

**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 9 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 (<i>General Sheets and Typical Sections</i>)			
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 (<i>Railway Alignment Plan and Profile Sheets</i>)			
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 (<i>Stations, Maintenance Facilities, and Railway Systems Sheets</i>)			
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 (<i>Roadway Plan Sheets</i>)			
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 2 - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

SEPTEMBER 15, 2017



U.S. Department of Transportation
Federal Railroad Administration

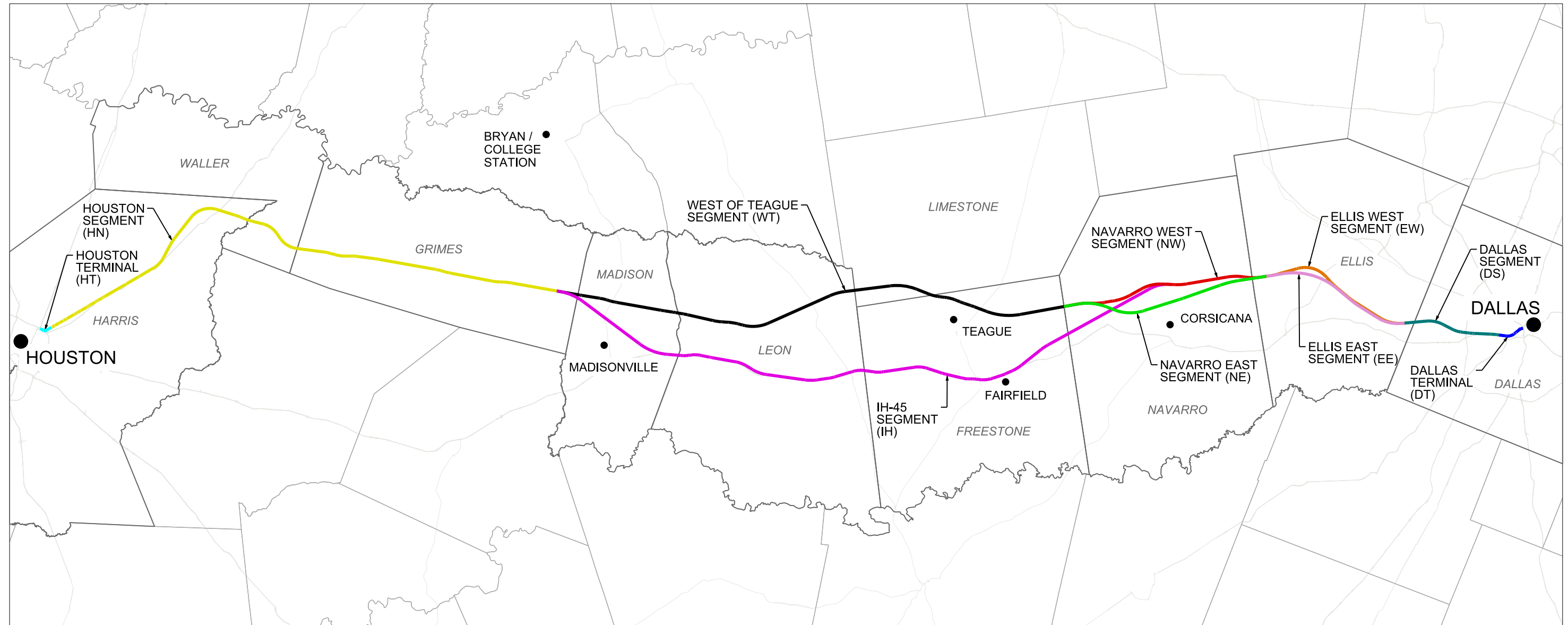
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Texas Registered Engineering Firm: F-1990

**FRESE
OF
NICHOLS**

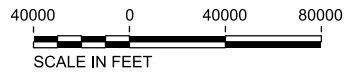
2711 North Haskell Ave., Suite 3300
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COVER SHEET



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

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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
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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.



Table with columns: Client, Drawing Title, Scale, Drawing Status, Job No, Drawing No, Rev. Project information.

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 drawings for IH-45 SEGMENT - CIVIL - PLAN AND PROFILE across various stationing points.

Table with columns: Drawing No., Description. Lists drawings for NAVARRO WEST SEGMENT - CIVIL - PLAN AND PROFILE and 2-5 NAVARRO EAST 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'.

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

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Lists drawings for Ellis West Segment, Ellis East Segment, and Dallas Segment.

VOLUME 3 - STATIONS, MAINTENANCE FACILITIES AND RAILWAY SYSTEMS SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Lists drawings for Stations, Maintenance Facilities, and Railway Systems.

Table with columns: Drawing ID, Description. Lists drawings for Houston Segment Stations, Dallas Segment Stations, and Maintenance Facilities.

Table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION. Includes a design log and a metadata table with fields like DESIGNED BY, DRAWN BY, CHECKED BY, IN CHARGE, 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', and drawing status 'FINAL DRAFT'.

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

PLOT BY: N-YPWICS01S

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.

Table with 5 columns: REV, DATE, BY, CHK, APP, and DESCRIPTION. Used for revision tracking.

Table with 2 columns: Field Name and Value. Includes fields for DESIGNED BY, DRAWN BY, CHECKED BY, IN CHARGE, and DATE.



Table with 3 columns: Field Name and Value. Includes Drawing Title (GENERAL INDEX SHEET 4 OF 5), Scale (NO SCALE), Drawing Status (FINAL DRAFT), Job No (234180), Drawing No (GEN-00-00006), and Rev (01).

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

PLOT BY: MYPWCS01S

VOLUME 4 - ROADWAY PLAN SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Lists drawings 1H-45 SEGMENT and 4-4 NAVARRO WEST SEGMENT.

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Lists drawings 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. Lists drawings 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



Drawing Title: GENERAL INDEX SHEET 5 OF 5
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
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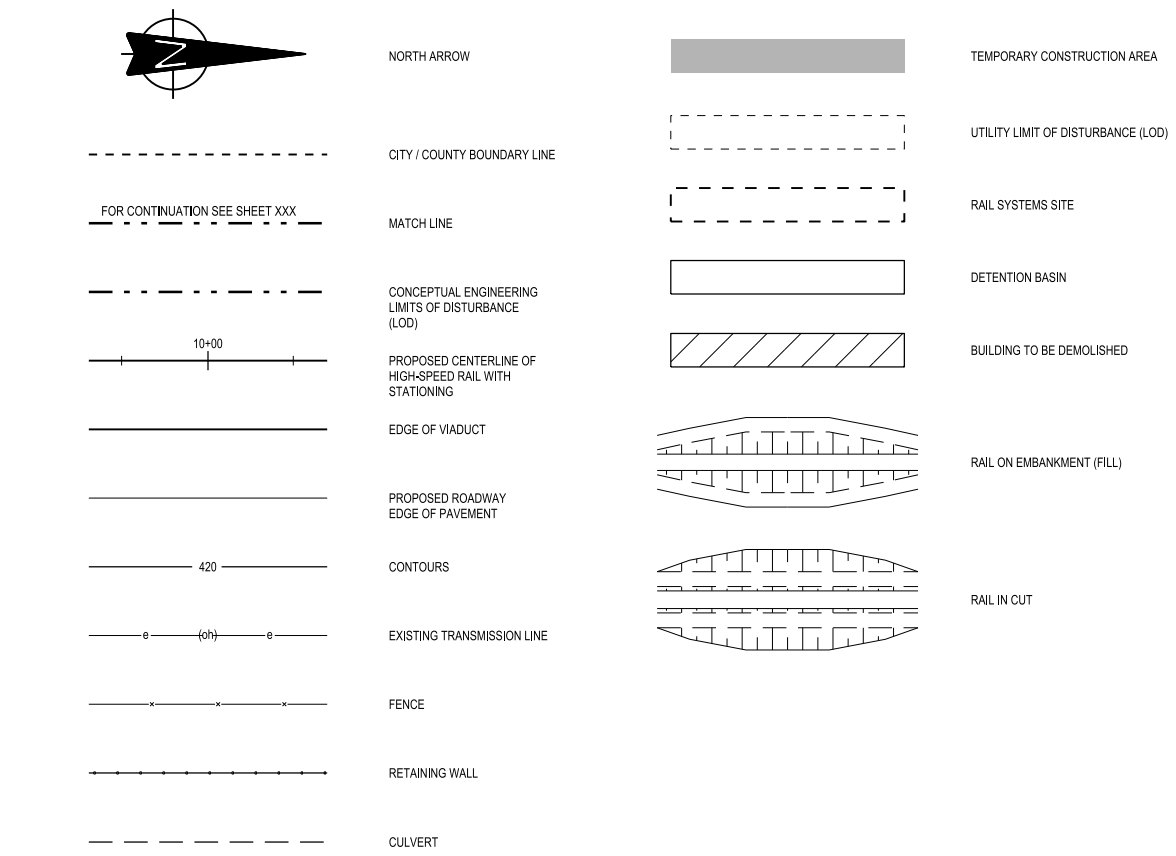
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Job No	Drawing No
234180	GEN-00-00008
Rev	01

ABBREVIATIONS

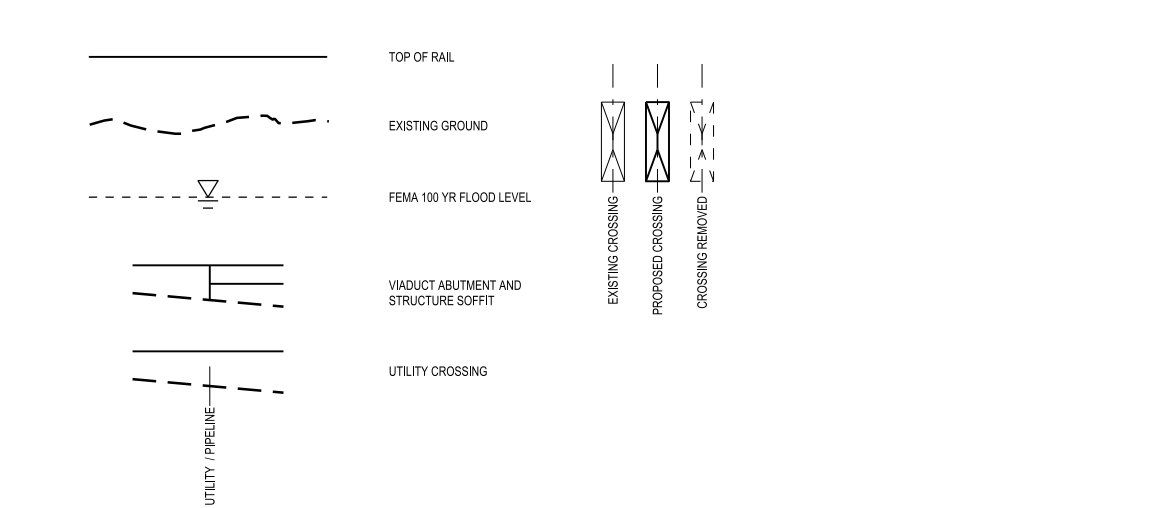
ALT	ALTERNATE ALIGNMENT	TBD	TO BE DETERMINED TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
APPROX	APPROXIMATE	TCEQ	TEMPORARY TRAINSET MAINTENANCE FACILITY
ATP	AUTOTRANSFORMER POST	TEMP	TEMPORARY TRACTION POWER SUBSTATION
AVE	AVENUE	TMF	TANGENT SPIRAL
BLVD	BOULEVARD	TPSS	TYPICAL
BNSF	BURLINGTON NORTH SANTE FE RAILROAD	TS	TOP OF RAIL
BOT	BOTTOM	TYP	
		TOR	
CH	COMMUNICATION HOUSE	US	UNITED STATES, UNITED STATES HIGHWAY
CO RD	COUNTY ROAD	UPRR	UNION PACIFIC RAILROAD
CL	CENTERLINE		
C	CENTERLINE	VAR	VARIABLE
CO	COUNTY	VERT, V	VERTICAL
CR	COUNTY ROAD	WB	WESTBOUND
CS	CURVE TO SPIRAL	WT	WEST OF TEAGUE
CVL	CIVIL	XING	CROSSING
		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		
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		

LEGEND

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



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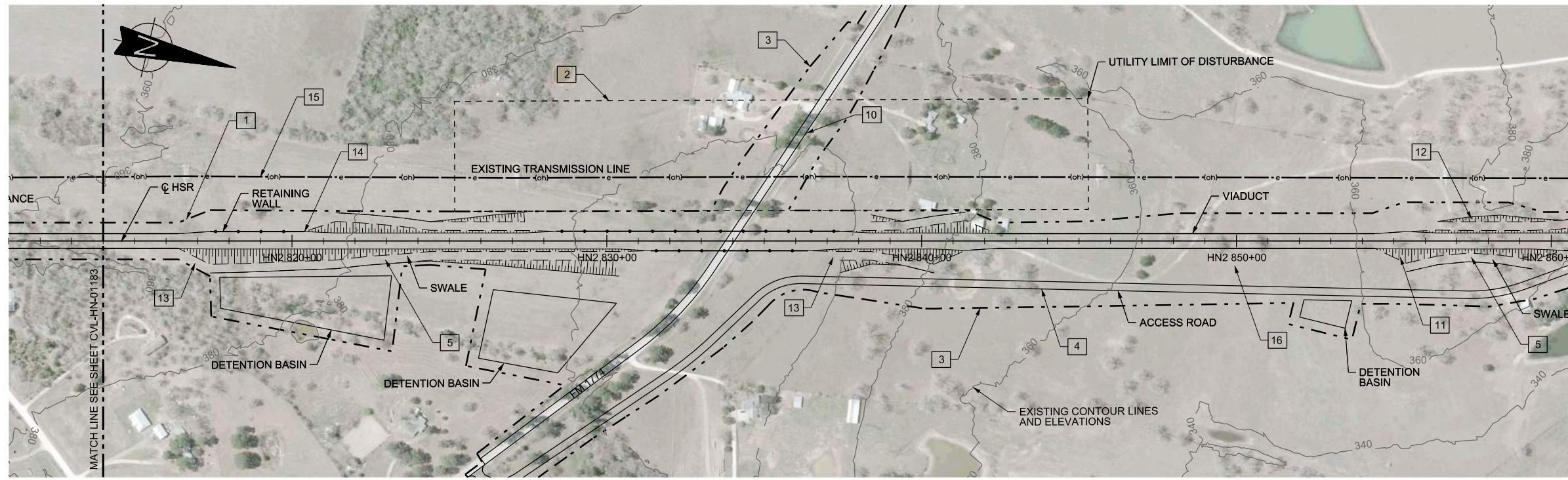
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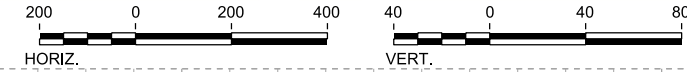
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
GENERAL ABBREVIATIONS AND LEGEND

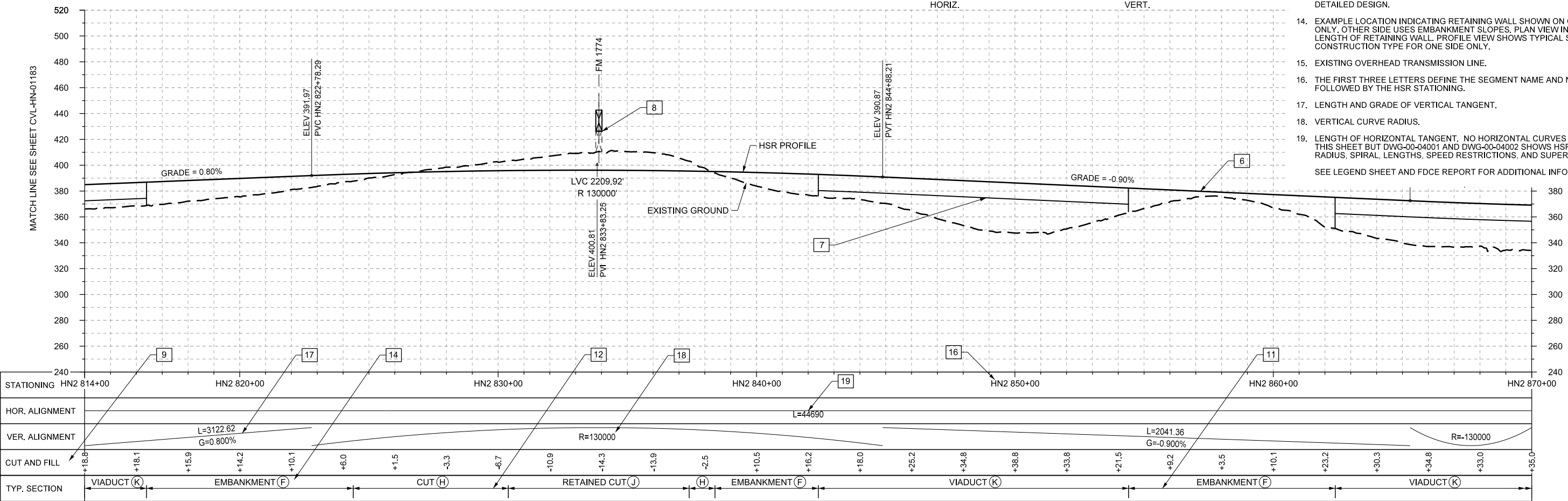
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Drawing Status FINAL DRAFT		
Job No 234180	Drawing No GEN-00-00009	Rev 01



