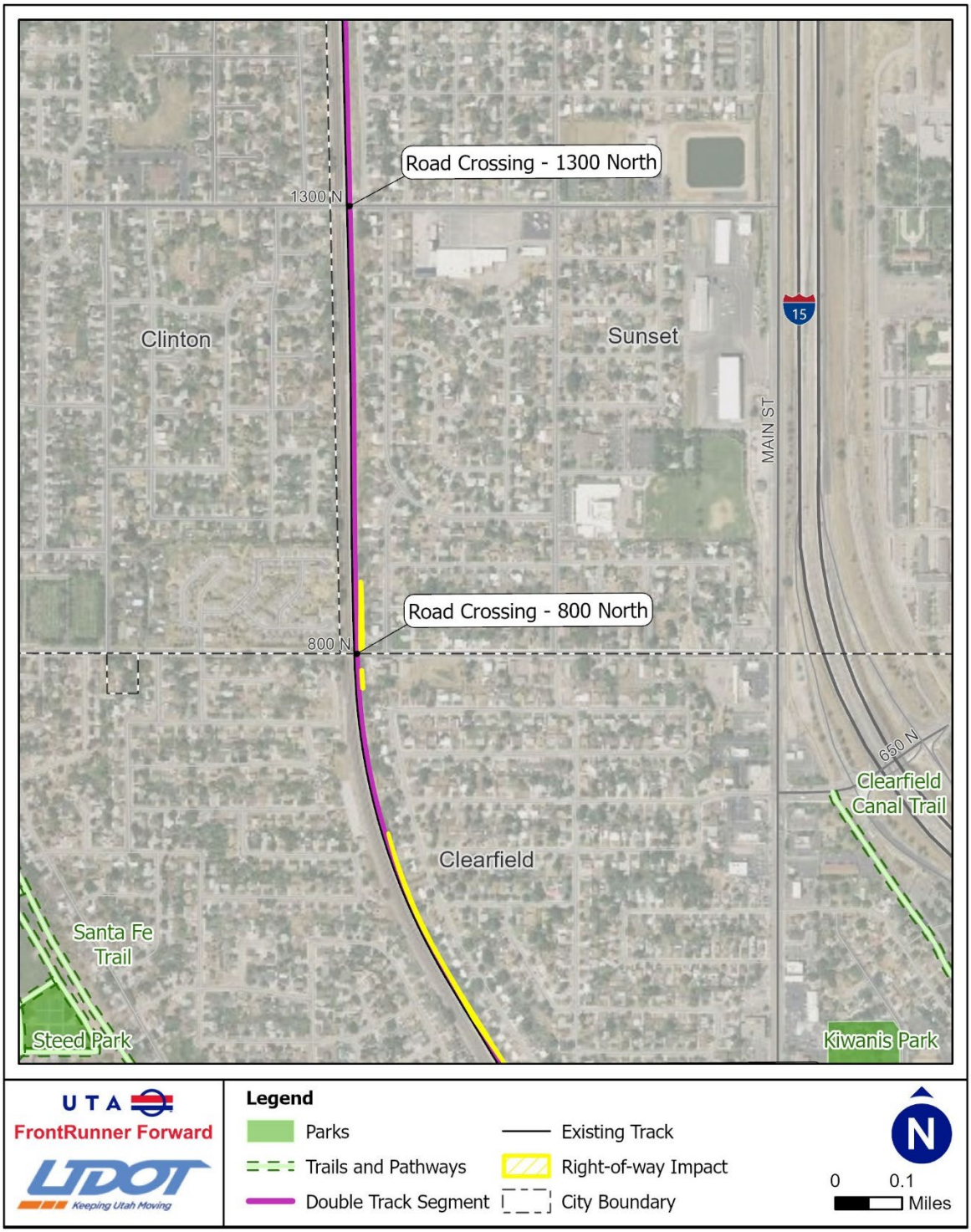


Figure 6. Recreation and Park Resources within the Project Area, 3 of 4

Figure 6. Recreation and Park Resources within the Project Area, 4 of 4

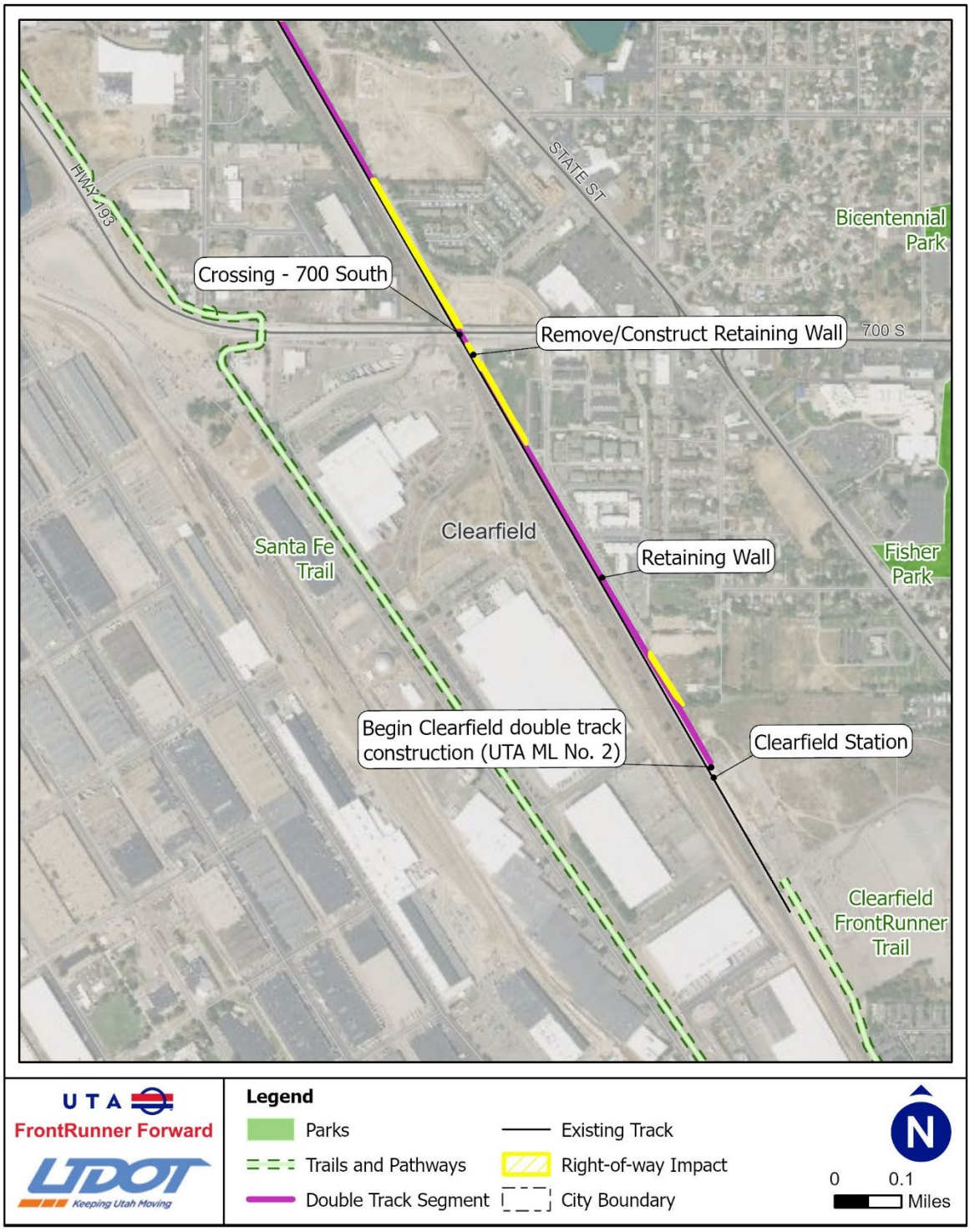


Figure 7. Train Watch Park Detail

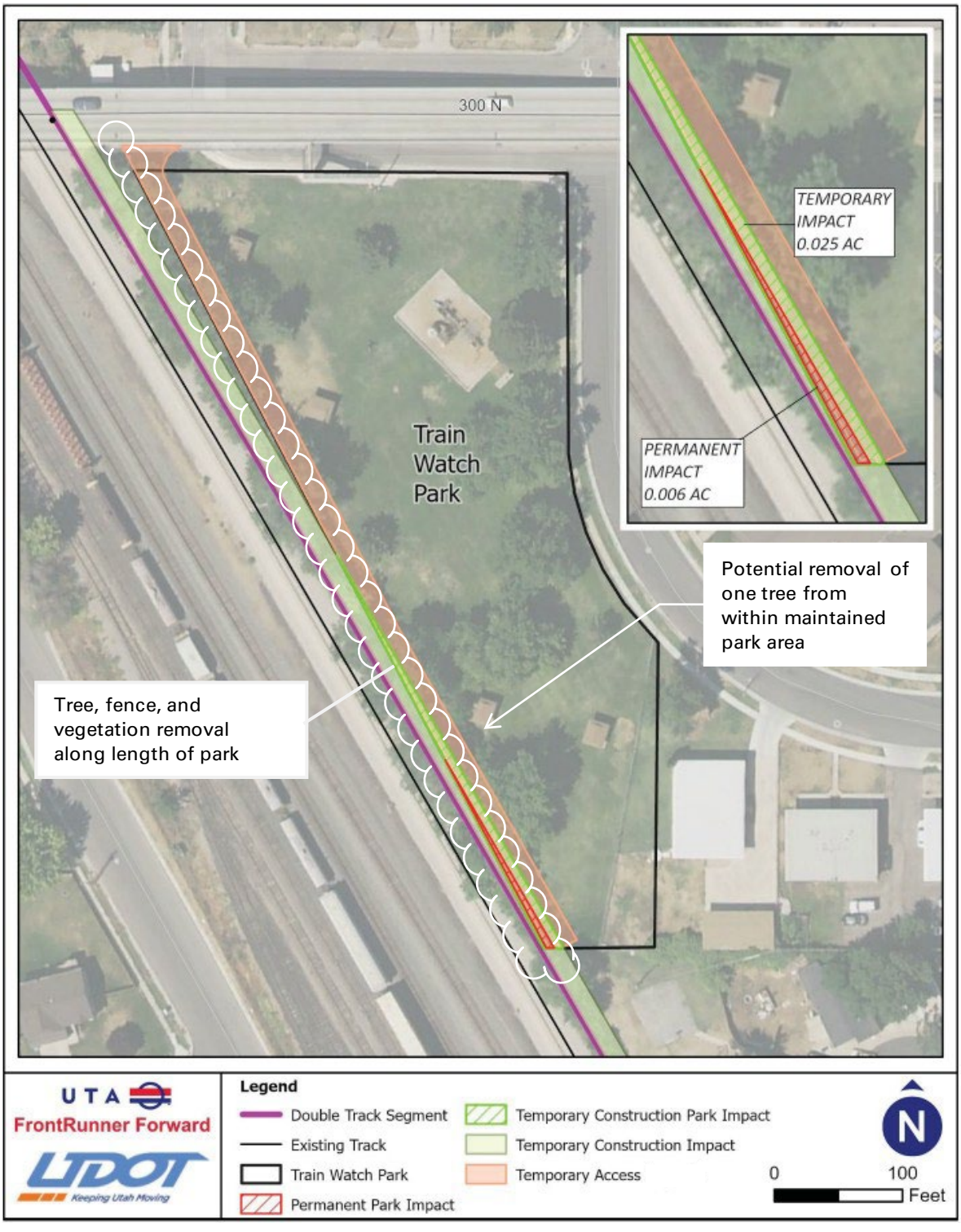


Figure 8. Farmland Parcels in Project Area, 1 of 3

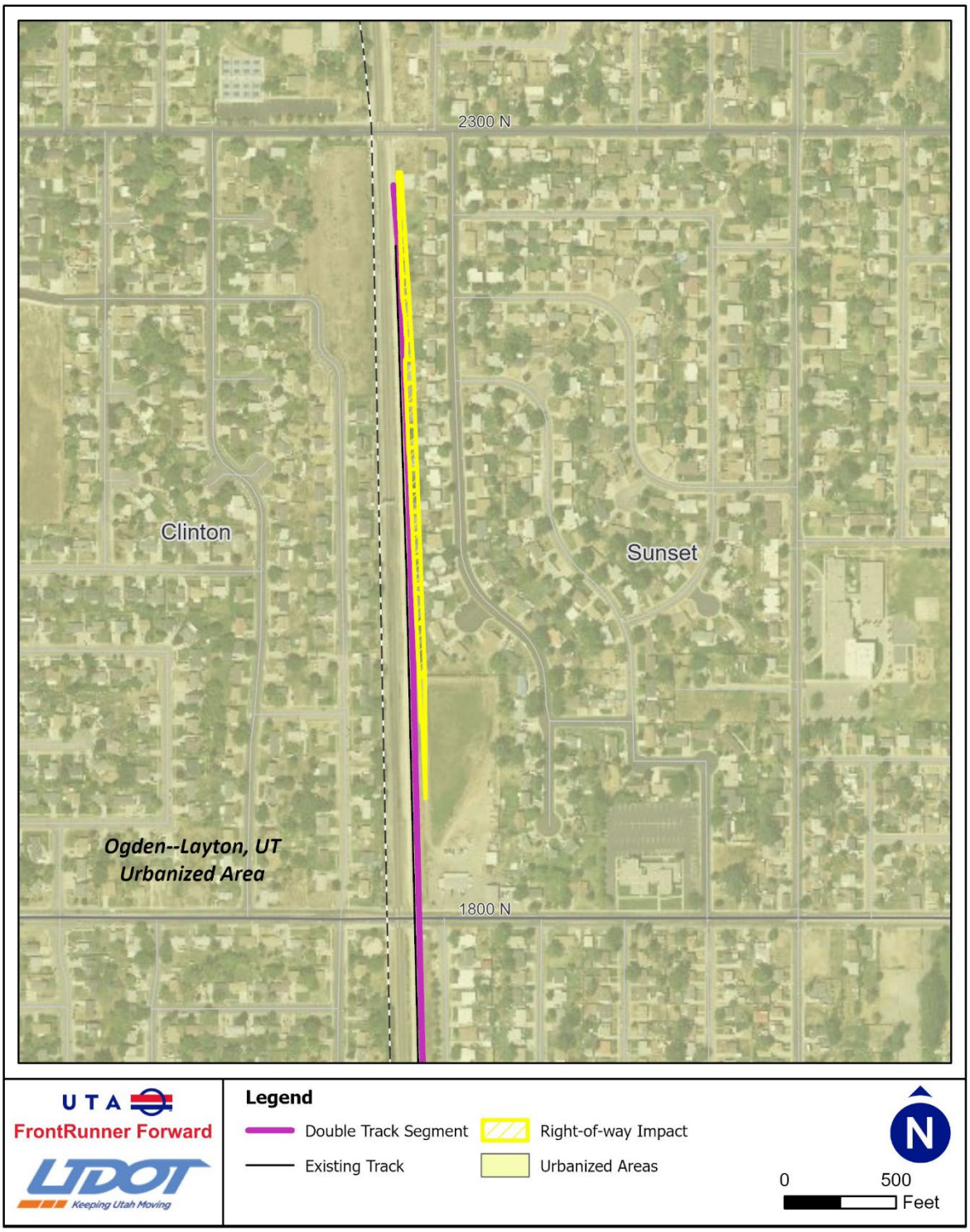


Figure 8. Farmland Parcels in Project Area, 2 of 3

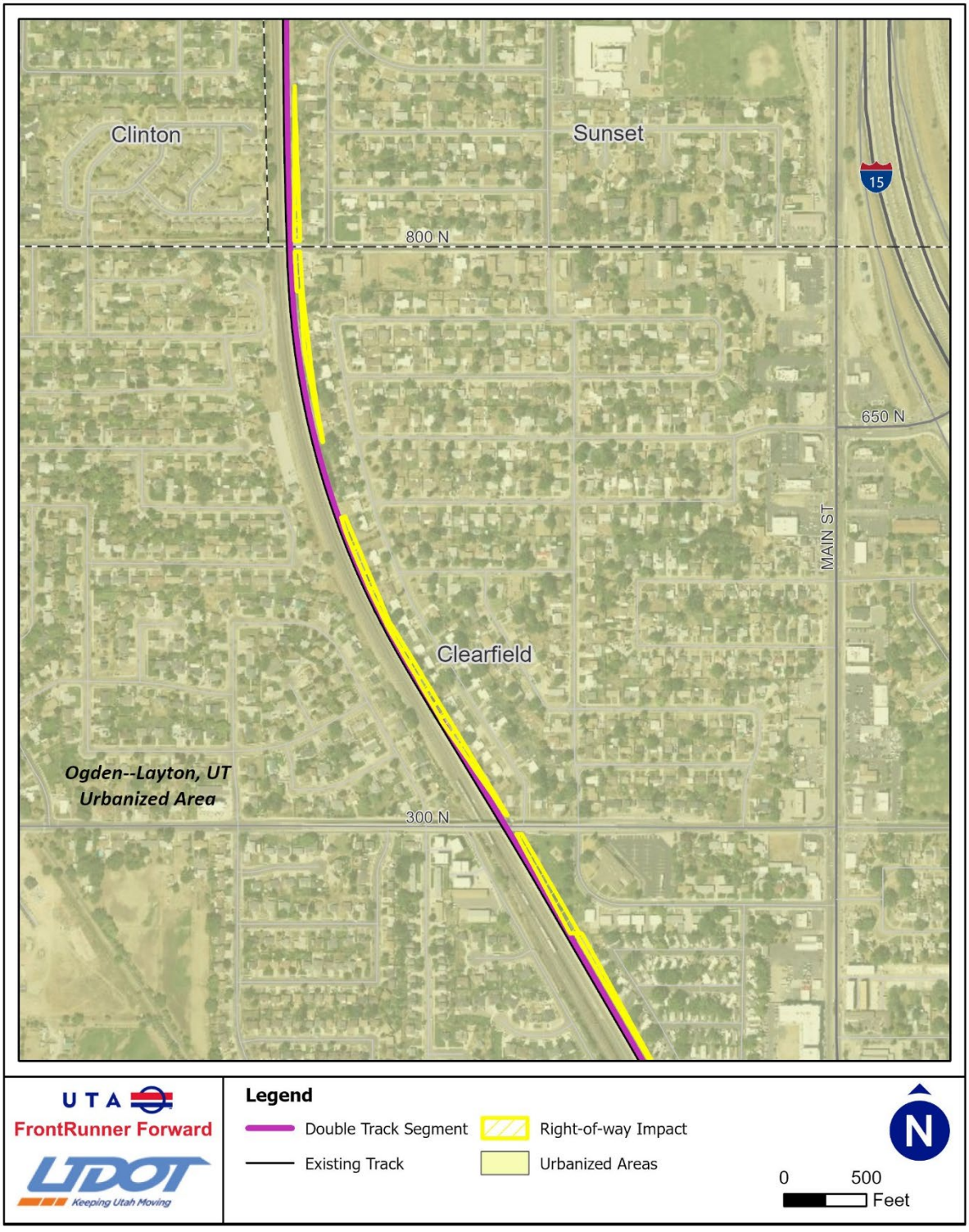


Figure 8. Farmland Parcels in Project Area, 3 of 3

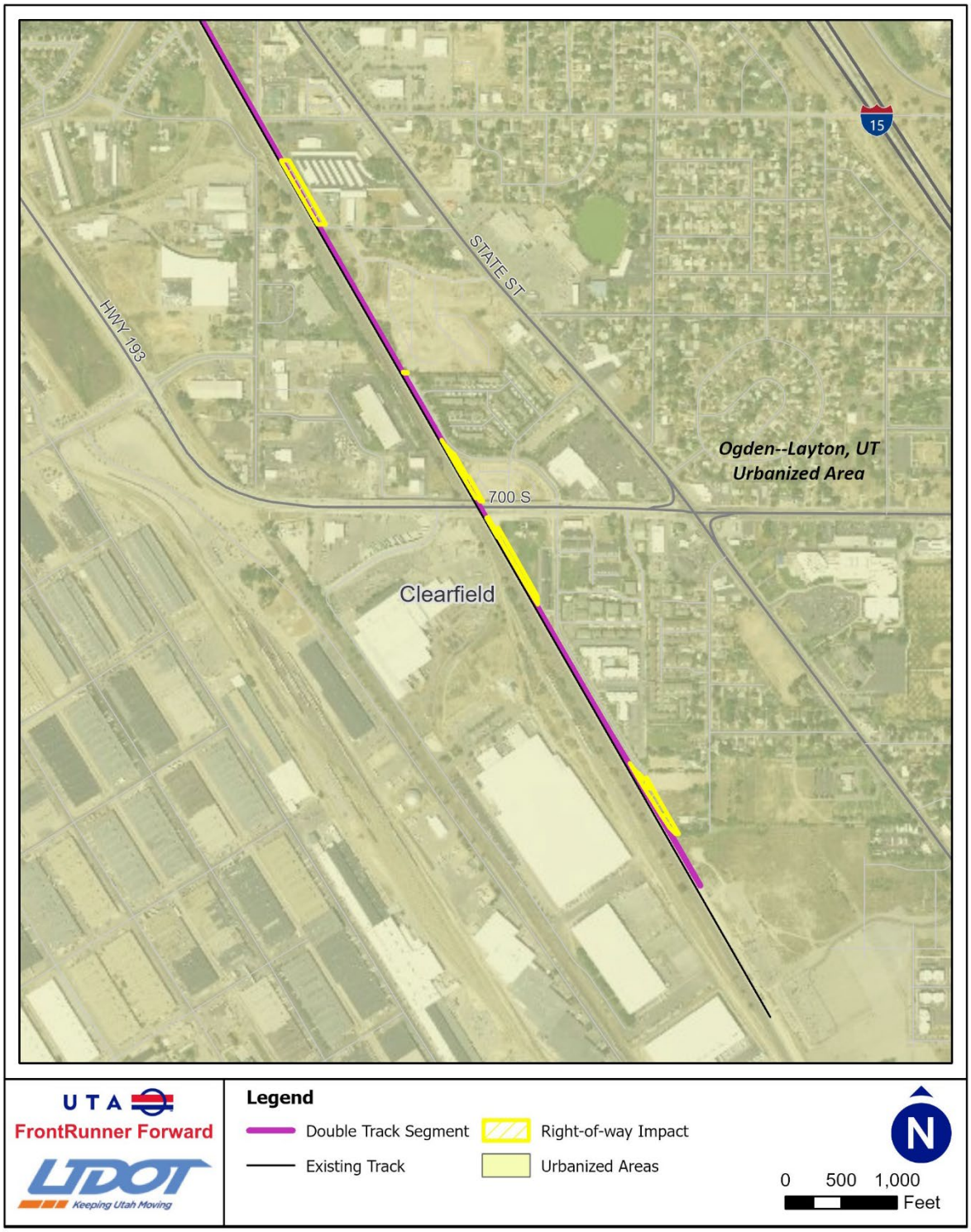


Figure 9. Floodplains, 1 of 4

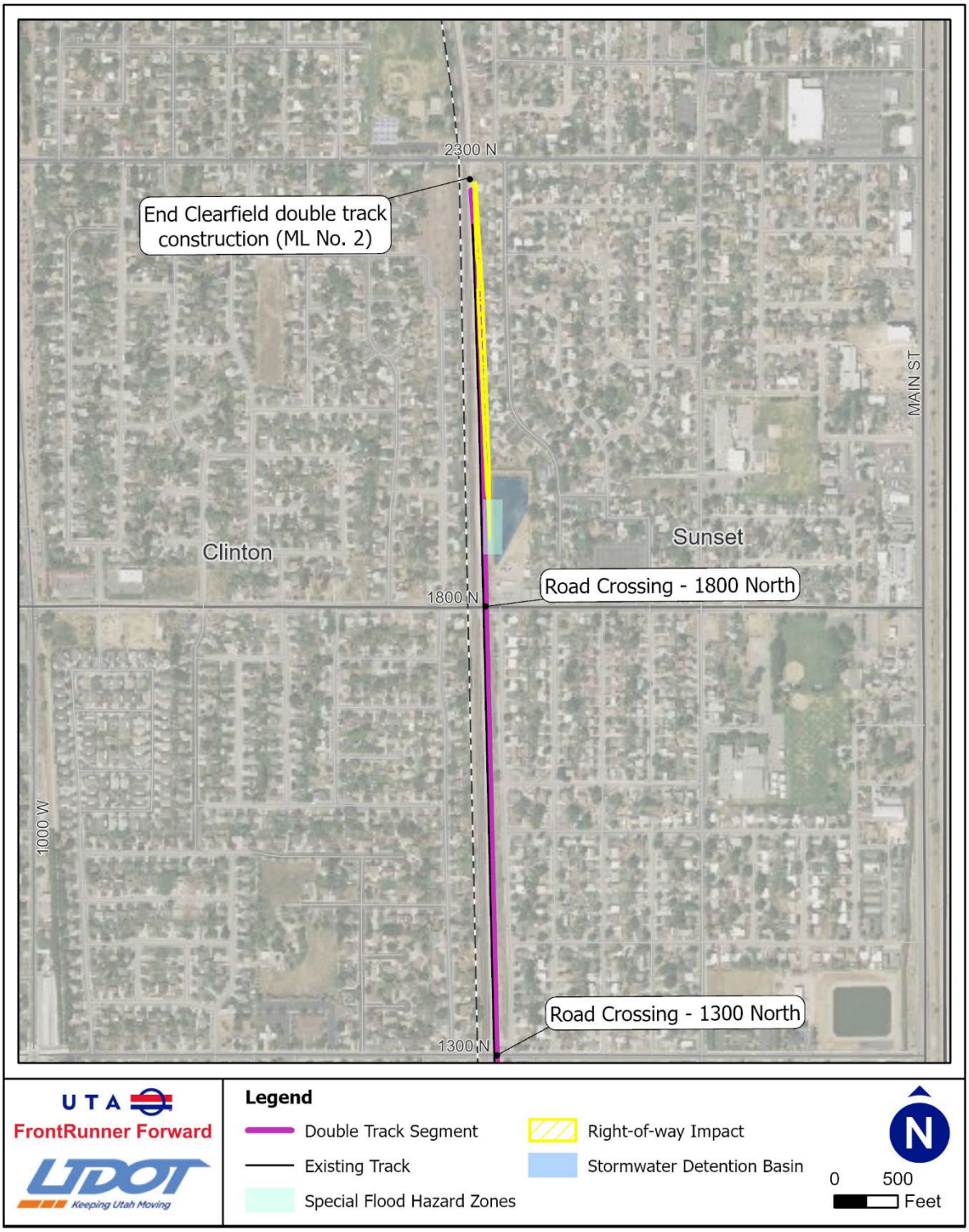


Figure 9. Floodplains, 2 of 4

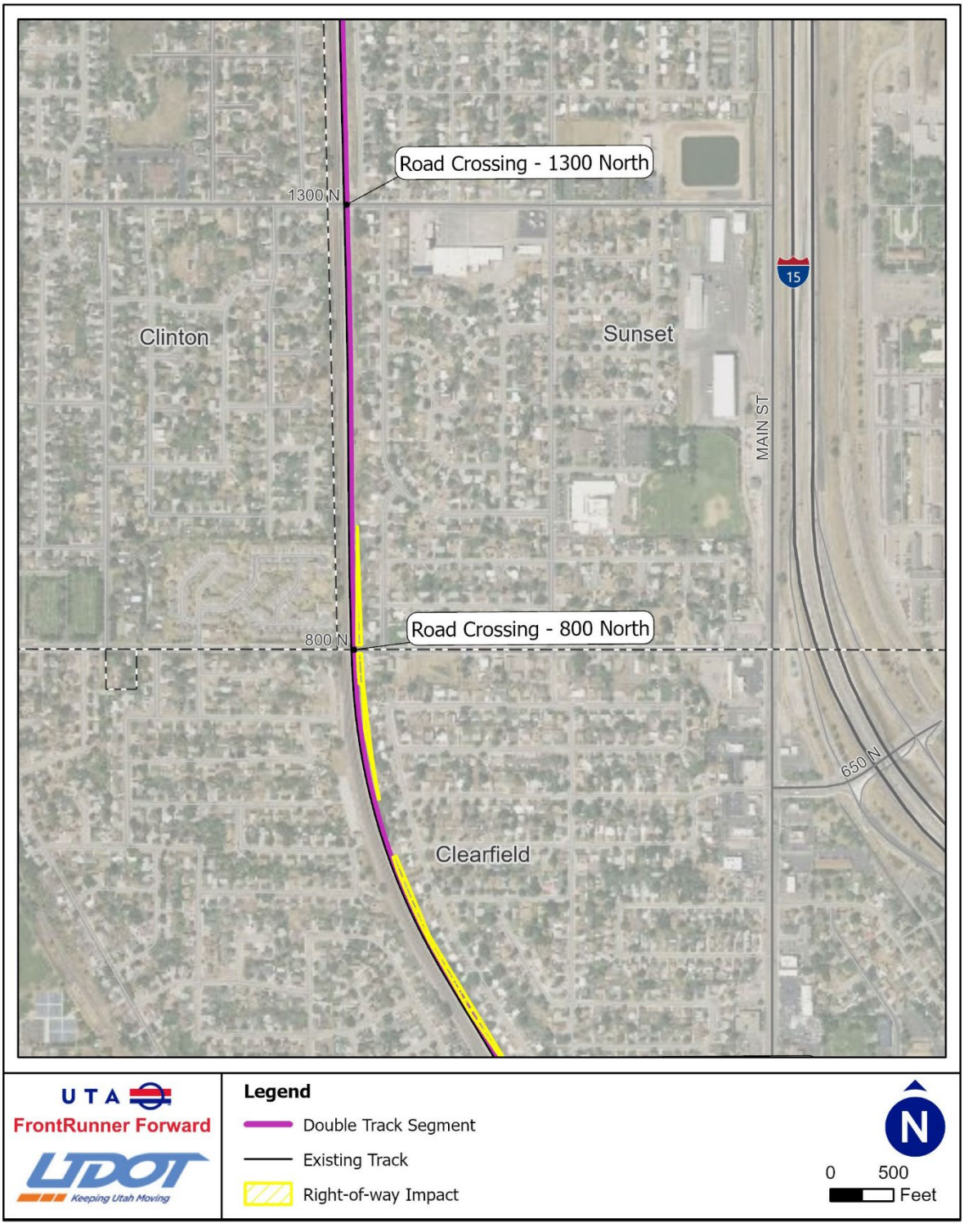


Figure 9. Floodplains, 3 of 4

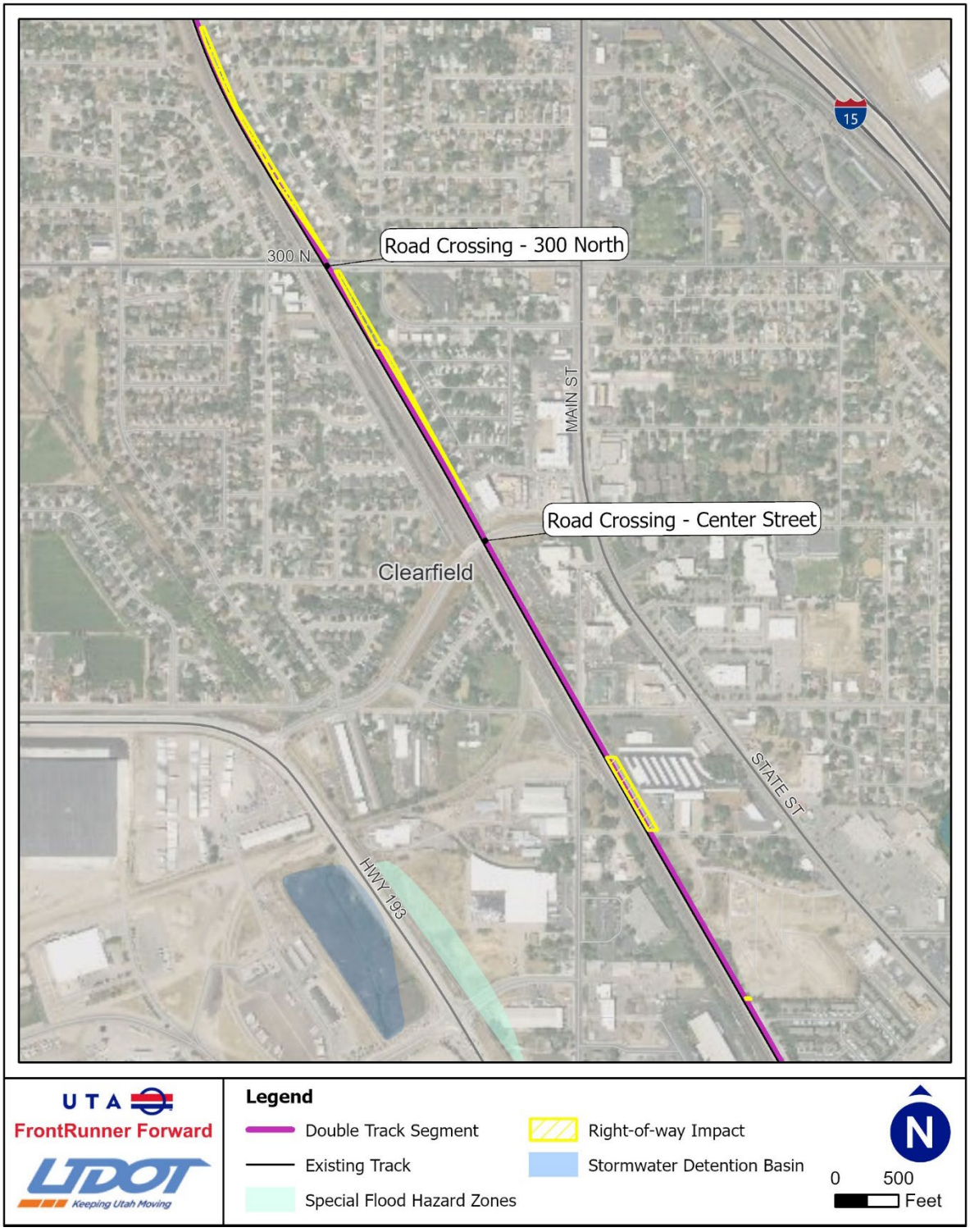


Figure 9. Floodplains, 4 of 4

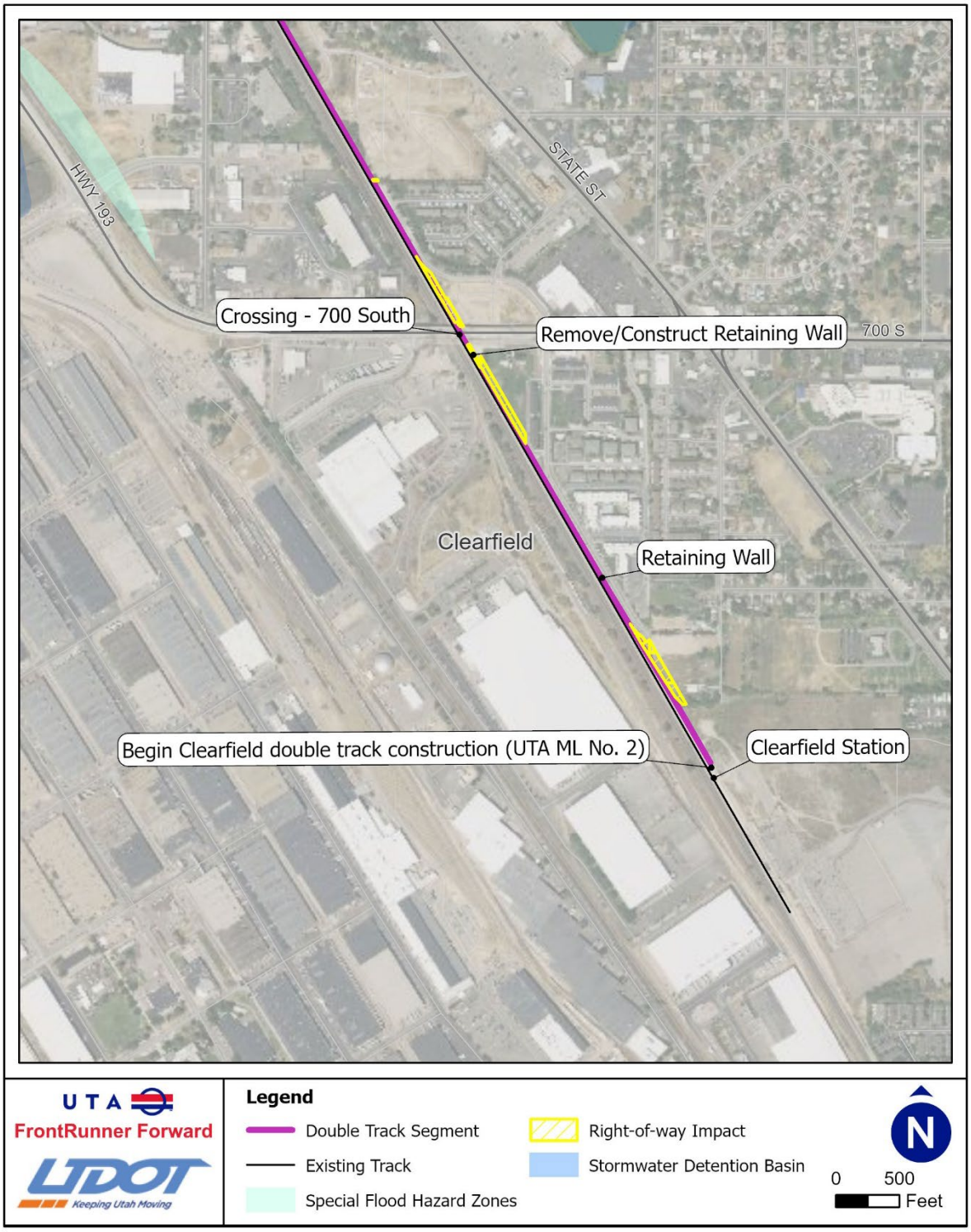


Figure 10. Wetlands and Waters of the U.S. in the Project Area, 1 of 5

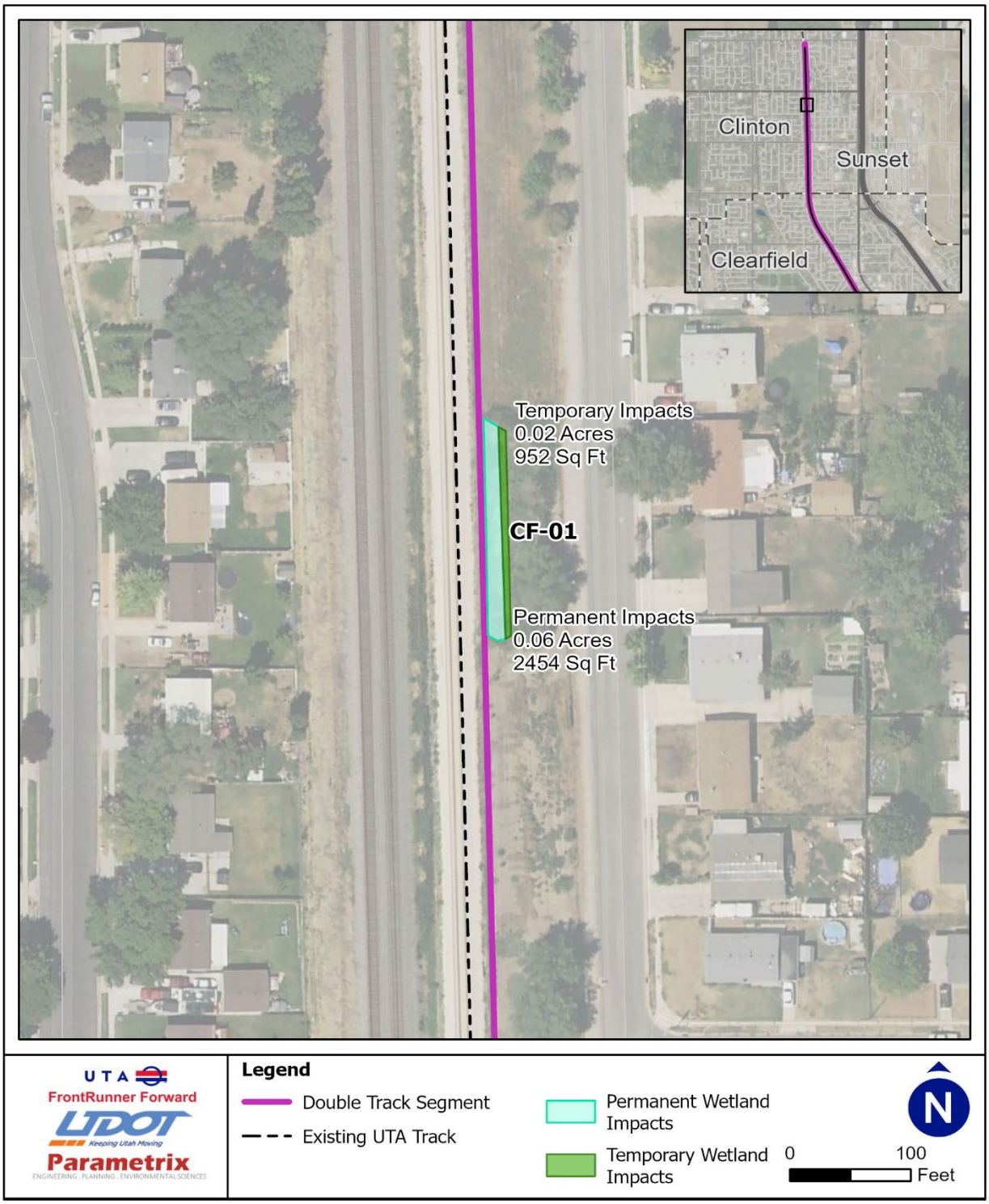


Figure 10. Wetlands and Waters of the U.S. in the Project Area, 2 of 5

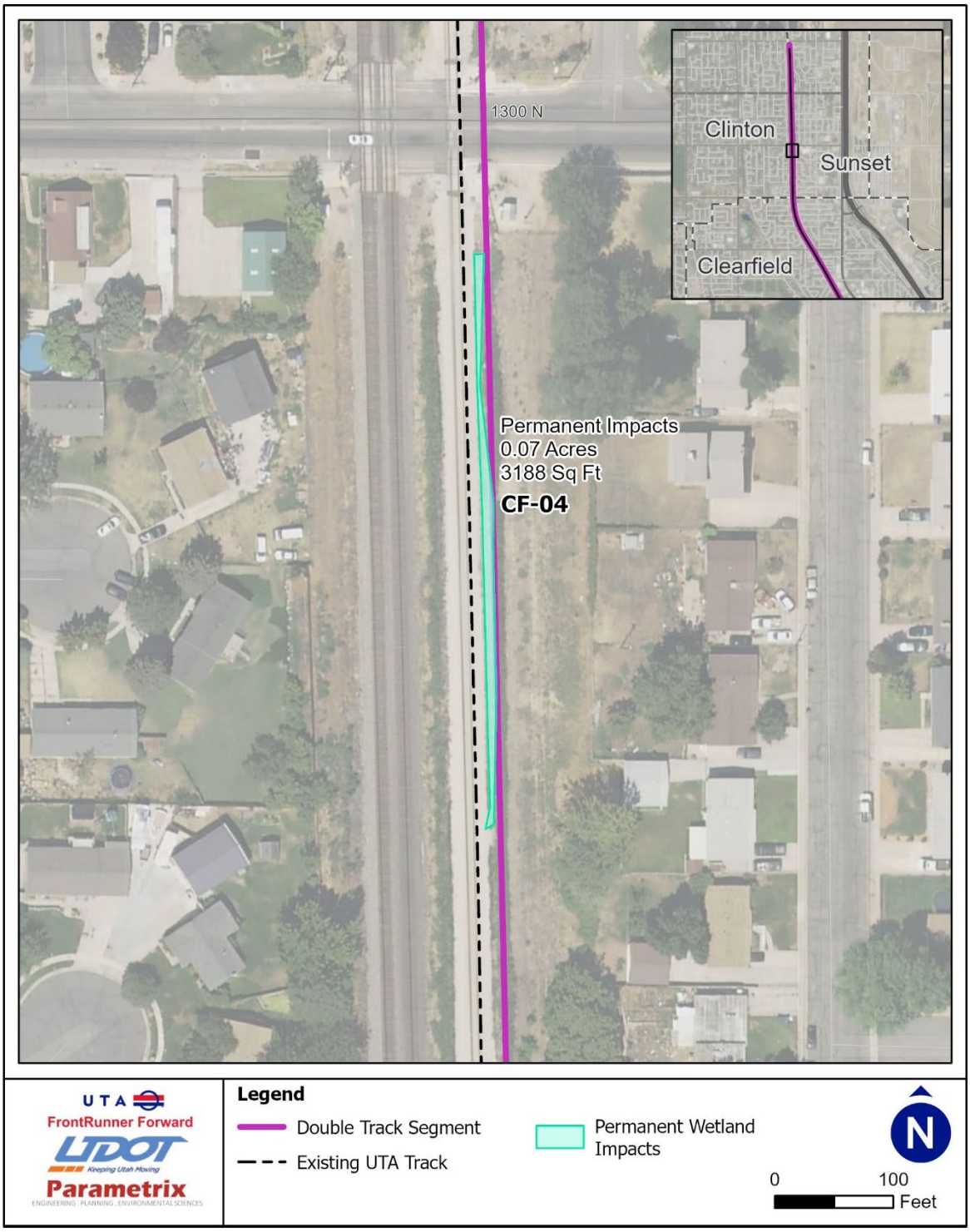


Figure 10. Wetlands and Waters of the U.S. in the Project Area, 3 of 5

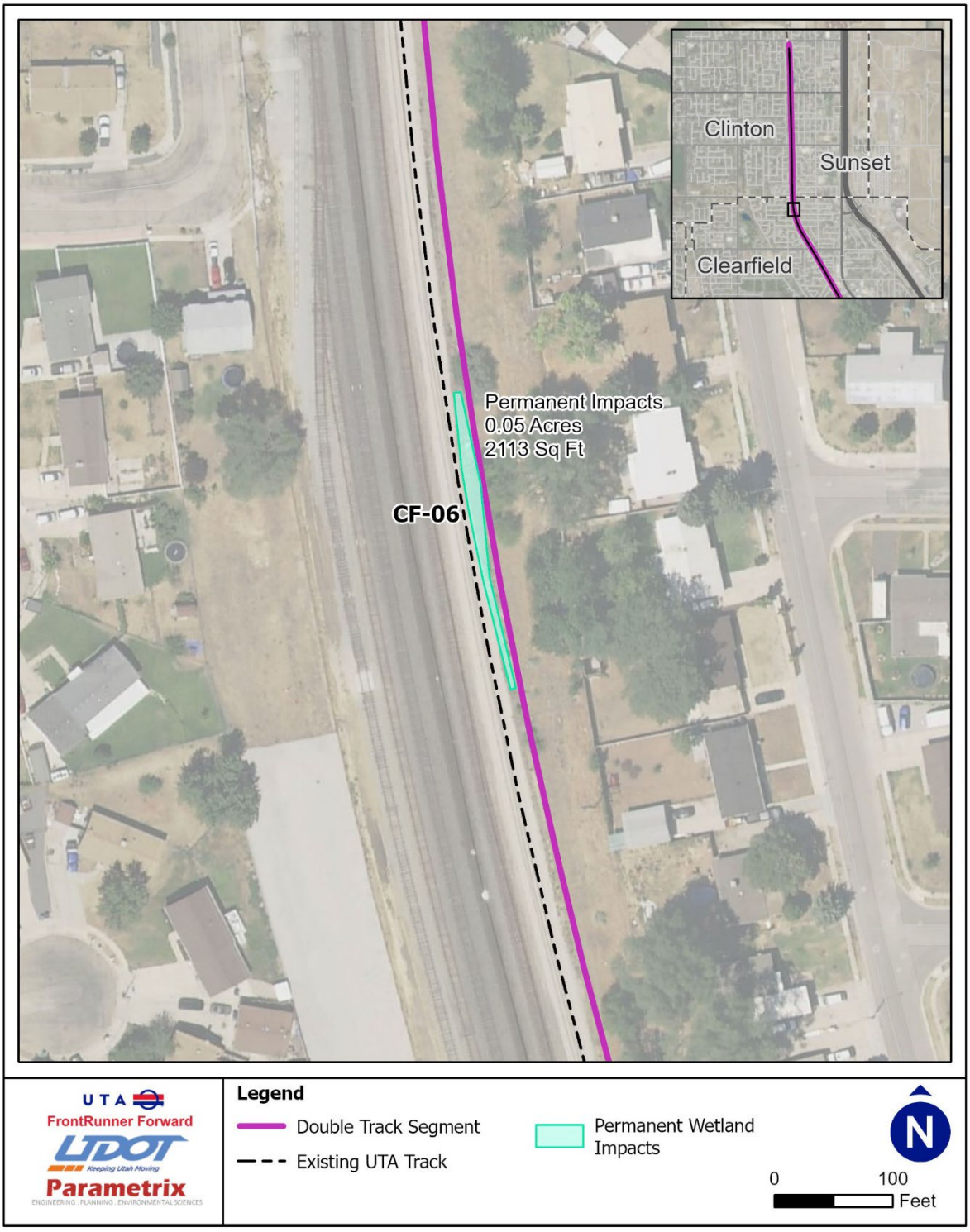


Figure 10. Wetlands and Waters of the U.S. in the Project Area, 4 of 5

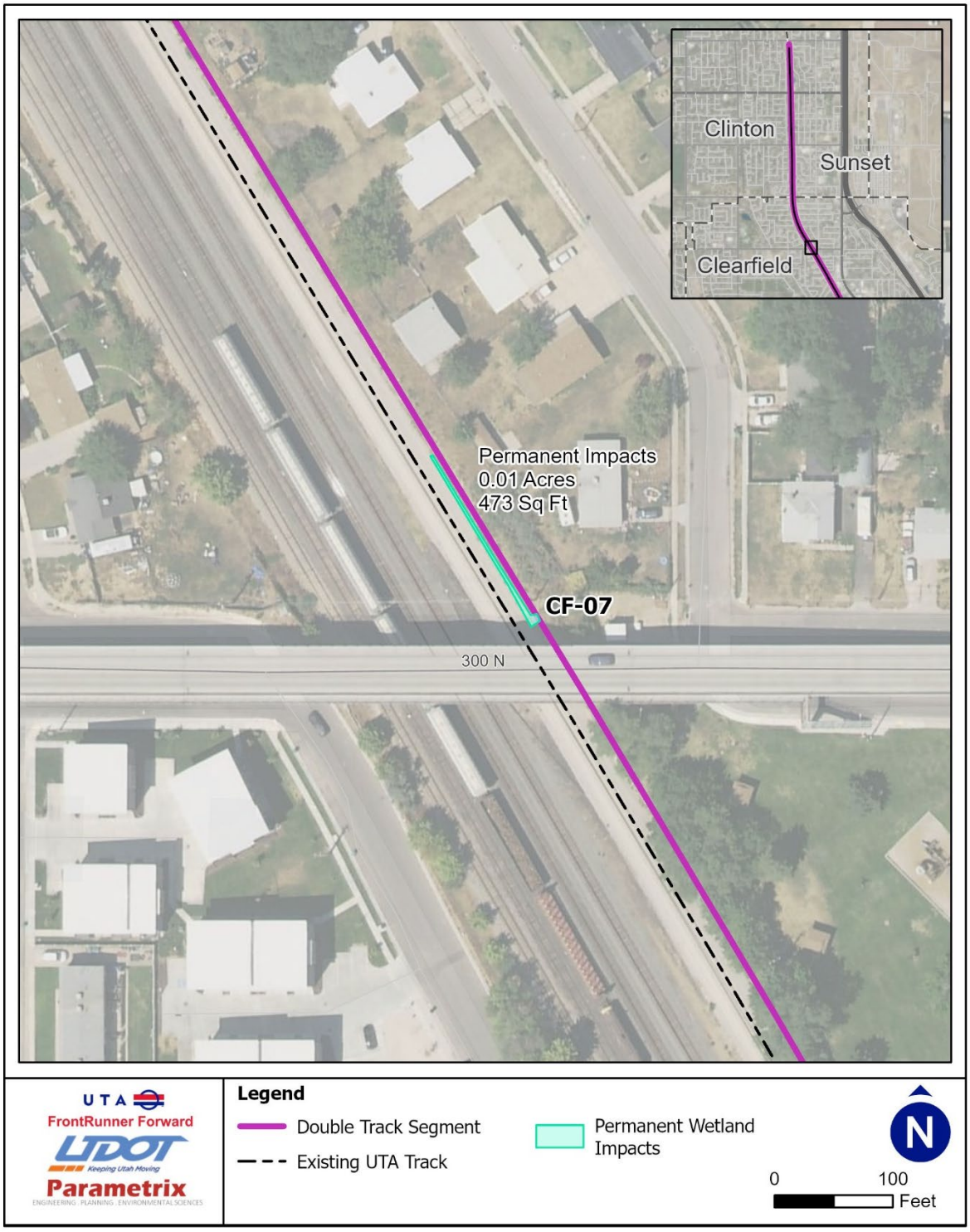
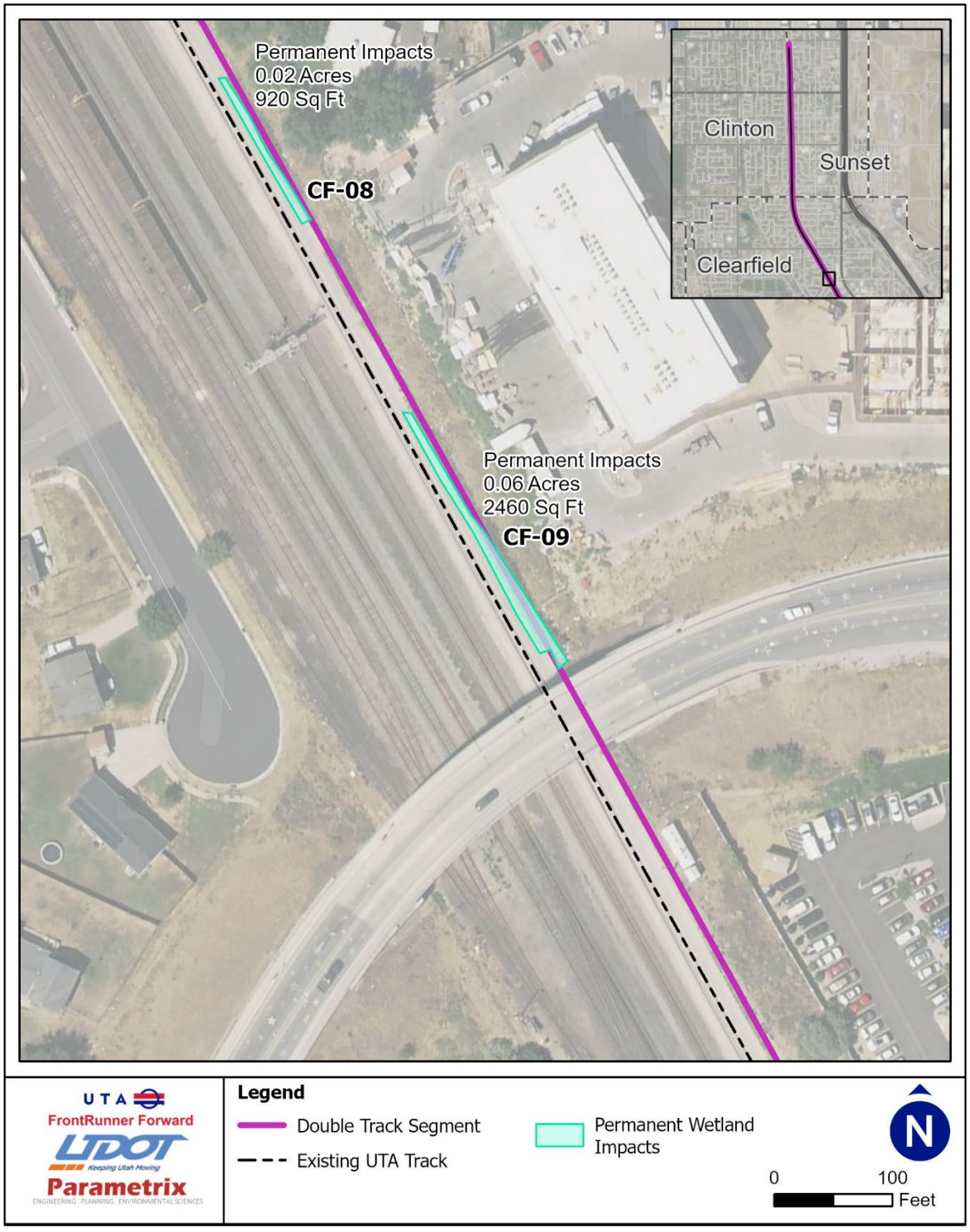
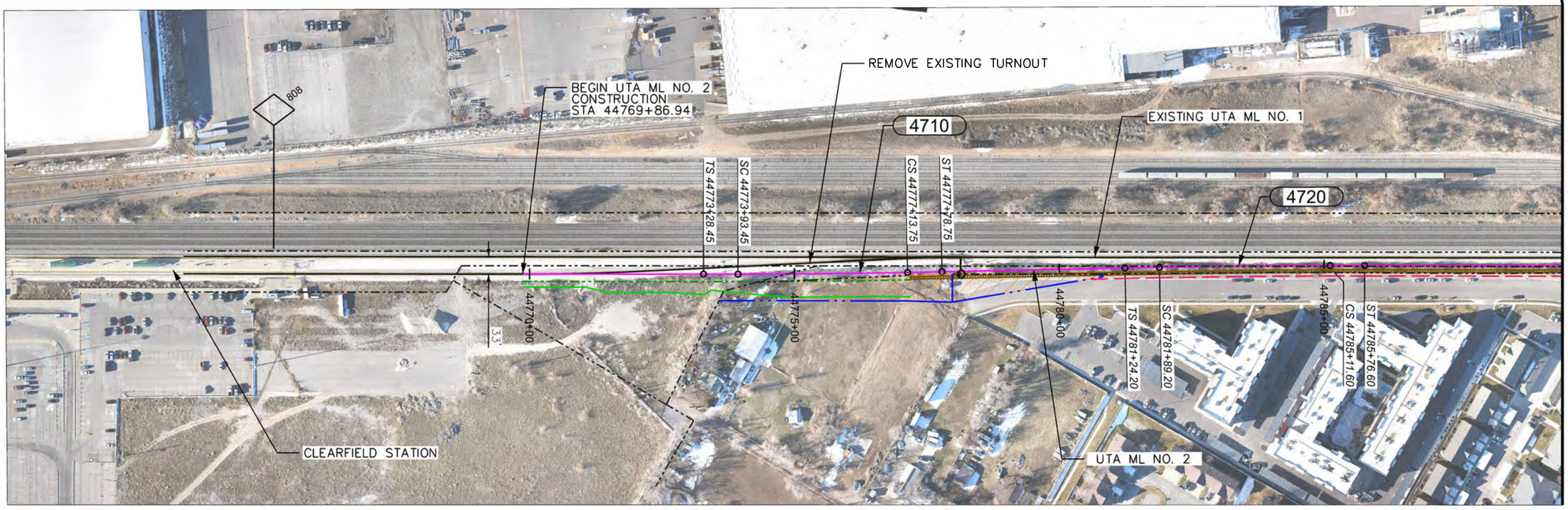


Figure 10. Wetlands and Waters of the U.S. in the Project Area, 5 of 5



Attachment 2:
North of Clearfield Double Track Project
Plan Set



100 50 0 100 200

SCALE IN FEET

CURVE DATA							
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4710	17,600.00	79	1.00	0.42	65	0°19'32"	320.305
4720	17,600.00	79	1.00	0.42	65	0°19'32"	322.398

- UTA PROPOSED TRACK
- UTA REMOVE TRACK
- UTA PROPOSED RETAINING WALL
- TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED CUT LINE
- PROPOSED DITCH FLOW LINE
- PROPOSED RIGHT-OF-WAY
- PUBLIC ROW IMPACTS

REV	DATE	DESCRIPTION

$TIME$
$FILE$
$User$
$DATE$

PRELIMINARY
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DAVID EVANS AND ASSOCIATES INC.

UDOT Keeping Utah Moving
UTA

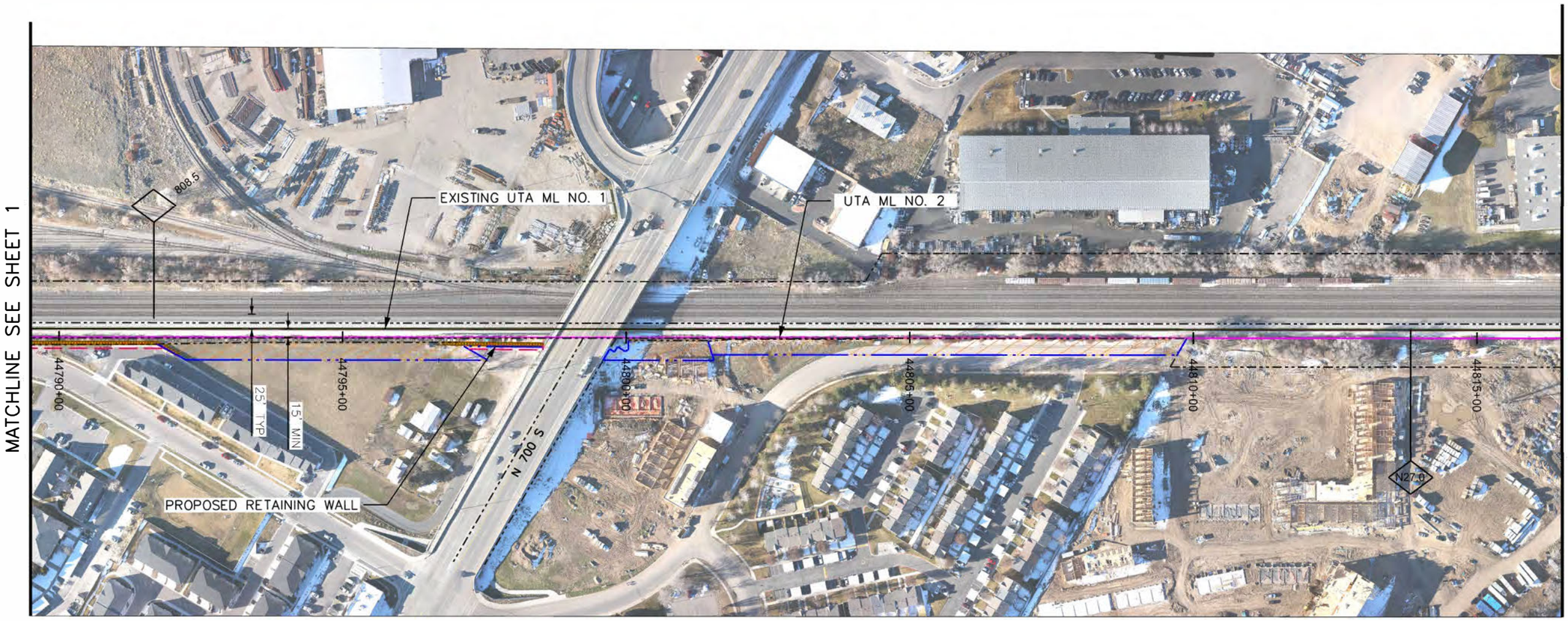
CONTRACT NO.:

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

NORTH OF CLEARFIELD DOUBLE TRACK PROJECT

PLAN SHEET 1 OF 8

SCALE:
CADD FILENAME: CF_ENVIR001.DGN
SUBMITTAL DATE
DRAWING No.: CF-EV01
SHEET No.:



100 50 0 100 200

SCALE IN FEET

- UTA PROPOSED TRACK
- UTA REMOVE TRACK
- UTA PROPOSED RETAINING WALL
- TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED CUT LINE
- PROPOSED DITCH FLOW LINE
- PROPOSED RIGHT-OF-WAY
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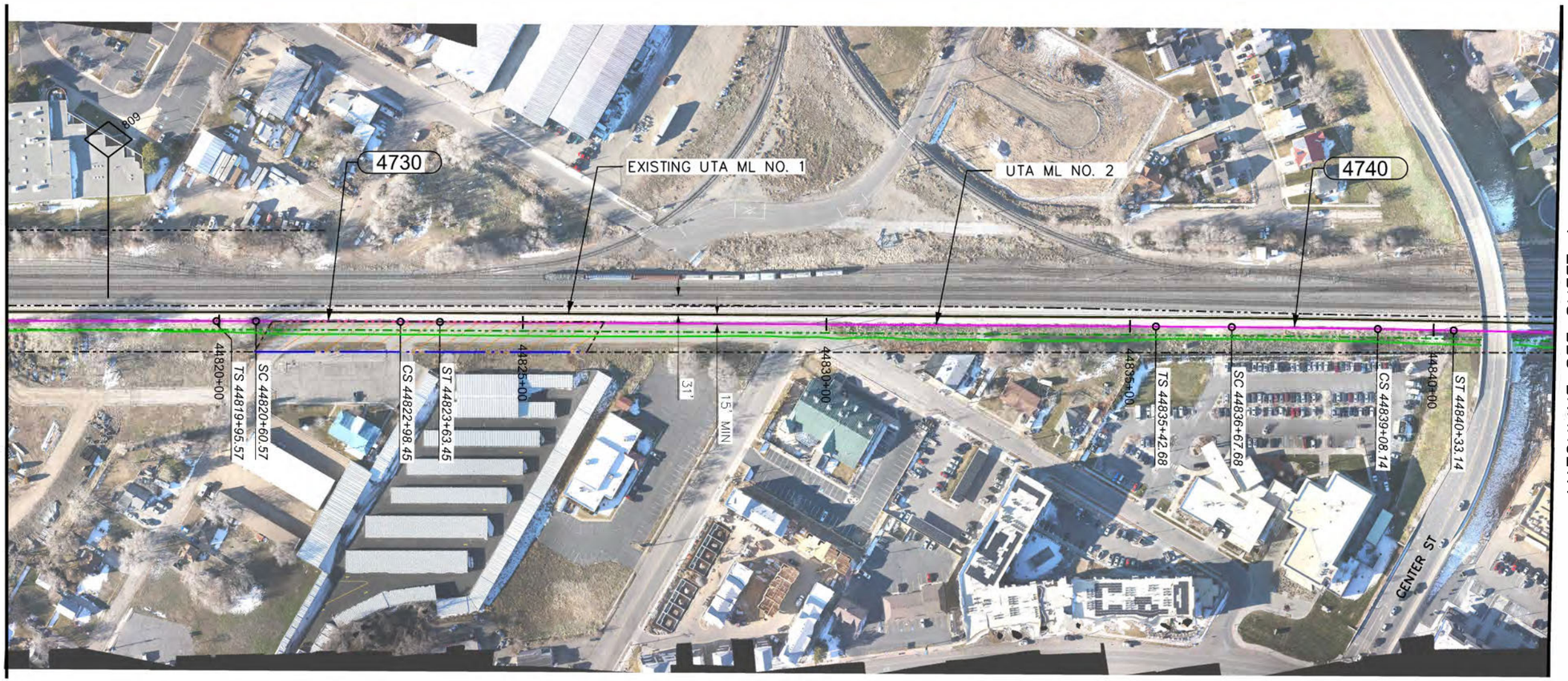
PLAN SHEET 2 OF 8

SCALE:
CADD FILENAME: CF_ENVIR002.DGN
SUBMITTADATE
DRAWING No.: CF-EV02
SHEET No.:



100 50 0 100 200

SCALE IN FEET

CURVE DATA							
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4730	56,000.00	79	0.00	0.45	65	0°6'8"	237.880
4740	26,500.00	79	0.00	0.94	125	0°12'58	240.460

- UTA PROPOSED TRACK
- UTA REMOVE TRACK
- UTA PROPOSED RETAINING WALL
- TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED CUT LINE
- PROPOSED DITCH FLOW LINE
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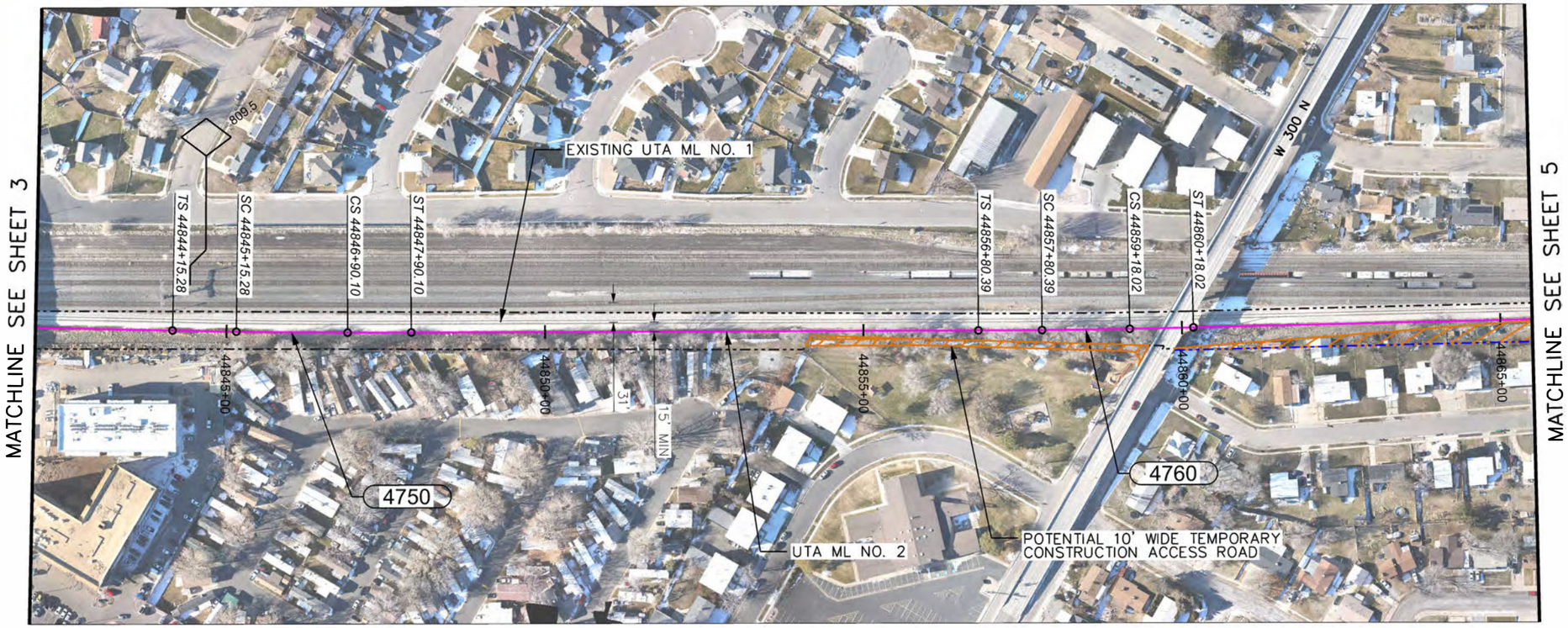
PLAN SHEET 3 OF 8

SCALE:
CADD FILENAME: CF_ENVIR003.DGN
SUBMITTAL DATE
DRAWING No.: CF-EV03
SHEET No.:



