

**Dallas to Houston High-Speed Rail
Draft Environmental Impact Statement**

**Appendix G:
Dallas to Houston High-Speed Rail
Passenger Service from Houston to Dallas
Final Draft Conceptual Engineering
Plans and Details
Set 11 of 21**



**TEXAS
CENTRAL**

Transmittal

To	Megan Inman, AECOM	Date	November 17, 2017
Copies	FRA: K. Wright AECOM: J. Smiley TCRR: A. Greer File: HOU TCR	TRA Number	00211
From	Christopher Taylor, Arup		
Subject	FINAL DRAFT CONCEPTUAL ENGINEERING DESIGN DOCUMENTATION – FDCE v7 Transmittal Final Version for Publication with Draft Environmental Impact Statement (DEIS) FDCE for Public Release		

We Are Sending You: ENTER DOCUMENT TYPE CODE(S) ONLY

Date of Document	DEIS Appendix	Set # of #	Title of Document or Drawing Title
11/17/17	-	-	234180-AFN-TRA-00211 FDCEv7.PDF (this transmittal)
REPORTS			
9/15/17	F	1 of 2	TCRR FDCE v7 REPORT.PDF (<i>Final Draft Conceptual Engineering Report v7 – Project Definition for publication with Draft EIS</i>)
9/15/17	F	2 of 2	TCRR CONSTRUCTABILITY v4 REPORT.PDF
TCRR FDCE v7 DWGS VOLUME 1 (General Sheets and Typical Sections)			
9/15/17	G	1 of 21	TCRR FDCE v7 DWGS VOLUME 1.PDF (<i>General Sheets and Typical Sections</i>)
TCRR FDCE v7 DWGS VOLUME 2 (Railway Alignment Plan and Profile Sheets)			
9/15/17	G	2 of 21	TCRR FDCE v7 DWGS VOLUME 2-1.PDF (<i>Houston Segment</i>)
9/15/17	G	3 of 21	TCRR FDCE v7 DWGS VOLUME 2-2.PDF (<i>West of Teague Segment</i>)
9/15/17	G	4 of 21	TCRR FDCE v7 DWGS VOLUME 2-3.PDF (<i>IH-45 Segment</i>)
9/15/17	G	5 of 21	TCRR FDCE v7 DWGS VOLUME 2-4.PDF (<i>Navarro West Segment</i>)
9/15/17	G	6 of 21	TCRR FDCE v7 DWGS VOLUME 2-5.PDF (<i>Navarro East Segment</i>)
9/15/17	G	7 of 21	TCRR FDCE v7 DWGS VOLUME 2-6.PDF (<i>Ellis West Segment</i>)
9/15/17	G	8 of 21	TCRR FDCE v7 DWGS VOLUME 2-7.PDF (<i>Ellis East Segment</i>)
9/15/17	G	9 of 21	TCRR FDCE v7 DWGS VOLUME 2-8.PDF (<i>Dallas Segment</i>)
TCRR FDCE v7 DWGS VOLUME 3 (Stations, Maintenance Facilities, and Railway Systems Sheets)			
9/15/17	G	10 of 21	TCRR FDCE v7 DWGS VOLUME 3-1.PDF (<i>Stations</i>)
9/15/17	G	11 of 21	TCRR FDCE v7 DWGS VOLUME 3-2.PDF (<i>Maintenance Facilities, Yards and Shops</i>)
9/15/17	G	12 of 21	TCRR FDCE v7 DWGS VOLUME 3-3.PDF (<i>Rail Systems</i>)
TCRR FDCE v7 DWGS VOLUME 4 (Roadway Plan Sheets)			
9/15/17	G	13 of 21	TCRR FDCE v7 DWGS VOLUME 4-1.PDF (<i>Houston Segment</i>)
9/15/17	G	14 of 21	TCRR FDCE v7 DWGS VOLUME 4-2.PDF (<i>West of Teague Segment</i>)
9/15/17	G	15 of 21	TCRR FDCE v7 DWGS VOLUME 4-3.PDF (<i>IH-45 Segment</i>)
9/15/17	G	16 of 21	TCRR FDCE v7 DWGS VOLUME 4-4.PDF (<i>Navarro West Segment</i>)
9/15/17	G	17 of 21	TCRR FDCE v7 DWGS VOLUME 4-5.PDF (<i>Navarro East Segment</i>)

Document Format	Date of Document	Number of Copies	Title of Document or Drawing Title
9/15/17	G	18 of 21	TCRR FDCE v7 DWGS VOLUME 4-6.PDF (<i>Ellis West Segment</i>)
9/15/17	G	19 of 21	TCRR FDCE v7 DWGS VOLUME 4-7.PDF (<i>Ellis East Segment</i>)
9/15/17	G	20 of 21	TCRR FDCE v7 DWGS VOLUME 4-8.PDF (<i>Dallas Segment</i>)
TCRR FDCE v7 DWGS VOLUME 5 (<i>Wildlife Crossing Sheets</i>)			
9/15/17	G	21 of 21	TCRR FDCE v7 DWGS VOLUME 5.PDF (<i>Wildlife Crossing Sheets</i>)

These are transmitted as checked below:

- Deliverable For Information As requested For your use
 For approval For Review and Comment Return Other: Publication with DEIS

REMARKS:

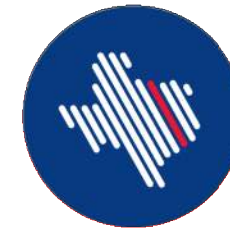
The files transmitted herewith represent a final submittal of the Final Draft Conceptual Engineering (FDCE) design report and drawings for the Dallas to Houston High-Speed Rail Project. This v7 submittal of the FDCE report is intended for distribution on the FRA website with the Draft EIS (DEIS) for public review.



Delivered VIA Outlook Email Hand Delivery Courier PMS Notification USPS

PREPARED BY: Christopher Taylor **Date:** November 17, 2017

IF ENCLOSURES ARE NOT AS NOTED, KINDLY NOTIFY US AT ONCE.



**TEXAS
CENTRAL**



DALLAS TO HOUSTON HIGH-SPEED RAIL
PASSENGER SERVICE FROM HOUSTON TO DALLAS

**FINAL DRAFT
CONCEPTUAL ENGINEERING PLANS AND DETAILS**
VOLUME 3 - STATIONS MAINTENANCE FACILITIES AND RAILWAY
SYSTEM SHEETS

SEPTEMBER 15, 2017



U.S. Department of Transportation
Federal Railroad Administration

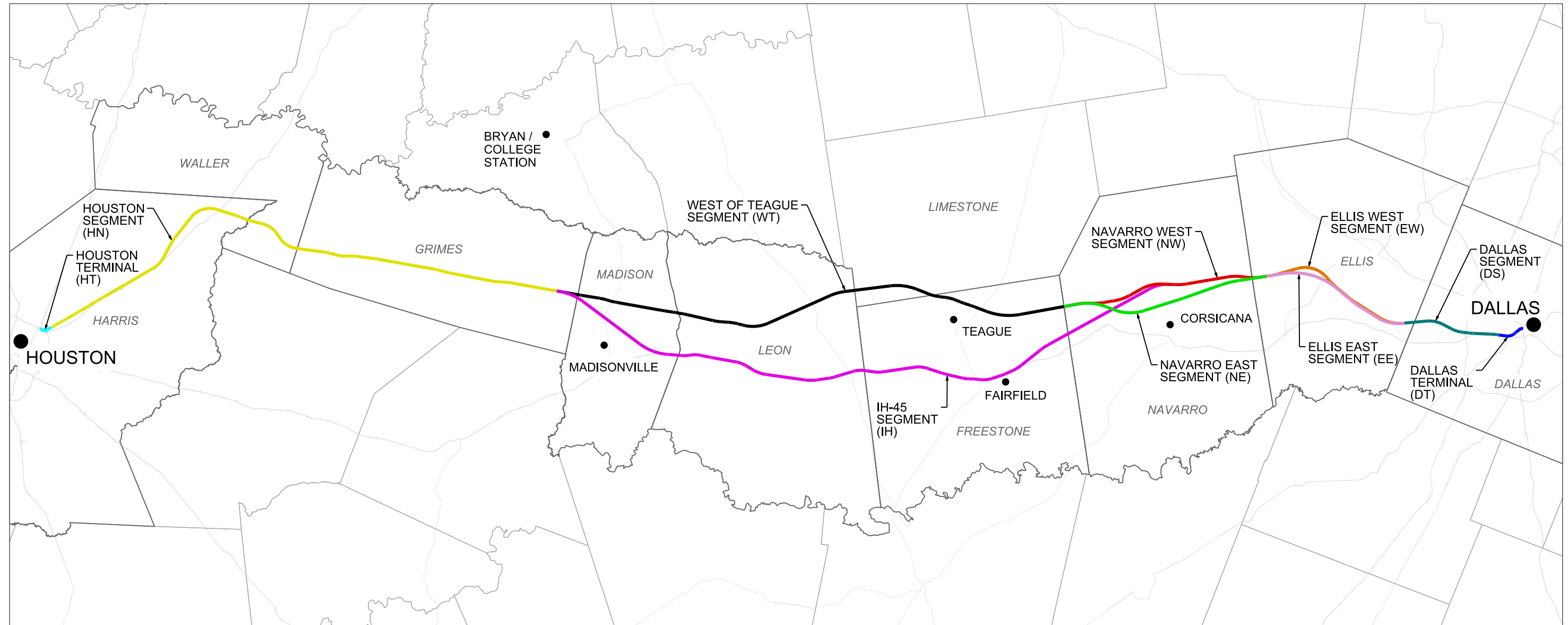
ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

**FRESE
NICHOLS**

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

COVER SHEET



ALIGNMENT ALTERNATIVE	OE SEGMENT ID	SEGMENT NAMES	SEGMENT ABBREVIATION
A	5, 4A, 3A, 2A, 1	DALLAS SEGMENT, ELLIS WEST SEGMENT, NAVARRO WEST SEGMENT, WEST OF TEAGUE SEGMENT, HOUSTON SEGMENT	DS, EW, NW, WT, HN
B	5, 4A, 3B, 2A, 1	DALLAS SEGMENT, ELLIS WEST SEGMENT, NAVARRO EAST SEGMENT, WEST OF TEAGUE SEGMENT, HOUSTON SEGMENT	DS, EW, NE, WT, HN
C	5, 4A, 2B, 1	DALLAS SEGMENT, ELLIS WEST SEGMENT, IH-45 SEGMENT, HOUSTON SEGMENT	DS, EW, IH, HN
D	5, 4B, 3A, 2A, 1	DALLAS SEGMENT, ELLIS EAST SEGMENT, NAVARRO WEST SEGMENT, WEST OF TEAGUE SEGMENT, HOUSTON SEGMENT	DS, EE, NW, WT, HN
E	5, 4B, 3A, 2A, 1	DALLAS SEGMENT, ELLIS EAST SEGMENT, NAVARRO EAST SEGMENT, WEST OF TEAGUE SEGMENT, HOUSTON SEGMENT	DS, EE, NE, WT, HN
F	5, 4B, 2B, 1	DALLAS SEGMENT, ELLIS EAST SEGMENT, IH-45 SEGMENT, HOUSTON SEGMENT	DS, EE, IH, HN

NOTES:
 1. REFER TO FDCE v5 FOR SEGMENT NAMES AND ALIGNMENT ALTERNATIVES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
D. THOMPSON
 DRAWN BY
D. THOMPSON
 CHECKED BY
R. BURNS
 IN CHARGE
C. TAYLOR
 DATE
09/15/2017

ARUP
 Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

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

Client

TEXAS CENTRAL
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
GENERAL LOCATION PLAN

Scale
 AS SHOWN
 Drawing Status
FINAL DRAFT
 Job No: 234180 Drawing No: GEN-00-00002 Rev: 01

VOLUME 1 - GENERAL SHEETS & TYPICAL SECTIONS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes sections 1-1 GENERAL, 1-2 RAILWAY TYPICAL SECTIONS, 1-3 ROADWAY AND GRADE SEPARATION TYPICAL SECTIONS, 1-4 CIVIL STRUCTURES TYPICAL DETAILS, 1-5 CIVIL UTILITIES TYPICAL DETAILS, and 1-6 GENERAL - ALIGNMENT CURVE DATA TABLES.

VOLUME 2 - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Section 2-1 HOUSTON SEGMENT, listing drawings from CVL-HN-01101 to CVL-HN-01108-2.

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Section 2-2 WEST OF TEAGUE SEGMENT, listing drawings from CVL-HN-01107-3 to CVL-HN-01180.

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Section 2-2 WEST OF TEAGUE SEGMENT, listing drawings from CVL-WT-01250 to CVL-WT-01296.

Table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION. Revision table for the drawing.

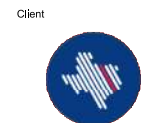
Table with columns: DESIGNED BY, DRAWN BY, CHECKED BY, IN CHARGE, DATE. Design and drawing information.



Arup Texas, Inc. 10370 Richmond Ave., Suite 475 Houston, Texas 77042 USA Tel (713) 783 2787 Fax (713) 343 1467 www.arup.com Texas Registered Engineering Firm: F-1990



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



Client Drawing Title Scale NO SCALE Drawing Status FINAL DRAFT Job No 234180 Drawing No GEN-00-00003 Rev 01

GENERAL INDEX SHEET 1 OF 5

VOLUME 2 - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes sections for 2-2 WEST OF TEAGUE SEGMENT and 2-3 IH-45 SEGMENT.

Table with columns: Drawing No., Description. Lists various drawing numbers and their corresponding descriptions for segments like IH-45 SEGMENT and NAVARRO WEST SEGMENT.

Table with columns: Drawing No., Description. Lists various drawing numbers and their corresponding descriptions for segments like NAVARRO WEST SEGMENT and ELLIS WEST SEGMENT.

Table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION. Revision table for the drawing.

Table with columns: DESIGNED BY, DRAWN BY, CHECKED BY, IN CHARGE, DATE. Designer information table.

Project information block including logos for ARUP, FREESE & NICHOLS, TEXAS CENTRAL, drawing title 'GENERAL INDEX SHEET 2 OF 5', scale 'NO SCALE', and drawing status 'FINAL DRAFT'.

PLOT TIME: 9/27/2017 10:20:31 AM

PLOT BY: M-YPWICS01S

HOUSTON SEGMENT - CIVIL - KEY MAP - Sheet 2 of 4 - HN1 1024+00 TO HN1 2082+00

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Lists drawing numbers and descriptions for segments 2-6, 2-7, and 2-8.

VOLUME 3 - STATIONS, MAINTENANCE FACILITIES AND RAILWAY SYSTEMS SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Lists drawing numbers and descriptions for stations and maintenance facilities.

Table with columns: Drawing ID, Description. Lists drawing numbers and descriptions for various station options, floor plans, and maintenance facilities.

Table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION. Includes a revision table and a design information table with fields for Designer, Drawn, Checked, In Charge, and Date.

Project information block containing logos for ARUP, FREESE & NICHOLS, and TEXAS CENTRAL. Includes drawing title 'GENERAL INDEX SHEET 3 OF 5', scale 'NO SCALE', drawing status 'FINAL DRAFT', and job/drawing numbers.

PLOT TIME: 9/25/2017 5:41:24 PM

VOLUME 3 - STATIONS, MAINTENANCE FACILITIES AND RAILWAY SYSTEMS SHEETS

Table with 2 columns: DRAWING NO. and DRAWING DESCRIPTIONS. Includes sections for 3-2 MAINTENANCE FACILITIES, YARDS AND SHOPS and 3-3 RAILWAY SYSTEMS.

VOLUME 4 - ROADWAY PLAN SHEETS

Table with 2 columns: DRAWING NO. and DRAWING DESCRIPTIONS. Includes section for 4-1 HOUSTON SEGMENT with numerous drawing entries.

Table with 2 columns: Drawing ID and Description. Includes sections for WEST OF TEAGUE SEGMENT, IH-45 SEGMENT, and 4-3 IH-45 SEGMENT.

Revision table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION.

Design information table with fields: DESIGNED BY, DRAWN BY, CHECKED BY, IN CHARGE, DATE.



Drawing Title: GENERAL INDEX SHEET 4 OF 5

Scale and Job information table with fields: Scale, Drawing Status, Job No, Drawing No, Rev.

PLOT TIME: 9/25/2017 5:42:37 PM

PLOT BY: MYPWCS01S

VOLUME 4 - ROADWAY PLAN SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes sections for 4-3 IH-45 SEGMENT, 4-4 NAVARRO WEST SEGMENT, and 4-5 NAVARRO EAST SEGMENT.

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes sections for 4-5 NAVARRO EAST SEGMENT, 4-6 ELLIS WEST SEGMENT, 4-7 ELLIS EAST SEGMENT, and 4-8 DALLAS SEGMENT.

VOLUME 5 - WILDLIFE CROSSING SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Section for 5-1 WILDLIFE CROSSING TYPICAL SECTIONS.

Revision table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION.

DESIGNED BY D. THOMPSON
DRAWN BY D. THOMPSON
CHECKED BY R. BURNS
IN CHARGE C. TAYLOR
DATE 09/15/2017



Client: Drawing Title: Scale: NO SCALE
Drawing Status: FINAL DRAFT
Job No: 234180 Drawing No: GEN-00-00007 Rev: 01

GENERAL NOTES:

1. THESE DRAWINGS ACCOMPANY FINAL DRAFT CONCEPTUAL ENGINEERING REPORT (FDCE) V7 REPORT DATED SEPTEMBER 15, 2017.
2. DRAWING SET INCLUDES FIVE (5) VOLUMES.
3. CONCEPTUAL ENGINEERING WAS DEVELOPED TO IDENTIFY PROJECT LIMIT OF DISTURBANCE (LOD), OR "PROJECT FOOTPRINT". CONCEPTUAL ENGINEERING DRAWINGS AND FDCE REPORT ARE ISSUED TO PROVIDE PROJECT DEFINITION FOR ENVIRONMENTAL ANALYSES ONLY. FINAL DESIGN WOULD BE DEVELOPED TO MITIGATE ANY IMPACTS IDENTIFIED THROUGH ENVIRONMENTAL ANALYSES, NOT FOR CONSTRUCTION.
4. FOR STANDARD GENERAL ABBREVIATIONS, SEE DRAWING GEN-00-0009.
5. FOR STANDARD GENERAL SYMBOLS, SEE DRAWINGS GEN-00-0009.
6. "ORIGINAL GROUND" SHOWN ON PROFILES REFERS TO THE APPROXIMATE EXISTING GROUND LINE AT HSR CENTERLINE AS SHOWN ON PLAN AND PROFILE DRAWINGS.
7. ALL HORIZONTAL AND VERTICAL DISTANCES ARE IN US CUSTOMARY UNITS EXCEPT AS NOTED OTHERWISE.
8. GENERAL NOTES FOR PROJECT ELEMENTS INCLUDED ON GENERAL NOTES PAGES. REFER TO INDIVIDUAL DISCIPLINE DRAWINGS FOR ADDITIONAL NOTES.

BASEMAPPING NOTES:

1. DTM DATA SHOWN ON THE DRAWINGS WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM (TNRIS) AND HOUSTON-GALVESTON AREA COUNCIL (HGAC).
 - DALLAS COUNTY LIDAR, 2009, SOURCED FROM TNRIS.
 - HGAC LIDAR, 2008.
 - TNRIS LIDAR, 2009-2013.
 - TNRIS STRATMAP CONTOURS, 1997.
2. LIDAR SOURCES WERE FILTERED TO SHOW ONLY BARE EARTH, AND SUPPLEMENTED BY CONTOUR DATA WHERE LIDAR SOURCES WERE NOT AVAILABLE.
3. NAD 83 HORIZONTAL CONTROL DATUM WAS USED FOR HORIZONTAL COORDINATE VALUES.
4. NAVD 88 VERTICAL DATUM WAS USED FOR ELEVATION VALUES.
5. ALL DATA HAS BEEN REPROJECTED TO TEXAS STATE PLANE, SOUTH CENTRAL, CENTRAL, AND NORTH CENTRAL ZONES, US SURVEY FEET.
6. AERIAL IMAGERY WAS OBTAINED FROM ARCGIS ONLINE SERVICES. SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEX, GETMAPPING, AEROGRIID, IGN, IGP, SWISSTOPO, AND THE GIS USER COMMUNITY.
7. THE BACKGROUND IMAGERY ON THE PLAN SHEETS MAY SHOW BUILDINGS AND OTHER INFRASTRUCTURE FEATURES THAT HAVE SUBSEQUENTLY BEEN REMOVED AND/OR DEMOLISHED, WHERE IT HAS BEEN VERIFIED THAT BUILDINGS HAVE BEEN REMOVED, THE AERIAL IMAGERY ON THE PLAN SHEET IS MARKED WITH HATCHING.

LOD NOTES:

1. THE PROJECT LOD WAS DEVELOPED TO DEFINE A CONSERVATIVE ESTIMATE OF THE POTENTIAL "PROJECT FOOTPRINT" FOR ENVIRONMENTAL ANALYSIS AND DOES NOT REPRESENT THE FINAL HSR RIGHT-OF-WAY (ROW), PROPERTY WITHIN THE LOD MAY BE RETURNED TO ADJACENT LANDOWNERS OR OTHER PRIVATE PARTIES FOLLOWING PROJECT CONSTRUCTION OR MAY BE TRANSFERRED TO ROADWAY OR UTILITY AUTHORITY AS APPROPRIATE. PROPOSED PROJECT WORKS WITHIN PRIVATE PROPERTIES WOULD BE SUBJECT TO NEGOTIATION WITH LANDOWNERS. ANY TEMPORARY OR PERMANENT USE OF LAND OWNED BY TXDOT, COUNTY, MUNICIPAL, OR OTHER PUBLIC ENTITIES WOULD REQUIRE APPROPRIATE APPROVALS.
2. LOD USED FOR EIS ANALYSIS FOOTPRINT.

TRACK NOTES:

1. THE ALIGNMENT SHOWN ON THE PLAN AND PROFILE DRAWINGS REPRESENTS THE CENTERLINE OF THE TWO-TRACK HSR MAINLINE TRACKS.
2. THE PROFILE SHOWN ON THE PLAN AND PROFILE DRAWINGS REPRESENTS THE TOP OF THE LOWER RAIL THROUGH HORIZONTAL CURVES AND SPIRALS FOR THE TWO-TRACK HSR SYSTEM.
3. THE PROPOSED HSR SYSTEM INCLUDES TWO TRACKS WITH ADDITIONAL TRACKS AT STATIONS, MAINTENANCE OF WAY, AND TRAINSET MAINTENANCE FACILITIES, AS SHOWN ON DRAWINGS.
4. MAINLINE CROSSOVERS ARE PROVIDED AT THE ENTRANCE AND EXIT OF ALL STATIONS, MAINTENANCE OF WAY (MOW) FACILITIES, AND TRAINSET MAINTENANCE FACILITIES (TMFS).

PLAN AND PROFILE GENERAL NOTES:

1. SECTION TYPE DETAIL SHOWN ON PROFILE SHEETS REPRESENT A SIMPLIFIED SUMMARY OF THE MAJOR STRUCTURAL TYPE OF THE PROPOSED HSR. THE ACTUAL PLAN DIMENSIONS TAKE PRECEDENCE OVER THE SECTION TYPE IDENTIFIED IN PROFILE.
2. ALL EXISTING AND PROPOSED STRUCTURAL ELEMENTS SHOWN ARE BASED ON CONCEPTUAL ENGINEERING DESIGN AND AERIAL IMAGERY AND MAY BE REVISED BASED ON MORE ADVANCED SURVEY AND DESIGNS.
3. SEE SHEET GEN-00-00010 FOR A KEY TO INFORMATION SHOWN ON PLAN AND PROFILE DRAWINGS.
4. LIMITS OF SPECIAL TRACK WORK ARE INDICATED ON THE PLAN SHEETS. ADDITIONAL DETAILS FOR MAINTENANCE OF WAY FACILITIES AND TRAINSET MAINTENANCE FACILITIES ARE SHOWN ON THE VOLUME 3 DRAWINGS.