PLAN



- NOTES:
- LIMIT OF DISTURBANCE (LOD) FOR THE PROJECT. LOD VARIES BASED ON IMPACT AT EACH LOCATION LOD USED FOR ENVIRONMENTAL ANALYSIS.
 - UTILITY LIMIT OF DISTURBANCE. TRANSMISSION LINE TO BE RAISED AS NECESSARY TO SUIT THE GRADE SEPARATION OF THE ROADWAY. REFER TO UTILITY TYPICAL DETAILS.
 - LOD IS OFFSET FROM THE EDGE OF PROPOSED ROADWAY TO ACCOMMODATE SIDE SLOPES ASSOCIATED WITH THE GRADE SEPARATION OF THE ROADWAY AND ACCESS ROAD.
 - DETAILS ON THE TYPE AND WIDTH OF THE ACCESS ROAD ARE SHOWN IN TYPICAL SECTIONS IN VOLUME 1.
 - SWALE EXTENTS SHOWN ON RAIL PLAN SHEETS ARE ONLY GENERATED BY COMPUTER MODEL FOR EMBANKMENT CONSTRUCTION TYPE AND WOULD EXTEND BEYOND THE LIMITS SHOWN. FINAL EXTENTS AND ARRANGEMENTS OF SWALES WOULD BE DEVELOPED DURING FINAL DESIGN AND BE BASED ON SITE SPECIFIC CONDITIONS AND REQUIREMENTS. LOCATION AND CONFIGURATION OF SWALES FOR OTHER CONSTRUCTION TYPES ARE SHOWN ON THE TYPICAL SECTIONS.
 - PROFILE OF THE HSR ALIGNMENT AT TOP OF RAIL.
 - START, END, AND APPROXIMATE UNDERSIDE OF VIADUCT STRUCTURES. TYPICAL STRUCTURE DEPTH SHOWN.
 - CLEARANCE BOX INDICATING GRADE SEPARATION BETWEEN RAIL AND ROADWAY ALIGNMENT. CLEARANCE BOX SHOWS APPROXIMATE SPACE OCCUPIED BY EXISTING OR PROPOSED ROADWAYS OR FREIGHT RAIL LINES. FOR DETAILS ON REQUIRED CLEARANCES REFER TO FDCE REPORT.
 - CUT AND FILL VALUES SHOW HEIGHT OF HSR PROFILE AT THE TOP OF RAIL ELEVATION RELATIVE TO GROUND. CUT AND FILL IS CUSTOMARY NOMENCLATURE. HOWEVER VALUES ARE NOT INTENDED TO PROVIDE DEPTHS OF EXCAVATIONS OR HEIGHTS OF EARTHWORKS. WHERE TOP OF RAIL IS WITHIN 6 FEET OF EXISTING GROUND A CUT SECTION MAY BE REQUIRED TO ACCOMMODATE DEPTH OF TRACK STRUCTURE AND DRAINAGE. LIMITS WILL VARY BY LOCATION AND SITE SPECIFIC TOPOGRAPHY. TYPICAL SECTIONS IN VOLUME 1 ILLUSTRATE RELATIONSHIP BETWEEN TOP OF RAIL LEVEL AND TRACK STRUCTURE.
 - REALIGNED OR REPROFILED ROADWAY.
 - EXTENTS OF RAIL EMBANKMENT SLOPES REFER TO SECTIONS.
 - EXTENTS OF CUT SLOPES REFER TO SECTIONS.
 - TRANSITION ZONE BETWEEN CONSTRUCTION TYPES. DETAILS OF TRANSITIONS ARE NOT SHOWN AND WILL BE DEVELOPED DURING MORE DETAILED DESIGN.
 - EXAMPLE LOCATION INDICATING RETAINING WALL SHOWN ON ONE SIDE ONLY. OTHER SIDE USES EMBANKMENT SLOPES. PLAN VIEW INDICATES LENGTH OF RETAINING WALL. PROFILE VIEW SHOWS TYPICAL SECTION CONSTRUCTION TYPE FOR ONE SIDE ONLY.
 - EXISTING OVERHEAD TRANSMISSION LINE.
 - THE FIRST THREE LETTERS DEFINE THE SEGMENT NAME AND NUMBER FOLLOWED BY THE HSR STATIONING.
 - LENGTH AND GRADE OF VERTICAL TANGENT.
 - VERTICAL CURVE RADIUS.
 - LENGTH OF HORIZONTAL TANGENT. NO HORIZONTAL CURVES SHOWN ON THIS SHEET BUT DWG-00-04001 AND DWG-00-04002 SHOWS HSR CURVE RADIUS, SPIRAL, LENGTHS, SPEED RESTRICTIONS, AND SUPERELEVATIONS. SEE LEGEND SHEET AND FDCE REPORT FOR ADDITIONAL INFORMATION.



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. ENRIQUEZ

DRAWN BY
P. TONKIN

CHECKED BY
R. BURNS

IN CHARGE
C. TAYLOR

DATE
09/15/2017

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Client

TEXAS CENTRAL

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

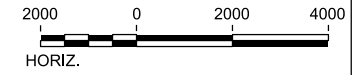
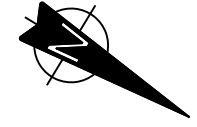
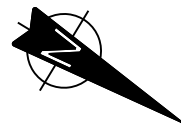
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GENERAL

RAIL ANNOTATION TO CLARIFY DESIGN INTENT

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	GEN-00-00010	01	

2-8
DALLAS SEGMENT



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017



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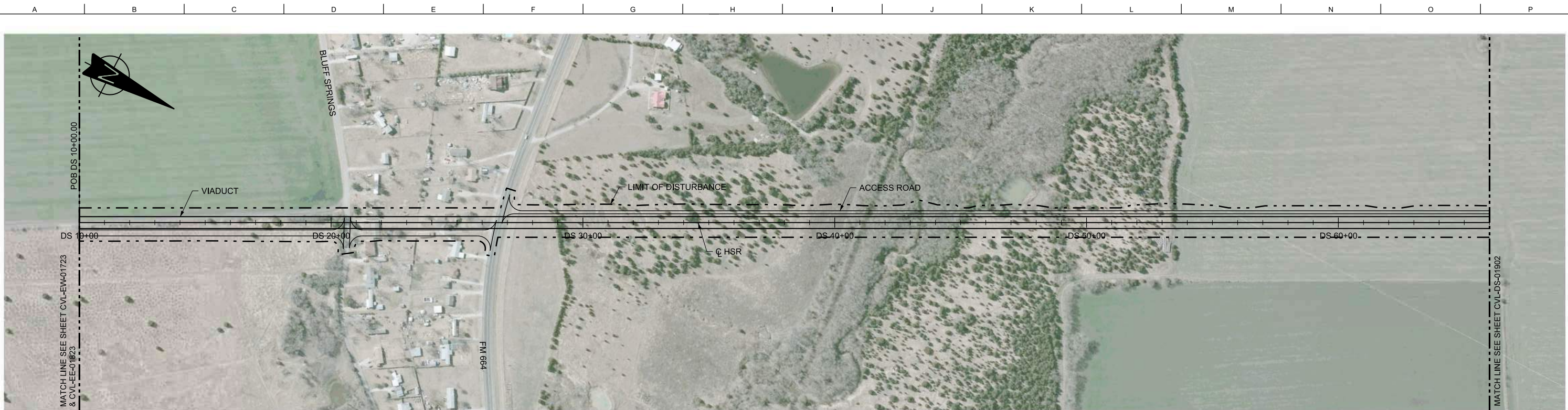
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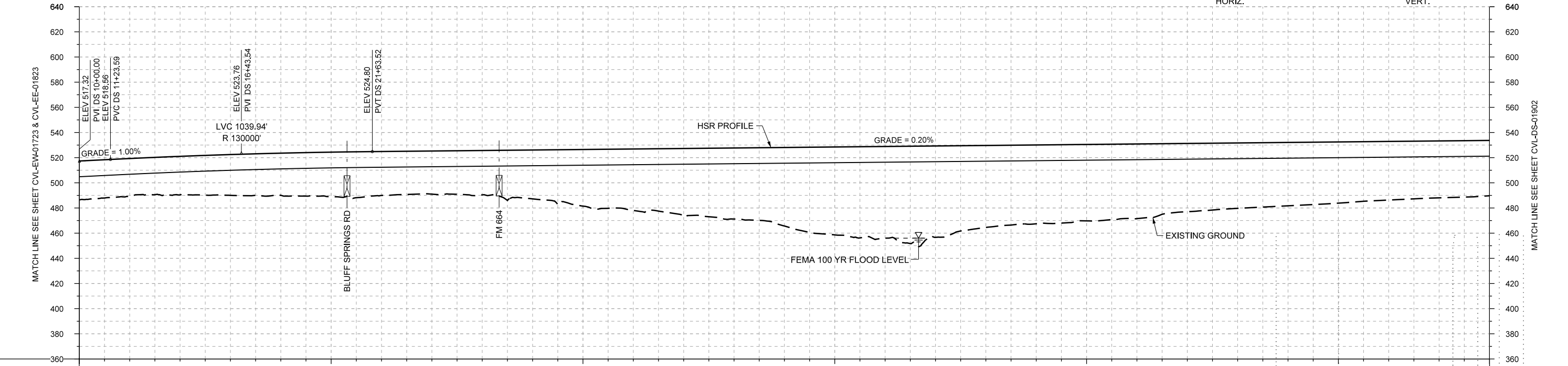
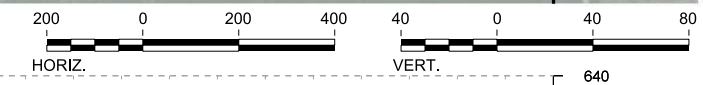
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
KEY MAP
DS 10+00 TO DT 271+02**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No CVL-DS-01900	Rev 01



PLAN



PROFILE

STATIONING	DS 10+00	DS 20+00	DS 30+00	DS 40+00	DS 50+00	DS 60+00	DS 66+00																						
HOR. ALIGNMENT	L=16315																												
VER. ALIGNMENT	L=123.59 G=1.000%			L=9883.15 G=0.200%																									
CUT AND FILL	+30.9	+29.5	+30.6	+32.5	+33.5	+35.4	+35.0	+34.3	+35.3	+38.9	+45.0	+46.9	+53.1	+56.5	+62.4	+69.9	+72.9	+72.6	+65.2	+62.7	+60.7	+59.4	+54.3	+52.0	+50.4	+48.7	+48.6	+45.2	+44.0
TYP. SECTION	VIADUCT (E)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
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CHECKED BY
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IN CHARGE
C. TAYLOR

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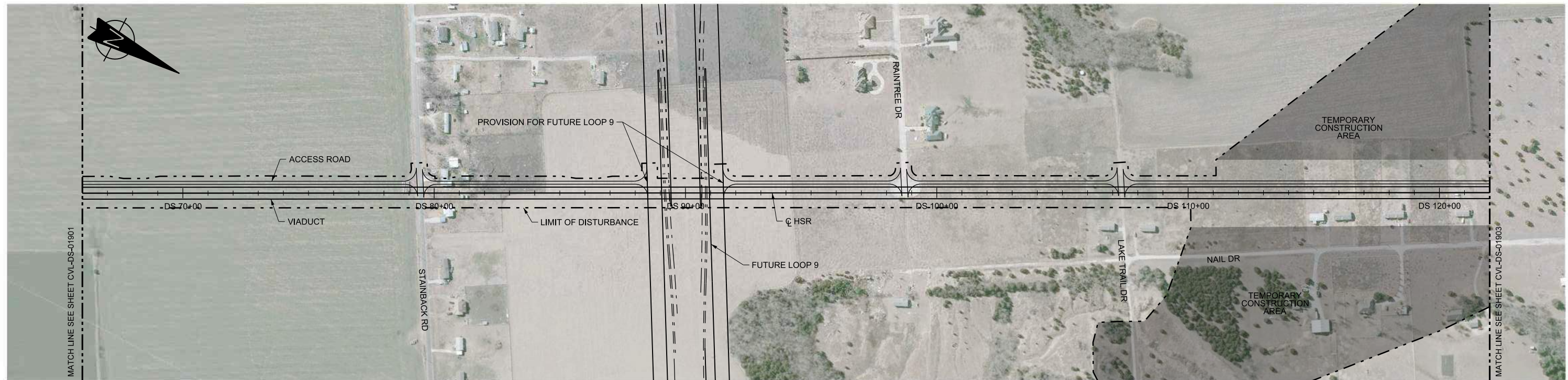
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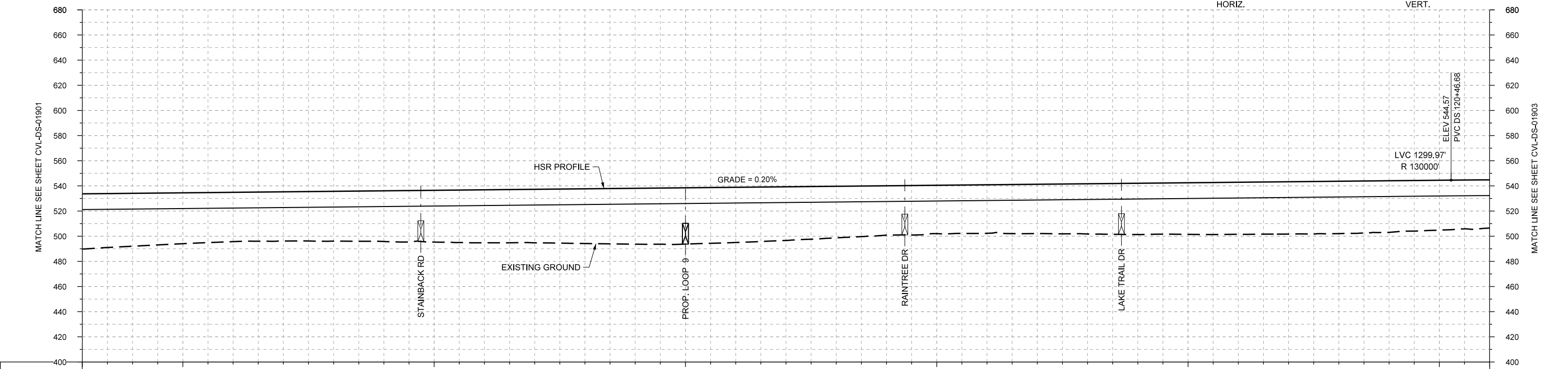
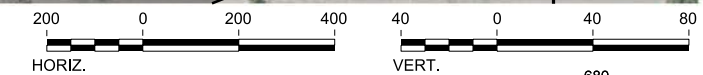
Client
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 10+00 TO DS 66+00**

Scale AS SHOWN	Drawing Status FINAL DRAFT
Job No 234180	Drawing No CVL-DS-01901
	Rev 01



PLAN



STATIONING	DS 66+00	DS 70+00	DS 80+00	DS 90+00	DS 100+00	DS 110+00	DS 120+00	DS 122+00																					
HOR. ALIGNMENT	L=16315																												
VER. ALIGNMENT	L=9883.15 G=0.200%																												
CUT AND FILL	+44.0	+42.1	+40.5	+39.2	+39.1	+39.6	+40.3	+41.2	+42.1	+42.5	+43.5	+44.4	+44.8	+43.9	+42.7	+41.0	+39.3	+38.5	+38.6	+39.2	+40.0	+40.8	+41.1	+41.4	+41.6	+41.7	+41.0	+39.5	+38.3
TYP. SECTION	VIADUCT (E)																												

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
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IN CHARGE
C. TAYLOR

DATE
09/15/2017

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Client

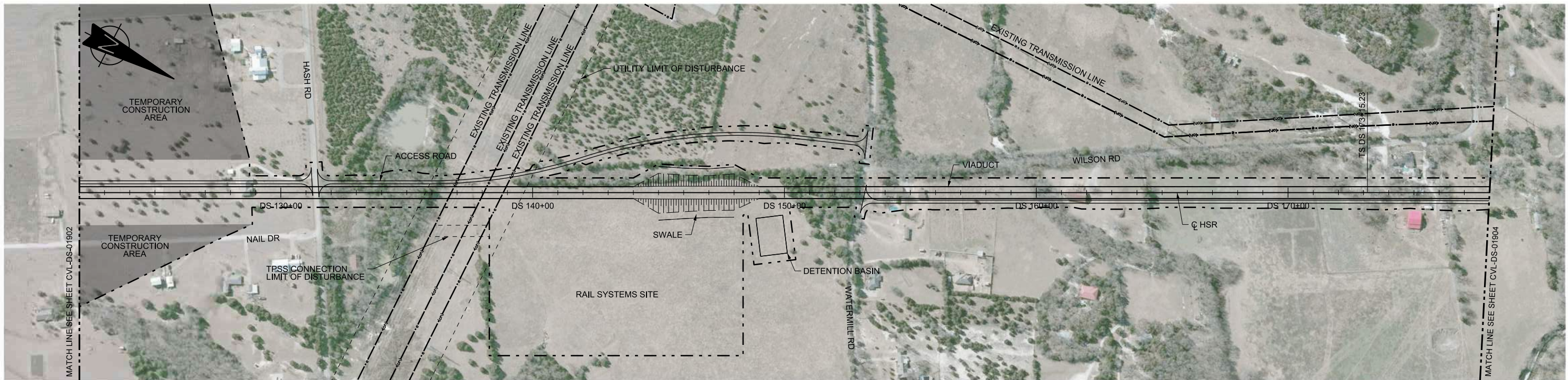
TEXAS CENTRAL

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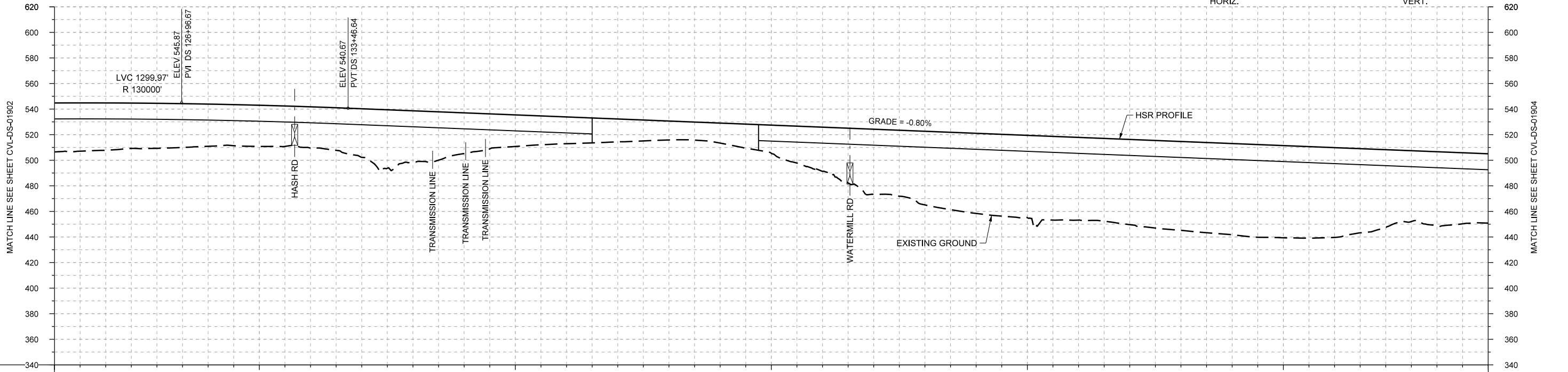
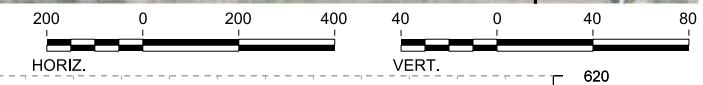
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**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 66+00 TO DS 122+00**