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4760	11,475.00	79	1.50	0.68	100	0°29'58"	137.635

100 50 0 100 200
SCALE IN FEET

- UTA PROPOSED TRACK
- UTA REMOVE TRACK
- UTA PROPOSED RETAINING WALL
- TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED CUT LINE
- PROPOSED DITCH FLOW LINE
- PROPOSED RIGHT-OF-WAY
- PUBLIC ROW IMPACTS

REV	DATE	DESCRIPTION

$TIME$
$FILE$
$User$
$DATE$

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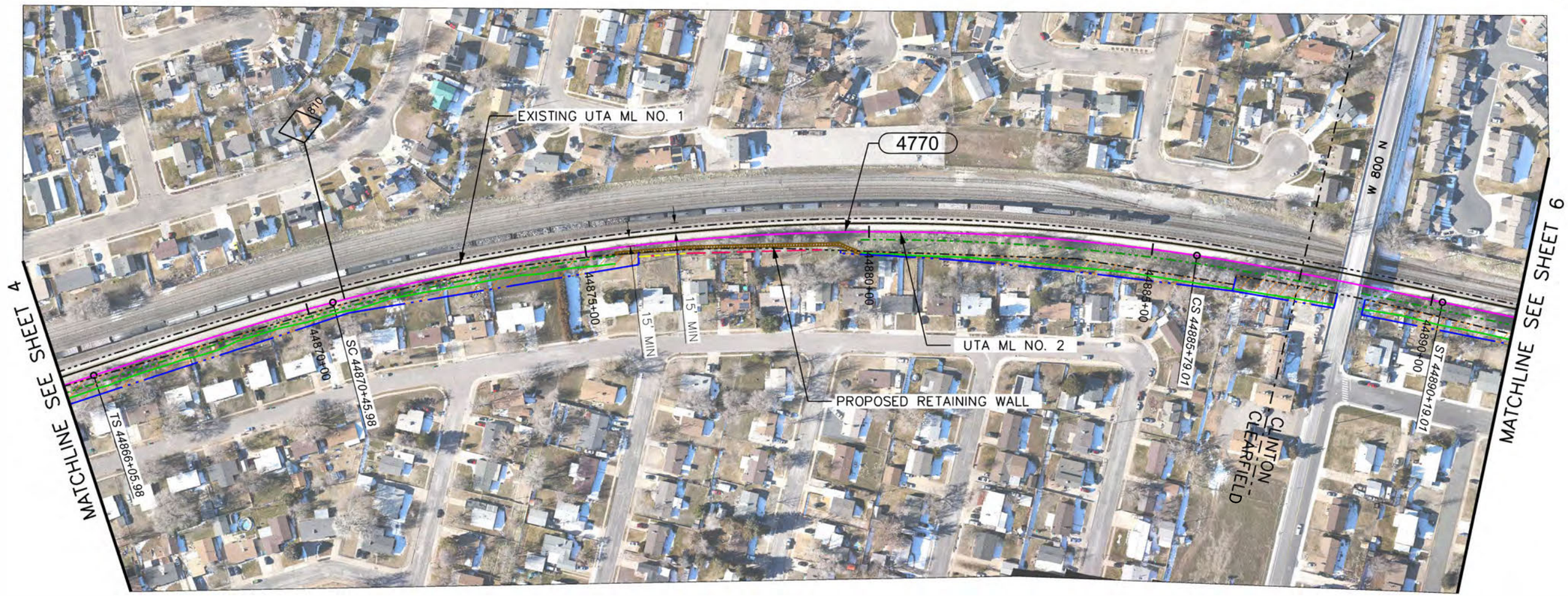
PLAN SHEET 4 OF 8

SCALE:
CADD FILENAME: CF_ENVIR004.DGN
SUBMITTAL DATE
DRAWING No.: CF-EV04
SHEET No.:



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100 50 0 100 200

SCALE IN FEET

- UTA PROPOSED TRACK
- UTA REMOVE TRACK
- UTA PROPOSED RETAINING WALL
- TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED CUT LINE
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- PUBLIC ROW IMPACTS

REV	DATE	DESCRIPTION

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PLAN SHEET 5 OF 8

SCALE:
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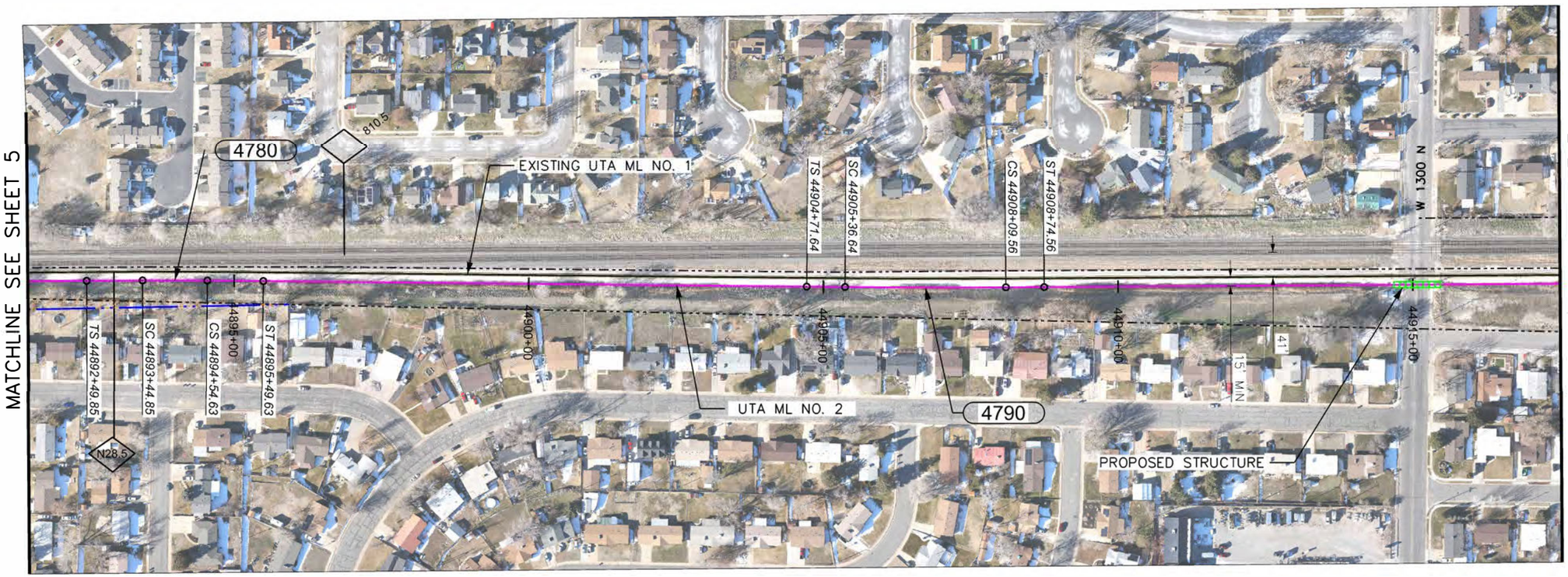
SUBMITTAL DATE
DRAWING No.: CF-EV05
SHEET No.:



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4790	20,000.00	79	1.00	0.25	65	1°17'11"	272.918

100 50 0 100 200

SCALE IN FEET

- UTA PROPOSED TRACK
- UTA REMOVE TRACK
- UTA PROPOSED RETAINING WALL
- TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED CUT LINE
- PROPOSED DITCH FLOW LINE
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REV	DATE	DESCRIPTION

$TIME$
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NOVEMBER 2022

Parametrix
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700 NE MULTNOMAH, SUITE 1000 |PORTLAND, OR 97232
P 503.233.2400
WWW.PARAMETRIX.COM
DAVID EVANS AND ASSOCIATES INC.

UDOT Keeping Utah Moving
UTA

CONTRACT NO.:

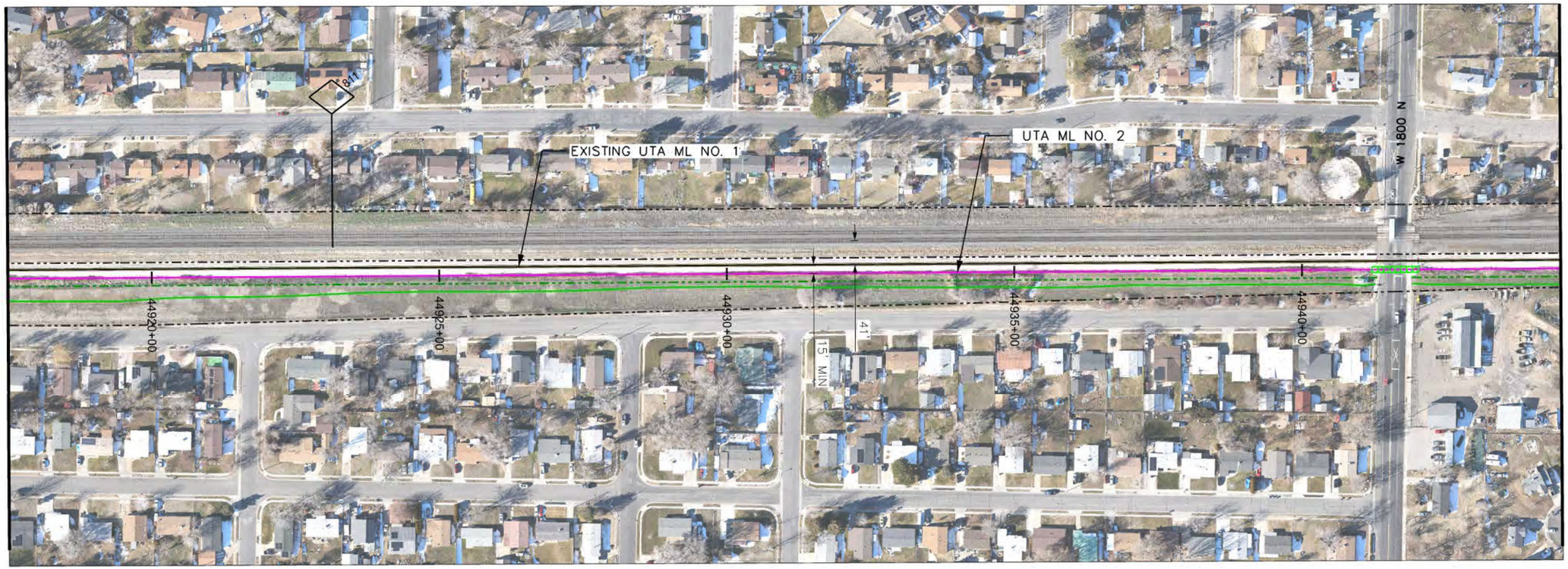
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

NORTH OF CLEARFIELD DOUBLE TRACK PROJECT

PLAN SHEET 6 OF 8

SCALE:
CADD FILENAME: CF_ENVIR006.DGN
SUBMITTAL DATE
DRAWING No.: CF-EV06
SHEET No.:

MATCHLINE SEE SHEET 6



MATCHLINE SEE SHEET 8

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SCALE IN FEET

- UTA PROPOSED TRACK
- UTA REMOVE TRACK
- UTA PROPOSED RETAINING WALL
- TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED CUT LINE
- PROPOSED DITCH FLOW LINE
- PROPOSED RIGHT-OF-WAY
- PUBLIC ROW IMPACTS

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NORTH OF CLEARFIELD DOUBLE TRACK PROJECT

PLAN SHEET 7 OF 8

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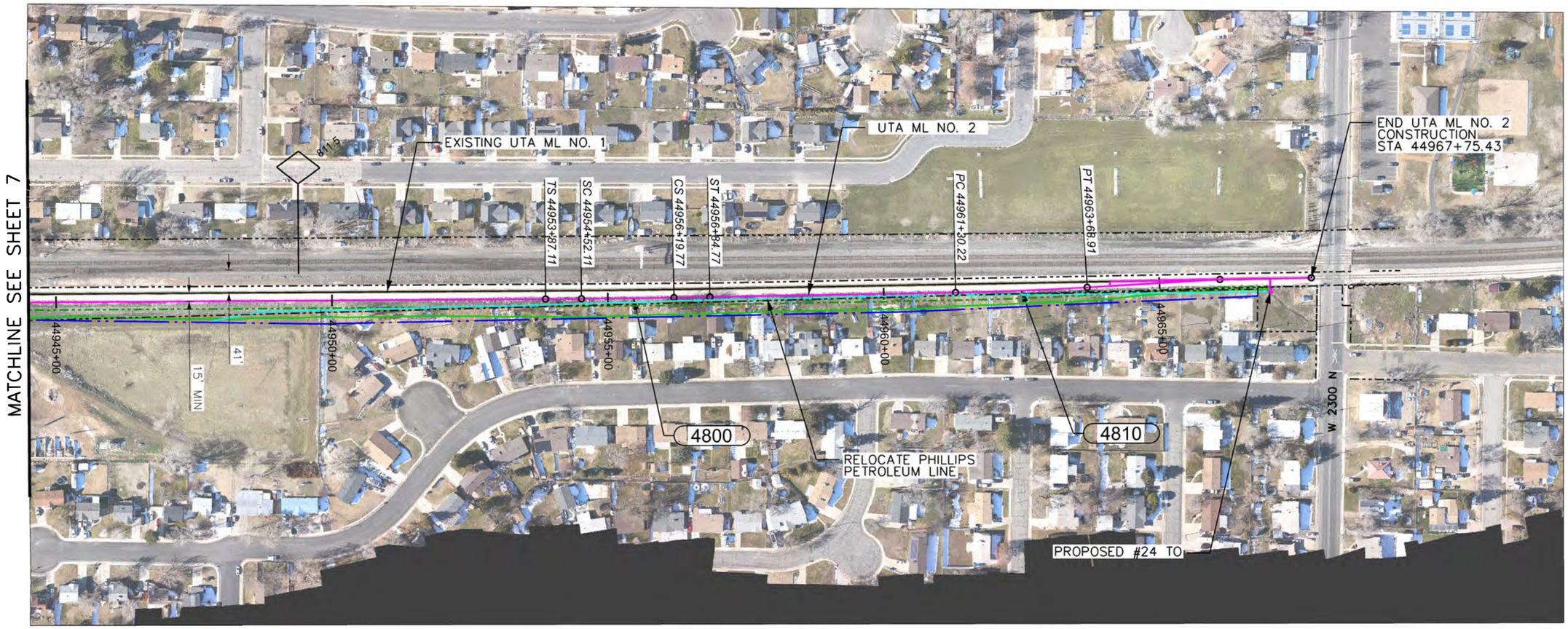

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4810	5,729.58	45	0.00	1.42		1°0'0"	238.694

- UTA PROPOSED TRACK
- UTA REMOVE TRACK
- UTA PROPOSED RETAINING WALL
- TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED CUT LINE
- PROPOSED DITCH FLOW LINE
- PROPOSED RIGHT-OF-WAY
- PUBLIC ROW IMPACTS

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NORTH OF CLEARFIELD DOUBLE TRACK PROJECT

PLAN SHEET 8 OF 8

SCALE:
CADD FILENAME: CF_ENVIR008.DGN
SUBMITTAL DATE
DRAWING No.: CF-EV08
SHEET No.:

Attachment 3:
North of Clearfield Double Track Project
Section 106 Consultation

Per the Archaeological Resources Protection Act (ARPA) and guidance from the Utah State Historic Preservation Office (SHPO), archaeological site information has been redacted to protect sensitive cultural resources.