ROADWAY NOTES:

1. EXISTING ROADWAY LOCATIONS ARE APPROXIMATE BASED ON AERIAL MAPS.
2. PROPOSED ROADWAY WORKS, INCLUDING NEW ROADWAYS, RECONFIGURATION AND REALIGNMENTS OF EXISTING ROADWAYS, AND ROADWAY REMOVALS ARE CONCEPTUAL IN NATURE AND WERE DEVELOPED TO IDENTIFY GENERAL CONFIGURATION AND LOCATION FOR ENVIRONMENTAL IMPACT ANALYSES. ROADWAY WORKS WOULD BE DETAILED DURING FINAL DESIGN AND WOULD COMPLY WITH APPLICABLE STATE, CITY, COUNTY, OR LOCAL REQUIREMENTS.
3. SEE SHEET GEN-00-00011 FOR A KEY TO INFORMATION SHOWN ON ROADWAY PLAN DRAWINGS.
4. ROADWAY GEOMETRY IS BASED ON TXDOT ROADWAY DESIGN MANUAL. ROAD DESIGN SPEEDS MATCH EXISTING POSTED SPEED LIMITS OR MATCH DESIGN SPEED DETERMINED FROM TXDOT ROADWAY FUNCTIONAL CLASSIFICATION SPEED GUIDELINES, WHICHEVER IS GREATER.
5. SUPERELEVATION TRANSITION LENGTHS WERE NOT DETAILED IN ROADWAY APPROACH DESIGN.
6. SEE DRAWINGS CVL-00-03030 TO CVL-00-03036 FOR TYPICAL ROADWAY CROSS SECTIONS.
7. ROADWAY REMOVALS ARE NOT SHOWN ON RAIL PLAN AND PROFILE SHEETS, REFER TO ROADWAY PLAN SHEETS IN VOLUME 3 FOR ALL ROADWAY REMOVALS.
8. NOT ALL PRIVATE ROADS AND DRIVEWAYS ARE REPRESENTED ON THE RAIL PLAN AND PROFILE SHEETS.
9. THE CLEARANCE ENVELOPES SHOWN ON THE RAIL PLAN AND PROFILE SHEETS REPRESENT THE APPROXIMATE ROADWAY CLEARANCE ENVELOPE. THE BOTTOM OF THE CLEARANCE ENVELOPE REPRESENTS THE TOP OF THE ROADWAY PAVEMENT. CLEARANCE ENVELOPE DOES NOT INCLUDE ROADWAY STRUCTURAL ELEMENTS.
10. ROADWAY ELEVATIONS FOR ROADWAY OVER RAILWAY CROSSING DO NOT REPRESENT THE PROPOSED ROADWAY ELEVATION, BUT RATHER THE MINIMUM HEIGHT REQUIRED FOR CLEARANCES, INCLUDING ALLOWANCES FOR ROADWAY STRUCTURAL ELEMENTS. SEE FDCE REPORT FOR ADDITIONAL INFORMATION.
11. ROADWAY TYPICAL SECTIONS ACCOUNT FOR THE NECESSARY SPACE TO CONSTRUCT TEMPORARY ROADWAYS DURING CONSTRUCTION. CLOSE COORDINATION WITH ROADWAY AUTHORITIES, COMMUNITIES, AND EMERGENCY RESPONSE ENTITIES WOULD BE UNDERTAKEN DURING FINAL DESIGN AND CONSTRUCTION TO ENSURE ACCESS DURING THE CONSTRUCTION PHASE.
12. USE OF TXDOT RIGHT-OF-WAY FOR PERMANENT IMPROVEMENTS WILL REQUIRED THE APPROPRIATE APPROVAL FROM TXDOT.

TYPICAL SECTIONS NOTES:

1. SECTIONS ILLUSTRATE TYPICAL REQUIREMENTS TO GUIDE CONCEPTUAL ENGINEERING DESIGN DEVELOPMENT. LOCATION SPECIFIC CONDITIONS WOULD ESTABLISH REQUIREMENTS AT EACH LOCATION AND OVERALL WIDTH OF LIMIT OF DISTURBANCE WOULD VARY AS IDENTIFIED ON DIMENSION LINES AND IN NOTES.
2. OFFSET BETWEEN INFRASTRUCTURE ELEMENTS SUCH AS DISTANCE BETWEEN EMBANKMENT, FENCES, DRAINAGE SWALE, ACCESS ROAD, ETC. WOULD VARY BASED ON LOCAL REQUIREMENTS AND SITE SPECIFIC CONDITIONS.
3. TYPICAL ROADWAY DRAINAGE SYSTEM PROVIDED AS SHOWN IN TYPICAL SECTIONS. LOCATION SPECIFIC CONFIGURATION AND SIZE WOULD BE ADVANCED DURING MORE DETAILED DESIGN.
4. LOCATION SPECIFIC CONDITIONS WOULD DICTATE FENCING REQUIREMENTS.
5. EMBANKMENT HEIGHTS AND CUT DEPTHS VARY WITH SURROUNDING GRADE AND RAIL PROFILE ELEVATION.
6. CRASH BARRIERS NOT SHOWN. LOCATION SPECIFIC CONDITIONS WILL DICTATE CRASH BARRIER REQUIREMENTS TO ENSURE SAFETY AND TO SATISFY APPLICABLE REGULATORY REQUIREMENTS.
7. SUBSURFACE GROUND IMPROVEMENTS ARE NOT SHOWN AND WILL BE BASED ON SITE SPECIFIC REQUIREMENTS.
8. RAIL HEIGHT VARIES WITH SURROUNDING GRADE AND RAIL PROFILE. THE BOTTOM OF SUBBALLAST SHALL BE NO LESS THAN 2FT ABOVE 100 YEAR FLOODPLAIN.

UTILITIES NOTES:

1. REFER TO THE FDCE REPORT FOR A LIST OF MAJOR UTILITY CROSSINGS, THEIR ASSUMED SIZE, AND ASSOCIATED LOCATIONS ALONG THE ALIGNMENT.
2. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE ONLY AND ARE BASED ON INFORMATION RECEIVED, AS DOCUMENTED IN THE FINAL DRAFT CONCEPTUAL ENGINEERING REPORT.
3. NO FIELD SURVEYS HAVE BEEN CONDUCTED TO LOCATE AND VERIFY UTILITY LOCATIONS.
4. NOT ALL EXISTING UNDERGROUND UTILITIES HAVE BEEN SHOWN. REFER TO THE FDCE REPORT FOR MAJOR UTILITIES INCLUDED IN PROJECT MAPPING.
5. LOD NOT SHOWN FOR UTILITIES THAT ARE NOT IMPACTED BY THE ALIGNMENT. ONLY MAJOR UTILITIES THAT ARE PROTECTED, RELOCATED OR ELEVATED ARE SHOWN ON THE PLAN AND PROFILE VIEW, REFER TO DRAWING NO. CUT-00-0100 FOR TYPICAL UTILITY CROSSING DETAILS. UTILITY LODS FOR FUTURE PROPOSED CONNECTIONS TO TPSS FACILITIES ARE SHOWN.
6. FOR PARALLEL TRANSMISSION LINE CROSSINGS OVER NEW ELEVATED ROADWAYS, A LOD IS SHOWN ON THE PLAN ONLY. REFER TO DRAWING NO. CUT-00-0100 FOR TYPICAL UTILITY CROSSING DETAILS.
7. MANY UTILITY CONFLICTS ALONG THE HEMPSTEAD ROAD CORRIDOR IN HOUSTON WOULD BE RESOLVED DURING FINAL DESIGN. A CONTINUOUS LOD IS SHOWN ON THE DRAWINGS TO REPRESENT THAT UTILITIES WOULD BE RELOCATED ON ONE OR BOTH SIDES OF THE ROADWAY AS REQUIRED. ALL WORK WOULD BE COORDINATED WITH UTILITY PROVIDERS TO MINIMIZE IMPACTS AND COORDINATE WITH OTHER PLANNED UTILITY PROJECTS ALONG CORRIDOR.
8. FOR UTILITY WORK REQUIRED BY UTILITY COMPANIES, EACH UTILITY OWNER WOULD DEVELOP THE DESIGN IN ACCORDANCE WITH APPLICABLE DESIGN STANDARDS AND REGULATORY AGENCY REVIEW PROCESSES.

DRAINAGE NOTES:

1. PROPOSED DETENTION BASIN LOCATIONS AND DIMENSIONS SHOWN ARE APPROXIMATE AND ARE INTENDED FOR PRELIMINARY PLANNING AND ENVIRONMENTAL IMPACT ANALYSIS PURPOSES ONLY. SITE SPECIFIC CONFIGURATIONS WOULD BE DEVELOPED DURING FINAL DESIGN IN ACCORDANCE WITH APPLICABLE REQUIREMENTS.
2. EXISTING CULVERTS ARE NOT SHOWN.
3. PROPOSED TRACK AND ROADWAY STORMWATER DRAINAGE WOULD BE DEVELOPED DURING FINAL DESIGN IN ACCORDANCE WITH APPLICABLE REQUIREMENTS. REFER TO TYPICAL SECTION DRAWINGS FOR PROPOSED CONFIGURATIONS.
4. EXISTING STORMWATER FACILITIES ARE NOT SHOWN.
5. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) WATER QUALITY CRITERIA WOULD BE MET FOR STORMWATER RUNOFF AND PROTECTION OF EXISTING WATER RESOURCES.
6. CONSTRUCTION OF THE RAIL MAY REQUIRE THE RECONFIGURATION OF PONDS OR STOCK TANKS IMMEDIATELY ADJACENT TO THE RAIL CORRIDOR. IN CASES WHERE THE CURRENT DESIGN NECESSITATES A FULL RELOCATION OF THE POND, ALLOWANCES HAVE BEEN MADE WITHIN THE LOD. IN CASES WHERE THE FULL RELOCATION OF THE POND IS NOT REQUIRED UNDER THE CURRENT DESIGN, ADDITIONAL LANDOWNER NEGOTIATIONS WILL BE REQUIRED TO DETERMINE LAND OWNER PREFERENCES.

STRUCTURES GENERAL NOTES:

1. TYPICAL SECTIONS WERE DEVELOPED TO IDENTIFY GENERAL ARRANGEMENTS AND ALLOWANCES FOR STRUCTURAL ELEMENTS. TYPICAL SECTIONS WERE USED AS THE BASIS FOR DEVELOPMENT OF LOD FOR ENVIRONMENTAL ANALYSIS.
2. APPROXIMATE HSR VIADUCT AND BRIDGE STRUCTURE LIMITS AND DEPTHS ARE SHOWN ON THE PROFILES TO SUPPORT ENVIRONMENTAL IMPACT ANALYSIS. LIMITS OF STRUCTURES AND EMBANKMENTS WOULD BE REFINED DURING FINAL DESIGN.
3. PLAN AND PROFILE DRAWINGS DO NOT SHOW LIMITS OF STRUCTURES IN PLAN VIEW. SITE SPECIFIC STRUCTURAL DESIGN WOULD BE DEVELOPED DURING FINAL ENGINEERING IN ACCORDANCE WITH APPLICABLE REQUIREMENTS. DESIGN OF FOUNDATIONS, ABUTMENTS, PIERS AND OTHER STRUCTURES WOULD BE DEVELOPED TO MITIGATE ANY IMPACTS IDENTIFIED THROUGH ENVIRONMENTAL ANALYSIS.
4. HSR PROFILE WAS DEVELOPED TO PROVIDE A MINIMUM 3FT VERTICAL CLEAR DISTANCE FROM ESTIMATED 100 YEAR FLOOD LEVEL TO BRIDGE SOFFIT FOR RIVER AND FLOODPLAIN CROSSINGS. FINAL DESIGN WOULD BE DEVELOPED TO MEET OR EXCEED THIS REQUIREMENT.
5. SPECIAL STRUCTURES WOULD BE REQUIRED TO MITIGATE IMPACTS OR ADDRESS UNIQUE SITE SPECIFIC ISSUES SUCH AS LONG SPANS, CROSSOVER STRUCTURES, AND STRADDLE BENTS TO AVOID OR MITIGATE IMPACTS. THE CONSTRUCTABILITY REPORT IDENTIFIES SPECIAL STRUCTURE LOCATIONS. PLAN AND PROFILE DRAWINGS IDENTIFY ADDITIONAL LOD EXPECTED FOR CONSTRUCTION STAGING AND WORKING AREAS FOR SPECIAL STRUCTURES.

SYSTEMS GENERAL NOTES:

1. SYSTEMS SCHEMATICS, SHOWN ON SHEETS SYS-00-02000 THROUGH SYS-00-02005, SHOW LOCATIONS OF SYSTEMS FACILITIES THAT HAVE BEEN INCLUDED FOR EACH END-TO-END ALTERNATIVE.
2. AREA FOR SYSTEMS FACILITY SITES HAVE BEEN INCLUDED WITHIN THE PROJECT LOD. THESE AREAS ARE GENERICALLY CALLED OUT AS "RAIL SYSTEMS SITES" ON THE PLAN AND PROFILE SHEETS, REFER TO FDCE REPORT TO DETERMINE THE SPECIFIC FACILITY TYPE AT EACH INDIVIDUAL LOCATION.
3. TYPICAL LAYOUT PLANS FOR EACH OF THE SYSTEMS FACILITIES ARE INCLUDED IN SHEETS SYS-00-01000 THROUGH SYS-00-01002.
4. LOD DEVELOPED FOR ENVIRONMENTAL IMPACT ANALYSIS OF SYSTEMS SITES INCLUDED SPACE FOR A DRIVEWAY AND SPACE TO PARK A LIMITED NUMBER OF MAINTENANCE VEHICLES.
5. SYSTEMS BUILDINGS WOULD BE DETAILED DURING FINAL DESIGN TO CONSIDER SITE SPECIFIC CONDITIONS, BE CONTEXT SENSITIVE, AND MINIMIZE VISUAL IMPACT. THE RADIO MAST AT COMMUNICATION FACILITIES WOULD BE APPROXIMATELY 50FT (15M) ABOVE THE TOP OF RAIL ELEVATION.
6. TPSS WOULD BE CONNECTED TO THE NEAREST 138KV TRANSMISSION LINES DESIGNED BY UTILITY PROVIDER AND SUBJECT TO ENVIRONMENTAL REVIEW.

FACILITY NOTES:

1. PROPOSED HSR FACILITIES WOULD INCLUDE STATIONS AND ASSOCIATED PARKING GARAGES, MAINTENANCE OF WAY (MOW) FACILITIES, TRAINSET MAINTENANCE FACILITIES (TMF), AND RAILWAY SYSTEMS SITES, INCLUDING TRACTION POWER SUPPLY FACILITIES, SIGNAL HOUSES, AND COMMUNICATIONS HOUSES. LOCATIONS, LIMITS OF DISTURBANCE, AND AREAS SHOWN FOR THE VARIOUS PROPOSED FACILITIES ARE FOR PRELIMINARY PLANNING PURPOSES ONLY.
2. ALL FACILITIES WOULD BE POWERED FROM THE LOCAL UTILITY GRID.
3. ACCESS, SECURITY, AND UTILITY PROVISION REQUIREMENTS FOR ALL FACILITIES WOULD BE DETAILED DURING FINAL DESIGN.

CONSTRUCTION CONSIDERATION NOTES:

1. CONSTRUCTION REQUIREMENTS WERE CONSIDERED DURING DEVELOPMENT OF THE CONCEPTUAL ENGINEERING AND ARE DOCUMENTED IN THE PROJECT CONSTRUCTABILITY REPORT.
2. TEMPORARY CONSTRUCTION AREAS REQUIRED FOR CONSTRUCTION ACCESS, CONSTRUCTION STAGING, AND PRECASTING FACILITIES WERE IDENTIFIED DURING DEVELOPMENT OF THE CONCEPTUAL ENGINEERING. CONSTRUCTION STAGING AREAS AND PRECAST FACILITIES ARE INCLUDED IN THE PROJECT LOD.
3. SPECIAL STRUCTURES REQUIRED TO MITIGATE IMPACTS OR ADDRESS UNIQUE SITE SPECIFIC ISSUES SUCH AS LONG SPANS, CROSSOVER STRUCTURES, AND STRADDLE BENTS ARE IDENTIFIED IN THE CONSTRUCTABILITY REPORT.
4. MEASURES REQUIRED TO MITIGATE NOISE, TRAFFIC, AND OTHER ENVIRONMENTAL IMPACTS WOULD BE IDENTIFIED THROUGH THE ENVIRONMENTAL ANALYSES. MORE DETAILED DESIGN INCLUDING DEVELOPMENT OF MAINTENANCE AND PROTECTION OF TRAFFIC AND OTHER CONSTRUCTION SPECIFIC PLANS AND PROCEDURES WOULD BE REQUIRED TO SECURE APPLICABLE PERMITS PRIOR TO COMMENCEMENT OF CONSTRUCTION WORKS.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY D. THOMPSON
DRAWN BY D. THOMPSON
CHECKED BY R. BURNS
IN CHARGE C. TAYLOR
DATE 09/15/2017



Drawing Title GENERAL NOTES		
Scale NO SCALE		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No GEN-00-00008	Rev 01

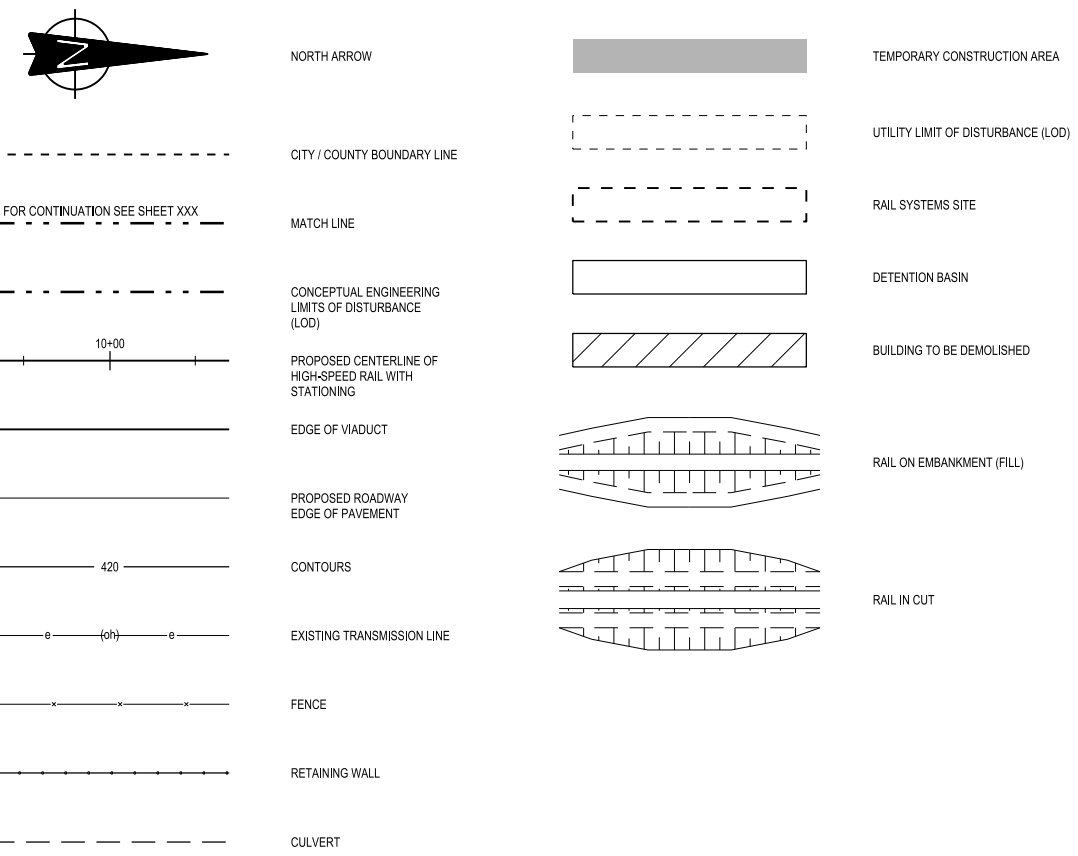
Scale NO SCALE		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No GEN-00-00008	Rev 01

ABBREVIATIONS

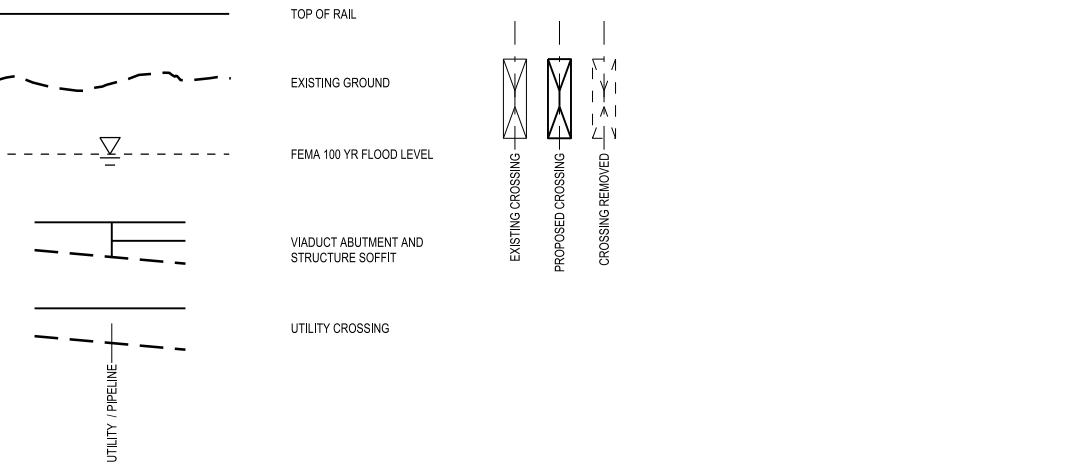
LEGEND

ALT	ALTERNATE ALIGNMENT	TBD	TO BE DETERMINED TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
APPROX	APPROXIMATE	TEMP	TEMPORARY
ATP	AUTOTRANSFORMER POST	TMF	TRAINSET MAINTENANCE FACILITY
AVE	AVENUE	TPSS	TRACTION POWER SUBSTATION
BLVD	BOULEVARD	TS	TANGENT SPIRAL
BNSF	BURLINGTON NORTH SANTE FE RAILROAD	TYP	TYPICAL
BOT	BOTTOM	TOR	TOP OF RAIL
CH	COMMUNICATION HOUSE	US	UNITED STATES, UNITED STATES HIGHWAY
CO RD	COUNTY ROAD	UPRR	UNION PACIFIC RAILROAD
CL	CENTERLINE	VAR	VARIABLE
C	CENTERLINE	VERT, V	VERTICAL
CO	COUNTY	WB	WESTBOUND
CR	COUNTY ROAD	WT	WEST OF TEAGUE
CS	CURVE TO SPIRAL	XING	CROSSING
CVL	CIVIL	YR	YEAR
DIA	DIAMETER		
DIST	DISTANCE, DISTRICT		
DR	DRIVE		
DRG	DRAWING		
DS	DALLAS SEGMENT		
DSN	DALLAS SEGMENT NORTH		
DSS	DALLAS SEGMENT SOUTH		
DT	DALLAS TERMINUS SEGMENT		
DWY	DRIVEWAY		
Ea	ACTUAL SUPERELEVATION		
EE	ELLIS EAST SEGMENT		
ELECT	ELECTRIC		
ELEV	ELEVATION		
EMB	EMBANKMENT		
ENGR	ENGINEER		
EPA	ENVIRONMENTAL PROTECTION AGENCY		
Eu	UNBALANCED SUPERELEVATION		
EW	ELLIS WEST SEGMENT		
EXIST, EX.	EXISTING EXTERIOR		
EXT			
FDN	FOUNDATION		
FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY		
FG	FINISHED GRADE		
FIG	FIGURE		
FL	FLOW LINE		
FM	FARM TO MARKET ROAD		
FRS	FREIGHT RAIL SIDING		
FTG	FOOTING		
FWY	FREEWAY		
G	GRADIENT		
GEN	GENERAL		
H	HEIGHT, HIGHWAY BRIDGE		
HN	HOUSTON SEGMENT		
HNN	HOUSTON SEGMENT NORTH		
HNS	HOUSTON SEGMENT SOUTH		
HORIZ, H	HORIZONTAL		
HRW	HIGHWAY RETAINING WALL		
HSR	HIGH SPEED RAIL		
HT	HOUSTON TERMINUS SEGMENT		
HWY	HIGHWAY		
IH	INTERSTATE HIGHWAY		
ISH	INTERMEDIATE SIGNAL HOUSE		
KV	KILOVOLT		
L	LENGTH		
LN	LANE		
LOD	LIMITS OF DISTURBANCE		
LVC	LENGTH OF VERTICAL CURVE		
MAINT	MAINTENANCE		
MAX	MAXIMUM		
MOW	MAINTENANCE-OF-WAY		
MIN	MINIMUM		
MISC	MISCELLANEOUS		
MPH	MILES PER HOUR		
MSH	MAIN SIGNAL HOUSE		
NB	NORTHBOUND		
NE	NAVARRO EAST SEGMENT		
NED	NATIONAL ELEVATION DATASET		
NHD	NATIONAL HYDROGRAPHY DATASET		
NLCD	NATIONAL LAND COVER DATASET		
NO	NUMBER		
NTS	NOT TO SCALE		
N/A	NOT APPLICABLE		
NW	NAVARRO WEST SEGMENT, NOISE WALL		
NWI	NATIONAL WETLANDS INVENTORY		
NWIH	PORTION OF NAVARRO WEST ASSOCIATED WITH IH-45 SEGMENT		
OCS	OVERHEAD CATENARY SYSTEM		
OD	OUTSIDE DIAMETER		
OG	ORIGINAL GRADE		
OH	OVERHEAD		
OPP	OPPOSITE		
PKWY	PARKWAY		
POB	POINT OF BEGINNING		
POE	POINT OF END		
PVMT	PAVEMENT		
PVC	POINT VERTICAL CURVATURE		
PVI	POINT VERTICAL INTERSECTION		
PVT	POINT VERTICAL TANGENT		
R	RADIUS, RAIL BRIDGE		
RD	ROAD		
RDWY	ROADWAY		
RM	RANCH TO MARKET ROAD		
ROW	RIGHT OF WAY		
RR, R/R	RAILROAD		
RTE	ROUTE		
RWY	RAILWAY		
SC	SPIRAL CURVE		
SH	STATE HIGHWAY		
SO	SIDING OFF		
SP	SECTIONING POST		
SSH	SUB-SIGNAL HOUSE		
SSP	SUB-SECTIONING POST		
ST	STREET, SPIRAL TO TANGENT		
STA	STATION		
STD	STANDARD		
SYM	SYMMETRICAL		

