



**US Army Corps
of Engineers** ®
Fort Worth District

Public Notice

Applicant: Union Pacific Railroad Company (UPRR)

Project No.: SWF-2019-00074

Date: April 5, 2019

The purpose of this public notice is to inform you of a proposal for work in which you might be interested. It is also to solicit your comments and information to better enable us to make a reasonable decision on factors affecting the public interest. We hope you will participate in this process.

Regulatory Program

Since its early history, the U.S. Army Corps of Engineers has played an important role in the development of the nation's water resources.

Originally, this involved construction of harbor fortifications and coastal defenses. Later duties included the improvement of waterways to provide avenues of commerce. An important part of our mission today is the protection of the nation's waterways through the administration of the U.S. Army Corps of Engineers Regulatory Program.

Section 10

The U.S. Army Corps of Engineers is directed by Congress under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) to regulate *all work or structures in or affecting the course, condition or capacity of navigable waters of the United States*. The intent of this law is to protect the navigable capacity of waters important to interstate commerce.

Section 404

The U.S. Army Corps of Engineers is directed by Congress under Section 404 of the Clean Water Act (33 USC 1344) to regulate the *discharge of dredged and fill material into all waters of the United States, including wetlands*. The intent of the law is to protect the nation's waters from the indiscriminate discharge of material capable of causing pollution and to restore and maintain their chemical, physical and biological integrity.

Contact

Name: Mr. Joseph L. Shelnett

Phone Number: 817-886-1738

JOINT PUBLIC NOTICE

U.S. ARMY CORPS OF ENGINEERS, FORT WORTH DISTRICT

AND

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUBJECT: Application for a Department of the Army Permit under Section 404 of the Clean Water Act (CWA) and for water quality certification under Section 401 of the CWA to discharge dredged and fill material into waters of the United States associated with a railroad siding project to 2.75 miles of siding track and widen the embankment along Toyah Subdivision Mainline located in the City of Big Spring, Howard County, Texas.

APPLICANT: Union Pacific Railroad Company
Mr. Dave Schuldt
1400 Douglas Street Stop 0910
Omaha, Nebraska 68179

APPLICATION NUMBER: SWF-2019-00074

DATE ISSUED: April 5, 2019

LOCATION: The proposed railroad siding project would be located between the Big Spring Rail Yard at Mile Post [MP] 513.97 and the short line railroad industrial lead at MP 516.04 in Howard County, Texas. The proposed project would be located approximately at NAD-83 coordinates 32.251893 East and -101.503521 North on the USGS 7.5-minute USGS quadrangle map in the USGS Hydrologic Unit (HUC) 1208000701 (Exhibit 1-2 of 27).

OTHER AGENCY AUTHORIZATIONS: State Water Quality Certification

PROJECT DESCRIPTION: The applicant proposed to discharge approximately 19,741 cubic yards of dredged and fill material into approximately 5.14 acres of waters of the United States in conjunction with the construction of railroad siding project. Permanent adverse impacts include 3,099 linear feet of streams, 0.32 acres of wetlands, and 3.05 acres of open water. Total proposed temporary impacts to waters of the U.S. include 218 linear feet of streams, 0.29 acres of wetlands, and 1.32 acres of open water. No indirect impacts are anticipated as a result of this project.

I. INTRODUCTION: The applicant is proposing to construct new railroad siding track between the Big Spring Rail Yard at MP 513.97 and the short line railroad industrial lead at MP 516.04 in Howard County, Texas. The proposed construction would include installing 2.75 miles of siding track and widening the embankment subgrade, raising track to improve sight distance and meet safety standards, providing subgrade stabilization in open water areas to eliminate soft soils and decrease the risk of track settlement and movement, installing track culverts at three locations, extending track culverts at one location, installing non-track culverts at one location, installing trackside swales, installing two temporary ditch crossings, constructing three turnout pads, constructing access road parallel to the main track west of Interstate 20, removing approximately 7,261 linear feet and installing 5,101 linear feet of barbed wire fence

along right-of-way (ROW), installing signals, signal houses, and signal mounds, and relocating three positive train control signal towers and two signal houses.

PURPOSE AND NEED STATEMENT: The applicant states that UPRR would construct railroad siding to increase the capacity of the rail network along the Toyah Subdivision, reduce freight train delays, relieve an operational bottleneck, allow trains to pass safely en route, and meet the increased economic regional demand. The applicant also states that the proposed siding track would be located between the Big Spring Rail Yard at MP 513.97 and the short line railroad industrial lead at MP 516.04. The applicant proposes that the siding would enable UPRR to move short line railroad cars between the industrial lead and the Big Spring Rail Yard without using the mainline track. The applicant believes that this would improve the overall safety and efficiency of the mainline track by separating the slower rail movements (30 miles per hour [mph]) from the faster mainline rail movements (70 mph).

II. **EXISTING CONDITIONS:** The proposed project area is located within the Central Great Plains Land Resource Region ("LRR H) of the Great Plains Region and is more specifically located in the High Plains – Llano Estacado U.S. Environmental Protection Agency Level IV Ecoregion. This ecoregion was historically covered by shortgrass prairies dominated by buffalo grass (*Bouteloua dactyloides*), blue grama (*Bouteloua gracilis*), sideoats grama (*Bouteloua curtipendula*), and little bluestem (*Schizachyrium scoparium*); however, the shortgrass prairie has been almost entirely converted to agricultural use. Dominant vegetation within the non-wetland (i.e., upland) plant communities include: Canadian wildrye (*Elymus canadensis*), five-stamen saltcedar (*Tamarix chinensis*), honey mesquite (*Prosopis glandulosa*), curly-mesquite (*Hilaria belangeri*), iodinebush (*Allenrolfea occidentalis*), saltgrass (*Distichlis spicata*), kiss-me-quick (*Portulaca pilosa*), algerita (*Mahonia trifoliolata*), western wheatgrass (*Pascopyrum smithii*), buffalo grass, and blue grama. Observed soils within the non-wetland communities revealed sandy loam, silt loam, and loamy sand soils with matrix colors 10YR 6/3, 10YR 4/3, and 7.5YR 5/4. Soil samples collected within wetland communities were similar to those collected from upland sites, but with lower chroma values. At the proposed project area upland habitats include low intensity urban development, high plains mesquite-dominated shrublands, rolling plains deciduous shrublands and forest, salty bottomland, limy uplands, and maintained railroad ROW. The majority of the upland habitat within the survey area is composed of previously disturbed and maintained ROW. High plains saltlake shrublands heavily invaded by five-stamen saltcedar (*Tamarix chinensis*) and honey mesquite (*Prosopis glandulosa*)-dominant forested uplands. At the proposed project area emergent and scrub-shrub wetlands are dominated by five-stamen saltcedar, Canadian wildrye (*Elymus canadensis*), iodinebush (*Allenrolfea occidentalis*), dwarf saltwort (*Salicornia bigelovii*), and Mojave seablite (*Suaeda nigra syn=moquinii*). Most of the wetland areas meet TPWD's Texas Ecosystem Analytical Mapper definition of Western Great Plains Saline Depression Wetland.

III. **ADVERSE IMPACTS:** Proposed construction plans include installation of siding track and widening the embankment subgrade. Temporary and permanent workspace areas have been developed for the project. The workspaces represent the minimum extent necessary to allow for safe construction as well as the structural stability and longevity of the Project. A total of 3,317 linear feet of streams, 4.38 acres of non-vegetated open water, and 0.76 acre of wetlands would be adversely impacted by the proposed project. Approximately 15,453 linear feet of trackside swales would be constructed as part of the proposed project (Exhibit 3 – 24 of 27) to maintain hydrologic flow along the embankment. Mitigation requirements for impacts to wetlands and waters of the U.S. would be based on each "single and complete" crossing. For

linear transportation projects in the USACE Fort Worth District, mitigation is required for all impacts to waters of the U.S. that are greater than 0.10-acre in size or 300 linear feet in length. A total of 5,662 CY of earthen fill, 2,101 CY of sub-ballast, 567 CY of ballast, and 11,411 CY of rip-rap would be discharged into waters of the U.S. for the proposed project.

IV. ALTERNATIVES TO THE PROPOSED PROJECT: The USACE has not yet evaluated this alternatives analysis. The applicant developed and utilized a set of selection criteria to evaluate the project which included the following:

- Public Road Crossings
- Public Interface
- Construction Obstructions
- Operation Considerations
- ROW Length / Restrictions
- Floodplains or Floodway Impacts
- Waters of the U.S. Impacts

The applicant utilized the above selection criteria to identify conceptual alternatives to evaluate the applicant preferred alternative. The USACE has not yet reviewed the applicant's alternatives analysis. A comprehensive review will be performed as part of the evaluation process.

NO ACTION ALTERNATIVE

The applicant states that under the No-Action Alternative the track embankment could not be expanded to accommodate a siding tract. The No-Action alternative would leave the existing railroad track facility as currently configured. This alternative would involve no discharges of fill material into waters of the U.S. The No-Action Alternative would not meet any of the stated purposes. The operational bottleneck between the Big Spring Yard and industrial lead would remain and the logistical constraints on the Toyah Subdivision would continue to impact regional economic demand. Therefore, based on these factors, the No-Action Alternative would not be a practicable alternative.

ALTERNATIVE SITE ANALYSIS

The following alternatives information was supplied by the applicant and has not yet been evaluated by USACE:

Alternative 1: 5.5 Miles West of Big Spring Rail Yard

Location Alternative 1 is located approximately 5.5 miles to the west of the Big Spring Rail Yard, specifically between the west bank of Mustang Draw and east of Boggy Lake in Howard County, Texas. The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (USFWS 2018) and U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) (USGS 2019) do not depict as many wetland or waterbody features at this location. Designated floodplain areas also appear to be limited to named waterbodies such as Boggy Lake and Mustang Draw (Federal Emergency Management Agency [FEMA] 2010). There is a siding track located in this area, in addition to the mainline track, which restricts the available space within the UPRR ROW for an additional siding track. This portion of the Toyah Subdivision is "double tracked" and allows for trains to pass safely en route; therefore, a third track will not alleviate the operational bottleneck between the Big Spring Yard and the industrial lead. Location Alternative 1 was not further evaluated.

Alternative 2: 11.9 Miles West of Big Spring Yard

Location Alternative 2 is located between Red Lake and Stanton in Martin County, Texas. The NWI and NHD also do not depict as many wetland or waterbody features at this location (USFWS 2018, USGS 2019). Most of the floodplains in Martin County have not been mapped (FEMA 2010) and floodplain data was therefore not reviewed. Based on available data it appears likely that fewer wetland and other potentially jurisdictional waters of the United States exist within Location Alternative 2. However, this location will not alleviate the traffic interference of the 30-mph industrial lead at MP 516.04 and the 70-mph mainline track. Without the expanded capacity that the currently-proposed preferred location will provide, UPRR will be unable to move short line railroad cars between the industrial lead and the Big Spring Yard without continued use of the mainline track. This constraint will not meet the purpose of the project to alleviate operational bottlenecks, provide a safe location for trains to pass, or increase the capacity of the Toyah Subdivision to address increased transportation demands.

Alternative 3: Directly East of Big Spring Yard

Location Alternative 3 is located along the single-track segment directly east of the Big Spring Yard in Big Spring, Texas between the yard and the industrial facility. The NWI maps and NHD data do not depict as many wetlands for this area (USFWS 2018, USGS 2019); however, there appears to be a higher potential for stream crossings that would require bridges or other large drainage structures, specifically over Beals Creek, Little Sandy Draw and Big Spring Draw. Designated floodplain areas appear to be limited to named waterbody features (FEMA 2010). The Big Spring Yard is located within the floodway for Beals Creek and Location Alternative 3 would be located at least partially in the floodway. In order for trains to pass safely en route, the capacity expansion would need to be located on the singletrack segment that begins just west of Interstate 20 and extends to the industrial facility to the east. This segment is only approximately 1.65-miles long and is inadequate to support the train movement that the preferred location would allow. If the length of a siding track were to be extended for Location Alternative 3, it would encroach upon the industrial facility and would significantly constrain the design of the project due to property boundaries or safety requirements. Based on available data it appears likely that fewer wetland and other potentially jurisdictional waters of the United States exist at Location Alternative 3. However, crossings over Beals Creek, Little Sandy Draw and Big Spring Draw would require bridges or other large drainage structures. Location Alternative 3 also presents other logistical constraints due to restrictions in length and encroachment on other facilities. Additionally, this location will not alleviate the traffic interference of the 30-mph industrial lead at MP 516.04 and the 70-mph mainline track. Without the expanded capacity that the currently-proposed preferred location will provide, UPRR will be unable to move short line railroad cars between the industrial lead and the Big Spring Yard without continued use of the mainline track. This constraint will not meet the purpose of the Project to alleviate operational bottlenecks, provide a safe location for trains to pass, or increase the capacity of the Toyah Subdivision to address increased transportation demands.

Applicant's Preferred Alternative

The applicant states that due to the location of the industrial lead and need to reduce the interference of the slower track and the faster mainline track for operational safety, and the need to increase the capacity of the Toyah Subdivision at this location, the preferred location is the only location that would meet the basic purpose and need of the Project. The applicant states that permanent and temporary workspaces have been designed to allow for safe and practical construction of the project and also minimized to the extent practical where impacts to

waters of the United States could be avoided. Where practicable at waters crossings, construction would occur in reduced temporary workspaces (10 feet) around the permanent footprint (Exhibits 3 to 16 of 27). The applicant states that the preferred location is the only location that meets the project's basic purpose and need and represents the least environmentally damaging alternative considering the avoidance and minimization measures. Proposed impacts to wetlands, open waterbodies, and stream features have been minimized to approximately 12, 34, and 29%, respectively, of the delineated totals within the UPRR ROW.