Attachment 4:
North of Clearfield Double Track Project
Section 4(f) Evaluation

North of Clearfield Double Track Segment
Section 4(f) Evaluation for Train Watch Park

The Utah Transit Authority (UTA) is proposing to construct a new double-track segment along approximately 3.6 miles of existing single-track FrontRunner commuter rail line from the FrontRunner Clearfield Station at the south end of the alignment to the 2300 North at-grade crossing at the north (the Project) in Davis County, Utah (see Figure 1). This segment runs parallel to the existing Union Pacific (UP) rail corridor to the west. The Project would improve reliability and reduce delays of the FrontRunner service.

UTA intends to apply for federal funds administered by the Federal Transit Administration (FTA), making the Project subject to the requirements of Section 4(f) of the Department of Transportation Act of 1966. Section 4(f) and its implementing regulations, defined in 23 Code of Federal Regulations (CFR) Part 774, protects certain properties, including parks and recreational properties. This evaluation supports UTA and FTA as they comply with 4(f) requirements.

Section 4(f)

Section 4(f) of the U.S. Department of Transportation Act of 1966 affords special protection to publicly owned parks, recreational resources, wildlife and waterfowl refuges, and publicly or privately owned historic sites. Use of a Section 4(f) property occurs when: (1) land is permanently incorporated into a transportation facility; (2) there is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose, or (3) there is a constructive use (the project's impacts are so severe that the protected activities, features, or attributes of an adjacent property are substantially impaired).

A *de minimis* impact is one that, after taking into account all measures to minimize harm (such as avoidance, minimization, mitigation, or enhancement measures), results in a determination that the project will not adversely affect the activities, features, or attributes of the property. A *de minimis* determination requires concurrence from the Official with Jurisdiction, which is the City of Clearfield for the use of Train Watch Park, and public involvement as defined by 23 CFR 774.5(b).

Train Watch Park Activities, Features and Attributes

Train Watch Park, located at 200 W 250 N, Clearfield, UT 84015 is owned by the City of Clearfield, and is immediately adjacent to the existing UP/UTA rail corridor (See Figure 2 and associated photographs). The park meets the qualifications for a Section 4(f) resource as defined in 23 CFR Part 774. The 1.56-acre park is a publicly owned property that is primarily for park and recreational activities, and it is open to the general public. Adjacent to the north side of the park, the 300 N bridge crosses east-west over the railroad corridor. The 300 N bridge has sidewalks on both sides, and there are stairs from the bridge to the northwest edge of the park. The bridge provides direct views of the railroad corridor and passing trains.

The park landscape is mostly lawn with individual shade trees. The center of the park has a play area with playground equipment featuring a train theme. The park has multiple picnic benches, including some on cement pads with pavilion covers. Several of the covered tables are in the western area of the park, approximately 30 feet from the chain-link fence at the park boundary, separating it from the UP/UTA rail corridor to the west. Numerous trees, shrubs, and vines—primarily invasive and volunteer species such as Siberian elm—are present within UTA rail corridor, immediately adjacent to and within the chain-link fence.

This vegetation is unmaintained and overgrown, and obscures views of the rail corridor and passing trains in several locations, as shown in the attached photographs.

Section 4(f) Use of Train Watch Park

The FrontRunner second track would be constructed entirely within existing UTA right-of-way, and existing vegetation within UTA existing right-of-way would be removed. However, in order to maintain the safety zone required for railways to separate them from other uses, UTA would need to permanently acquire a strip of approximately 0.006 acre (300 square feet) along the southwestern corner of the park, with an additional approximately 0.025 acre (1,100 square feet) of the park needed temporarily during construction, as shown in Figure 3.

During construction, the Project would need to remove the existing chain-link fence along the length of the park, including all the unmaintained trees and vegetation on the western edge of the fence, outside the maintained park area. This would result in the removal of approximately 45 trees of various diameters and numerous shrubs from UTA right-of-way and 6 to 10 trees from Clearfield City property on the western side of the fence (see Figure 3). In addition to the tree and vegetation removal along the fence, the roots of one tree within the maintained park area would be impacted (see Photopoints 5, 8, 9, and 11). It is unknown at this time whether the tree could be preserved. The remaining maintained trees further into the park would be unaffected.

The clearing of trees and vegetation along the existing fence line would be seen as a benefit by Clearfield City as it would remove the overgrown trees and vegetation along the park fence, reduce maintenance needs, and remove a visual buffer between the park and the railroad that would allow for open views of trains from Train Watch Park. While the expanded rail corridor and the relocated fence line would be closer to at least one of the picnic pavilions it would not affect the active recreation area (playground), use of the picnic pavilions, or use of the lawn areas for passive recreation. A noise evaluation conducted for UTA determined that noise levels from the trains on the additional track to adjacent properties would increase, but the park is not considered a noise-sensitive property where tranquility and quiet are essential to its purpose.

Construction along Train Watch Park is anticipated to take approximately 3 months. During this time, the active construction area along the western portion of the park would be temporarily inaccessible to public. However, construction would not impact the ability of the public to access and use the remaining park areas, including the picnic pavilions or playground. Construction access could potentially be from 300 N at the north end of the park but would be determined during final design.

UTA would provide Clearfield City just compensation for the acquisition of park property and mitigate construction impacts by replacing the fence and restoring park landscaping to the same conditions or better than existing. The Project team would consult with Clearfield City on the design of the replacement fencing and landscaping, including for the replacement of any trees that had been removed from within the maintained park area.

Determination of Use

The permanent acquisition of a strip of land on the park's southwest edge would be a conversion of a park property to a transportation purpose. However, FTA has determined this would be a *de minimis* use because the project is not expected to permanently or temporarily adversely affect the significant activities, features, or attributes described above that qualify Train Watch Park as a resource for protection under

Section 4(f). This determination considers UTA's commitment to provide just compensation for the acquired property and to replace the fence and landscaping to the same conditions or better than they are today.

Please see the attached letter of concurrence from Clearfield City.

Figure 1. Project and Vicinity

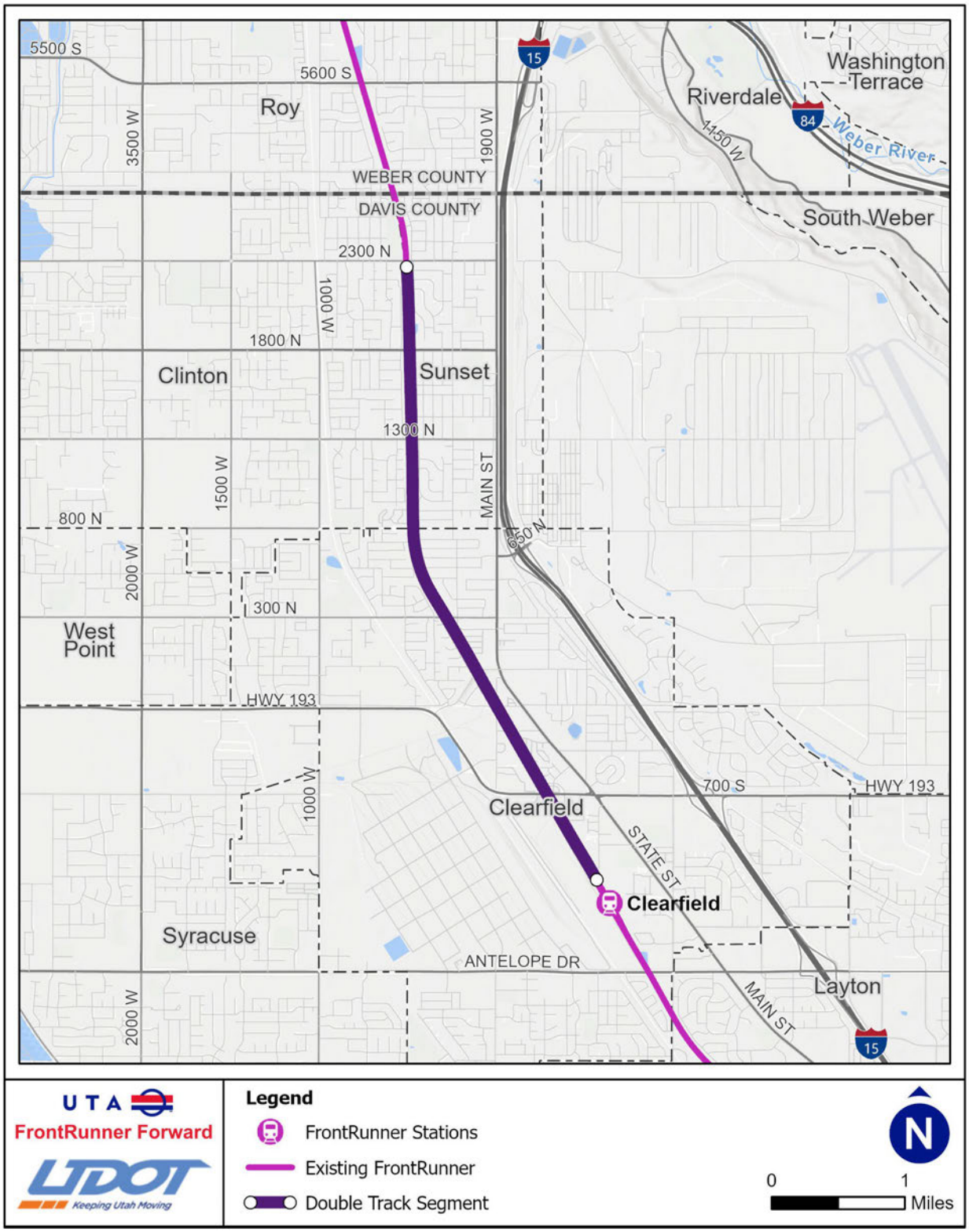


Figure 2. Train Watch Park Features and Viewpoints

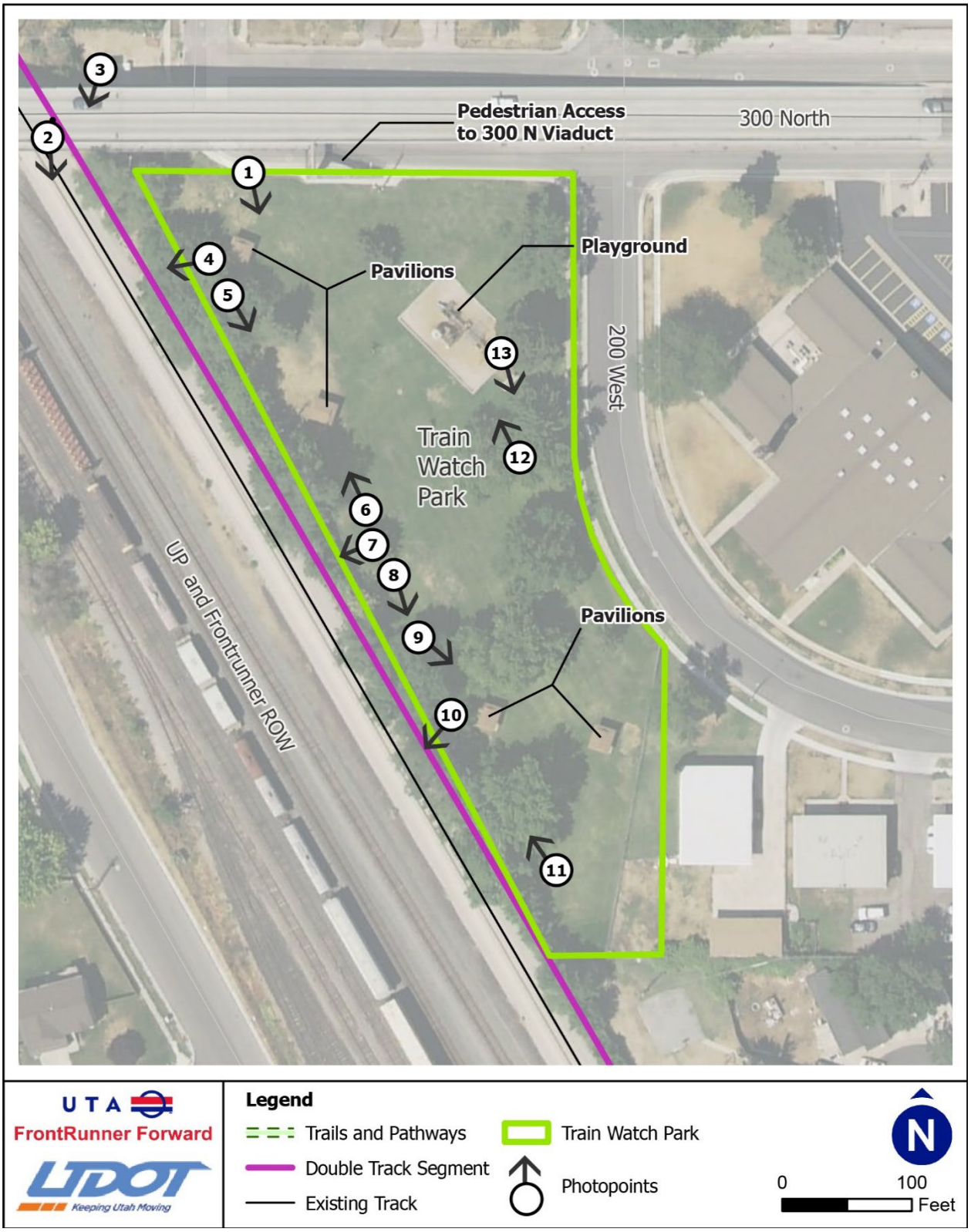
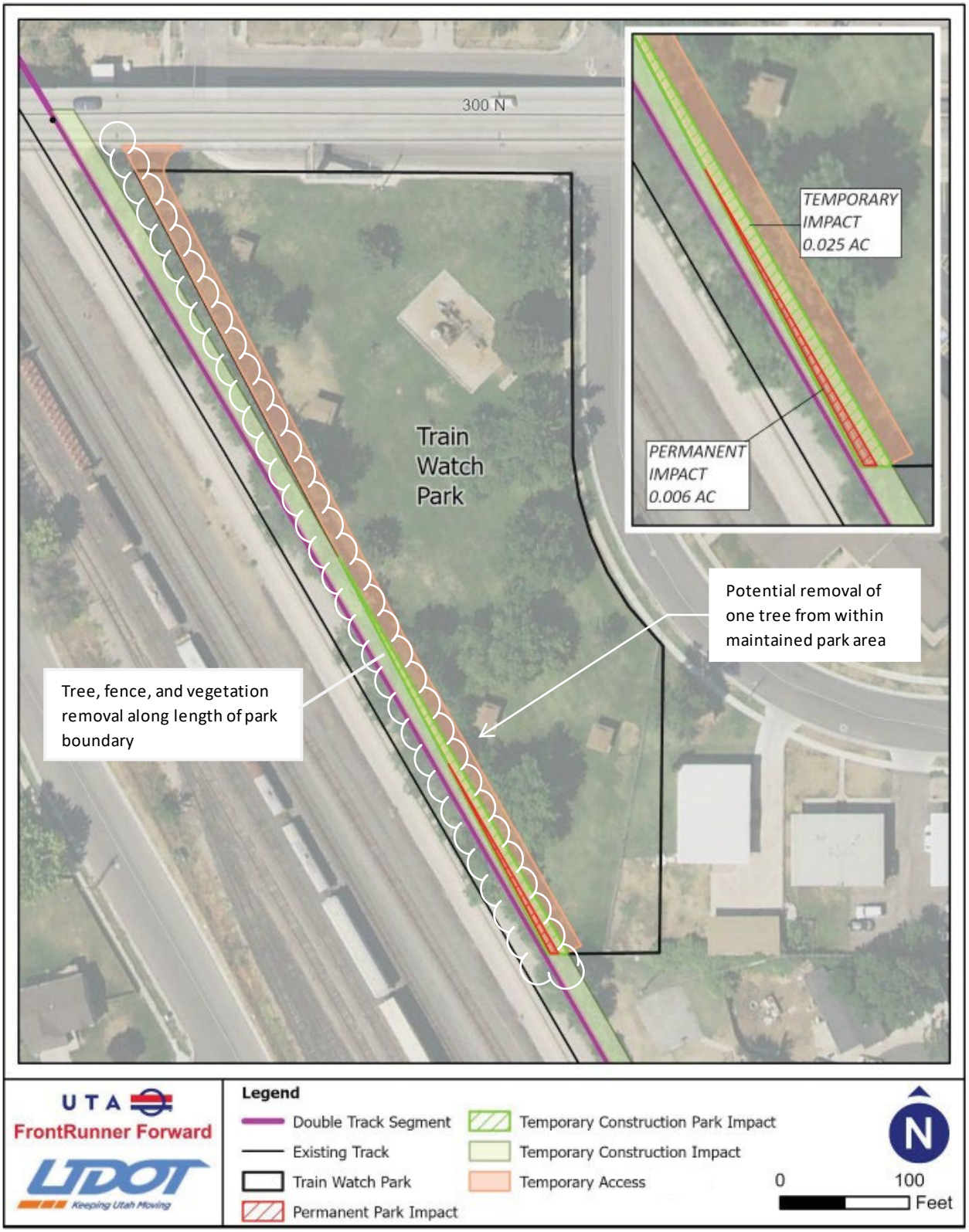


Figure 3. Train Watch Park Temporary and Permanent Impacts

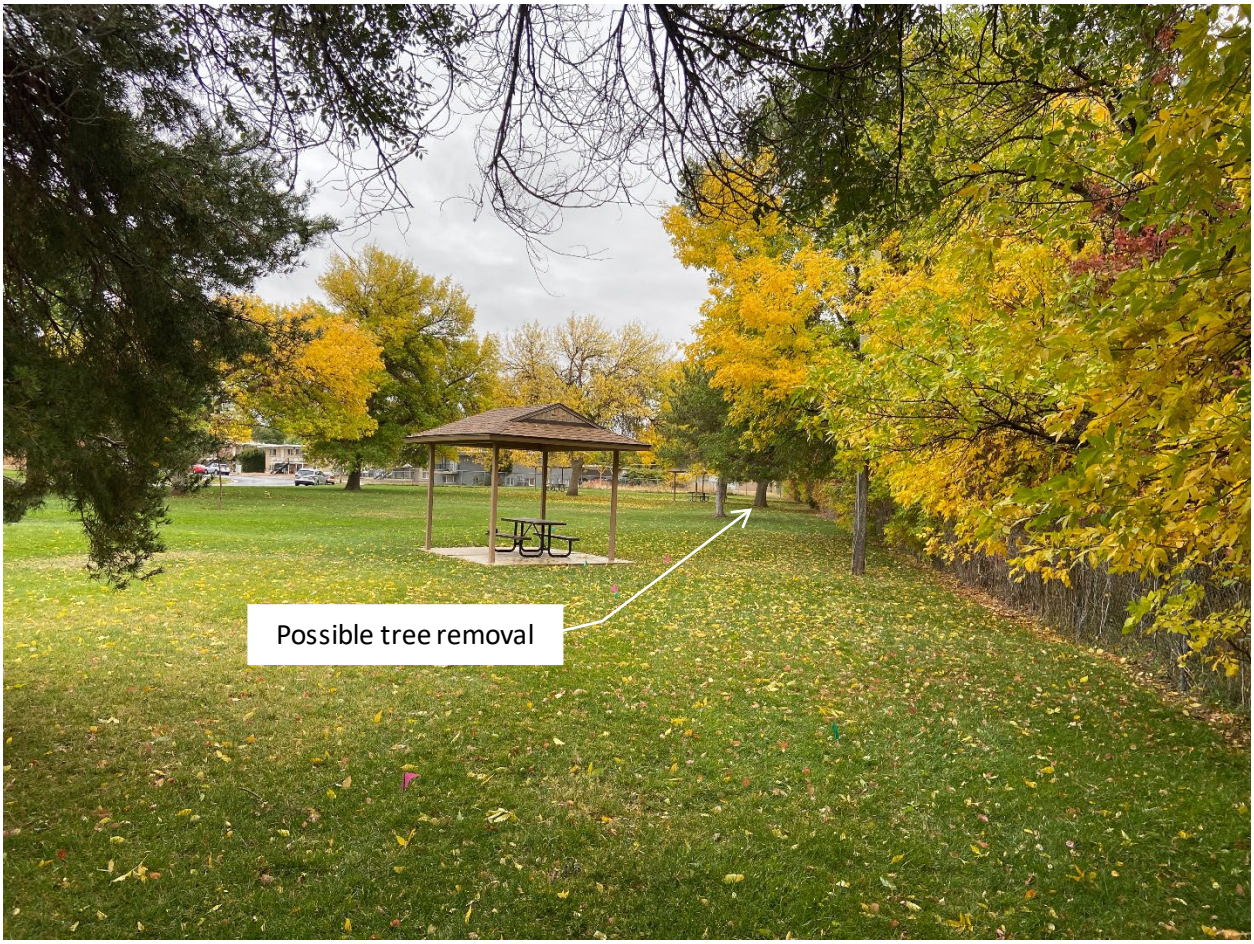


Photopoint 1. Looking southeast into the park from 300 North

Photopoint 2. Looking south from the 300 North bridge sidewalk

Photopoint 3. Looking southwest across UP/FrontRunner tracks under the bridge.

Photopoint 4. Looking west towards the fence, showing partially obstructed view of tracks



Photopoint 5. Looking southeast near the northern pavilion

Photopoint 6. Looking northwest, showing existing tree

Photopoint 7. Looking west at the fence, showing completely obstructed view of tracks from the center of the park

Photopoint 8. Looking southeast near the fence in the center of the park

Photopoint 9. Looking southeast at existing trees near the two southernmost pavilions

Photopoint 10. Looking west at view through the fence on the south side of the park.

Photopoint 11. Looking northwest from the south side of the park near the fence

Photopoint 12. Looking northwest at the playground from the east side center of the park

Photopoint 13. Looking southeast from the playground, showing existing mature trees on the east side of the park

U.S. Department
of Transportation
Federal Transit Administration

REGION VIII
Colorado, Montana,
North Dakota,
South Dakota,
Utah and Wyoming

1961 Stout Street
Suite 13301
Denver, Colorado 80294
(303) 362-2400 (voice)

February 28, 2023

J.J. Allen, City Manager
Clearfield City
55 S State Street
Clearfield, UT 84015

Re: Section 4(f) – Request for Concurrence: FrontRunner North of Clearfield Double Track Project, Davis County, Utah

Dear Mr. Allen:

The Federal Transit Administration (FTA) in coordination with the Utah Transit Authority (UTA) is evaluating potential "use" of the proposed North of Clearfield Double Track Project (Project) as defined by Section 4(f) of the Department of Transportation (DOT) Act (23 CFR 774.17). The proposed project would construct a new double-track segment along approximately 3.6 miles of existing single-track FrontRunner commuter rail line between the FrontRunner Clearfield Station and the 2300 N at-grade crossing to the north. Since FTA funding may be utilized, the project must comply with Section 4(f) (23 CFR 774) of the DOT Act.

Project Description

The project would involve filling and grading along the east side of the existing rail corridor to widen the existing mainline track bed, including installation of rail ballast to support the new mainline track adjacent to and parallel with the existing FrontRunner mainline track. The project would shift the existing FrontRunner mainline track where needed, remove an existing turnout, and construct a new one at the north end of the alignment, and extend culverts where needed (Figure 1).

The project would include additional at-grade roadway crossings at 1300 North and 1800 North, which would require modification of the roadway profile and relocation of the quad-gate system of signals and crossing arms at each intersection. No bridge or abutment work is anticipated for the below grade crossings at 700 South, Center Street, 300 North, or 800 North. Approximately 3,000 linear feet of new and reconstructed retaining walls would be necessary to avoid impacts to existing roadways and adjacent properties. The approximate height of these walls is anticipated to be between 3 and 10 feet.

Preliminary design modeling shows the estimated depth of excavation for proposed trackwork construction would range from 2 to 5 feet and the depth of excavation for utilities would range from 7 to 8 feet. Retaining walls could require excavation between 2 and 20 feet deep, depending on the type and size of the wall, which would be determined during final design.

Project construction is anticipated to take approximately one year. Construction staging and laydown may require new access points to the rail corridor and temporary use of adjacent properties or rights-of-way. The project would intersect and require modifications to several above- and underground utilities; however, no major interruptions or relocations are anticipated.

Section 4(f)

Section 4(f) of the U.S. Department of Transportation Act of 1966 affords special protection to publicly owned parks, recreational resources, wildlife, and waterfowl refuges, and publicly or privately owned historic sites. Use of a Section 4(f) property occurs when: (1) land is permanently incorporated into a transportation facility; (2) there is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose, or (3) there is a constructive use (the project's impacts are so severe that the protected activities, features, or attributes of an adjacent property are substantially impaired).

A *de minimis* impact is one that, after taking into account all measures to minimize harm (such as avoidance, minimization, mitigation, or enhancement measures), results in a determination that the project will not adversely affect the activities, features, or attributes of the property. A *de minimis* determination requires concurrence from the Official with Jurisdiction, which is Clearfield City for the use of Train Watch Park, and public involvement as defined by 23 CFR 774.5(b).

Section 4(f) Use of Train Watch Park

Train Watch Park, located at 200 W 250 N, Clearfield, UT 84015 is owned by Clearfield City and is immediately adjacent to the existing UP/UTA rail corridor. The park meets the qualifications for a Section 4(f) resource as defined in 23 CFR Part 774. The 1.56-acre park is a publicly owned property that is primarily for park and passive recreational activities, and it is open to the general public. Adjacent to the north side of the park, the 300 N bridge crosses east-west over the rail corridor. The 300 N bridge has sidewalks on both sides, and there are stairs from the bridge to the northwest edge of the park. The bridge provides direct views of the railroad corridor and passing trains.

The park landscape is mostly lawn with individual shade trees. The center of the park has a play area with playground equipment featuring a train theme. The park has multiple picnic benches, including some on cement pads with pavilion covers. Several of the covered tables are in the western area of the park, approximately 30 feet from the chain-link fence at the park boundary, separating it from the rail corridor to the west. Numerous trees, shrubs, and vines—primarily invasive and volunteer species such as Siberian elm—are present within UTA right-of-way, immediately adjacent to and within the chain-link fence.

The FrontRunner second track would be constructed entirely within existing UTA right-of-way, and existing vegetation within UTA right-of-way would be removed. However, in order to maintain the safety zone required for railways to separate them from other uses, UTA would need to permanently acquire a strip of approximately 0.006 acre (300 square feet) along the southwestern corner of the park, with approximately 0.025 acre (1,100 square feet) of the park needed temporarily during construction, as shown in Figure 2.

During construction, the project would need to remove the existing chain-link fence along the length of the park, which would result in the removal of numerous trees and shrubs from UTA right-of-way, some of which are outside the park fence but within city property (see Figure 2). In addition to the tree and vegetation removal along the fence, the roots of one tree within the maintained park could be impacted. It is unknown at this time whether the tree could be preserved, but the project team will consult with an arborist during construction. The remaining maintained trees further into the park would be unaffected.

While the expanded rail corridor and the relocated fence line would be closer to at least one of the picnic pavilions it would not affect the active recreation area (playground), use of the picnic pavilions, or use of the lawn areas for passive recreation. A noise evaluation conducted for UTA determined that noise levels from the trains on the additional track to adjacent properties would increase, but the park is not considered a noise-sensitive property where tranquility and quiet are essential to its purpose.

Construction along Train Watch Park is anticipated to take approximately 3 months. During this time, the active construction area along the western portion of the park would be temporarily inaccessible to public. However, construction would not impact the ability of the public to access and use the remaining park

areas, including the picnic pavilions or playground. Construction access could potentially be from 300 N at the north end of the park and would require a temporary easement between 10 and 15 feet within the fence line; this would be determined during final design.

UTA would provide Clearfield City just compensation for the acquisition of park property and mitigate construction impacts by replacing the fence and restoring park landscaping to the same conditions or better than existing. The project team will consult with Clearfield City on the design of the replacement fencing and landscaping, including for the replacement of any trees that had been removed from within the maintained park area.

The project team met with Clearfield City on December 1, 2022, to present information about the project and its potential impacts to Train Watch Park. The City indicated that the clearing of trees and vegetation along the existing fence line would be seen as a benefit as it would remove the overgrown trees and vegetation along the park fence, reduce maintenance needs, and remove a visual buffer between the park and the railroad that would allow for open views of trains from Train Watch Park. Clearfield City staff indicated that the potentially impacted tree inside the park is one of the larger trees and would prefer to keep it if possible. The project team committed to consulting an arborist during construction to assess options to minimize impacts to that tree. City staff also indicated that they are open to providing additional construction access along the fence from 300 N but are concerned about impacts to irrigation lines and other major utilities on the western portion of the park. The project team will collaborate with the city and contractor to determine how to make any necessary adjustments during final design. If impacts to the utilities cannot be avoided, the contractor will restore the sprinkler system and utilities to the same or better condition as existing.

A two-week public comment period was provided in January 2023 for the public to review the project impacts to Train Watch Park. The notice of the public comment period was printed in the Standard-Examiner, posted at Train Watch Park, and distributed through email and social media. As of the date of this letter, two comments have been received requesting information regarding the project website and segment phasing as well one comment supporting the project.

Clearfield City Consultation

Based on the information presented above, FTA has determined that the effects of the proposed project to Train Watch Park are considered a *de minimis* impact and the requirements of 23 CFR 774 have been satisfied. To acknowledge receipt of this letter and your concurrence with this determination, please provide your signature below.

If you have any questions or need additional information, please contact Robyn Kullas at 303-362-2389 or robyn.kullas@dot.gov.

Sincerely,

CINDY ELISE TERWILLIGER

Digitally signed by CINDY ELISE TERWILLIGER
Date: 2023.02.28 13:48:58 -07'00'

Cindy Terwilliger
Regional Administrator

As the party responsible for the management of the Section 4(f) property identified in this letter, Train Watch Park, I am in concurrence with the determination listed above.

JJ Allen

Digitally signed by JJ Allen
DN: cn=JJ Allen, o=Clearfield City, ou=City Manager, email=jj.allen@clearfieldcity.org, c=US
Date: 2023.02.28 17:40:34 -07'00'

2/28/2023

J.J. Allen, City Manager
Clearfield City

Date

Figure 1. Project and Vicinity

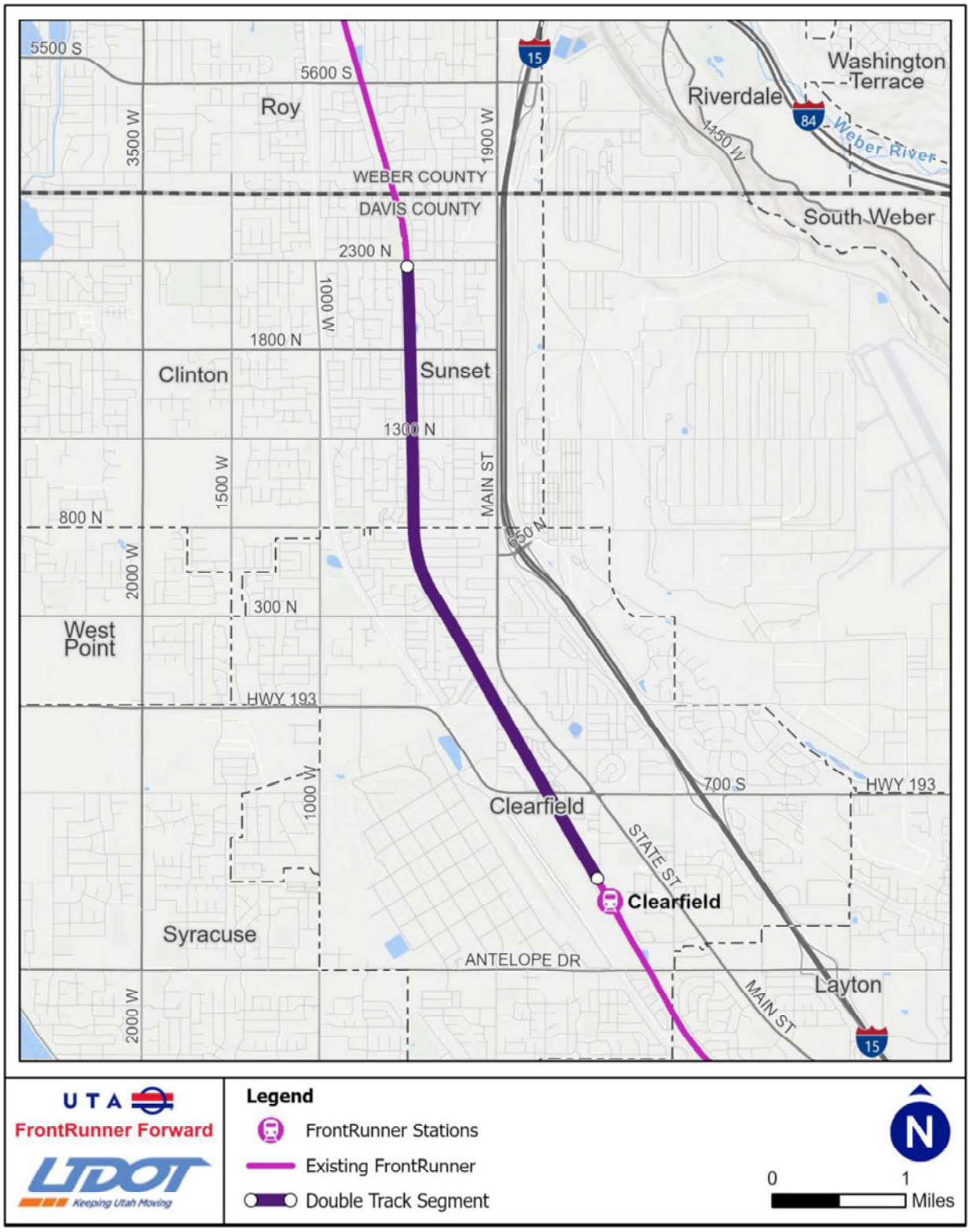
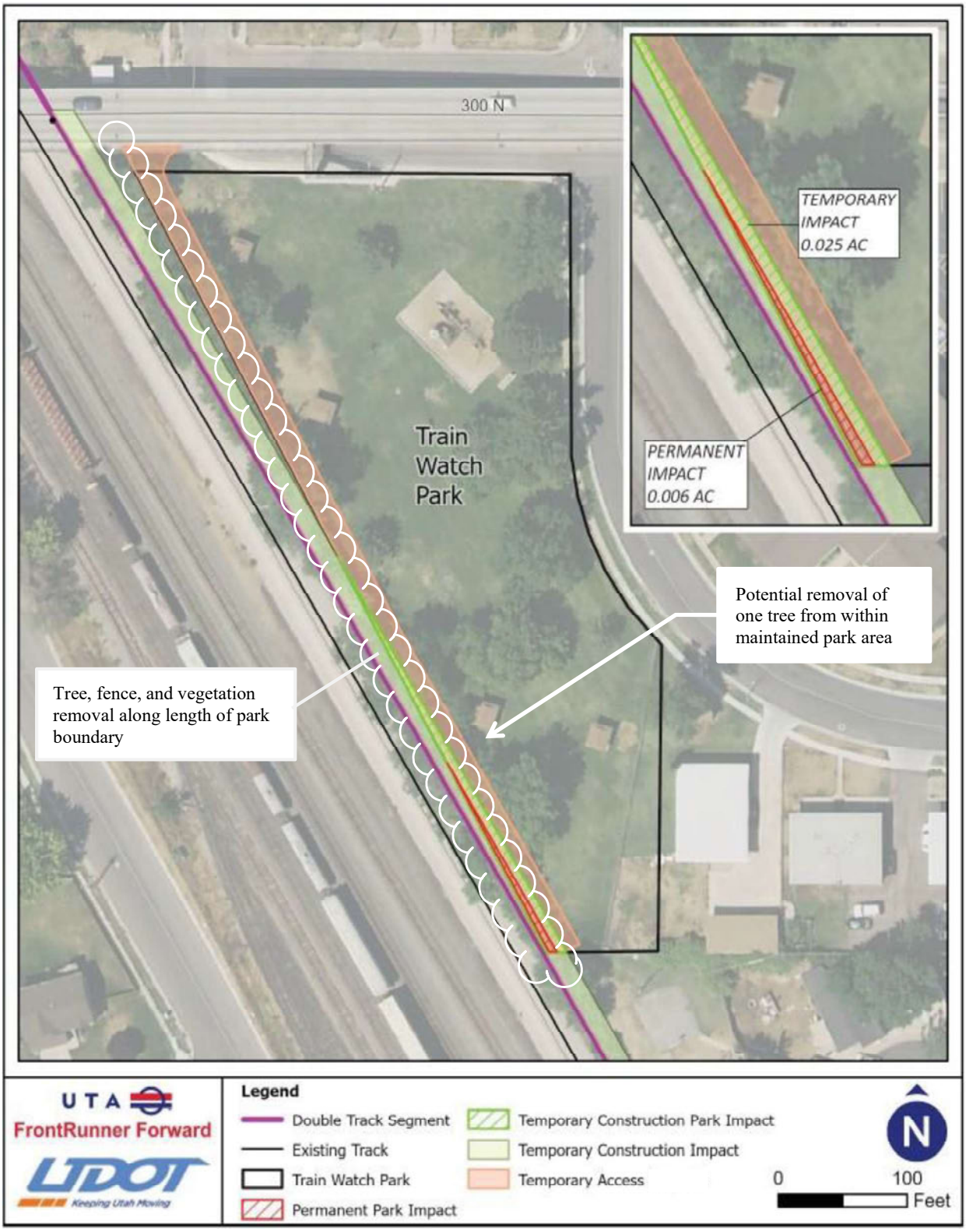


Figure 2. Train Watch Park Temporary and Permanent Impacts



Attachment 5:
North of Clearfield Double Track Project
Noise and Vibration Assessment

Attachment 5

FrontRunner Forward Technical Memorandum

To: Daryl Wendle, Parametrix

From: Lance Meister, Cross-Spectrum Acoustics, Inc.

Date: November, 2022

Subject: North of Clearfield Double Track Project Noise and Vibration Assessment

---

Summary

The purpose of this memorandum is to summarize the noise and vibration impact assessment of the North of Clearfield Double Track Project, which extends from north of the Clearfield Station to the 2300 North grade crossing. The Project would allow for a future Express/Local meet north of the existing Clearfield siding. The Project consists of double tracking approximately 3.6 miles of the FrontRunner Commuter Rail system while limiting impacts to [redacted] and adjacent properties. The anticipated track work would consist of constructing new FrontRunner mainline track, shifting existing FrontRunner mainline track, removing an existing turnout, constructing retaining walls, modifying existing at-grade crossings, culvert extensions, building removals, and widening the existing trackbed.

The results of the noise and vibration assessment indicate that there would be three moderate noise impacts and four vibration impacts associated with the double tracking of the Clearfield Segment. All of the impacts are on the east side of the tracks and are due to the new turnout at the northern end of the segment, just to the south of W 2300 N. These impacts could be mitigated by utilizing a spring-rail frog, which closes the gap in the tracks in one direction, and approximately 300 feet of ballast mat beneath the turnout. Halving the number of trains that cross the gap would sufficiently reduce noise so that the turnout would not result in noise impacts, and the ballast mat would sufficiently dampen vibration so that the turnout would not result in vibration impacts. UTA will confirm the appropriate and feasible noise and vibration control measures to mitigate impacts during final design.