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	CVL-DS-01902	01	



PLAN



STATIONING	DS 122+00	DS 130+00	DS 140+00	DS 150+00	DS 160+00	DS 170+00	DS 178+00																						
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VER. ALIGNMENT	R=130000						L=6343.96 G=-0.800%																						
CUT AND FILL	+36.3	+37.0	+35.2	+33.0	+32.3	+32.1	+37.9	+40.3	+31.8	+24.6	+20.9	+17.8	+14.7	+15.6	+22.0	+34.5	+50.8	+57.6	+62.6	+64.3	+64.6	+66.6	+63.4	+71.3	+72.1	+70.2	+61.0	+57.7	+54.2
TYP. SECTION	VIADUCT (E)										EMBANKMENT (A)					VIADUCT (E)													

PROFILE

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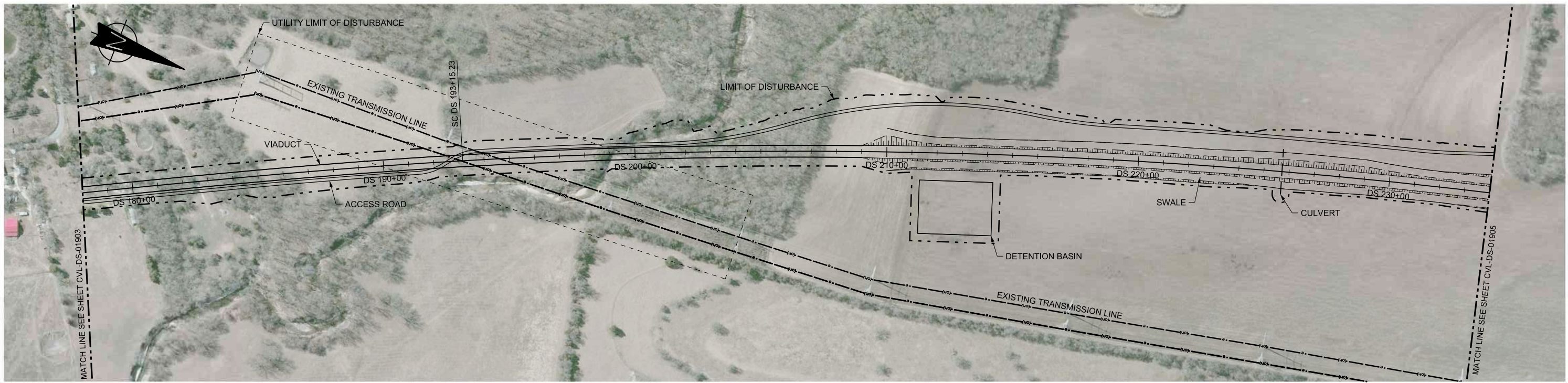
Client

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

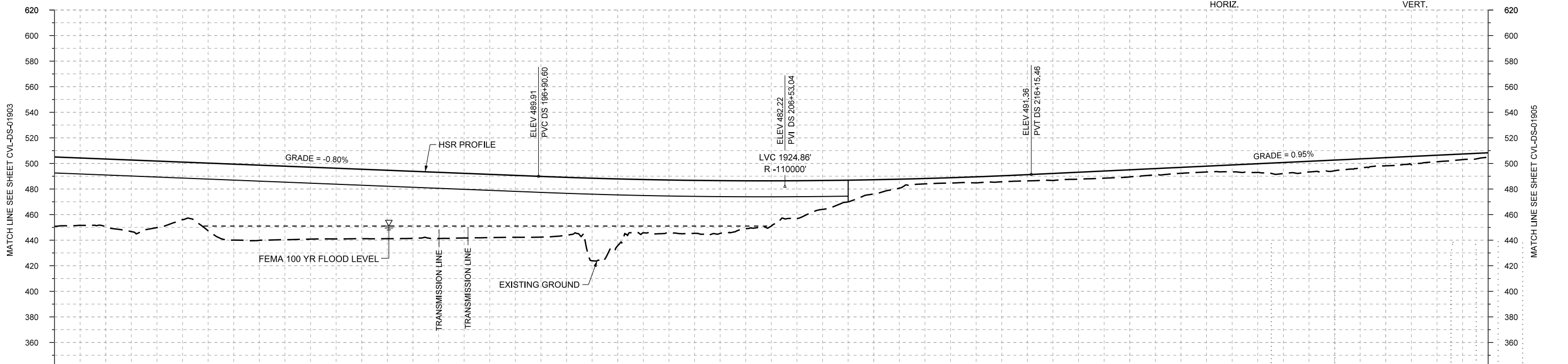
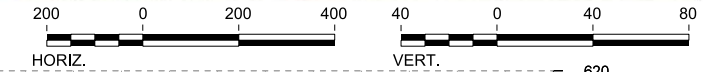
Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 122+00 TO DS 178+00**

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	CVL-DS-01903	01	



PLAN



PROFILE

STATIONING	DS 178+00	DS 180+00	DS 190+00	DS 200+00	DS 210+00	DS 220+00	DS 230+00	DS 234+00																					
HOR. ALIGNMENT	L=2000			R=23000 L=10987																									
VER. ALIGNMENT	L=6343.96 G=-0.800%			R=110000			L=3447.10 G=0.950%																						
CUT AND FILL	+54.2	+52.6	+52.0	+52.9	+56.8	+55.2	+54.3	+52.4	+50.5	+48.4	+45.2	+52.2	+41.3	+41.3	+35.4	+22.5	+11.1	+4.2	+4.7	+4.8	+5.4	+5.6	+4.6	+5.3	+8.6	+8.3	+6.4	+5.1	+3.4
TYP. SECTION	VIADUCT (E)										CUT (C)		EMBANKMENT (A)										CUT (C)						

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

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



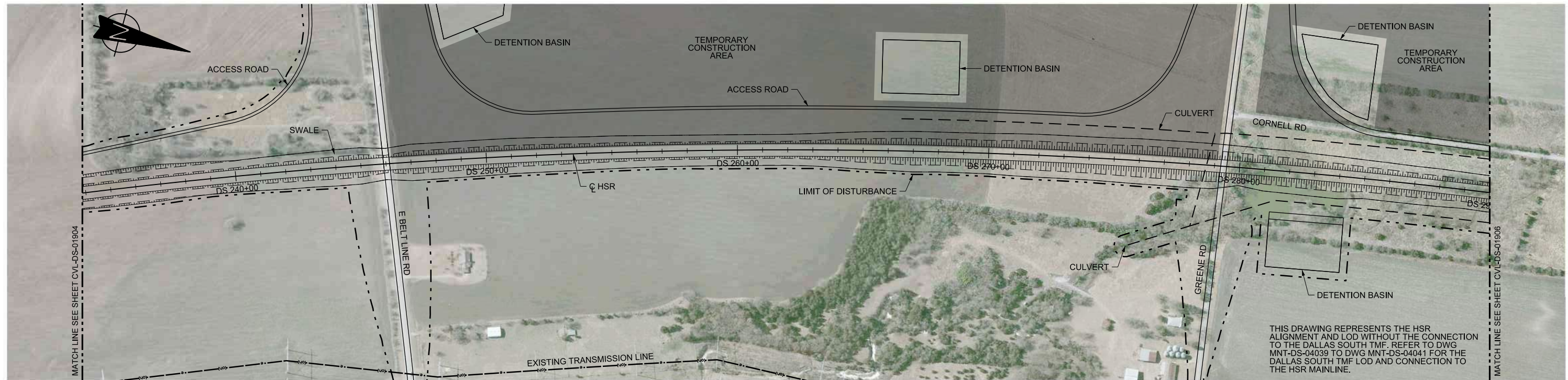
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144



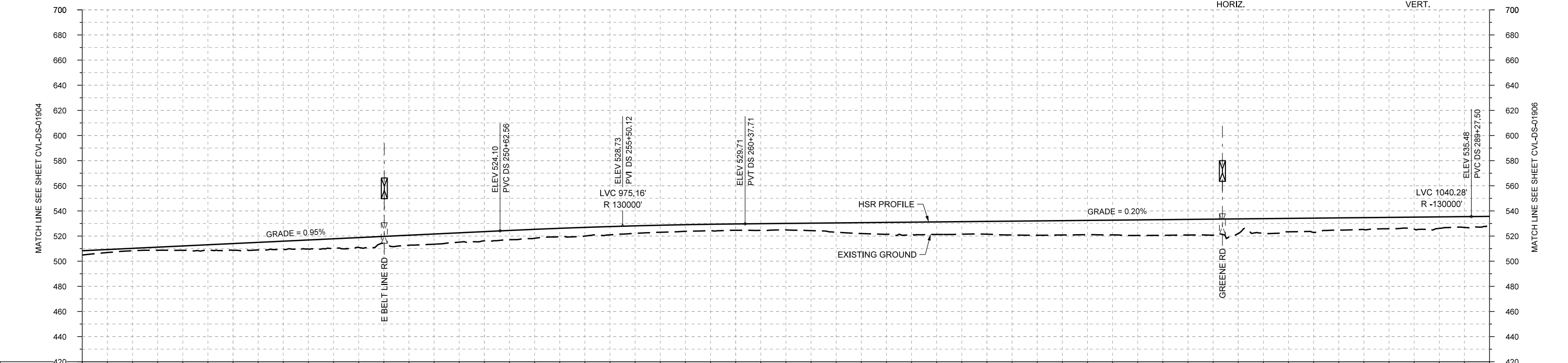
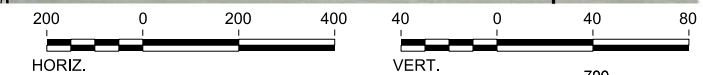
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 178+00 TO DS 234+00**

Scale AS SHOWN	Drawing Status FINAL DRAFT
Job No 234180	Drawing No CVL-DS-01904
	Rev 01



PLAN



PROFILE

STATIONING	DS 234+00	DS 240+00	DS 250+00	DS 260+00	DS 270+00	DS 280+00	DS 290+00																						
HOR. ALIGNMENT	R=23000 L=10987																												
VER. ALIGNMENT	L=3447.10 G=0.950%		R=130000			L=2889.79 G=0.200%																							
CUT AND FILL	+3.4	+1.9	+3.4	+5.3	+6.4	+7.9	+5.5	+8.1	+7.3	+7.1	+6.9	+5.9	+5.2	+5.0	+5.1	+7.4	+9.4	+9.9	+10.1	+11.4	+11.3	+12.4	+12.4	+11.6	+10.6	+9.6	+9.0	+9.1	+7.1
TYP. SECTION	CUT (C)			EMBANKMENT (A)										CUT (C)			EMBANKMENT (A)												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

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

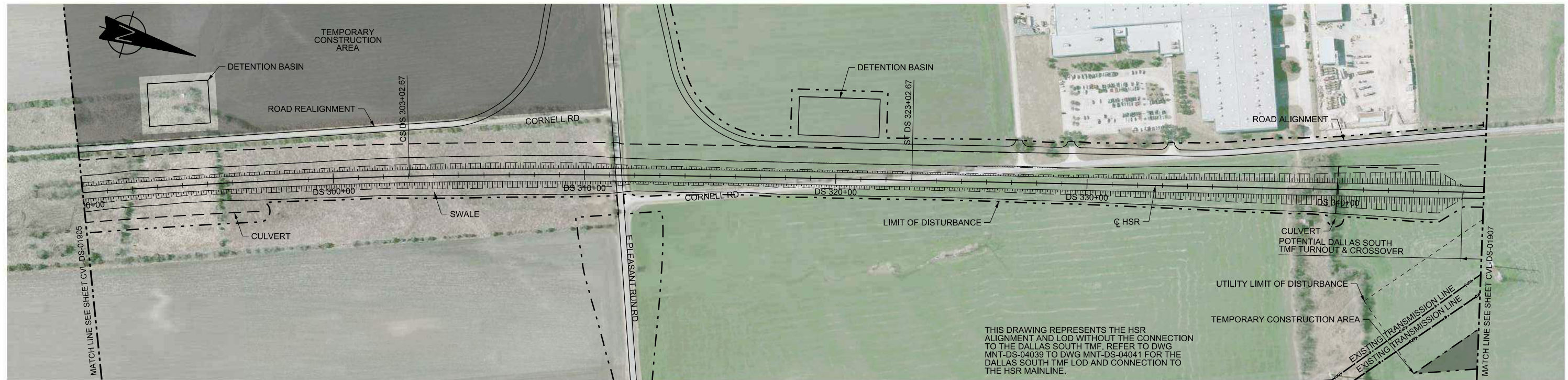
FRESE AND NICHOLS
 2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75204
 Tel (214) 217 2200 Fax (214) 217 2201
 www.freese.com
 Texas Registered Engineering Firm: F-2144

Client

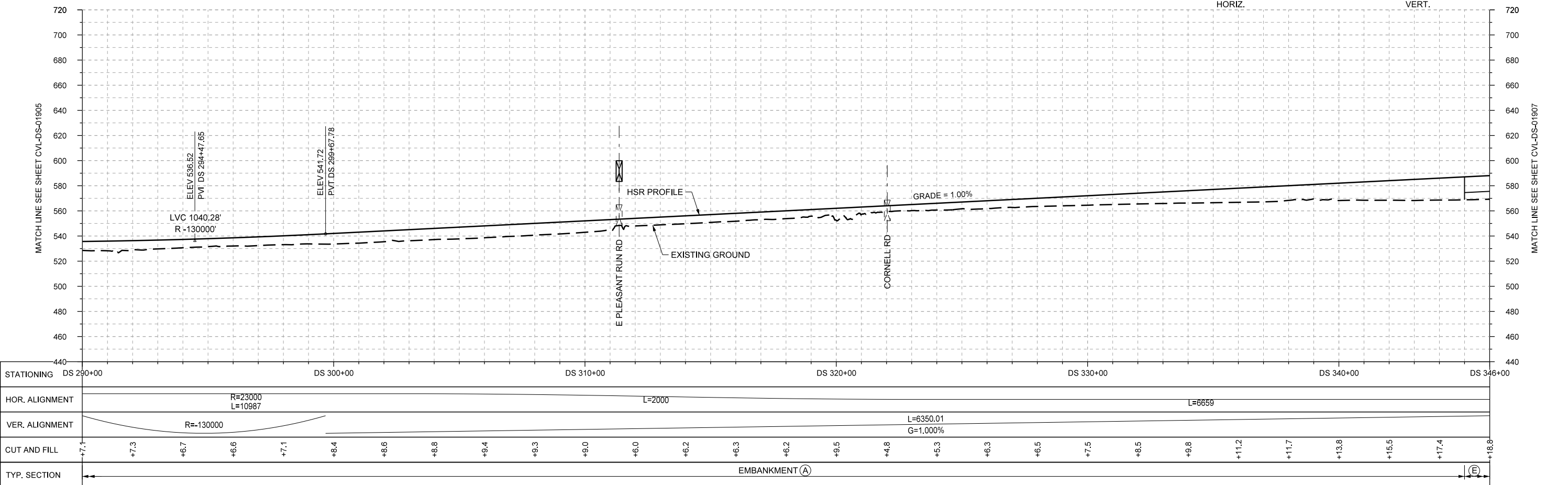
TEXAS CENTRAL
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
DALLAS SEGMENT CIVIL PLAN AND PROFILE DS 234+00 TO DS 290+00

Scale	AS SHOWN
Drawing Status	FINAL DRAFT
Job No	234180
Drawing No	CVL-DS-01905
Rev	01



PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

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www.freese.com
Texas Registered Engineering Firm: F-2144

Client

TEXAS CENTRAL

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

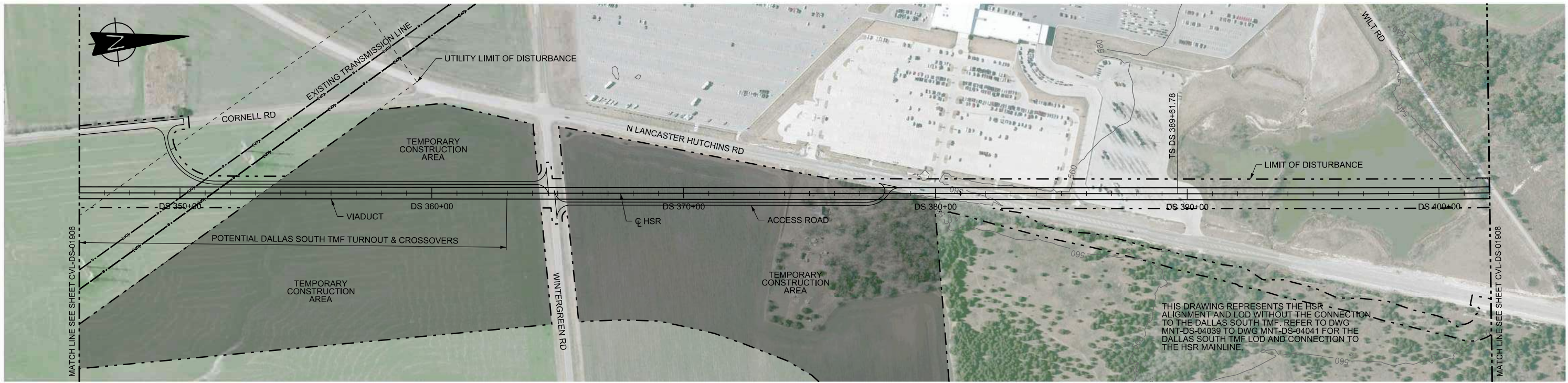
Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 290+00 TO DS 346+00**