V. COMPENSATORY MITIGATION: Currently there are no wetland nor stream mitigation banks with service areas covering the proposed project site. To offset unavoidable adverse impacts to waters of the U.S. the applicant would develop and implement a mitigation plan proposing use of permittee responsible mitigation (PRM). This plan would conform to the 2008 Mitigation Rule, in addition to the Fort Worth District PRM Mitigation Guidelines. When the PRM plan is received by USACE, the proposal will be coordinated with the resource agencies.

PUBLIC INTEREST REVIEW FACTORS: This application will be reviewed in accordance with 33 CFR 320-332, the Regulatory Program of the U. S. Army Corps of Engineers (USACE), and other pertinent laws, regulations, and executive orders. Our evaluation will also follow the guidelines published by the U. S. Environmental Protection Agency pursuant to Section 404(b)(1) of the CWA. The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impact, of the proposed activity on the public interest. That decision will reflect the national concerns for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including its cumulative effects. Among the factors addressed are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

The USACE is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the USACE in determining whether to issue, issue with modifications, or conditions, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

STATE WATER QUALITY CERTIFICATION: This project would result in a direct impact of greater than three acres of waters of the state or 1,500 linear feet of streams (or a combination of the two is above the threshold), and as such would not fulfill Tier I criteria for the project. Therefore, Texas Commission on Environmental Quality (TCEQ) certification is required. Concurrent with USACE processing of this Department of the Army application, the TCEQ is reviewing this application under Section 401 of the Clean Water Act, and Title 30, Texas Administrative Code Section 279.1-13 to determine if the work would comply with State water

quality standards. By virtue of an agreement between the USACE and the TCEQ, this public notice is also issued for the purpose of advising all known interested persons that there is pending before the TCEQ a decision on water quality certification under such act. **Any comments concerning this application may be submitted to the Texas Commission on Environmental Quality, 401 Coordinator, MSC-150, P.O. Box 13087, Austin, Texas 78711-3087.** The public comment period extends 30 days from the date of publication of this notice. A copy of the public notice with a description of the work is made available for review in the TCEQ's Austin Office. The TCEQ may conduct a public meeting to consider all comments concerning water quality if requested in writing. A request for a public meeting must contain the following information: the name, mailing address, application number, or other recognizable reference to the application; a brief description of the interest of the requestor, or of persons represented by the requestor; and a brief description of how the application, if granted, would adversely affect such interest.

ENDANGERED AND THREATENED SPECIES: The USACE has reviewed the U.S. Fish and Wildlife Service's latest published version of endangered and threatened species to determine if any may occur in the project area. The proposed project would be located in Howard County where the least tern (*Sterna antillarum*), piping plover (*Charadrius melodus*), and red knot (*Calidris canutus rufa*) are known to occur or may occur as migrants. The piping plover and red knot are threatened species and the least tern is an endangered species. Our initial review indicates that the proposed work would have no effect on federally-listed endangered or threatened species.

NATIONAL REGISTER OF HISTORIC PLACES: In accordance with 36 CFR 800 and 33 CFR 325 (Appendix C), the District Engineer has consulted the latest version of the National Register of Historic Places (NRHP). One listed property, the Potton-Hayden House, constructed in 1901 is within the indirect effects area of potential effects. Consultation with the State Historic Preservation Office for effects to historic properties remains ongoing.

FLOODPLAIN MANAGEMENT: The USACE is sending a copy of this public notice to the local floodplain administrator. In accordance with 44 CFR part 60 (Flood Plain Management Regulations Criteria for Land Management and Use), the floodplain administrators of participating communities are required to review all proposed development to determine if a floodplain development permit is required and maintain records of such review.

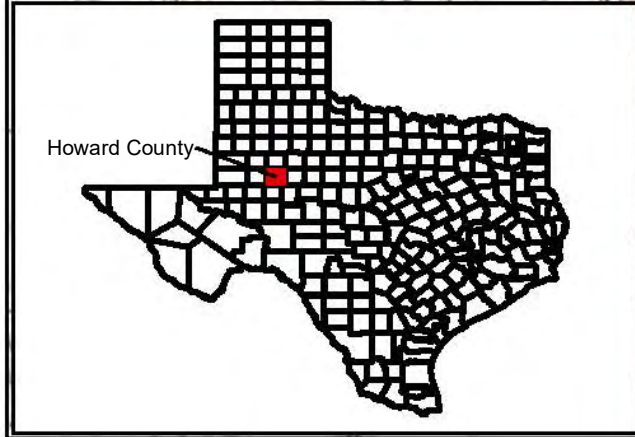
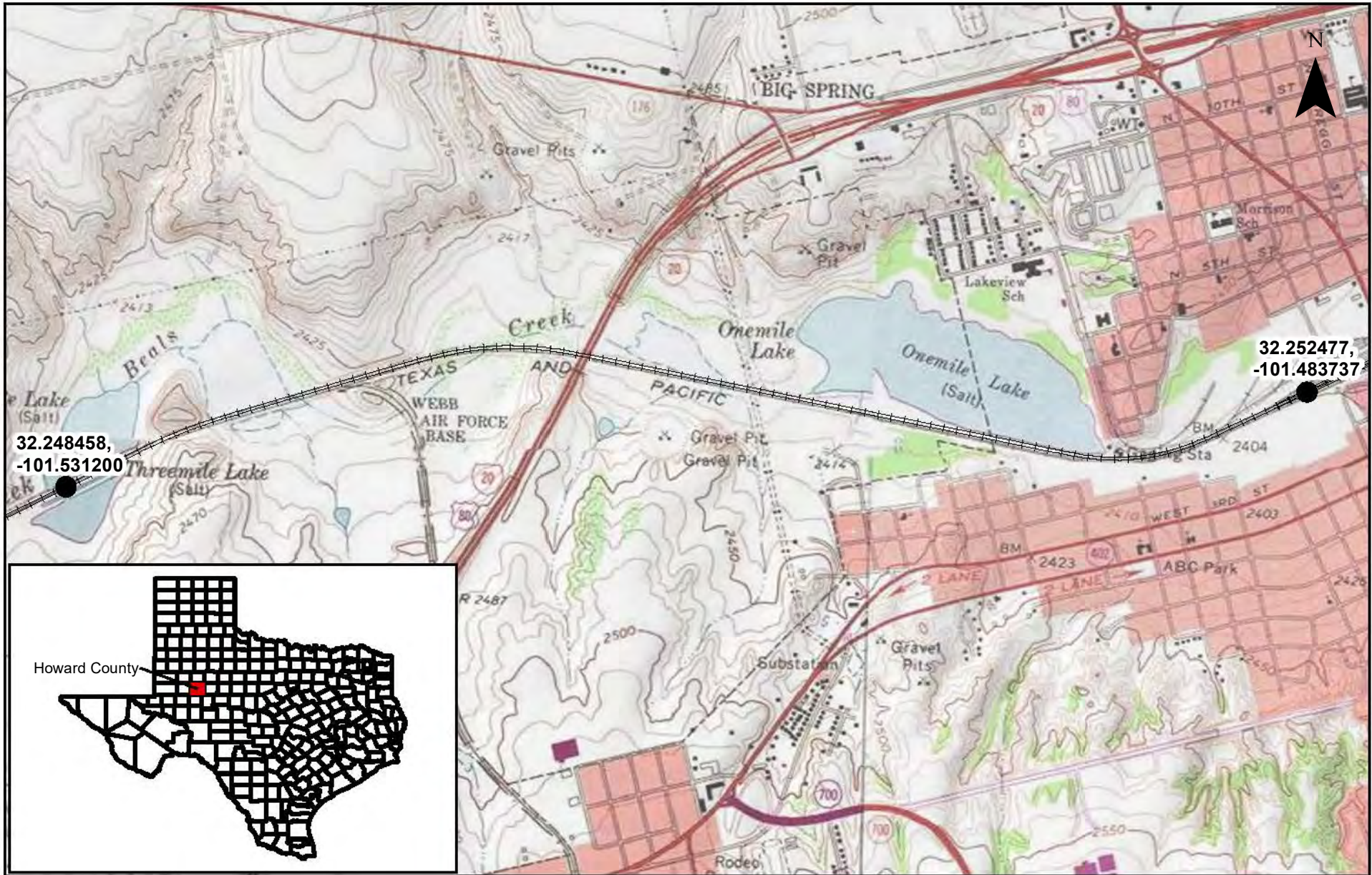
SOLICITATION OF COMMENTS: The public notice is being distributed to all known interested persons in order to assist in developing fact upon which a decision by the USACE may be based. For accuracy and completeness of the record, all data in support of or in opposition to the proposed work should be submitted in writing setting forth sufficient detail to furnish a clear understanding of the reasons for support or opposition.

PUBLIC HEARING: Prior to the close of the comment period any person may make a written request for a public hearing setting forth the particular reasons for the request. The District Engineer will determine whether the issues raised are substantial and should be considered in his permit decision. If a public hearing is warranted, all known interested persons will be notified of the time, date, and location.

CLOSE OF COMMENT PERIOD: All comments pertaining to this Public Notice must reach this office on or before May 6 2019, which is the close of the comment period. Extensions of the

comment period may be granted for valid reasons provided a written request is received by the limiting date. If no comments are received by that date, it will be considered that there are no objections. Comments and requests for additional information should be submitted to ; Regulatory Division, CESWF-DE-R; U. S. Army Corps of Engineers; Post Office Box 17300; Fort Worth, Texas 76102-0300. You may visit the Regulatory Division in Room 3A37 of the Federal Building at 819 Taylor Street in Fort Worth between 8:00 A.M. and 3:30 P.M., Monday through Friday. Telephone inquiries should be directed to Joseph L. Shelnut at (817) 886-1738. Please note that names and addresses of those who submit comments in response to this public notice may be made publicly available.

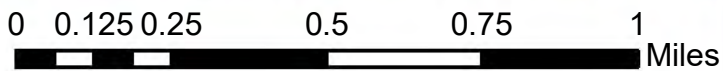
DISTRICT ENGINEER
FORT WORTH DISTRICT
CORPS OF ENGINEERS



Legend

- PROJECT END POINTS
- ═══ EXISTING TRACK CENTERLINE

Service Layer Credits: Copyright:© 2013
National Geographic Society, i-cubed



Coordinate System: NAD 1983 UTM Zone 14N
Projection: Transverse Mercator
Datum: North American 1983

BIG SPRING SIDING PROJECT
TOYAH SUBDIVISION 513.79 TO 516.54
HOWARD COUNTY, TEXAS
UNION PACIFIC RAILROAD




PROJECT LOCATION MAP-TOPO VIEW
USACE PROJECT NO. SWF-2019-00074

 **ARCADIS** | **FIGURE 1**

Date: 2/18/2019 User Name: tjscott Document Path: Z:\GISProjects\ENR\UPRR\UPRR_BigSpring\MXD\2019\UPRR_BigSpring_F1B_ProjectLocation.mxd

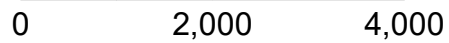


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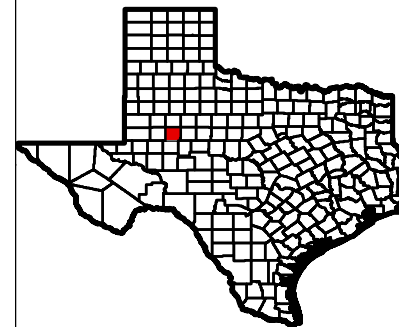
-  SURVEY END POINTS
-  EXISTING TRACK CENTERLINE
-  200-FT WIDE SURVEY AREA



Feet



1 inch = 2,000 feet



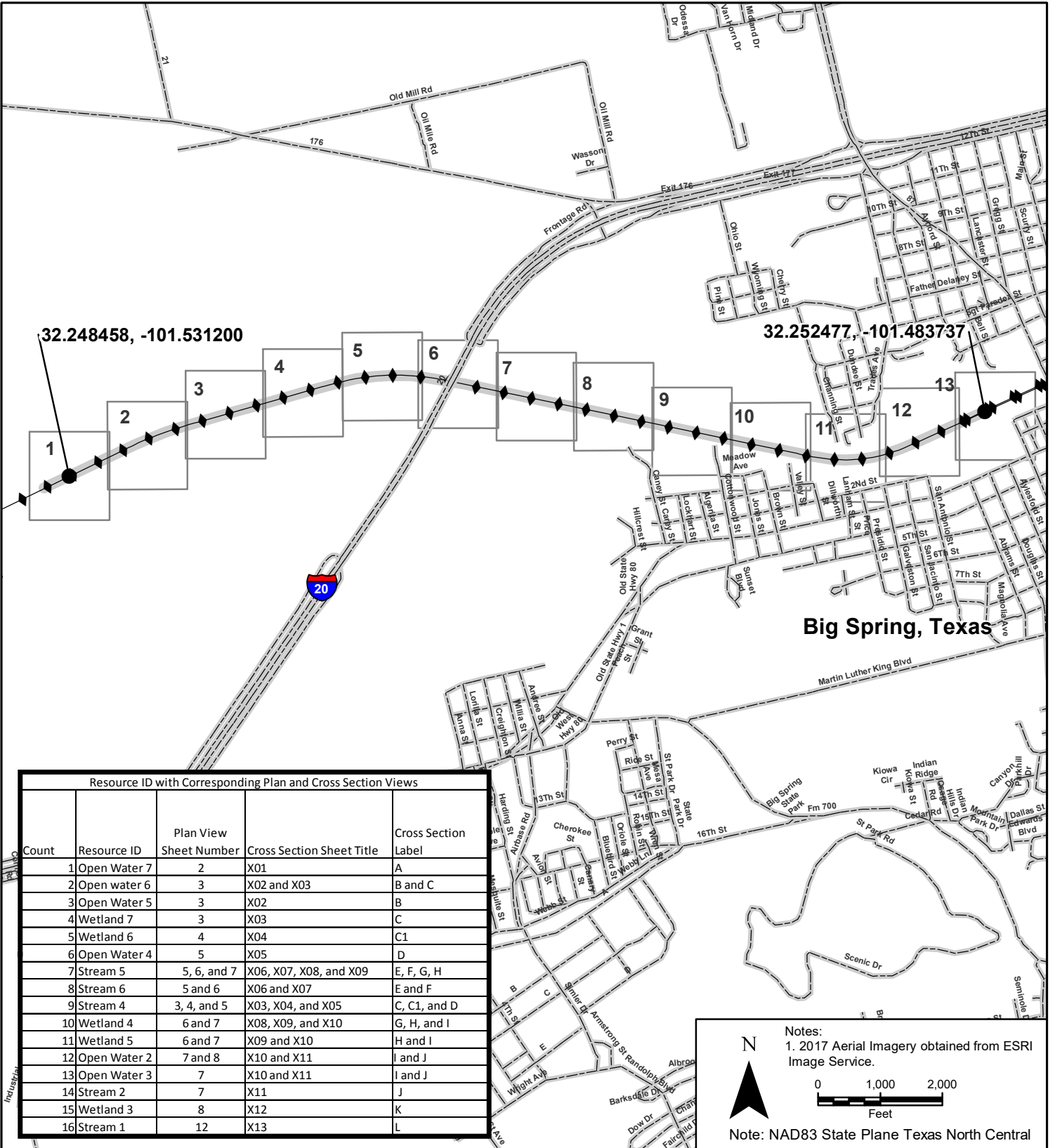
Big Spring Siding Project
Toyah Subdivision, MP 513.79 to 516.54
Howard County, Texas
Union Pacific Railroad