For the remainder of the sensitive receivers on the east side of the tracks, the increase in noise and vibration levels would not be large enough to exceed the thresholds for impact. For all the receivers on the west side of the tracks, there would be a slight decrease in the noise levels, and no change in vibration levels due to half the FrontRunner trains being moved further from the sensitive receivers on that side of the tracks.

FTA Noise and Vibration Impact Criteria

The FTA noise and vibration criteria for transit projects are detailed in the FTA's noise and vibration guidance manual.[1]

The FTA noise criteria are based on the land use category of the sensitive receiver. The descriptors and criteria for assessing noise impact vary according to land use categories adjacent to the project. For

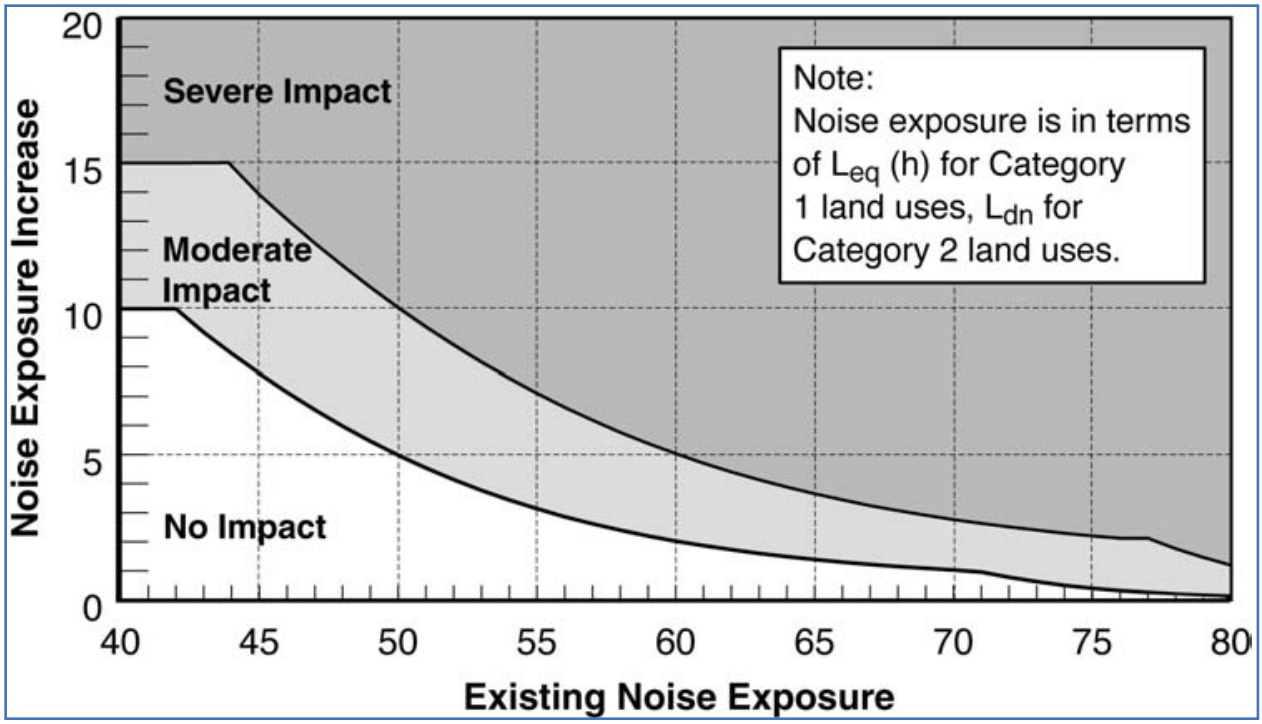
[1] Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, FTA Report No. 0123, September 2018.

Category 2, land uses where people live and sleep (e.g., residential neighborhoods, hospitals, and hotels), the Ldn is the assessment parameter. For other land use types (Category 1 or 3) where there are noise-sensitive uses (e.g., outdoor concert areas, schools, and libraries), the Leq for an hour of noise sensitivity that coincides with train activity is the assessment parameter.

The noise impact criteria are defined by the two curves in Figure 1, which compares the change in noise due to the project to the existing noise before the introduction of the project. These criteria are used in projects where there is not a new project, but where there can be changes in noise, such as with the introduction of a second track. The FTA noise impact criteria include three levels of impact, as shown in Figure 1. The three levels of impact include:

- **No Impact:** In this range, the project is considered to have no impact since, on average, the introduction of the project will result in an insignificant increase in the number of people highly annoyed by the new project noise.
- **Moderate Impact:** Project-generated noise in this range is considered to cause impact at the threshold of measurable annoyance. Moderate impacts serve as an alert to project planners for potential adverse impacts and complaints from the community. Mitigation should be considered at this level of impact based on project specifics and details concerning the affected properties.
- **Severe Impact:** Project-generated noise in this range is likely to cause a high level of community annoyance. Noise mitigation should be applied for severe impacts where feasible.

Figure 1. FTA Cumulative Noise Impact Criteria



SOURCE: FTA 2018

The FTA vibration criteria for new projects are based on the vibration level and number of project operations, and not on the increase in vibration levels. As the number of operations increase, the vibration impact threshold becomes more stringent. In a project location with existing vibration from

trains, the criterion is based on a change in vibration relative to the existing. For locations with more than 12 operations per day (such as the FrontRunner corridor), vibration impact occurs when the increase in vibration is at least 3 VdB over the existing vibration levels.

Noise and Vibration Assessment Methodology

Noise and vibration from the Project were modeled using the detailed assessment methods described in the FTA guidance manual—the model results are included in Appendix A. The Project would involve adding a second track and moving half the current UTA FrontRunner operations from the existing track to the new second track. The Project would eliminate a turnout at the southern end of the segment and add a new turnout at the northern end of the segment where the double tracking ends. The entire FrontRunner corridor is a quiet zone and no horns are sounded.

The noise assessment is based on the increase in noise at sensitive receivers due to the addition of the second track and the change in noise due to the new turnout. The model assumes that half the trains would utilize the second track, and half the trains would remain on the original track. The noise levels from UTA FrontRunner operations would increase slightly at locations on the side of the segment where the new track is located, and the noise would decrease slightly at locations on the side of the segment adjacent to the existing track, since some of the trains would be located further away relative to the existing track. New crossovers or turnouts on the FrontRunner tracks would also increase the noise levels for sensitive receivers located within 300 feet of the special trackwork.

In order to model the existing noise on the Clearfield segment, operations information, including the number of [redacted], UTA FrontRunner commuter rail trains, speeds and the number of locomotives and cars for each data from the Federal Railroad Administration (FRA) grade crossing database, the UTA website, and field observations. [redacted]

- [redacted]
- [redacted]
- [redacted]

The existing UTA FrontRunner operations included:

- 46 trains per day, based on the UTA schedule
- 1 locomotive and 4 cars per train
- 79 mph speeds

The reference noise levels for the UP trains were obtained from the CREATE noise assessment spreadsheet for freight operations and the reference noise levels for the UTA FrontRunner commuter trains were obtained from the FTA guidance manual.

The vibration assessment is based on the increase in vibration at sensitive receivers due to the addition of the second track and the change in vibration due to the new turnout. Similar to noise, the model assumes that half the trains would utilize the second track, and half the trains would remain on the original track. The vibration levels would increase slightly at locations on the side of the segment where the new track is located, and the vibration would remain the same at locations on the side of the segment adjacent to the existing track. New crossovers or turnouts would also increase the vibration levels for sensitive receivers located within 200 feet of the special trackwork.

Affected Environment

The land uses adjacent to the Project include commercial and residential uses on both sides of the track at the southern end, and primarily single-family residences on both sides of the tracks over the remainder of the segment. The existing noise levels range from 54-84 dBA Ldn, depending on the distance from the tracks to the receiver, and the number of rows of intervening buildings. The existing noise is [redacted].

Impact Assessment

The new Clearfield track would be located on the east side of the existing FrontRunner track. Because the noise levels are dominated by UP freight operations, the changes due to the FrontRunner doubletracking would only have a very small effect on the noise levels after the Project is in operation. For receivers on the west side of the segment, the noise levels would decrease slightly (less than 0.1 dB), and the vibration levels would not change due to the addition of the new track on the east side of the existing track. For the majority of the receivers on the east side of the tracks, the noise levels would increase slightly (less than 0.1 dB for most receivers).

Because the new track on the east side of the right of way is a maximum of 14 feet from the existing track, a receiver would need to be located within 40 feet of the existing UTA FrontRunner track for the change in vibration level to be greater than 3 VdB. There are no sensitive receivers located within that distance, and therefore there is no vibration impact.

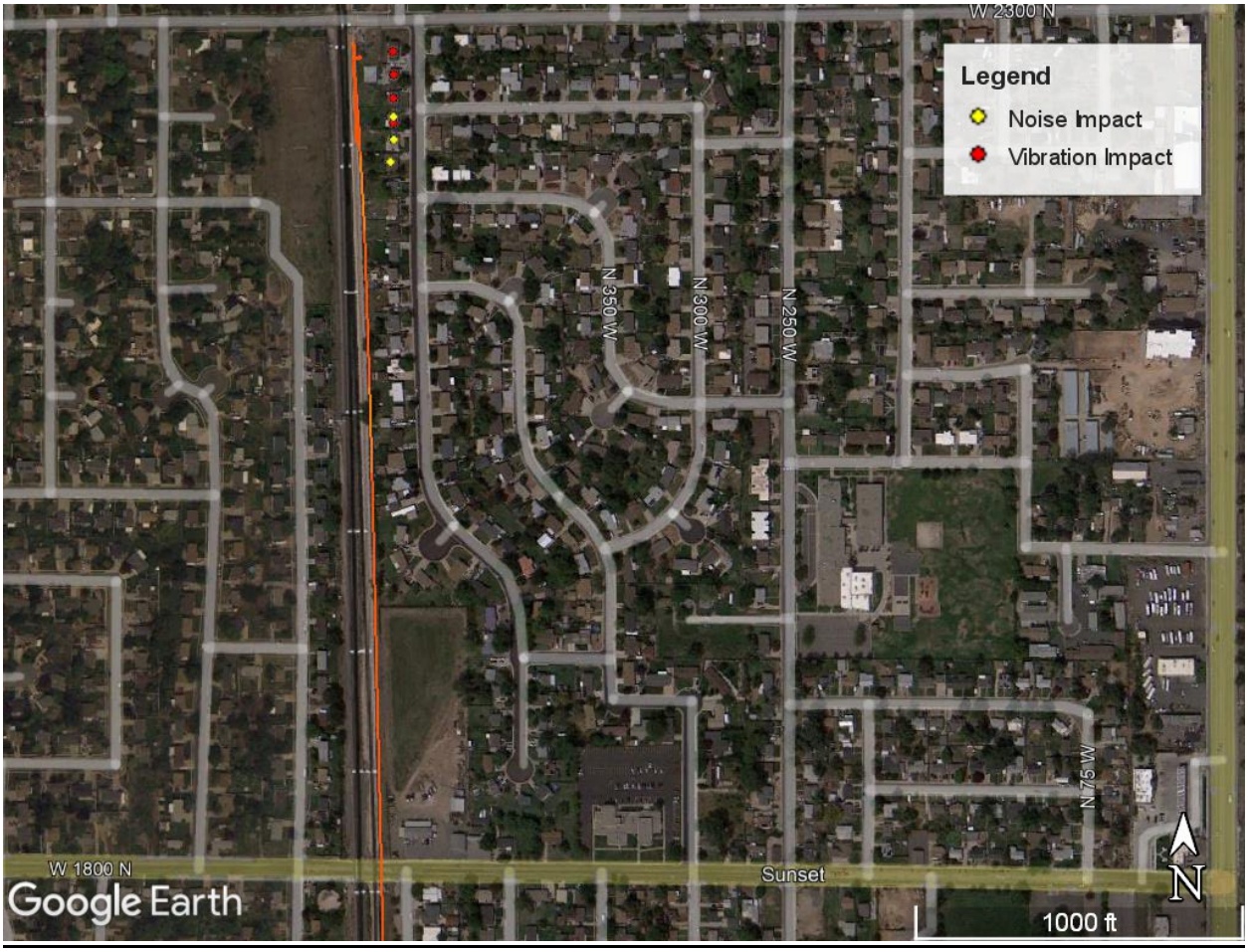
At the northern end of the segment, the turnout just to the south of W 2300 N would increase the noise and vibration levels in addition to the increase due to the addition of the new track. The increase in noise would be less than 0.1 dB over the threshold for a moderate noise impact, even with the presence of the turnout. For vibration, a turnout increases vibration levels by 5-10 VdB for receivers located within 200 feet of the turnout, so all the receivers within 200 feet would have increases in vibration greater than the 3 VdB threshold. There would be three moderate noise impacts and four vibration impacts on the east side of the tracks adjacent to the turnout. The locations of the noise and vibration impacts are shown in Figure 2.

Mitigation

The noise and vibration impacts on the Clearfield segment are due to the presence of the turnout at the northern end of the segment. One option for mitigation would be utilizing a spring-rail frog to limit the additional noise and the addition of approximately 300 feet of ballast mat beneath the rails to reduce the vibration from the turnout.

A spring-rail frog is a special type of turnout that closes the gap in the tracks in the main direction of travel but would still have a gap for the diverging movement onto or off of the second track. Because the spring-rail frog would eliminate the gap in the tracks in the main direction, the noise levels would be sufficiently reduced to avoid impacts. A ballast mat is a flexible and durable material (such as a high-resin rubberized material) that is installed directly under the track ballast to isolate vibrations as the train rolls over the tracks. The ballast mat would sufficiently dampen the vibration from the turnout to avoid any potential vibration impacts.

Figure 2. Clearfield Segment Noise and Vibration Impact Locations



Appendix A

North of Clearfield Double Track Project

Noise Assessment Inputs and Outputs

Table A.1 - Assessment Inputs and Outputs

Receiver Number	Land Use Information	Row	Name	Land Use Category	Dwelling Units	Segment	Section	Distance to New UTA Track SB	Distance to Existing UTA Track	Distance to Existing UP Track	New Crossover (Y/N)	Distance to New UTA Track NB	Calculated Existing Noise	Moderate Impact Criteria	Severe Impact Criteria	Change in Noise	Impact
1	SF	2		2	1	2300 N to 1800 N	Clearfield	273	266	295	Y	266	68.6	1.1	6.2	0.1	--
2	SF	1		2	1	2300 N to 1800 N	Clearfield	140	131	160	Y	131	79.4	0.2	3.3	0.1	--
3	SF	1		2	1	2300 N to 1800 N	Clearfield	128	130	159	Y	130	79.5	0.2	3.3	0.1	--
4	SF	1		2	1	2300 N to 1800 N	Clearfield	125	129	160	Y	129	79.5	0.2	3.3	0.1	--
5	SF	1		2	1	2300 N to 1800 N	Clearfield	118	124	155	Y	124	79.7	0.1	3.2	0.1	Moderate
6	SF	1		2	1	2300 N to 1800 N	Clearfield	114	122	154	Y	122	79.7	0.1	3.2	0.2	Moderate
7	SF	1		2	1	2300 N to 1800 N	Clearfield	98	109	142	Y	109	80.3	0.1	3.0	0.2	Moderate
8	SF	1		2	1	2300 N to 1800 N	Clearfield	110	122	156	N	122	79.6	0.1	3.2	0.0	--
9	SF	2		2	1	2300 N to 1800 N	Clearfield	276	279	309	Y	279	68.2	1.2	6.2	0.1	--
10	SF	2		2	1	2300 N to 1800 N	Clearfield	247	259	292	N	259	68.7	1.1	6.1	0.0	--
11	SF	2		2	1	2300 N to 1800 N	Clearfield	247	256	288	N	256	68.8	1.1	6.1	0.0	--
12	SF	3		2	1	2300 N to 1800 N	Clearfield	356	348	376	N	348	65.3	1.4	7.0	0.0	--
13	SF	3		2	1	2300 N to 1800 N	Clearfield	332	335	365	N	335	65.6	1.4	7.0	0.0	--
14	SF	3		2	1	2300 N to 1800 N	Clearfield	324	332	364	N	332	65.6	1.4	7.0	0.0	--
15	SF	3		2	1	2300 N to 1800 N	Clearfield	313	325	359	N	325	65.7	1.4	6.9	0.0	--
16	SF	1		2	1	2300 N to 1800 N	Clearfield	97	111	146	N	111	80.1	0.1	3.0	0.0	--
17	SF	1		2	1	2300 N to 1800 N	Clearfield	103	118	154	N	118	79.7	0.1	3.2	0.0	--
18	SF	1		2	1	2300 N to 1800 N	Clearfield	100	115	152	N	115	79.8	0.1	3.1	0.0	--
19	SF	1		2	1	2300 N to 1800 N	Clearfield	96	111	148	N	111	80.0	0.1	3.0	0.0	--
20	SF	1		2	1	2300 N to 1800 N	Clearfield	92	107	146	N	107	80.1	0.1	3.0	0.0	--
21	SF	1		2	1	2300 N to 1800 N	Clearfield	75	90	129	N	90	81.0	0.1	3.0	0.1	--
22	SF	1		2	1	2300 N to 1800 N	Clearfield	92	107	147	N	107	80.1	0.1	3.0	0.0	--
23	SF	1		2	1	2300 N to 1800 N	Clearfield	93	108	149	N	108	80.0	0.1	3.1	0.0	--
24	SF	1		2	1	2300 N to 1800 N	Clearfield	94	109	151	N	109	79.9	0.1	3.1	0.0	--
25	SF	2		2	1	2300 N to 1800 N	Clearfield	234	249	285	N	249	68.8	1.1	6.1	0.0	--
26	SF	2		2	1	2300 N to 1800 N	Clearfield	227	242	279	N	242	69.0	1.1	6.1	0.0	--
27	SF	2		2	1	2300 N to 1800 N	Clearfield	242	257	295	N	257	68.6	1.1	6.2	0.0	--
28	SF	2		2	1	2300 N to 1800 N	Clearfield	238	253	293	N	253	68.6	1.1	6.1	0.0	--
29	SF	2		2	1	2300 N to 1800 N	Clearfield	237	252	293	N	252	68.6	1.1	6.1	0.0	--
30	SF	2		2	1	2300 N to 1800 N	Clearfield	238	253	295	N	253	68.6	1.1	6.2	0.0	--
31	SF	3		2	1	2300 N to 1800 N	Clearfield	302	317	353	N	317	65.8	1.3	6.9	0.0	--
32	SF	3		2	1	2300 N to 1800 N	Clearfield	302	317	354	N	317	65.8	1.3	6.9	0.0	--
33	SF	3		2	1	2300 N to 1800 N	Clearfield	344	359	398	N	359	64.9	1.4	7.2	0.0	--
34	SF	4		2	1	2300 N to 1800 N	Clearfield	372	387	422	N	387	63.0	1.6	7.8	0.0	--
35	SF	4		2	1	2300 N to 1800 N	Clearfield	369	384	421	N	384	63.0	1.6	7.8	0.0	--
36	SF	1		2	1	2300 N to 1800 N	Clearfield	95	110	152	N	110	79.8	0.1	3.1	0.0	--
37	SF	2		2	1	2300 N to 1800 N	Clearfield	240	255	297	N	255	68.5	1.1	6.2	0.0	--
38	SF	2		2	1	2300 N to 1800 N	Clearfield	240	255	297	N	255	68.5	1.1	6.2	0.0	--
39	SF	2		2	1	2300 N to 1800 N	Clearfield	245	260	303	N	260	68.4	1.1	6.2	0.0	--
40	SF	2		2	1	2300 N to 1800 N	Clearfield	251	266	309	N	266	68.3	1.2	6.2	0.0	--
41	SF	2		2	1	2300 N to 1800 N	Clearfield	258	273	316	N	273	68.1	1.2	6.3	0.0	--
42	SF	2		2	1	2300 N to 1800 N	Clearfield	308	323	366	N	323	67.1	1.2	6.5	0.0	--
43	SF	2		2	1	2300 N to 1800 N	Clearfield	360	375	417	N	375	66.1	1.3	6.8	0.0	--
44	SF	1		2	1	2300 N to 1800 N	Clearfield	88	103	146	N	103	80.1	0.1	3.0	0.1	--
45	SF	1		2	1	2300 N to 1800 N	Clearfield	78	93	136	N	93	80.6	0.1	3.0	0.1	--
46	SF	1		2	1	2300 N to 1800 N	Clearfield	83	98	141	N	98	80.4	0.1	3.0	0.1	--
47	SF	1		2	1	2300 N to 1800 N	Clearfield	78	93	136	N	93	80.7	0.1	3.0	0.1	--
48	SF	1		2	1	2300 N to 1800 N	Clearfield	87	102	145	N	102	80.2	0.1	3.0	0.1	--
49	SF	1		2	1	2300 N to 1800 N	Clearfield	68	83	126	N	83	81.2	0.1	3.0	0.1	--
50	SF	1		2	1	2300 N to 1800 N	Clearfield	147	162	204	N	162	77.7	0.2	4.3	0.0	--

Table A.1 - Assessment Inputs and Outputs

Receiver Number	Land Use Information	Row	Name	Land Use Category	Dwelling Units	Segment	Section	Distance to New UTA Track SB	Distance to Existing UTA Track	Distance to Existing UP Track	New Crossover (Y/N)	Distance to New UTA Track NB	Calculated Existing Noise	Moderate Impact Criteria	Severe Impact Criteria	Change in Noise	Impact
51	SF	1		2	1	2300 N to 1800 N	Clearfield	245	260	303	N	260	74.9	0.4	4.9	0.0	--
52	SF	1		2	1	2300 N to 1800 N	Clearfield	316	331	374	N	331	73.4	0.6	5.2	0.0	--
53	SF	1		2	1	2300 N to 1800 N	Clearfield	365	380	423	N	380	72.5	0.7	5.3	0.0	--
54	SF	1		2	1	2300 N to 1800 N	Clearfield	357	372	415	N	372	72.6	0.7	5.3	0.0	--
55	SF	1		2	1	2300 N to 1800 N	Clearfield	367	382	425	N	382	72.5	0.7	5.3	0.0	--
56	SF	1		2	1	2300 N to 1800 N	Clearfield	368	383	426	N	383	72.5	0.7	5.3	0.0	--
57	SF	1		2	1	2300 N to 1800 N	Clearfield	369	384	426	N	384	72.5	0.7	5.3	0.0	--
58	SF	1		2	1	2300 N to 1800 N	Clearfield	347	362	405	N	362	72.8	0.7	5.3	0.0	--
59	SF	1		2	1	2300 N to 1800 N	Clearfield	359	374	417	N	374	72.6	0.7	5.3	0.0	--
60	SF	1		2	1	1800 N to 1300 N	Clearfield	149	164	209	N	164	77.6	0.2	4.4	0.0	--
61	SF	1		2	1	1800 N to 1300 N	Clearfield	144	159	205	N	159	77.7	0.2	4.3	0.0	--
62	SF	1		2	1	1800 N to 1300 N	Clearfield	148	163	208	N	163	77.6	0.2	4.4	0.0	--
63	SF	1		2	1	1800 N to 1300 N	Clearfield	155	170	216	N	170	77.3	0.2	4.6	0.0	--
64	SF	1		2	1	1800 N to 1300 N	Clearfield	141	156	202	N	156	77.8	0.2	4.3	0.0	--
65	SF	1		2	1	1800 N to 1300 N	Clearfield	140	155	202	N	155	77.8	0.2	4.2	0.0	--
66	SF	1		2	1	1800 N to 1300 N	Clearfield	148	163	210	N	163	77.5	0.2	4.4	0.0	--
67	SF	1		2	1	1800 N to 1300 N	Clearfield	145	160	207	N	160	77.6	0.2	4.4	0.0	--
68	SF	2		2	1	1800 N to 1300 N	Clearfield	323	338	383	N	338	66.7	1.3	6.6	0.0	--
69	SF	2		2	1	1800 N to 1300 N	Clearfield	346	361	406	N	361	66.3	1.3	6.7	0.0	--
70	SF	2		2	1	1800 N to 1300 N	Clearfield	323	338	384	N	338	66.7	1.3	6.6	0.0	--
71	SF	2		2	1	1800 N to 1300 N	Clearfield	323	338	384	N	338	66.7	1.3	6.6	0.0	--
72	SF	2		2	1	1800 N to 1300 N	Clearfield	335	350	396	N	350	66.5	1.3	6.7	0.0	--
73	SF	2		2	1	1800 N to 1300 N	Clearfield	309	324	370	N	324	67.0	1.2	6.6	0.0	--
74	SF	2		2	1	1800 N to 1300 N	Clearfield	316	331	377	N	331	66.8	1.3	6.6	0.0	--
75	SF	2		2	1	1800 N to 1300 N	Clearfield	311	326	374	N	326	66.9	1.3	6.6	0.0	--
76	SF	1		2	1	1800 N to 1300 N	Clearfield	140	155	203	N	155	77.8	0.2	4.3	0.0	--
77	SF	1		2	1	1800 N to 1300 N	Clearfield	143	158	205	N	158	77.7	0.2	4.4	0.0	--
78	SF	1		2	1	1800 N to 1300 N	Clearfield	153	168	216	N	168	77.3	0.2	4.6	0.0	--
79	SF	1		2	1	1800 N to 1300 N	Clearfield	143	158	206	N	158	77.7	0.2	4.4	0.0	--
80	SF	1		2	1	1800 N to 1300 N	Clearfield	143	158	206	N	158	77.7	0.2	4.4	0.0	--
81	SF	1		2	1	1800 N to 1300 N	Clearfield	148	163	211	N	163	77.5	0.2	4.5	0.0	--
82	SF	1		2	1	1800 N to 1300 N	Clearfield	144	159	207	N	159	77.6	0.2	4.4	0.0	--
83	SF	2		2	1	1800 N to 1300 N	Clearfield	329	344	392	N	344	66.6	1.3	6.7	0.0	--
84	SF	2		2	1	1800 N to 1300 N	Clearfield	324	339	387	N	339	66.6	1.3	6.7	0.0	--
85	SF	2		2	1	1800 N to 1300 N	Clearfield	312	327	375	N	327	66.9	1.3	6.6	0.0	--
86	SF	2		2	1	1800 N to 1300 N	Clearfield	301	316	364	N	316	67.1	1.2	6.5	0.0	--
87	SF	2		2	1	1800 N to 1300 N	Clearfield	300	315	364	N	315	67.1	1.2	6.5	0.0	--
88	SF	2		2	1	1800 N to 1300 N	Clearfield	292	307	355	N	307	67.3	1.2	6.5	0.0	--
89	SF	2		2	1	1800 N to 1300 N	Clearfield	299	314	363	N	314	67.1	1.2	6.5	0.0	--
90	SF	1		2	1	1800 N to 1300 N	Clearfield	138	153	201	N	153	77.8	0.2	4.2	0.0	--
91	SF	1		2	1	1800 N to 1300 N	Clearfield	143	158	207	N	158	77.6	0.2	4.4	0.0	--
92	SF	1		2	1	1800 N to 1300 N	Clearfield	149	164	213	N	164	77.4	0.2	4.5	0.0	--
93	SF	1		2	1	1800 N to 1300 N	Clearfield	152	167	216	N	167	77.3	0.2	4.6	0.0	--
94	SF	1		2	1	1800 N to 1300 N	Clearfield	149	164	213	N	164	77.4	0.2	4.5	0.0	--
95	SF	1		2	1	1800 N to 1300 N	Clearfield	151	166	216	N	166	77.3	0.2	4.6	0.0	--
96	SF	1		2	1	1800 N to 1300 N	Clearfield	160	175	224	N	175	77.1	0.3	4.6	0.0	--
97	SF	1		2	1	1800 N to 1300 N	Clearfield	154	169	218	N	169	77.2	0.3	4.6	0.0	--
98	SF	2		2	1	1800 N to 1300 N	Clearfield	216	231	280	N	231	69.0	1.1	6.1	0.0	--
99	SF	2		2	1	1800 N to 1300 N	Clearfield	216	231	280	N	231	69.0	1.1	6.1	0.0	--
100	SF	2		2	1	1800 N to 1300 N	Clearfield	279	294	343	N	294	67.5	1.2	6.4	0.0	--

Table A.1 - Assessment Inputs and Outputs

Receiver Number	Land Use Information	Row	Name	Land Use Category	Dwelling Units	Segment	Section	Distance to New UTA Track SB	Distance to Existing UTA Track	Distance to Existing UP Track	New Crossover (Y/N)	Distance to New UTA Track NB	Calculated Existing Noise	Moderate Impact Criteria	Severe Impact Criteria	Change in Noise	Impact
101	SF	2		2	1	1800 N to 1300 N	Clearfield	295	310	360	N	310	67.2	1.2	6.5	0.0	--
102	SF	2		2	1	1800 N to 1300 N	Clearfield	279	294	344	N	294	67.5	1.2	6.4	0.0	--
103	SF	2		2	1	1800 N to 1300 N	Clearfield	297	312	361	N	312	67.1	1.2	6.5	0.0	--
104	SF	2		2	1	1800 N to 1300 N	Clearfield	286	301	350	N	301	67.4	1.2	6.5	0.0	--
105	SF	2		2	1	1800 N to 1300 N	Clearfield	286	301	350	N	301	67.4	1.2	6.5	0.0	--
106	SF	3		2	1	1800 N to 1300 N	Clearfield	305	320	369	N	320	65.5	1.4	7.0	0.0	--
107	SF	3		2	1	1800 N to 1300 N	Clearfield	312	327	376	N	327	65.4	1.4	7.0	0.0	--
108	SF	1		2	1	1800 N to 1300 N	Clearfield	172	187	236	N	187	76.7	0.3	4.7	0.0	--
109	SF	1		2	1	1800 N to 1300 N	Clearfield	150	165	214	N	165	77.4	0.2	4.6	0.0	--
110	SF	2		2	1	1800 N to 1300 N	Clearfield	213	228	277	N	228	69.0	1.1	6.0	0.0	--
111	SF	2		2	1	1800 N to 1300 N	Clearfield	271	286	335	N	286	67.7	1.2	6.4	0.0	--
112	SF	3		2	1	1800 N to 1300 N	Clearfield	287	302	351	N	302	65.8	1.3	6.9	0.0	--
113	SF	1		2	1	1800 N to 1300 N	Clearfield	166	181	231	N	181	76.8	0.3	4.6	0.0	--
114	SF	1		2	1	1800 N to 1300 N	Clearfield	177	192	241	N	192	76.5	0.3	4.7	0.0	--
115	SF	1		2	1	1800 N to 1300 N	Clearfield	165	180	229	N	180	76.9	0.3	4.6	0.0	--
116	SF	1		2	1	1800 N to 1300 N	Clearfield	172	187	237	N	187	76.7	0.3	4.7	0.0	--
117	SF	1		2	1	1800 N to 1300 N	Clearfield	162	177	226	N	177	77.0	0.3	4.6	0.0	--
118	SF	1		2	1	1800 N to 1300 N	Clearfield	161	176	225	N	176	77.0	0.3	4.6	0.0	--
119	SF	1		2	1	1800 N to 1300 N	Clearfield	157	172	221	N	172	77.2	0.3	4.7	0.0	--
120	SF	1		2	1	1800 N to 1300 N	Clearfield	155	170	219	N	170	77.2	0.3	4.6	0.0	--
121	SF	1		2	1	1800 N to 1300 N	Clearfield	155	170	219	N	170	77.2	0.3	4.6	0.0	--
122	SF	2		2	1	1800 N to 1300 N	Clearfield	263	278	327	N	278	67.8	1.2	6.3	0.0	--
123	SF	2		2	1	1800 N to 1300 N	Clearfield	280	295	344	N	295	67.5	1.2	6.4	0.0	--
124	SF	2		2	1	1800 N to 1300 N	Clearfield	276	291	341	N	291	67.6	1.2	6.4	0.0	--
125	SF	2		2	1	1800 N to 1300 N	Clearfield	285	300	349	N	300	67.4	1.2	6.5	0.0	--
126	SF	2		2	1	1800 N to 1300 N	Clearfield	261	276	326	N	276	67.9	1.2	6.3	0.0	--
127	SF	2		2	1	1800 N to 1300 N	Clearfield	285	300	349	N	300	67.4	1.2	6.5	0.0	--
128	SF	2		2	1	1800 N to 1300 N	Clearfield	285	300	350	N	300	67.4	1.2	6.5	0.0	--
129	SF	2		2	1	1800 N to 1300 N	Clearfield	254	269	318	N	269	68.0	1.2	6.3	0.0	--
130	SF	2		2	1	1800 N to 1300 N	Clearfield	244	259	308	N	259	68.3	1.2	6.2	0.0	--
131	SF	1		2	1	1300 N to 800 N	Clearfield	138	153	203	N	153	77.8	0.2	4.3	0.0	--
132	SF	1		2	1	1300 N to 800 N	Clearfield	151	166	215	N	166	77.3	0.2	4.6	0.0	--
133	SF	1		2	1	1300 N to 800 N	Clearfield	127	142	192	N	142	78.2	0.2	4.1	0.0	--
134	SF	1		2	1	1300 N to 800 N	Clearfield	143	158	207	N	158	77.6	0.2	4.4	0.0	--
135	SF	1		2	1	1300 N to 800 N	Clearfield	148	163	213	N	163	77.4	0.2	4.5	0.0	--
136	SF	1		2	1	1300 N to 800 N	Clearfield	144	159	209	N	159	77.6	0.2	4.4	0.0	--
137	SF	1		2	1	1300 N to 800 N	Clearfield	139	154	204	N	154	77.7	0.2	4.3	0.0	--
138	SF	1		2	1	1300 N to 800 N	Clearfield	133	148	198	N	148	77.9	0.2	4.2	0.0	--
139	SF	2		2	1	1300 N to 800 N	Clearfield	296	311	360	N	311	67.2	1.2	6.5	0.0	--
140	SF	2		2	1	1300 N to 800 N	Clearfield	294	309	359	N	309	67.2	1.2	6.5	0.0	--
141	SF	2		2	1	1300 N to 800 N	Clearfield	293	308	357	N	308	67.2	1.2	6.5	0.0	--
142	SF	2		2	1	1300 N to 800 N	Clearfield	292	307	357	N	307	67.2	1.2	6.5	0.0	--
143	SF	2		2	1	1300 N to 800 N	Clearfield	290	305	355	N	305	67.3	1.2	6.5	0.0	--
144	SF	2		2	1	1300 N to 800 N	Clearfield	289	304	353	N	304	67.3	1.2	6.5	0.0	--
145	SF	2		2	1	1300 N to 800 N	Clearfield	284	299	348	N	299	67.4	1.2	6.5	0.0	--
146	SF	2		2	1	1300 N to 800 N	Clearfield	281	296	346	N	296	67.4	1.2	6.4	0.0	--
147	SF	2		2	1	1300 N to 800 N	Clearfield	279	294	344	N	294	67.5	1.2	6.4	0.0	--
148	SF	1		2	1	1300 N to 800 N	Clearfield	119	134	183	N	134	78.5	0.2	3.9	0.0	--
149	SF	1		2	1	1300 N to 800 N	Clearfield	114	129	179	N	129	78.7	0.2	3.8	0.0	--
150	SF	1		2	1	1300 N to 800 N	Clearfield	113	128	177	N	128	78.7	0.2	3.7	0.0	--

Table A.1 - Assessment Inputs and Outputs

Receiver Number	Land Use Information	Row	Name	Land Use Category	Dwelling Units	Segment	Section	Distance to New UTA Track SB	Distance to Existing UTA Track	Distance to Existing UP Track	New Crossover (Y/N)	Distance to New UTA Track NB	Calculated Existing Noise	Moderate Impact Criteria	Severe Impact Criteria	Change in Noise	Impact
151	SF	1		2	1	1300 N to 800 N	Clearfield	129	144	192	N	144	78.2	0.2	4.1	0.0	--
152	SF	1		2	1	1300 N to 800 N	Clearfield	126	141	189	N	141	78.3	0.2	4.0	0.0	--
153	SF	1		2	1	1300 N to 800 N	Clearfield	128	143	191	N	143	78.2	0.2	4.1	0.0	--
154	SF	1		2	1	1300 N to 800 N	Clearfield	118	133	180	N	133	78.6	0.2	3.8	0.0	--
155	SF	1		2	1	1300 N to 800 N	Clearfield	123	138	184	N	138	78.5	0.2	3.9	0.0	--
156	SF	1		2	1	1300 N to 800 N	Clearfield	124	139	183	N	139	78.5	0.2	3.9	0.0	--
157	SF	0		0	0	1300 N to 800 N	Clearfield	281	296	345	N	296	54.2	3.4	12.0	0.4	--
158	SF	0		0	0	1300 N to 800 N	Clearfield	279	294	342	N	294	54.3	3.4	12.0	0.4	--
159	SF	0		0	0	1300 N to 800 N	Clearfield	274	289	337	N	289	54.4	3.4	11.9	0.4	--
160	SF	0		0	0	1300 N to 800 N	Clearfield	272	287	333	N	287	54.5	3.3	11.8	0.4	--
161	SF	0		0	0	1300 N to 800 N	Clearfield	270	285	331	N	285	54.5	3.3	11.8	0.4	--
162	SF	0		0	0	1300 N to 800 N	Clearfield	270	285	329	N	285	54.5	3.3	11.8	0.4	--
163	SF	1		2	1	1300 N to 800 N	Clearfield	125	140	182	N	140	78.5	0.2	3.8	0.0	--
164	SF	1		2	1	1300 N to 800 N	Clearfield	123	138	180	N	138	78.6	0.2	3.8	0.0	--
165	SF	1		2	1	1300 N to 800 N	Clearfield	107	122	162	N	122	79.4	0.2	3.4	0.0	--
166	SF	1		2	1	1300 N to 800 N	Clearfield	121	136	176	N	136	78.8	0.2	3.7	0.0	--
167	SF	1		2	1	1300 N to 800 N	Clearfield	145	160	198	N	160	77.9	0.2	4.2	0.0	--
168	SF	1		2	1	1300 N to 800 N	Clearfield	169	184	221	N	184	77.2	0.3	4.7	0.0	--
169	SF	1		2	1	1300 N to 800 N	Clearfield	128	143	177	N	143	78.7	0.2	3.7	0.0	--
170	SF	1		2	1	1300 N to 800 N	Clearfield	120	135	170	N	135	79.0	0.2	3.5	0.0	--
171	SF	1		2	1	1300 N to 800 N	Clearfield	121	136	169	N	136	79.1	0.2	3.5	0.0	--
172	SF	2		2	1	1300 N to 800 N	Clearfield	271	286	329	N	286	67.8	1.2	6.3	0.0	--
173	SF	2		2	1	1300 N to 800 N	Clearfield	268	283	324	N	283	67.9	1.2	6.3	0.0	--
174	SF	2		2	1	1300 N to 800 N	Clearfield	273	288	329	N	288	67.8	1.2	6.3	0.0	--
175	SF	2		2	1	1300 N to 800 N	Clearfield	278	293	332	N	293	67.7	1.2	6.4	0.0	--
176	SF	2		2	1	1300 N to 800 N	Clearfield	315	330	368	N	330	67.0	1.2	6.5	0.0	--
177	SF	2		2	1	1300 N to 800 N	Clearfield	348	363	399	N	363	66.4	1.3	6.7	0.0	--
178	SF	2		2	1	1300 N to 800 N	Clearfield	301	316	349	N	316	67.4	1.2	6.5	0.0	--
179	SF	2		2	1	1300 N to 800 N	Clearfield	270	285	317	N	285	68.1	1.2	6.3	0.0	--
180	SF	2		2	1	1300 N to 800 N	Clearfield	268	283	315	N	283	68.1	1.2	6.3	0.0	--
181	SF	1		2	1	1300 N to 800 N	Clearfield	116	131	163	N	131	79.3	0.2	3.4	0.0	--
182	SF	1		2	1	1300 N to 800 N	Clearfield	104	119	149	N	119	80.0	0.1	3.1	0.0	--
183	SF	1		2	1	1300 N to 800 N	Clearfield	109	124	153	N	124	79.8	0.1	3.2	0.0	--
184	SF	1		2	1	1300 N to 800 N	Clearfield	117	132	160	N	132	79.4	0.2	3.3	0.0	--
185	SF	1		2	1	1300 N to 800 N	Clearfield	118	133	161	N	133	79.4	0.2	3.4	0.0	--
186	SF	1		2	1	1300 N to 800 N	Clearfield	114	129	157	N	129	79.6	0.2	3.3	0.0	--
187	SF	1		2	1	1300 N to 800 N	Clearfield	117	132	160	N	132	79.5	0.2	3.3	0.0	--
188	SF	1		2	1	1300 N to 800 N	Clearfield	116	131	159	N	131	79.5	0.2	3.3	0.0	--
189	SF	1		2	1	1300 N to 800 N	Clearfield	114	129	157	N	129	79.6	0.2	3.3	0.0	--
190	SF	1		2	1	1300 N to 800 N	Clearfield	95	110	139	N	110	80.5	0.1	3.0	0.0	--
191	SF	2		2	1	1300 N to 800 N	Clearfield	260	275	304	N	275	68.4	1.1	6.2	0.0	--
192	SF	2		2	1	1300 N to 800 N	Clearfield	252	267	295	N	267	68.6	1.1	6.2	0.0	--
193	SF	2		2	1	1300 N to 800 N	Clearfield	253	268	296	N	268	68.6	1.1	6.2	0.0	--
194	SF	2		2	1	1300 N to 800 N	Clearfield	262	277	305	N	277	68.4	1.1	6.2	0.0	--
195	SF	2		2	1	1300 N to 800 N	Clearfield	280	295	323	N	295	67.9	1.2	6.3	0.0	--
196	SF	3		2	1	1300 N to 800 N	Clearfield	350	365	394	N	365	65.0	1.4	7.1	0.0	--
197	SF	3		2	1	1300 N to 800 N	Clearfield	326	341	370	N	341	65.5	1.4	7.0	0.0	--
198	SF	3		2	1	1300 N to 800 N	Clearfield	333	348	376	N	348	65.3	1.4	7.0	0.0	--
199	MF	2		2	6	800 N to 300 N	Clearfield	217	232	264	N	232	69.4	1.1	6.0	0.0	--
200	MF	3		2	6	800 N to 300 N	Clearfield	305	320	352	N	320	65.8	1.3	6.9	0.0	--

