

### HOW TO READ THESE PLANS

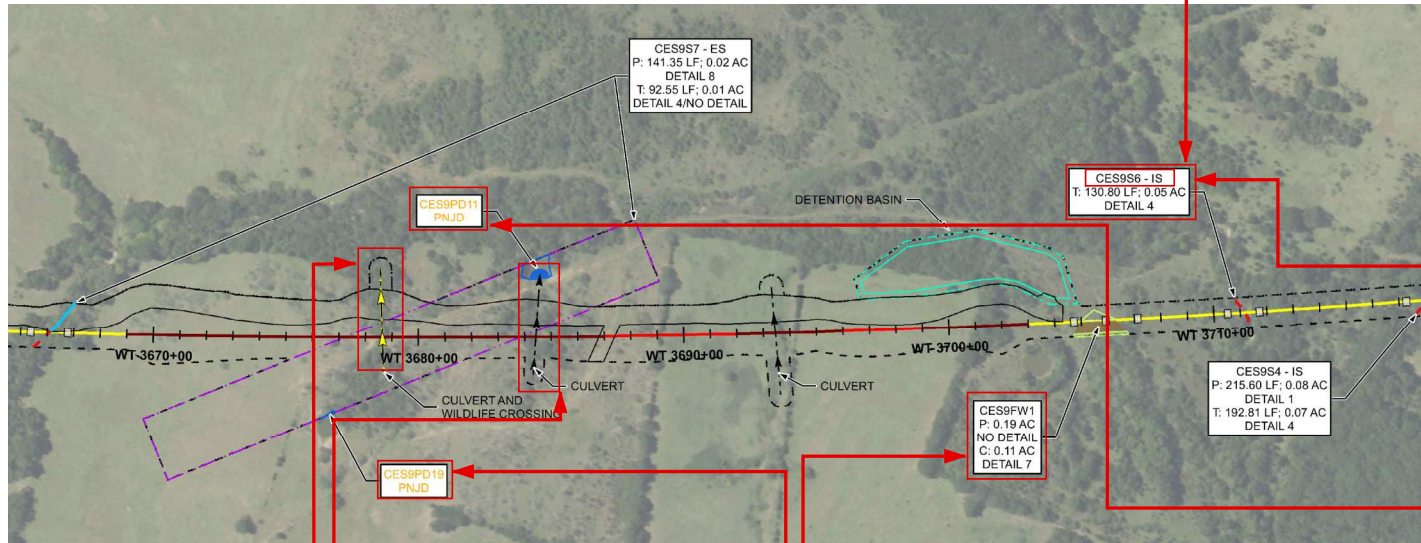
**OVERVIEW:** THESE PLAN SHEETS SHOW WHERE THE PROPOSED RAIL LINE AND ASSOCIATED FACILITIES WILL IMPACT STREAMS, PONDS, AND WETLANDS POTENTIALLY UNDER THE JURISDICTION OF THE U.S. ARMY CORPS OF ENGINEERS. IMPACTS TO POTENTIALLY JURISDICTIONAL FEATURES ARE QUANTIFIED IN THE CALLOUT BOX ASSOCIATED WITH THAT FEATURE. POTENTIALLY NON-JURISDICTIONAL FEATURES ARE NOT QUANTIFIED ON THESE PLANS. SEE EXAMPLE SHEET BELOW.

**HOW TO IDENTIFY IMPACTS AT A SPECIFIC AREA OF INTEREST:**

- USE THE OVERVIEW MAP TO IDENTIFY THE MAP SHEET CONTAINING THE AREA OF INTEREST
- REFER TO THE MAP SHEET AND THE CALLOUTS FOR EACH FEATURE TO DETERMINE IMPACTS FOR AREA OF INTEREST

**ABBREVIATIONS**

- STREAMS**  
 ES - EPHEMERAL STREAM  
 IS - INTERMITTENT STREAM  
 PS - PERENNIAL STREAM  
 S - STREAM
- WETLANDS/PONDS**  
 EW - EMERGENT WETLAND  
 FW - FORESTED WETLAND  
 PD - POND  
 SW - SCRUB/SHRUB WETLAND
- IMPACTS**  
 AC - ACRES  
 C - CONVERSION IMPACT, GIVEN IN AREA (AC)  
 LF - LINEAR FEET  
 P - PERMANENT IMPACT, GIVEN IN AREA (AC) OR LENGTH (LF)  
 PNJD - POTENTIALLY NON-JURISDICTIONAL WATERBODY  
 T - TEMPORARY IMPACT, GIVEN IN AREA (AC) OR LENGTH (LF)  
 WOTUS - WATERS OF THE UNITED STATES
- ENGINEERING**  
 ERMSA - EMERGENCY RESPONSE AND MAINTENANCE STAGING AREA  
 LOD - LIMITS OF DISTURBANCE  
 MOW - MAINTENANCE OF WAY  
 RCB - REINFORCED CONCRETE BOX
- OTHER**  
 BMP - BEST MANAGEMENT PRACTICES  
 BNSF - BURLINGTON NORTHERN SANTA FE RAILWAY  
 CE - CENTRAL STATE PLANE ZONE  
 HSR - HIGH-SPEED RAIL  
 NC - NORTH CENTRAL STATE PLANE ZONE  
 SC - SOUTH CENTRAL STATE PLANE ZONE  
 UPRR - UNION PACIFIC RAILROAD