PROJECT LOCATION



FIGURE
1B

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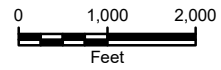
Resource ID with Corresponding Plan and Cross Section Views				
Count	Resource ID	Plan View Sheet Number	Cross Section Sheet Title	Cross Section Label
1	Open Water 7	2	X01	A
2	Open water 6	3	X02 and X03	B and C
3	Open Water 5	3	X02	B
4	Wetland 7	3	X03	C
5	Wetland 6	4	X04	C1
6	Open Water 4	5	X05	D
7	Stream 5	5, 6, and 7	X06, X07, X08, and X09	E, F, G, H
8	Stream 6	5 and 6	X06 and X07	E and F
9	Stream 4	3, 4, and 5	X03, X04, and X05	C, C1, and D
10	Wetland 4	6 and 7	X08, X09, and X10	G, H, and I
11	Wetland 5	6 and 7	X09 and X10	H and I
12	Open Water 2	7 and 8	X10 and X11	I and J
13	Open Water 3	7	X10 and X11	I and J
14	Stream 2	7	X11	J
15	Wetland 3	8	X12	K
16	Stream 1	12	X13	L

Legend

- ◆ Existing Mainline Track Centerline
- ▭ Project Area
- Streets

Notes:
 1. 2017 Aerial Imagery obtained from ESRI Image Service.

Note: NAD83 State Plane Texas North Central

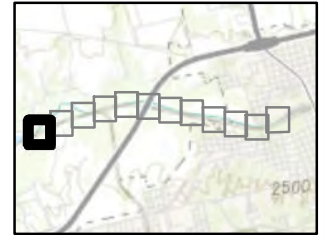


BIG SPRING SIDING PROJECT
 TOYAH SUBDIVISION 513.79 TO 516.54
 HOWARD COUNTY, TEXAS
 UNION PACIFIC RAILROAD

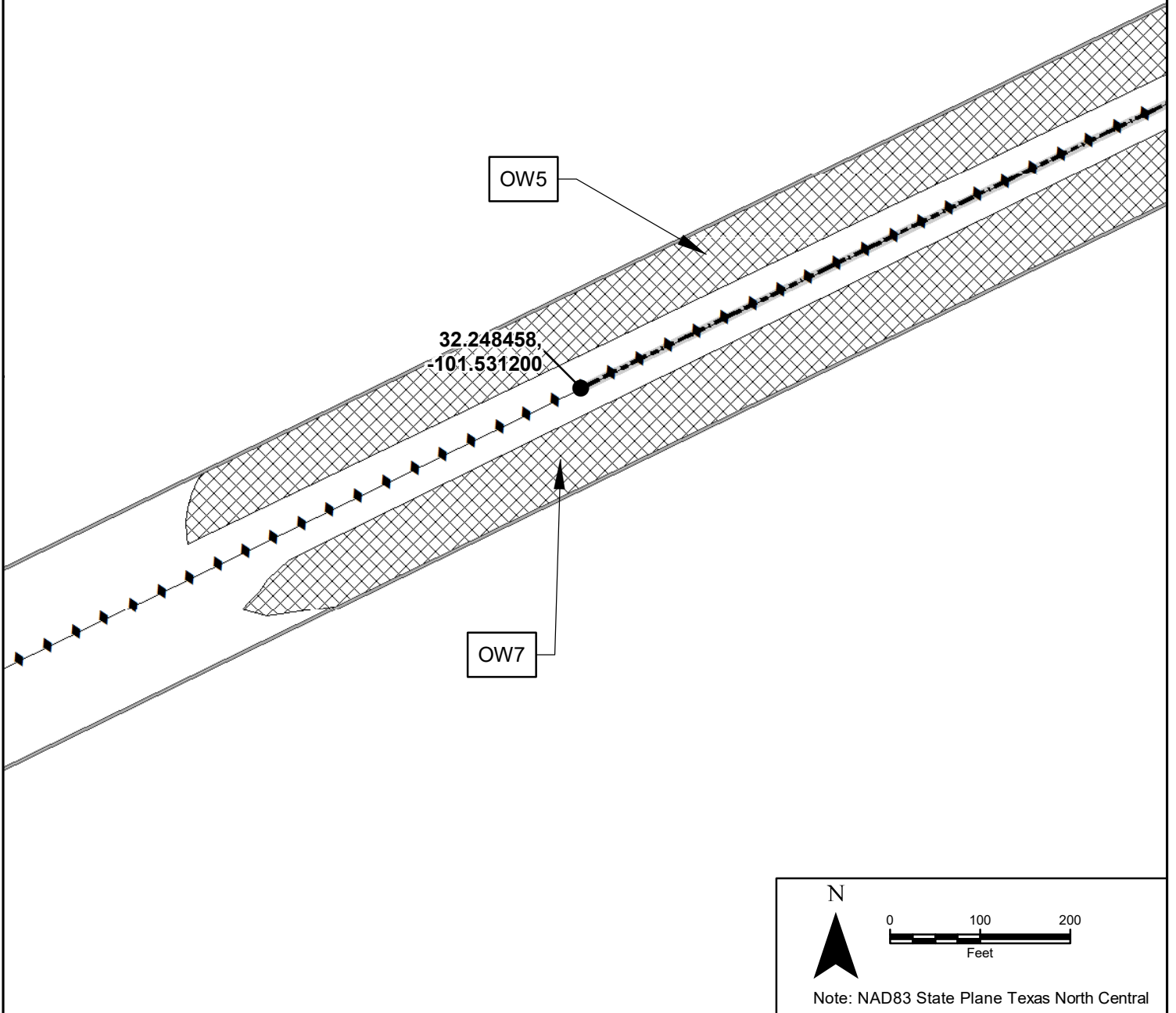
KEY SHEET OVERVIEW
 USACE PROJECT NO. SWF-2019-00074

ARCADIS | **FIGURE 3**
 Key Sheet

Open Water 5 (OW5) impacts provided on sheet 3 of 13
 Open Water 7 (OW7) impacts provided on sheet 2 of 13



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Note: NAD83 State Plane Texas North Central

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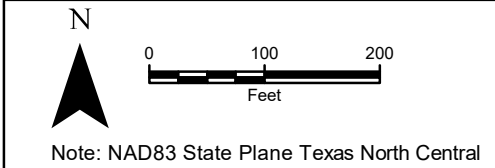
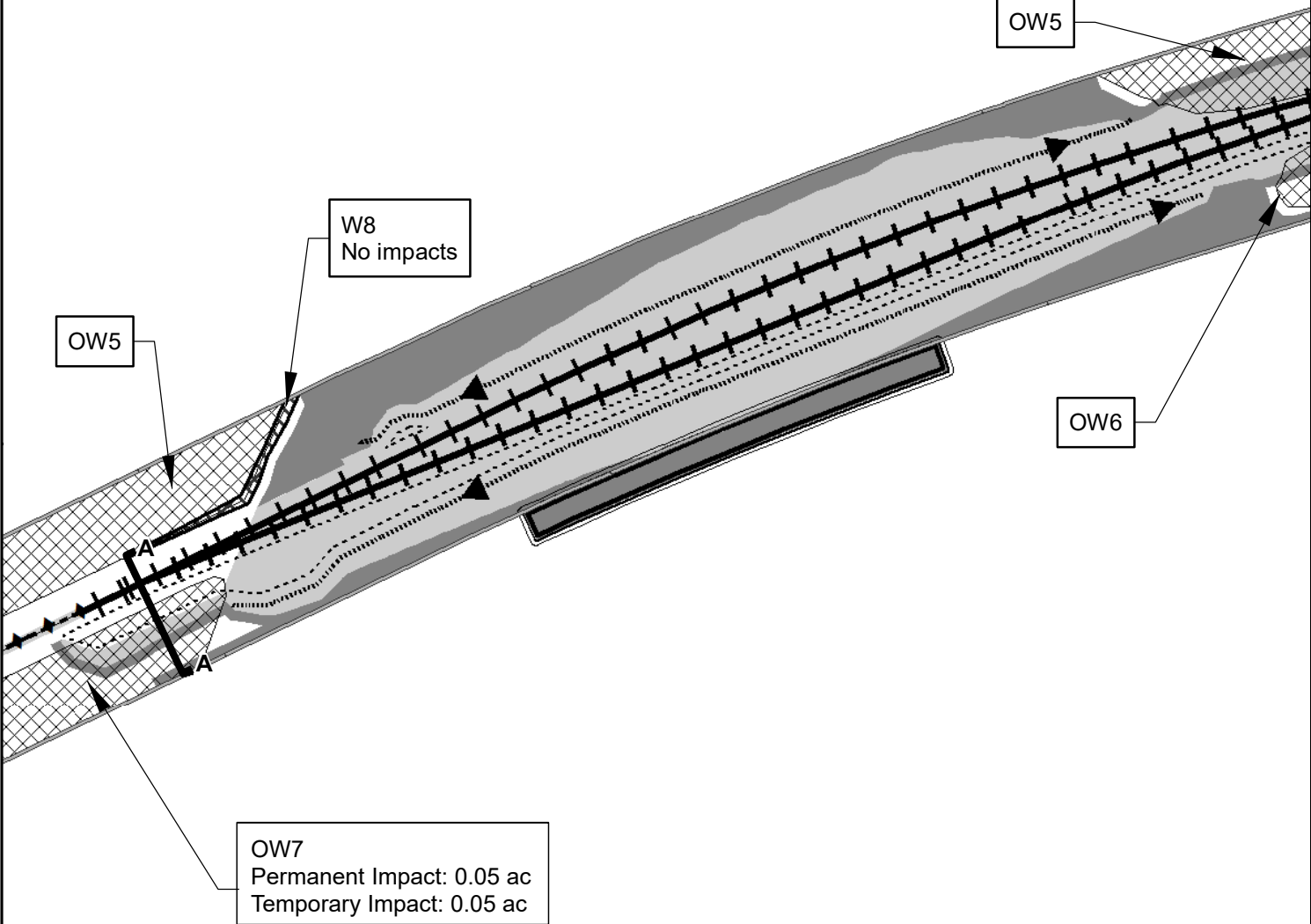
- Point of Beginning (POB)
- ◆ Existing Mainline Track Centerline
- Proposed Track Rise
- Existing Right-of-Way
- Open Water
- Permanent Workspace

BIG SPRING SIDING PROJECT
 TOYAH SUBDIVISION 513.79 TO 516.54
 HOWARD COUNTY, TEXAS
 UNION PACIFIC RAILROAD

PLAN VIEW
 USACE PROJECT NO. SWF-2019-00074

ARCADIS | **FIGURE 3**
 SHEET 1 OF 13

Open Water 7 (OW7)
 Subgrade stabilization, embankment, and temporary workspace
Wetland 8 (W8) No impacts
Open Waters 5 (OW5) and 6 (OW6) impacts provided on sheet 3 of 13



Legend	
◆—◆	Existing Mainline Track Centerline
—+—	Proposed Siding Track Centerline
- - - -	Proposed Track Rise
▲-----	Proposed Swale and Flow Direction
- - - -	Proposed Access Road/Turnout Pad
—	Existing Right-of-Way
	Proposed Right-of-Way Acquisition
	Open Water
	Palustrine Emergent
	Permanent Workspace
	Temporary Workspace

BIG SPRING SIDING PROJECT
 TOYAH SUBDIVISION 513.79 TO 516.54
 HOWARD COUNTY, TEXAS
 UNION PACIFIC RAILROAD

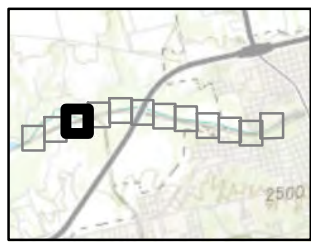
PLAN VIEW
 USACE PROJECT NO. SWF-2019-00074

ARCADIS | **FIGURE 3 SHEET 2 OF 13**

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Open Water 5 (OW5)
Subgrade stabilization, embankment, and temporary workspace
Open Water 6 (OW6)
Subgrade stabilization, embankment, and temporary workspace
Wetland 7 (W7)
Subgrade stabilization and embankment
Stream 4 (S4) No impacts