Table A.1 - Assessment Inputs and Outputs

Receiver Number	Land Use Information	Row	Name	Land Use Category	Dwelling Units	Segment	Section	Distance to New UTA Track SB	Distance to Existing UTA Track	Distance to Existing UP Track	New Crossover (Y/N)	Distance to New UTA Track NB	Calculated Existing Noise	Moderate Impact Criteria	Severe Impact Criteria	Change in Noise	Impact
201	SF	1		2	1	800 N to 300 N	Clearfield	127	142	173	N	142	78.9	0.2	3.7	0.0	--
202	SF	1		2	1	800 N to 300 N	Clearfield	63	78	110	N	78	82.2	0.1	3.0	0.1	--
203	SF	1		2	1	800 N to 300 N	Clearfield	130	145	179	N	145	78.7	0.2	3.8	0.0	--
204	SF	1		2	1	800 N to 300 N	Clearfield	101	116	150	N	116	79.9	0.1	3.1	0.0	--
205	SF	1		2	1	800 N to 300 N	Clearfield	100	115	149	N	115	80.0	0.1	3.1	0.0	--
206	SF	1		2	1	800 N to 300 N	Clearfield	116	131	165	N	131	79.2	0.2	3.4	0.0	--
207	SF	1		2	1	800 N to 300 N	Clearfield	107	122	155	N	122	79.7	0.1	3.2	0.0	--
208	SF	1		2	1	800 N to 300 N	Clearfield	121	136	169	N	136	79.1	0.2	3.5	0.0	--
209	SF	1		2	1	800 N to 300 N	Clearfield	126	141	173	N	141	78.9	0.2	3.7	0.0	--
210	SF	1		2	1	800 N to 300 N	Clearfield	124	139	171	N	139	79.0	0.2	3.6	0.0	--
211	SF	1		2	1	800 N to 300 N	Clearfield	110	125	156	N	125	79.7	0.1	3.2	0.0	--
212	SF	1		2	1	800 N to 300 N	Clearfield	106	121	150	N	121	79.9	0.1	3.1	0.0	--
213	SF	1		2	1	800 N to 300 N	Clearfield	111	126	153	N	126	79.8	0.1	3.2	0.0	--
214	SF	1		2	1	800 N to 300 N	Clearfield	105	120	145	N	120	80.1	0.1	3.0	0.0	--
215	SF	2		2	1	800 N to 300 N	Clearfield	199	214	248	N	214	69.8	1.1	5.9	0.0	--
216	SF	2		2	1	800 N to 300 N	Clearfield	245	260	294	N	260	68.6	1.1	6.1	0.0	--
217	SF	2		2	1	800 N to 300 N	Clearfield	255	270	303	N	270	68.4	1.1	6.2	0.0	--
218	SF	2		2	1	800 N to 300 N	Clearfield	249	264	296	N	264	68.5	1.1	6.2	0.0	--
219	SF	2		2	1	800 N to 300 N	Clearfield	252	267	298	N	267	68.5	1.1	6.2	0.0	--
220	SF	2		2	1	800 N to 300 N	Clearfield	247	262	289	N	262	68.7	1.1	6.1	0.0	--
221	SF	2		2	1	800 N to 300 N	Clearfield	243	258	283	N	258	68.9	1.1	6.1	0.0	--
222	SF	3		2	1	800 N to 300 N	Clearfield	273	288	322	N	288	66.5	1.3	6.7	0.0	--
223	SF	3		2	1	800 N to 300 N	Clearfield	320	335	369	N	335	65.5	1.4	7.0	0.0	--
224	SF	3		2	1	800 N to 300 N	Clearfield	320	335	368	N	335	65.5	1.4	7.0	0.0	--
225	SF	3		2	1	800 N to 300 N	Clearfield	330	345	377	N	345	65.3	1.4	7.0	0.0	--
226	SF	3		2	1	800 N to 300 N	Clearfield	316	331	361	N	331	65.6	1.4	6.9	0.0	--
227	SF	3		2	1	800 N to 300 N	Clearfield	317	332	358	N	332	65.7	1.4	6.9	0.0	--
228	SF	3		2	1	800 N to 300 N	Clearfield	295	310	335	N	310	66.2	1.3	6.8	0.0	--
229	SF	4		2	1	800 N to 300 N	Clearfield	340	355	389	N	355	63.6	1.6	7.6	0.0	--
230	SF	4		2	1	800 N to 300 N	Clearfield	363	378	404	N	378	63.3	1.6	7.7	0.0	--
231	SF	1		2	1	800 N to 300 N	Clearfield	84	99	125	N	99	81.2	0.1	3.0	0.0	--
232	SF	1		2	1	800 N to 300 N	Clearfield	87	102	128	N	102	81.1	0.1	3.0	0.0	--
233	SF	1		2	1	800 N to 300 N	Clearfield	92	107	132	N	107	80.8	0.1	3.0	0.0	--
234	SF	1		2	1	800 N to 300 N	Clearfield	88	103	129	N	103	81.0	0.1	3.0	0.0	--
235	SF	1		2	1	800 N to 300 N	Clearfield	100	115	140	N	115	80.4	0.1	3.0	0.0	--
236	SF	1		2	1	800 N to 300 N	Clearfield	89	104	129	N	104	81.0	0.1	3.0	0.0	--
237	SF	1		2	1	800 N to 300 N	Clearfield	74	89	114	N	89	81.9	0.1	3.0	0.0	--
238	SF	1		2	1	800 N to 300 N	Clearfield	69	84	108	N	84	82.3	0.1	3.0	0.0	--
239	SF	1		2	1	800 N to 300 N	Clearfield	91	106	129	N	106	81.0	0.1	3.0	0.0	--
240	SF	1		2	1	800 N to 300 N	Clearfield	72	87	112	N	87	82.0	0.1	3.0	0.0	--
241	SF	1		2	1	800 N to 300 N	Clearfield	86	101	129	N	101	81.0	0.1	3.0	0.0	--
242	SF	1		2	1	800 N to 300 N	Clearfield	76	91	121	N	91	81.5	0.1	3.0	0.0	--
243	SF	2		2	1	800 N to 300 N	Clearfield	238	253	279	N	253	69.0	1.1	6.1	0.0	--
244	SF	2		2	1	800 N to 300 N	Clearfield	225	240	266	N	240	69.3	1.1	6.0	0.0	--
245	SF	2		2	1	800 N to 300 N	Clearfield	224	239	264	N	239	69.4	1.1	6.0	0.0	--
246	SF	2		2	1	800 N to 300 N	Clearfield	223	238	262	N	238	69.4	1.1	5.9	0.0	--
247	SF	2		2	1	800 N to 300 N	Clearfield	223	238	264	N	238	69.4	1.1	6.0	0.0	--
248	SF	2		2	1	800 N to 300 N	Clearfield	222	237	266	N	237	69.3	1.1	6.0	0.0	--
249	SF	2		2	1	800 N to 300 N	Clearfield	216	231	265	N	231	69.3	1.1	6.0	0.0	--
250	SF	2		2	1	800 N to 300 N	Clearfield	220	235	271	N	235	69.2	1.1	6.0	0.0	--

Table A.1 - Assessment Inputs and Outputs

Receiver Number	Land Use Information	Row	Name	Land Use Category	Dwelling Units	Segment	Section	Distance to New UTA Track SB	Distance to Existing UTA Track	Distance to Existing UP Track	New Crossover (Y/N)	Distance to New UTA Track NB	Calculated Existing Noise	Moderate Impact Criteria	Severe Impact Criteria	Change in Noise	Impact
251	SF	3		2	1	800 N to 300 N	Clearfield	295	310	335	N	310	66.2	1.3	6.8	0.0	--
252	SF	3		2	1	800 N to 300 N	Clearfield	274	289	314	N	289	66.6	1.3	6.7	0.0	--
253	SF	3		2	1	800 N to 300 N	Clearfield	292	307	331	N	307	66.3	1.3	6.8	0.0	--
254	SF	3		2	1	800 N to 300 N	Clearfield	368	383	407	N	383	64.8	1.4	7.2	0.0	--
255	SF	3		2	1	800 N to 300 N	Clearfield	347	362	388	N	362	65.1	1.4	7.1	0.0	--
256	SF	3		2	1	800 N to 300 N	Clearfield	364	379	409	N	379	64.8	1.4	7.2	0.0	--
257	SF	3		2	1	800 N to 300 N	Clearfield	346	361	392	N	361	65.1	1.4	7.1	0.0	--
258	SF	3		2	1	800 N to 300 N	Clearfield	363	378	414	N	378	64.7	1.4	7.3	0.0	--
259	SF	3		2	1	800 N to 300 N	Clearfield	370	385	421	N	385	64.5	1.5	7.3	0.0	--
260	SF	3		2	1	800 N to 300 N	Clearfield	361	376	401	N	376	64.9	1.4	7.2	0.0	--
261	SF	3		2	1	800 N to 300 N	Clearfield	335	350	375	N	350	65.4	1.4	7.0	0.0	--
262	SF	3		2	1	800 N to 300 N	Clearfield	336	351	375	N	351	65.4	1.4	7.0	0.0	--
263	SF	1		2	1	800 N to 300 N	Clearfield	73	88	121	N	88	81.5	0.1	3.0	0.1	--
264	SF	1		2	1	800 N to 300 N	Clearfield	62	77	112	N	77	82.0	0.1	3.0	0.1	--
265	SF	1		2	1	800 N to 300 N	Clearfield	85	100	136	N	100	80.6	0.1	3.0	0.0	--
266	SF	1		2	1	800 N to 300 N	Clearfield	74	89	125	N	89	81.2	0.1	3.0	0.1	--
267	SF	1		2	1	800 N to 300 N	Clearfield	81	96	133	N	96	80.8	0.1	3.0	0.0	--
268	SF	1		2	1	800 N to 300 N	Clearfield	79	94	131	N	94	80.9	0.1	3.0	0.1	--
269	SF	1		2	1	800 N to 300 N	Clearfield	88	103	140	N	103	80.4	0.1	3.0	0.0	--
270	SF	1		2	1	800 N to 300 N	Clearfield	78	93	131	N	93	80.9	0.1	3.0	0.1	--
271	SF	1		2	1	800 N to 300 N	Clearfield	68	83	121	N	83	81.4	0.1	3.0	0.1	--
272	SF	2		2	1	800 N to 300 N	Clearfield	222	237	274	N	237	69.1	1.1	6.0	0.0	--
273	SF	2		2	1	800 N to 300 N	Clearfield	225	240	277	N	240	69.0	1.1	6.0	0.0	--
274	SF	2		2	1	800 N to 300 N	Clearfield	229	244	282	N	244	68.9	1.1	6.1	0.0	--
275	SF	2		2	1	800 N to 300 N	Clearfield	233	248	285	N	248	68.8	1.1	6.1	0.0	--
276	SF	2		2	1	800 N to 300 N	Clearfield	238	253	291	N	253	68.7	1.1	6.1	0.0	--
277	SF	2		2	1	800 N to 300 N	Clearfield	173	188	226	N	188	70.5	1.0	5.7	0.0	--
278	SF	3		2	1	800 N to 300 N	Clearfield	352	367	403	N	367	64.8	1.4	7.2	0.0	--
279	SF	3		2	1	800 N to 300 N	Clearfield	364	379	416	N	379	64.6	1.4	7.3	0.0	--
280	SF	3		2	1	800 N to 300 N	Clearfield	374	389	426	N	389	64.5	1.5	7.3	0.0	--
281	SF	3		2	1	800 N to 300 N	Clearfield	349	364	402	N	364	64.9	1.4	7.2	0.0	--
282	SF	3		2	1	800 N to 300 N	Clearfield	327	342	380	N	342	65.3	1.4	7.1	0.0	--
283	SF	3		2	1	800 N to 300 N	Clearfield	297	312	351	N	312	65.8	1.3	6.9	0.0	--
284	SF	3		2	1	800 N to 300 N	Clearfield	238	253	292	N	253	67.2	1.2	6.5	0.0	--
285	SF	3		2	1	800 N to 300 N	Clearfield	352	367	404	N	367	64.8	1.4	7.2	0.0	--
286	CHURCH	1	The Church of Jesus Christ of Latter-d	3	1	300 N to 200 S	Clearfield	238	253	287	N	253	59.0	4.9	5.4	0.4	--
287	MF	1		2	4	300 N to 200 S	Clearfield	113	128	159	N	128	79.5	0.2	3.3	0.0	--
288	MF	2		2	4	300 N to 200 S	Clearfield	162	177	208	N	177	71.1	1.0	5.6	0.0	--
289	MF	3		2	4	300 N to 200 S	Clearfield	235	250	280	N	250	67.4	1.2	6.4	0.0	--
290	MF	4		2	4	300 N to 200 S	Clearfield	291	306	337	N	306	64.6	1.4	7.3	0.0	--
291	MF	5		2	4	300 N to 200 S	Clearfield	361	376	408	N	376	62.8	1.7	7.9	0.0	--
292	SF	1		2	1	300 N to 200 S	Clearfield	84	99	129	N	99	81.0	0.1	3.0	0.0	--
293	SF	1		2	1	300 N to 200 S	Clearfield	34	49	81	N	49	84.3	0.1	3.0	0.1	--
294	SF	1		2	1	300 N to 200 S	Clearfield	33	48	81	N	48	84.3	0.1	3.0	0.1	--
295	SF	1		2	1	300 N to 200 S	Clearfield	58	73	108	N	73	82.3	0.1	3.0	0.1	--
296	SF	1		2	1	300 N to 200 S	Clearfield	56	71	105	N	71	82.5	0.1	3.0	0.1	--
297	SF	1		2	1	300 N to 200 S	Clearfield	62	77	113	N	77	82.0	0.1	3.0	0.1	--
298	SF	1		2	1	300 N to 200 S	Clearfield	68	83	119	N	83	81.6	0.1	3.0	0.1	--
299	SF	1		2	1	300 N to 200 S	Clearfield	73	88	125	N	88	81.2	0.1	3.0	0.1	--
300	SF	1		2	1	300 N to 200 S	Clearfield	78	93	132	N	93	80.9	0.1	3.0	0.1	--

Table A.1 - Assessment Inputs and Outputs

Receiver Number	Land Use Information	Row	Name	Land Use Category	Dwelling Units	Segment	Section	Distance to New UTA Track SB	Distance to Existing UTA Track	Distance to Existing UP Track	New Crossover (Y/N)	Distance to New UTA Track NB	Calculated Existing Noise	Moderate Impact Criteria	Severe Impact Criteria	Change in Noise	Impact
301	SF	1		2	1	300 N to 200 S	Clearfield	66	81	120	N	81	81.5	0.1	3.0	0.1	--
302	SF	1		2	1	300 N to 200 S	Clearfield	66	81	121	N	81	81.5	0.1	3.0	0.1	--
303	SF	1		2	1	300 N to 200 S	Clearfield	72	87	128	N	87	81.1	0.1	3.0	0.1	--
304	SF	1		2	1	300 N to 200 S	Clearfield	75	90	132	N	90	80.9	0.1	3.0	0.1	--
305	SF	1		2	1	300 N to 200 S	Clearfield	63	78	120	N	78	81.5	0.1	3.0	0.1	--
306	SF	1		2	1	300 N to 200 S	Clearfield	62	77	119	N	77	81.6	0.1	3.0	0.1	--
307	SF	1		2	1	300 N to 200 S	Clearfield	59	74	117	N	74	81.7	0.1	3.0	0.1	--
308	SF	1		2	1	300 N to 200 S	Clearfield	93	108	151	N	108	79.9	0.1	3.1	0.0	--
309	SF	2		2	1	300 N to 200 S	Clearfield	139	154	185	N	154	71.9	0.8	5.4	0.0	--
310	SF	2		2	1	300 N to 200 S	Clearfield	176	191	227	N	191	70.5	1.0	5.7	0.0	--
311	SF	2		2	1	300 N to 200 S	Clearfield	177	192	230	N	192	70.4	1.0	5.7	0.0	--
312	SF	2		2	1	300 N to 200 S	Clearfield	188	203	242	N	203	70.0	1.1	5.8	0.0	--
313	SF	2		2	1	300 N to 200 S	Clearfield	180	195	236	N	195	70.2	1.0	5.8	0.0	--
314	SF	2		2	1	300 N to 200 S	Clearfield	136	151	194	N	151	71.6	0.9	5.5	0.0	--
315	SF	2		2	1	300 N to 200 S	Clearfield	178	193	236	N	193	70.2	1.0	5.8	0.0	--
316	SF	2		2	1	300 N to 200 S	Clearfield	192	207	249	N	207	69.8	1.1	5.9	0.0	--
317	SF	3		2	1	300 N to 200 S	Clearfield	212	227	261	N	227	68.0	1.2	6.3	0.0	--
318	SF	3		2	1	300 N to 200 S	Clearfield	183	198	230	N	198	68.9	1.1	6.1	0.0	--
319	SF	3		2	1	300 N to 200 S	Clearfield	222	237	269	N	237	67.7	1.2	6.4	0.0	--
320	SF	3		2	1	300 N to 200 S	Clearfield	241	256	290	N	256	67.2	1.2	6.5	0.0	--
321	SF	3		2	1	300 N to 200 S	Clearfield	216	231	266	N	231	67.8	1.2	6.3	0.0	--
322	SF	3		2	1	300 N to 200 S	Clearfield	216	231	270	N	231	67.7	1.2	6.4	0.0	--
323	SF	3		2	1	300 N to 200 S	Clearfield	228	243	281	N	243	67.4	1.2	6.4	0.0	--
324	SF	3		2	1	300 N to 200 S	Clearfield	253	268	303	N	268	66.9	1.3	6.6	0.0	--
325	SF	3		2	1	300 N to 200 S	Clearfield	243	258	298	N	258	67.0	1.2	6.5	0.0	--
326	SF	3		2	1	300 N to 200 S	Clearfield	213	228	271	N	228	67.7	1.2	6.4	0.0	--
327	SF	3		2	1	300 N to 200 S	Clearfield	246	261	304	N	261	66.9	1.3	6.6	0.0	--
328	SF	3		2	1	300 N to 200 S	Clearfield	211	226	269	N	226	67.8	1.2	6.4	0.0	--
329	SF	3		2	1	300 N to 200 S	Clearfield	240	255	298	N	255	67.0	1.2	6.5	0.0	--
330	SF	3		2	1	300 N to 200 S	Clearfield	213	228	269	N	228	67.7	1.2	6.4	0.0	--
331	SF	3		2	1	300 N to 200 S	Clearfield	230	245	287	N	245	67.3	1.2	6.5	0.0	--
332	SF	3		2	1	300 N to 200 S	Clearfield	255	270	312	N	270	66.7	1.3	6.7	0.0	--
333	SF	4		2	1	300 N to 200 S	Clearfield	294	309	344	N	309	64.5	1.5	7.3	0.0	--
334	SF	4		2	1	300 N to 200 S	Clearfield	334	349	385	N	349	63.7	1.6	7.6	0.0	--
335	SF	4		2	1	300 N to 200 S	Clearfield	254	269	302	N	269	65.4	1.4	7.0	0.0	--
336	SF	4		2	1	300 N to 200 S	Clearfield	300	315	347	N	315	64.4	1.5	7.3	0.0	--
337	SF	4		2	1	300 N to 200 S	Clearfield	287	302	342	N	302	64.5	1.5	7.3	0.0	--
338	SF	4		2	1	300 N to 200 S	Clearfield	314	329	369	N	329	64.0	1.5	7.5	0.0	--
339	SF	4		2	1	300 N to 200 S	Clearfield	328	343	382	N	343	63.7	1.5	7.6	0.0	--
340	SF	4		2	1	300 N to 200 S	Clearfield	285	300	343	N	300	64.5	1.5	7.3	0.0	--
341	SF	4		2	1	300 N to 200 S	Clearfield	319	334	376	N	334	63.8	1.5	7.5	0.0	--
342	SF	4		2	1	300 N to 200 S	Clearfield	268	283	326	N	283	64.9	1.4	7.2	0.0	--
343	SF	4		2	1	300 N to 200 S	Clearfield	298	313	356	N	313	64.2	1.5	7.4	0.0	--
344	SF	4		2	1	300 N to 200 S	Clearfield	284	299	341	N	299	64.6	1.5	7.3	0.0	--
345	SF	4		2	1	300 N to 200 S	Clearfield	317	332	374	N	332	63.9	1.5	7.5	0.0	--
346	SF	5		2	1	300 N to 200 S	Clearfield	368	383	419	N	383	62.6	1.7	8.0	0.0	--
347	SF	5		2	1	300 N to 200 S	Clearfield	335	350	383	N	350	63.2	1.6	7.7	0.0	--
348	SF	5		2	1	300 N to 200 S	Clearfield	341	356	397	N	356	63.0	1.6	7.8	0.0	--
349	SF	5		2	1	300 N to 200 S	Clearfield	369	384	425	N	384	62.5	1.7	8.0	0.0	--
350	SF	5		2	1	300 N to 200 S	Clearfield	351	366	409	N	366	62.8	1.7	7.9	0.0	--

Table A.1 - Assessment Inputs and Outputs

Receiver Number	Land Use Information	Row	Name	Land Use Category	Dwelling Units	Segment	Section	Distance to New UTA Track SB	Distance to Existing UTA Track	Distance to Existing UP Track	New Crossover (Y/N)	Distance to New UTA Track NB	Calculated Existing Noise	Moderate Impact Criteria	Severe Impact Criteria	Change in Noise	Impact
351	SF	5		2	1	300 N to 200 S	Clearfield	327	342	384	N	342	63.2	1.6	7.8	0.0	--
352	SF	5		2	1	300 N to 200 S	Clearfield	349	364	406	N	364	62.8	1.7	7.9	0.0	--
353	SF	1		2	1	300 N to 200 S	Clearfield	143	158	197	N	158	78.0	0.2	4.2	0.0	--
354	SF	1		2	1	300 N to 200 S	Clearfield	101	116	155	N	116	79.7	0.1	3.2	0.0	--
355	MF	1		2	32	300 N to 200 S	Clearfield	242	257	296	N	257	75.1	0.4	4.9	0.0	--
356	MF	1		2	48	300 N to 200 S	Clearfield	128	143	184	N	143	78.4	0.2	3.9	0.0	--
357	MF	2		2	56	300 N to 200 S	Clearfield	226	241	283	N	241	68.9	1.1	6.1	0.0	--
358	MF	2		2	9	300 N to 200 S	Clearfield	281	296	337	N	296	67.6	1.2	6.4	0.0	--
359	SF	2		2	1	200 S to Hwy 193	Clearfield	333	348	385	N	348	66.7	1.3	6.7	0.0	--
360	SF	2		2	1	200 S to Hwy 193	Clearfield	367	382	419	N	382	66.1	1.3	6.8	0.0	--
361	SF	1		2	1	200 S to Hwy 193	Clearfield	270	285	323	N	285	74.4	0.5	5.0	0.0	--
362	MF	1		2	7	200 S to Hwy 193	Clearfield	167	182	218	N	182	77.3	0.3	4.6	0.0	--
363	MF	2		2	6	200 S to Hwy 193	Clearfield	303	318	353	N	318	67.3	1.2	6.5	0.0	--
364	MF	1		2	7	200 S to Hwy 193	Clearfield	137	152	187	N	152	78.3	0.2	3.9	0.0	--
365	MF	2		2	6	200 S to Hwy 193	Clearfield	273	288	324	N	288	67.9	1.2	6.3	0.0	--
366	MF	1		5	2	200 S to Hwy 193	Clearfield	131	146	181	N	146	62.4	1.7	8.1	0.5	--
367	MF	2		2	6	200 S to Hwy 193	Clearfield	228	243	278	N	243	69.0	1.1	6.0	0.0	--
368	MF	1		2	8	200 S to Hwy 193	Clearfield	127	142	177	N	142	78.7	0.2	3.7	0.0	--
369	MF	2		2	7	200 S to Hwy 193	Clearfield	329	344	379	N	344	66.8	1.3	6.6	0.0	--
370	MF	1		2	8	Hwy 193 to Clearfield Station	Clearfield	65	80	114	N	80	81.9	0.1	3.0	0.1	--
371	MF	1		2	8	Hwy 193 to Clearfield Station	Clearfield	152	167	200	N	167	77.8	0.2	4.2	0.0	--
372	MF	2		2	4	Hwy 193 to Clearfield Station	Clearfield	353	368	402	N	368	66.4	1.3	6.7	0.0	--
373	MF	2		2	16	Hwy 193 to Clearfield Station	Clearfield	352	367	401	N	367	66.4	1.3	6.7	0.0	--
374	MF	1		2	4	Hwy 193 to Clearfield Station	Clearfield	249	264	298	N	264	75.0	0.4	4.9	0.0	--
375	MF	1		2	4	Hwy 193 to Clearfield Station	Clearfield	208	223	257	N	223	76.1	0.3	4.8	0.0	--
376	MF	1		2	4	Hwy 193 to Clearfield Station	Clearfield	145	160	194	N	160	78.1	0.2	4.1	0.0	--
377	MF	2		2	12	Hwy 193 to Clearfield Station	Clearfield	308	323	356	N	323	67.2	1.2	6.5	0.0	--
378	MF	2		2	3	Hwy 193 to Clearfield Station	Clearfield	232	247	281	N	247	68.9	1.1	6.1	0.0	--
379	MF	3		2	4	Hwy 193 to Clearfield Station	Clearfield	300	315	349	N	315	65.9	1.3	6.9	0.0	--
380	MF	1		2	57	Hwy 193 to Clearfield Station	Clearfield	96	111	145	N	111	80.2	0.1	3.0	0.0	--
381	MF	1		2	45	Hwy 193 to Clearfield Station	Clearfield	98	114	149	N	114	80.0	0.1	3.1	0.0	--
413	SF	1		2	1	2300 N to 1800 N	Clearfield	254	238	210	Y	238	77.5	0.2	4.4	0.1	--

Table A.2 - Train Inputs

Union Pacific Inputs

Source	Ref SEL at 50ft, dBA	
Freight Cars	85.4	From Create Model
Loco - Diesel	97	From Create Model
Loco - Electric	90	
DMU	85	
Loco Horn	113	

Trains/Day	Pk Hour		Day	Night
13	0.5	Schedule:	8.125	4.875
^^In EACH Direction			Locos	Cars
		Consist:	5	120

Front Runner Inputs

Source	Ref SEL at 50ft, dBA
Commuter Rail Car	82
Loco - Diesel	92
Loco - Electric	90
DMU	85
Loco Horn	103

Trains/Day	Pk Hour		Day	Night
23.4	1	Schedule:	1.2	0.6
^^In EACH Direction			Locos	Cars
		Consist:	1	4

Attachment 6:
North of Clearfield Double Track Project
Hazardous Materials Assessment

Attachment 6

FrontRunner Forward

North of Clearfield Double Track Project

Hazardous Materials Assessment

November 2022

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Introduction

Project Purpose and Description

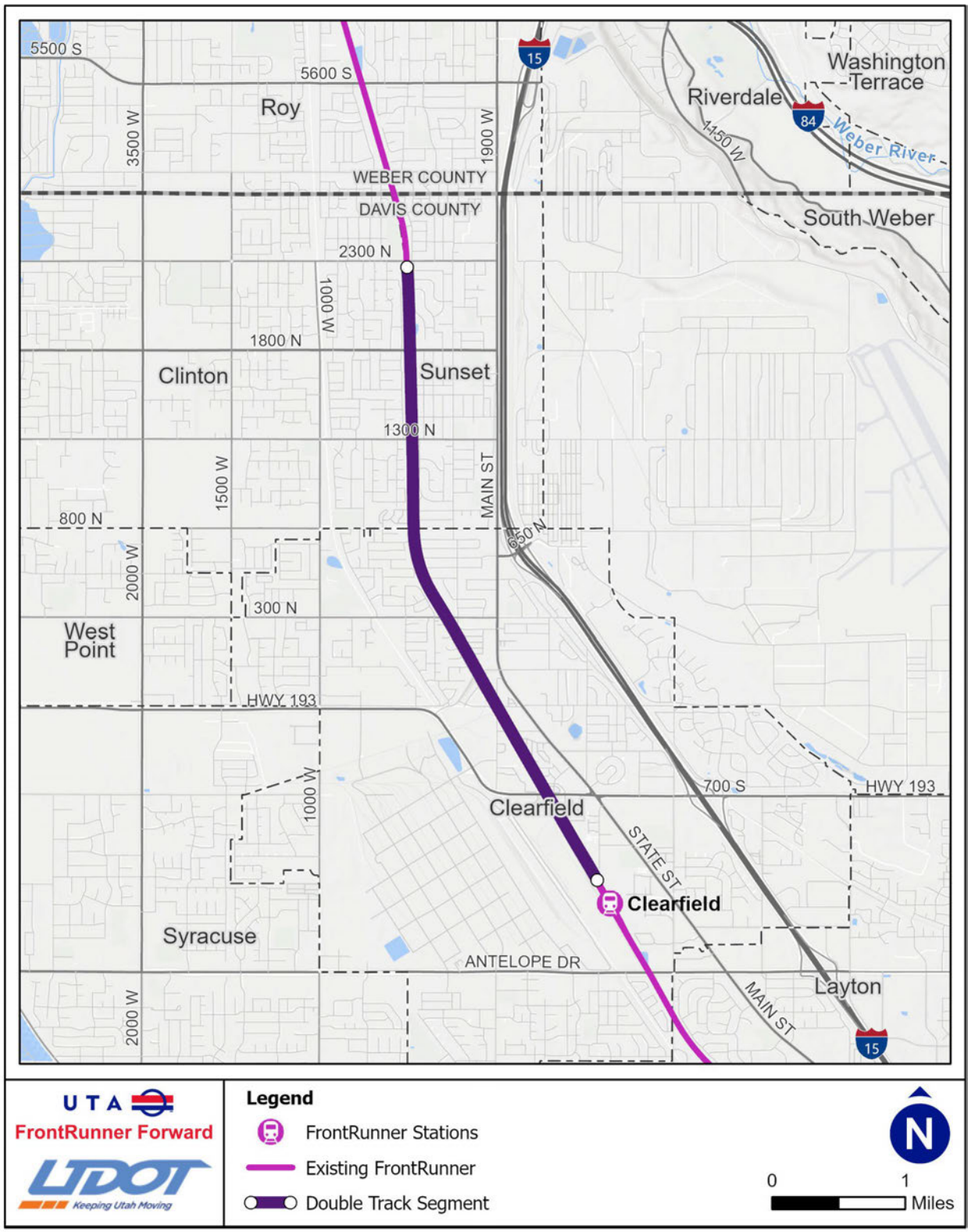
The Utah Transit Authority (UTA), in conjunction with the Federal Transit Administration (FTA), proposes to construct new double-track segments at eight locations along the Front Runner commuter rail line in Davis, Salt Lake, and Utah Counties, Utah. The Hazardous Materials Assessment Report was prepared for the UTA to document the hazardous materials impacts associated with the North of Clearfield Double Track Project.

North of Clearfield Double Track Project

The North of Clearfield Double Track Project (the Project) is proposing to construct approximately 3.6 miles of new double track segment along the FrontRunner commuter rail line from the FrontRunner Clearfield Station at the south end of the alignment to the 2300 North at-grade crossing at the north end in Davis County, Utah. This segment runs [redacted] It is surrounded primarily by residential properties along the length of the Project alignment.

The Project area for the hazardous materials assessment is defined as the limits of anticipated construction, acquired property and right-of-way (ROW), and temporary constructions easements. The Project area is shown on Figure 1. The study area for hazardous materials was defined as the Project area plus the standard search distances for environmental databases as defined in the American Society for Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (E 1527-21)* (ASTM 2021).

Figure 1. Project Area



Methodology

Resource Identification and Evaluations Methods

The purpose of this report is to evaluate the potential for encountering hazardous materials or petroleum hydrocarbons as a result of Project activities in compliance with the National Environmental Policy Act (NEPA) and to determine the presence and location of documented hazardous materials or hazardous waste sites within the Project corridor.

Regulatory Database Review

Pertinent state and federal regulatory database information was procured from Environmental Data Resources Inc. (EDR). The complete EDR database report is included in Appendix A. All sites identified within 0.25 mile of the Project alignment were assessed for the potential to impact the Project; however, due to the anticipated limited ground disturbance involved in the Project, only sites with known or suspected releases within 0.25 mile (state databases) of the Project alignment were evaluated in depth. A comprehensive list of regulatory databases reviewed is contained in the EDR Area Corridor Report: FRF Fairfield to Roy (EDR 2022) (Appendix A).

Sites identified on priority databases (databases indicating a release of hazardous materials or petroleum to soil or groundwater) were evaluated based on the proximity of the site to the proposed Project alignment and the potential for contamination from or associated with the site to exist within or close to the Project alignment (Table 1). Historical uses of the sites and site vicinities, as well as acquisition status, were considered in the evaluation of the potential for the site to affect the proposed Project alignment or adjacent properties.

Regulatory File Review

Some sites identified in the regulatory database review as having confirmed releases were further evaluated for pertinent details via the online Utah Department of Environmental Quality Environmental Cleanup Site Information database (DEQ 2022) and the US Environmental Protection Agency (EPA) Superfund Database (EPA 2022). These tools provide additional details of site conditions and regulatory status, as well as electronic site documents, where available.

Affected Environment

Area of Potential Impact

For the analysis of hazardous materials, the area of potential impact (API) included the Project alignment and adjacent properties due to potential impacts likely being restricted to the immediate vicinity of the Project alignment or adjacent properties. The EDR search distance was set to the ASTM standard for hazardous materials analyses of either side of the Project footprint. A complete listing of the databases reviewed and the associated search distances are included in the EDR report, Appendix A.

Geology, Hydrogeology, and Soils

The Project alignment lies at approximately 4,200 to 4,400 feet in elevation, approximately 7 miles east of the Great Salt Lake and west of the Wasatch Mountains. The area is located within the Basin and Range Province on the southern portion of the East Shore Aquifer. The subsurface in the vicinity of the Project area is characterized by unconsolidated and semi-consolidated sediments eroded from the mountains. The sediments tend to be thick and coarse, and they derive from delta, alluvial, fan, and

mudflow deposits. Closer to the Great Salt Lake, sediments consist of gravel, sand, silts, and clay (Utah Geological Survey [UGS] 2022a).

Groundwater in the vicinity of the Project is part of the East Shore Aquifer, which has been subdivided into shallow (60 to 250 feet below the ground surface [bgs]), intermediate (250 to 500 feet bgs), and deep (greater than 500 feet bgs) artesian aquifers. Shallow groundwater levels in the Project vicinity are assumed to range from approximately 2 to 80 feet bgs (Tetra Tech 2018).

The soils in the area mostly consist of the Parleys loam unit, a well-drained loam soil. Soils in the area are generally silty clay loam, characteristic of flood plains (USDA 2022).

Regulatory Database Review

The affected environment within the study area was assessed by reviewing the state and federal regulatory database records as described above. The identified sites were assigned to one of three risk categories based on proximity to the study area, the type and number of databases in which the site was found, known releases of hazardous materials or petroleum products, and the status of remediation or cleanup efforts at sites with known releases. One of three risk categories was assigned to sites within the study area: high, medium, and low.

- **High Risk.** This category is defined as sites that involve substantial contamination of large areas, including soil, groundwater, and multiple contaminants, and that might represent higher risk of further releases of hazardous materials to human health or the environment; that would be likely to involve high levels of regulatory approvals or extensive or lengthy remediation activities that may create other impacts to the environment; or that could pose major delays to the development of the Project.
- **Medium Risk.** This category is defined as sites where the nature of potential contamination is known based on existing investigation data, the potential contaminants are not extremely toxic or difficult to treat, and probable remediation approaches are straightforward.
- **Low Risk.** This category is defined as sites where the nature of potential contamination is known based on existing investigation data, and the sites are not expected to have notable impacts on the Project due to their location, or sites where hazardous materials were used, but had no, or only very small, reported releases.

State databases list several sites that indicate a confirmed release of a hazardous material or petroleum hydrocarbons within 0.25-mile of the Project area. One site associated with federal databases indicating a confirmed release was found within 1 mile of the Project area. A list of sites evaluated within 0.25 mile of the Project area can be found in Table 1, and they are shown in Figure 2 below.

Based on location, regulatory or cleanup status, and/or the minor nature and extent of the release, most of the sites have a low risk of impacting the Project area. Two Operable Units from the Hill Air Force Base Superfund site were determined to be in the medium-risk category, as they intersect or abut the Project. These are discussed below and shown in Figure 3.

Table 1. List of Evaluated Sites

SITE NO	FACILITY NAME	STREET ADDRESS	CITY	EDR ID	RANKING	RANKING RATIONALE
1	HILL AIR FORCE BASE	00-ALC/EM	HILL AFB	1000273628	M	There are sixteen Operable Units (OUs) in the Hill Air Force Base Superfund Site. OU5 crosses the Project alignment--this trichloroethylene (TCE) plume has a groundwater treatment system in place to the west of the alignment. Remedial actions are ongoing, and the contamination plumes appear to be shrinking. OU10 abuts the Project alignment, with the contamination plume extending west to the Project area. .
2	CLEARFIELD METAL SALES	352 S MAIN ST	CLEARFIELD	U003379126	L	Not adjacent to the alignment, a leaking underground storage tank (LUST) was closed in 1998 (the lat/long maps show this site in the track alignment, but it is to the west of the alignment by several hundred feet).
3	SUNSET CITY CORP.	470 W 1800 N	SUNSET	U000558006	L	Adjacent to the alignment; LUST closure in 1996; area is currently a Public Works Facility.
4	RACE TRANSMISSION REPAIR	1026 S 550 E	CLEARFIELD	1021491200	L	This is not adjacent to alignment; no release is associated with this listing.
5	NEW AGE MANUFACTURING CORP.	362 SOUTH MAIN STREET	CLEARFIELD	1004788611	L	This is close to the alignment, but not directly adjacent; no release is associated with the facility and no violations are in the Resource Conservation and Recovery Act (RCRA) database.
6	NEW CLEARFIELD CLEANERS	11 N MAIN	CLEARFIELD	1020048353	L	This is close to the alignment; the property has been redeveloped into office/apartments; there is no release associated with drycleaners.
7	C.J. KNIGHT	17 N MAIN ST (FORMER SERVIC ST)	CLEARFIELD	U000812706	L	This is close to the alignment; the property has been redeveloped into office/apartments; the LUST was cleaned up in 2016.
8	SHELL SPEEDY LUBE	325 E 700 S	CLEARFIELD	1020986636	L	This is close to the alignment; the property has been redeveloped; no release is associated with HIST AUTO listing.
9	WALTS TRANSMISSIONS	2070 N 400 W	CLEARFIELD	1021736782	L	This is not adjacent to the alignment; no release is associated with this listing.
10	NEW CONSTRUCTION SITE	22 S STATE	CLEARFIELD	U004281677, U004281676	L	This is close to the alignment; the property was redeveloped, and the listing is for UST closures. No release is associated with these listings.
11	DAN'S CONOCO, DUANES AUTO REPAIR	214 S STATE ST	CLEARFIELD	U001447699, 1021857495	L	This is not adjacent to the alignment; the LUST was closed in 2000; the USTs were removed.
12	FAVORITE CLEANERS	35 S STATE	CLEARFIELD	1019987398	L	This is not adjacent to the alignment.
13	LYNNS QUALITY DRY CLEANING	99 STATE ST	CLEARFIELD	1018404637, 1000306586, S106515085	L	This is not adjacent to the alignment.

Table 1. List of Evaluated Sites (continued)

SITE NO	FACILITY NAME	STREET ADDRESS	CITY	EDR ID	RANKING	RANKING RATIONALE
14	CLEARFIELD CITY NORTH SECTION (12-020-0137)	15 NORTH MAIN STREET	CLEARFIELD	1016356069, S108781549	L	This property is adjacent to the railroad. A property assessment was conducted to evaluate if neighboring properties had impacted the parcel. No cleanup is required.
15	CLEARFIELD CITY SHOPS	497 S MAIN ST	CLEARFIELD	U000812710	L	This is not adjacent to the alignment; the LUST closed in 2006.
16	JIFFY STOP STORE	205 S STATE ST	CLEARFIELD	U000812721	L	This is not adjacent to the alignment; the LUST closed in 1996.
17	MASTER MUFFLER	189 S STATE ST	CLEARFIELD	U000557878	L	This is not adjacent to the alignment; no release is associated with this listing; all USTs are closed.
18	SHAW CLEARFIELD, LLC	210 EAST 700 SOUTH	CLEARFIELD	1000992715	L	This is not adjacent to the alignment; no release is associated with this listing.
19	CB COMMERCIAL PROPERTIES	1201 S INDUSTRIAL PARKWAY	CLEARFIELD	S106560649	L	This is along the alignment; the property was redeveloped; there was an No Further Action (NFA) from the Utah Department of Environmental Quality (UDEQ) in 1996 after cleanup and closure of the LUST. Based on the location of the former tanks and the NFA, there is a low chance of contamination having migrated to the Project alignment. The property is currently a Home Depot.
20	STEVE & WALTS INC.	133 N MAIN ST	CLEARFIELD	U000812727	L	This is not adjacent to the alignment; two out of three LUST listings have been closed; six out of nine USTs have been decommissioned. A certificate of compliance was issued in 2021 for non-compliance in 2020.
21	CALIBER COLLISION CENTER - CLEARFIELD 0243	520 EAST 700 SOUTH	CLEARFIELD	1016145148	L	This is not adjacent to the alignment; no release is associated with the listing.
22	CLEARFIELD CITY FIRE DEPT.	88 E CENTER	CLEARFIELD	U000557856	L	This is not adjacent to the alignment; no release is associated with the listing. The tank onsite is closed.
23	THE HOME DEPOT #5490	1101 SOUTH INDUSTRIAL PARKWAY	CLEARFIELD	1004788887	L	This property did have a LUST (CB Commercial Properties listing); it was closed in 1996, and the property has an NFA determination. Based on the location of the former tanks and the NFA, there is a low chance of contamination having migrated to the Project alignment.
24	UNIT DISTRIBUTION OF UTAH	1051 SOUTH INDUSTRIAL PARKWAY	CLEARFIELD	U003090806	L	No release is associated with this listing. The tank onsite is closed.
25	ATK SPACE SYSTEMS LLC CLEARFIELD, ACCE FACILITY	1051 SOUTH INDUSTRIAL PARKWAY	CLEARFIELD	1014401912	L	No release is associated with this listing. It is close to the alignment, on the west side of the railroad tracks.
26	FLYING J	465 S STATE ST	CLEARFIELD	U000812717	L	This is not adjacent to the alignment; the LUST was closed in 1995; the tanks were decommissioned.