PLAN



PROFILE



NOTE:
1. FOR ADDITIONAL DETAIL REGARDING INFORMATION SHOWN ON DRAWINGS, SEE RAIL ANNOTATION TO CLARIFY DESIGN INTENT, DRAWING GEN-00-00010. SEE ROAD ANNOTATION TO CLARIFY DESIGN INTENT, DRAWING GEN-00-00011.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY D. THOMPSON
DRAWN BY D. THOMPSON
CHECKED BY R. BURNS
IN CHARGE C. TAYLOR
DATE 09/15/2017



Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990



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

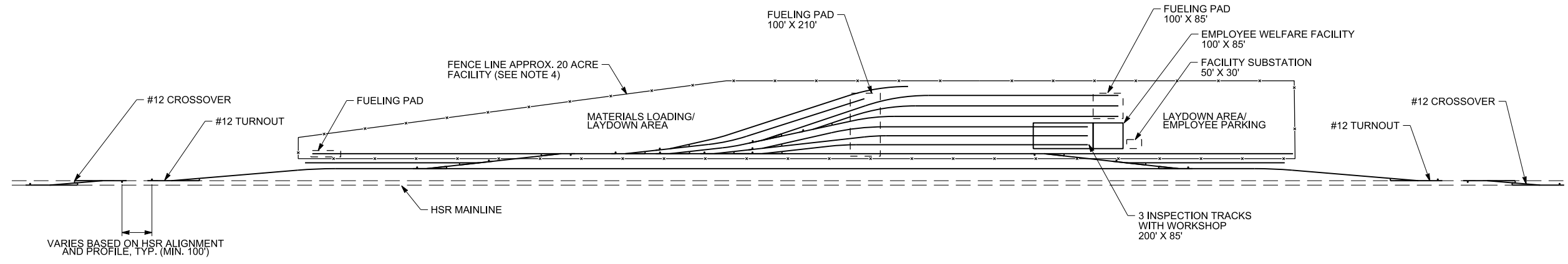


1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

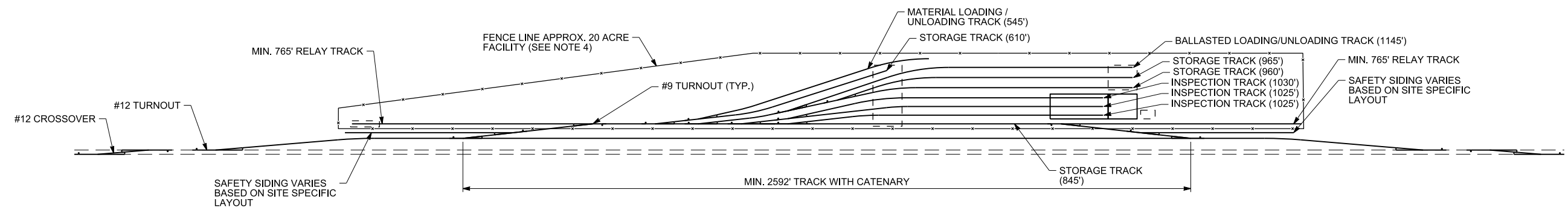
Drawing Title
GENERAL ABBREVIATIONS AND LEGEND

Scale NO SCALE		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No GEN-00-00009	Rev 01

3-2
MAINTENANCE FACILITIES,
YARDS AND SHOPS



TYPICAL SPACE ALLOCATION PLAN



TYPICAL TRACK LAYOUT PLAN

- NOTES:
1. ALL TURNOUTS WITHIN MOW FACILITY ARE NO. 9 UNLESS NOTED OTHERWISE. ALL TURNOUTS CONNECTING A MOW OR TMF TO A MAINLINE ARE NO. 12 UNLESS OTHERWISE NOTED.
 2. NO. 12 CROSSOVERS WILL BE LOCATED ON MAINLINE TRACKS ON EITHER SIDE OF MOW FACILITY.
 3. ALL TRACK LENGTHS SHOWN MEASURED FROM FOULING POINT.
 4. SPACE REQUIREMENTS WILL VARY BASED ON SITE SPECIFIC CONSTRAINTS INCLUDING ROADWAY ACCESS, GRADING, DRAINAGE AND ELECTRICAL FACILITIES.
 5. DETAILS OF THE FENCING, GAPS, ACCESS GATES, AND CONNECTIONS WITH MAINLINE FENCING WILL BE DEVELOPED DURING MORE DETAILED DESIGN.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
M. SPIRIDIGLIOZZI

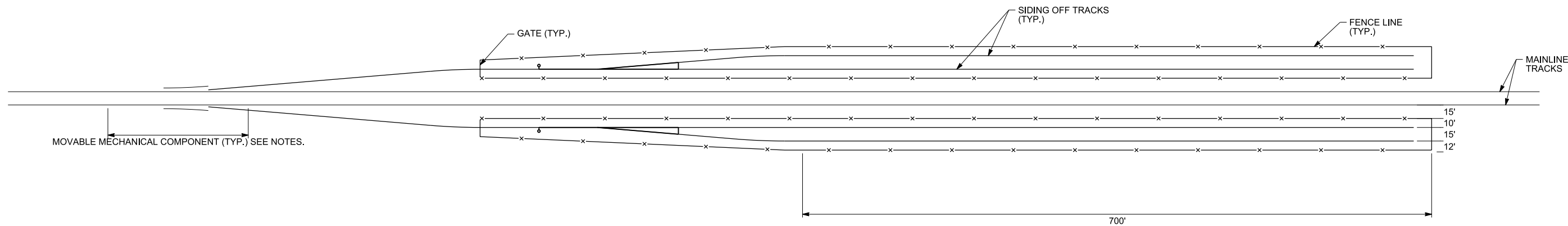
IN CHARGE
C. TAYLOR

DATE
09/15/2017



Drawing Title
GENERAL MAINTENANCE FACILITIES TYPICAL MOW FACILITY

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-00-02002	Rev 01



TYPICAL SIDING OFF FACILITY

- NOTES:
1. MOVEABLE MECHANICAL COMPONENT PERMITS ACCESS TO MAINLINE HSR TRACKS FOR MOW EQUIPMENT WITHOUT INSTALLATION OF TURNOUT OR ASSOCIATED SIGNALS.
 2. MOVEABLE MECHANICAL COMPONENT DRAWN AS GRAPHICAL REPRESENTATION ONLY.
 3. MOVEABLE MECHANICAL COMPONENT SHOWN IN OPEN POSITION. WHEN OPEN, OR NOT IN USE, SWITCH IS CLEAR OF HSR TRACKS. CLOSED POSITION ALLOWS ACCESS TO SIDING OFF TRACKS.
 4. SEE FDCE REPORT FOR MORE DETAILS.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY

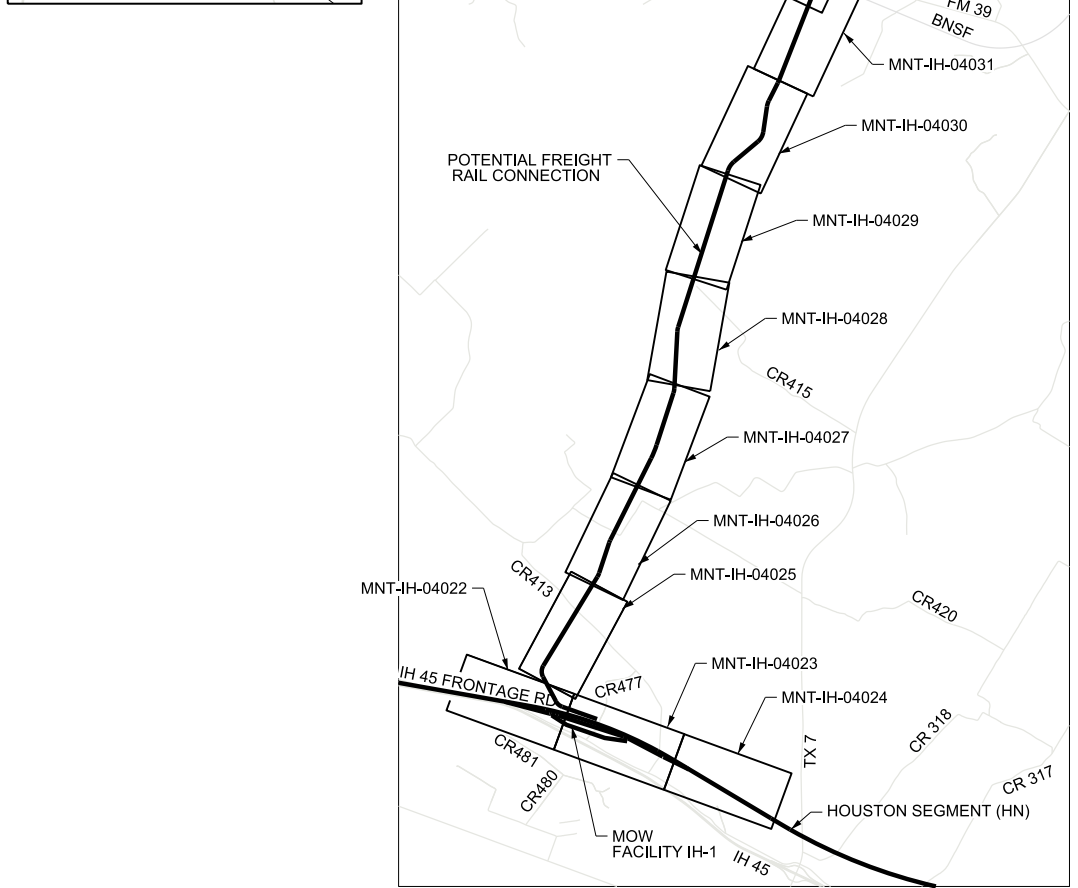
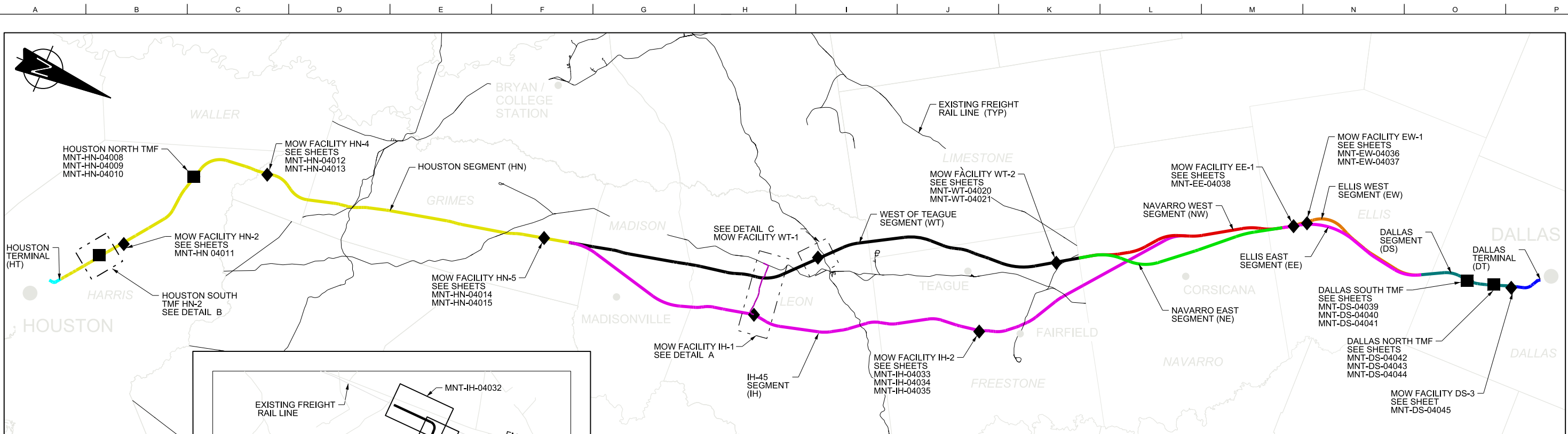
IN CHARGE
C. TAYLOR

DATE
09/15/2017

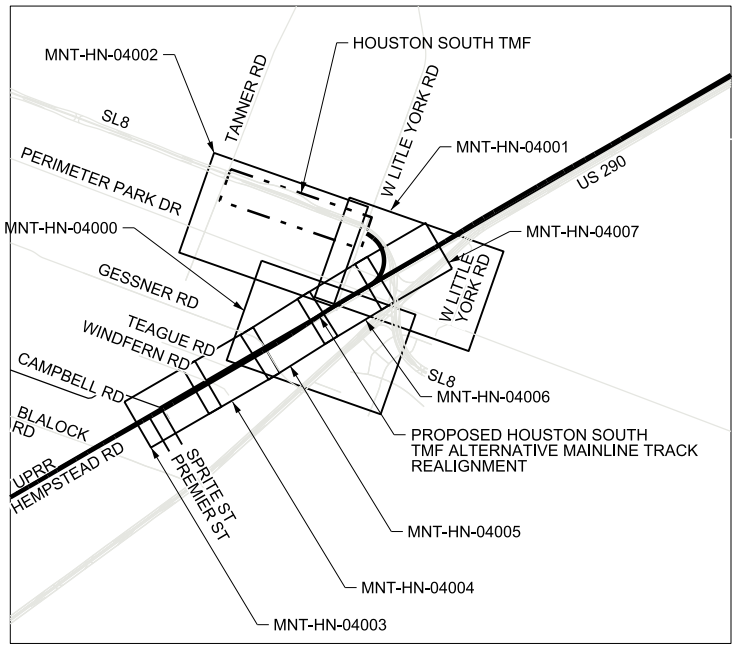


Drawing Title
**GENERAL MAINTENANCE FACILITIES
TYPICAL SIDING OFF**

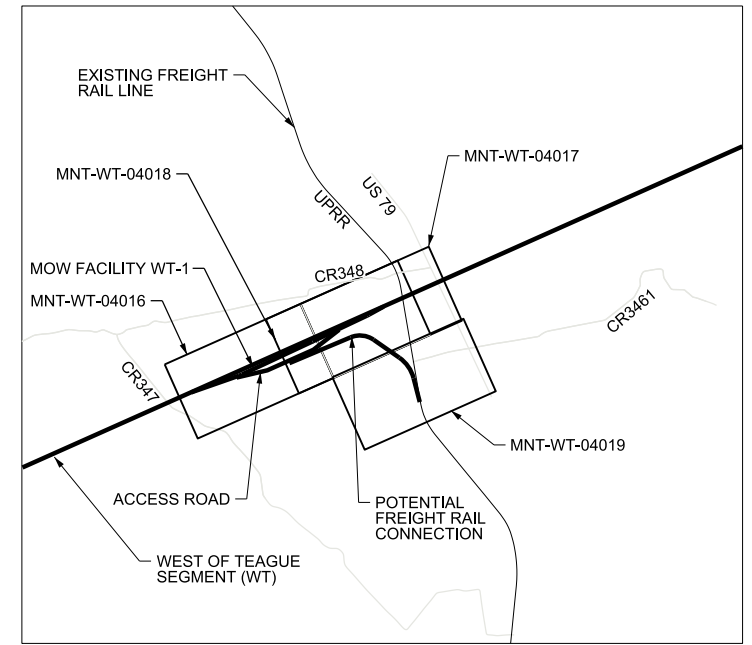
Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-00-02003	Rev 01



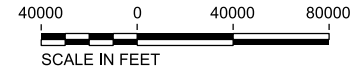
DETAIL A
IH-45 SEGMENT
NOT TO SCALE



DETAIL B
HOUSTON SOUTH SEGMENT
NOT TO SCALE



DETAIL C
WEST OF TEAGUE SEGMENT
NOT TO SCALE



LEGEND
◆ - MOW
■ - TMF

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
G. MEJIA
DRAWN BY
Y. NIKOLOV
CHECKED BY
K. SEYMOUR
IN CHARGE
C. TAYLOR
DATE
09/15/2017

ARUP
Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

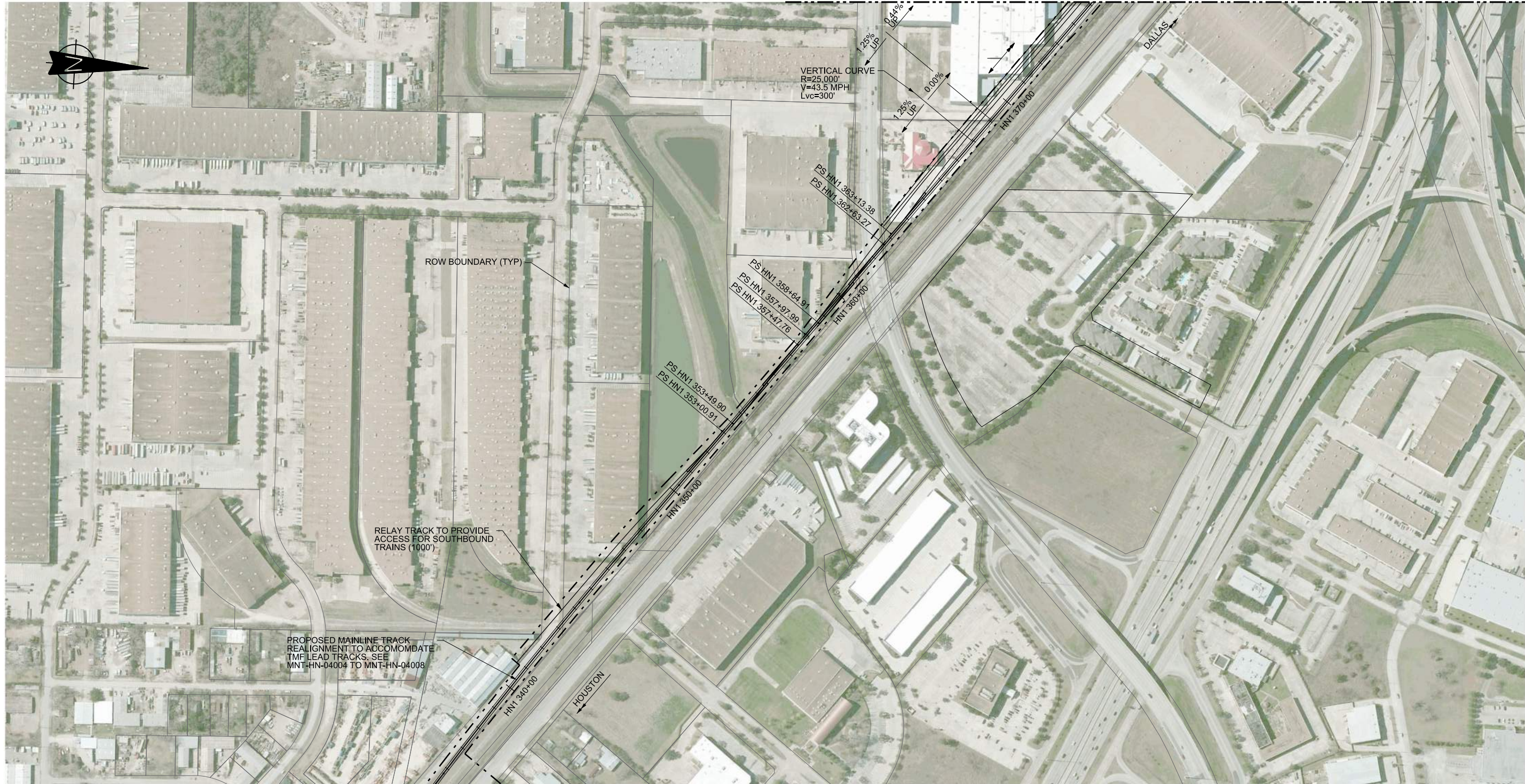
FRESE & NICHOLS
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144

Client
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

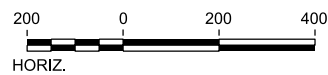
Drawing Title
GENERAL MAINTENANCE FACILITIES KEY MAP - SHEET 1 OF 1

Scale
AS SHOWN
Drawing Status
FINAL DRAFT
Job No
234180
Drawing No
MNT-00-02004
Rev
01

SEE DRAWING MNT-HN-04001



- NOTES:
- SEE SHEET MNT-HN-04003 FOR ADDITIONAL NOTES.
 - OCS CHANGEOVER AREA REQUIRED TO SECTIONALIZE MAINLINE HSR AND TMF OVERHEAD CATENARY TRACTION POWER FOR SAFETY. OCS CHANGEOVER MIN REQUIRED LENGTH 2,625' (AT 43.5 MPH). MINIMUM CHANGEOVER LENGTH PROVIDED IS 3595'.
 - ATC/SHUNTING SWITCHGEAR REQUIRED TO SUPPORT CHANGE TO THE SHUNTING MODE FOR SAFE OPERATIONS INTO THE TMF. ATC/SHUNTING SWITCHOVER MIN REQUIRED LENGTH IS 1,000' (PROVIDED WITHIN STORAGE TRACK AREA).