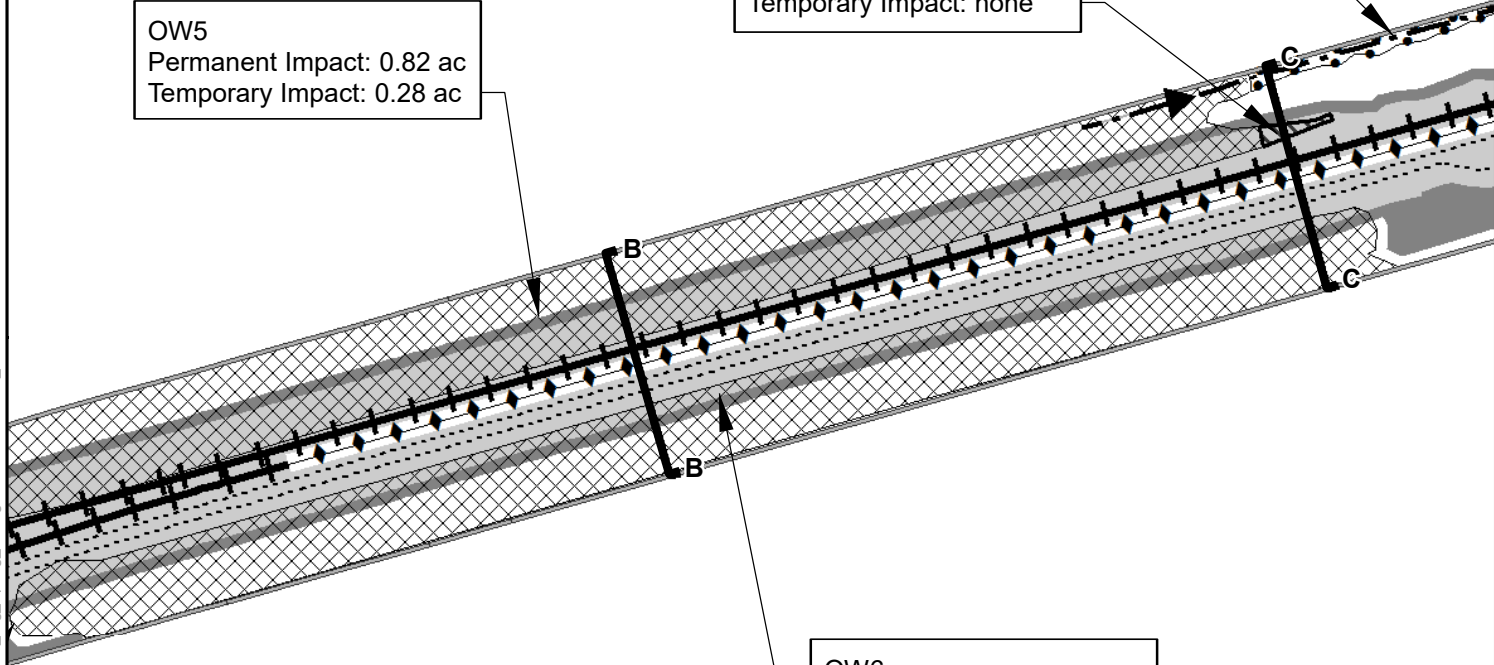


S4
No Impacts

W7
Permanent Impact: 0.01ac
Temporary Impact: none

OW5
Permanent Impact: 0.82 ac
Temporary Impact: 0.28 ac

OW6
Permanent Impact: 0.31 ac
Temporary Impact: 0.28 ac



N

0 100 200
Feet

Note: NAD83 State Plane Texas North Central

Legend

	Existing Mainline Track Centerline		Intermittent Stream and Flow Direction
	Proposed Siding Track Centerline		Open Water
	Existing Swale and Flow Direction		Palustrine Emergent
	Proposed Access Road/Turnout Pad		Permanent Workspace
	Existing Right-of-Way		Temporary Workspace

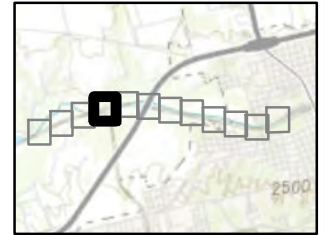
BIG SPRING SIDING PROJECT
TOYAH SUBDIVISION 513.79 TO 516.54
HOWARD COUNTY, TEXAS
UNION PACIFIC RAILROAD

PLAN VIEW
USACE PROJECT NO. SWF-2019-00074

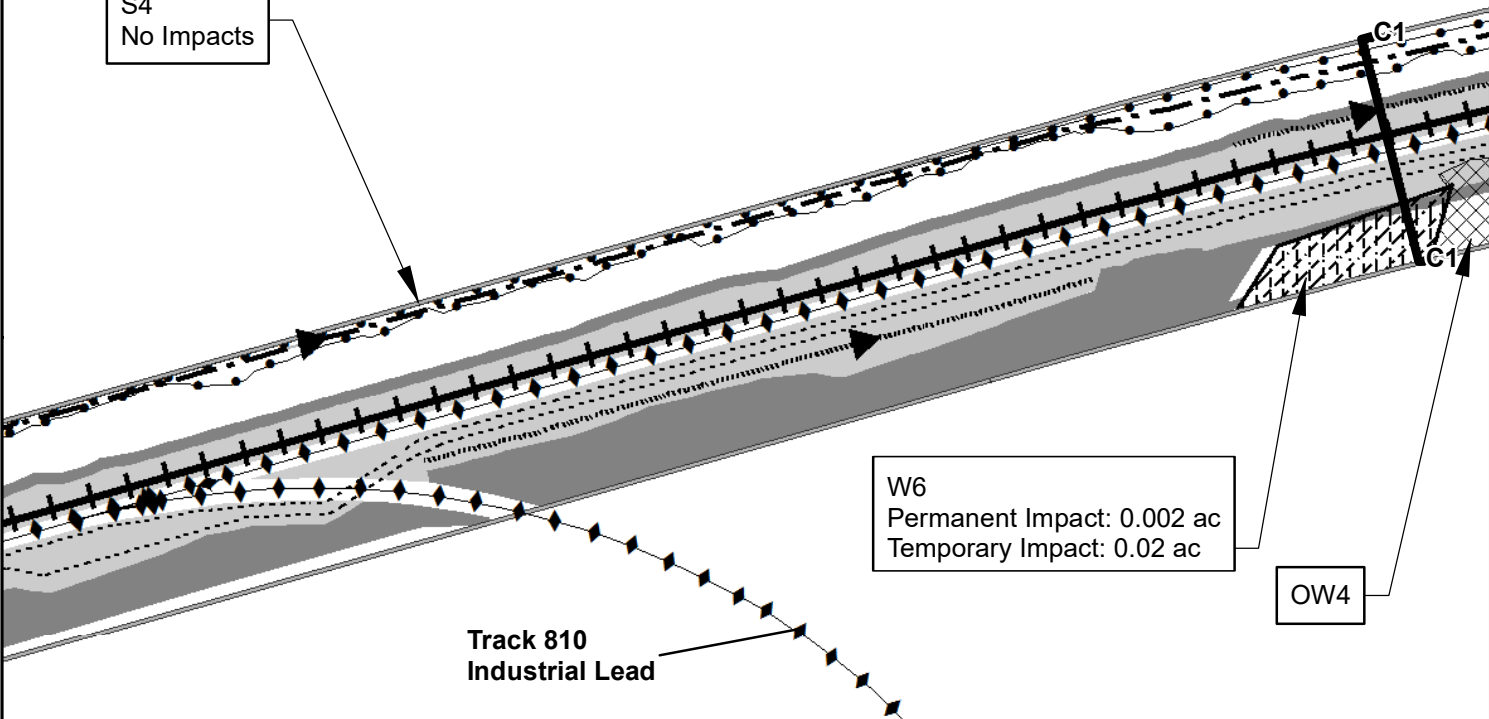
ARCADIS

FIGURE
3
SHEET
3 OF 13

Wetland 6 (W6)
 Temporary Workspace, embankment, and subgrade stabilization
Stream 4 No impacts
Open Water 4 (OW4) impacts provided on sheet 5 of 13



S4
 No Impacts



W6
 Permanent Impact: 0.002 ac
 Temporary Impact: 0.02 ac

OW4

Track 810
Industrial Lead

N

 0 100 200
 Feet
 Note: NAD83 State Plane Texas North Central

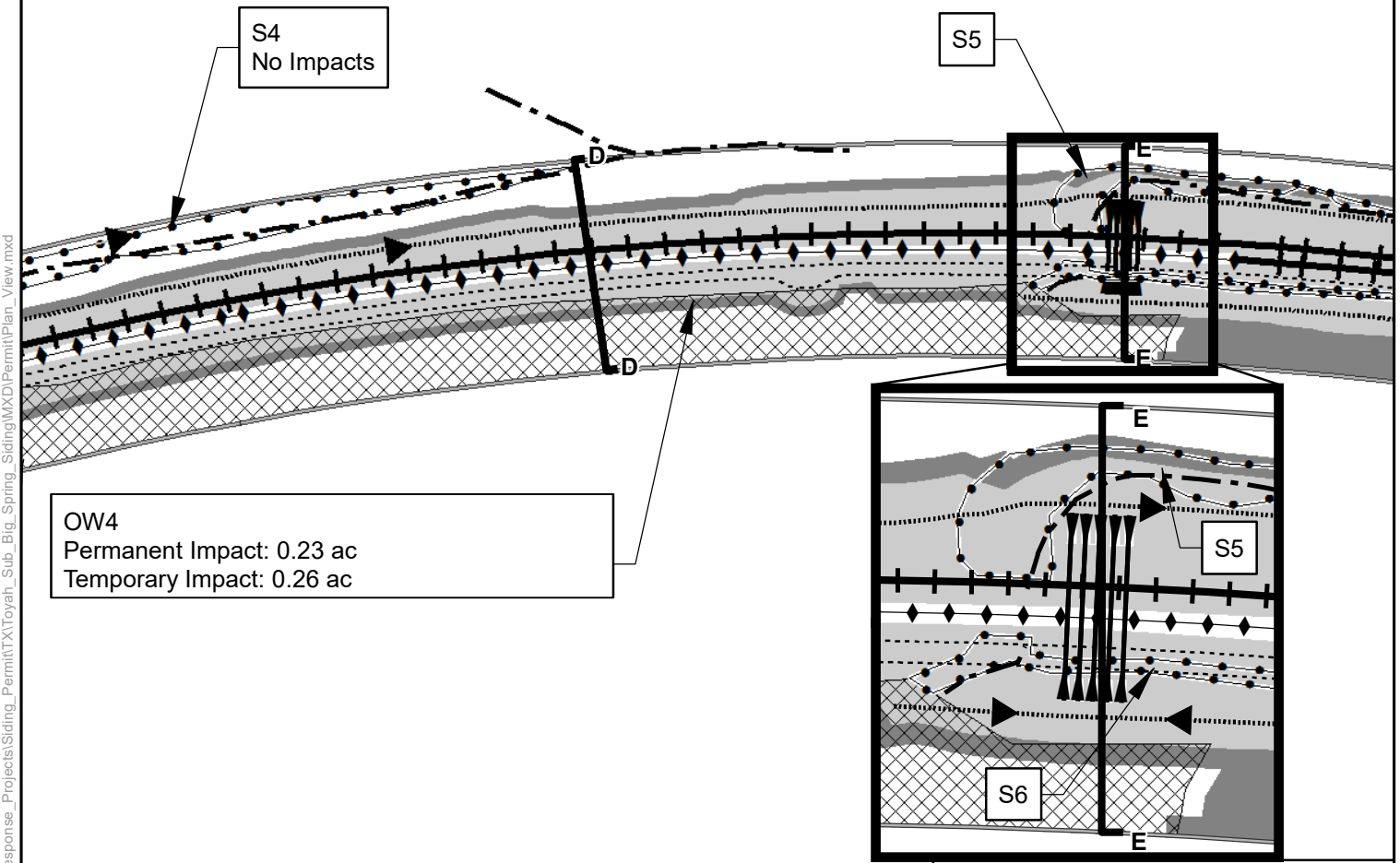
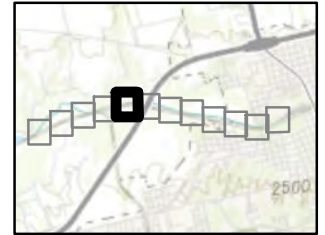
Legend	
	Existing Mainline Track Centerline
	Proposed Siding Track Centerline
	Proposed Swale and Flow Direction
	Existing Swale and Flow Direction
	Proposed Access Road/Turnout Pad
	Existing Right-of-Way
	Intermittent Stream and Flow Direction
	Open Water
	Palustrine Scrub/Shrub
	Permanent Workspace
	Temporary Workspace

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 HOWARD COUNTY, TEXAS
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PLAN VIEW
 USACE PROJECT NO. SWF-2019-00074

ARCADIS | **FIGURE 3**
SHEET 4 OF 13

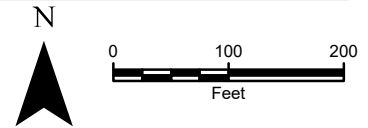
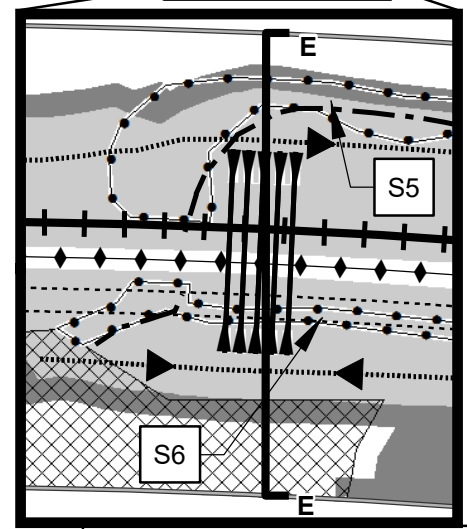
Stream 5 (S5) Impacts provided on sheet 6 of 13
 Open Water 4 (OW4)
 Temporary workspace, embankment, and
 Subgrade stabilization
 Stream 4 (S4) No impact
 Stream 6 (S6) Impacts provided on sheet 6 of 13