Table 1. List of Evaluated Sites (continued)

SITE NO	FACILITY NAME	STREET ADDRESS	CITY	EDR ID	RANKING	RANKING RATIONALE
27	MORGAN PAVEMENT	625 S MAIN	CLEARFIELD	A100320773	L	This is not adjacent to the alignment; ASTs are currently in use; no release is associated with this listing.
28	AMERICOLD CORPORATION	755 EAST 1700 SOUTH	CLEARFIELD	1000472456	L	This is south of the study area; no release is associated with this listing.
29	SUNSET # 54	273 W 1300 N	SUNSET	U003090812	L	This is not adjacent to the alignment; the LUSTs were closed in 1995 and 2004.
30	ASSOCIATED PIPING AND ENG, NAPTEC INC.	851 SOUTH FREEPORT IND PKWY	CLEARFIELD	1010335286, 1010336923, U003149362	L	The LUST was closed in 1992 with an NFA letter. According to UDEQ documents, the tanks were located on the far western corner of the property and were not adjacent to the railroad (and Project alignment). There would be a low risk to the Project.
31	7-ELEVEN # 35508	712 S STATE	CLEARFIELD	U000557885	L	This is not adjacent to the alignment; the LUST was closed in 2012.
32	MCENTIRE AND HILTON	285 N MAIN ST	CLEARFIELD	U000812724	L	This is not adjacent to the alignment.
33	7-ELEVEN 1890-20500	545 S STATE ST	CLEARFIELD	U000557846	L	This is not adjacent to the alignment; no release is associated with the listing.
34	CLEARFIELD CITY OFFICES	140 E CENTER	CLEARFIELD	U000812711	L	This is not adjacent to the alignment; the LUST was closed in 1992.

Figure 2. Map of Evaluated Sites, 1 of 2

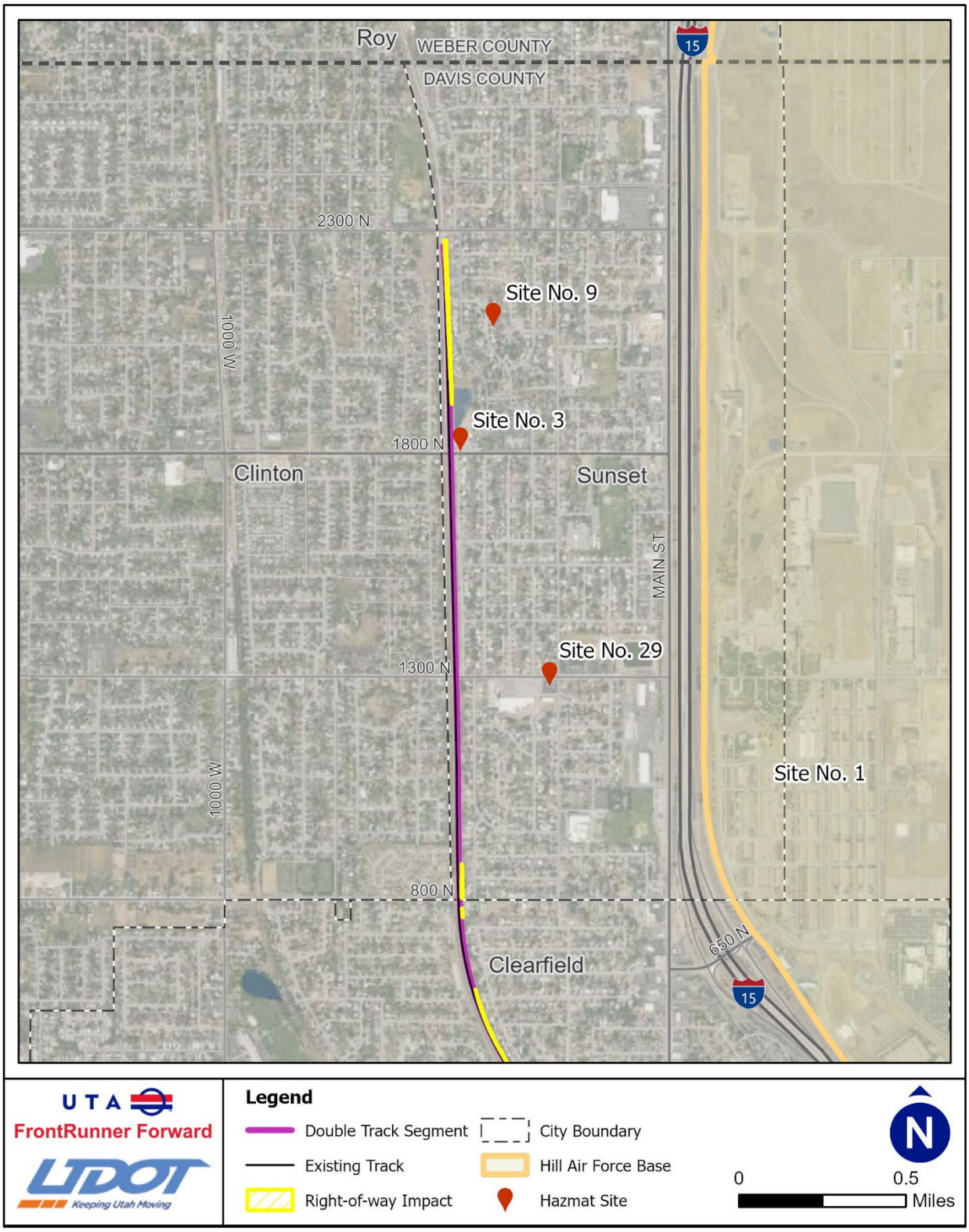


Figure 2. Map of Evaluated Sites, 2 of 2

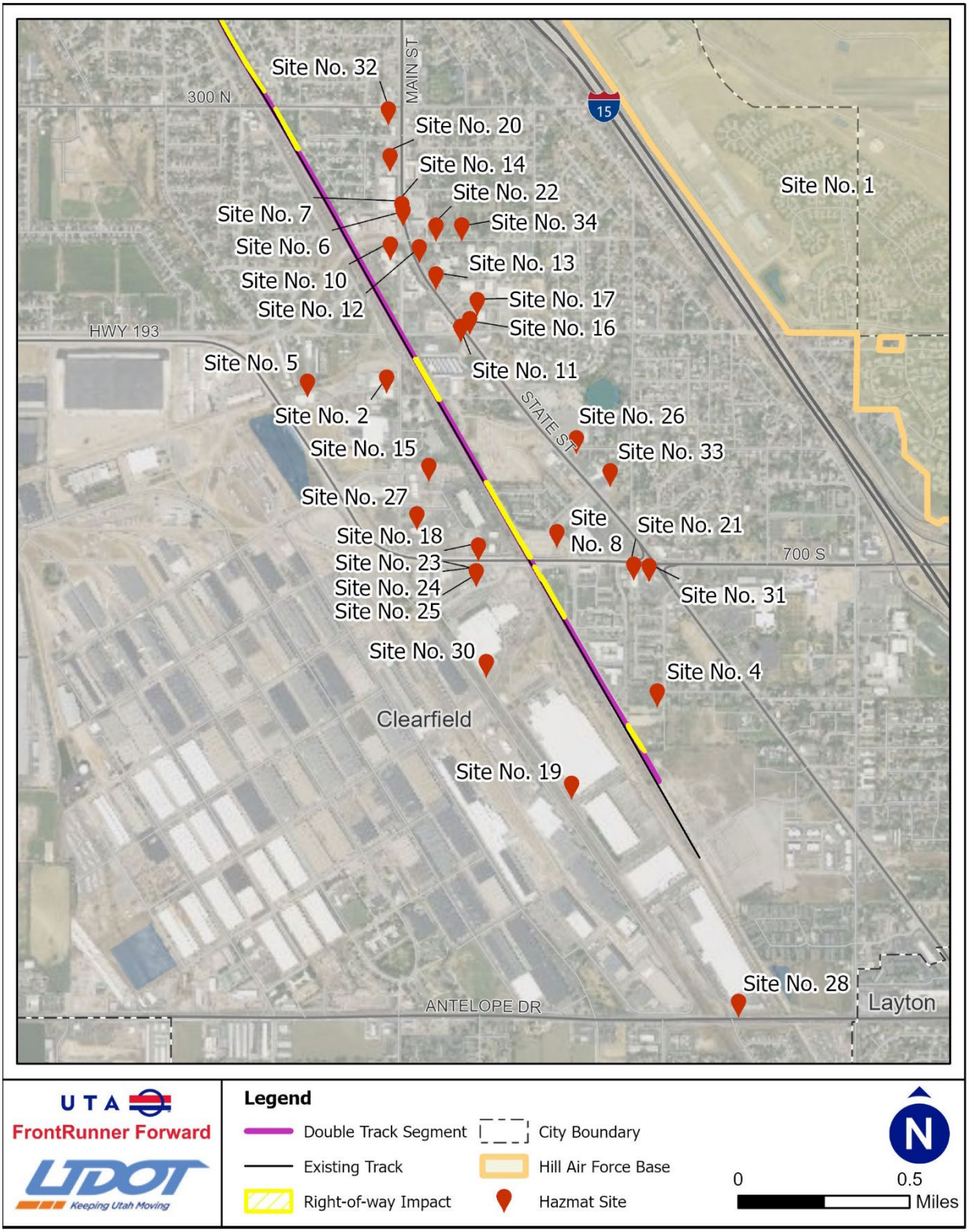


Figure 3. Hazardous Materials Site Detail, 1 of 3

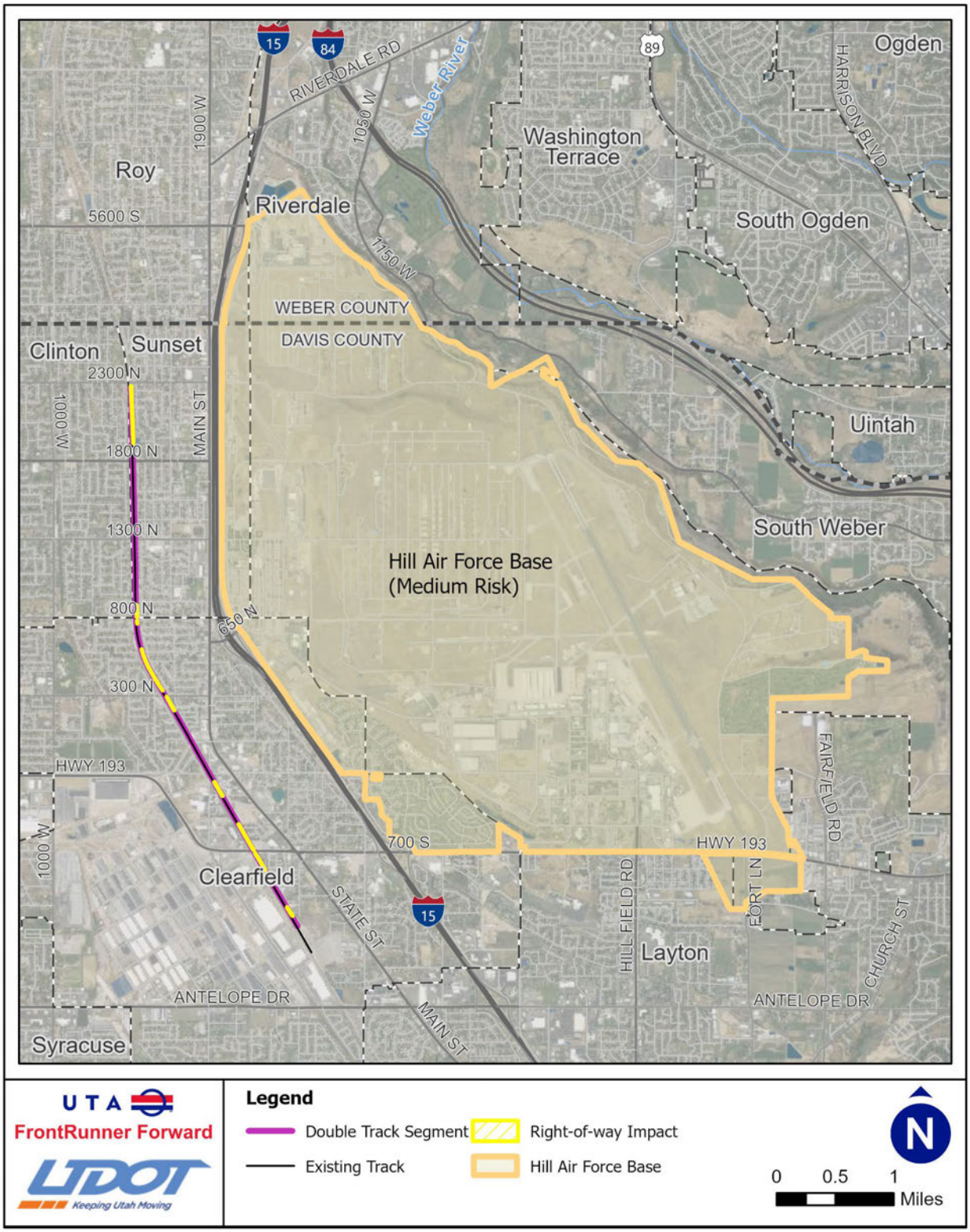


Figure 3. Hazardous Materials Site Detail, 2 of 3

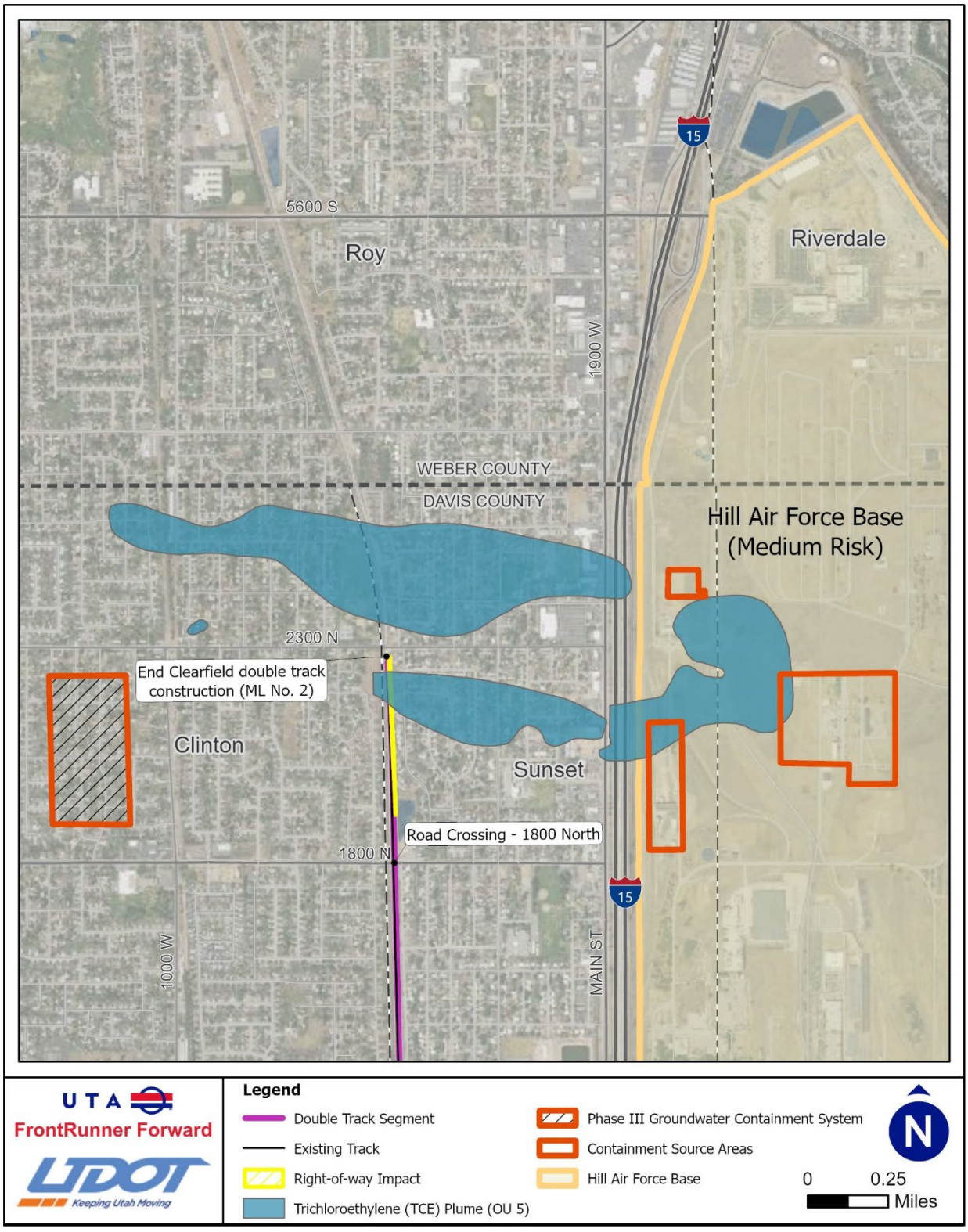


Figure 3. Hazardous Materials Site Detail, 3 of 3

Medium Risk

Hill Air Force Base – Operable Unit 5

Hill Air Force Base (the Base) is a Superfund Site listed on the National Priority List. It is located approximately 0.6 mile to the east of the entire Project alignment. The site consists of 16 areas (OUs) that include multiple source/investigation areas such as landfills, chemical and waste pits, fire training areas, golf courses, dumps, spills, and groundwater contaminant plumes. The groundwater contamination plume known as OU5 originates on-the Base and extends to the west, crossing the far northern portion of the Project alignment. OU5 includes two shallow dissolved-phase TCE groundwater contaminant plumes from two source areas consisting of a sump in a locomotive service and maintenance facility that began operations in 1940 and is presently active and a small arms repair complex and a former wastewater treatment plant. Additional chemicals of concern present in the groundwater include volatile organic compounds (VOCs), 1,1,1-TCA, tetrachloroethene (perchloroethylene [PCE]), 1,1-dichloroethene (DCE), cis-1,2-DCE, vinyl chloride, and carbon tetrachloride; the chemical of concern for the soil in the area is arsenic.

Extensive subsurface investigations and plume delineation have been completed at the site. Remedial actions at the site have been ongoing since 2006. The actions include a Phase I Aeriation Curtain System, a Phase III Groundwater Containment System, and monitoring and institutional controls restricting the use of shallow groundwater in the area of OU5 (Tetra Tech 2018). One of the groundwater containment systems is located on a property west of the Project alignment (Davis County Tax Lot Parcel ID: 132630020). Based on the depth of groundwater (expected to be at least 15 feet below ground surface (bgs)), the extensive remediation currently underway, and the low likelihood of encountering groundwater contamination in the area of the delineated plume where it crosses the Project alignment, the site is classified as medium risk in this hazardous materials assessment. Acquisition status for the Clearfield to Roy segment has not been finalized as of the submittal date of this draft report.

Hill Air Force Base – Operable Unit 10

An additional OU from the Hill Air Force Base Superfund Site, listed on the National Priority List and located east of the Project alignment, has some potential to have impacted the Project alignment. The groundwater contamination plume known OU10 originates on-the Base and extends to the west, close to the Project alignment, where it crosses W 800 North Street. OU10 includes one shallow TCE groundwater contaminant plume that extends to an adjacent west property of the Project alignment, south of W 800 North Street, and one deep TCE groundwater contamination plume that extends to the Project alignment (but does not cross it), north of W 800 North Street. OU10 originates from industrial activity beginning in the 1940s, including cleaning, processing, and finishing small arms, artillery, and optical equipment using chemicals that contained TCE and PCE, as well as other oils, solvents, and solutions. PCE contamination plumes do not extend to the Project alignment according to figures from the 2018 Tetra Tech 5-Year Review (Tetra Tech 2018).

Extensive subsurface investigations and plume delineation have been completed at the site. Remedial actions at the site have been ongoing since the early 2000s, including the removal of contaminated soil, *in situ* treatment for mass removal by biodegradation, monitored natural attenuation to monitor plume stability/attenuation, and institutional controls to prevent groundwater exposure until maximum contaminant levels are achieved. Based on the depth of groundwater (expected to be at least 15 feet bgs), the extensive remediation currently underway, and the low likelihood of encountering

groundwater contamination in the area of the delineated plume where it crosses the Project alignment, the site is classified as medium risk in this hazardous materials assessment.

Historical Aerial Photographs

Historical aerial photographs of the study area were obtained from publicly available sources (USG 2022). Aerial photographs were examined for the years 1953, 1965, 1971, 1986, 1987, 1988, 1993, 1997, 2009, 2011, 2014, and 2018. Observations are listed below.

- 1953: [redacted] The Great Salt Lake is visible to the far east of the Project area. The Wasatch Mountains are visible to the west of the Project area. Hill Air Force Base is visible to the east of the Project alignment, and the large industrial complex now known as the Freeport Center is visible to the west of the southern portion of the Project alignment.
- 1965-1993: Development along I-15 and the railroad is visible in the Project area.
- 2006-2018: The UTA Frontrunner line runs along the railroad. Construction began in 2005 and was completed in 2008 (UTA 2017). Residential, commercial, and industrial developments are visible in the area.

No additional sites of environmental concern or evidence of adverse conditions associated with land use were identified through the historical aerial photograph review.

Sanborn Maps

Sanborn maps were not available for any period within the Project area.

EDR Proprietary Databases

Four sites identified in the EDR Historical Auto database were located within 0.125 mile of or adjacent to the Project alignment. All of these sites were either far enough outside of the Project alignment so that impacts to the Project would neither be expected nor associated with sites listed in the regulatory databases and reviewed during that process.

Three sites within 0.125 mile of the Project alignment were listed in the EDR Historical Cleaners database. None of these sites was associated with a database that would indicate a release to the subsurface. Inclusion in the EDR Historical Cleaners database alone would not warrant the site being noted as an environmental concern.

Potential Impacts

Many potential impacts and mitigation measures for hazardous materials are similar for all construction projects. This Project will involve relatively minor amounts of excavation to accommodate grading, utilities, and track construction. Construction impacts are considered short term compared to the lifespan of the completed Project. Such impacts would end upon construction completion. Potential construction and environmental effects related to the Project are discussed below.

Construction Impacts

The hazardous materials analysis considered direct impacts of activities associated with the Project construction. The analysis considered the impacts to human health and the environment as a result of

possible release of contaminants or alteration of contaminant migration pathways during construction activities, as well as the effects of existing contaminated sites.

Based on the developed nature of the Project area there would be a potential for unknown or unidentified contamination in the subsurface (soil or groundwater) to be encountered during Project construction activities. Unanticipated contamination could put workers at risk and could cause delays and costs not accounted for in the Project schedule and budget.

Two medium-risk sites were identified during the regulatory database review. These sites would have some potential for impacts on construction depending on the location of excavation associated with grading and utility placement.

Excavation in the areas near the contamination plumes from the Hill Air Force Base OU5 and OU10 could potentially include encountering contamination in groundwater (TCE or PCE) at relatively shallow depths. If groundwater were not present in the shallow excavation expected for this area, there would remain some potential (expected to be low to moderate) for vapors associated with residual hazardous materials (TCE or PCE) in groundwater to impact deeper excavations and workers in the vicinity.

Mitigation

Unexpected residual soil and groundwater contamination might be encountered during construction activities in portions of the Project alignment footprint. To mitigate potential impacts from all potential hazardous material sites, UTA would perform a level of environmental due diligence appropriate to the size and presumed past use at any properties in the study area before they were acquired. UTA might seek certain legal protections as part of the real property acquisition process to reduce its legal and financial risk.

If environmental concerns were to be identified through the initial due diligence process, or if a property being acquired would have previously been identified as having releases of hazardous materials or existing contamination, the property might be subject to a subsurface investigation to determine the existence of and, if present, the nature and extent of contamination at the site. UTA might be responsible for the remediation of any contaminated soil and groundwater on properties that it would acquire, including that which would be previously unknown and found during construction. To the extent practicable, UTA would also limit construction activities that might encounter contaminated groundwater or soil.

Based on the due diligence process, plans for the mitigation, handling, and disposal of contaminated media and hazardous construction debris would be developed on a site-by-site basis in conjunction with including the appropriate regulatory agencies, if deemed necessary. A Project-wide contaminated media management plan (CMMP) might also be developed and implemented. The CMMP would be expected to cover most minor encounters with contaminated soil or groundwater.

Mitigation related to construction in the area of the OU5 plume, and, potentially, the OU10 plume, would likely include a CMMP, work area air monitoring in excavations, and collection of groundwater samples if groundwater were encountered in deeper excavations in this area. Air and water results would aid in determining proper personal protective equipment for workers and water disposal options if dewatering were required.

Additionally, hazardous substances and petroleum products used during construction, such as fuels, paints, solvents, and other chemicals, would be managed and stored per the contractor's pollution control plan. Best management practices (BMPs) would be followed to reduce the risk of spills, leaks, or other releases during construction activities. These BMPs could include the following:

- Fueling, maintenance, and cleaning in contained areas (berms, etc.)
- Minimization of the production or generation of hazardous materials
- Appropriate labeling and storage of hazardous waste per federal regulations
- Designated hazardous waste storage away from storm drains or surface water
- Recycling of materials (used oil- and water-based paint) as appropriate
- Handling any potential spills of hazardous materials in conformance with applicable Material Safety Data Sheets.

Conclusions

As described above, multiple sites with confirmed releases of hazardous materials or petroleum hydrocarbons to the subsurface are located near the study area. After evaluation, most of the sites were determined to be of low risk to the Project. Two sites, both part of the Hill Air Force Base Superfund NPL Site, were classified as medium risk to the Project. Depending on precise excavation locations and depths determined during design, these two areas of the Project alignment might require some amount of planning and mitigation to reduce risk to the Project construction and Project workers. Additionally, because of the institutional controls in place and the ongoing remediation efforts of Hill Air Force Base Superfund Site, coordination with the EPA and UDEQ might be required.

The Project management team would comply with hazardous materials regulatory requirements associated with construction. To the degree possible, the extent of contamination at a site with known contamination should be verified prior to construction to minimize exposure to hazardous materials. Coordination with the site cleanup manager and agencies could help to ensure that the Project would comply with site-specific cleanup and disposal requirements.

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Attachment 7:
North of Clearfield Double Track Project
Aquatic Resources Delineation Report

FrontRunner Forward Program – North of Clearfield Double Track Project: Aquatic Resources Delineation Report

Prepared for
Utah Transit Authority

April 2023

Prepared by
Parametrix

FrontRunner Forward Program – North of Clearfield Double Track Project: Aquatic Resources Delineation Report

Prepared for

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ACRONYMS AND ABBREVIATIONS

FAC	facultative
FACW	facultative wetland
GIS	geographic information system
GPS	global positioning system
HGM	hydrogeomorphic
NHD	National Hydrography Dataset
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OBL	obligate
OHWM	ordinary high water mark
PEM	palustrine emergent
PSS	palustrine scrub-shrub
PWS	Professional Wetland Scientist
UP	Union Pacific
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
UTA	Utah Transit Authority

EXECUTIVE SUMMARY

This aquatic resource delineation for the FrontRunner Forward Program – North of Clearfield Double Track Project was conducted in accordance with the 1987 Corps of Engineers *Wetland Delineation Manual* (Environmental Laboratory 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008). This delineation was also conducted in accordance with the *2008 Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Lichvar and McColley 2008).

Nine wetlands totaling 0.54 acre were identified within the study area for the FrontRunner Forward Program – North of Clearfield Double Track Project. The study area is 81 acres in size and 3.6 miles in length, running along the existing single-track FrontRunner commuter rail line from the FrontRunner Clearfield Station to the 2300 North at-grade crossing in Davis County, Utah. The entire study area was visited, and all wetlands were formally delineated in the field using a submeter Trimble DA2 Catalyst Global Navigation Satellite System receiver. These wetlands are primarily linear features located in depressions paralleling the rail track and are classified as freshwater palustrine emergent (PEM) and palustrine scrub-shrub (PSS) aquatic features (Cowardin et al. 1979). The wetlands are small, are of lower quality, and are fragmented within the study area.

1. INTRODUCTION

The Utah Transit Authority (UTA) is proposing to construct a new double-track segment along approximately 3.6 miles of existing single track FrontRunner commuter rail line from the FrontRunner Clearfield Station at the south end of the alignment to the 2300 North at-grade crossing at the north end in Davis County, Utah (see Figure 1). This segment runs [redacted] The Project would improve reliability and reduce delays of the FrontRunner service.

The purpose of this report is to identify and describe aquatic resources within the study area and provide their anticipated jurisdictional status. The study area includes the UTA owned right-of-way within the alignment section.

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2. LOCATION

The study area falls within the municipal boundaries of Clearfield, Clinton, and Sunset, Utah. It is located approximately 4.5 miles east of Great Salt Lake and approximately 0.5 mile west of I-15. The study area is 81 acres in size and is located in portions of Sections 26 and 35 in Township 5 North, Range 2 West as well as Sections 01, 02, and 12 in 4 North, Range 2 West (USGS 2020). The study area is along existing rail tracks, and the surrounding land is developed, primarily with a range of residential types mixed with some commercial and mixed commercial/residential uses.

2.1 Driving Directions

From downtown Salt Lake City, travel 27 miles on I-15 North and take exit 335 UT-103 W/E 650 N in Clearfield. Take Main Street to West 2300 North to reach the north end of the study area. The study area extends south to the Frontrunner Clearfield Station.

3. METHODS

3.1 Review of Existing Information

Prior to conducting field assessments Parametrix wetland biologists reviewed the following existing background information:

- United States Geological Survey (USGS) 7.5-minute quadrangle survey maps for Clearfield and Roy (USGS 2020)
- USGS National Hydrography Dataset (NHD) (USGS 2022)
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA, NRCS 2022a)
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) online interactive mapper (USFWS 2022)

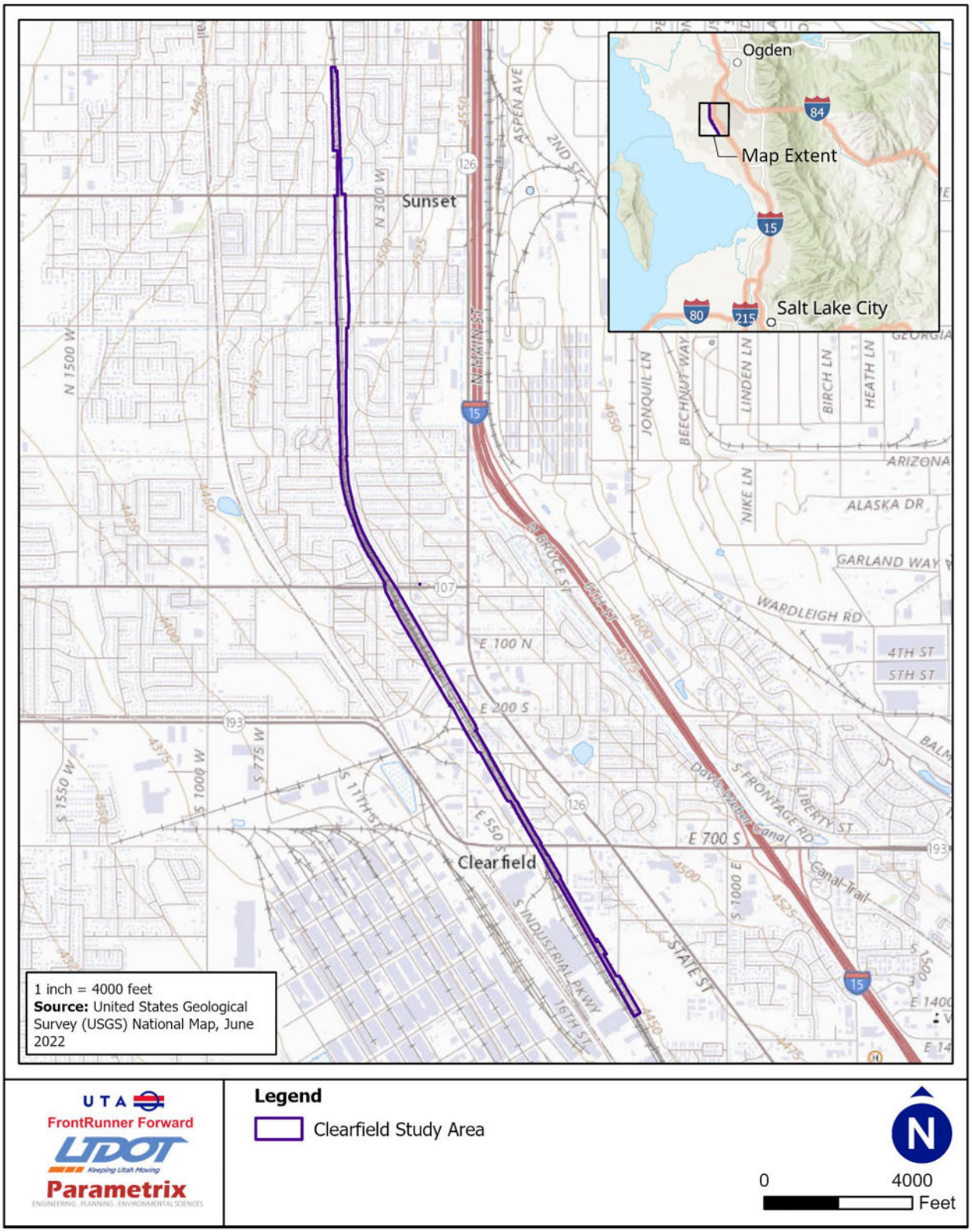

Figure 1. Vicinity Map

- Aerial photography of the study area (Google Earth 2022)
- Final Environmental Impact Assessment and 4(f) Evaluation for Weber County to Salt Lake City Commuter Rail Project (UTA 2005)

Following the review of existing information, Parametrix biologists conducted a field assessment of aquatic resources within the study area. A field reconnaissance assessment was conducted by Kaylee Moser, Professional Wetland Scientist (PWS) on March 13 to 15, 2022. The formal wetland delineation was conducted by two wetland scientists, Kaylee Moser, PWS, and Irina Lapina, PWS, on October 12 and October 19, 2022. All boundaries and sample plot locations were recorded using a sub-meter Trimble DA2 Catalyst Global Navigation Satellite System receiver. Data was collected using this global positioning system (GPS) receiver with the ArcGIS Field Map application containing base condition mapping layers. Collected data was incorporated into a geographic information system (GIS) for analysis.

3.2 Wetland Identification and Delineation

The methods specified in the *Corps of Engineers (Corps) Wetlands Delineation Manual* (Environmental Laboratory 1987) and indicators specified in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008) were used by project biologists to delineate on-site wetlands. Delineated wetlands were classified according to the USFWS *Classification of Wetlands and Deepwater Habitats of the United States* (FGDC 2013; Cowardin et al. 1979). Hydrogeomorphic (HGM) classifications were assigned to wetlands using methods established in *A Hydrogeomorphic Classification System for Wetlands* (Brinson 1993).

Wetlands are defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. An area must have at least one positive indicator of wetland vegetation, soils, and hydrology to be considered a wetland. Wetland determination data forms were completed for each wetland (Appendix A).

3.2.1 Vegetation

The dominant plants and their wetland indicator status were evaluated to determine if the vegetation was hydrophytic. Hydrophytic vegetation is generally defined as vegetation adapted to prolonged saturated soil conditions. To meet the hydrophytic vegetation criterion, more than 50 percent of the dominant plants must be facultative (FAC), facultative wetland (FACW), or obligate (OBL), based on the plant indicator status.

Scientific and common plant names follow generally accepted nomenclature. Plant names are consistent with the PLANTS Database (USDA, NRCS 2022b) and the National Wetland Plant List (USACE 2020). During the field investigations, dominant plant species were observed and recorded on data forms for each sampling point (Appendix A). The National Wetland Plant List was also used to assign plant indicator status for observed plant species.

3.2.2 Soils

Soils were examined by excavating sample plots to a depth of 16 inches or more to observe soil profiles, colors, and textures. Munsell color charts (Munsell 2015) were used as objective standards to describe soil colors.

3.2.3 Hydrology

The study area was examined for evidence of hydrology. An area is considered to have wetland hydrology when soils are ponded or saturated consecutively for 12.5% of the growing season.

In the study area, the growing season as determined using the Bountiful Bench weather station is generally 212 days long and lasts from April 4 to November 2 (ACIS 2022). Therefore, ponding or saturation must be present for approximately 26 consecutive days at 28°F or warmer within the growing season. This aquatic resource delineation was conducted late in the growing season. According to the Bountiful Bench weather station, precipitation was within the normal range for the 3 months prior to the October field delineation. The study area received 0.16 inch of precipitation in the 2 weeks prior to the field visit and no precipitation 1 week prior to the visit (ACIS 2022). According to the United States Drought Monitor map, the study area is mapped as experiencing severe drought (NIDIS 2022). With 99.39% of Utah experiencing severe drought or worse, Utah Governor Spencer J. Cox issued an Executive Order on April 21, 2022, declaring a state of emergency due to drought (Utah Division of Water Resources 2022). The current drought in Utah began in spring 2020; however, overall Utah has been experiencing "megadrought" conditions for the past 20 years. Due to drought conditions, wetlands that periodically lack indicators of wetland hydrology were encountered. In these situations, biologists followed the protocols listed in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008). The manual states that if wetland hydrology indicators appear to be absent on a site that has hydrophytic vegetation and hydric soils, no evidence of hydrologic manipulation, and the region has been affected by drought, then the area should be identified as a wetland.

3.3 Waters of the U.S. Ordinary High Water Mark Assessment

The study area was examined for evidence of streams using the definitions, methods, and standards established in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (Lichvar and McColley 2008) and the definition of the OHWM in the Clean Water Act in 33 CFR Part 328.3.

3.4 Jurisdictional Assessment

Delineated aquatic resources were evaluated for potential hydrologic or tributary connections between each wetland and traditional navigable waters (TNWs). The final ruling of the "Revised Definition of 'Waters of the United States'" (EPA and USACE 2022) took effect on March 20, 2023. However, in light of preliminary injunctions as published on April 12, 2023, the Environmental Protection Agency (EPA) and USACE are interpreting "waters of the United States consistent with the pre-2015 regulatory regime in 26 States, including Utah, until further notice". Therefore, potential jurisdictional determination of delineated aquatic resources was evaluated against both rules, the Revised Definition of Water of the U.S. (EPA and USACE 2022) and the Waters of the U.S. (2008 Rapanos decision, EPA 2008). Biologists reviewed USGS 7.5-minute topographic quadrangle maps, NWI map data, Google Earth imagery, and the NHD to evaluate potential jurisdiction.

4. EXISTING CONDITIONS

4.1 Landscape Setting

The study area is approximately 81 acres in size and is located within Davis County, Utah. The entirety of the study area was field verified during the aquatic resources assessment.

The surrounding land use is a mix of single-family residences, commercial and industrial businesses, and [redacted] UTA Frontrunner rail line, and Clearfield Station. The I-15 highway corridor is 0.66 mile from the study area, and directly east of I-15 is the Hill Air Force Base. Prior to development, the surrounding land was largely used for agriculture purposes. The local topography of the study area is a flat valley. The study area is comprised mainly of shallow swale features paralleling the existing railroad tracks and features patches common reed and willow that are regularly maintained by UTA.

The study area is approximately 10 miles east of Farmington Bay within the Great Salt Lake. Howard Slough, which drains into Farmington Bay, is the closest jurisdictional water to the study area (approximately 3.5 miles to the west). According to the NHD, one unnamed underground piped waterway is mapped within the study area north of West 1300 North Street (USGS 2022).

Hydrology inputs into the study area include stormwater runoff from the adjacent railroad tracks and roads. All surface water within the study area either infiltrates locally or is conveyed into stormwater catchment systems.

4.2 Mapped Soils

The USDA NRCS Soil Survey data (2022a) indicate that the study area is underlain by three soil units and are all non-hydric (see Figure within Appendix B):

- Map Unit 1000 – Parleys loam, 0% to 4% slopes
- Map Unit KaB – Kidman fine sandy loam, 1% to 3%slopes
- Map Unit KaC – Kidman fine sandy loam, 3% to 6%slopes

The Parleys loam soil series consists of very deep, moderately well and well-drained soils that formed in lacustrine sediments. This soil series forms on lake terraces, stream terraces, and foothills. In a typical profile, the surface layer (0 to 6 inches) is a loam, underlain with loam (6 to 15 inches), clay loam (15 to 26 inches), and silty clay loam (26 to 33 inches). The most common depth to water table is more than 72 inches, but some soils range from 40 to 72 inches for water table depth (USDA, NRCS 2022a).