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
T. WAGNER

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

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

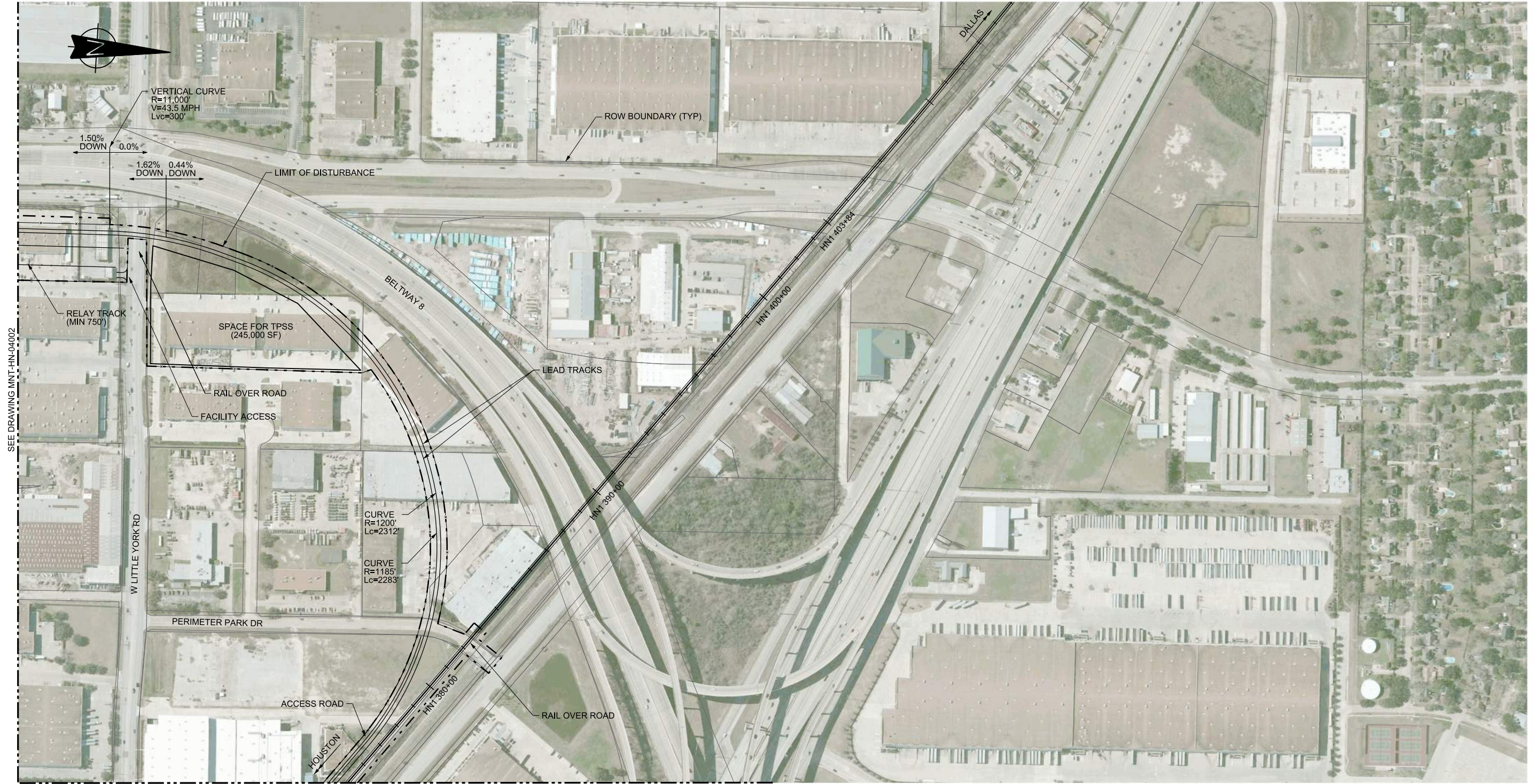
Client

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**HOUSTON SEGMENT
MAINTENANCE FACILITIES
HOUSTON SOUTH TMF
SHEET 1 OF 3**

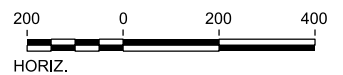
Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-HN-04000	Rev



SEE DRAWING MNT-HN-04002

SEE DRAWING MNT-HN-04000

- NOTES:
- SEE SHEET MNT-HN-04003 FOR ADDITIONAL NOTES.
 - OCS CHANGEOVER AREA REQUIRED TO SECTIONALIZE MAINLINE HSR AND TMF OVEHEAD CATENARY TRACTION POWER FOR SAFETY. OCS CHANGEOVER MIN REQUIRED LENGTH 2,625' (AT 43.5 MPH). MINIMUM CHANGEOVER LENGTH PROVIDED IS 3595'.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
T. WAGNER

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

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

Client

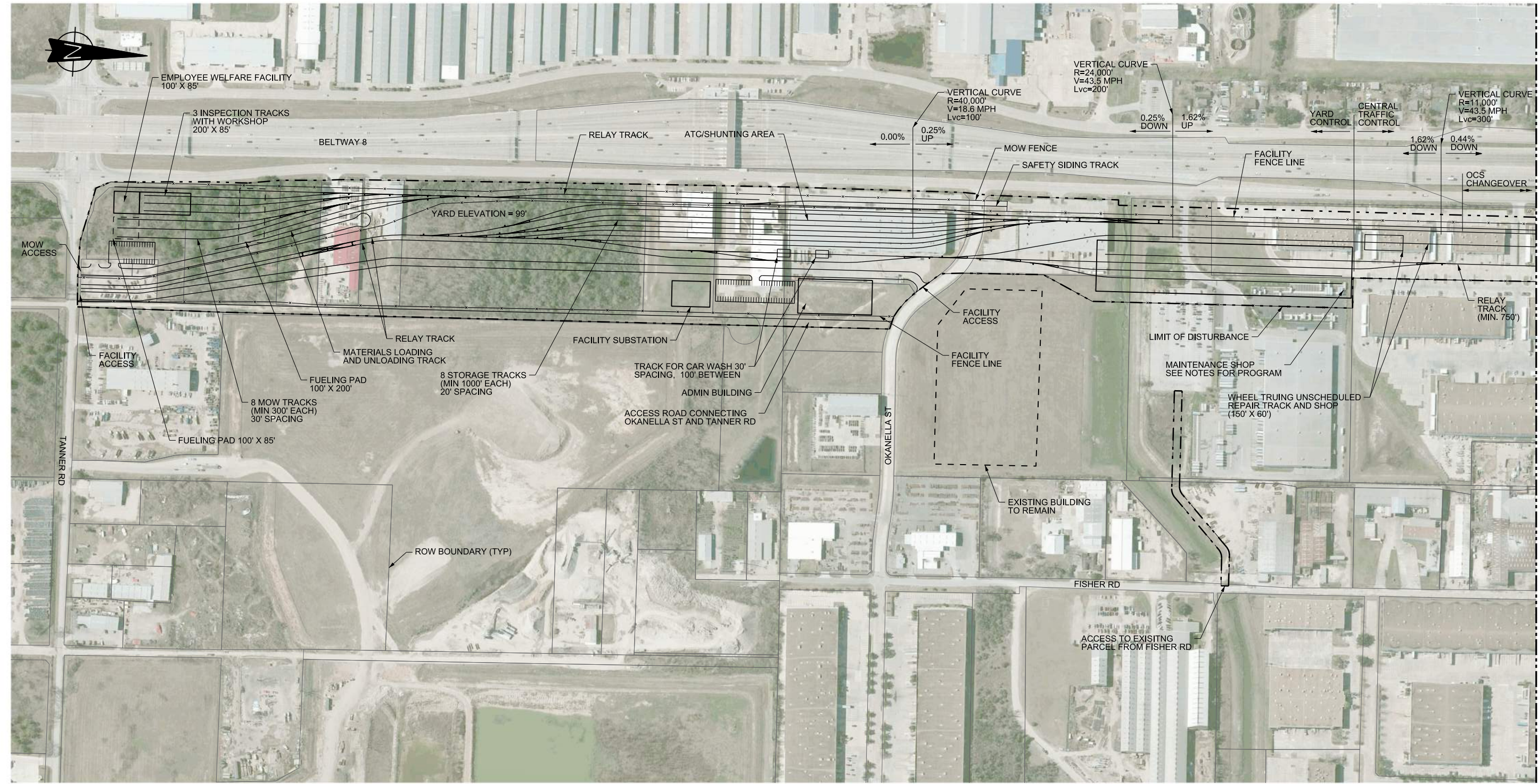
TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

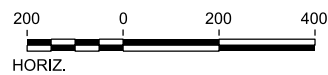
**HOUSTON SEGMENT
MAINTENANCE FACILITIES
HOUSTON SOUTH TMF
SHEET 2 OF 3**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-HN-04001	Rev



NOTES:

- REFER TO MNT-HN-04003 TO MNT-HN-04007 FOR ALTERNATIVE MAINLINE ALIGNMENT TO ALLOW FOR CONNECTION TO TMF.
- SINGLE TRAIN PER STORAGE TRACK WITH OVERRUN PROTECTION (LENGTH 1000'), STORAGE YARD TRACK SPACING IF 20' ON CENTER PROVIDES FOR OCS COLUMNS AND BOARDING PLATFORMS AT EACH END OF THE TRAIN.
- TMF DIRECTLY ACCESSIBLE FROM EITHER TERMINAL WITHOUT RELAY ON MAIN LINE. RELAY TRACK OFF OF MAINLINE FOR ACCESS TO TMF FROM DISTANT TERMINAL. DOUBLE TRACK TMF CONNECTIONS WITH ASSOCIATED MAINLINE CROSSOVERS TO ALLOW FOR OPERATIONAL FLEXIBILITY.
- CAR WASH LOCATION PROVIDES FLEXIBILITY TO/FROM SHOP AND YARD.
- NO. 16 TURNOUTS USED FOR FLAT JUNCTION TURNOUTS AND ASSOCIATED CROSSOVERS ON MAINLINE TRACKS. NO. 16 TURNOUTS USED FOR DIVERGING MOVE SPEEDS OF 43.5 MPH (70KM/HR).
- IN THE YARD, SHOP, AND MOW, SHUNTING SPEED SHALL BE RESTRICTED TO 18.6 MPH (30KM/HR). NO. 9 TURNOUTS USED THROUGHOUT YARD, SHOP AND MOW. NO. 12 TURNOUTS MAY BE USED BASED ON GEOMETRIC CONSTRAINTS.
- MAINTENANCE SHOP PROGRAM
 - SHOP APPROXIMATELY 235,000 SF
 - 4 SHOP TRACKS
 - 30' TRACK SPACING
 - RELAY TRACK FOR MOVEMENT OF TRAINS TO AND FROM HEAVY REPAIR TRACK WITHOUT OVERHEAD CATERINARY
 - MINIMUM SHOP TRACK LENGTH OF 850' PROVIDED
- INSPECTION TRACKS IN MAINTENANCE SHOP INCLUDE PIT FOR UNDERCAR INSPECTION. FLOOR LEVEL ACCESS, AND ROOF LEVEL ACCESS.
- TMF DRAWINGS SHOW LOD REQUIRED FOR DEVELOPMENT OF TMF. INCLUDING ROADS, DRAINAGE, UTILITIES, AND OTHER WORKS.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
T. WAGNER

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

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

Client

TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

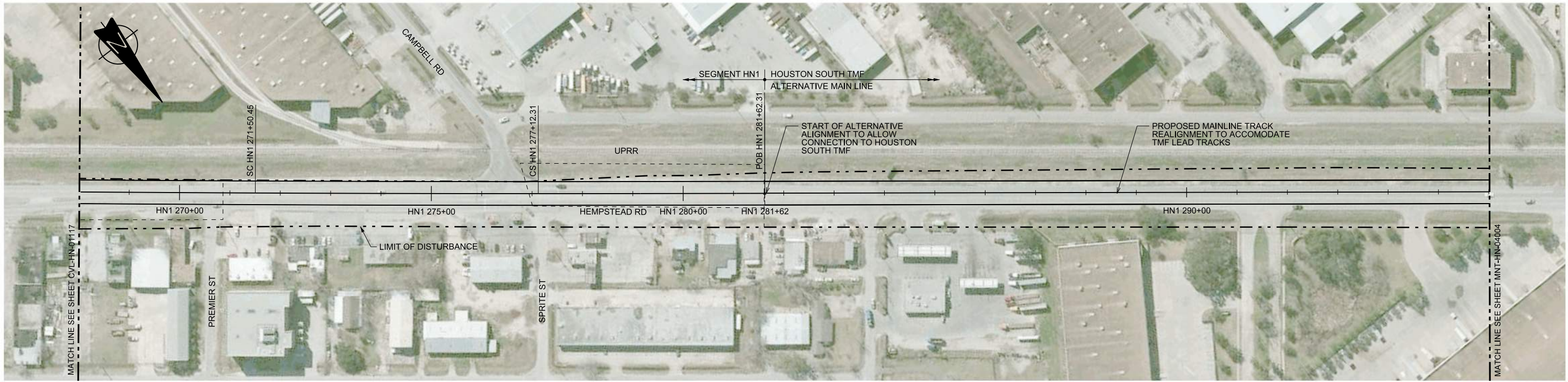
Drawing Title

**HOUSTON SEGMENT
MAINTENANCE FACILITIES
HOUSTON SOUTH TMF
SHEET 3 OF 3**

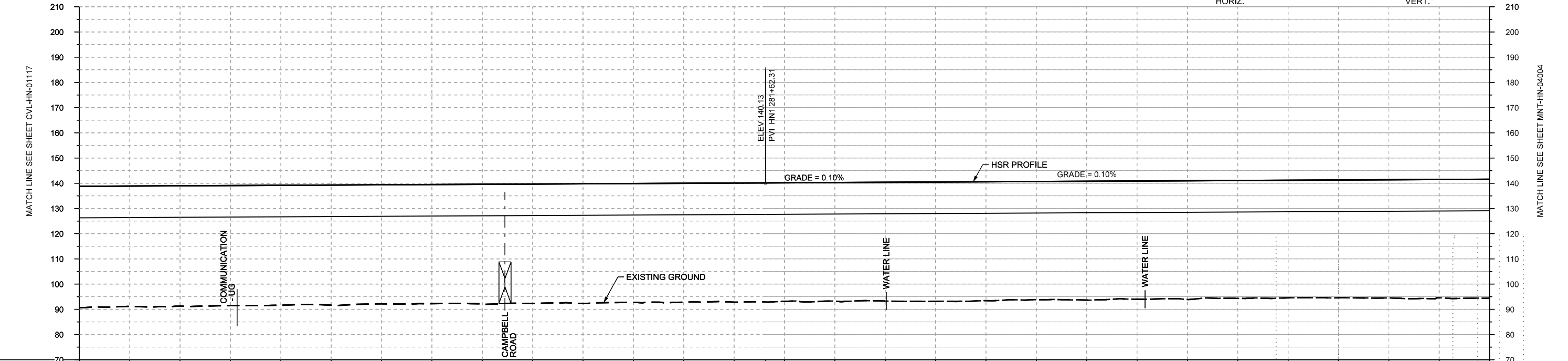
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No 234180	Drawing No MNT-HN-04002	Rev
------------------	----------------------------	-----



PLAN



PROFILE

STATIONING	HN1 268+00	HN1 270+00	HN1 275+00	HN1 280+00	HN1 285+00	HN1 290+00	HN1 295+00	HN1 296+00
HOR. ALIGNMENT	L=450		R=-120000 L=562	L=450	L=33495.01 G=0.100%	L=3541.44 G=0.100%		
VER. ALIGNMENT								
CUT AND FILL	+46.2	+47.7	+47.8	+47.7	+47.5	+47.3	+47.3	+47.5
TYP. SECTION	VIADUCT (L)							

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
G. MEJIA

DRAWN BY
P. TONKIN

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESSE AND NICHOLS

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

Client

TEXAS CENTRAL

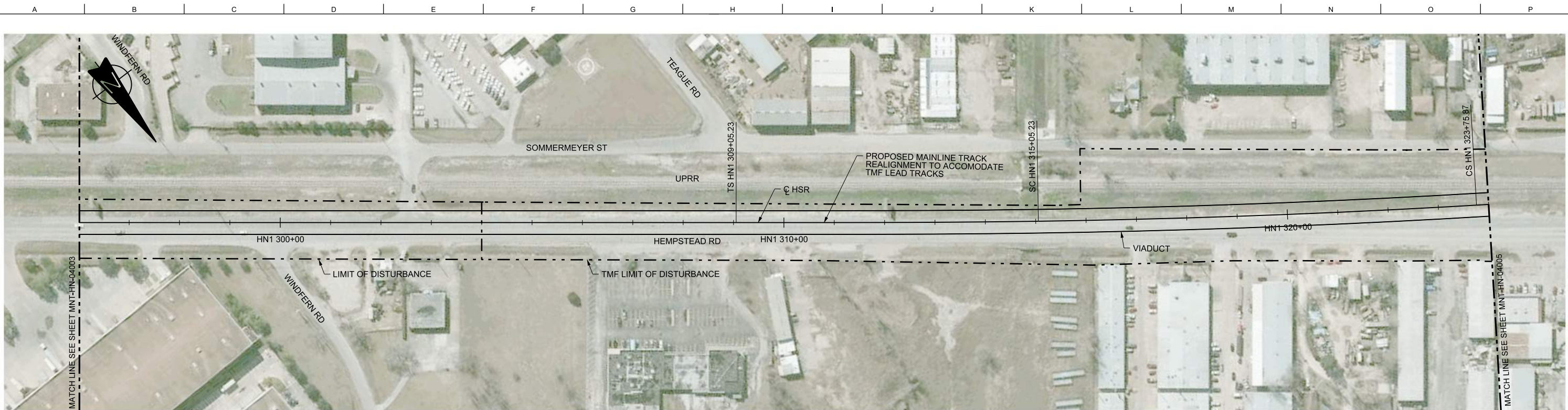
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT MAINTENANCE FACILITIES HOUSTON SOUTH TMF TRACK REALIGNMENT SHEET 1 OF 5

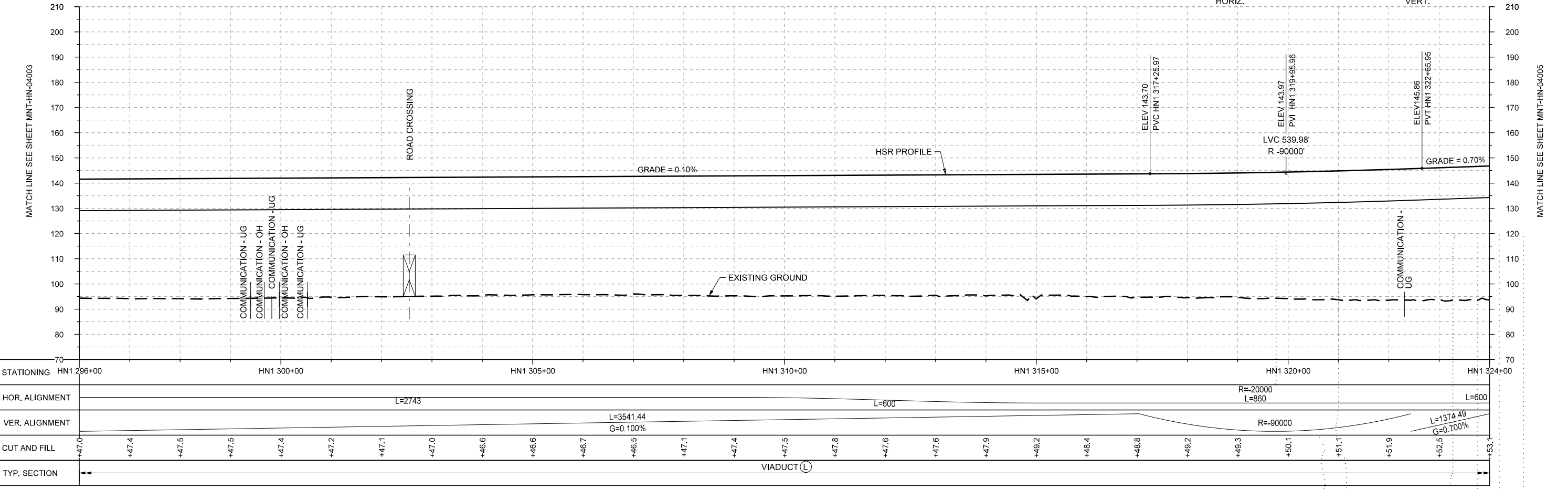
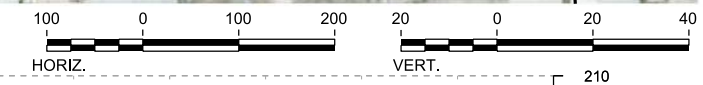
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No 234180	Drawing No MNT-HN-04003	Rev 01
------------------	----------------------------	-----------



PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. SERRANO

DRAWN BY
P. TONKIN

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESSE AND NICHOLS

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

Client

TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

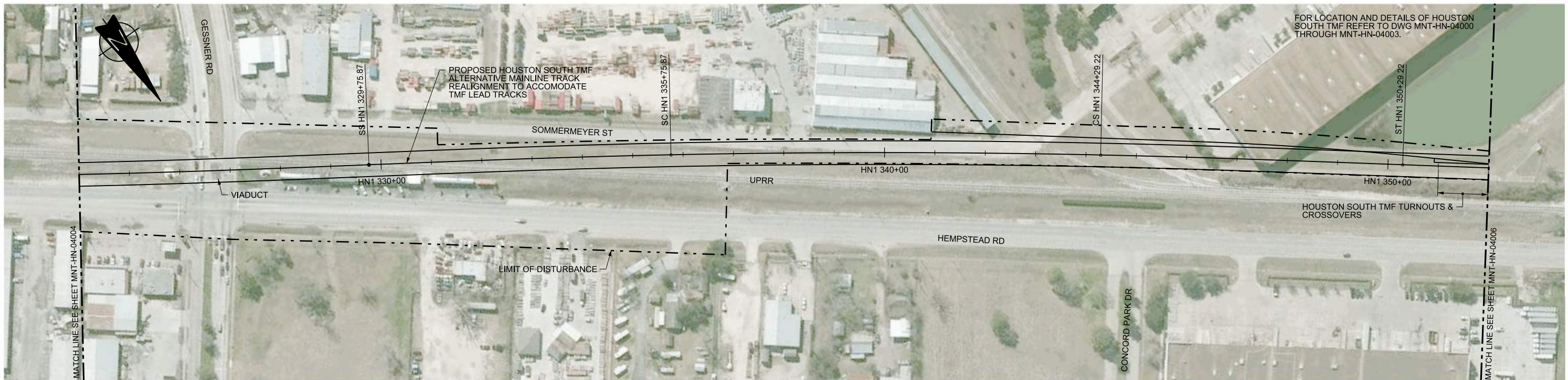
Drawing Title

HOUSTON SEGMENT MAINTENANCE FACILITIES HOUSTON SOUTH TMF TRACK REALIGNMENT SHEET 2 OF 5

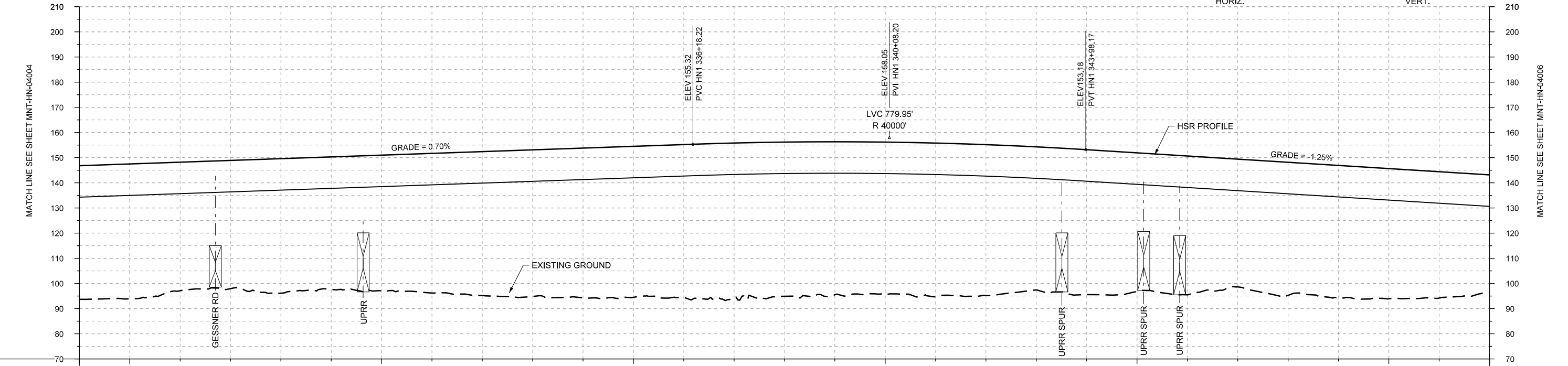
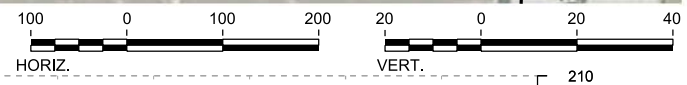
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No 234180	Drawing No MNT-HN-04004	Rev 01
------------------	----------------------------	-----------



PLAN



PROFILE

STATIONING	HN1 324+00	HN1 325+00	HN1 330+00	HN1 335+00	HN1 340+00	HN1 345+00	HN1 350+00	HN1 352+00
HOR. ALIGNMENT	L=600		L=600			R=20000 L=635		L=600
VER. ALIGNMENT	L=1374.49 G=0.700%			R=40000			L=3738.63 G=-1.250%	
CUT AND FILL	+53.1	+53.6	+51.1	+51.0	+53.5	+52.7	+54.1	+55.5
TYP. SECTION	VIADUCT (L)				VIADUCT (N)			

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. SERRANO

DRAWN BY
P. TONKIN

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP
 Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