OW4
 Permanent Impact: 0.23 ac
 Temporary Impact: 0.26 ac

S5

S4
 No Impacts



Note: NAD83 State Plane Texas North Central

Legend	
	Existing Mainline Track Centerline
	Proposed Siding Track Centerline
	Proposed Swale and Flow Direction
	Existing Swale and Flow Direction
	Proposed Access Road/Turnout Pad
	Existing Right-of-Way
	Intermittent Stream and Flow Direction
	Open Water
	Proposed Culvert
	Permanent Workspace
	Temporary Workspace

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 TOYAH SUBDIVISION 513.79 TO 516.54
 HOWARD COUNTY, TEXAS
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PLAN VIEW
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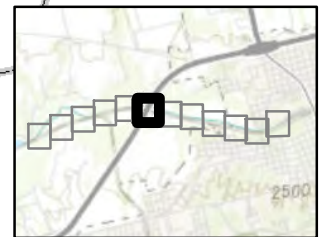
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FIGURE 3
 SHEET 5 OF 13

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Stream 5 (S5)
 Riprap for culvert (MP 515.61), swale,
 temporary workspace, embankment
Stream 6 (S6) Embankment
 Access road, culverts (5-54" x 88' SSP),
 I-20 overpass bent relocation, 2-temporary crossings
Wetland 4 (W4)
 Swale and temporary workspace
Wetland 5 (W5)
 Swale and temporary workspace



S5
 Permanent Impact: 1716.91 linear feet
 Temporary Impact: 144.69 linear feet

W5
 Permanent Impact: 0.10
 Temporary Impact: 0.08 ac

S6 (ditch)
 Permanent Impact: 1310.50 linear feet
 Temporary Impact: 20.68 linear feet

W4
 Permanent Impact: 0.23
 Temporary Impact: 0.13 ac

N

Note: NAD83 State Plane Texas North Central

Legend

	Proposed Siding Track Centerline		Intermittent Stream and Flow Direction
	Streets		Palustrine Emergent
	Proposed Swale and Flow Direction		Palustrine Scrub/Shrub
	Existing Swale and Flow Direction		Permanent Workspace
	Proposed Access Road/Turnout Pad		Temporary Workspace
	Existing Right-of-Way		

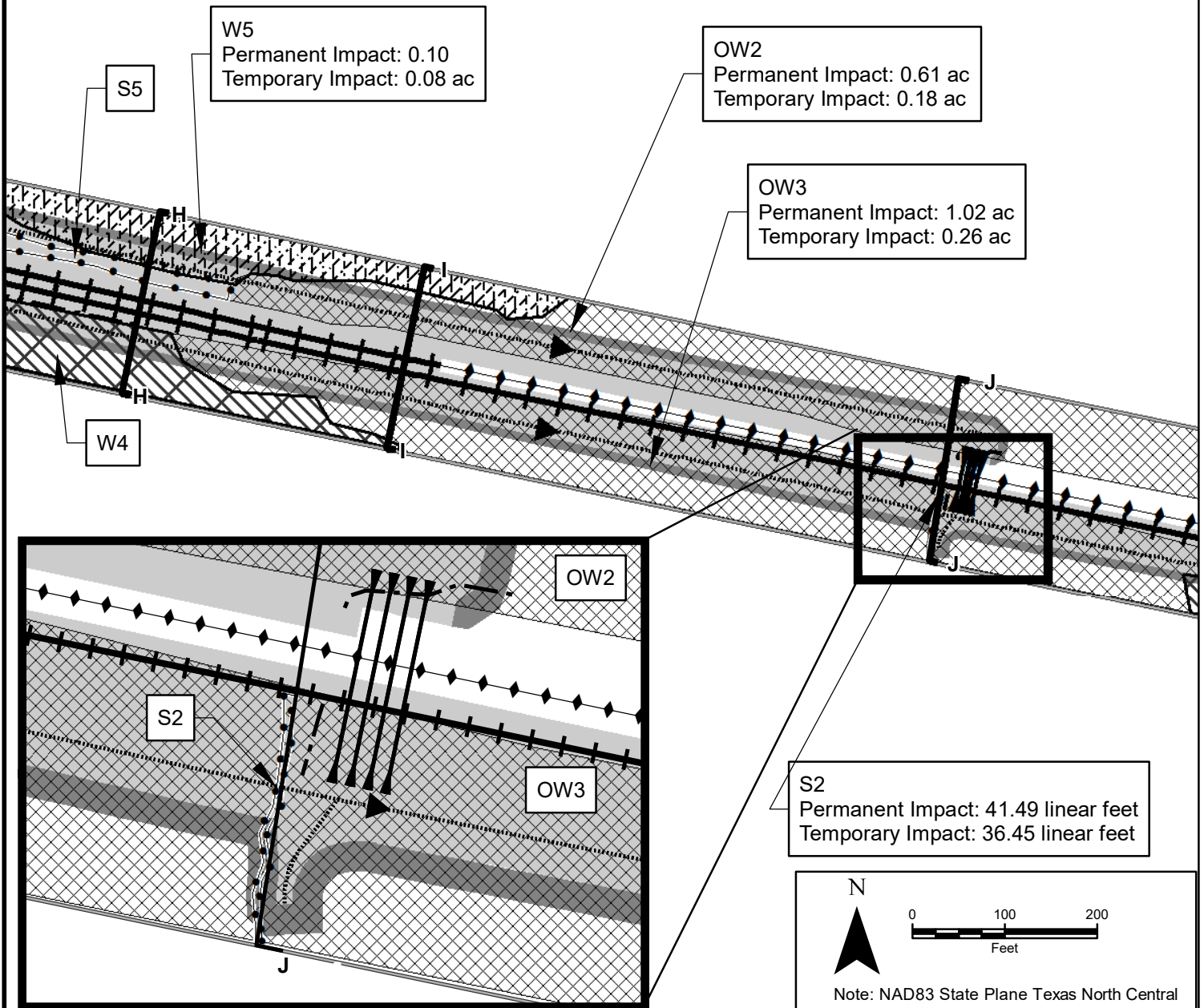
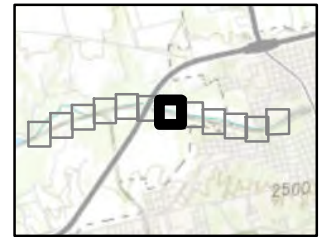
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 TOYAH SUBDIVISION 513.79 TO 516.54
 HOWARD COUNTY, TEXAS
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PLAN VIEW
 USACE PROJECT NO. SWF-2019-00074

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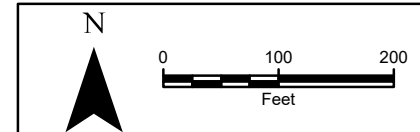
FIGURE
3
 SHEET
 6 OF 13

Open Water 2 (OW2)
 Swale, temporary workspace, embankment, culverts and riprap
Open Water 3 (OW3)
 Embankment, swale, temporary workspace, culverts and riprap
Stream 2 (S2)
 Embankment, culvert and riprap
Stream 5 (S5) Impacts provided on sheet 6 of 13
Wetland 5 (W5)
 Swale, temporary workspace, embankment



Legend

- | | |
|--|------------------------|
| ◆◆ Existing Mainline Track Centerline | Open Water |
| —+— Proposed Siding Track Centerline | Palustrine Emergent |
| ▲..... Proposed Swale and Flow Direction | Palustrine Scrub/Shrub |
| ▲- - Existing Swale and Flow Direction | Proposed Culvert |
| — Existing Right-of-Way | Permanent Workspace |
| Intermittent Stream and Flow Direction | Temporary Workspace |



Note: NAD83 State Plane Texas North Central

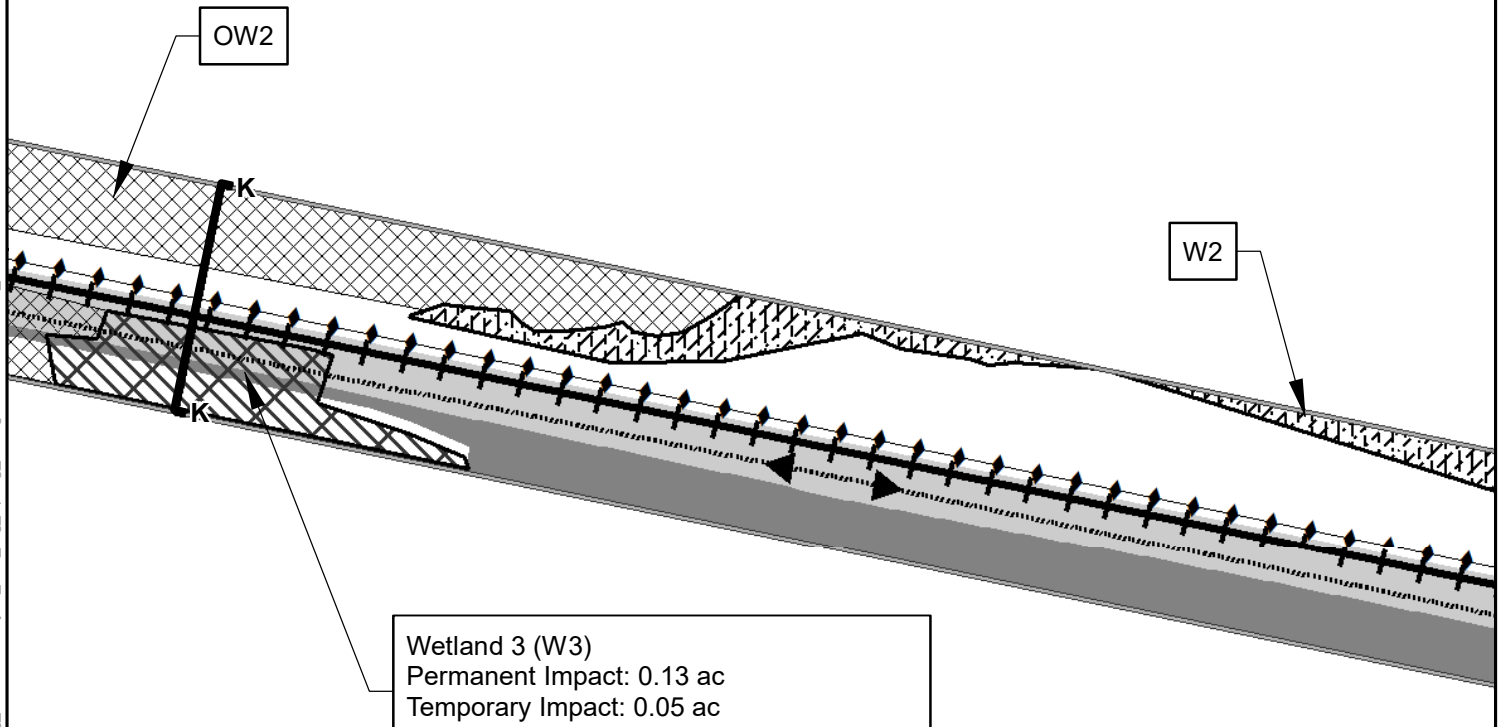
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 TOYAH SUBDIVISION 513.79 TO 516.54
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 USACE PROJECT NO. SWF-2019-00074

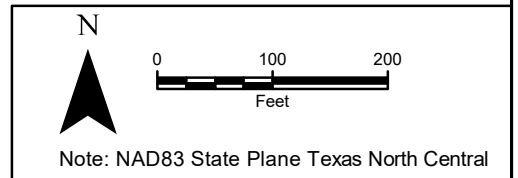


FIGURE
3
SHEET
7 OF 13

Open Water 2 (OW2)
 Impacts provided on sheet 7 of 13
Wetland 2 (W2)
 Impacts provided on sheet 9 of 13
Wetland 3 (W3)
 Embankment, swale, temporary workspace



Wetland 3 (W3)
 Permanent Impact: 0.13 ac
 Temporary Impact: 0.05 ac



Legend	
	Existing Mainline Track Centerline
	Proposed Siding Track Centerline
	Streets
	Proposed Swale and Flow Direction
	Existing Right-of-Way
	Open Water
	Palustrine Emergent
	Palustrine Scrub/Shrub
	Permanent Workspace
	Temporary Workspace

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 TOYAH SUBDIVISION 513.79 TO 516.54
 HOWARD COUNTY, TEXAS
 UNION PACIFIC RAILROAD