The Kidman fine sandy loam soil series consists of very deep, well-drained or moderately well drained soils that formed in alluvium or lacustrine deposits derived from quartzite, sandstone, granite, limestone, and gneiss. This soil series forms on alluvial fans, fan remnants, stream terraces, and lake terraces. In a typical profile, the surface layer (0 to 11 inches) is a fine sandy loam, underlain with fine sandy loam (11 to 17 inches), fine sandy loam (17 to 27 inches), and fine sandy loam (27 to 37 inches). The most common depth to water table is more than 72 inches, but some soils range from 40 to 72 inches for water table depth (USD, NRCS 2022a).

4.3 Previously Mapped Aquatic Resources

According to the NWI, there are no mapped wetlands within the study area (USFWS 2022). The NHD maps one underground pipe water way within the study area (USGS 2022). There are no mapped surface waters within the study area (only one piped waterway near West 1300 North Street). See NWI and NHD figures within Appendix B.

Wetlands within the study area were previously delineated and reported in 2005 for the Weber County to Salt Lake City Commuter Rail Project. Four wetlands (CR-52, CR-51, CR-50, CR-49) were mapped within the study area and are described in the *Final Environmental Impact Assessment and 4(f) Evaluation for Weber County to Salt Lake City Commuter Rail Project*. These wetlands were identified as PSS and PEM wetlands and have been partially or fully impacted by the rail project construction. This previous wetland mapping was used as a planning tool during the field delineation for this Project.

4.4 Delineated Aquatic Resources

4.4.1 Overview

A field reconnaissance assessment was conducted by Kaylee Moser, PWS on March 13 to 15, 2022. The aquatic resources field delineation was conducted by two wetland scientists, Kaylee Moser, PWS, and Irina Lapina, PWS, on October 12 and October 19, 2022. Nine wetlands were delineated within the Clearfield study area. Information on these wetlands is presented in Table 1 and the subsequent sections below. None of the wetlands are used for recreational, commercial, or industrial uses. Figures 2a to 2g display the wetland locations within the study area. Wetland determination data forms are available in Appendix A, supporting maps are in Appendix B, photographs are in Appendix C, and aquatic resource data are in Appendix D.

Table 1. Aquatic Resources within Frontrunner Clearfield Section Study Area

Aquatic Resource Name	Cowardin Class [a]	HGM Class [b]	Latitude/Longitude	Aquatic Resource Size (acre)	Anticipated Jurisdictional Determination*
Wetland CF-01	PSS	Depressional	41.137786106, -112.035399	0.12	Non-jurisdictional
Wetland CF-02	PEM	Depressional	41.136877426, -112.035561	0.02	Non-jurisdictional
Wetland CF-03	PEM	Depressional	41.134665981, -112.0354814	0.08	Non-jurisdictional
Wetland CF-04	PEM	Depressional	41.131859423, -112.0352534	0.04	Non-jurisdictional
Wetland CF-05	PEM	Depressional	41.132120307, -112.0353518	0.19	Non-jurisdictional
Wetland CF-06	PEM	Depressional	41.123717148, -112.0349244	0.03	Non-jurisdictional
Wetland CF-07	PSS/PEM	Depressional	41.118217691, -112.0316524	0.01	Non-jurisdictional
Wetland CF-08	PEM	Depressional	41.114531058, -112.0288163	0.01	Non-jurisdictional
Wetland CF-09	PEM	Depressional	41.113903929, -112.0283496	0.03	Non-jurisdictional

[a] FGDC 2013; Cowardin et al. 1979

[b] Brinson 1993

* All wetlands listed drain into stormwater catchment systems and therefore are not anticipated to be jurisdictional under the "Revised Definition of 'Waters of the United States'(EPA and USACE 2022 or Rapanos Decision (2008).

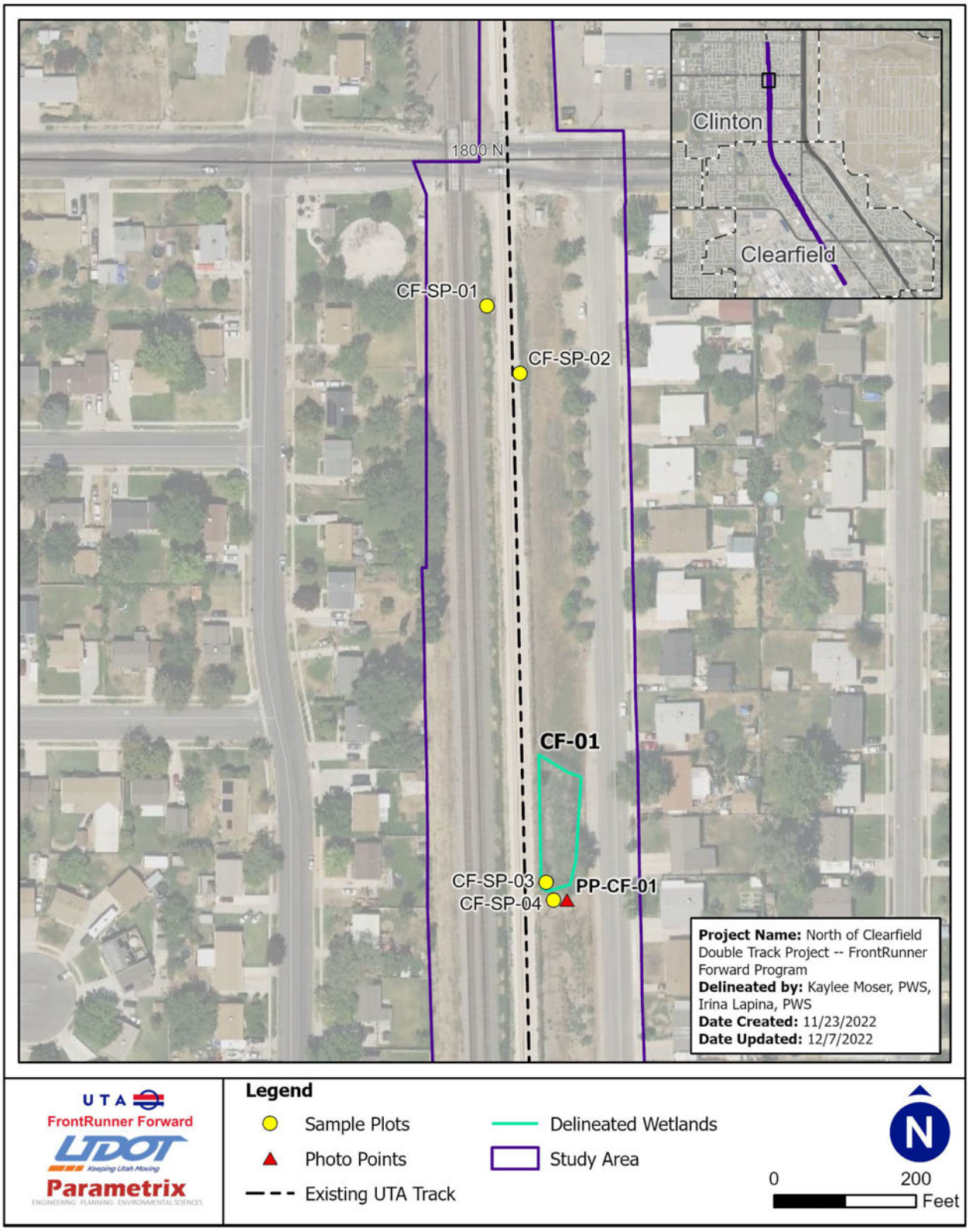

Figure 2a. Wetland Resource Delineation Maps

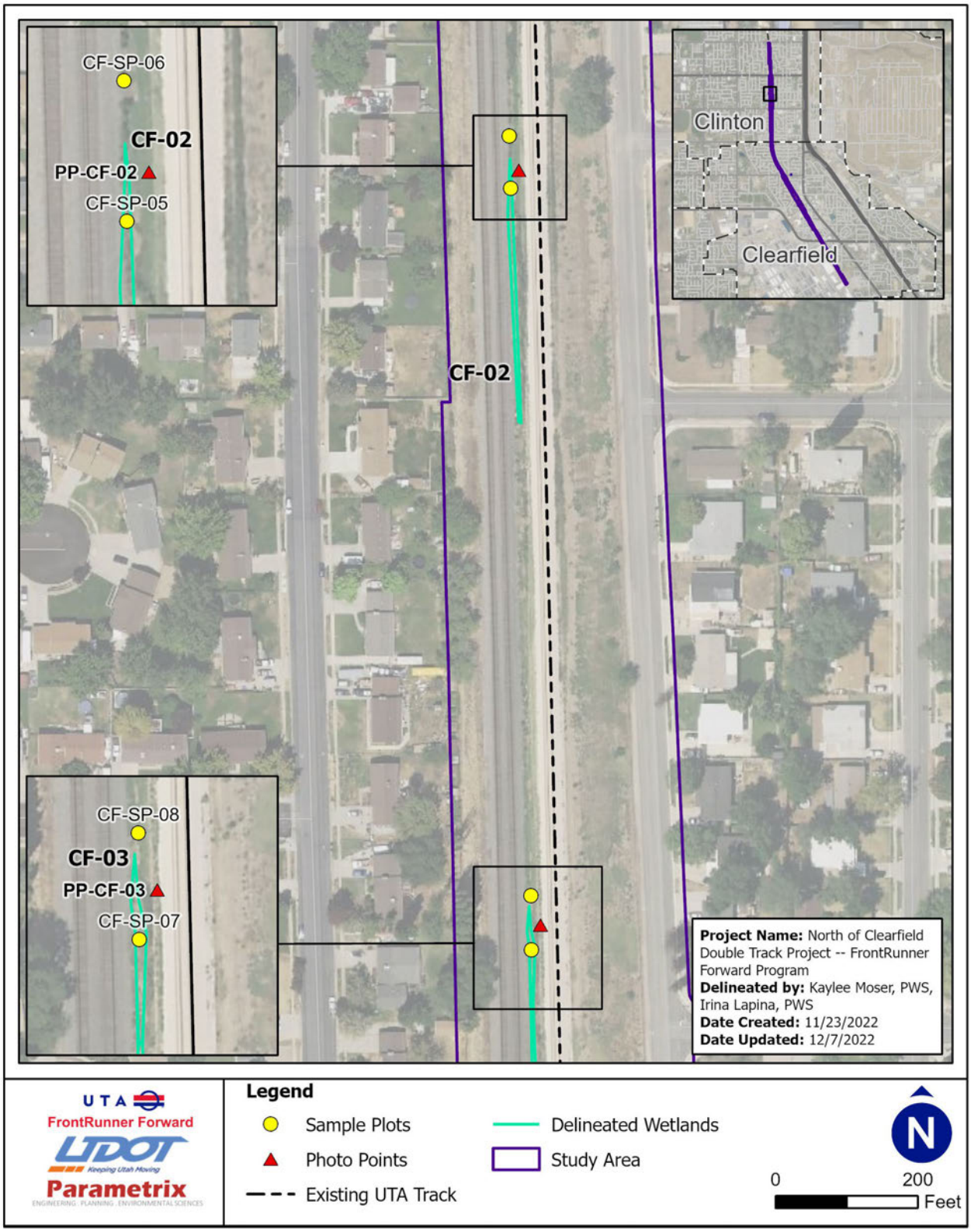

Figure 2b. Wetland Resource Delineation Maps

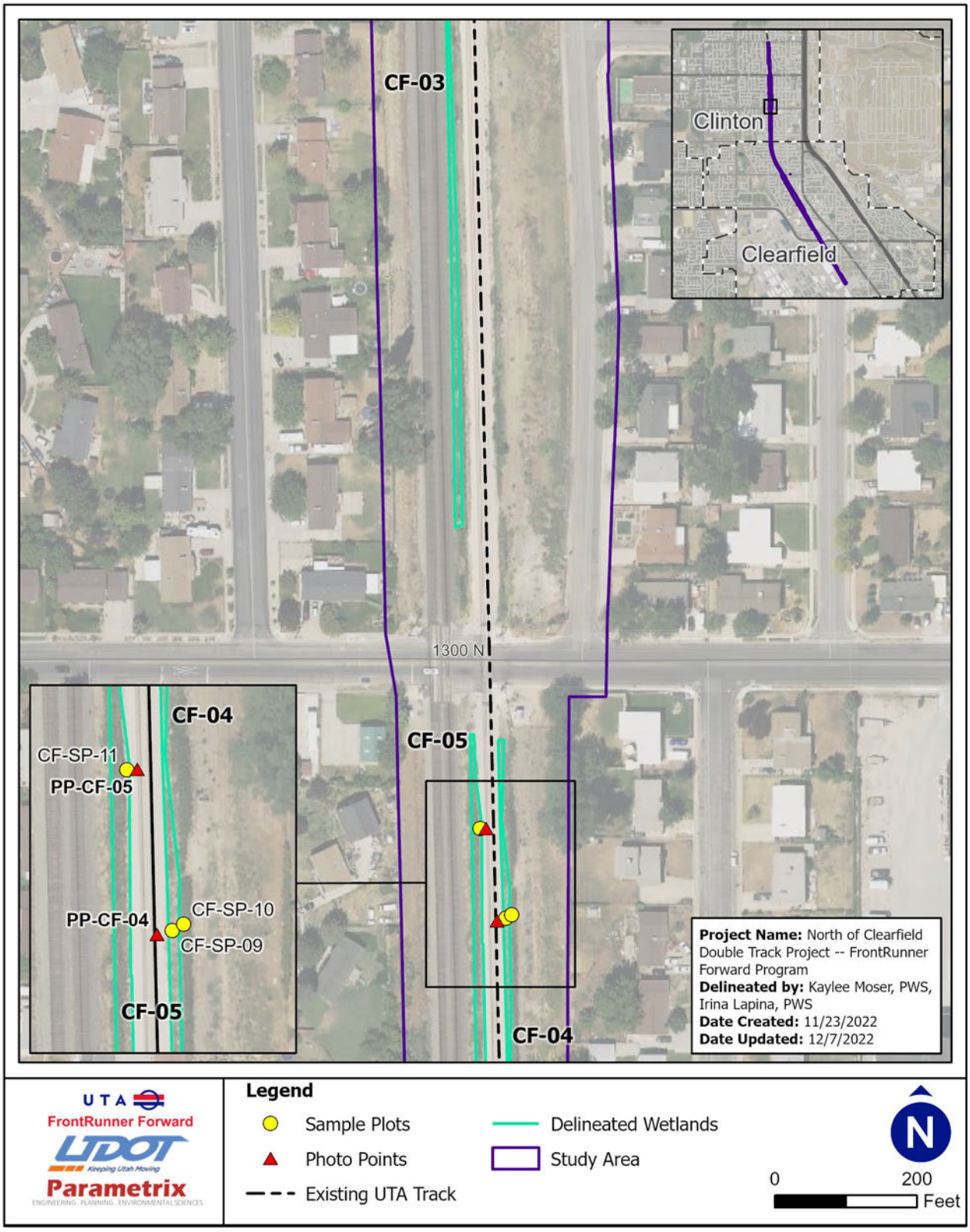

Figure 2c. Wetland Resource Delineation Maps

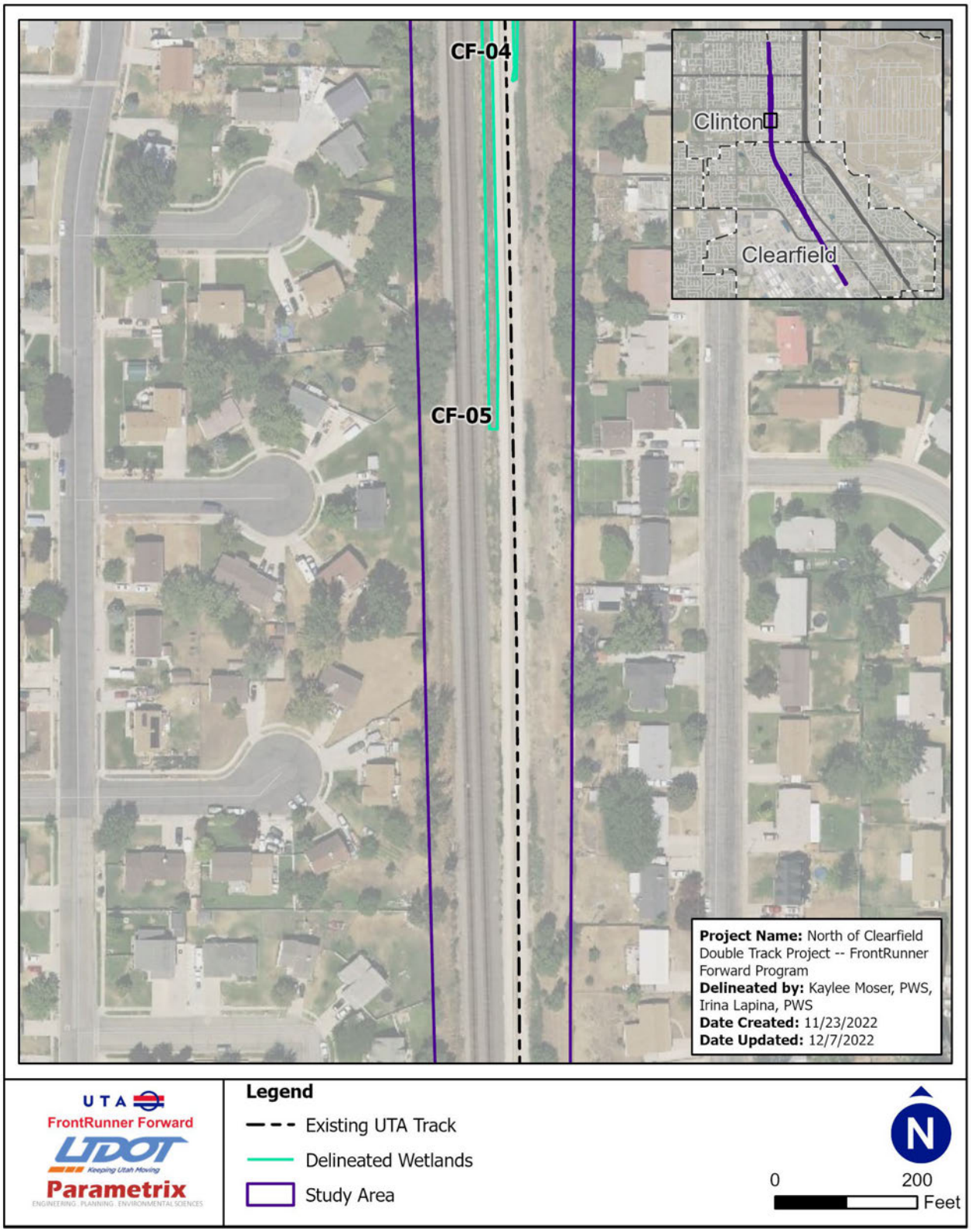

Figure 2d. Wetland Resource Delineation Maps

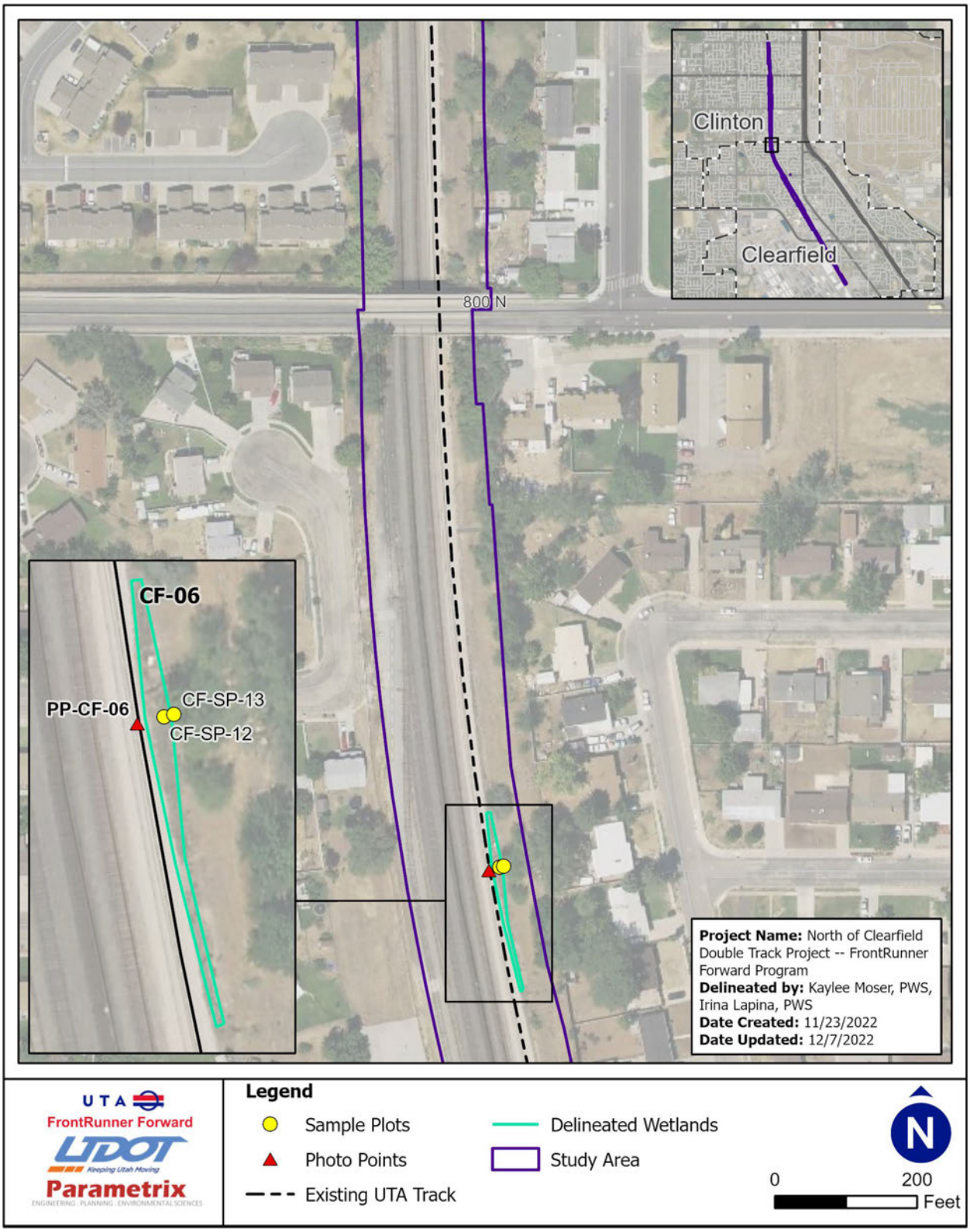

Figure 2e. Wetland Resource Delineation Maps

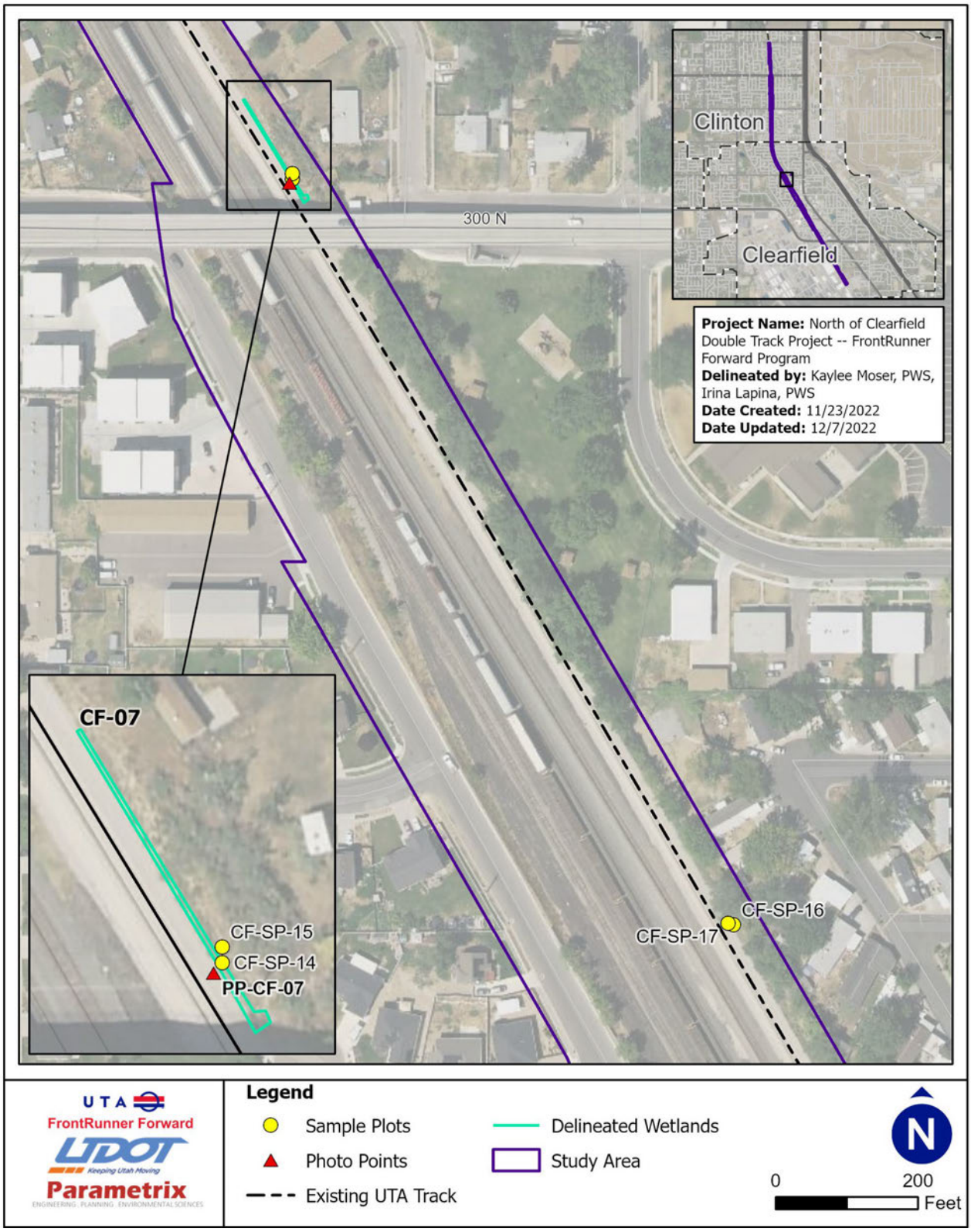

Figure 2f. Wetland Resource Delineation Maps

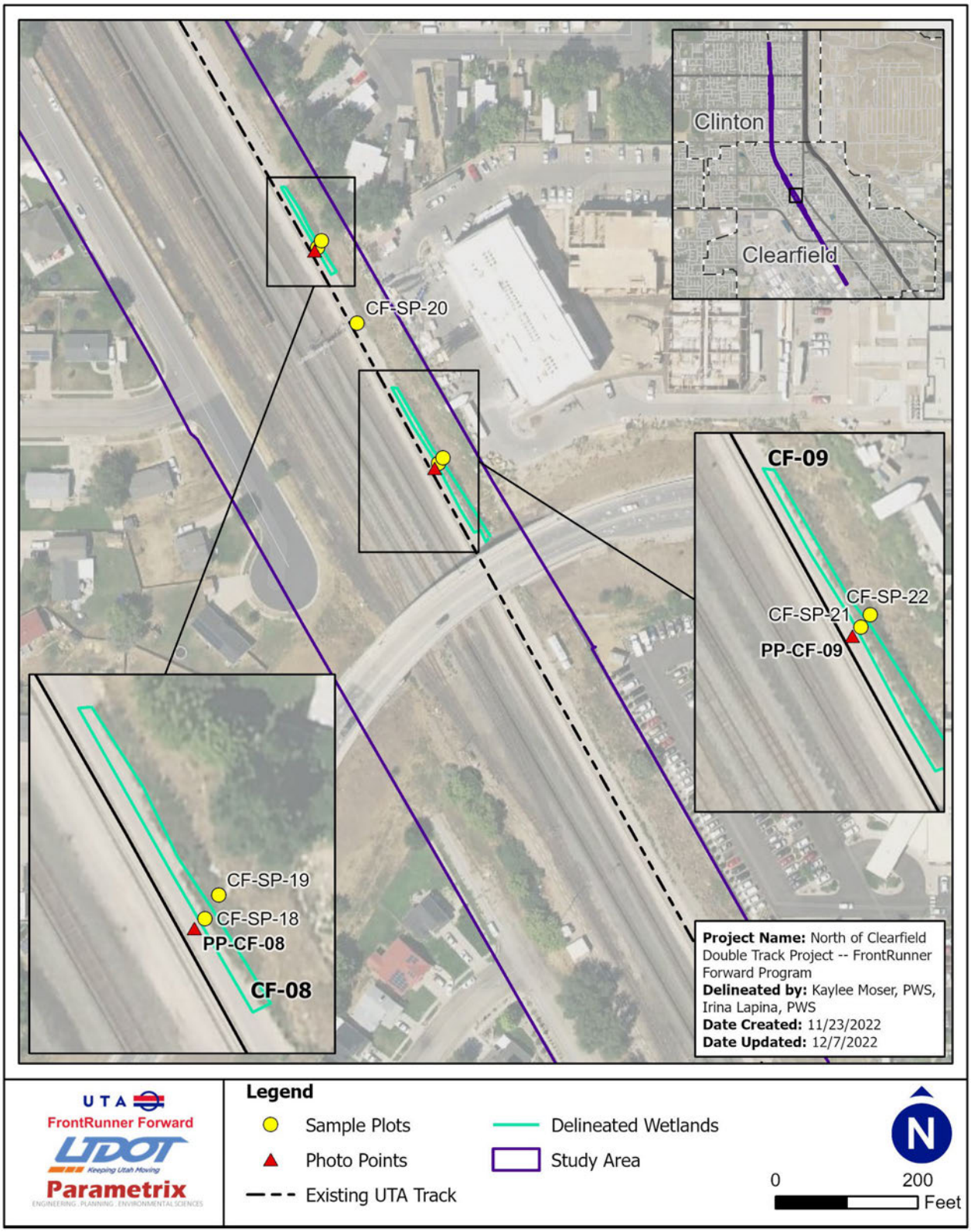

Figure 2g. Wetland Resource Delineation Maps

4.4.2 Wetlands

Wetland boundaries within the study area were delineated based on topography breaks defined by fill prisms, changes in vegetation, and lack of hydric soil indicators. Some swale features adjacent to the UTA tracks had hydrophytic vegetation (dominated by common reed) but featured soils which were too bright or did not contain redoximorphic features and therefore did not meet hydric soil indicators. It is assumed that these areas do not receive adequate hydrology to support wetland conditions. Most of the wetlands identified in the study area are within close proximity to culverts presumed to convey surface water flows into the wetlands.

Wetland CF-01: Wetland CF-01 is located just south of West 1800 North Street within a bowl-like depression east of the UTA track. The wetland receives stormwater inputs and outlets into the swale feature adjacent to the track and drains into the stormwater system. Wetland CF-01 is a PSS wetland vegetated primarily by coyote willow (*Salix exigua*). Soils within Wetland CF-01 met the hydric soil indicator Redox Dark Surface (F6). The soil profile had a sandy loam texture and mixed matrix of 2.5Y 5/3 and 10YR 3/2 with distinct redoximorphic features. No surface water, water table, or saturation was observed during the October 2022 delineation. Wetland hydrology was considered problematic because of drought conditions. In accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*, the area was identified as wetland because hydric soils and hydrophytic vegetation were present (USACE 2008). The wetland boundary was determined by a sharp topographic break, a change to upland vegetation, and upland soil conditions.

Wetland CF-02: Wetland CF-02 is located just south of West 1800 North Street within a narrow strip of vegetation between the UTA and [redacted] tracks. Wetland hydrology is supported by stormwater runoff from the adjacent roads and railroad tracks. A culvert is present at the road crossing north of the wetland and conveys flow into the wetland. Wetland CF-02 is a PEM wetland vegetated primarily by common reed (*Phragmites australis*) and common cattail (*Typha latifolia*). Soils within Wetland CF-02 met the hydric soil indicator Redox Dark Surface (F6). The soil profile had a sandy loam texture and mixed matrix of 2.5Y 5/3 and 10YR 3/2 with distinct redoximorphic features. No surface water, water table, or saturation was observed during the October 2022 delineation. Secondary indicators of wetland hydrology, including sediment deposits (B2) and FAC-Neutral Test (D5), were present. Surface water within the wetland drains south and into the stormwater system.

Wetland CF-03: Wetland CF-03 is located 500 feet south of Wetland CF-02 between the UP and UTA tracks and has the same vegetation, soils, and hydrology characteristics.

Wetland CF-04: Wetland CF-04 is south of West 1300 North Street and is located within a swale directly east of the UTA track. Wetland hydrology is supported by stormwater runoff from the adjacent roads and railroad tracks. A culvert is present at the road crossing north of the wetland and conveys flow into the wetland. Wetland CF-04 is a PEM wetland vegetated primarily by common reed. Soils within Wetland CF-04 met the hydric soil indicator Depleted Below Dark Surface (A11). The top 6 inches of the soil profile had a silty muck texture black 10YR 2/1 matrix color. The second layer was a 10YR 5/2 matrix color with distinct redoximorphic features. Wetland hydrology was considered problematic because of drought conditions.

Wetland CF-05: Wetland CF-05 is located south of West 1300 North Street within a narrow strip of vegetation between the [redacted] and UTA tracks. Wetland hydrology is supported by stormwater runoff from the adjacent roads and railroad tracks. A culvert is present at the road crossing north of the wetland and conveys flow into the wetland. Wetland CF-05 is a PEM wetland vegetated primarily by common reed. Soils within Wetland CF-05 met the hydric soil indicator Depleted Below Dark Surface (A11) and Depleted Matrix (F3). The top 4 inches of the soil profile had a loam texture 2.5Y 3/2 matrix color. The

second layer was 2.5Y 5/2 matrix color with distinct redoximorphic features. No surface water, water table, or saturation was observed during the October 2022 delineation. Oxidized rhizospheres along living roots were observed within the wetland, meeting wetland hydrology indicator C3.

Wetland CF-06: Wetland CF-06 is south of West 800 North and is located within a swale directly east of the UTA track. The wetland surrounds a stormwater culvert outlet. Surface water from the wetland either infiltrates or drains south and into the stormwater system. Wetland CF-06 is a PEM wetland vegetated primarily by common reed and field horsetail (*Equisetum arvense*). Soils within Wetland CF-06 met the hydric soil indicator Redox Dark Surface (F6). The soil profile had a sandy loam texture and black 10YR 2/1 matrix with distinct redoximorphic features. No surface water, water table, or saturation was observed during the October 2022 delineation. Secondary indicators of wetland hydrology, including sediment deposits (B2), drainage patterns (B10), and FAC-Neutral Test (D5), were present.

Wetland CF-07: Wetland CF-07 is north of West 300 North Street and is located within a swale directly east of the UTA track. Wetland hydrology is supported by stormwater runoff from the adjacent roads and railroad tracks. Surface water from the wetland drains south and into the stormwater system. Wetland CF-06 is a PEM/PSS wetland vegetated primarily by common reed and coyote willow. Soils within Wetland CF-07 met the hydric soil indicator Redox Dark Surface (F6). The soil profile had a silt loam texture and 2.5Y 3/2 matrix with distinct redoximorphic features. No surface water, water table, or saturation was observed during the October 2022 delineation. Secondary indicators of wetland hydrology, including sediment deposits (B2) and FAC-Neutral Test (D5), were present.

Wetland CF-08: Wetland CF-08 is north of Center Street bridge and is located within a swale directly east of the UTA track. Wetland hydrology is supported by stormwater runoff from the adjacent roads and railroad tracks. Stormwater flows south through the wetland and drains into the stormwater system. Wetland CF-08 is a PEM wetland vegetated primarily by common reed. Soils within Wetland CF-08 met the hydric soil indicator Redox Dark Surface (F6). The soil profile had a loam texture and 10YR 3/1 matrix with distinct redoximorphic features. No surface water, water table, or saturation was observed during the October 2022 delineation. Oxidized rhizospheres along living roots were observed within the wetland, meeting wetland hydrology indicator C3.

Wetland CF-09: Wetland CF-09 is located 140 feet south of Wetland CF-08. Surface water from Wetland CF-09 flows directly into a culvert at the south end of the wetland, and water flows into a stormwater vault on the west side of the UP track. Wetland CF-07 is a PEM wetland vegetated primarily by common reed. Soils within Wetland CF-08 met the hydric soil indicator Redox Dark Surface (F6). The soil profile had a loam texture and 10YR 3/2 matrix with distinct redoximorphic features. No surface water, water table, or saturation was observed during the October 2022 delineation. Oxidized rhizospheres along living roots were observed within the wetland, meeting wetland hydrology indicator C3. Sediment deposits were also observed within the wetland.

4.4.2.1 Plant Species List

In general, wetland plants were present within shallow swales between the railroad fill prism and fill associated with adjacent residential and commercial buildings. These swales were predominantly vegetated with common reed and coyote willow. Uplands surrounding the wetland swales were vegetated by invasive pastures grasses such as large crab grass (*Digitaria sanguinalis*), crested wheatgrass (*Agropyron cristatum*), and cheatgrass (*Bromus tectorum*).

A list of the wetland and upland plant species observed in the study area and their assigned wetland indicator status is provided in Table 2.

Table 2. Common Plant Species Observed in the Study Area

Wetland Plant Species			
Genus	**Species**	**Common Name**	**USACE Arid West WIS***
Phragmites	*australis*	common reed	FACW
Typha	*latifolia*	common cattail	OBL
Bassia	*scoparia*	Mexican fireweed	FAC
Salix	*exigua*	coyote willow	FACW
Phalaris	*arundinacea*	reed canarygrass	FACW
Tamarix	*Chinensis*	Five-stamen tamarisk	FAC
Equisetum	*arvense*	Field horsetail	FACW
Upland Plant Species			
Genus	**Species**	**Common Name**	**USACE Arid West WIS***
Digitaria	*sanguinalis*	large crabgrass	FACU
Agropyron	*cristatum*	crested wheat grass	NI
Elymus	*trachycaulus*	slender wild rye	FACU
Kickxia	*elatine*	sharp-leaf cancerwort	UPL
Bromus	*tectorum*	cheat grass	NI
Lactuca	*serriola*	prickly lettuce	FACU
Ulmus	*pumila*	Siberian Elm	UPL

* Wetland Indicator Status (WIS):
OBL = occurs in aquatic resources > 99% of time
FACW = occurs in aquatic resources 67% to 99% of time
FAC = occurs in aquatic resources 34% to 66% of time
FACU = occurs in aquatic resources 1% to 33% of time
UPL = occurs in uplands > 99% of time
NI = indicator status not known in this region

4.5 Jurisdictional Assessment

All nine of the wetlands identified within the study area either infiltrate locally or drain into swales paralleling the rail tracks and into stormwater vaults. These wetlands are not adjacent to, nor do they drain into, TNWs or relatively permanent non-navigable tributaries as defined under the 2008 Rapanos decision (EPA 2008). Additionally, none of the wetlands are characterized as having a significant nexus with downstream TNW. Under the "Revised Definition of 'Waters of the United States'" (EPA and USACE 2022), none of the wetlands meet definition of waters of paragraphs (a)(1) to (a)(4), nor do they meet the relatively permanent or significant nexus standard (a)(5). Therefore, these wetlands are not anticipated to be jurisdictional by USACE under either of the two rules.

5. REQUIRED DISCLAIMER

This report documents the investigation, best professional judgment, and conclusions of the investigators. It is correct and complete to the best of our knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters and used at your own risk unless it has been reviewed and approved through an approved or preliminary jurisdictional determination by USACE.