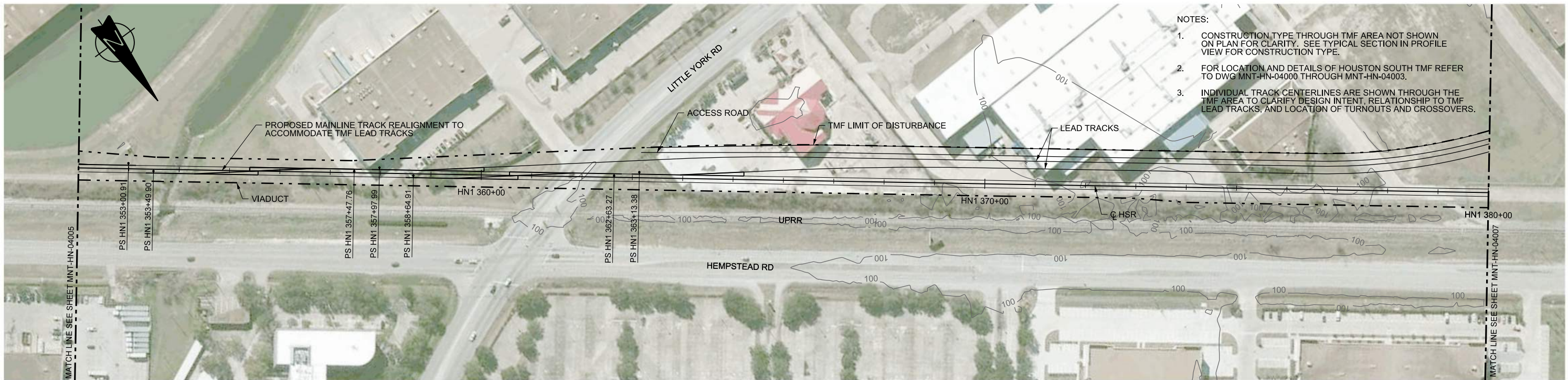
FRESE AND NICHOLS
 2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75204
 Tel (214) 217 2200 Fax (214) 217 2201
 www.freese.com
 Texas Registered Engineering Firm: F-2144

Client

 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

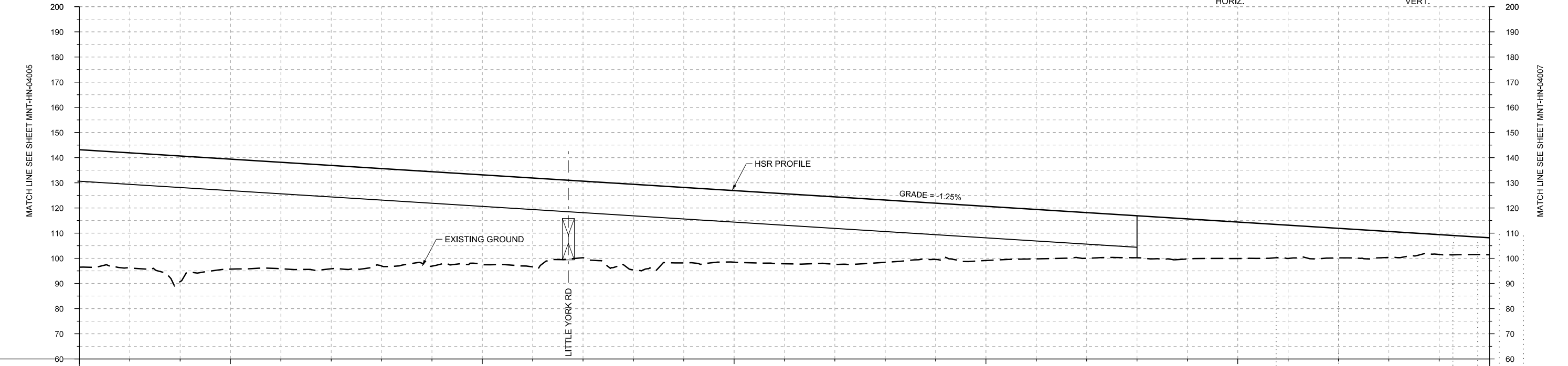
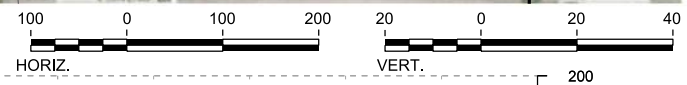
Drawing Title
HOUSTON SEGMENT MAINTENANCE FACILITIES HOUSTON SOUTH TMF TRACK REALIGNMENT
 SHEET 3 OF 5

Scale	AS SHOWN
Drawing Status	FINAL DRAFT
Job No	234180
Drawing No	MNT-HN-04005
Rev	01



- NOTES:
1. CONSTRUCTION TYPE THROUGH TMF AREA NOT SHOWN ON PLAN FOR CLARITY. SEE TYPICAL SECTION IN PROFILE VIEW FOR CONSTRUCTION TYPE.
 2. FOR LOCATION AND DETAILS OF HOUSTON SOUTH TMF REFER TO DWG MNT-HN-04000 THROUGH MNT-HN-04003.
 3. INDIVIDUAL TRACK CENTERLINES ARE SHOWN THROUGH THE TMF AREA TO CLARIFY DESIGN INTENT, RELATIONSHIP TO TMF LEAD TRACKS, AND LOCATION OF TURNOUTS AND CROSSOVERS.

PLAN



PROFILE

STATIONING	HN1 352+00	HN1 355+00	HN1 360+00	HN1 365+00	HN1 370+00	HN1 375+00	HN1 380+00																						
HOR. ALIGNMENT	L=5383																												
VER. ALIGNMENT	L=3738.63 G=-1.250%																												
CUT AND FILL	+46.7	+45.7	+50.0	+43.7	+42.4	+41.1	+38.7	+37.5	+35.6	+35.3	+30.5	+34.0	+30.0	+28.5	+27.9	+26.8	+24.8	+22.3	+21.6	+19.6	+18.2	+16.7	+16.0	+14.5	+13.3	+11.7	+10.4	+7.9	+6.8
TYP. SECTION	VIADUCT (N)										RETAINED FILL (M)																		

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. ENRIQUEZ

DRAWN BY
P. TONKIN

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP
 Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

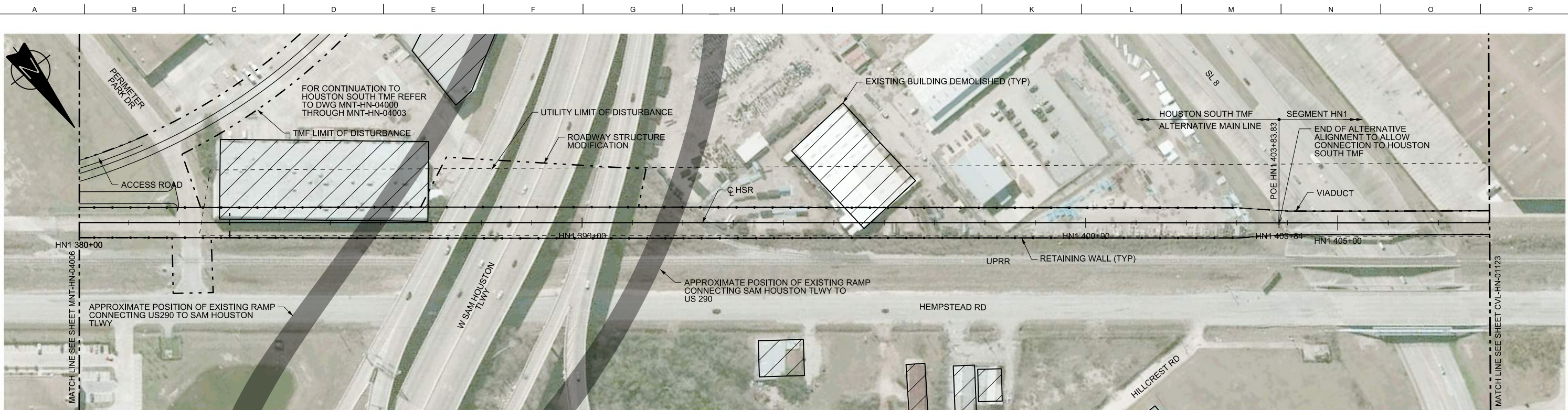
FRESE AND NICHOLS
 2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75204
 Tel (214) 217 2200 Fax (214) 217 2201
 www.freese.com
 Texas Registered Engineering Firm: F-2144

Client

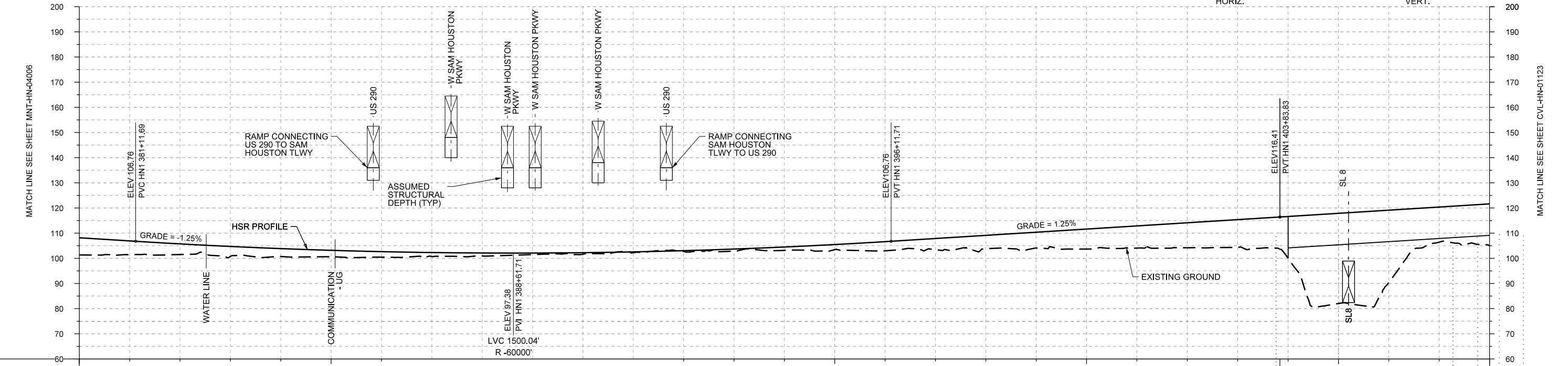
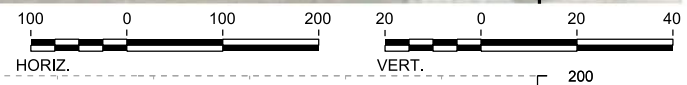
TEXAS CENTRAL
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT MAINTENANCE FACILITIES HOUSTON SOUTH TMF TRACK REALIGNMENT SHEET 4 OF 5

Scale	AS SHOWN
Drawing Status	FINAL DRAFT
Job No	234180
Drawing No	MNT-HN-04006
Rev	01



PLAN



PROFILE

STATIONING	HN1 380+00	HN1 385+00	HN1 390+00	HN1 395+00	HN1 400+00	HN1 403+84	HN1 405+00	HN1 408+00																						
HOR. ALIGNMENT	L=5383																													
VER. ALIGNMENT	L=3738.63 G=-1.250%				R=60000		L=746.91 G=1.250%		L=500																					
CUT AND FILL	+6.8	+5.4	+4.2	+3.9	+3.0	+2.4	+2.0	+1.3	+0.9	-33.3	+0.3	-0.1	-0.1	+0.3	+0.9	+1.5	+3.0	+3.8	+4.8	+5.6	+7.3	+8.1	+9.3	+10.3	+12.2	+16.6	+35.9	+28.7	+14.0	+16.5
TYP. SECTION	RETAINED FILL (M)										RETAINED CUT (M)										RETAINED FILL (M)						VIADUCT (N)			

DESIGNED BY	J. SERRANO
DRAWN BY	P. TONKIN
CHECKED BY	K. SEYMOUR
IN CHARGE	C. TAYLOR
DATE	09/15/2017

REV	DATE	BY	CHK	APP	DESCRIPTION

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

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

Client
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
HOUSTON SEGMENT MAINTENANCE FACILITIES HOUSTON SOUTH TMF TRACK REALIGNMENT
SHEET 5 OF 5

Scale
AS SHOWN

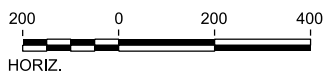
Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	MNT-HN-04007	01



NOTES:

- 1. SEE SHEET MNT-HN-04010 FOR NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
M.SPIRIDIGLIOZZI

DRAWN BY
M.SPIRIDIGLIOZZI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
09/15/2017



Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990



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

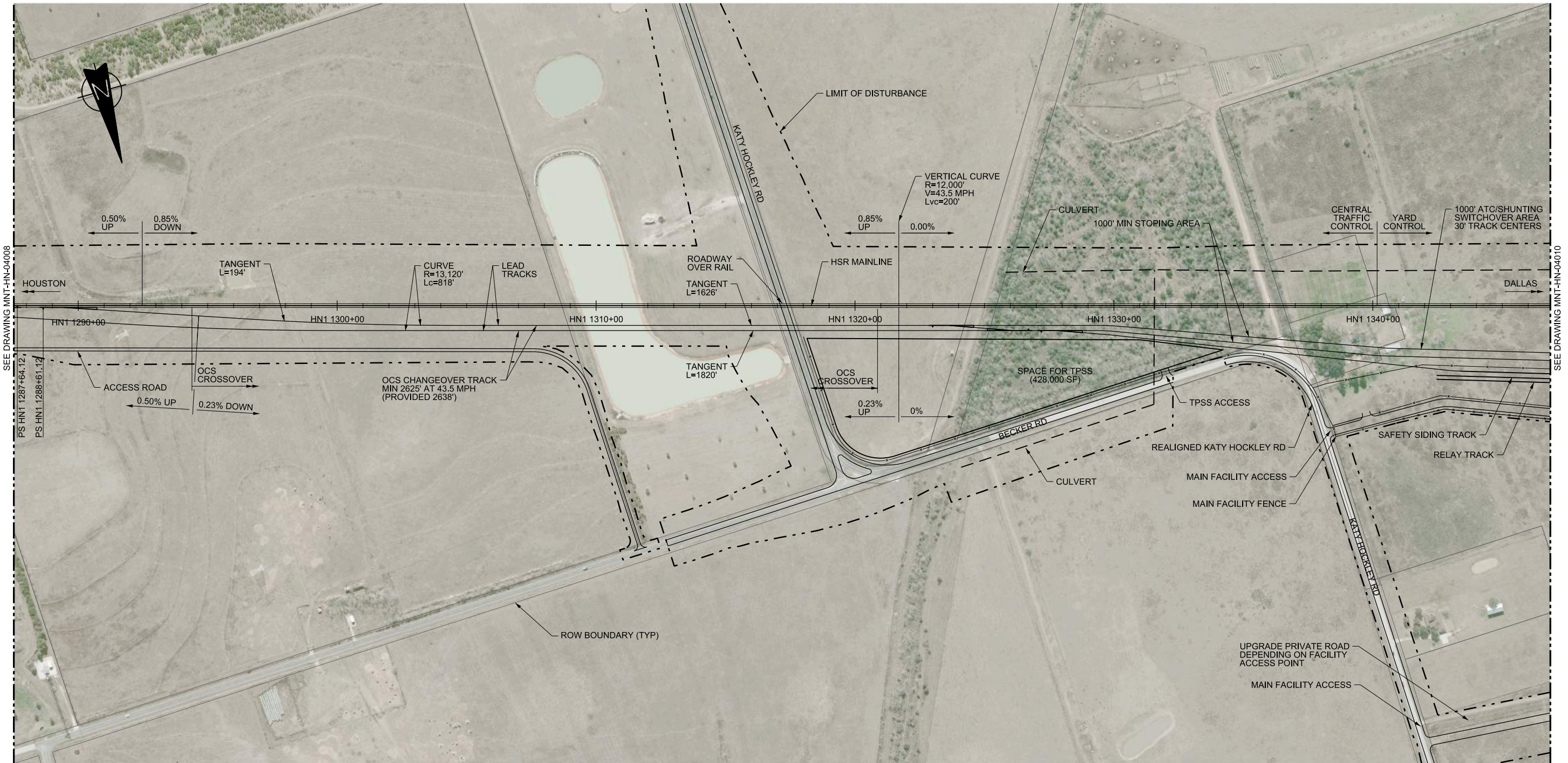


1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HOUSTON SEGMENT
MAINTENANCE FACILITIES
HOUSTON NORTH TMF
SHEET 1 OF 3**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-HN-04008	Rev

SEE DRAWING MNT-HN-04009

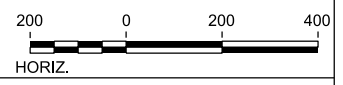


SEE DRAWING MNT-HN-04008
 PS HN1 1287+64.12
 PS HN1 1288+61.12

SEE DRAWING MNT-HN-04010

NOTES:

- 1. SEE SHEET MNT-HN-04010 FOR NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY M.SPIRIDIGLIOZZI
DRAWN BY M.SPIRIDIGLIOZZI
CHECKED BY T. WAGNER
IN CHARGE C. TAYLOR
DATE 09/15/2017

ARUP
 Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

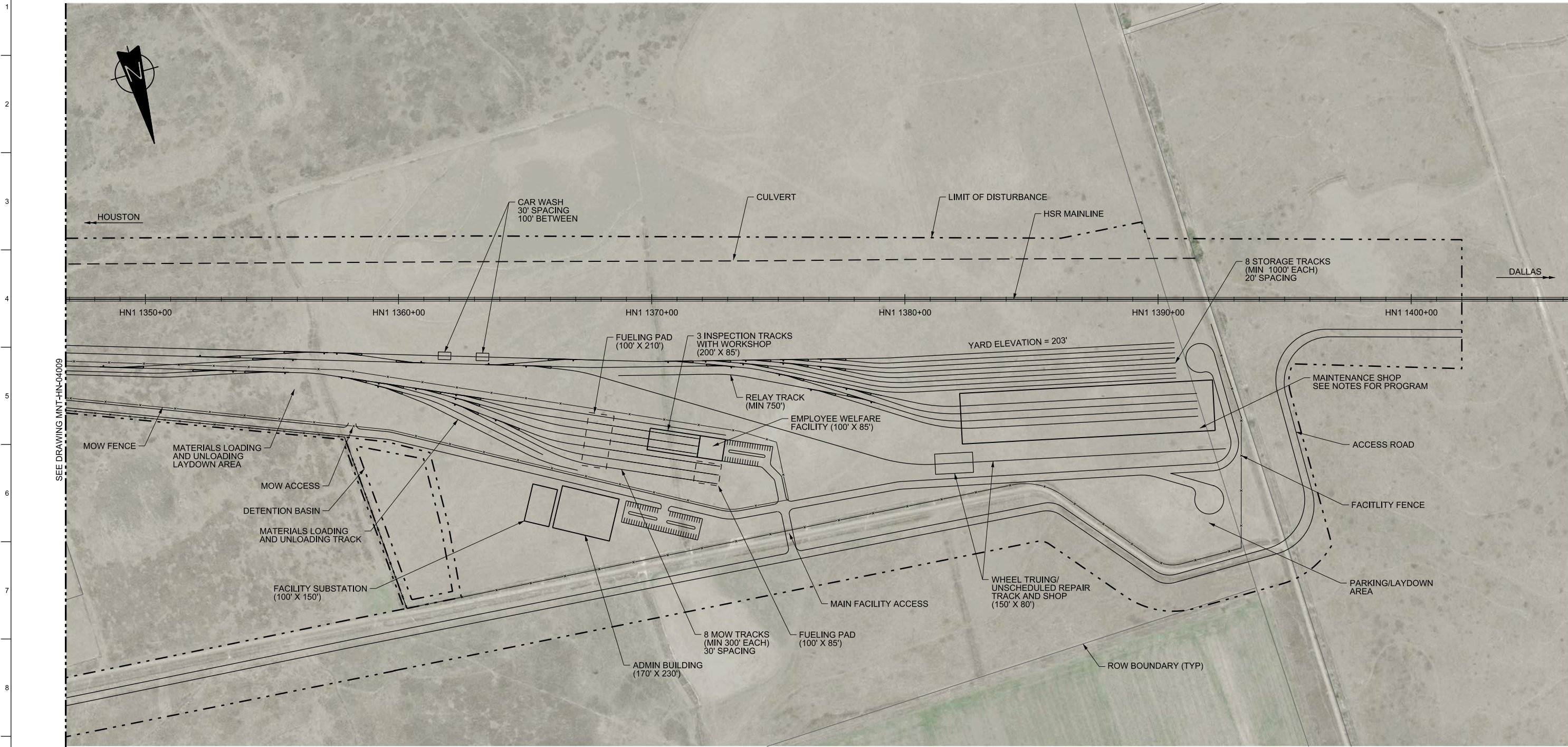
FRESE & NICHOLS
 2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75204
 Tel (214) 217 2200 Fax (214) 217 2201
 www.freese.com
 Texas Registered Engineering Firm: F-2144

Client

 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

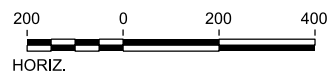
Drawing Title
**HOUSTON SEGMENT
 MAINTENANCE FACILITIES
 HOUSTON NORTH TMF
 SHEET 2 OF 3**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-HN-04009	Rev



NOTES:

- OCS CHANGEOVER AREA REQUIRED TO SECTIONALIZE MAINLINE HSR AND TMF OVERHEAD CATENARY TRACTION POWER FOR SAFETY. OCS CHANGEOVER MIN REQUIRED LENGTH 2,625' (AT 43.5 MPH). MINIMUM CHANGEOVER LENGTH PROVIDED IS 3595'.
- ATC/SHUNTING SWITCHGEAR REQUIRED TO SUPPORT CHANGE TO THE SHUNTING MODE FOR SAFE OPERATIONS INTO THE TMF. ATC/SHUNTING SWITCHOVER MIN REQUIRED LENGTH IS 1,000' (PROVIDED WITHIN STORAGE TRACK AREA).
- SINGLE TRAIN PER STORAGE TRACK WITH OVERRUN PROTECTION (LENGTH 1000'). STORAGE YARD TRACK SPACING IF 20' ON CENTER PROVIDES FOR OCS COLUMNS AND BOARDING PLATFORMS AT EACH END OF THE TRAIN.
- TMF DIRECTLY ACCESSIBLE FROM EITHER TERMINAL WITHOUT RELAY ON MAIN LINE. RELAY TRACK OFF OF MAINLINE FOR ACCESS TO TMF FROM DISTANT TERMINAL. DOUBLE TRACK TMF CONNECTIONS WITH ASSOCIATED MAINLINE CROSSOVERS TO ALLOW FOR OPERATIONAL FLEXIBILITY.
- CAR WASH LOCATION PROVIDES FLEXIBILITY TO/FROM SHOP AND YARD.
- NO. 16 TURNOUTS USED FOR FLAT JUNCTION TURNOUTS AND ASSOCIATED CROSSOVERS ON MAINLINE TRACKS. NO. 16 TURNOUTS USED FOR DIVERGING MOVE SPEEDS OF 43.5 MPH (70KM/HR).
- IN THE YARD, SHOP, AND MOW, SHUNTING SPEED SHALL BE RESTRICTED TO 18.6 MPH (30KM/HR). NO. 9 TURNOUTS USED THROUGHOUT YARD, SHOP AND MOW. NO. 12 TURNOUTS MAY BE USED BASED ON GEOMETRIC CONSTRAINTS.
- MAINTENANCE SHOP PROGRAM
 - SHOP APPROXIMATELY 235,000 SF
 - 4 SHOP TRACKS
 - 30' TRACK SPACING
 - RELAY TRACK FOR MOVEMENT OF TRAINS TO AND FROM HEAVY REPAIR TRACK WITHOUT OVERHEAD CATENARY
 - MINIMUM SHOP TRACK LENGTH OF 850' PROVIDED
- INSPECTION TRACKS IN MAINTENANCE SHOP INCLUDE PIT FOR UNDERCAR INSPECTION, FLOOR LEVEL ACCESS, AND ROOF LEVEL ACCESS.
- TMF DRAWINGS SHOW LOD REQUIRED FOR DEVELOPMENT OF TMF, INCLUDING ROADS, DRAINAGE, UTILITIES, AND OTHER WORKS.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
M.SPIRIDIGLIOZZI

DRAWN BY
M.SPIRIDIGLIOZZI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
09/15/2017



Drawing Title
**HOUSTON SEGMENT
MAINTENANCE FACILITIES
HOUSTON NORTH TMF
SHEET 3 OF 3**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-HN-04010	Rev