PLAN VIEW
 USACE PROJECT NO. SWF-2019-00074

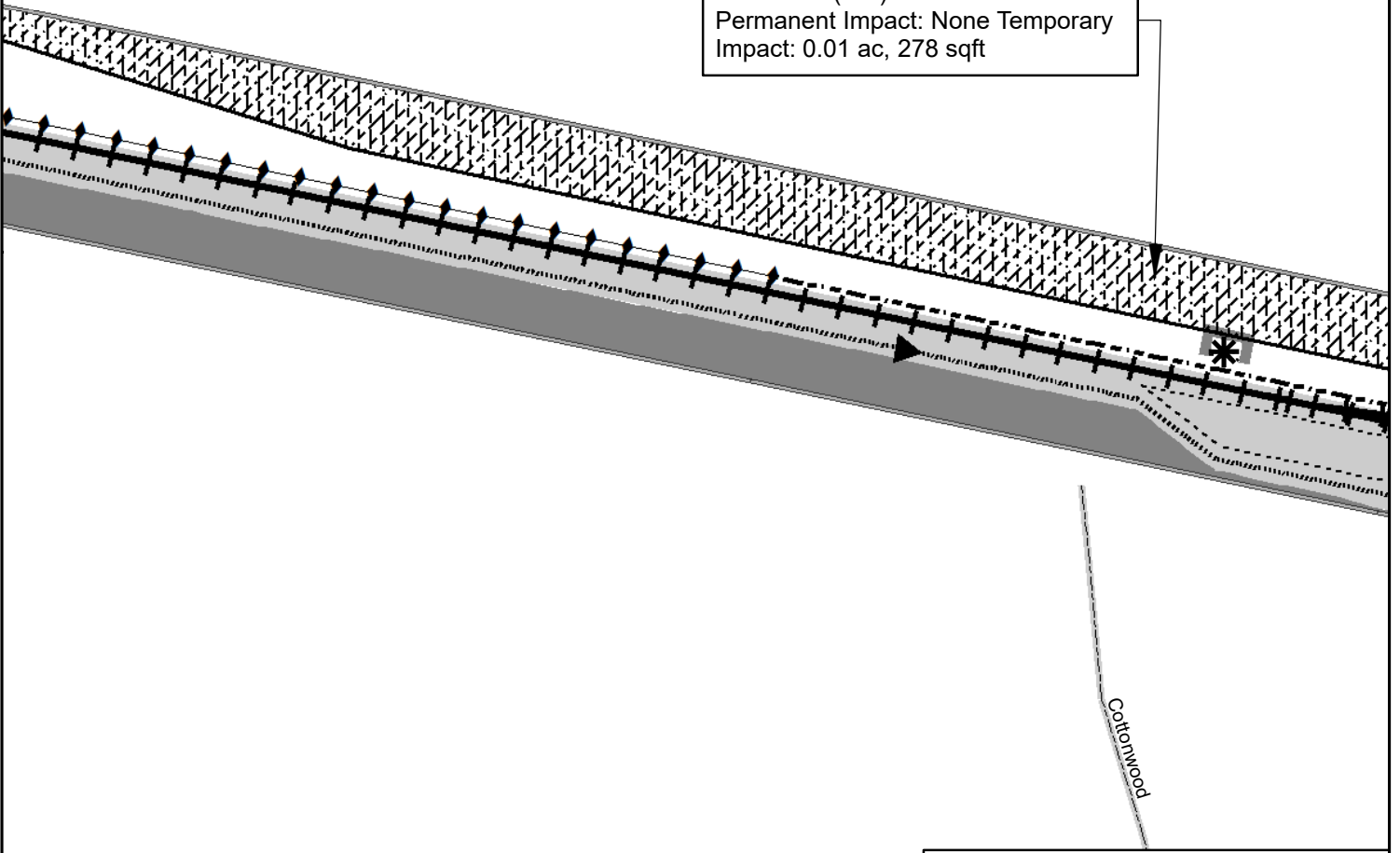
ARCADIS | **FIGURE 3**
 SHEET 8 OF 13

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**Wetland 2 (W2)
Temporary workspace**



Wetland 2 (W2)
Permanent Impact: None Temporary
Impact: 0.01 ac, 278 sqft



Cottonwood

N

0 100 200
Feet

Note: NAD83 State Plane Texas North Central

Legend	
Signal Mound	Proposed Access Road/Turnout Pad
Existing Mainline Track Centerline	Existing Right-of-Way
Proposed Siding Track Centerline	Palustrine Scrub/Shrub
Proposed Track Rise	Permanent Workspace
Streets	Temporary Workspace
Proposed Swale and Flow Direction	

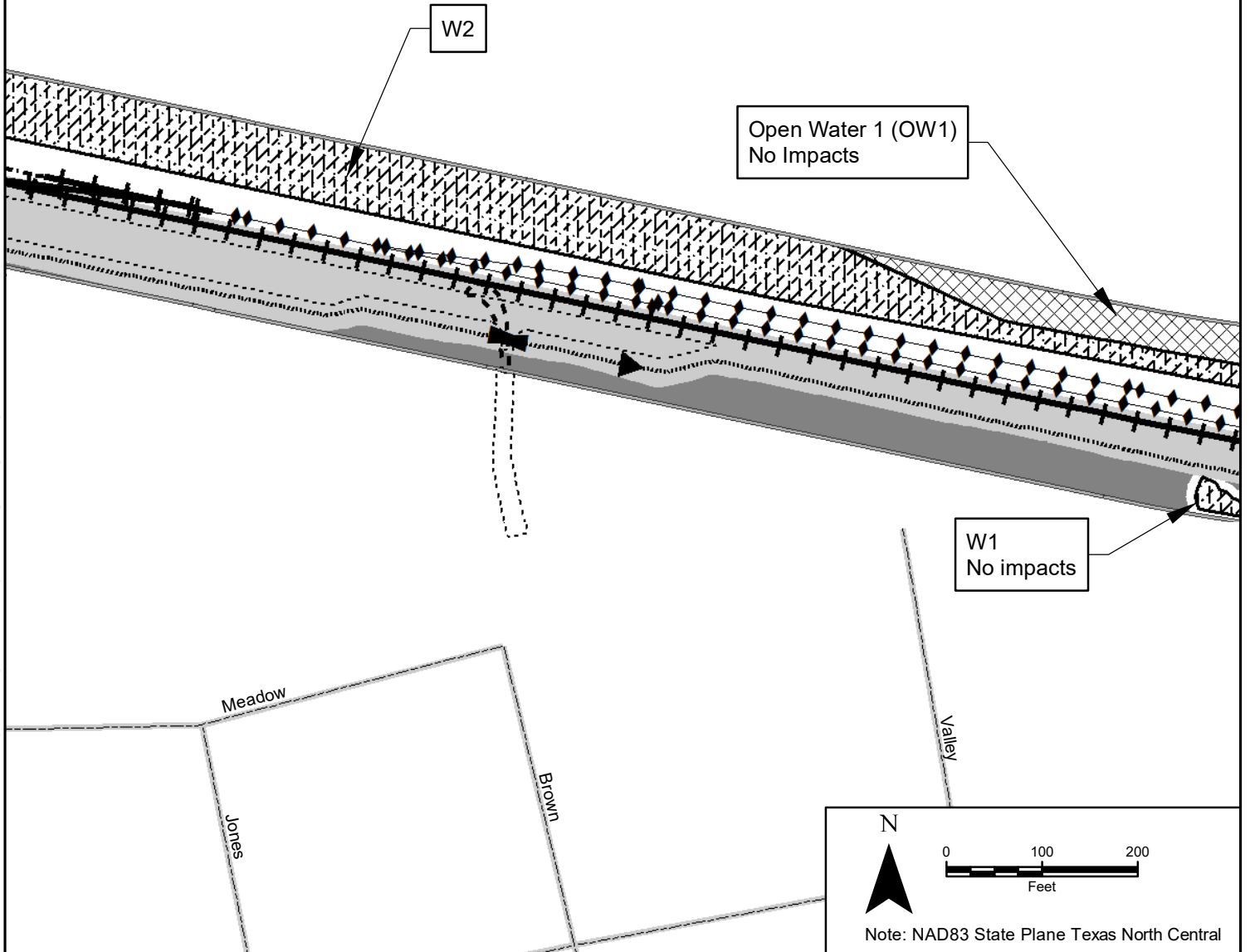
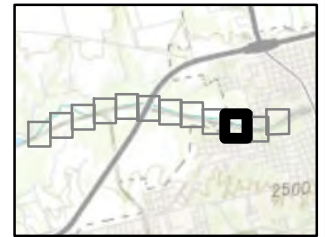
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TOYAH SUBDIVISION 513.79 TO 516.54
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UNION PACIFIC RAILROAD

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USACE PROJECT NO. SWF-2019-00074

ARCADIS | **FIGURE 3**
SHEET 9 OF 13

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Wetland 2 (W2)
 Impacts shown on sheet 9 of 13
Open Water 1 (OW1)
 No impacts
Wetland 1 (w1)
 No impacts



N

 0 100 200
 Feet
 Note: NAD83 State Plane Texas North Central

Legend	
	Existing Mainline Track Centerline
	Proposed Siding Track Centerline
	Proposed Track Rise
	Streets
	Proposed Swale and Flow Direction
	Proposed Access Road/Turnout Pad
	Existing Right-of-Way
	Existing Access Road
	Open Water
	Palustrine Scrub/Shrub
	Proposed Culvert
	Permanent Workspace
	Temporary Workspace

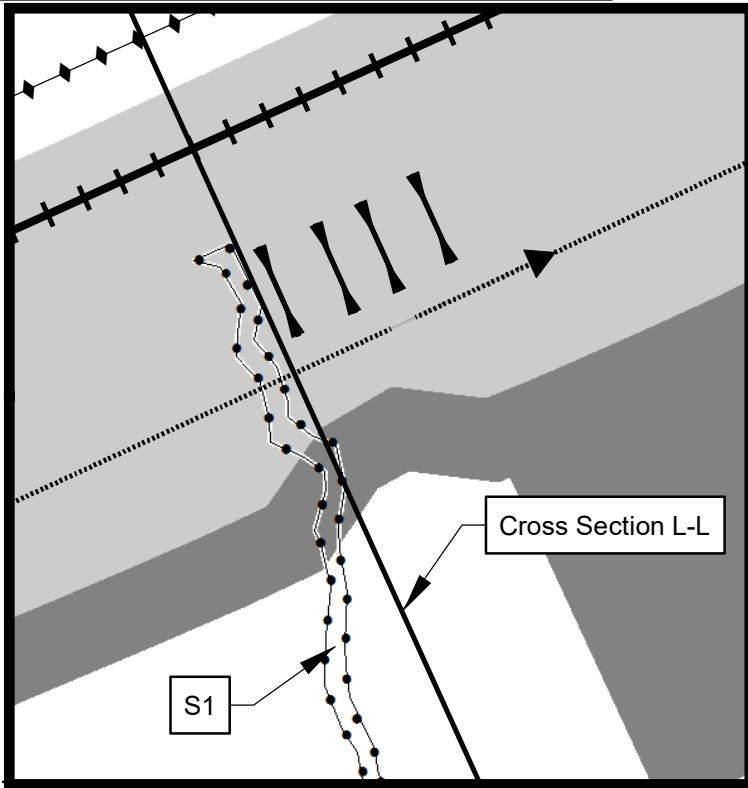
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 TOYAH SUBDIVISION 513.79 TO 516.54
 HOWARD COUNTY, TEXAS
 UNION PACIFIC RAILROAD

PLAN VIEW
 USACE PROJECT NO. SWF-2019-00074

ARCADIS | **FIGURE 3**
 SHEET 10 OF 13

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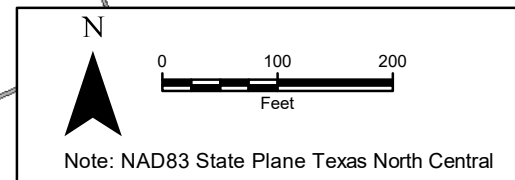
**Stream 1 (S1)
Riprap, swale, and temporary workspace**



Cross Section L-L

S1

S1
Permanent Impact: 28.53 linear feet
Temporary Impact: 14.53 linear feet



Legend	
◆◆ Existing Mainline Track Centerline	— Existing Right-of-Way
◆◆ Proposed Siding Track Centerline	◀ Intermittent Stream and Flow Direction
◆◆ Proposed Swale and Flow Direction	▶ Proposed Culvert
◆◆ Existing Swale and Flow Direction	◻ Permanent Workspace
◆◆ Proposed Access Road/Turnout Pad	◼ Temporary Workspace

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HOWARD COUNTY, TEXAS
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PLAN VIEW
USACE PROJECT NO. SWF-2019-00074

ARCADIS | **FIGURE 3 SHEET 12 OF 13**

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No Impacts



32.252477,
-101.483737

1st

2nd

Bel



0 100 200
Feet

Note: NAD83 State Plane Texas North Central

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TOYAH SUBDIVISION 513.79 TO 516.54
HOWARD COUNTY, TEXAS
UNION PACIFIC RAILROAD

PLAN VIEW
USACE PROJECT NO. SWF-2019-00074



FIGURE
3
SHEET
13 OF 13

Legend

- Point of Ending (POE)
- Permanent Workspace and Existing Track
- Existing Mainline Track Centerline
- Proposed Siding Track Centerline
- Proposed Track Rise
- Streets
- Proposed Swale and Flow Direction
- Existing Swale and Flow Direction
- Proposed Access Road/Turnout Pad
- Existing Right-of-Way
- Existing Access Road
- Permanent Workspace
- Temporary Workspace

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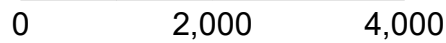


Legend

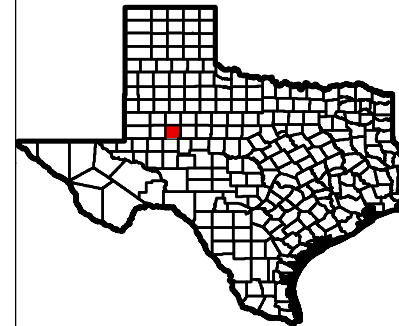
- ▲ SURVEY END POINTS
- ≡≡ EXISTING TRACK CENTERLINE
- ▬ 200-FT WIDE SURVEY AREA



Feet



1 inch = 2,000 feet



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Union Pacific Railroad

PROJECT LOCATION

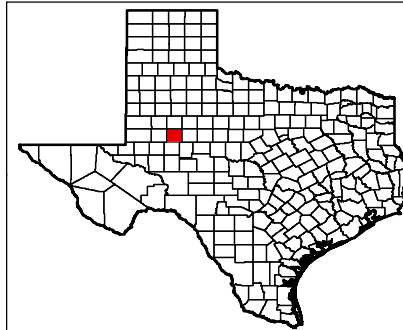
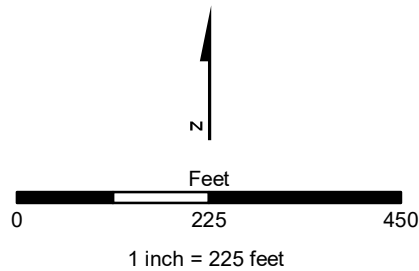