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Appendix A

Wetland Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis | Sampling Date: 10/19/2022
Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-01**
Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 5N2W26NWSE
Landform (hillslope, terrace, etc.): railroad ditch | Local relief (concave, convex, none): concave | Slope (%): None
Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.139460 | Long: -112.035627 | Datum: D NAD 1983 2011
Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Precipitation prior to fieldwork:
According to the Bountiful Bench NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:
CF-SP-01 is within a ditch adjacent to the railroad and between UTA and [redacted] tracks near 1800 N Street and is not wetland.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 2x1m)			
1. *Phragmites australis*	100%	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: 10')			
1. *none*			
2.			
	0% = Total Cover		

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

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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: 0 (A)		0 (B)

Prevalence Index = B/A =

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

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

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

Remarks:

SOIL

Sampling Point: CF-SP-01

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]	[3]Texture	Remarks
0-4	10YR 3/2	100					SiL	
4-16	2.5YR 3/1	100					SiL	

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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 for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No 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:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis | Sampling Date: 10/19/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-02**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 5N2W26NWSE

Landform (hillslope, terrace, etc.): railroad ditch | Local relief (concave, convex, none): concave | Slope (%): <3%

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.139264 | Long: -112.035499 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

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

Precipitation prior to fieldwork:

According to the Bountiful Bench NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

CF-SP-02 is on the east side (UTA side), near 1800 N Street and is not wetland.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Phragmites australis*	100%	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1. *none*			
2.			
	0% = Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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: 0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks:

SOIL

Sampling Point: CF-SP-02

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]	[3]Texture	Remarks
0-2	10YR 3/2	100					L	
2-16	2.5Y 5/3	95	7.5YR 4/6	3	C	M	SaL	

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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 for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No 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:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis | Sampling Date: 10/19/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-03**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 5N2W26NWSE

Landform (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): concave | Slope (%): None

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.137786 | Long: -112.035399 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

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

Precipitation prior to fieldwork:

According to the Bountiful Bench NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

CF-SP-03 is located within Wetland CF-01, a depressional wetland next to a railroad swale near 1800 N Street.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Phragmites australis*	100%	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1. *none*			
2.			
	0% = Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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: 0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks:

SOIL

Sampling Point: CF-SP-03

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]	[3]Texture	Remarks
0-6	2.5Y 5/3	90					SaL	
	10YR 3/2	5	7.5YR 4/6	5	C	M		
6-16	10YR 3/2	60	7.5YR 4/6	5	C	M	SaL	
	2.5Y 5/3	35						

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- X Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X 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** X **No** ___

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

Remarks:

Sample plot 03 has hydrophytic vegetation, hydric soils, and proper geomorphic position on the landscape present. According to the Corps Arid West Regional Supplemental Manual under the "Wetlands that periodically lack indicators of wetland hydrology" section (pg. 102), if wetland hydrology indicators appear to be absent on a site that has hydrophytic vegetation and hydric soils, no evidence of hydrologic manipulation, and the region has been affected by drought, then the area should be identified as a wetland.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis | Sampling Date: 10/19/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-04**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 5N2W26NWSE

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): none | Slope (%): 3-5%

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.137735 | Long: -112.035370 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

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

Precipitation prior to fieldwork:

According to the Bountiful Bench NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

CF-SP-04 is the upland sample for Wetland CF-01. It is located 3 feet higher on fill material adjacent to CF-SP-03.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Phragmites australis*	30%	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1. *none*			
2.			
	0% = Total Cover		

% Bare Ground in Herb Stratum 70% | % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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: 0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks:

SOIL

Sampling Point: CF-SP-04

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]	[3]Texture	Remarks
0-16	2.5Y 4/3	98	10YR 4/4	2	C	M	SaL	

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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 for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No 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:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis | Sampling Date: 10/19/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-05**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 5N2W26NESW

Landform (hillslope, terrace, etc.): railroad ditch | Local relief (concave, convex, none): concave | Slope (%): <3%

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.136877 | Long: -112.035562 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

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

Precipitation prior to fieldwork:

According to the Bountiful Bench NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

CF-SP-05 is the wetland sample for Wetland CF-02, located between UTA and [redacted] tracks near 1800 N Street.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Phragmites australis*	20%	Yes	FACW
2. *Typha latifolia*	20%	Yes	OBL
3. *Bassia scoparia*	15%	Yes	FAC
4. *Digitaria sanguinalis*	10%	No	FACU*
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	65% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1.			
2.			
	0% = Total Cover		

% Bare Ground in Herb Stratum 35% | % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (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: 0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks:

SOIL

Sampling Point: CF-SP-05

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]	[3]Texture	Remarks
0-12	10YR 3/2	80					SaL	mixed matrix
	2.5Y 5/3	15	10YR 4/6	5	C	M/PL		
12-16	2.5Y 5/3	70					SaL	mixed matrix
	10YR 3/2	20	10YR 4/6	10	C	M/PL		

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- X Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X 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** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis | Sampling Date: 10/19/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-06**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 5N2W26NESW

Landform (hillslope, terrace, etc.): railroad ditch | Local relief (concave, convex, none): concave | Slope (%): <3%

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.137030 | Long: -112.035566 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

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

Precipitation prior to fieldwork:

According to the Bountiful Bench NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

CF-SP-06 is located upslope of Wetland CF-02.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Digitaria sanguinalis*	100%	Yes	FACU*
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1.			
2.			
	0% = Total Cover		

% Bare Ground in Herb Stratum 0% | % 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: 1 (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: 0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks:

SOIL

Sampling Point: CF-SP-06

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]	[3]Texture	Remarks
0-2	10YR 3/2	100					SiL	
2-16	10YR 4/4	90					Sa	
	10YR 5/3	9	7.5YR 4/6	1	C	M		

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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 for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No 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:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis | Sampling Date: 10/19/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-07**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 5N2W26SWSE

Landform (hillslope, terrace, etc.): railroad ditch | Local relief (concave, convex, none): concave | Slope (%): <3%

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.134666 | Long: -112.035481 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

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

Precipitation prior to fieldwork:

According to the Bountiful Bench NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

CF-SP-07 is located within Wetland CF-03 near 1800 N Street.

VEGETATION

	Absolute	Dominant	Indicator
Tree Stratum (Plot size: 3x1m)	% Cover	Species?	Status
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Phragmites australis*	100%	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1. *none*			
2.			
	0% = Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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: 0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks:

SOIL

Sampling Point: CF-SP-07

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]	[3]Texture	Remarks
0-8	2.5Y 3/2	60					SiL	
	2.5Y 3/3	40						
8-16	2.5Y 3/2	60	2.5Y 4/2	35	D	M	SiL	
			10YR 4/6	5	C	M		

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- X Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X 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** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis | Sampling Date: 10/19/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-08**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 5N2W26SWSE

Landform (hillslope, terrace, etc.): railroad ditch | Local relief (concave, convex, none): concave | Slope (%): <3%

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.134824 | Long: -112.035484 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

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

Precipitation prior to fieldwork:

According to the Bountiful Bench NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

CF-SP-08 is located upslope of Wetland CF-03.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Phragmites australis*	100%	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1. *none*			
2.			
	0% = Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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: 0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks:

SOIL

Sampling Point: CF-SP-08

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]	[3]Texture	Remarks
0-2	2.5Y 3/2	79	10YR 4/4	1	C	M	SiL	
	10YR 4/3	20						
2-16	2.5Y 3/2	60					SiL	
	10YR 4/3	40						

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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 for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No 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:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis County | Sampling Date: 10/13/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-09**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 5N2W35NWNE

Landform (hillslope, terrace, etc.): railroad ditch | Local relief (concave, convex, none): concave | Slope (%): <3%

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.131859 | Long: -112.035253 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

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

Precipitation prior to fieldwork:

According to the Bountiful Bench, UT NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

CF-SP-09 is located in Wetland CF-04, a narrow swale that drains into a culvert at the north end, near 800 West Street.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Phragmites australis*	100%	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1. *none*			
2.			
	0% = Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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: 0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks:

SOIL

Sampling Point: CF-SP-09

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]	[3]Texture	Remarks
0-6	10YR 2/1	100					Si muck	
6-10	10YR 5/2	95	7.5YR 5/8	5	C	M	Si	

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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**)
- X 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 for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: fill

Depth (inches): 10

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

Remarks:

Muck layer layered over cobble fill. Depleted soils interstitual in fill material.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- X Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- _____ Water Marks (B1) (**Riverine**)
- _____ Sediment Deposits (B2) (**Riverine**)
- _____ Drift Deposits (B3) (**Riverine**)
- _____ Drainage Patterns (B10)
- _____ Dry-Season Water Table (C2)
- _____ Crayfish Burrows (C8)
- _____ Saturation Visible on Aerial Imagery (C9)
- _____ Shallow Aquitard (D3)
- X 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** X **No** _____

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

Remarks:

Sample plot 09 is has hydrophytic vegetation, hydric soils, and proper geomorphic position on the landscape present. According to the Corps Arid West Regional Supplemental Manual under the "Wetlands that periodically lack indicators of wetland hydrology" section (pg. 102), if wetland hydrology indicators appear to be absent on a site that has hydrophytic vegetation and hydric soils, no evidence of hydrologic manipulation, and the region has been affected by drought, then the area should be identified as a wetland.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis County | Sampling Date: 10/13/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-10**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 5N2W35NWNE

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): none | Slope (%): >10%

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.131869 | Long: -112.035229 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes ____ No X

Precipitation prior to fieldwork:

According to the Bountiful Bench, UT NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

CF-SP-10 is upslope of Wetland CF-04. This sample point is approximately 2.5 feet higher in elevation.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Phragmites australis*	100%	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1. *none*			
2.			
	0% = Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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:	0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: CF-SP-10

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]	[3]Texture	Remarks
0-16	7.5YR 4/4	100					Si	

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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 for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No 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:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis County | Sampling Date: 10/13/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-11**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 5N2W35NWNE

Landform (hillslope, terrace, etc.): railroad ditch | Local relief (concave, convex, none): concave | Slope (%): None

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.132120 | Long: -112.035352 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

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

Precipitation prior to fieldwork:

According to the Bountiful Bench, UT NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

CF-SP-11 is located within Wetland CF-05, between UTA and tracks near 800 West Street.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Phragmites australis*	100%	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1. *none*			
2.			
	0% = Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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:	0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks:

SOIL

Sampling Point: CF-SP-11

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]	[3]Texture	Remarks
0-4	2.5Y 3/2	100					L	
4-16	2.5Y 5/2	80	7.5YR 5/8	20	C	M	Si	

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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**)
- X 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 for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No 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** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis County | Sampling Date: 10/19/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-12**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 5N2W35NWSE

Landform (hillslope, terrace, etc.): railroad ditch | Local relief (concave, convex, none): concave | Slope (%): <3%

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.123717 | Long: -112.034924 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No
Hydric Soil Present?	Yes X	No
Wetland Hydrology Present?	Yes X	No

Is the Sampled Area within a Wetland? Yes X No

Precipitation prior to fieldwork:

According to the Bountiful Bench, UT NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

CF-SP-12 is the wetland sample for Wetland CF-06, located near 800 N bridge.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Phragmites australis*	100%	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1.			
2.			
	0% = Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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: 0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: CF-SP-12

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]	[3]Texture	Remarks
0-4	10YR 2/1	60					Gr SaL	mixed matrix
	10YR 4/4	40						
4-16	10YR 2/1	98	10YR 4/6	2	C	M	Gr SaL	

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- X Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X 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** X **No** ___

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

Remarks:

Ponding observed in March 2022.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis County | Sampling Date: 10/19/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-13**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 5N2W35NWSE

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): none | Slope (%): >10%

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.123720 | Long: -112.034909 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

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

Precipitation prior to fieldwork:

According to the Bountiful Bench, UT NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

CF-SP-13 is the upland sample of Wetland CF-06.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *Ulmus pumila*	20%	Yes	UPL
2.			
3.			
4.			
5.			
	20% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Phragmites australis*	80%	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1. *none*			
2.			
	0% = Total Cover		

% Bare Ground in Herb Stratum 20% | % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (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:	0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks:

SOIL

Sampling Point: CF-SP-13

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]	[3]Texture	Remarks
0-4	10YR 3/3	100					Sa	
4-16	7.5YR 4/4	95	7.5YR 4/6	5	C	M	Sa	

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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 for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No 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:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis County | Sampling Date: 10/19/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-14**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 5N2W35SWSE

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): none | Slope (%): >10%

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.118218 | Long: -112.031652 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

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

Precipitation prior to fieldwork:

According to the Bountiful Bench, UT NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

CF-SP-14 is upslope from Wetland CF-07.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *Salix exigua*	5%	Yes	FACW
2.			
3.			
4.			
5.			
	5% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Phragmites australis*	20%	Yes	FACW
2. *Elymus trachycaulus*	40%	Yes	FACU
3. *Bassia scoparia*	20%	Yes	FAC
4. *Agropyron cristatum*	10%	No	NOL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1. *none*			
2.			
	0% = Total Cover		

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (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: 0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks:

SOIL

Sampling Point: CF-SP-14

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]	[3]Texture	Remarks
0-3	10YR 5/3	100					SaL	
3-16	7.5YR 5/4	60					SaL	mixed matrix
	10YR 4/3	40						

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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 for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No 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:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield City/County: Clearfield/Davis County Sampling Date: 10/13/2022
Applicant/Owner: Utah Transit Authority State: Utah Sampling Point: **CF-SP-16**
Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) Section, Township, Range: 4N2W2NENE
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): >10%
Subregion (LRR): (B) Columbia/Snake River Plateau Lat: 41.116054 Long: -112.029955 Datum: D NAD 1983 2011
Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes ____ No X

Precipitation prior to fieldwork:
According to the Bountiful Bench, UT NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:
CF-SP-16 is within a willow/phragmites patch along a hillslope which lacks hydric soils and adequate wetland hydrology.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *Salix Exigua*	50%	Y	FACW
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Phragmites australis*	30%	Yes	FACW
2. *Elymus trachycaulus*	20%	Yes	FACU
3. *Lactuca serriola*	5%	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	55% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1. *none*			
2.			
	0% = Total Cover		

% Bare Ground in Herb Stratum 45% % 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		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A =

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

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: CF-SP-16

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]	[3]Texture	Remarks
0-10	10YR 3/1	10	7.5YR 5/8	5	C	M	L	mixed matrix
	10YR 4/4	85						
10-16	7.5YR 4/4	90						mixed matrix
	7.5YR 7/3	8	7.5YR 5/6	2	C	M	L	

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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 for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No 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:

Remarks:

Slope is greater than 30% and position does not collect or concentrate water.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis County | Sampling Date: 10/13/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-17**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 4N2W2NENE

Landform (hillslope, terrace, etc.): railroad ditch | Local relief (concave, convex, none): concave | Slope (%): None

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.116059 | Long: -112.029974 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes ____ No X

Precipitation prior to fieldwork:

According to the Bountiful Bench, UT NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

Sample Point 17 is in railroad swale feature in common reed and willow patch and lacks hydric soils and adequate wetland hydrology.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Phragmites australis*	95%	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95% = Total Cover		
Woody Vine Stratum (Plot size: 1x1m)			
1. *none*			
2.			
	0% = Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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:	0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Willows are rooted outside swale.

SOIL

Sampling Point: CF-SP-17

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]	[3]Texture	Remarks
0-8	7.5YR 4/3	60					SiCl	mixed matrix
	7.5YR 4/4	40						
8-16	7.5YR 4/3	17	7.5YR 4/6	3	C	M	SiCl	
	7.5YR 4/4	80						

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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 for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: compacted soils

Depth (inches): 8 inches

Hydric Soil Present? Yes ___ No X

Remarks:

Very compact soils along hillslope and swale.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No 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:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis County | Sampling Date: 10/13/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-18**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 4N2W2SENE

Landform (hillslope, terrace, etc.): railroad ditch | Local relief (concave, convex, none): concave | Slope (%): None

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.114531 | Long: -112.028816 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

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

Precipitation prior to fieldwork:

According to the Bountiful Bench, UT NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

CF-SP-18 is located within Wetland CF-08.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Phragmites australis*	100%	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1. *none*			
2.			
	0% = Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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: 0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks:

SOIL

Sampling Point: CF-SP-18

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]	[3]Texture	Remarks
0-16	10YR 3/1	75					L	
	7.5YR 4/3	20	7.5YR 4/4	5	C	M	L	

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X 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** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield City/County: Clearfield/Davis County Sampling Date: 10/13/2022
Applicant/Owner: Utah Transit Authority State: Utah Sampling Point: **CF-SP-19**
Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) Section, Township, Range: 4N2W2SENE
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3-5%
Subregion (LRR): (B) Columbia/Snake River Plateau Lat: 41.114551 Long: -112.028801 Datum: D NAD 1983 2011
Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Precipitation prior to fieldwork:
According to the Bountiful Bench, UT NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:
CF-SP-19 is upslope of Wetland CF-08.

VEGETATION

	Absolute	Dominant	Indicator
Tree Stratum (Plot size: 3x1m)	% Cover	Species?	Status
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Elymus trachycaulus*	40%	Yes	FACU
2. *Bromus tectorum*	20%	Yes	NOL
3. *Agropyron cristatum*	40%	Yes	NOL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1. *none*			
2.			
	0% = Total Cover		

% Bare Ground in Herb Stratum 0% % 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: 3 (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: 0 (A)		0 (B)

Prevalence Index = B/A =

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

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

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

Remarks:

SOIL

Sampling Point: CF-SP-19

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]	[3]Texture	Remarks
0-6	7.5YR 4/4	90					L	mixed matrix
	10YR 3/1	10						
6-16	7.5YR 4/4	90	7.5YR 4/6	5			L	mixed matrix
	10YR 3/1	5						

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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 for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

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

Remarks:

Soil profile is too bright to meet hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No 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:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis County | Sampling Date: 10/13/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-20**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 4N2W2SENE

Landform (hillslope, terrace, etc.): railroad ditch | Local relief (concave, convex, none): concave | Slope (%): <3%

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.114312 | Long: -112.028664 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

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

Precipitation prior to fieldwork:

According to the Bountiful Bench, UT NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

CF-SP-20 is within a common reed patch north of Wetland CF-09. Although wetland vegetation was observed, sample point does not represent wetland conditions due to soil matrix being too bright. Hydrology does not appear to be suffiecient enough to support wetland conditions.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Phragmites australis*	100%	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1. *none*			
2.			
	0% = Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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: 0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks:

SOIL

Sampling Point: CF-SP-20

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]	[3]Texture	Remarks
0-5	10YR 5/3	90					L	mixed matrix
	10YR 3/1	10						
5-16	10YR 5/3	87	7.5YR 4/4	3	C	M	L	mixed matrix
	10YR 3/1	10						

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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 for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

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

Remarks:

Soil profile too bright to meet hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X 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:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis County | Sampling Date: 10/13/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-21**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 4N2W2SENE

Landform (hillslope, terrace, etc.): railroad ditch | Local relief (concave, convex, none): concave | Slope (%): <3%

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.113904 | Long: -112.028350 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

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

Precipitation prior to fieldwork:

According to the Bountiful Bench, UT NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

CF-SP-21 is located within Wetland CF-09.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Phragmites australis*	100%	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1. *none*			
2.			
	0% = Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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: 0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks:

SOIL

Sampling Point: CF-SP-21

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]	[3]Texture	Remarks
0-4	10YR 3/2	90					L	mixed matrix
	2.5Y 4/3	100						
4-16	10YR 3/2	60					L	
	2.5Y 4/3	20	5YR 5/8	5	C	M/PL		
			10YR 6/2	15	D	M		

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- X Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X 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** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Frontrunner / Clearfield | City/County: Clearfield/Davis County | Sampling Date: 10/13/2022

Applicant/Owner: Utah Transit Authority | State: Utah | Sampling Point: **CF-SP-22**

Investigator(s): Kaylee Moser (PWS), Irina Lapina (PWS) | Section, Township, Range: 4N2W2SENE

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): none | Slope (%): <3%

Subregion (LRR): (B) Columbia/Snake River Plateau | Lat: 41.113921 | Long: -112.028333 | Datum: D NAD 1983 2011

Soil Unit (Name-ID-Hydric Rating): Kidman fine sandy loam, 1 to 3 percent slopes - KaB - No | NWI classification: None

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

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

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

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

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

Precipitation prior to fieldwork:

According to the Bountiful Bench, UT NOAA weather station, 0.0" of precipitation was received on the day of fieldwork and 0.16" during the two weeks prior. Precipitation was within the normal range for the three months prior to the site visit, however, the general area has been experiencing drought conditions for over 2 years.

Remarks:

CF-SP-22 is upslope of Wetland CF-09.

VEGETATION

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 3x1m)			
1. *none*			
2.			
3.			
4.			
	0% = Total Cover		
Sapling/Shrub Stratum (Plot size: 2x1m)			
1. *none*			
2.			
3.			
4.			
5.			
	0% = Total Cover		
Herb Stratum (Plot size: 1x1m)			
1. *Agropyron cristatum*	40%	Yes	NOL
2. *Elymus trachycaulus*	20%	Yes	FACU
3. *Kickxia elatine*	20%	Yes	UPL
4. *Bromus tectorum*	20%	Yes	NOL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: 2x1m)			
1. *none*			
2.			
	0% = Total Cover		

% Bare Ground in Herb Stratum 0% | % 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: 4 (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: 0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks:

SOIL

Sampling Point: CF-SP-22

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]	[3]Texture	Remarks
0-16	7.5YR 3/4	80					L	mixed matrix
	2.5Y 2.5/1	20						

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

[3]Texture: S = sand; Si = silt; C = clay; L = loam or loamy. Texture Modifier: co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)

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 for Problematic Hydric Soils[4]:

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

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

Restrictive Layer (if present):

Type: none

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No 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:

Remarks:

Appendix B

Supporting Maps


112° 3' 7" W
111° 59' 51" W
411900
412600
413300
414000
414700
415400
416100
41° 8' 40" N
41° 5' 23" N
4555100
4554400
4553700
4553000
4552300
4551600
4550900
4550200
4549500
KaB
UL
KaC
1000
KaB
1000
15
Map Scale: 1:29,500 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0 400 800 1600 2400
Feet
0 1000 2000 4000 6000
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

MAP LEGEND

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

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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

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

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

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

Soil Survey Area: Davis-Weber Area, Utah
Survey Area Data: Version 16, Aug 25, 2022

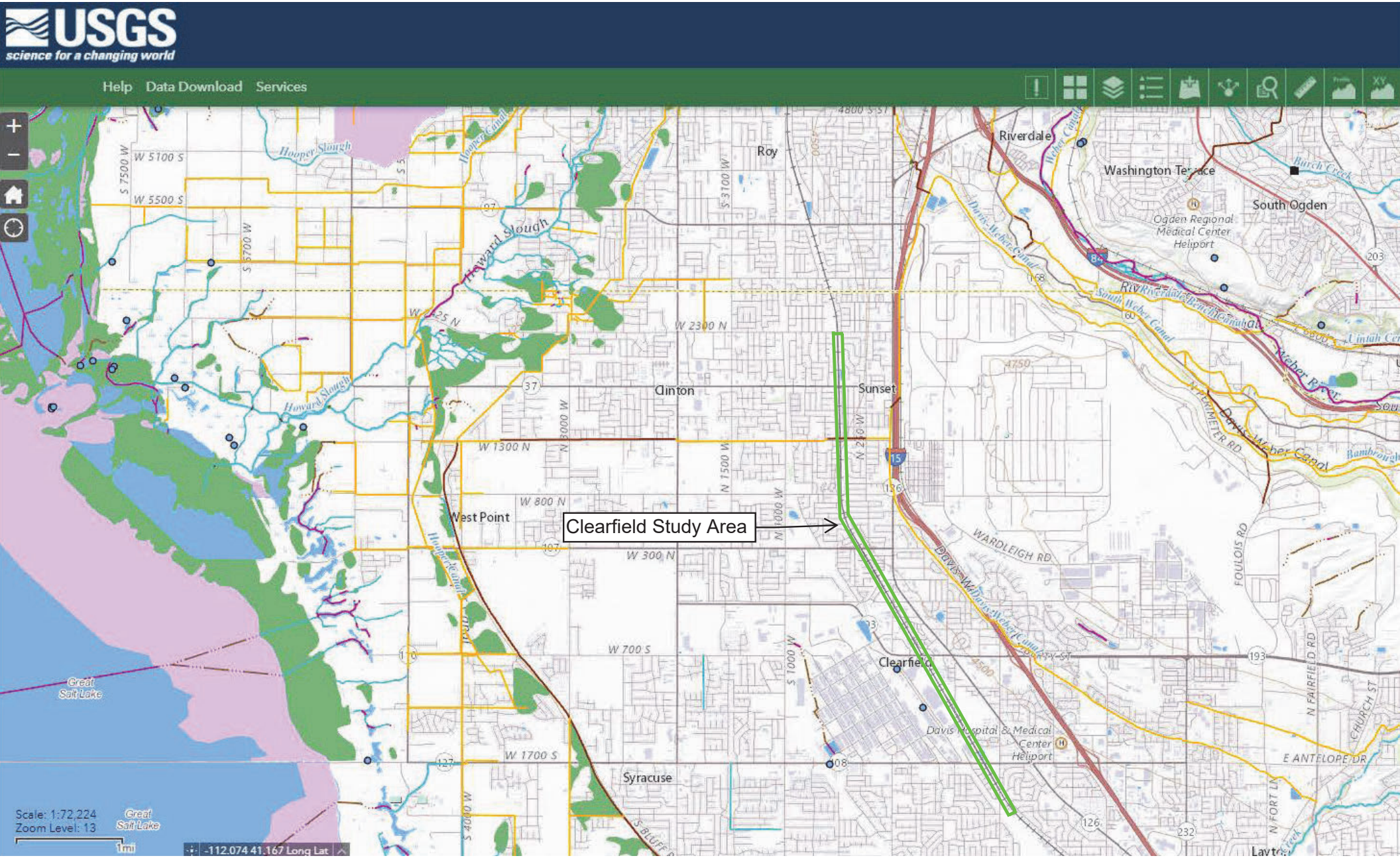
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 31, 2018—Jul 11, 2022

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

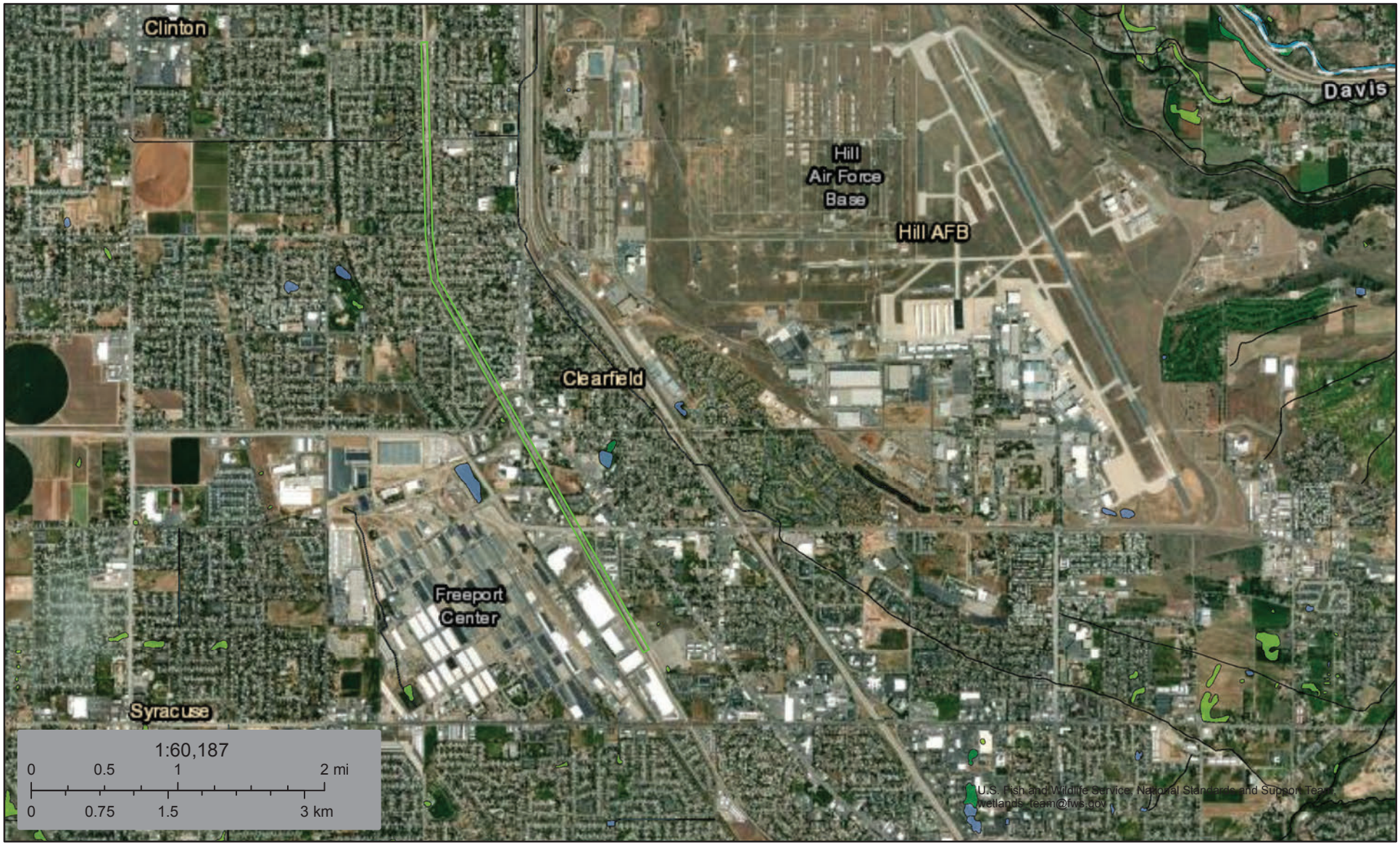
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1000	Parleys loam, 0 to 4 percent slopes	9.3	10.3%
KaB	Kidman fine sandy loam, 1 to 3 percent slopes	79.6	88.2%
KaC	Kidman fine sandy loam, 3 to 6 percent slopes	0.2	0.3%
UL	Urban land	1.1	1.2%
Totals for Area of Interest		**90.2**	**100.0%**


USGS
science for a changing world
Help
Data Download
Services
Clearfield Study Area
Roy
Riverdale
Washington Terrace
South Ogden
Clinton
Sunset
West Point
Clearfield
Syracuse
Hooper Slough
Howard Slough
Hooper Canal
Davis-Weber Canal
South Weber Canal
Weber River
Great Salt Lake
Ogden Regional Medical Center Heliport
Davis Hospital & Medical Center Heliport
WARDLEIGH RD
FOULOIS RD
N FAIRFIELD RD
CHURCH ST
E ANTELOPE DR
W 5100 S
W 5500 S
W 2300 N
W 1300 N
W 800 N
W 300 N
W 700 S
W 1700 S
Scale: 1:72,224
Zoom Level: 13
1mi
-112.074 41.167 Long Lat

U.S. Fish and Wildlife Service

National Wetlands Inventory

Wetlands



November 16, 2022

Wetlands

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

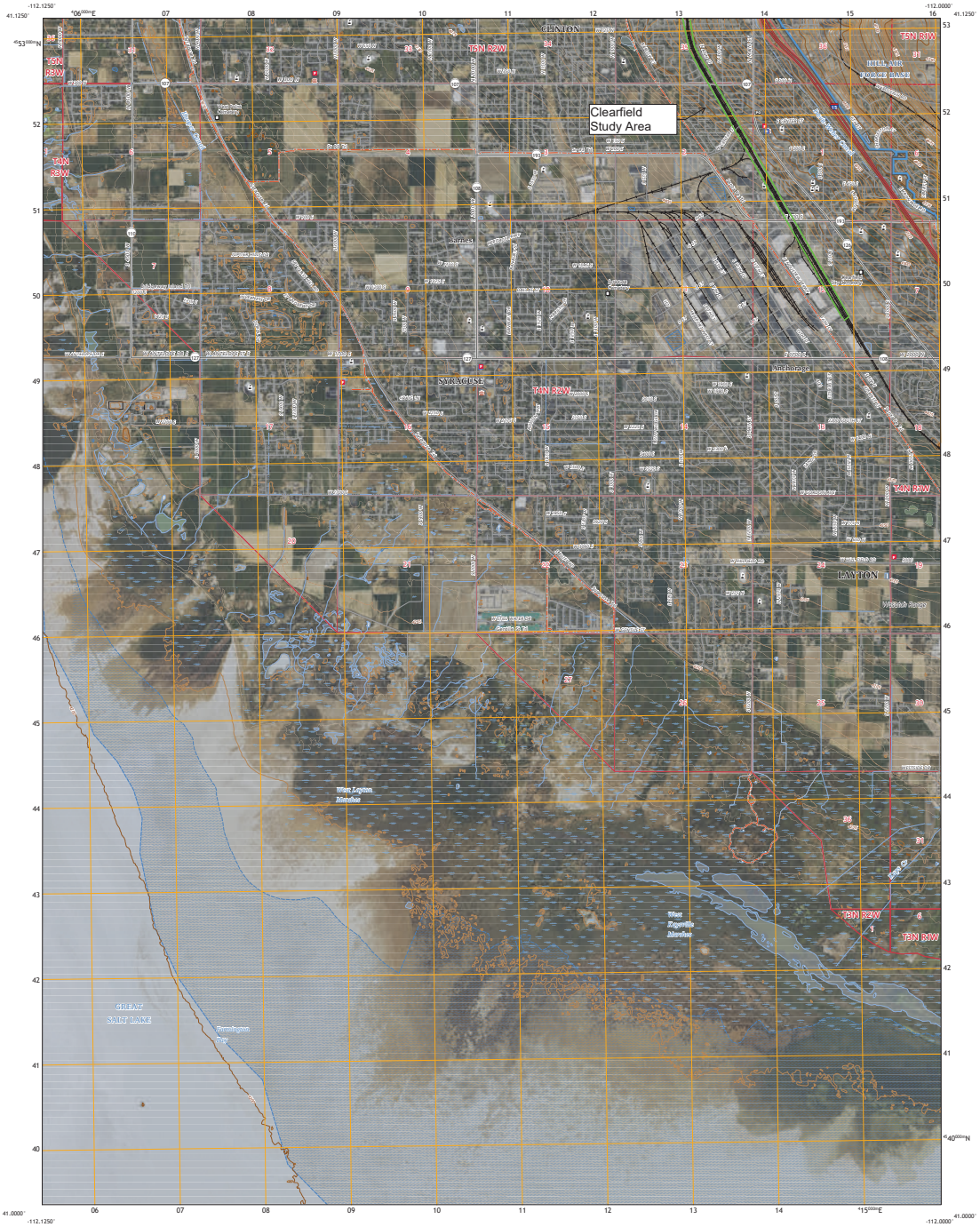
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

USGS
science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map
OnDemand Topo

CLEARFIELD QUADRANGLE
UTAH - DAVIS COUNTY
7.5-MINUTE TOPO



Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 12T

Data is provided by The National Map (TNM), is the best available at the time of map generation, and includes data content from supporting themes of Elevation, Hydrography, Geographic Names, Boundaries, Transportation, Structures, Land Cover, and Orthoimagery. Refer to associated Federal Geographic Data Committee (FGDC) Metadata for additional source data information.

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands. Temporal changes may have occurred since these data were collected and some data may no longer represent actual surface conditions.

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UTM GRID AND 2021 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

KILOMETERS 0 0.5 1 2
METERS 0 500 1000 2000
MILES 0 0.5 1
FEET 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

CONTOUR INTERVAL 5 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
CONTOUR SMOOTHNESS = Medium

UTAH

QUADRANGLE LOCATION

Ogden Bay	Roy	Ogden
Antelope Island North	Clearfield	Kaysville
Antelope Island	Salt Air NE	Farmington

ADJOINING QUADRANGLES

ROAD CLASSIFICATION

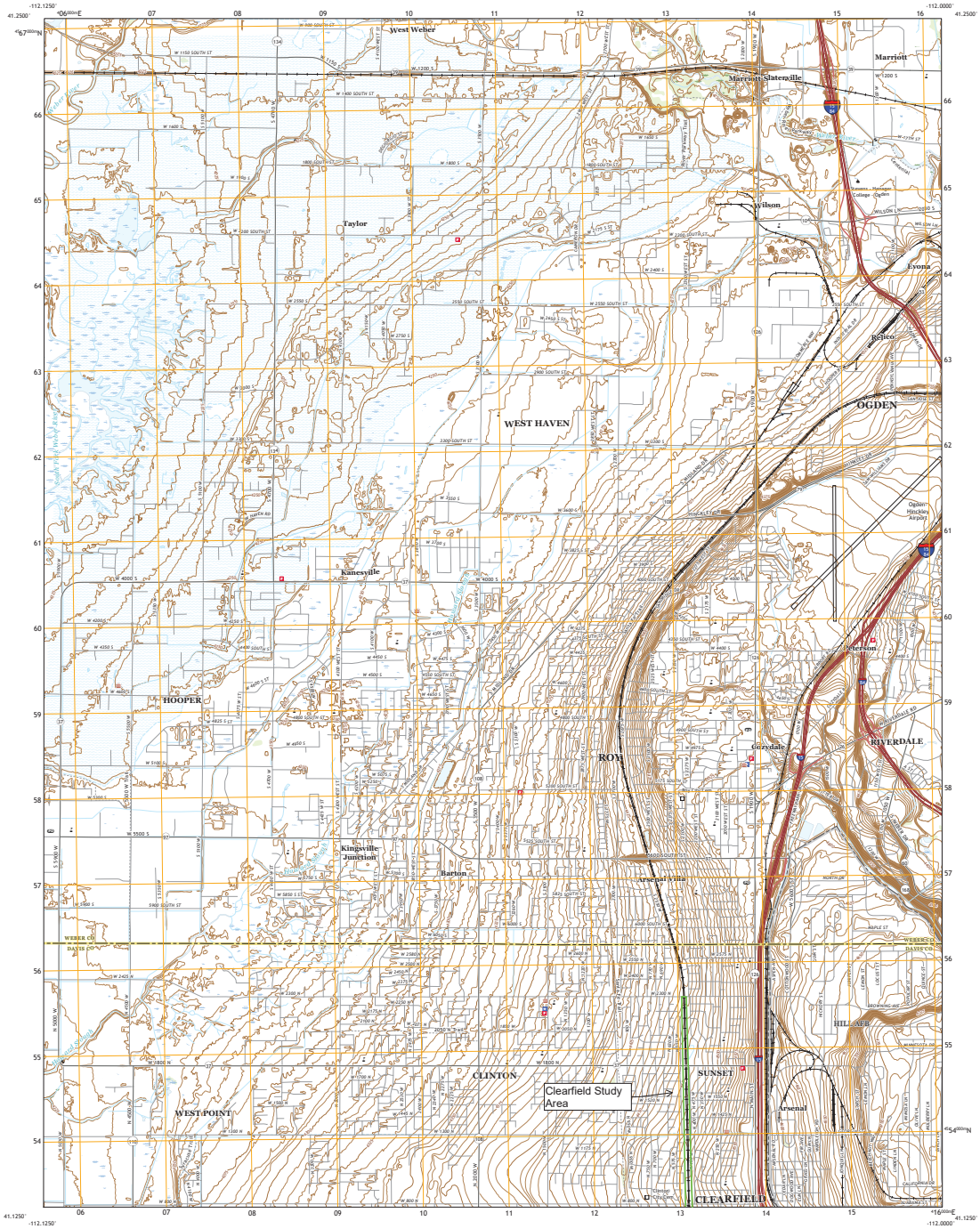
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

CLEARFIELD, UT
2022

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

ROY QUADRANGLE
UTAH
7.5-MINUTE SERIES



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Imagery	NAIP,	July 2016 - October 2016
Roads	U.S. Census Bureau,	2016
Names	GNIS,	1979 - 2019
Hydrography	National Hydrography Dataset,	2002
Contours	National Elevation Dataset,	2019
Boundaries	multiple sources; see metadata file	2017 - 2018
Public Land Survey System	BLM,	2019
Wetlands	FWS National Wetlands Inventory	1981 - 2005

UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

KILOMETERS 0 0.5 1 2
METERS 1000 0 1000 2000
MILES 0 0.5 1
FEET 1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

CONTOUR INTERVAL 5 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011. A metadata file associated with this product is draft version 0.6.18

UTAH
QUADRANGLE LOCATION

ADJOINING QUADRANGLES
1 Plain City SW
2 Plain City
3 North Ogden
4 Ogden Bay
5 Ogden
6 Antelope Island North
7 Clearfield
8 Kaysville

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

ROY, UT
2020

NSN REF NO. 4 015 012 4 015

Rainfall Documentation

Date: 10/10/2022

Weather station: Bountiful bench UT

Period of Record.: 1992-2022

County: Utah

State: UT

Growing season: 4/3-11/1 (212 days)

	Long-term rainfall records								
	Month	3 yrs. in 10 less than	Normal	3 yrs. in 10 more than	Rain fall	Condition dry, wet, normal	Condition value	Month weight value	Product of previous two columns
1st prior month*	Sept	0.75	1.45	1.75	0.93	normal	2	3	6
2nd prior month*	Aug	0.40	1.11	1.33	1.80	wet	3	2	6
3rd prior month*	July	0.28	0.73	0.88	0.16	dry	1	1	1
								Sum	**13**

Note: If sum is

6 - 9	then prior period has been drier than normal
10 - 14	then prior period has been normal
15 - 18	then prior period has been wetter than normal

Condition value:

Dry	=1
Normal	=2
Wet	=3

Conclusions: The period prior to oct 2022 has been normal.
No precip oct 1-10
Sept 23-sept 30 = 0.16 in precip

Appendix C

Photographs

PP-CF-01, Wetland CF-01 looking north

PP-CF-02 within Wetland CF-02, looking south.

PP-CF-03 within Wetland CF-03, looking south.

PP-CF-04 within Wetland CF-04, looking northeast

PP-CF-05 within Wetland CF-05, looking north

PP-CF-06 within Wetland CF-06, looking northeast

PP-CF-07 within Wetland CF-07, looking southeast

PP-CF-08 within CF-08, looking north

PP-CF-09 within Wetland CF-09, looking north

PP number	Wetland ID	Lat/Long
PP-CF-01	CF-01	41°8’15.8532” 122°2’7.1448”
PP-CF-02	CF-02	41° 8' 12.9552" 112° 2' 7.9074"
PP-CF-03	CF-03	41° 8' 5.067" 112° 2' 7.6092"
PP-CF-04	CF-04	41° 7' 54.6738" 122° 2' 7.029"
PP-CF-05	CF-05	41° 7' 55.6422" 112° 2' 7.1844"
PP-CF-06	CF-06	41° 7' 25.356" 112° 2' 5.8734"
PP-CF-07	CF-07	41° 7' 5.5488" 112° 1' 53.9904"
PP-CF-08	CF-08	41° 6' 52.2864" 112° 1' 43.7808"
PP-CF-09	CF-09	41° 6' 50.0106" 112° 1' 42.1176"

Appendix D

Aquatic Resource Excel Sheet

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
Wetland CF-01	UTAH	PSS	DEPRESS	Area	0.12	ACRE	DELINEATE	41.13779	-112.03540	
Wetland CF-02	UTAH	PEM	DEPRESS	Area	0.02	ACRE	DELINEATE	41.13688	-112.03556	
Wetland CF-03	UTAH	PEM	DEPRESS	Area	0.08	ACRE	DELINEATE	41.13467	-112.03548	
Wetland CF-04	UTAH	PEM	DEPRESS	Area	0.04	ACRE	DELINEATE	41.13186	-112.03525	
Wetland CF-05	UTAH	PEM	DEPRESS	Area	0.19	ACRE	DELINEATE	41.13212	-112.03535	
Wetland CF-06	UTAH	PEM	DEPRESS	Area	0.03	ACRE	DELINEATE	41.12371715	-112.03492440	
Wetland CF-07	UTAH	PEM	DEPRESS	Area	0.01	ACRE	DELINEATE	41.11821769	-112.03165240	
Wetland CF-08	UTAH	PEM	DEPRESS	Area	0.01	ACRE	DELINEATE	41.11453106	-112.02881630	
Wetland CF-09	UTAH	PEM	DEPRESS	Area	0.03	ACRE	DELINEATE	41.11390393	-112.02834960	