NOTES:
 1. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
R. GIBBINS

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

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

Client

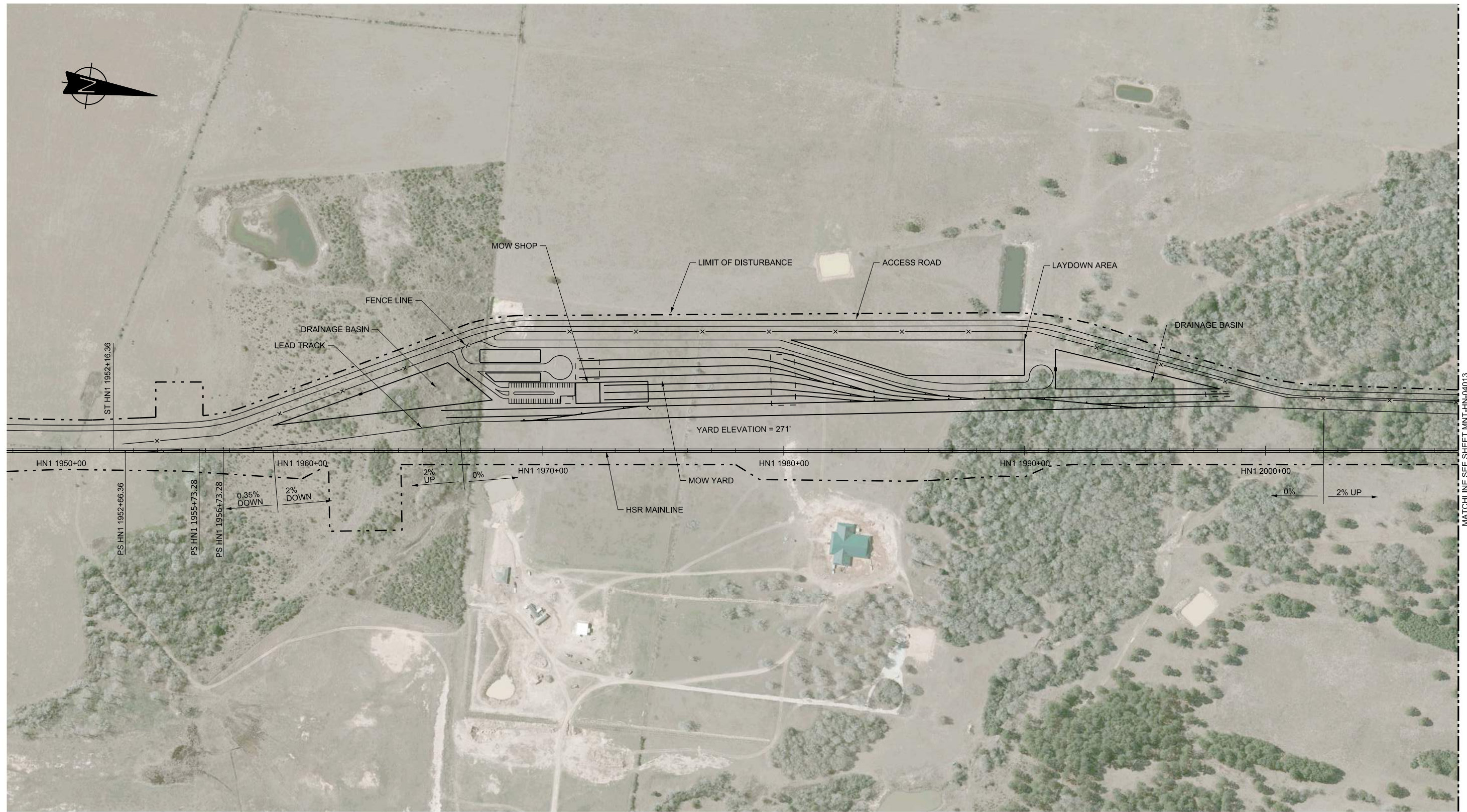
TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

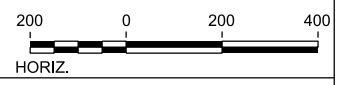
Drawing Title

**HOUSTON SEGMENT
 MAINTENANCE FACILITIES
 MOW FACILITY HN-2
 LAYOUT**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-HN-04011	Rev



NOTES:
 1. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

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

Client

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

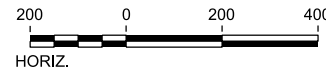
Drawing Title
**HOUSTON SEGMENT
 MAINTENANCE FACILITIES
 MOW FACILITY HN-4
 LAYOUT - SHEET 1 OF 2**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-HN-04012	Rev 01



MATCHLINE SEE SHEET MNT-HN-04012

- NOTES:
 1. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP
 Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

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

Client

TEXAS CENTRAL
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HOUSTON SEGMENT
 MAINTENANCE FACILITIES
 MOW FACILITY HN-4
 LAYOUT - SHEET 2 OF 2**

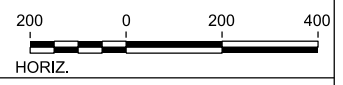
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	MNT-HN-04013	01



NOTES:
1. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER
DRAWN BY
A. LUKACS
CHECKED BY
M. SPIRIDIGLIOZZI
IN CHARGE
C. TAYLOR
DATE
09/15/2017

ARUP
Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

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

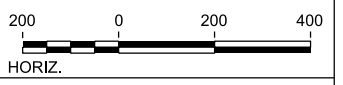
Client
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HOUSTON SEGMENT
MAINTENANCE FACILITIES
MOW FACILITY HN-5
LAYOUT - SHEET 1 OF 2**

Scale
AS SHOWN
Drawing Status
FINAL DRAFT
Job No. 234180 Drawing No. MNT-HN-04014 Rev 01



NOTES:
1. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER
DRAWN BY
A. LUCAS
CHECKED BY
M. SPIRIDIGLIOZZI
IN CHARGE
C. TAYLOR
DATE
09/15/2017

ARUP
Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

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

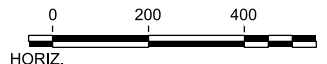
Client
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**HOUSTON SEGMENT
MAINTENANCE FACILITIES
MOW FACILITY HN-5
LAYOUT - SHEET 2 OF 2**

Scale
AS SHOWN
Drawing Status
FINAL DRAFT
Job No. 234180 Drawing No. MNT-HN-04015 Rev. 01



NOTES:
1. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

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

Client

TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

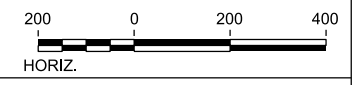
Drawing Title
**WEST OF TEAGUE SEGMENT
MAINTENANCE FACILITIES
MOW FACILITY WT-1
LAYOUT - SHEET 1 OF 2**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-WT-04016	Rev 01



MATCHLINE SEE SHEET MNT-WT-04016

NOTES:
1. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

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

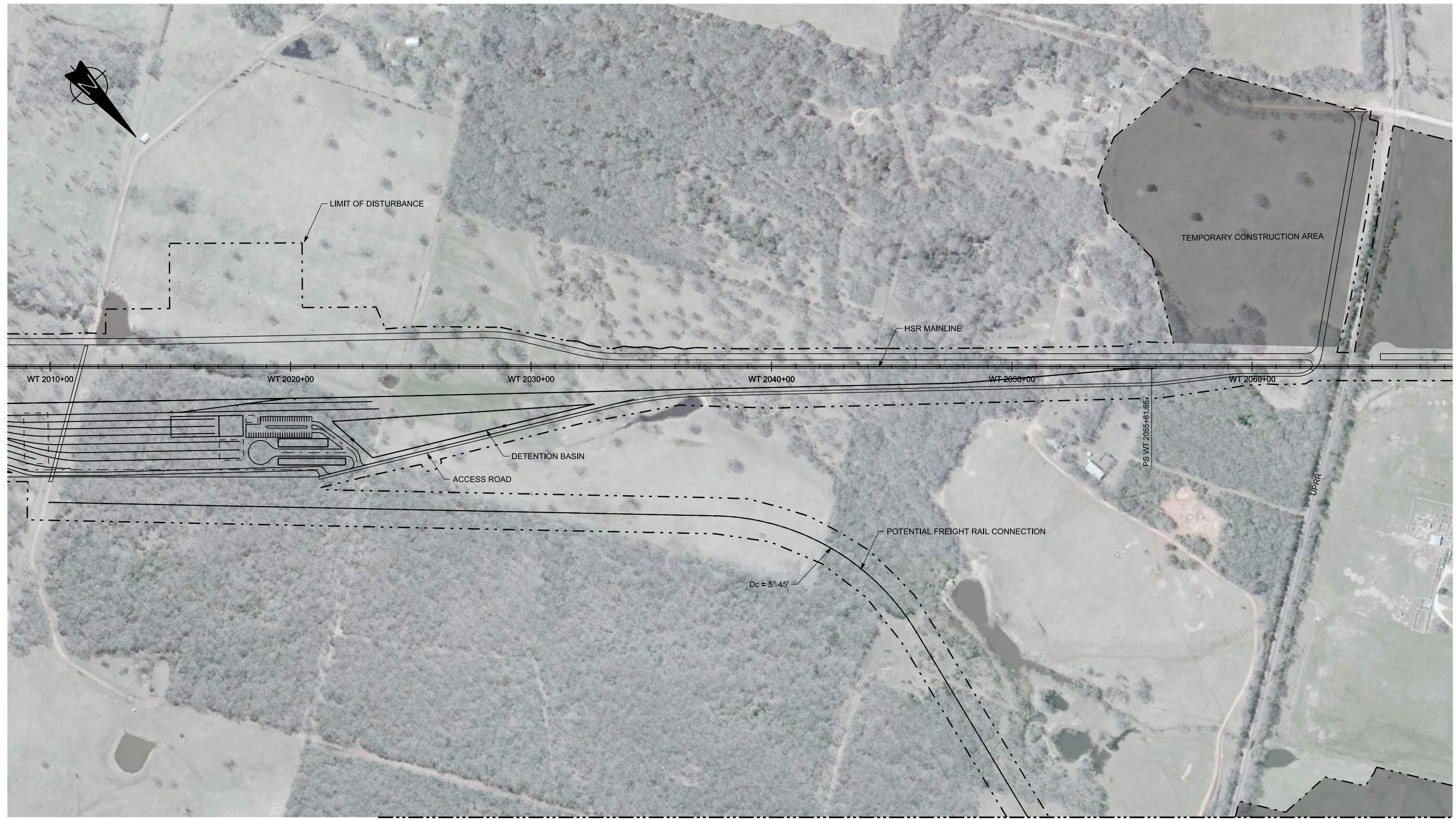
Client

TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

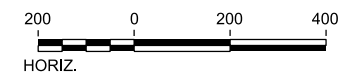
Drawing Title
**WEST OF TEAGUE SEGMENT
MAINTENANCE FACILITIES
MOW FACILITY WT-1
LAYOUT - SHEET 2 OF 2**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-WT-04017	Rev 01



NOTE: MATCHLINE SEE SHEET MNT-WT-04019

1. THIS SHEET REPRESENTS FREIGHT RAIL CONNECTION WITH THE MOW. FOR MOW SHEET DETAIL REFER TO SHEET MNT-WT-04016.
2. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

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

Client

TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

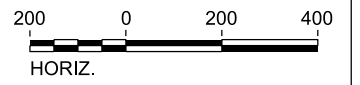
**WEST OF TEAGUE SEGMENT
MAINTENANCE FACILITIES
TRACK CONNECTION
LAYOUT - SHEET 1 OF 2**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-WT-04018	Rev 01

MATCHLINE SEE SHEET MNT-WT-04018



1
2
3
4
5
6
7
8
9
10



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
S. CHOERA

DRAWN BY
J. ALMAGUER

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017



Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990



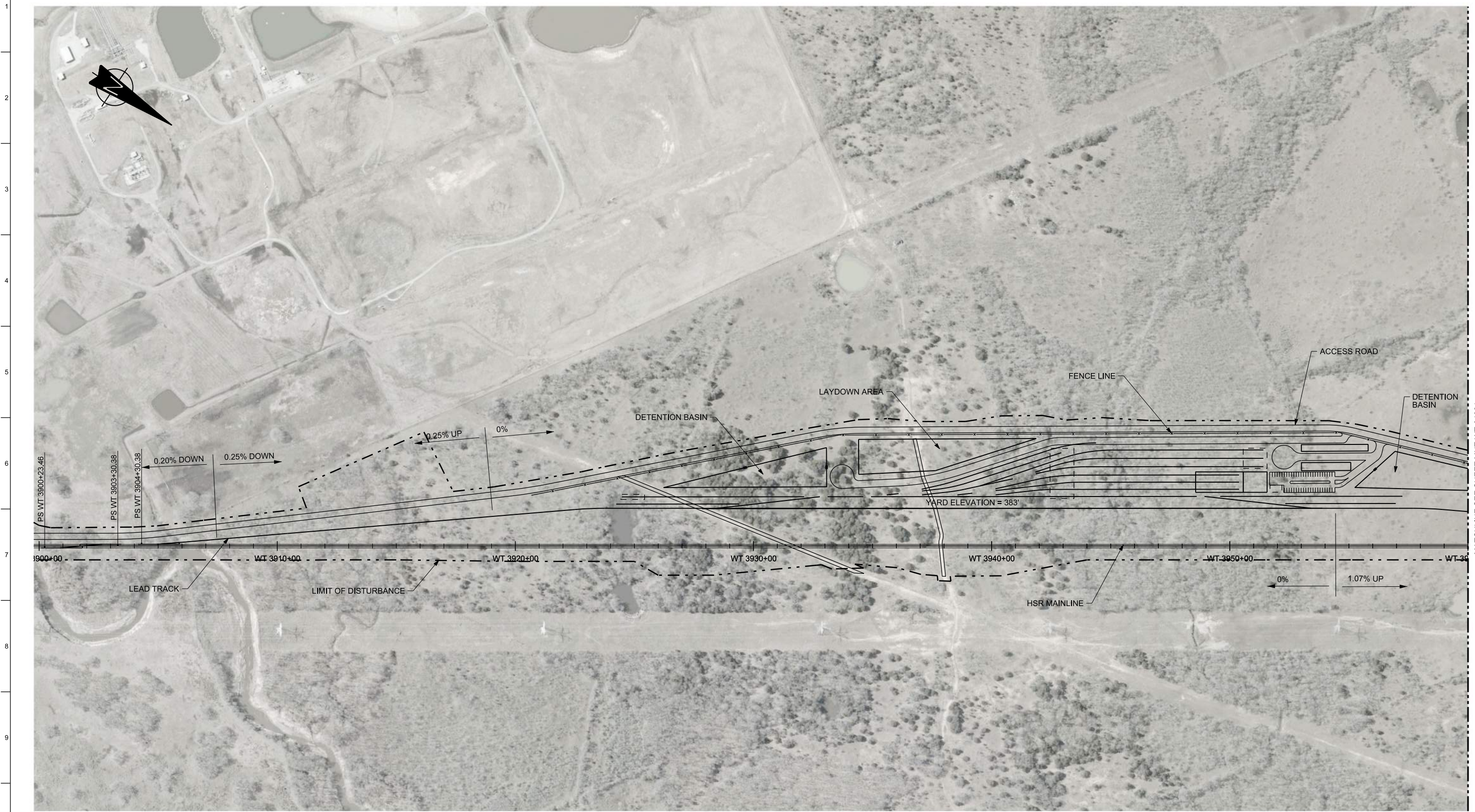
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144



Client
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**WEST OF TEAGUE SEGMENT
MAINTENANCE FACILITIES
TRACK CONNECTION
LAYOUT - SHEET 2 OF 2**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-WT-04019	Rev 01



NOTES:
 1. SEE SHEET MNT-00-02002 FOR MOW NOTES.

MATCHLINE SEE SHEET MNT-WT-04021

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

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

Client

TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

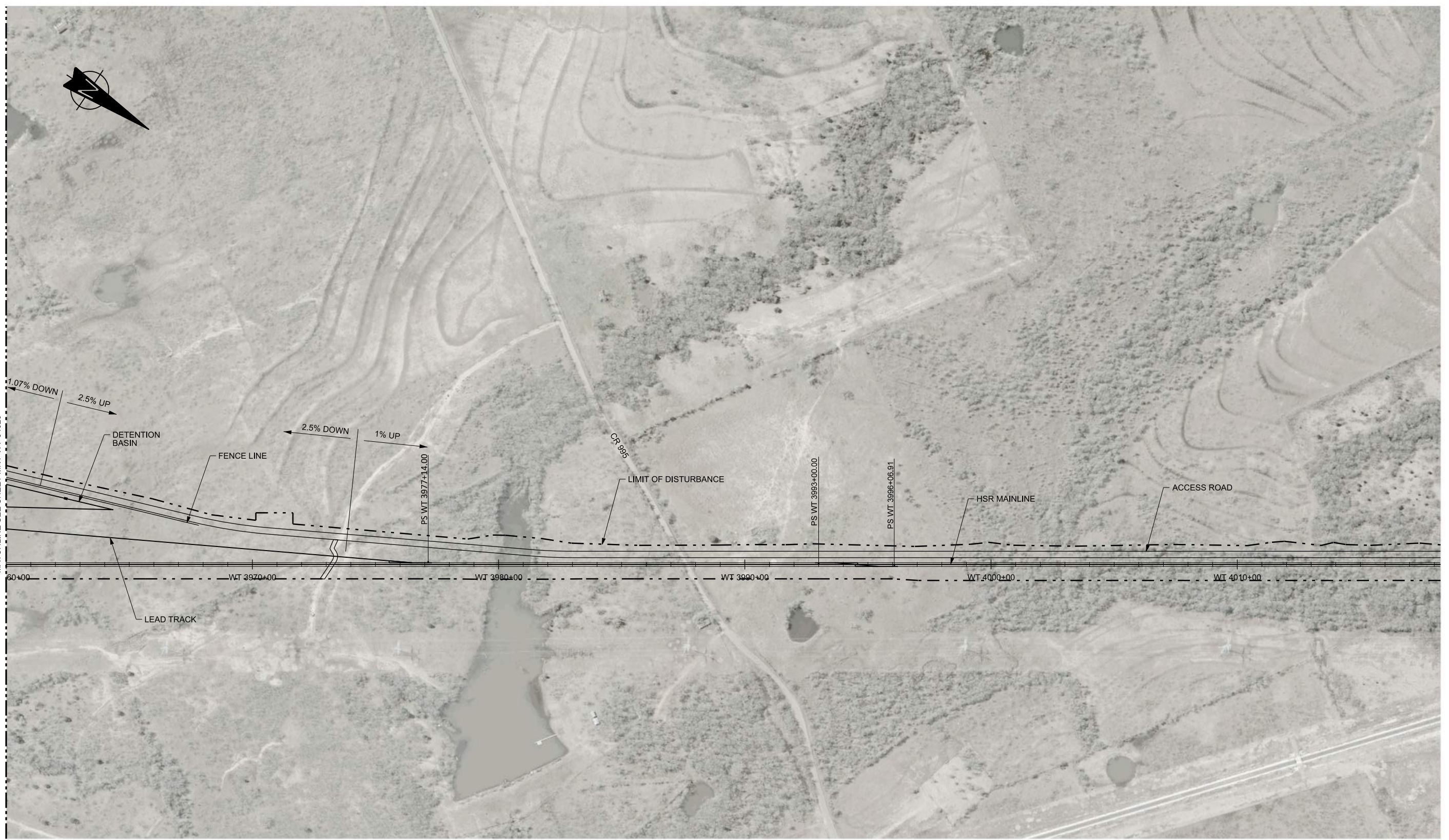
Drawing Title
**WEST OF TEAGUE SEGMENT
 MAINTENANCE FACILITIES
 MOW FACILITY WT-2
 LAYOUT - SHEET 1 OF 2**



Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No 234180	Drawing No MNT-WT-04020	Rev 01
------------------	----------------------------	-----------



NOTES:
1. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP
 Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

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

Client

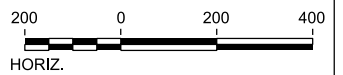
TEXAS CENTRAL
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**WEST OF TEAGUE SEGMENT
 MAINTENANCE FACILITIES
 MOW FACILITY WT-2
 LAYOUT - SHEET 2 OF 2**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-WT-04021	Rev 01



NOTES:
1. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP
Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

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

Client
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
IH (45) SEGMENT MAINTENANCE FACILITIES MOW FACILITY IH-1 LAYOUT - SHEET 1 OF 3

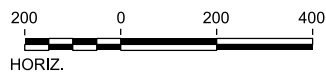
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No 234180	Drawing No MNT-IH-04022	Rev 01
------------------	----------------------------	-----------



NOTES:
 1. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

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

Client

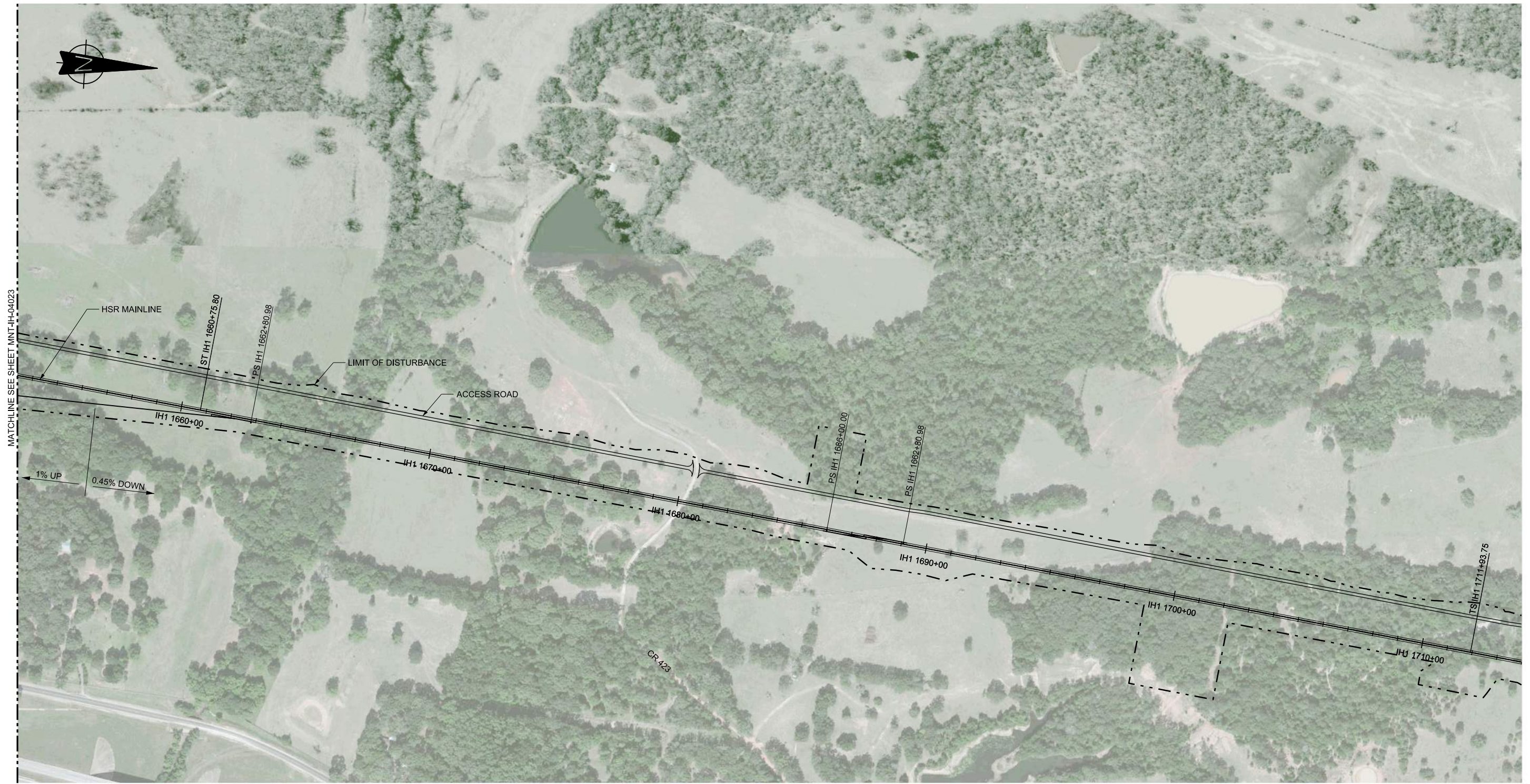
TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**IH (45) SEGMENT
 MAINTENANCE FACILITIES
 MOW FACILITY IH-1
 LAYOUT - SHEET 2 OF 3**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-IH-04023	Rev 01



NOTES:
 1. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

FREESSE AND NICHOLS

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

Client

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**IH (45) SEGMENT
 MAINTENANCE FACILITIES
 MOW FACILITY IH-1
 LAYOUT - SHEET 3 OF 3**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-IH-04024	Rev 01