**WATERBODY ID**

CE	S9	S	6	-IS
1	2	3	4	5

1 STATE PLANE COORDINATE SYSTEM  
 2 MAP GRID ID  
 3 WATERBODY TYPE  
 4 FEATURE NUMBER  
 5 STREAM TYPE

**CALLOUT INFORMATION FOR WATERBODY**

1
2
3

1 WATERBODY ID  
 2 IMPACT TYPE AND LENGTH/AREA  
 3 DETAIL DRAWING #

**CALLOUT INFORMATION FOR PNJD WATERBODY**

1
2

1 WATERBODY ID  
 2 JURISDICTIONAL STATUS

**RAIL CONSTRUCTION TYPE**

- CUT
- EMBANKMENT
- RETAIN FILL
- RETAIN CUT
- VIADUCT

**MAP SYMBOLOGY**

- CULVERT FLOW - RCB
- CULVERT FLOW - OPEN BOTTOM

**LABEL COLORS**

BLACK TEXT - USACE HAS NOT VISITED FEATURE  
 ORANGE TEXT - USACE HAS VISITED FEATURE, EITHER BY BOOTS-ON-THE-GROUND OR WINDSHIELD SURVEY OR HAS CONFIRMED NJD STATUS VIA DESKTOP ANALYSIS

**STANDARD MAP SYMBOLS**

NORTH ARROW

PROPOSED CENTERLINE OF HIGH-SPEED RAIL WITH STATIONING

EXTENTS OF ZOOMED IN PAGE FOR COMPLEX CROSSING LOCATIONS; SAME PAGE NAME WITH "A"

**RAIL CONSTRUCTION TYPE**

**CUT:** CUT SECTIONS WILL CONSIST OF EXCAVATING WATERS OF THE U.S. FOLLOWED BY THE PLACEMENT OF RAIL BASE FILL MATERIAL WITHIN THE EXCAVATED AREA.  
**EMBANKMENT:** EMBANKMENT SECTIONS WILL CONSIST OF THE PLACEMENT OF EARTHEN, BALLAST, AND OTHER RAIL BASE FILL MATERIAL INTO WATERS OF THE U.S. EACH SIDE OF THE EMBANKMENT WILL HAVE SIDE SLOPES THAT TIE BACK TO NATURAL GROUND FROM THE RAIL BED.  
**RETAIN FILL:** RETAINED FILL SECTIONS WILL CONSIST OF THE PLACEMENT OF EARTHEN, BALLAST, OTHER RAIL BASE FILL MATERIAL, AND RETAINING WALLS INTO WATERS OF THE U.S. VERTICAL RETAINING WALLS WILL BE PLACED ON EACH SIDE TO HOLD THE FILL MATERIAL IN PLACE.  
**RETAIN CUT:** RETAINED CUT SECTIONS WILL CONSIST OF EXCAVATING WATERS OF THE U.S. FOLLOWED BY THE PLACEMENT OF RAIL BASE FILL MATERIAL WITHIN THE EXCAVATED AREA. THE RAIL BED WILL BE BOUND ON BOTH SIDES BY SOLDIER PILE WALLS WITH TIE BACKS.  
**VIADUCT:** VIADUCT SECTIONS WILL CONSIST OF ELEVATED SECTIONS OF RAIL SUPPORTED BY PIERS.

DESIGNED BY	H. MYERS
DRAWN BY	M. KINZER
CHECKED BY	R. ALDREDGE
IN CHARGE	R. ZARATE
DATE	NOV. 2019

DALLAS TO HOUSTON  
 HIGH-SPEED RAIL  
 APPLICANT: TCR  
 SWF-2011-00483  
 SWG-2014-00412

**ARUP**  
 Arup Texas, Inc.  
 10370 Westwood Ave., Suite 475  
 Houston, Texas 77042 USA  
 Tel (713) 783 2787 Fax (713) 434 1467  
 www.arup.com  
 Texas Registered Engineering Firm: F-1590

**FRESE NICHOLS**  
 2711 North Haskell Ave., Suite 3300  
 Dallas, Texas 75204  
 Tel (214) 217 2200 Fax (214) 217 2201  
 www.fnco.com  
 Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL  
 FINAL CONCEPTUAL ENGINEERING  
  
 1408 South Lamar Street, Suite 1022, Dallas, Texas 75215

Scale: NO SCALE  
 Drawing Status: NOT FOR CONSTRUCTION  
 GENERAL LEGEND AND ABBREVIATIONS SHEET

Job No	234180	Drawing No	404-00-00001	Rev	02
--------	--------	------------	--------------	-----	----