Scale
AS SHOWN

Drawing Status
FINAL DRAFT

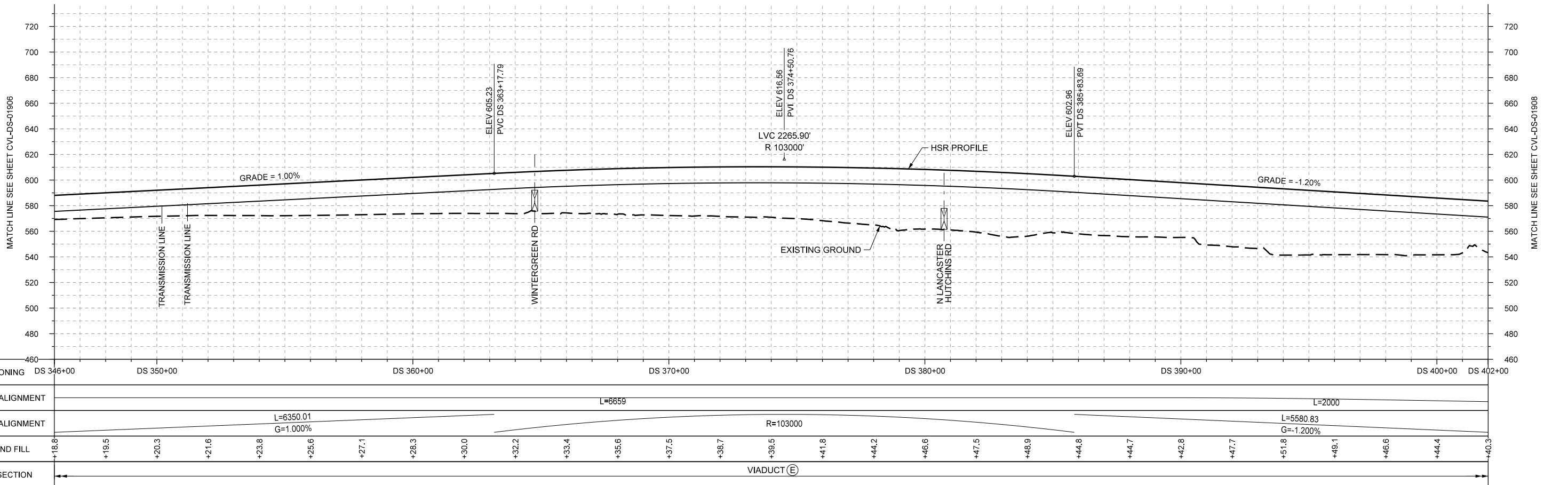
Job No 234180	Drawing No CVL-DS-01906	Rev 01
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PLAN



THIS DRAWING REPRESENTS THE HSR ALIGNMENT AND LOD WITHOUT THE CONNECTION TO THE DALLAS SOUTH TMF. REFER TO DWG MNT-DS-04039 TO DWG MNT-DS-04041 FOR THE DALLAS SOUTH TMF LOD AND CONNECTION TO THE HSR MAINLINE.



PROFILE

STATIONING	DS 346+00	DS 350+00	DS 360+00	DS 370+00	DS 380+00	DS 390+00	DS 400+00	DS 402+00																						
HOR. ALIGNMENT	L=6659																													
VER. ALIGNMENT	L=6350.01 G=1.000%				R=103000		L=5580.83 G=-1.200%																							
CUT AND FILL	+18.8	+19.5	+20.3	+21.6	+23.8	+25.6	+27.1	+28.3	+30.0	+32.2	+33.4	+35.6	+37.5	+38.7	+39.5	+41.8	+44.2	+46.6	+47.5	+48.9	+44.8	+44.7	+44.8	+42.8	+47.7	+51.8	+49.1	+48.6	+44.4	+40.3
TYP. SECTION	VIADUCT (E)																													

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

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
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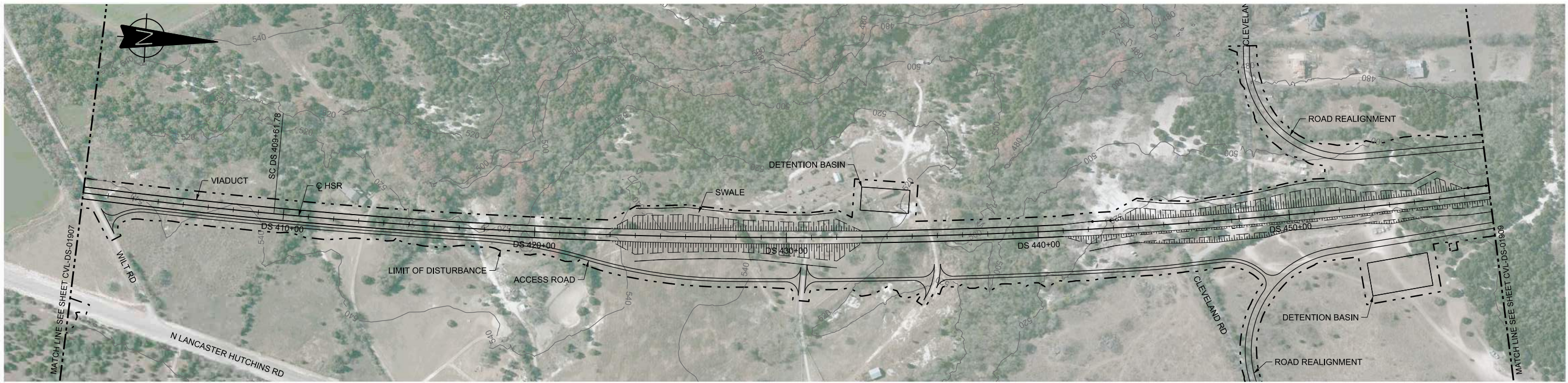
FRESE AND NICHOLS
 2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75204
 Tel (214) 217 2200 Fax (214) 217 2201
 www.freese.com
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Client

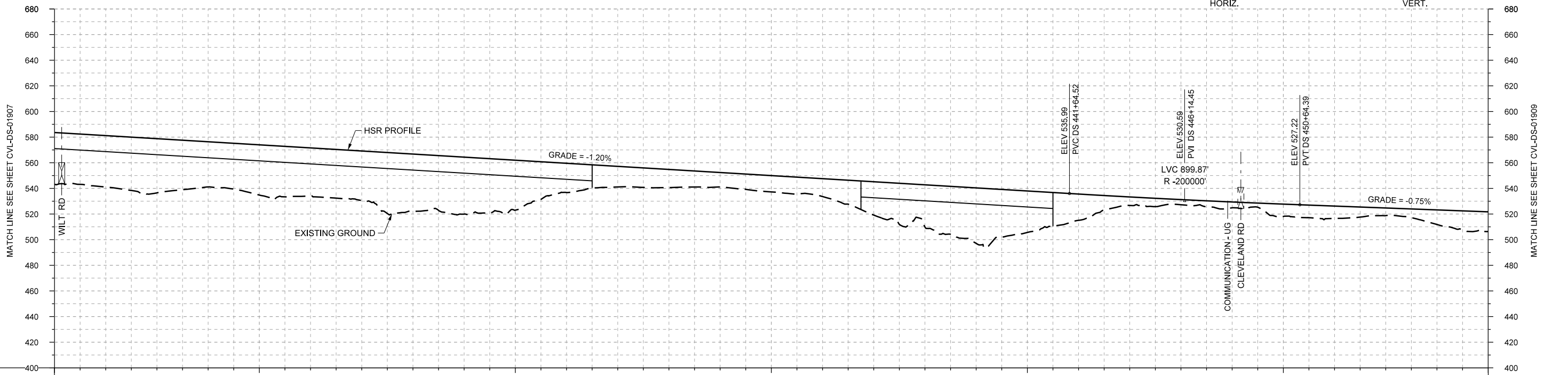
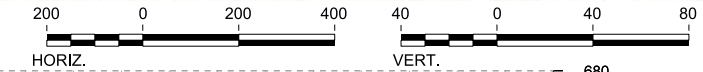
TEXAS CENTRAL
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
DALLAS SEGMENT CIVIL PLAN AND PROFILE DS 346+00 TO DS 402+00

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	CVL-DS-01907	01	



PLAN



PROFILE

STATIONING	DS 402+00	DS 410+00	DS 420+00	DS 430+00	DS 440+00	DS 450+00	DS 458+00																						
HOR. ALIGNMENT	L=2000		R=22000 L=5803			R=200000																							
VER. ALIGNMENT			L=5580.83 G=-1.200%			L=9937.80 G=-0.750%																							
CUT AND FILL	+40.3	+40.2	+42.3	+36.3	+36.2	+37.5	+38.8	+44.7	+44.5	+39.0	+22.8	+16.1	+14.2	+11.4	+12.8	+14.0	+26.1	+32.9	+43.3	+32.4	+20.5	+6.6	+4.0	+4.6	+9.6	+9.7	+6.0	+11.4	+15.4
TYP. SECTION	VIADUCT (E)										EMBANKMENT (A)																		

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

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10370 Richmond Ave., Suite 475
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www.freese.com
Texas Registered Engineering Firm: F-2144

Client

TEXAS CENTRAL

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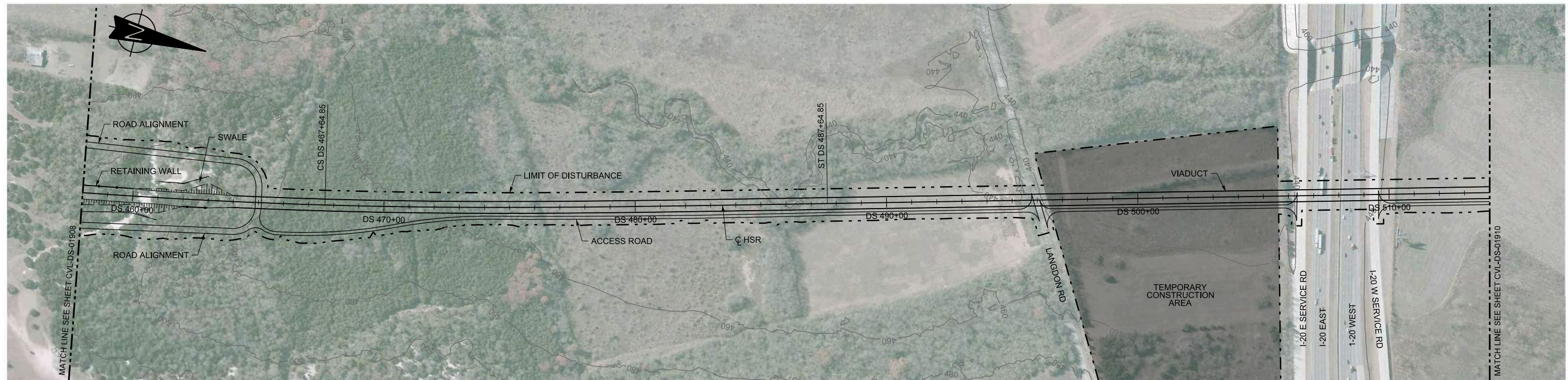
Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 402+00 TO DS458+00**

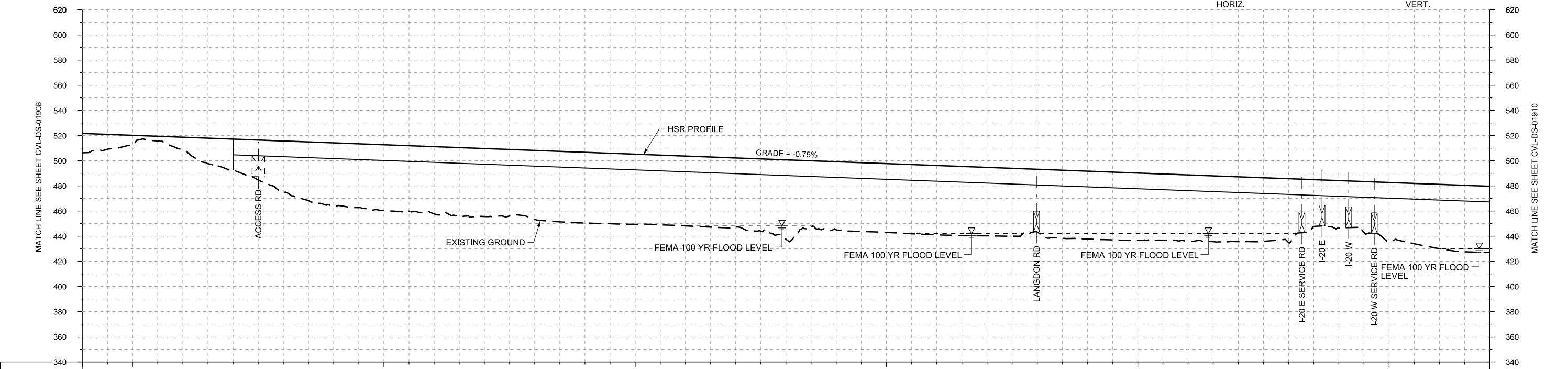
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-DS-01908	01



PLAN



PROFILE

STATIONING	DS 458+00	DS 460+00	DS 470+00	DS 480+00	DS 490+00	DS 500+00	DS 510+00	DS 514+00																					
HOR. ALIGNMENT	R=22000 L=5803		L=2000			L=9937.80 G=-0.750%																							
VER. ALIGNMENT																													
CUT AND FILL	+15.4	+7.2	+9.8	+24.7	+40.7	+50.4	+52.2	+53.4	+54.1	+54.8	+56.3	+56.8	+55.5	+55.1	+63.2	+54.2	+54.7	+55.2	+54.4	+50.0	+54.0	+53.6	+52.8	+51.6	+50.8	+37.7	+48.7	+51.1	+52.6
TYP. SECTION	EMBANKMENT (A)										VIADUCT (E)																		

DESIGNED BY	T. SMELCER
DRAWN BY	J. BORGHESI
CHECKED BY	K. SEYMOUR
IN CHARGE	C. TAYLOR
DATE	09/15/2017

REV	DATE	BY	CHK	APP	DESCRIPTION

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Texas Registered Engineering Firm: F-2144

Client

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

Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 458+00 TO DS 514+00**

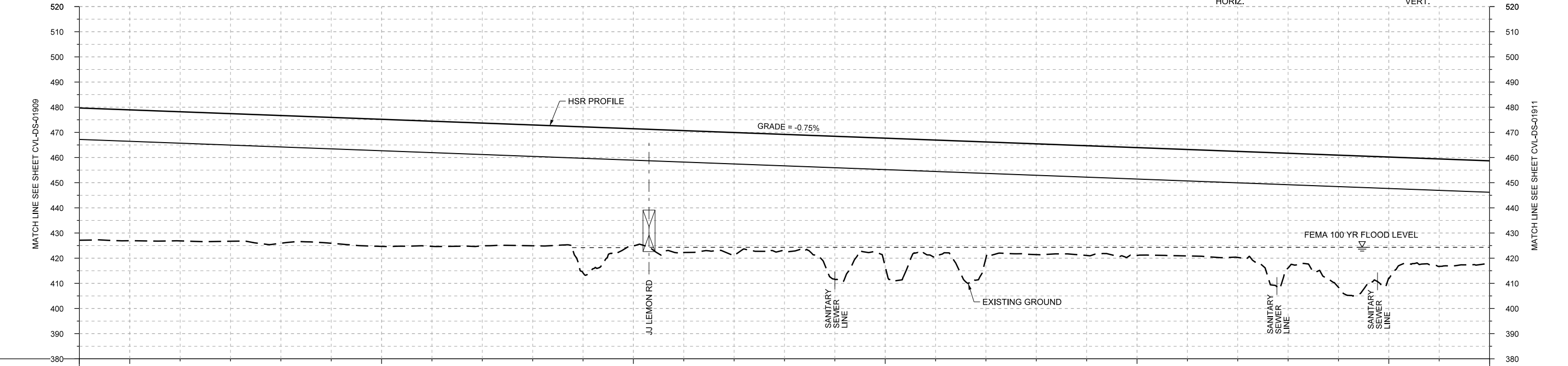
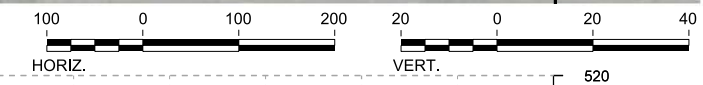
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-DS-01909	01



PLAN



PROFILE

STATIONING	DS 514+00	DS 515+00	DS 520+00	DS 525+00	DS 530+00	DS 535+00	DS 540+00	DS 542+00																					
HOR. ALIGNMENT	L=3959			L=9937.80			R=50000 L=2490																						
VER. ALIGNMENT	G=-0.750%																												
CUT AND FILL	+52.6	+52.0	+51.3	+50.7	+50.8	+50.0	+50.5	+49.7	+48.8	+48.0	+58.0	+46.3	+48.4	+48.4	+46.7	+56.8	+51.0	+46.1	+46.2	+44.0	+43.6	+42.8	+42.3	+42.1	+45.6	+52.5	+48.1	+42.7	+40.8
TYP. SECTION	VIADUCT (E)										VIADUCT (U)																		

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP
 Arup Texas, Inc.
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 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
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 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