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. COLQUHOUN

DRAWN BY
M. JALBERT

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREES & NICHOLS

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

Client

TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

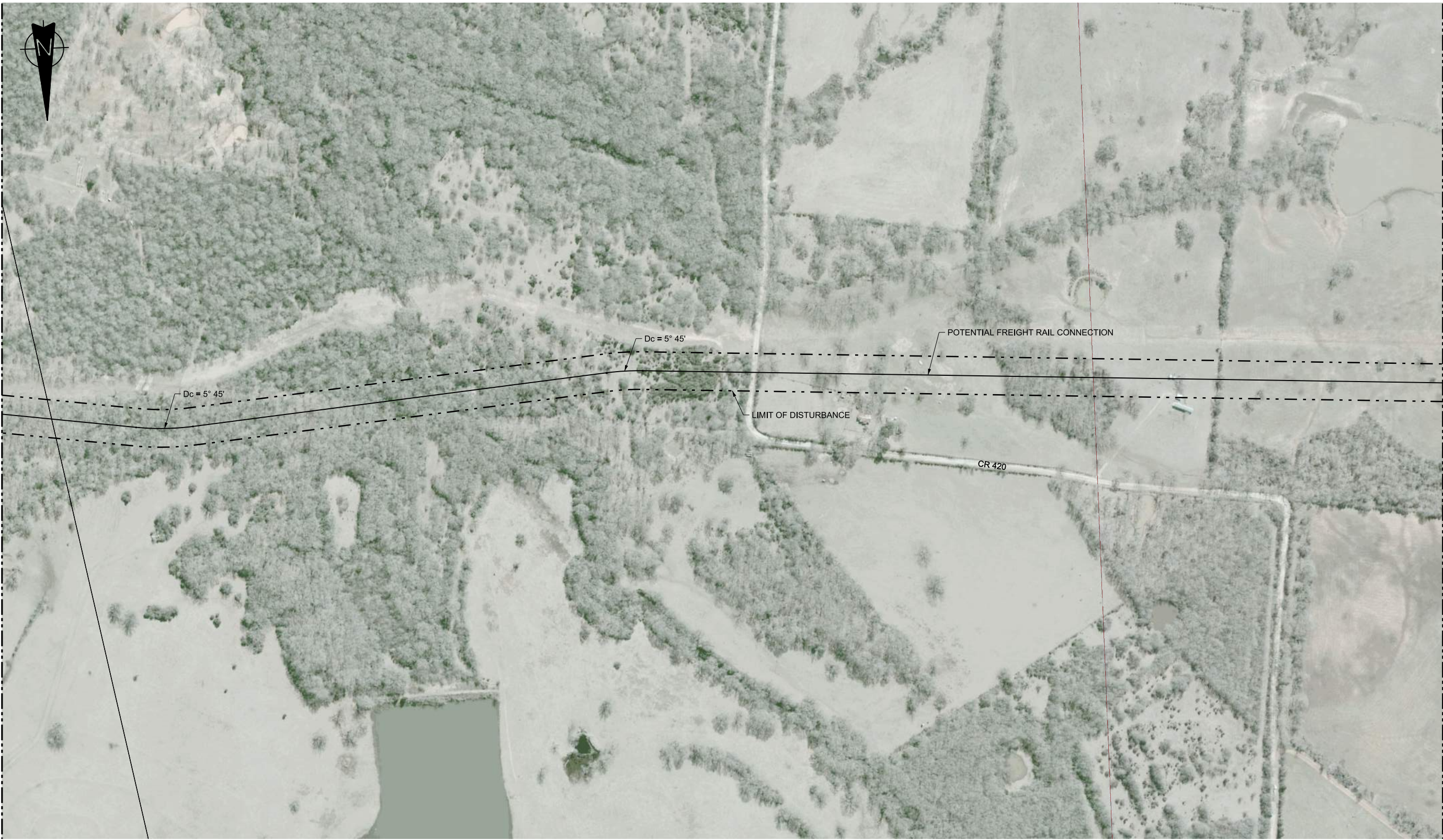
Drawing Title

**IH (45) SEGMENT
MAINTENANCE FACILITIES
TRACK CONNECTION
LAYOUT - SHEET 1 OF 8**

Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No 234180	Drawing No MNT-IH-04025	Rev 01
------------------	----------------------------	-----------



HORIZ.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. COLQUHOUN

DRAWN BY
M. JALBERT

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017



Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990



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



Client
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**IH (45) SEGMENT
MAINTENANCE FACILITIES
TRACK CONNECTION
LAYOUT - SHEET 2 OF 8**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-IH-04026	Rev 01



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. COLQUHOUN

DRAWN BY
M. JALBERT

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

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

Client



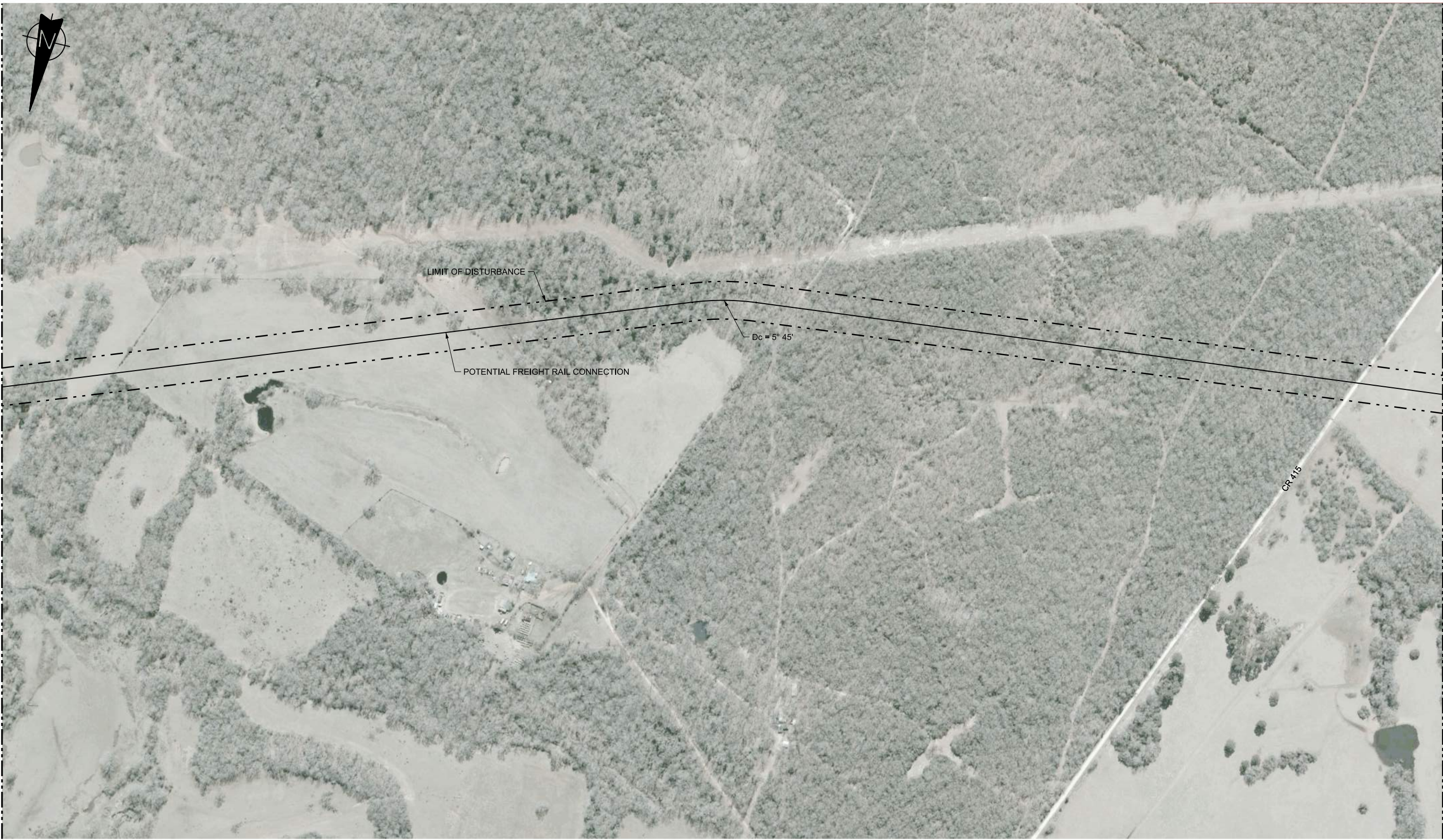
TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**IH (45) SEGMENT
MAINTENANCE FACILITIES
TRACK CONNECTION
LAYOUT - SHEET 3 OF 8**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-IH-04027	Rev 01



HORIZ.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. COLQUHOUN

DRAWN BY
M. JALBERT

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

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

Client



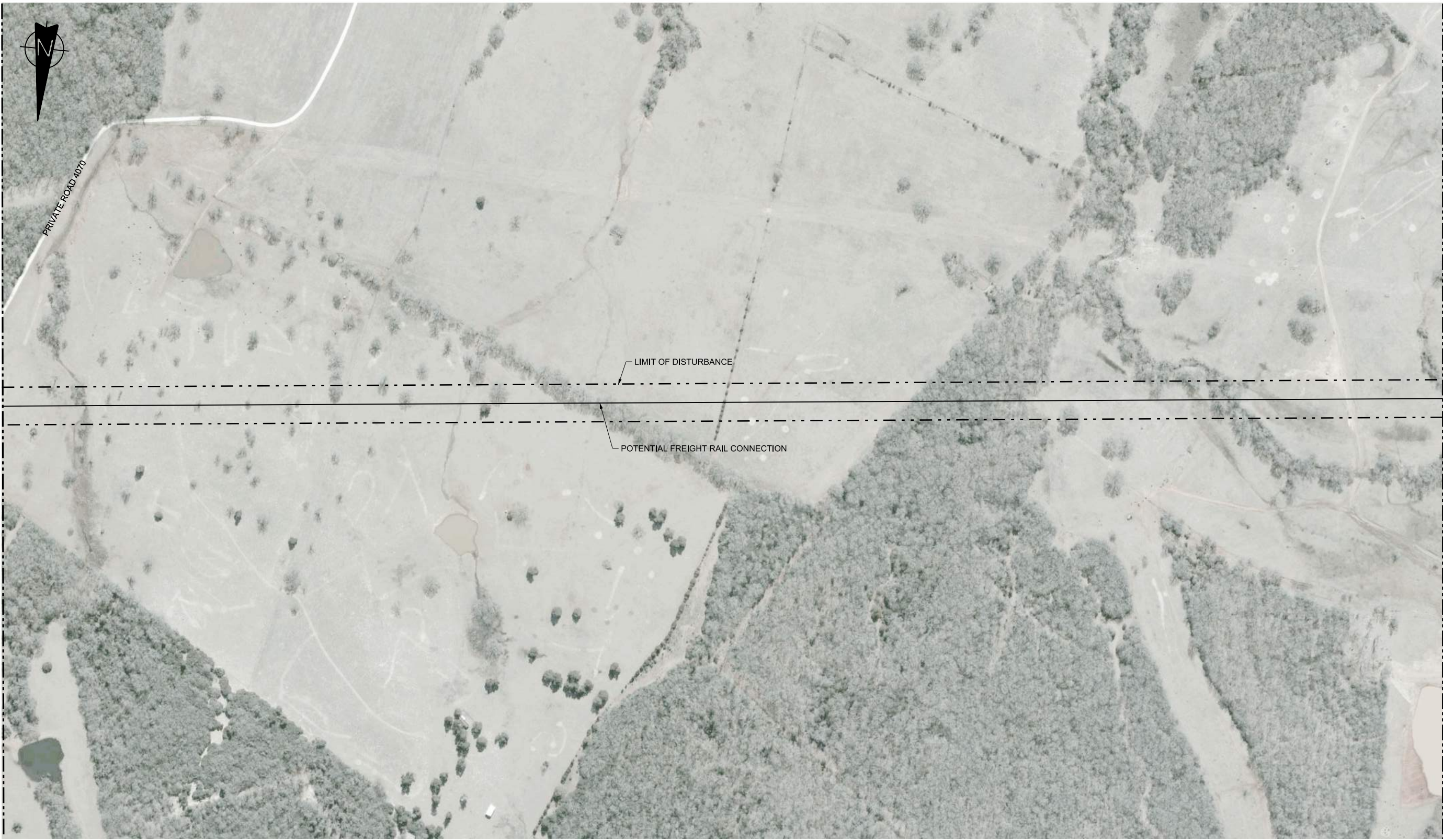
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**IH (45) SEGMENT
MAINTENANCE FACILITIES
TRACK CONNECTION
LAYOUT - SHEET 4 OF 8**

Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No 234180	Drawing No MNT-IH-04028	Rev 01
-------------------------	-----------------------------------	------------------



HORIZ.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. COLQUHOUN

DRAWN BY
M. JALBERT

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

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

Client



1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**IH (45) SEGMENT
MAINTENANCE FACILITIES
TRACK CONNECTION
LAYOUT - SHEET 5 OF 8**

Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No 234180	Drawing No MNT-IH-04029	Rev 01
-------------------------	-----------------------------------	------------------



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. COLQUHOUN

DRAWN BY
M. JALBERT

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

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

Client

TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**IH (45) SEGMENT
MAINTENANCE FACILITIES
TRACK CONNECTION
LAYOUT - SHEET 6 OF 8**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-IH-04030	Rev 01

MATCHLINE SEE SHEET MNT-IH-04032



MATCHLINE SEE SHEET MNT-IH-04030



BNSF



HORIZ.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. COLQUHOUN

DRAWN BY
M. JALBERT

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017



Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990



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

Client



TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**IH (45) SEGMENT
MAINTENANCE FACILITIES
TRACK CONNECTION
LAYOUT - SHEET 7 OF 8**

Scale
AS SHOWN

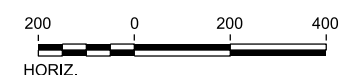
Drawing Status

FINAL DRAFT

Job No 234180	Drawing No MNT-IH-04031	Rev 01
-------------------------	-----------------------------------	------------------



MATCHLINE SEE SHEET MNT-IH-04031



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. COLQUHOUN

DRAWN BY
M. JALBERT

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

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

Client

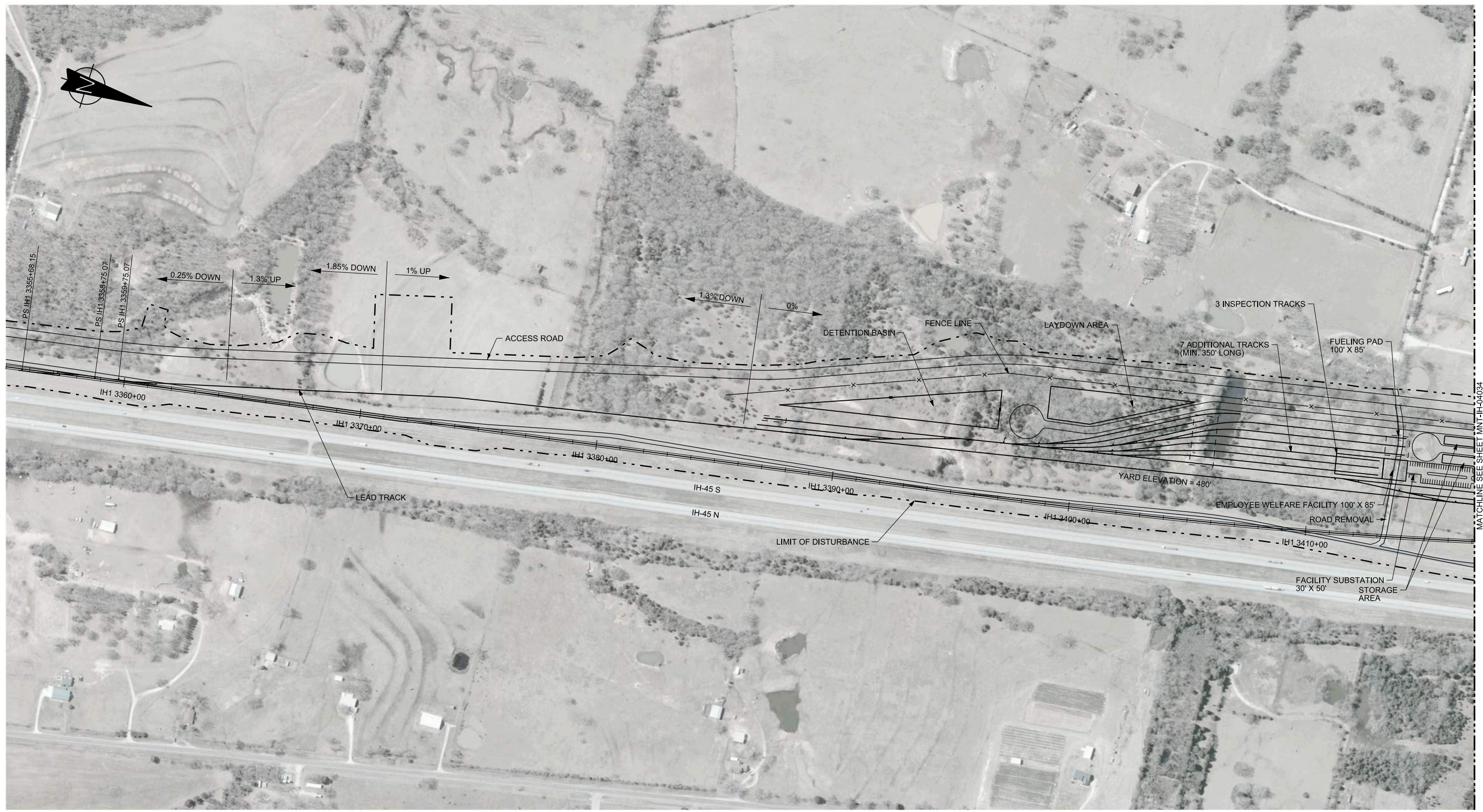
TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**IH (45) SEGMENT
MAINTENANCE FACILITIES
TRACK CONNECTION
LAYOUT - SHEET 8 OF 8**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-IH-04032	Rev 01



NOTES:
 1. SEE SHEET MNT-00-02002 FOR MOW NOTES.

MATCHLINE SEE SHEET MNT-IH-04034

PLOT BY: NYPWICS01S PLOT TIME: 9/25/2017 8:21:20 PM

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

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

Client

TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**IH (45) SEGMENT
 MAINTENANCE FACILITIES
 MOW FACILITY IH-2
 LAYOUT - SHEET 1 OF 3**

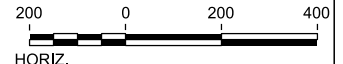
Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-IH-04033	Rev 01



MATCHLINE SEE SHEET MNT-IH-04033

MATCHLINE SEE SHEET MNT-IH-04035

NOTES:
1. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

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

Client

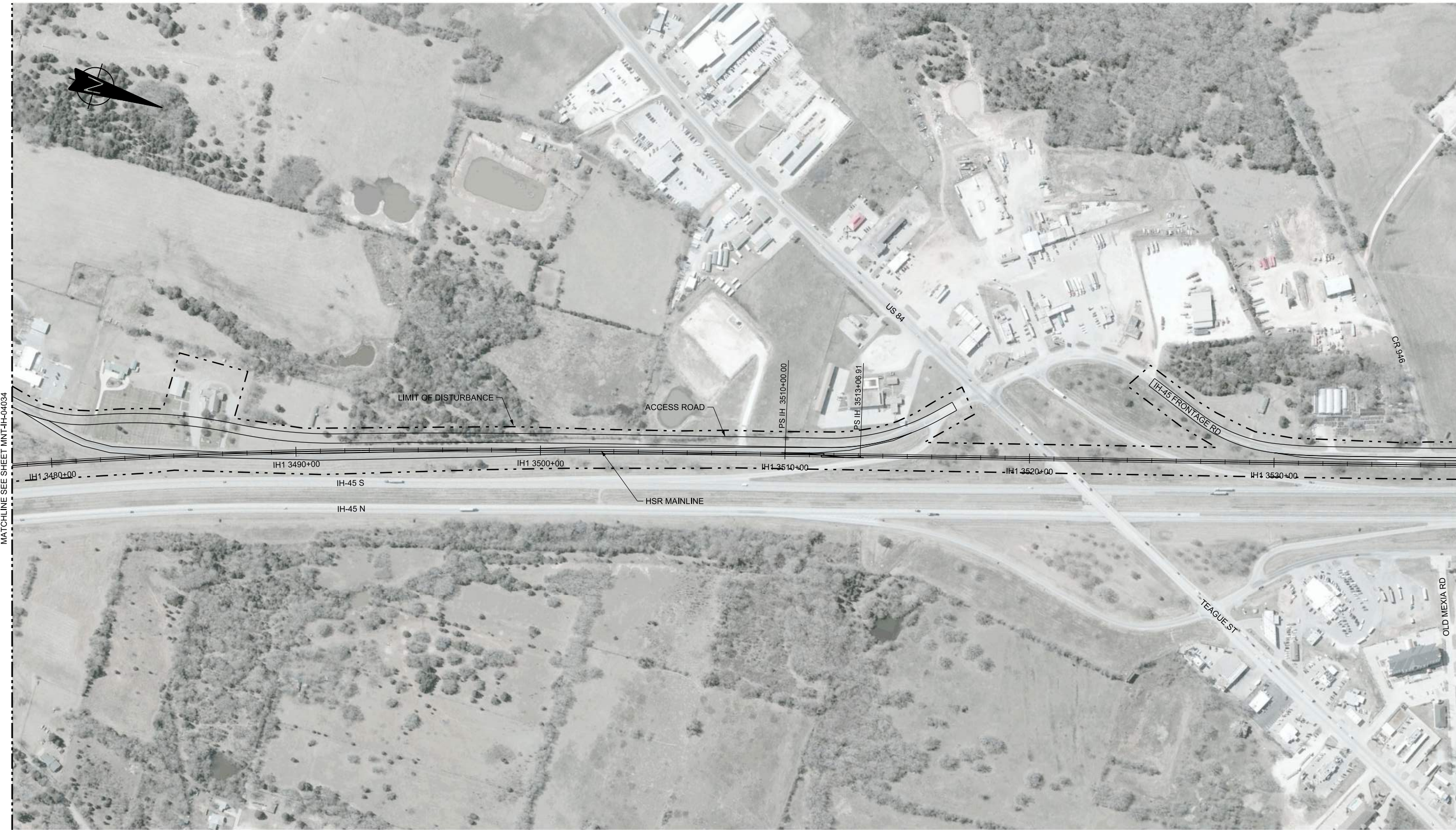
TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

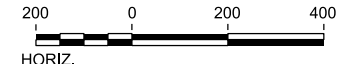
**IH (45) SEGMENT
MAINTENANCE FACILITIES
MOW FACILITY IH-2
LAYOUT - SHEET 2 OF 3**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-IH-04034	Rev 01



MATCHLINE SEE SHEET MNT-IH-04034

NOTES:
1. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

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

Client

TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**IH (45) SEGMENT
MAINTENANCE FACILITIES
MOW FACILITY IH-2
LAYOUT - SHEET 3 OF 3**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-IH-04035	Rev 01



NOTES:
 1. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

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

Client

TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**ELLIS WEST SEGMENT
 MAINTENANCE FACILITIES
 MOW FACILITY EW-1
 LAYOUT - SHEET 1 OF 2**

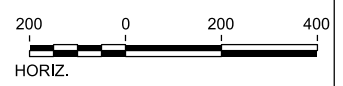
Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-EW-04036	Rev 01