FIGURE
1B



LEGEND

- ▲ Survey End Points
 - Stream Data Point
 - ≡ Existing Track Centerline
 - ▭ 200-ft Wide Survey Area
- Delineated Wetlands**
- Intermittent Stream



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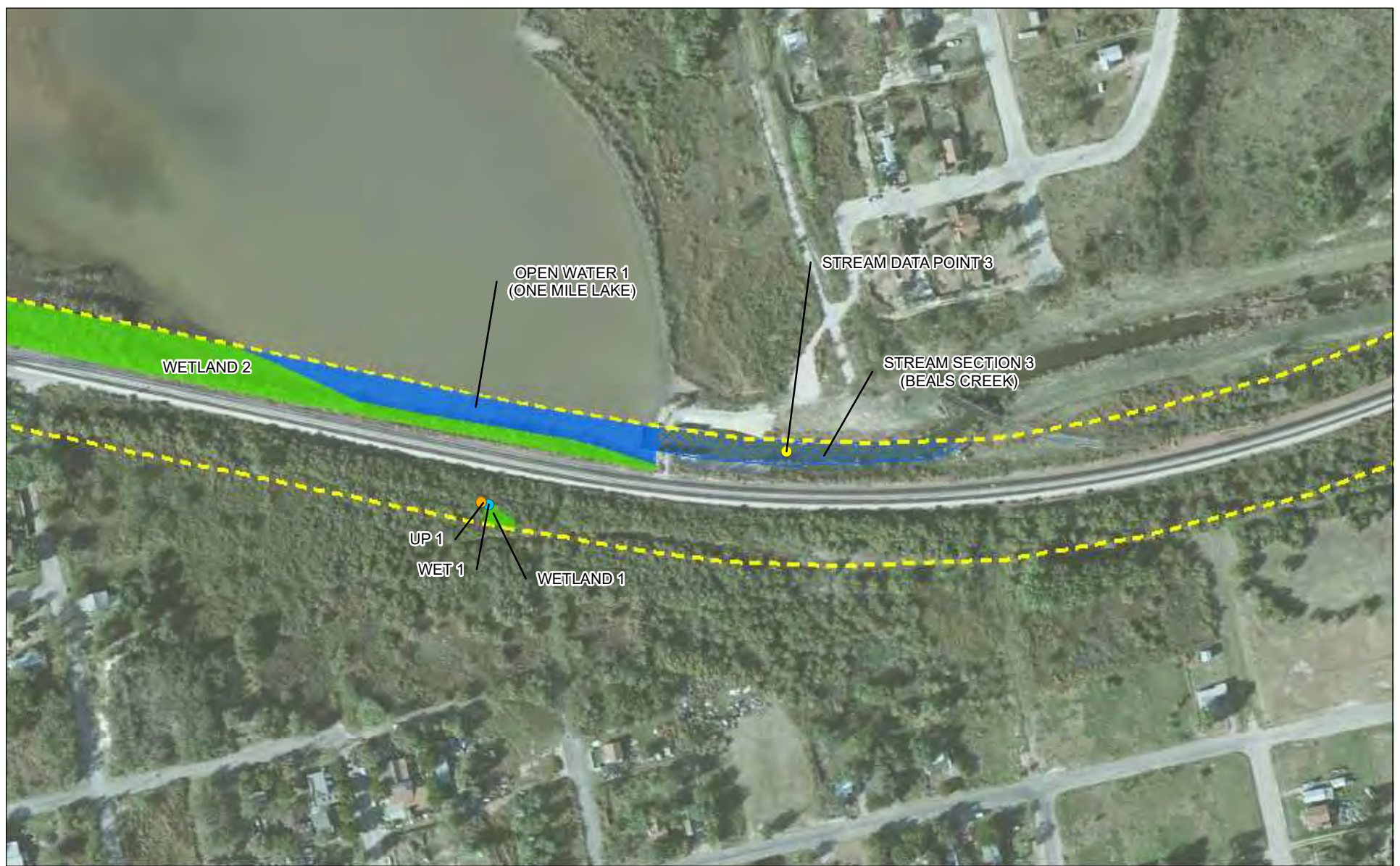
**AQUATIC RESOURCES
 DELINEATION RESULTS**



FIGURE
2A

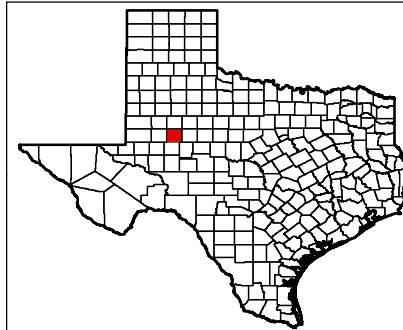
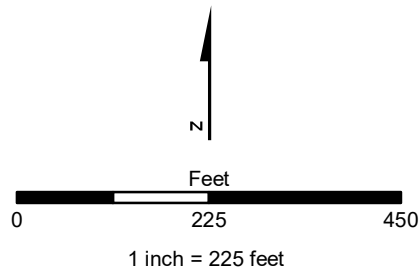
SWF-2019-00074

Date: 2/22/2019 User Name: tjscott Document Path: Z:\GIS\Projects\ENV\UPRR\UPRR_BigSpring\MXD\2019\UPRR_BigSpring_F2_Delineation.mxd



LEGEND

- Stream Data Point
 - Upland Data Point
 - Wetland Data Point
 - 200-ft Wide Survey Area
- Delineated Wetlands**
- Scrub/Shrub Wetland
 - Lacustrine - Open Water
 - Perennial Stream



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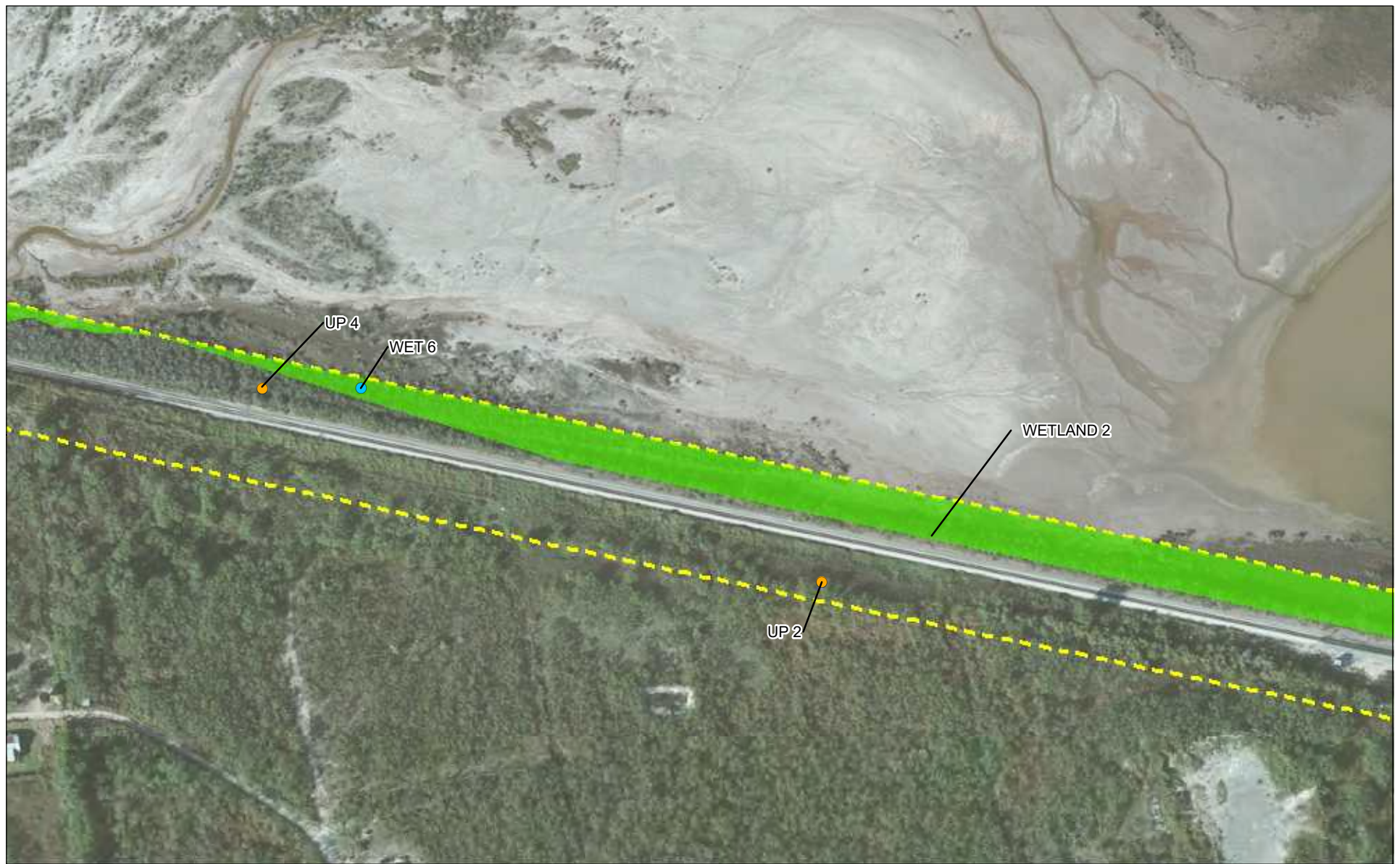
**AQUATIC RESOURCES
 DELINEATION RESULTS**



FIGURE
2B

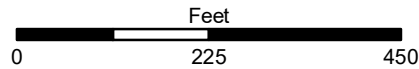
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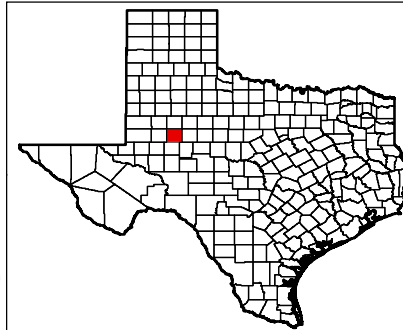


LEGEND

- Upland Data Point
- Wetland Data Point
- 200-ft Wide Survey Area
- Delineated Wetlands**
- Scrub/Shrub Wetland



1 inch = 225 feet



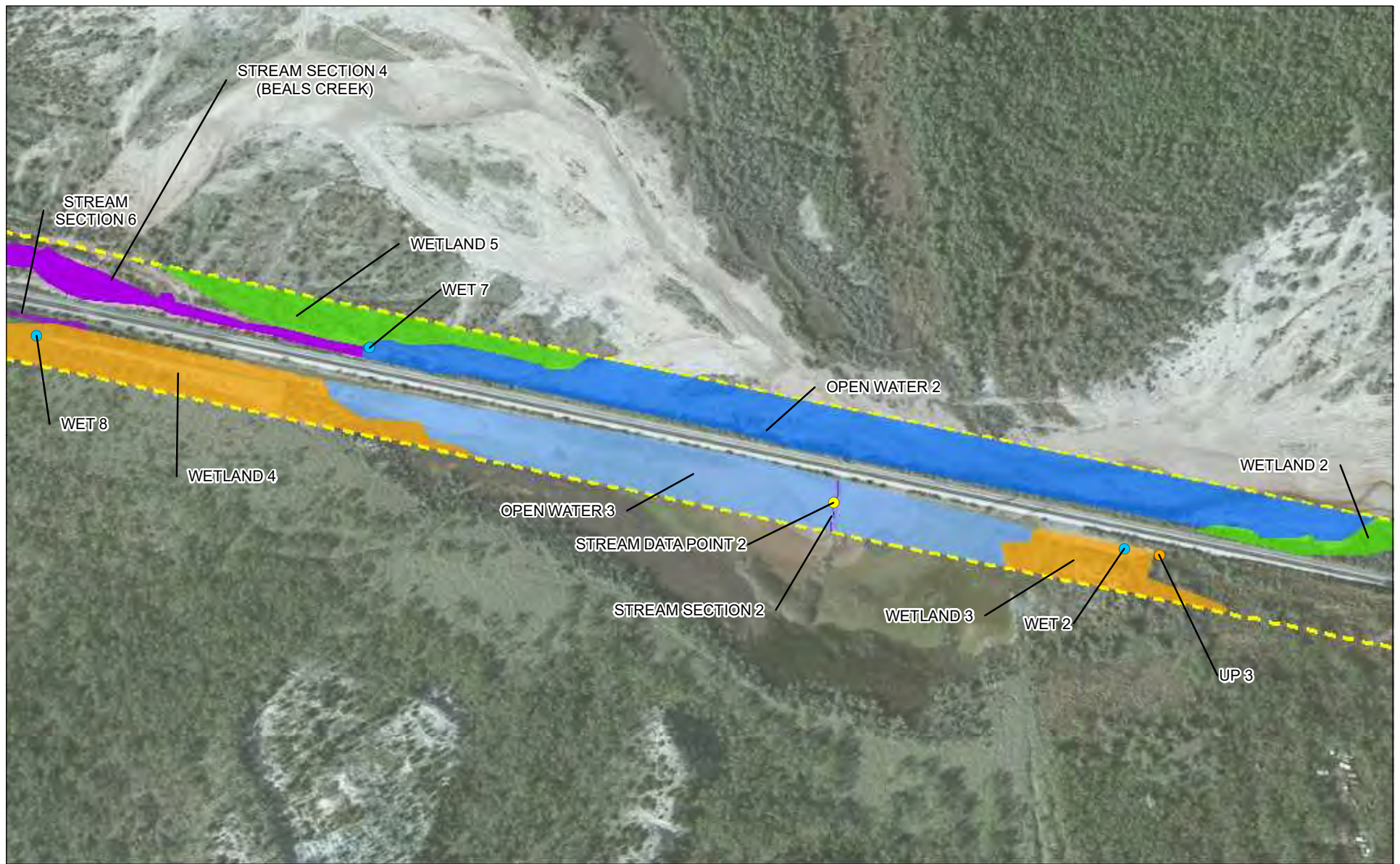
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Toyah Subdivision, MP 513.79 to 516.54
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**AQUATIC RESOURCES
DELINEATION RESULTS**