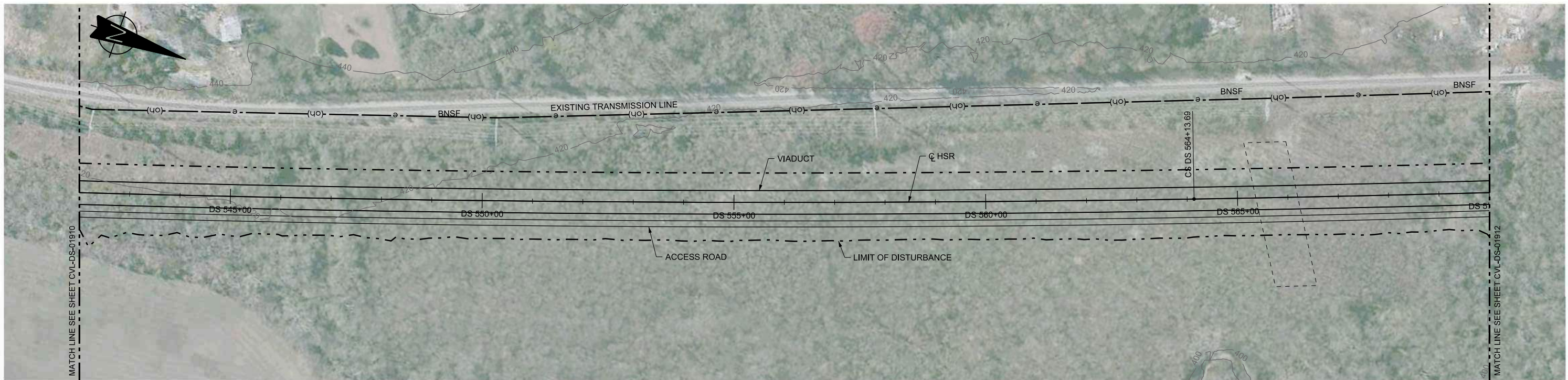
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
DALLAS SEGMENT CIVIL PLAN AND PROFILE DS 514+00 TO DS 542+00

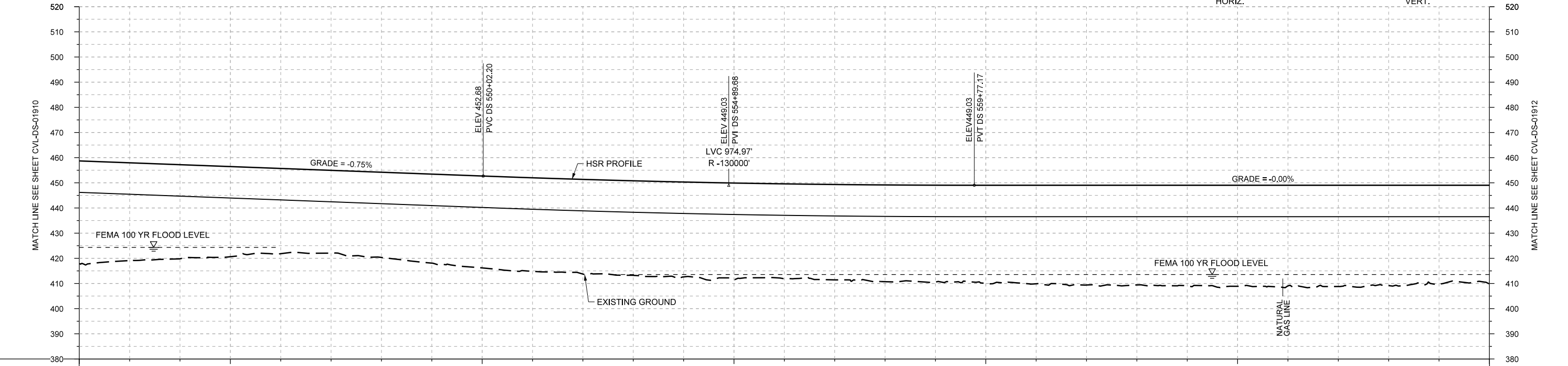
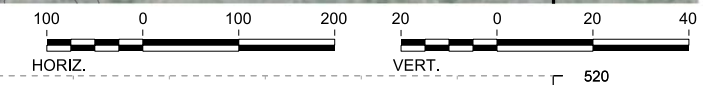
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-DS-01910	01



PLAN



PROFILE

STATIONING	DS 542+00	DS 545+00	DS 550+00	DS 555+00	DS 560+00	DS 565+00	DS 570+00
HOR. ALIGNMENT				R=-50000 L=2490			
VER. ALIGNMENT	L=9937.80 G=-0.750%			R=130000		L=7002.88 G=-0.000%	
CUT AND FILL	+40.8	+38.8	+37.4	+36.8	+33.9	+32.9	+33.9
TYP. SECTION	VIADUCT (U)						

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017



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Houston, Texas 77042 USA
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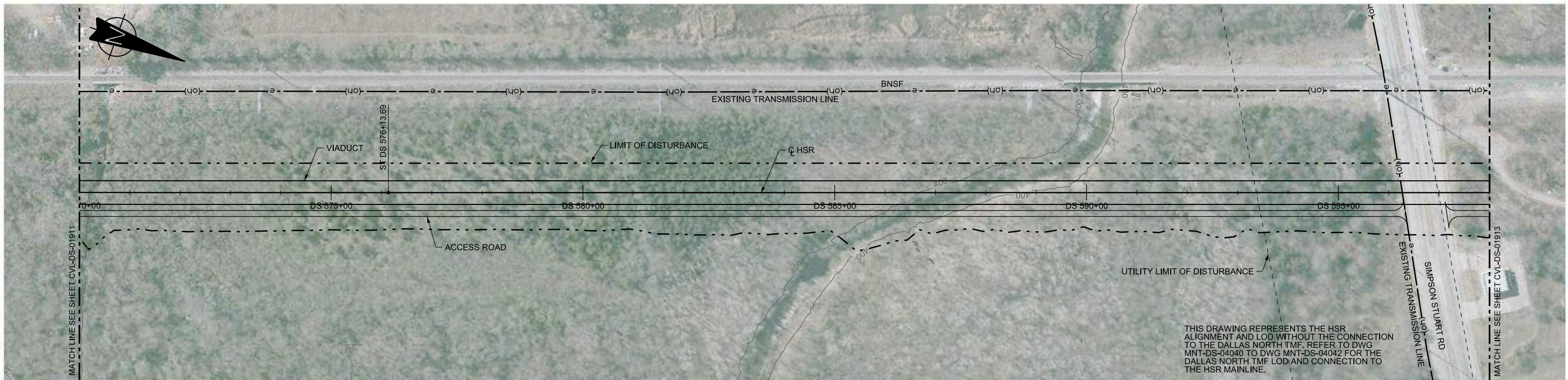
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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Client
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

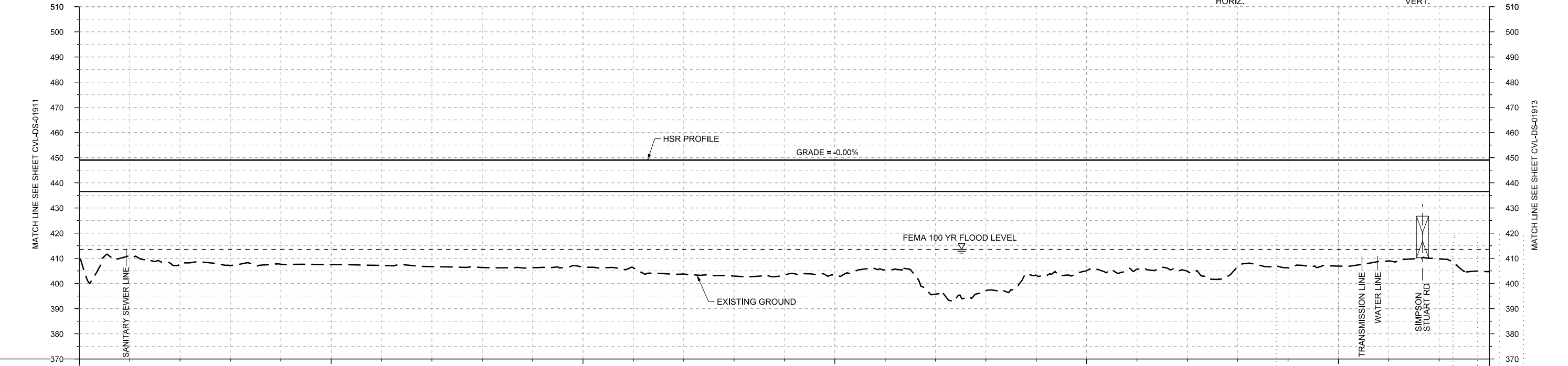
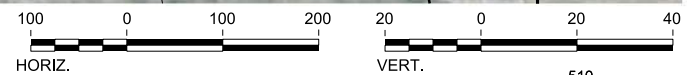
Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 542+00 TO DS 570+00**

Scale AS SHOWN	Drawing Status FINAL DRAFT
Job No 234180	Drawing No CVL-DS-01911
	Rev 01



THIS DRAWING REPRESENTS THE HSR ALIGNMENT AND LOD WITHOUT THE CONNECTION TO THE DALLAS NORTH TMF. REFER TO DWG MNT-DS-04040 TO DWG MNT-DS-04042 FOR THE DALLAS NORTH TMF LOD AND CONNECTION TO THE HSR MAINLINE.

PLAN



STATIONING	DS 570+00	DS 575+00	DS 580+00	DS 585+00	DS 590+00	DS 595+00	DS 598+00																						
HOR. ALIGNMENT	L=1200			L=12462																									
VER. ALIGNMENT	L=7002.88 G=-0.000%																												
CUT AND FILL	+39.2	+36.3	+41.3	+41.8	+41.3	+41.5	+41.9	+42.3	+42.7	+42.7	+42.5	+42.8	+45.3	+46.1	+45.7	+45.8	+43.6	+53.3	+51.8	+45.8	+43.9	+43.4	+44.1	+42.4	+42.8	+42.1	+40.1	+39.2	+44.3
TYP. SECTION	VIADUCT (U)																												

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER
DRAWN BY
J. BORGHESI
CHECKED BY
K. SEYMOUR
IN CHARGE
C. TAYLOR
DATE
09/15/2017

ARUP
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Houston, Texas 77042 USA
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Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144

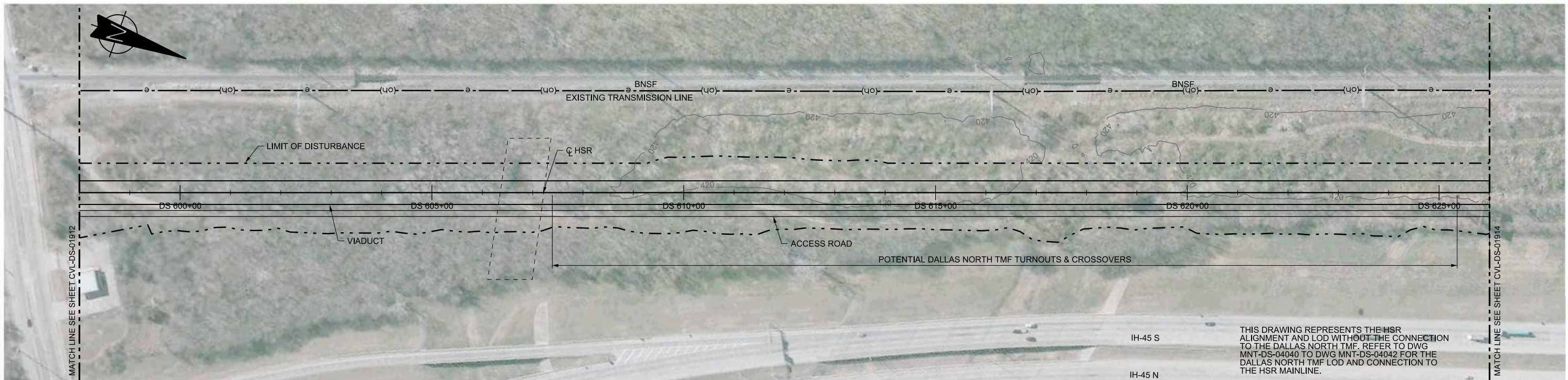
Client
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
DALLAS SEGMENT CIVIL PLAN AND PROFILE DS 570+00 TO DS 598+00

Scale
AS SHOWN

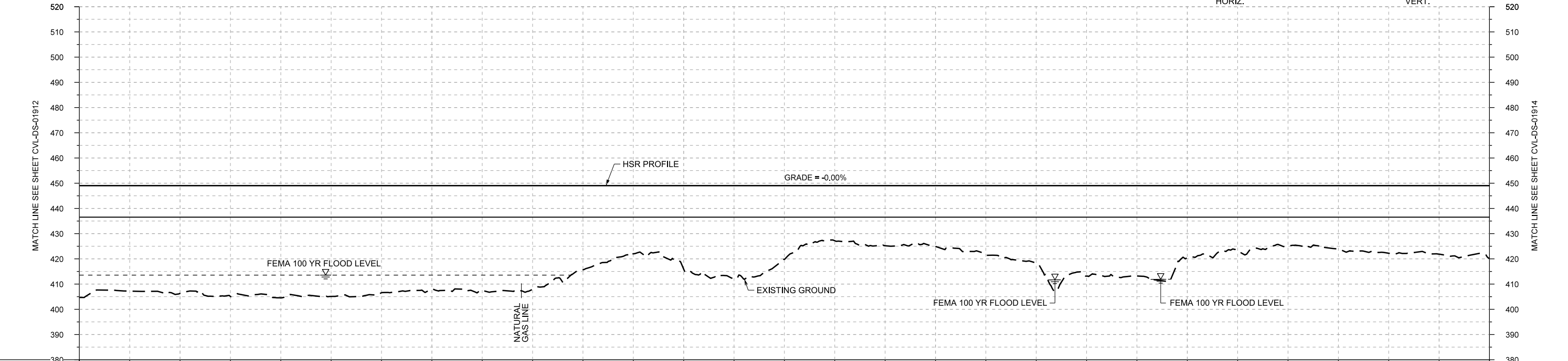
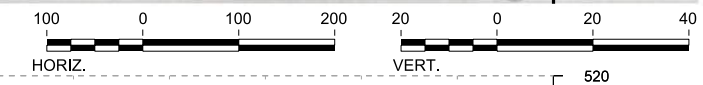
Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-DS-01912	01



THIS DRAWING REPRESENTS THE HSR ALIGNMENT AND LOD WITHOUT THE CONNECTION TO THE DALLAS NORTH TMF. REFER TO DWG MNT-DS-04040 TO DWG MNT-DS-04042 FOR THE DALLAS NORTH TMF LOD AND CONNECTION TO THE HSR MAINLINE.

PLAN



PROFILE

STATIONING	DS 598+00	DS 600+00	DS 605+00	DS 610+00	DS 615+00	DS 620+00	DS 625+00	DS 626+00																					
HOR. ALIGNMENT	L=12462																												
VER. ALIGNMENT	L=7002.88 G=-0.000%																												
CUT AND FILL	+44.3	+41.8	+42.7	+43.9	+44.5	+43.9	+42.4	+40.9	+41.5	+41.1	+33.4	+27.0	+33.1	+36.8	+26.2	+21.8	+23.8	+24.1	+27.5	+30.8	+35.8	+35.8	+26.6	+25.9	+24.0	+25.1	+26.8	+27.1	+26.9
TYP. SECTION	VIADUCT (U)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER
DRAWN BY
J. BORGHESI
CHECKED BY
K. SEYMOUR
IN CHARGE
C. TAYLOR
DATE
09/15/2017



Arup Texas, Inc.
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Texas Registered Engineering Firm: F-1990



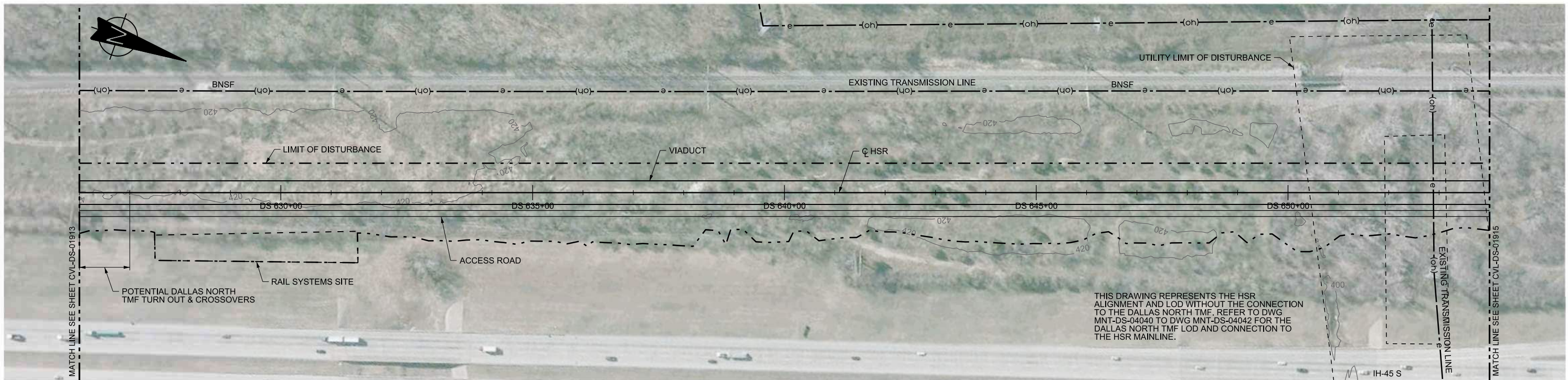
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Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144



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

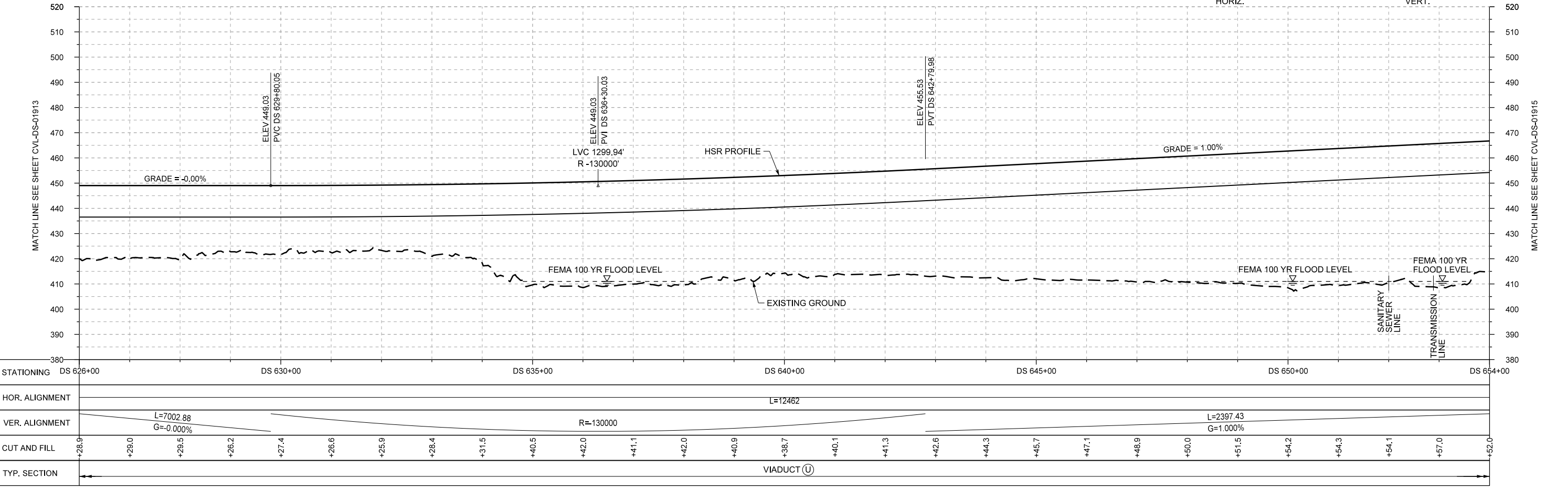
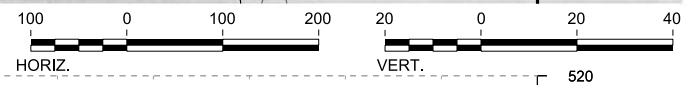
Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 598+00 TO DS 626+00**

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	CVL-DS-01913	01	



THIS DRAWING REPRESENTS THE HSR ALIGNMENT AND LOD WITHOUT THE CONNECTION TO THE DALLAS NORTH TMF. REFER TO DWG MNT-DS-0404 TO DWG MNT-DS-0402 FOR THE DALLAS NORTH TMF LOD AND CONNECTION TO THE HSR MAINLINE.