MATCHLINE SEE SHEET MNT-EW-04037



MATCHLINE SEE SHEET MNT-EW-04036

NOTES:
 1. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

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

Client

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

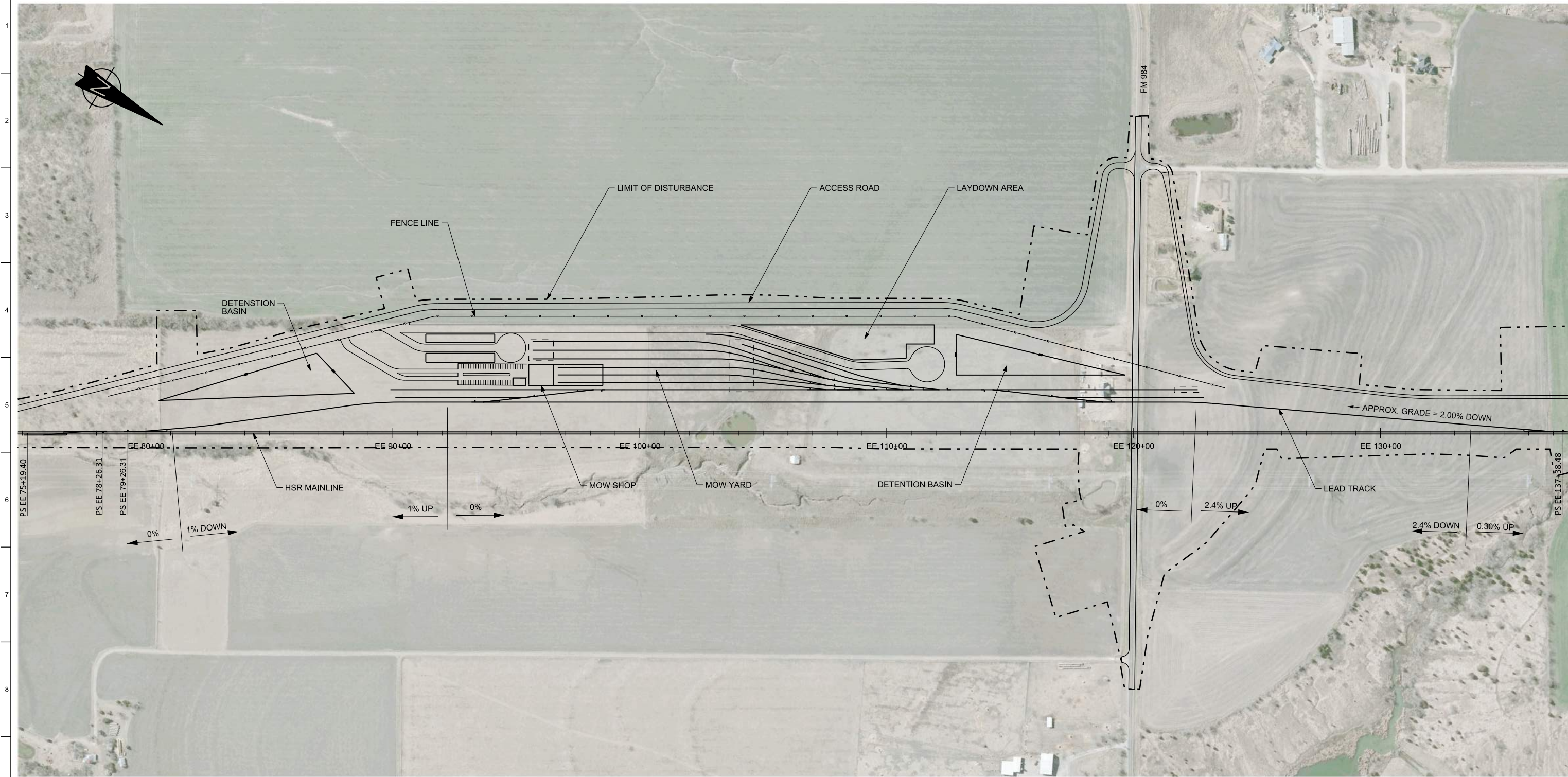
Drawing Title

**ELLIS WEST SEGMENT
 MAINTENANCE FACILITIES
 MOW FACILITY EW-1
 LAYOUT - SHEET 2 OF 2**

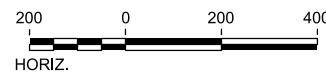
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No 234180	Drawing No MNT-EW-04037	Rev 01
------------------	----------------------------	-----------



NOTES:
 1. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
A. LUKACS

CHECKED BY
M. SPIRIDIGLIOZZI

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP
 Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

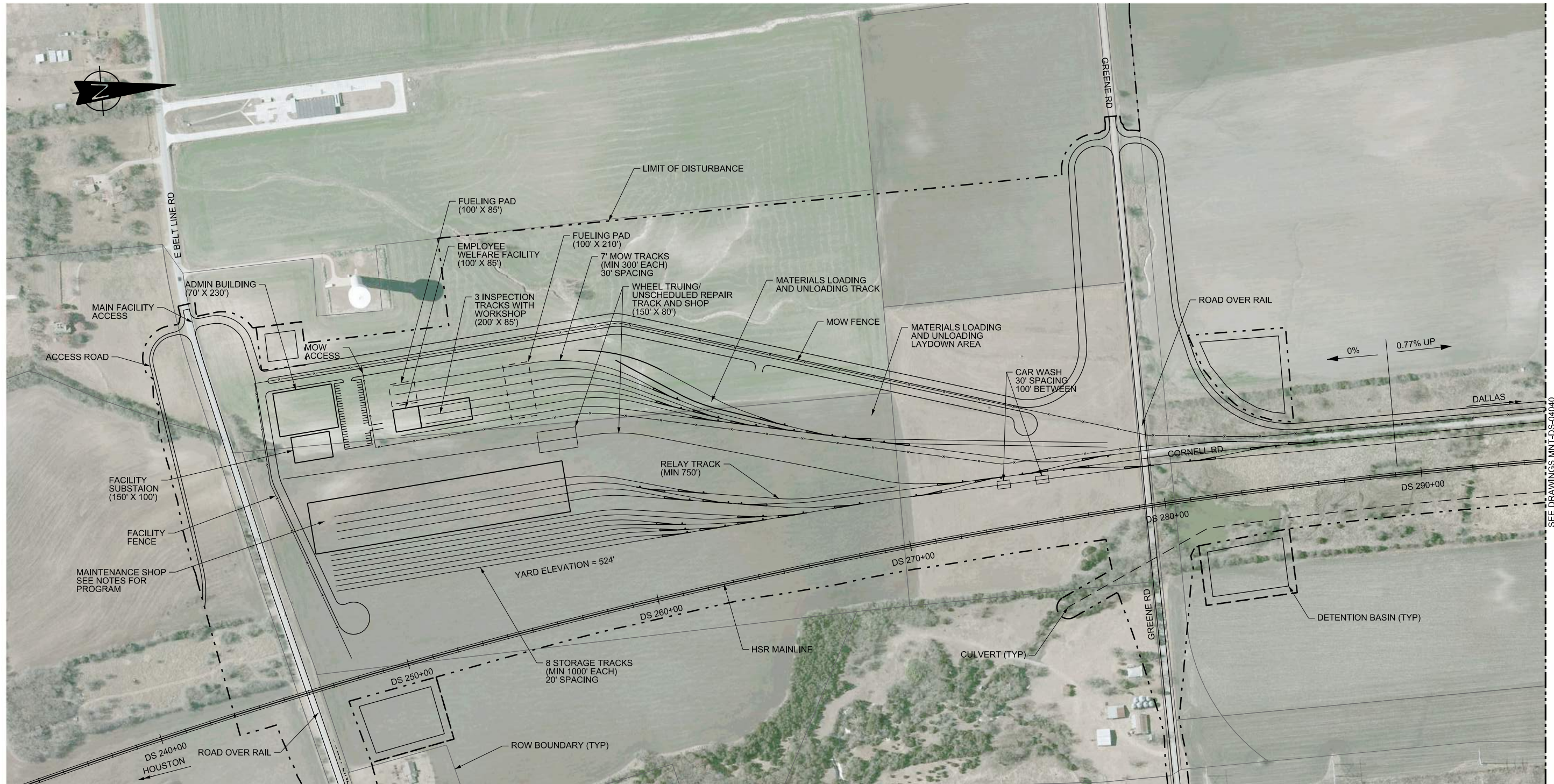
FREESSE & NICHOLS
 2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75204
 Tel (214) 217 2200 Fax (214) 217 2201
 www.freese.com
 Texas Registered Engineering Firm: F-2144

Client

TEXAS CENTRAL
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

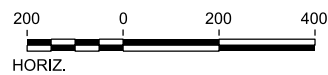
Drawing Title
**ELLIS EAST SEGMENT
 MAINTENANCE FACILITIES
 MOW FACILITY EE-1
 LAYOUT**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-EE-04038	Rev 01



NOTES:

- HSR MAINLINE ALIGNMENT AND STATIONING SHOWN FOR DALLAS SEGMENT.
- SINGLE TRAIN PER STORAGE TRACK WITH OVERRUN PROTECTION (LENGTH 1000'). STORAGE YARD TRACK SPACING IF 20' ON CENTER PROVIDES FOR OCS COLUMNS AND BOARDING PLATFORMS AT EACH END OF THE TRAIN.
- TMF DIRECTLY ACCESSIBLE FROM EITHER TERMINAL WITHOUT RELAY ON MAIN LINE. RELAY TRACK OFF OF MAINLINE FOR ACCESS TO TMF FROM DISTANT TERMINAL. DOUBLE TRACK TMF CONNECTIONS WITH ASSOCIATED MAINLINE CROSSOVERS TO ALLOW FOR OPERATIONAL FLEXIBILITY.
- CAR WASH LOCATION PROVIDES FLEXIBILITY TO/FROM SHOP AND YARD.
- NO. 16 TURNOUTS USED FOR FLAT JUNCTION TURNOUTS AND ASSOCIATED CROSSOVERS ON MAINLINE TRACKS. NO. 16 TURNOUTS USED FOR DIVERGING MOVE SPEEDS OF 43.5 MPH (70KM/HR).
- IN THE YARD, SHOP, AND MOW, SHUNTING SPEED SHALL BE RESTRICTED TO 18.6 MPH (30KM/HR). NO. 9 TURNOUTS USED THROUGHOUT YARD, SHOP AND MOW. NO. 12 TURNOUTS MAY BE USED BASED ON GEOMETRIC CONSTRAINTS.
- MAINTENANCE SHOP PROGRAM
 - SHOP APPROXIMATELY 235,000 SF
 - 4 SHOP TRACKS
 - 30' TRACK SPACING
 - RELAY TRACK FOR MOVEMENT OF TRAINS TO AND FROM HEAVY REPAIR TRACK WITHOUT OVERHEAD CATENARY
 - MINIMUM SHOP TRACK LENGTH OF 850' PROVIDED
- INSPECTION TRACKS IN MAINTENANCE SHOP INCLUDE PIT FOR UNDERCAR INSPECTION. FLOOR LEVEL ACCESS, AND ROOF LEVEL ACCESS.
- TMF DRAWINGS SHOW LOD REQUIRED FOR DEVELOPMENT OF TMF. INCLUDING ROADS, DRAINAGE, UTILITIES, AND OTHER WORKS.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
M.SPIRIDIGLIOZZI

DRAWN BY
M.SPIRIDIGLIOZZI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
09/15/2017



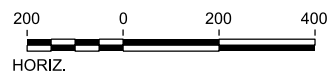
Drawing Title
**DALLAS SEGMENT
MAINTENANCE FACILITIES
DALLAS SOUTH TMF
SHEET 1 OF 3**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-DS-04039	Rev

SEE DRAWINGS MNT-DS-04040



- NOTES:
- SEE MNT-DS-04039 FOR NOTES.
 - ATC/SHUNTING SWITCHOVER REQUIRED TO SUPPORT CHANGE TO SHUNTING MODE FOR SAFE OPERATIONS INTO THE TMF. ATC/SHUNTING SWITCHOVER MIN REQUIRED LENGTH IS 1,000'. HSR MAINLINE ALIGNMENT AND STATIONING SHOWN FOR DALLAS SEGMENT.
 - OCS CHANGEOVER AREA REQUIRED TO SECTIONALIZE MAINLINE HSR AND TMF OVERHEAD CATENARY TRACTION POWER FOR SAFETY. OCS CHANGEOVER MIN REQUIRED LENGTH 2,625' (AT 43.5 MPH), MINIMUM CHANGEOVER LENGTH PROVIDED IS 3595'.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
M.SPIRIDIGLIOZZI

DRAWN BY
M.SPIRIDIGLIOZZI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

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

Client

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**DALLAS SEGMENT
MAINTENANCE FACILITIES
DALLAS SOUTH TMF
SHEET 2 OF 3**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-DS-04040	Rev

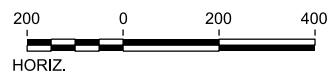
SEE DRAWING MNT-DS-040389

SEE DRAWING MNT-DS-04041



SEE DRAWING MNT-DS-04040

NOTES:
1. SEE MNT-DS-04039 FOR NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
M.SPIRIDIGLIOZZI

DRAWN BY
M.SPIRIDIGLIOZZI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

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

Client

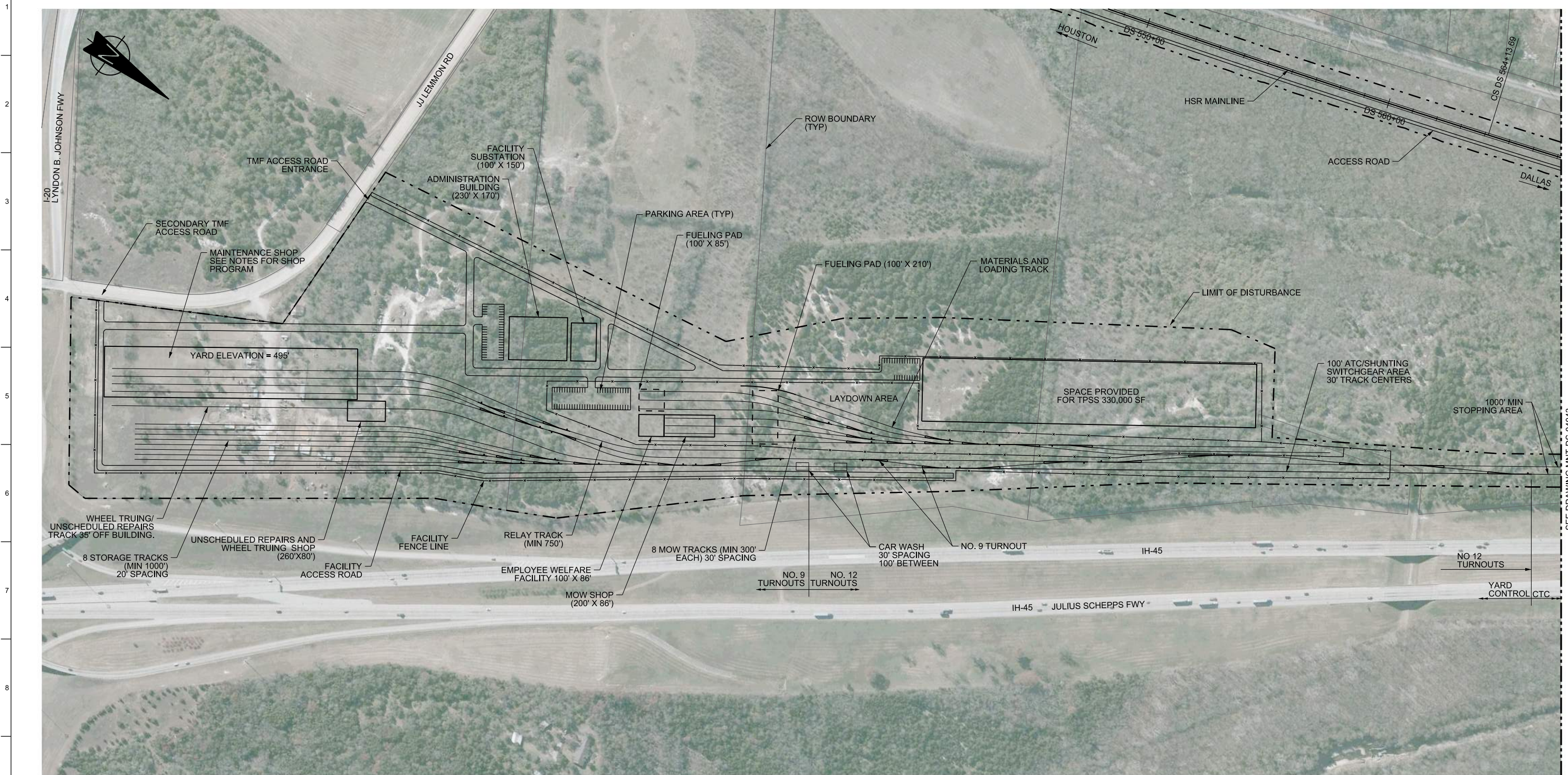
TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

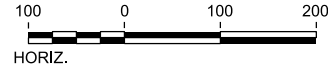
Drawing Title

**DALLAS SEGMENT
MAINTENANCE FACILITIES
DALLAS SOUTH TMF
SHEET 3 OF 3**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-DS-04041	Rev



- NOTES:
1. HSR MAINLINE ALIGNMENT AND STATIONING SHOWN FOR DALLAS SEGMENT.
 2. SINGLE TRAIN PER STORAGE TRACK WITH OVERRUN PROTECTION (LENGTH 1000'). STORAGE YARD TRACK SPACING IF 20' ON CENTER PROVIDES FOR OCS COLUMNS AND BOARDING PLATFORMS AT EACH END OF THE TRAIN.
 3. TMF DIRECTLY ACCESSIBLE FROM EITHER TERMINAL WITHOUT RELAY OR MAIN LINE. RELAY TRACK OFF OF MAINLINE FOR ACCESS TO TMF FROM DISTANT TERMINAL. DOUBLE TRACK TMF CONNECTIONS WITH ASSOCIATED MAINLINE CROSSOVERS TO ALLOW FOR OPERATIONAL FLEXIBILITY.
 4. CAR WASH LOCATION PROVIDES FLEXIBILITY TO/FROM SHOP AND YARD.
 5. NO. 16 TURNOUTS USED FOR FLAT JUNCTION AND ASSOCIATED CROSSOVERS ON MAINLINE TRACKS. NO. 16 TURNOUTS USED FOR DIVERGING MOVE SPEEDS OF 43.5 MPH (70KM/HR).
 6. IN THE YARD, SHOP, AND MOW, SHUNTING SPEED SHALL BE RESTRICTED TO 18.6 MPH (30KM/HR). NO. 9 TURNOUTS USED THROUGHOUT YARD, SHOP AND MOW. NO. 12 TURNOUTS MAY BE USED BASED ON GEOMETRIC CONSTRAINTS.
 7. SHOP PROGRAM
 - SHOP APPROXIMATELY 200,000 SF
 - 4 SHOP TRACKS
 - 30' TRACK SPACING
 - RELAY TRACK FOR MOVEMENT OF TRAINS TO AND FROM HEAVY REPAIR TRACK WITHOUT OVERHEAD CATENARY
 - MINIMUM SHOP TRACK LENGTH OF 850' PROVIDED
 8. INSPECTION TRACKS IN SHOP INCLUDE PIT FOR UNDERCAR INSPECTION. FLOOR LEVEL ACCESS, AND ROOF LEVEL ACCESS.
 9. TMF DRAWINGS SHOW LOD REQUIRED FOR DEVELOPMENT OF TMF, INCLUDING ROADS, DRAINAGE, UTILITIES, AND OTHER WORKS. ROADWAY WORKS NOT SHOWN.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
M. SPIRIDIGLIOZZI

DRAWN BY
R. GIBBINS

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE & NICHOLS

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

Client

TEXAS CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**DALLAS SEGMENT
MAINTENANCE FACILITIES
DALLAS NORTH TMF
SHEET 1 OF 2**

Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No 234180	Drawing No MNT-DS-04042	Rev
-------------------------	-----------------------------------	-----



NOTES:

- SEE SHEET MNT-DS-04042 FOR ADDITIONAL NOTES.
- ATC/SHUNTING SWITCHOVER REQUIRED TO SUPPORT CHANGE TO SHUNTING MODE FOR SAFE OPERATIONS INTO THE TMF. ATC/SHUNTING SWITCHOVER MIN REQUIRED LENGTH IS 1,000'.
- OCS CHANGEOVER AREA REQUIRED TO SECTIONALIZE MAINLINE HSR AND TMF OVERHEAD CATENARY TRACTION POWER FOR SAFETY. OCS CHANGEOVER MIN REQUIRED LENGTH 2,625' (AT 43.5 MPH). MINIMUM CHANGEOVER LENGTH PROVIDED IS 3595'.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. WAGNER

DRAWN BY
R. GIBBINS

CHECKED BY
M. SPIRIDIGLIOZZ

IN CHARGE
C. TAYLOR

DATE
09/15/2017



Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990



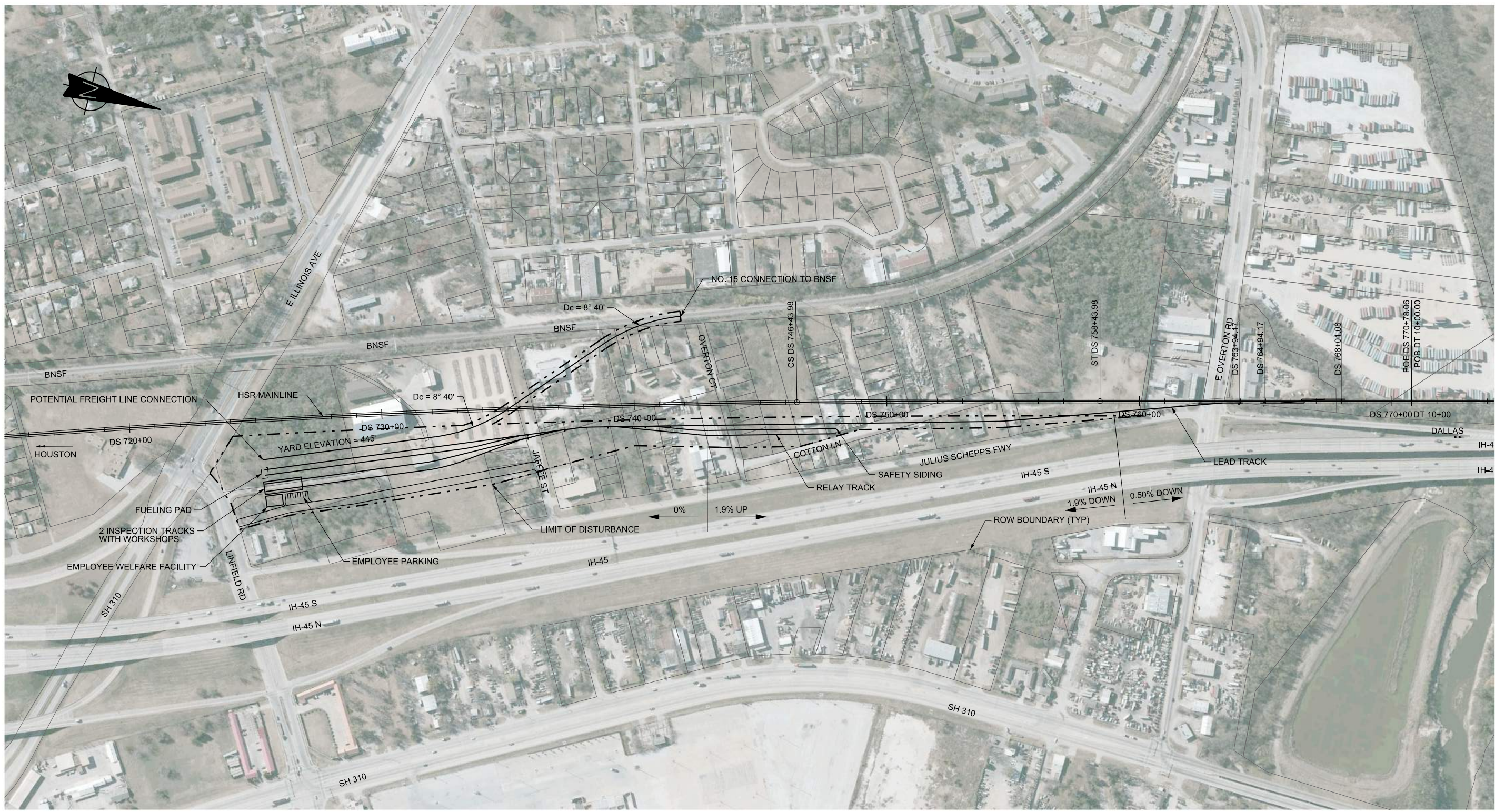
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144



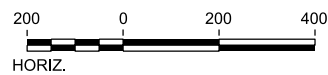
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
MAINTENANCE FACILITIES
DALLAS NORTH TMF
SHEET 2 OF 2**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No MNT-DS-04043	Rev



NOTES:
 1. SEE SHEET MNT-00-02002 FOR MOW NOTES.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
M.SPIRIDIGLIOZZI
 DRAWN BY
M.SPIRIDIGLIOZZI
 CHECKED BY
T. WAGNER
 IN CHARGE
C. TAYLOR
 DATE
09/15/2017

ARUP
 Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

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

Client

TEXAS CENTRAL
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
 MAINTENANCE FACILITIES
 MOW FACILITY DS-3
 LAYOUT**

Scale
AS SHOWN
 Drawing Status
FINAL DRAFT
 Job No. 234180 Drawing No. MNT-DS-04044 Rev.