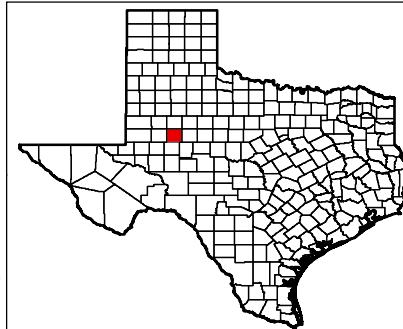
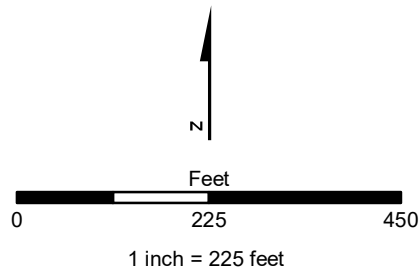
FIGURE
2C

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, NES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Coordinate System: NAD 1983 State Plane Texas North Central FIPS 4202 Feet
Projection: Lambert Conformal Conic



LEGEND

- Stream Data Point
 - Upland Data Point
 - Wetland Data Point
 - - 200-ft Wide Survey Area
- Delineated Wetlands**
- Intermittent Stream
 - Scrub/Shrub Wetland
 - Emergent Wetland
 - Lacustrine - Open Water
 - Palustrine - Open Water



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**AQUATIC RESOURCES
 DELINEATION RESULTS**

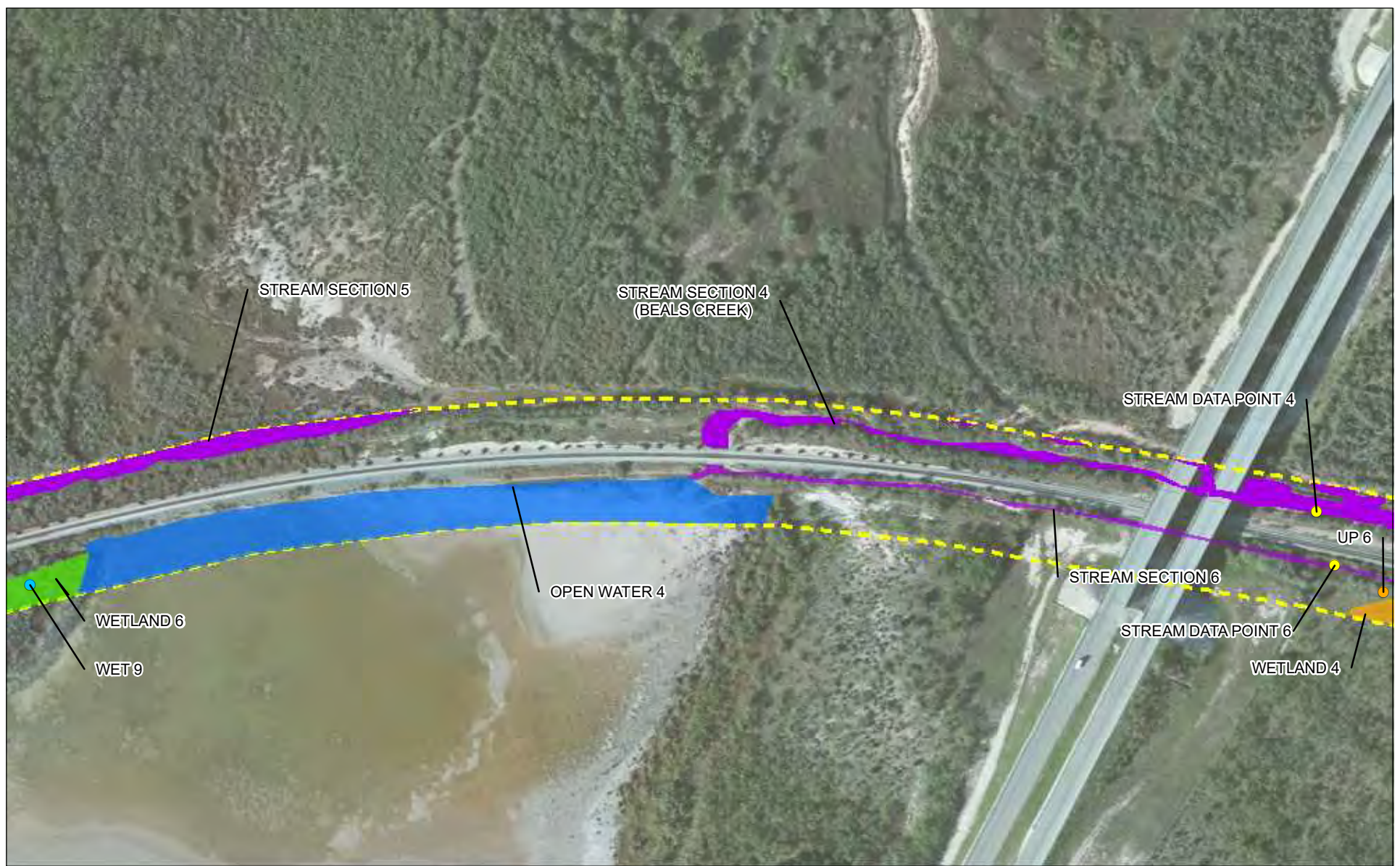


FIGURE
2D

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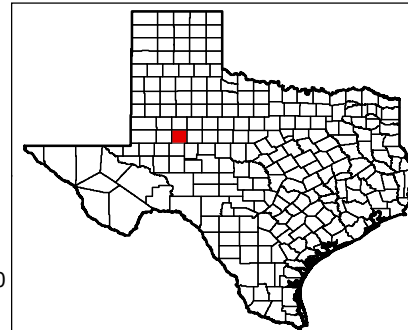
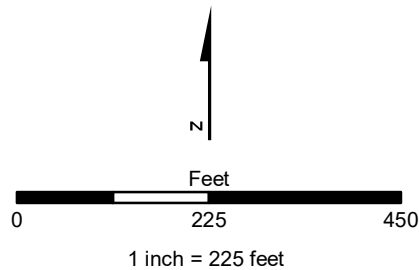
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, NES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
 Coordinate System: NAD 1983 State Plane Texas North Central FIPS 4202 Feet
 Projection: Lambert Conformal Conic

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Document Path: Z:\GIS\Projects\ENV\UPRR\UPRR_BigSpring\MXD\2019\UPRR_BigSpring_F2_Delineation.mxd



LEGEND

- Stream Data Point
 - Upland Data Point
 - Wetland Data Point
 - 200-ft Wide Survey Area
- Delineated Wetlands**
- Intermittent Stream
 - Scrub/Shrub Wetland
 - Emergent Wetland
 - Lacustrine - Open Water



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**AQUATIC RESOURCES
DELINEATION RESULTS**



FIGURE
2E

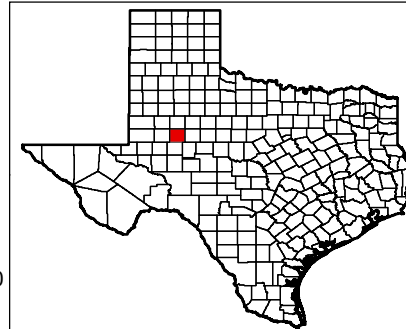
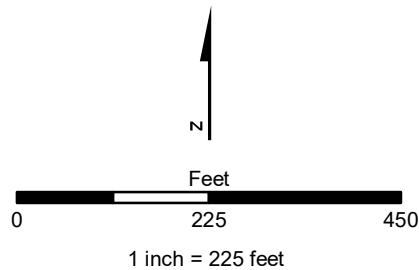
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, NES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Coordinate System: NAD 1983 State Plane Texas North Central FIPS 4202 Feet
Projection: Lambert Conformal Conic

Date: 2/22/2019 User Name: tjscott
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LEGEND

- Stream Data Point
 - Upland Data Point
 - Wetland Data Point
 - 200-ft Wide Survey Area
- Delineated Wetlands**
- Intermittent Stream
 - Scrub/Shrub Wetland
 - Emergent Wetland
 - Lacustrine - Open Water
 - Palustrine - Open Water



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**AQUATIC RESOURCES
 DELINEATION RESULTS**



FIGURE
2F

SWF-2019-00074

April 5, 2019

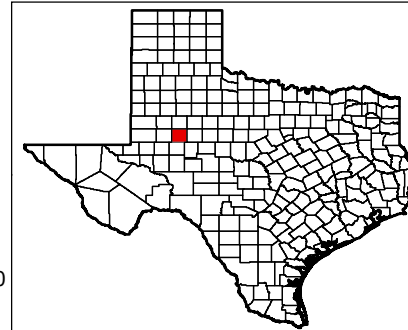
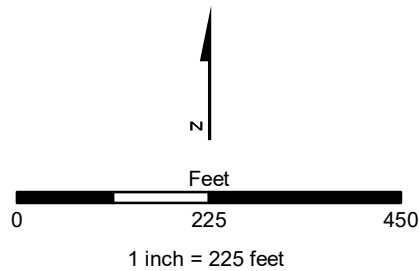
Exhibit 23 of 27

Date: 2/22/2019 User Name: tjscott
Document Path: Z:\GIS\Projects\ENV\UPRR\UPRR_BigSpring\MXD\2019\UPRR_BigSpring_F2_Delineation.mxd



LEGEND

- ▲ Survey End Points
- Wetland Data Point
- 200-ft Wide Survey Area
- Delineated Wetlands**
- Emergent Wetland
- Lacustrine - Open Water



Big Spring Siding Project
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Howard County, Texas
Union Pacific Railroad

**AQUATIC RESOURCES
DELINEATION RESULTS**



FIGURE
2G

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, NES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Coordinate System: NAD 1983 State Plane Texas North Central FIPS 4202 Feet
Projection: Lambert Conformal Conic

Table 1. Summary of Waterbody (Non-Wetland) Impacts

Feature ID	Flow Regime or Cowardin Classification ^a	Delineated Size ^{b, c}	Permanent Impact ^b	Temporary Impact ^b	Total Impact per Feature ^b	Impact Type
Streams, Ditches						
Stream 1	I	70	29	15	44	Swale, riprap fill, temporary workspace
Stream 2	I	82	42	37	79	Fill for embankment and culvert
Stream 3 <i>Beals Creek</i>	P	469	--	--	--	No impact
Stream 4 <i>Beals Creek</i>	I	2,166	--	--	--	No impact
Stream 5 <i>Beals Creek</i>	I	1,974	1,717	145	1,862	Fill for embankment and culvert, swale relocation
Stream 6 <i>man-made ditch</i>	I	1,343	1,311	21	1,332	Fill for embankment, access roads, and culvert; temporary workspace
Open Waterbodies						
Open Water 1 <i>Onemile Lake</i>	L	0.63	--	--	--	No impact
Open Water 2	L	2.43	0.61	0.18	0.79	Fill for embankment and culverts, swale relocation, temporary workspace
Open Water 3	PI	2.00	1.03	0.26	1.29	Fill for embankment and culverts, swale relocation, temporary workspace
Open Water 4	L	1.80	0.23	0.26	0.49	Subgrade stabilization, fill for embankment, temporary workspace
Open Water 5 <i>Threemile Lake</i>	L	4.66	0.82	0.28	1.10	Subgrade stabilization, fill for embankment, temporary workspace
Open Water 6	PI	1.73	0.31	0.28	0.59	Subgrade stabilization, fill for embankment, temporary workspace

Table 1. Summary of Waterbody (Non-Wetland) Impacts

Feature ID	Flow Regime or Cowardin Classification ^a	Delineated Size ^{b, c}	Permanent Impact ^b	Temporary Impact ^b	Total Impact per Feature ^b	Impact Type
Open Water 7 <i>Threemile Lake</i>	L	1.91	0.05	0.05	0.11	Subgrade stabilization, fill for embankment, temporary workspace
Intermittent Stream Total		5,635 LF	3,099 LF	218 LF	3,317 LF	--
Perennial Stream Total		469 LF	--	--	--	--
Stream Total		6,104 LF	3,099 LF	218 LF	3,317 LF	--
Open Waterbody Total		15.16 acres	3.05 acres	1.32 acres	4.38 acres	--

a. Cowardin, et al. 1979; E = ephemeral, I = intermittent, P = perennial, L = lacustrine, P = palustrine

b. Measurement rounded to the nearest linear foot (LF) or 0.01 acre. Streams and ditches are reported in LF; open waterbodies are reported in acres.

c. Delineated size of feature within the defined 200-ft-wide survey area.

Table 2. Summary of Wetland Impacts

Feature ID	Cowardin Classification ^a	Delineated Size ^{b,c}	Permanent Impact ^b (acre)	Temporary Impact ^b (acre)	Total Impact ^b (acre)	Impact Type
Wetland 1	PSS	0.03	--	--	--	No impact
Wetland 2	PSS	4.13	--	0.01	0.01	Temporary workspace
Wetland 3	PEM	0.43	0.13	0.05	0.18	Swale, fill for embankment, temporary workspace
Wetland 4	PEM	1.10	0.23	0.13	0.36	Swale and temporary workspace
Wetland 5	PSS	0.64	0.10	0.08	0.18	Swale and temporary workspace
Wetland 6	PSS	0.21	0.002	0.02	0.02	Subgrade stabilization, fill for embankment, temporary workspace
Wetland 7	PEM	0.01	0.01	--	0.01	Subgrade stabilization, fill for embankment
Wetland 8	PEM	0.04	--	--	--	No impact
PEM Wetland Total		1.58	0.37	0.18	0.55	--
PSS Wetland Total		5.01	0.10	0.11	0.21	--
Total		6.59	0.47	0.29	0.76	--

a. Cowardin, et al. 1979

b. Measurement rounded to the nearest 0.01-acre except where indicated

c. Delineated size of feature within the defined 200-ft-wide survey area