PLAN



PROFILE

STATIONING	DS 626+00	DS 630+00	DS 635+00	DS 640+00	DS 645+00	DS 650+00	DS 654+00																						
HOR. ALIGNMENT	L=12462																												
VER. ALIGNMENT	L=7002.88 G=-0.000%		R=130000			L=2397.43 G=1.000%																							
CUT AND FILL	+26.9	+29.0	+29.5	+26.2	+27.4	+26.6	+25.9	+28.4	+31.5	+40.5	+42.0	+41.1	+42.0	+40.9	+36.7	+40.1	+41.3	+42.6	+44.3	+45.7	+47.1	+46.9	+50.0	+51.5	+54.2	+54.3	+54.1	+57.0	+52.0
TYP. SECTION	VIADUCT (U)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER
DRAWN BY
J. BORGHESI
CHECKED BY
K. SEYMOUR
IN CHARGE
C. TAYLOR
DATE
09/15/2017

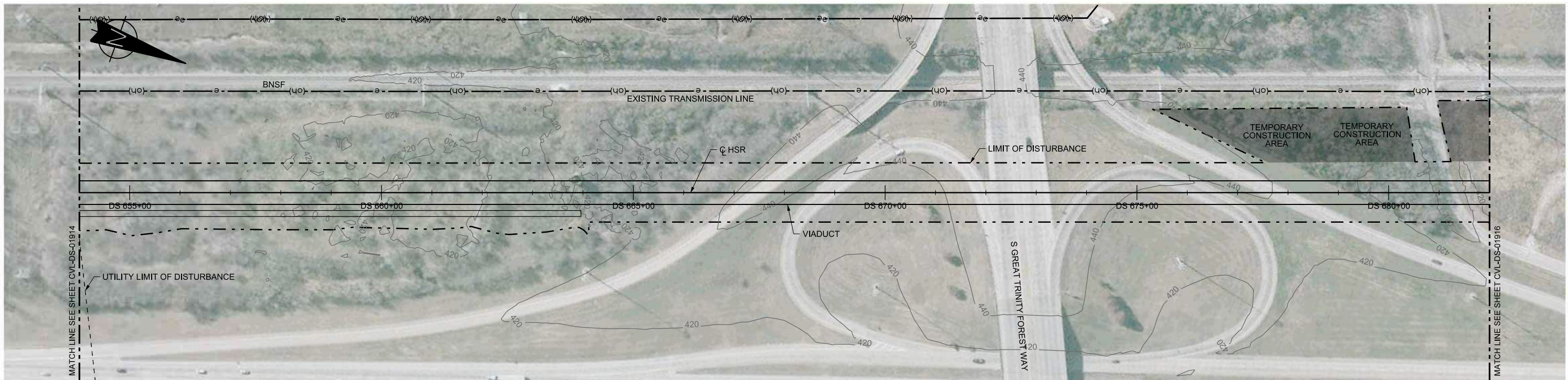
ARUP
Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

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

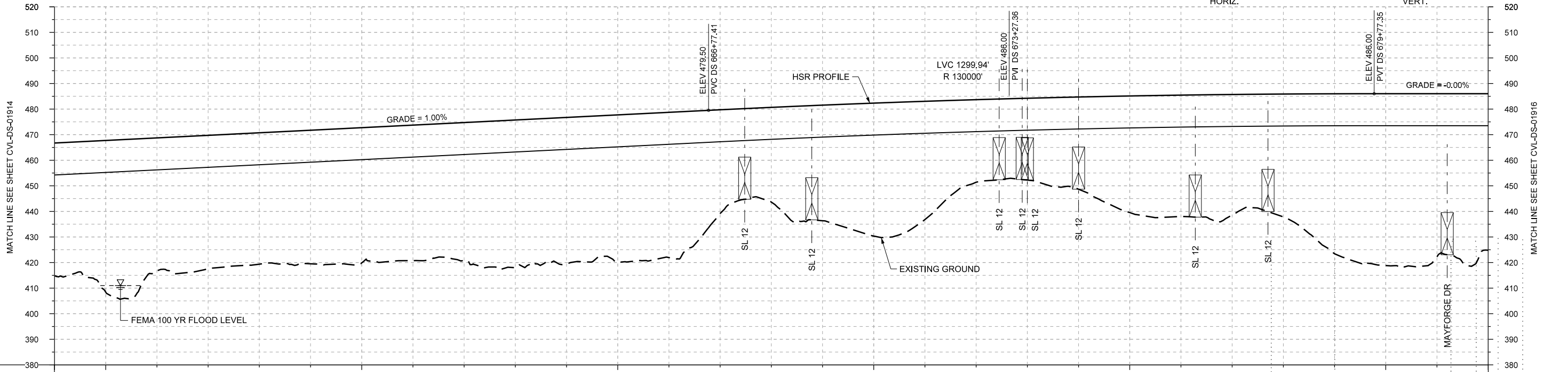
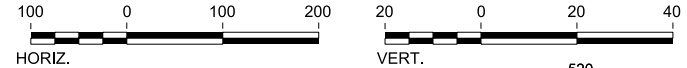
Client
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
DALLAS SEGMENT CIVIL PLAN AND PROFILE DS 626+00+00 TO DS 654+00

Scale	AS SHOWN
Drawing Status	FINAL DRAFT
Job No	234180
Drawing No	CVL-DS-01914
Rev	01



PLAN



PROFILE

STATIONING	DS 654+00	DS 655+00	DS 660+00	DS 665+00	DS 670+00	DS 675+00	DS 680+00	DS 682+00																					
HOR. ALIGNMENT	L=12462																												
VER. ALIGNMENT	L=2397.43 G=1.000%				R=130000			L=4668.10 G=-0.000%																					
CUT AND FILL	+52.0	+56.3	+52.0	+52.0	+51.3	+52.2	+52.8	+53.0	+53.9	+57.7	+57.2	+57.6	+56.8	+40.5	+37.1	+45.1	+51.9	+46.2	+32.3	+32.0	+36.0	+45.6	+47.5	+47.1	+48.0	+62.5	+67.2	+63.8	+61.2
TYP. SECTION	VIADUCT (U)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP
 Arup Texas, Inc.
 10370 Richmond Ave., Suite 475
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 www.arup.com
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 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

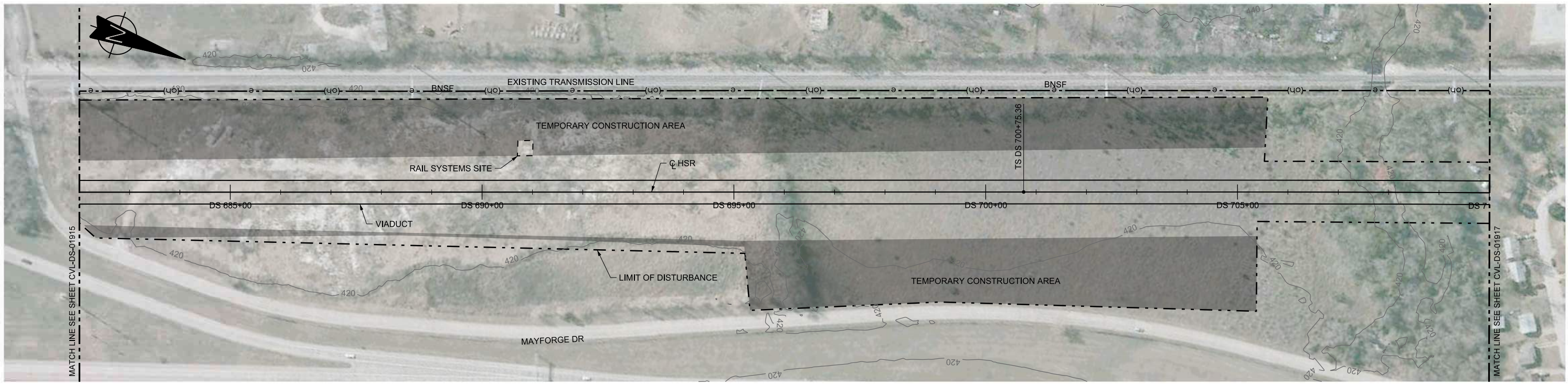
TEXAS CENTRAL
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
DALLAS SEGMENT CIVIL PLAN AND PROFILE DS 654+00 TO DS 682+00

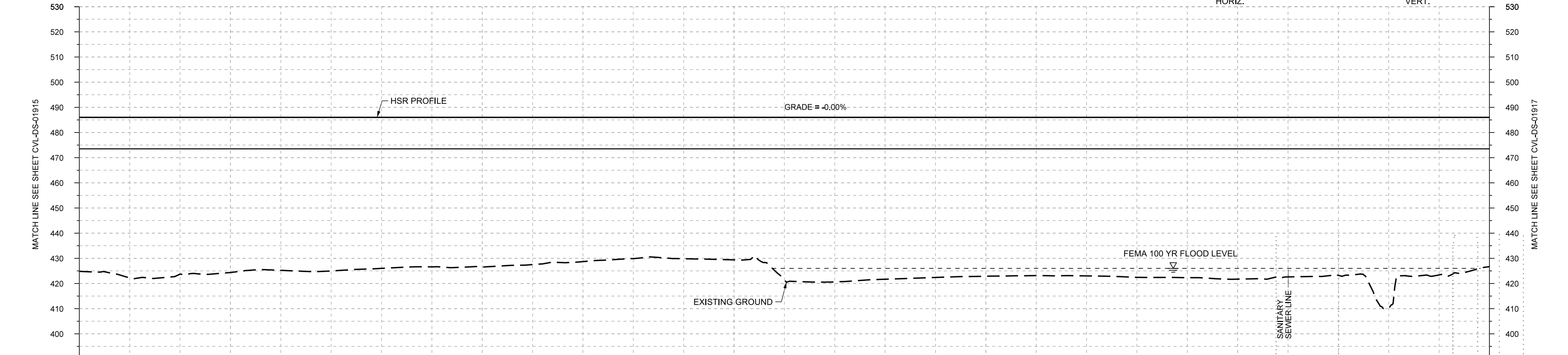
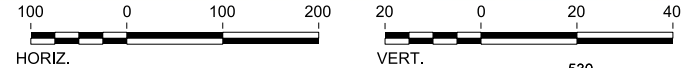
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-DS-01915	01



PLAN



PROFILE

STATIONING	DS 682+00	DS 685+00	DS 690+00	DS 695+00	DS 700+00	DS 705+00	DS 710+00																						
HOR. ALIGNMENT	L=12462						L=1200																						
VER. ALIGNMENT	L=4668.10 G=-0.000%																												
CUT AND FILL	+61.2	+63.8	+62.3	+61.6	+60.8	+61.0	+60.0	+59.4	+59.4	+58.5	+57.3	+56.1	+56.2	+56.6	+64.6	+65.4	+64.3	+63.6	+63.1	+62.9	+63.0	+63.6	+63.7	+64.3	+63.4	+62.8	+73.9	+62.6	+58.3
TYP. SECTION	VIADUCT (U)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP
 Arup Texas, Inc.
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 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

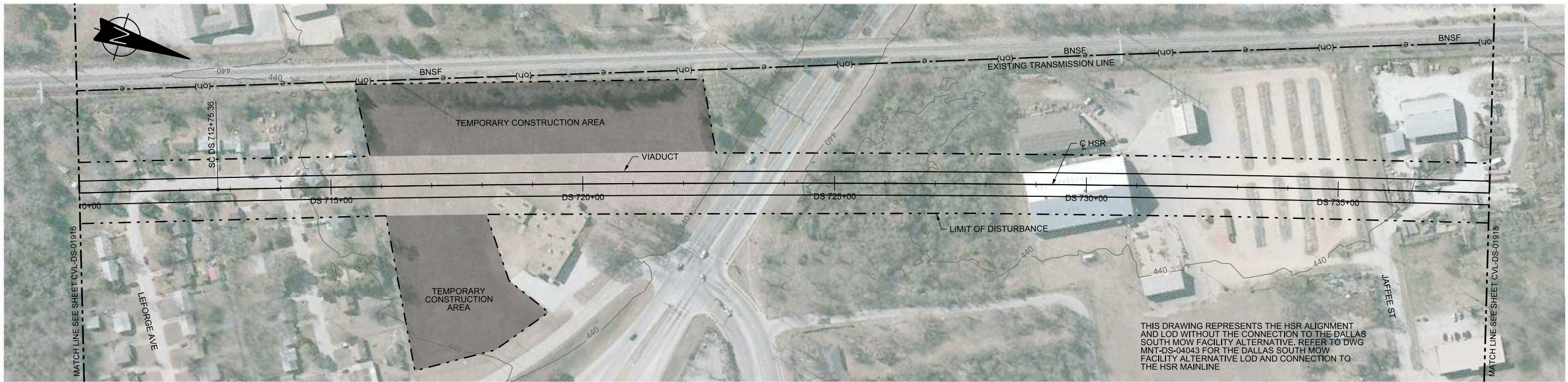
TEXAS CENTRAL
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
 CIVIL
 PLAN AND PROFILE
 DS 682+00 TO DS 710+00**

Scale
AS SHOWN

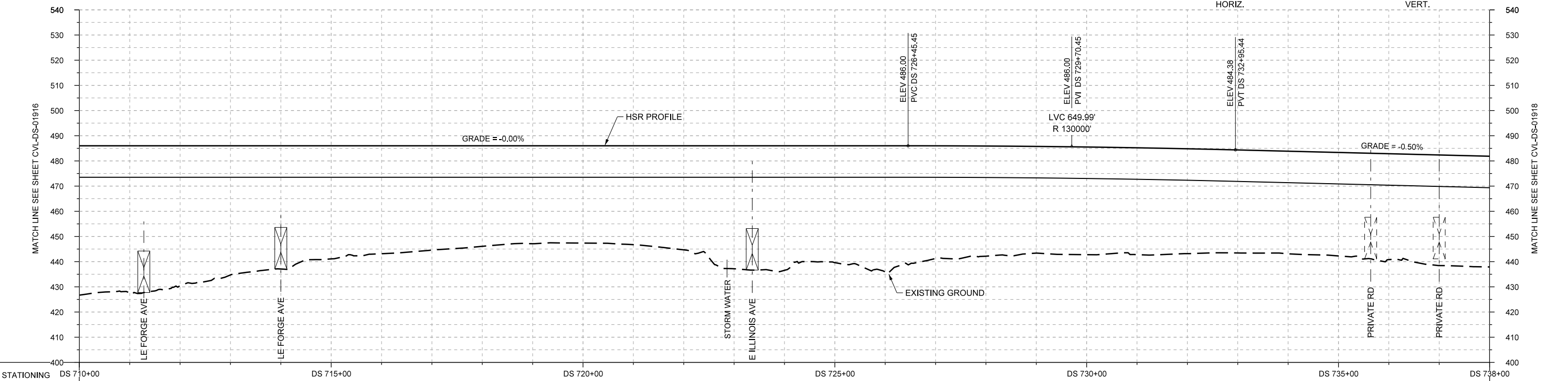
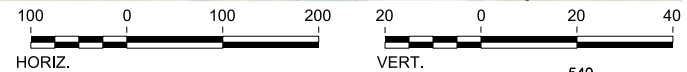
Drawing Status
FINAL DRAFT

Job No 234180	Drawing No CVL-DS-01916	Rev 01
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THIS DRAWING REPRESENTS THE HSR ALIGNMENT AND LOD WITHOUT THE CONNECTION TO THE DALLAS SOUTH MOW FACILITY ALTERNATIVE. REFER TO DWG MNT-DS-04043 FOR THE DALLAS SOUTH MOW FACILITY ALTERNATIVE LOD AND CONNECTION TO THE HSR MAINLINE

PLAN



PROFILE

STATIONING	DS 710+00	DS 715+00	DS 720+00	DS 725+00	DS 730+00	DS 735+00	DS 738+00																						
HOR. ALIGNMENT	L=1200		R=50000 L=3369			L=3782.62 G=-0.500%																							
VER. ALIGNMENT	L=4668.10 G=-0.000%		R=130000			L=3782.62 G=-0.500%																							
CUT AND FILL	+59.3	+58.4	+55.5	+51.3	+48.9	+44.9	+42.8	+41.4	+39.9	+38.9	+36.6	+35.2	+41.3	+48.8	+49.4	+46.4	+50.1	+44.8	+43.7	+42.4	+42.7	+42.4	+41.6	+40.9	+40.8	+41.1	+42.	+44.0	+44.0
TYP. SECTION	VIADUCT (U)										VIADUCT (U)																		

DESIGNED BY	T. SMELCER
DRAWN BY	J. BORGHESI
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

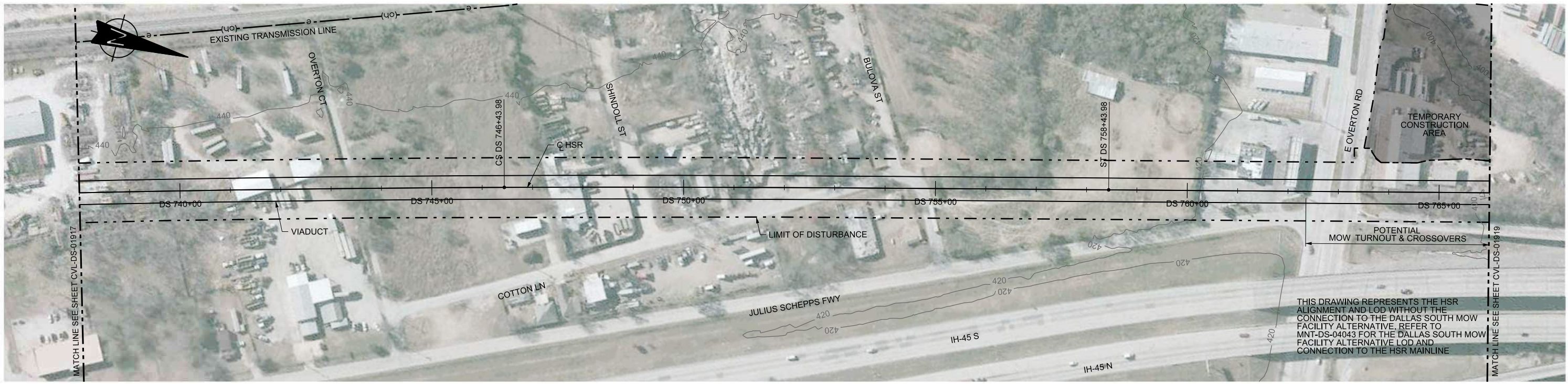
Client
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
DALLAS SEGMENT CIVIL PLAN AND PROFILE DS 710+00 TO DS 738+00

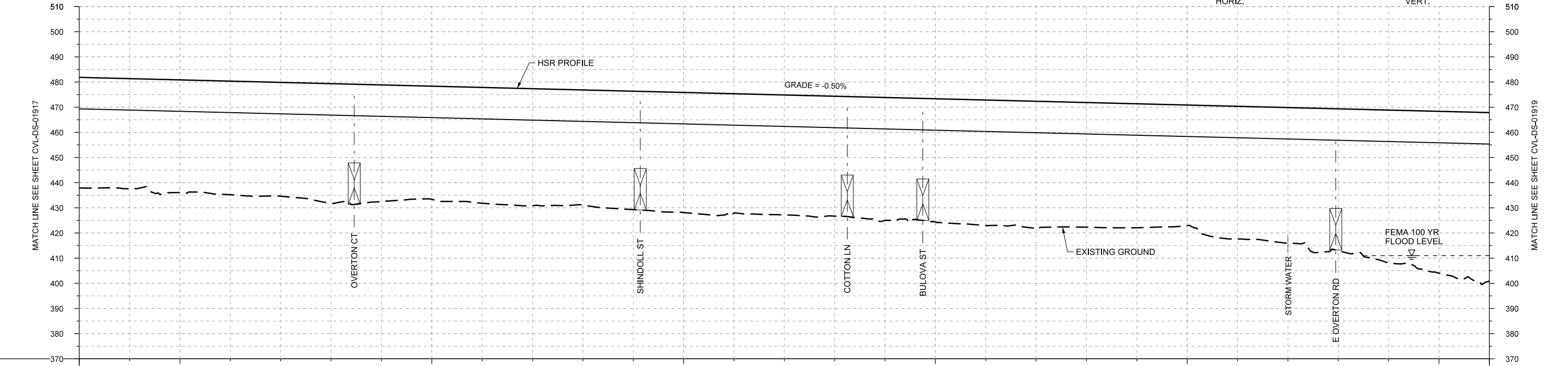
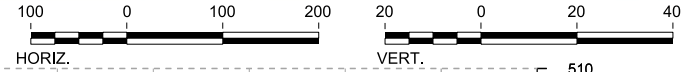
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-DS-01917	01



PLAN



PROFILE

STATIONING	DS 738+00	DS 740+00	DS 745+00	DS 750+00	DS 755+00	DS 760+00	DS 765+00	DS 766+00																					
HOR. ALIGNMENT	R=50000 L=3369		L=1200			L=1234																							
VER. ALIGNMENT	L=3782.62 G=-0.500%																												
CUT AND FILL	+44.0	+43.8	+44.8	+45.2	+45.3	+47.5	+46.5	+45.0	+46.1	+46.6	+45.8	+47.1	+47.8	+47.5	+47.7	+47.7	+48.9	+49.0	+49.9	+50.4	+49.6	+48.3	+48.0	+52.8	+53.9	+56.4	+60.8	+64.3	+67.0
TYP. SECTION	VIADUCT (U)			VIADUCT (T)																									

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

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
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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

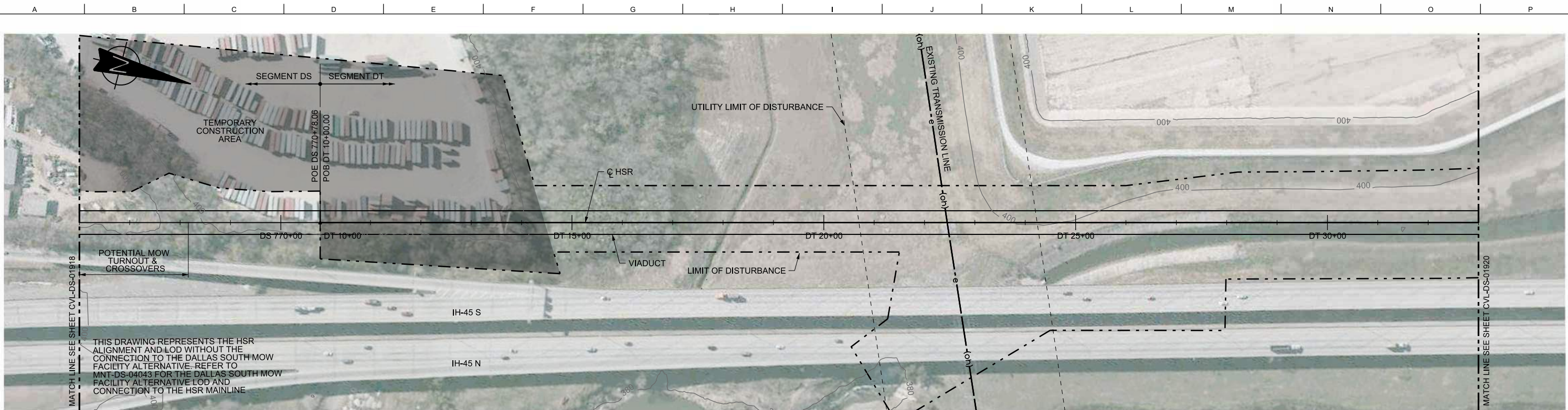
Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DS 738+00 TO DS 766+00**

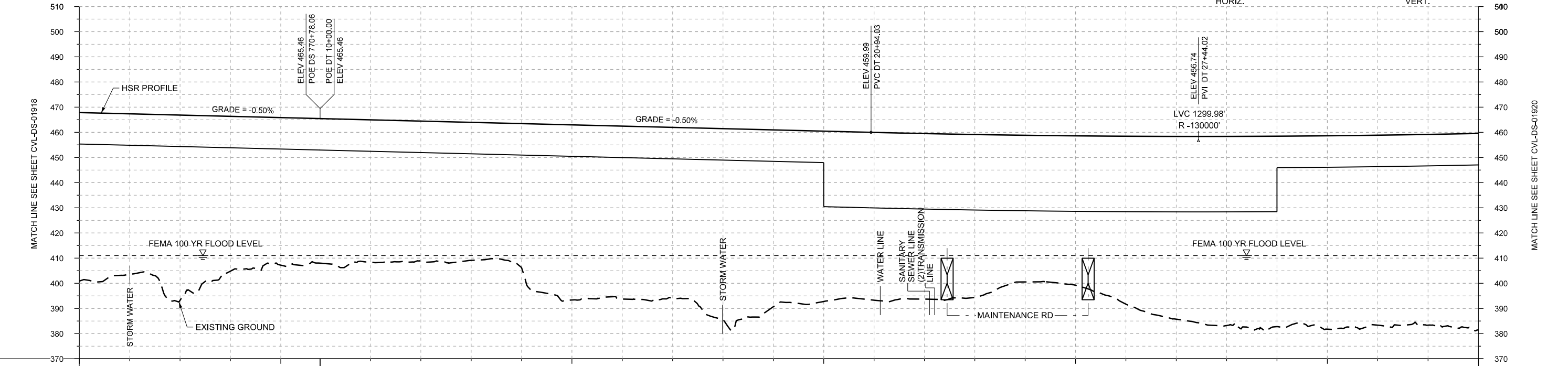
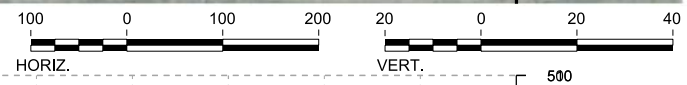
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No	Drawing No	Rev
234180	CVL-DS-01918	01



PLAN



PROFILE

STATIONING	DS 766+00	DS 770+00	DT 10+00	DT 15+00	DT 20+00	DT 25+00	DT 30+00	DT 33+00																					
HOR. ALIGNMENT	L=1234		L=5134																										
VER. ALIGNMENT	L=3782.62 G=-0.500%		L=1094.03 G=-0.500%				R=-130000																						
CUT AND FILL	+67.0	+63.8	+73.6	+61.6	+56.7	+57.5	+56.5	+56.8	+54.9	+57.3	+66.7	+68.8	+68.2	+76.0	+70.3	+67.7	+66.7	+66.8	+64.8	+58.3	+59.4	+66.7	+72.7	+75.2	+75.7	+76.8	+75.5	+75.8	+78.1
TYP. SECTION	VIADUCT (T)						VIADUCT (T)																						

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

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
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Texas Registered Engineering Firm: F-1990



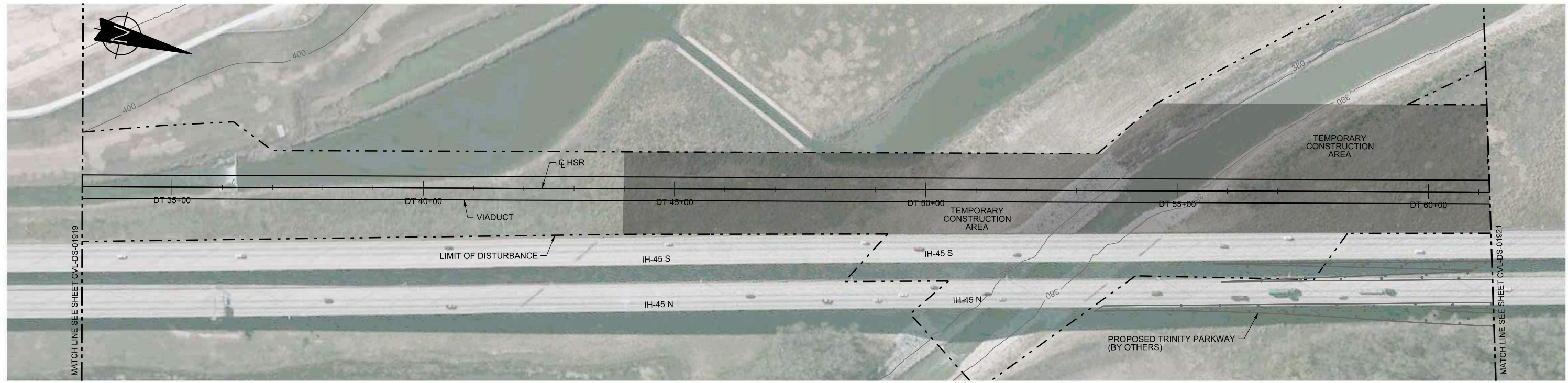
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144



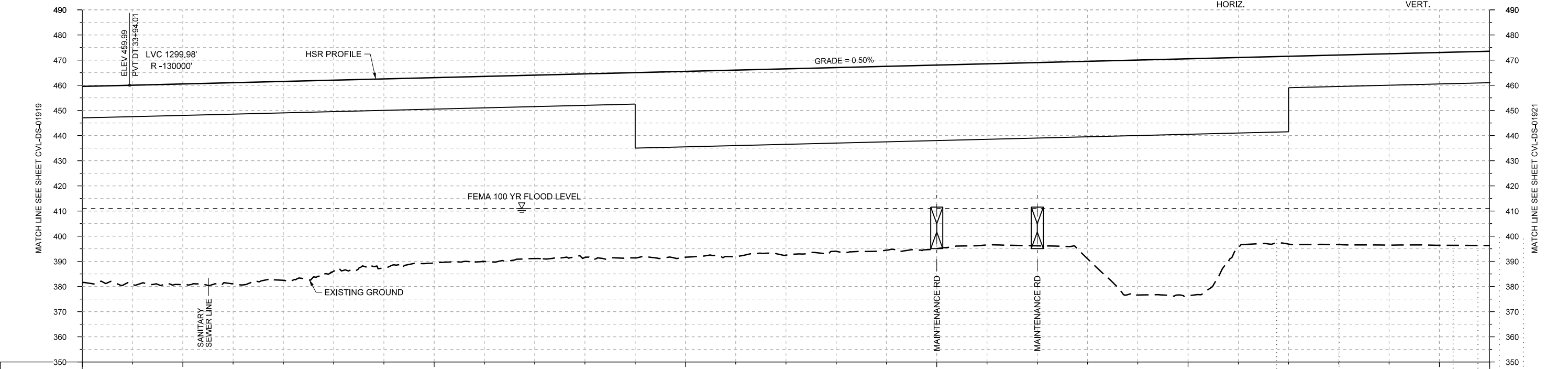
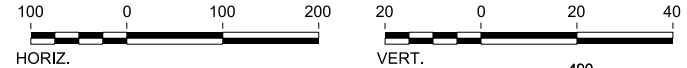
Client
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
DALLAS SEGMENT CIVIL PLAN AND PROFILE DS 766+00 TO DT 33+00

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	CVL-DS-01919	01	



PLAN



PROFILE

STATIONING	DT 33+00	DT 35+00	DT 40+00	DT 45+00	DT 50+00	DT 55+00	DT 60+00	DT 61+00																				
HOR. ALIGNMENT	L=5134																											
VER. ALIGNMENT	R=130000 L=7639.49 G=0.500%																											
CUT AND FILL	+78.1	+78.4	+79.8	+80.0	+79.0	+75.9	+75.1	+73.6	+73.5	+72.9	+72.9	+73.6	+73.9	+74.1	+74.0	+73.0	+73.0	+72.9	+72.8	+78.5	+93.4	+94.2	+75.7	+74.6	+75.3	+76.1	+76.6	+77.2
TYP. SECTION	VIADUCT (E)																											

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017



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



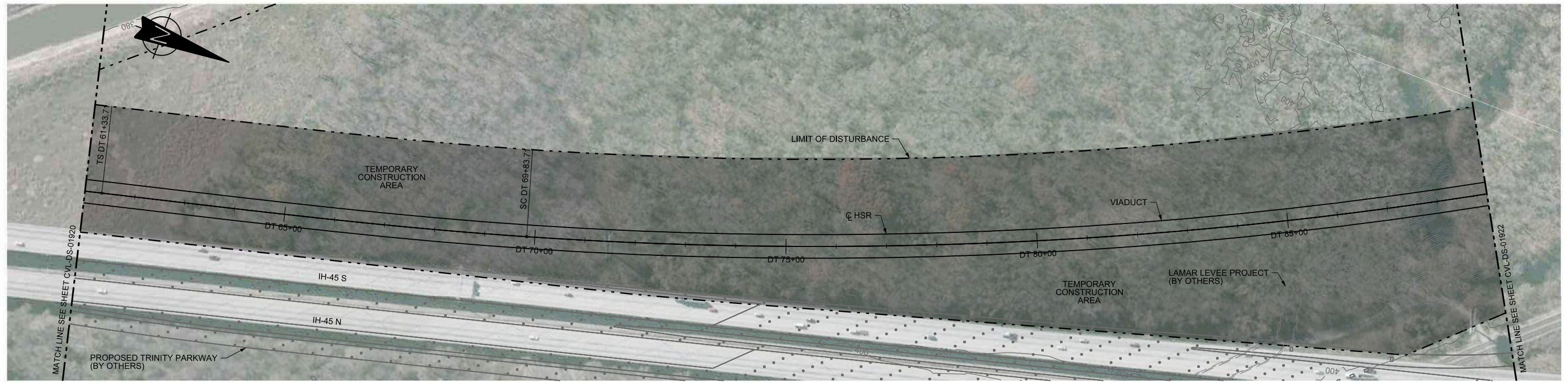
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144



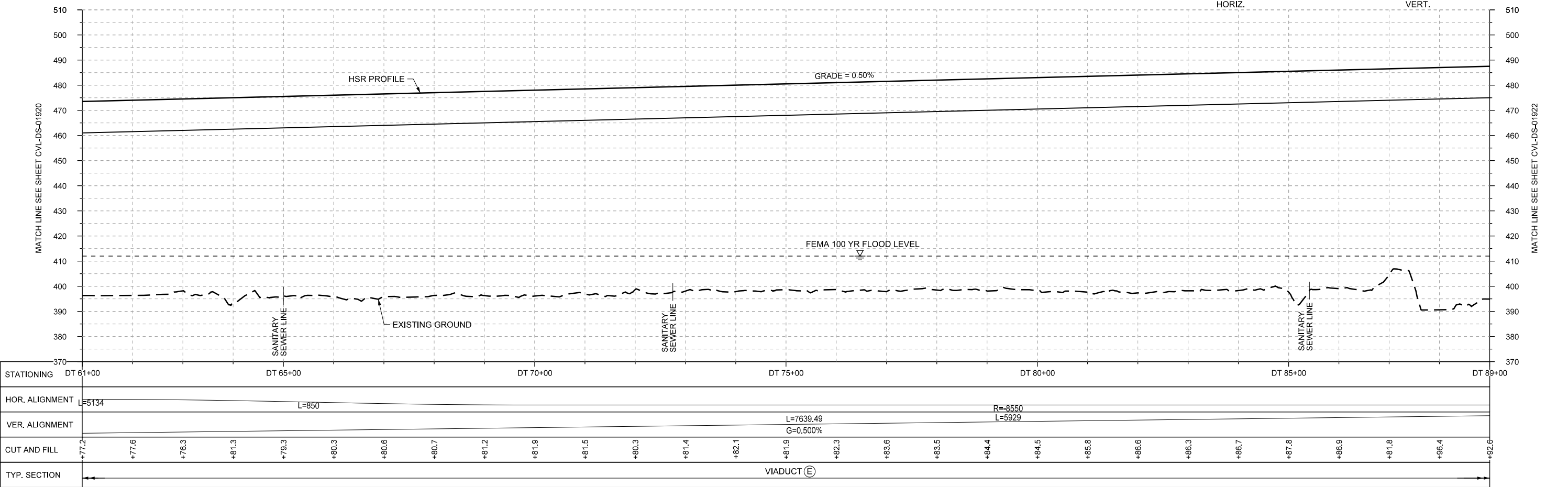
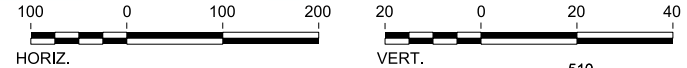
Client
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DT 33+00 TO DT 61+00**

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	CVL-DS-01920	01	



PLAN



PROFILE

STATIONING	DT 61+00	DT 65+00	DT 70+00	DT 75+00	DT 80+00	DT 85+00	DT 89+00																									
HOR. ALIGNMENT	L=5134		L=850		L=7639.49		R=8550																									
VER. ALIGNMENT			G=0.500%		L=5929																											
CUT AND FILL	+77.2	+77.6	+76.3	+81.3	+79.3	+80.3	+80.6	+80.7	+81.2	+81.9	+81.5	+80.3	+81.4	+82.1	+81.9	+82.3	+83.6	+83.5	+84.4	+84.5	+85.8	+86.6	+86.3	+86.7	+87.8	+86.9	+81.8	+96.4	+92.6			
TYP. SECTION	VIADUCT (E)																															

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017



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Texas Registered Engineering Firm: F-1990



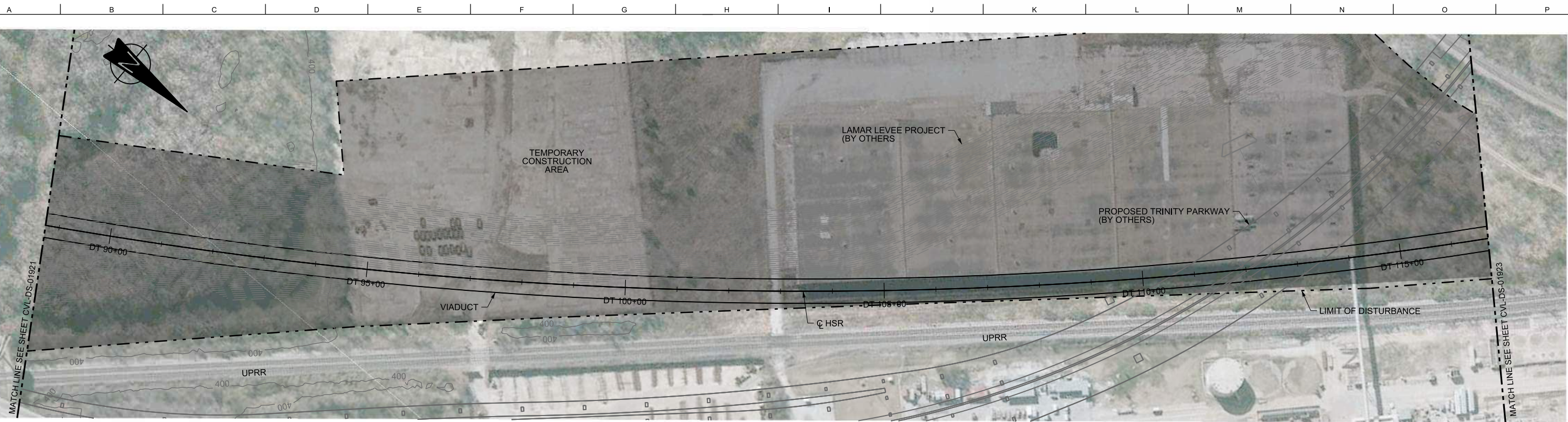
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144



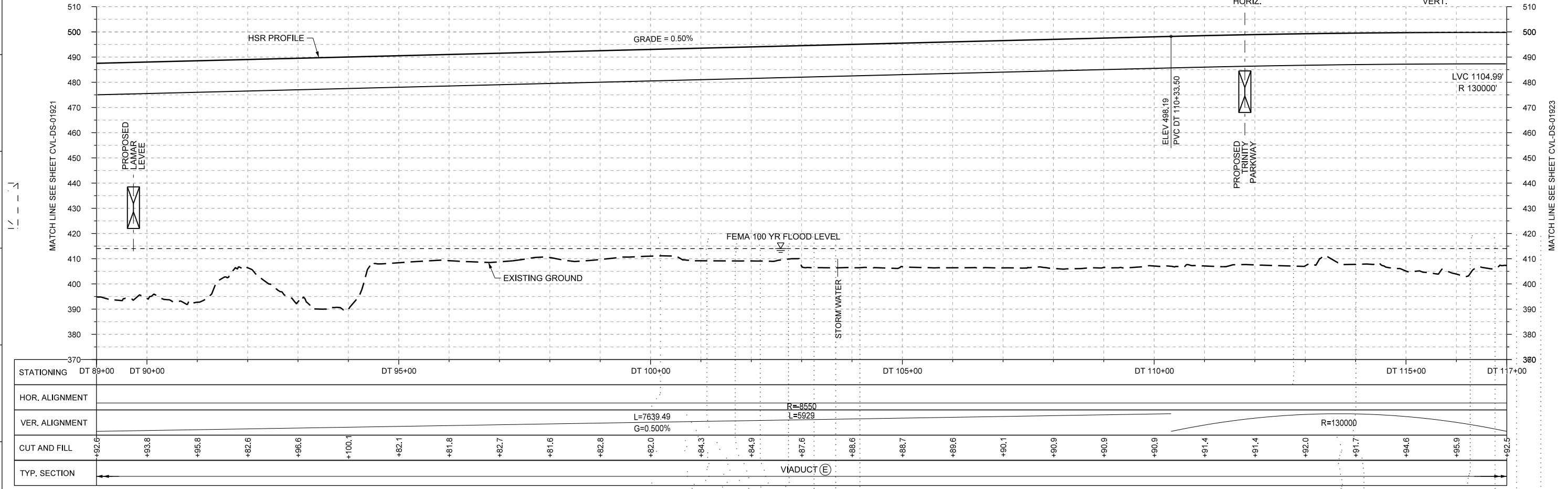
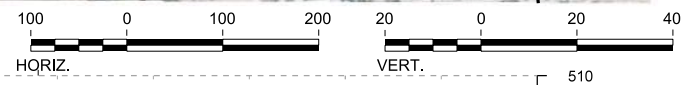
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DT 61+00 TO DT 89+00**

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	CVL-DS-01921	01	



PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

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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

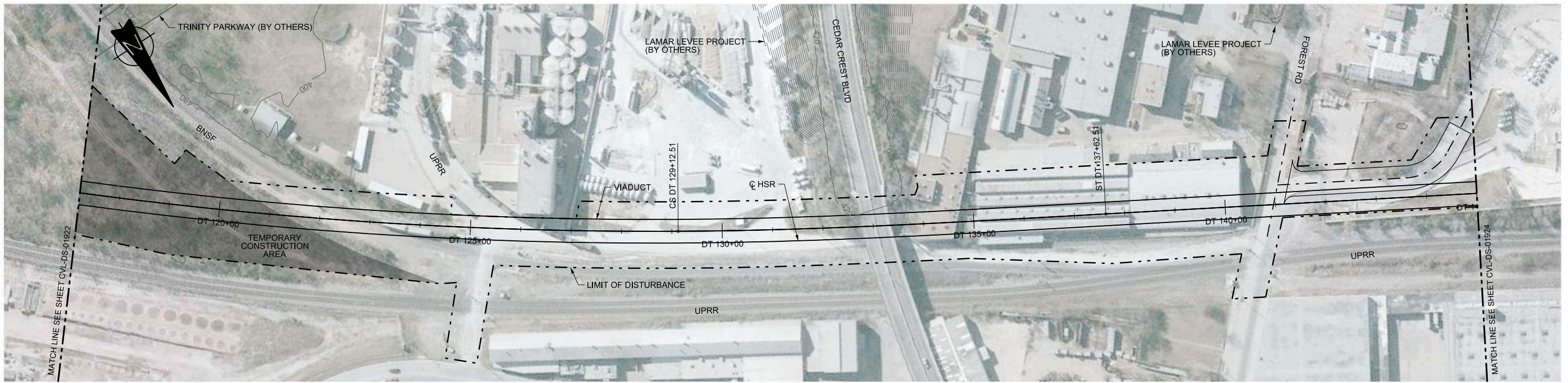
Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DT 89+00 TO DT 117+00**

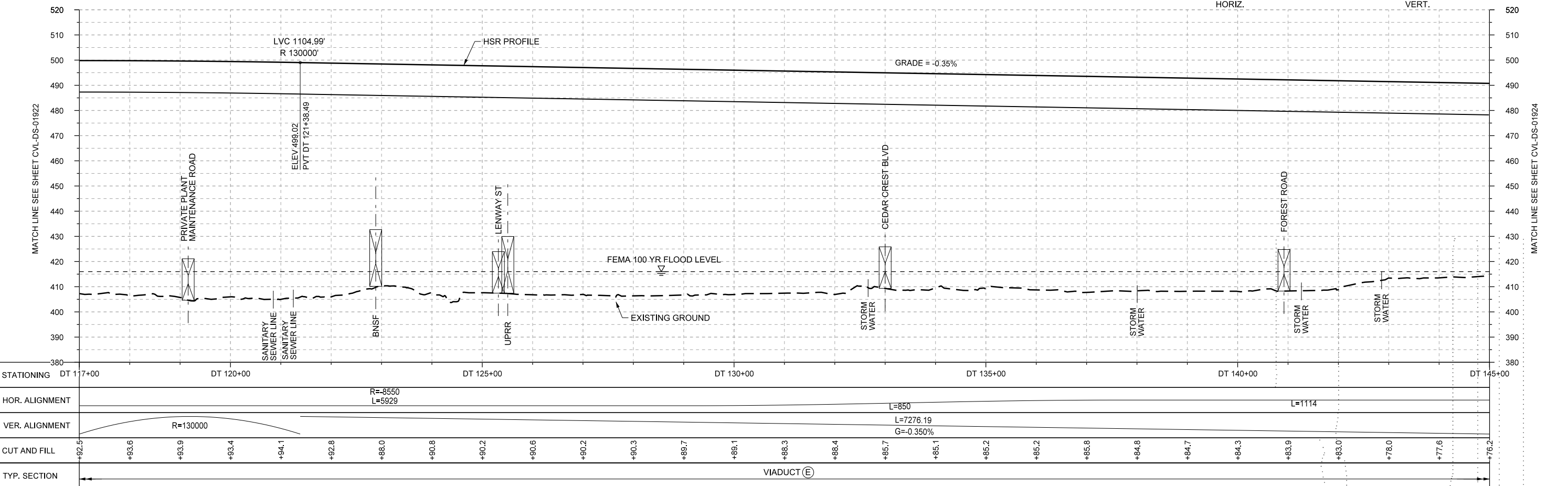
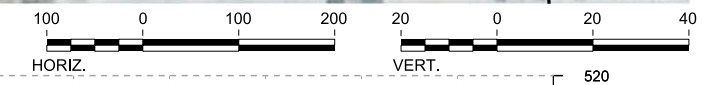
Scale
AS SHOWN

Drawing Status
FINAL DRAFT

Job No 234180	Drawing No CVL-DS-01922	Rev 01
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PLAN



PROFILE

STATIONING	DT 117+00	DT 120+00	DT 125+00	DT 130+00	DT 135+00	DT 140+00	DT 145+00																					
HOR. ALIGNMENT			R=8550 L=5929		L=850		L=1114																					
VER. ALIGNMENT		R=130000			L=7276.19 G=-0.350%																							
CUT AND FILL	+92.5	+93.6	+93.9	+93.4	+94.1	+92.8	+88.0	+90.8	+90.2	+90.6	+90.2	+90.3	+89.7	+89.1	+88.3	+88.4	+85.7	+85.1	+85.2	+85.8	+84.8	+84.7	+84.3	+83.9	+83.0	+78.0	+77.6	+76.2
TYP. SECTION	VIADUCT (E)																											

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP

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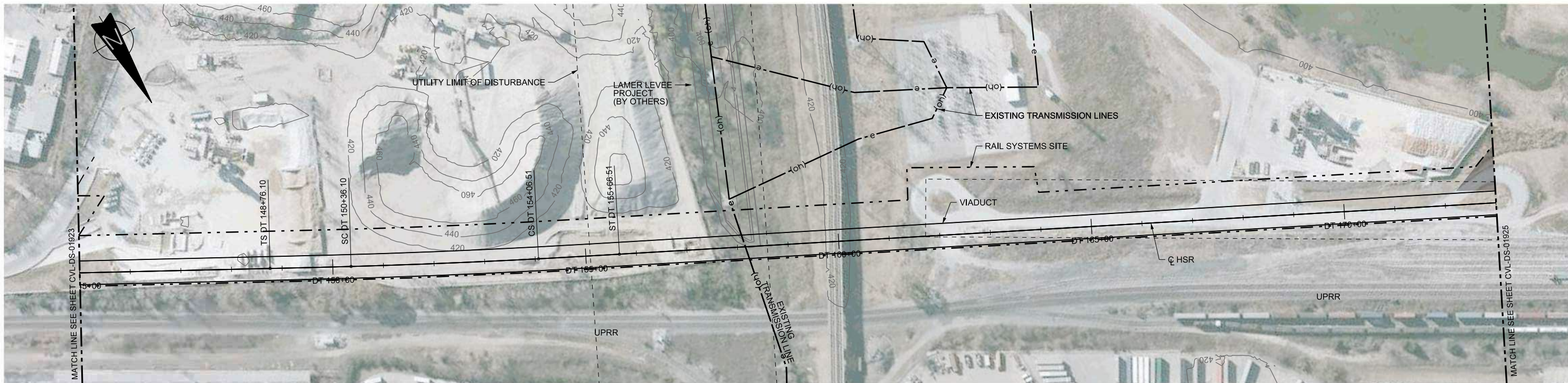
Client

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

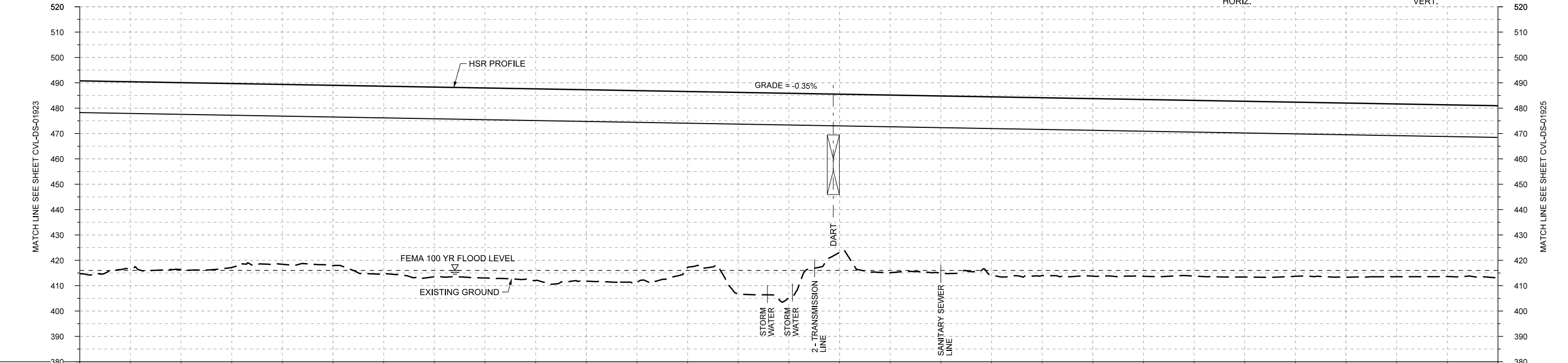
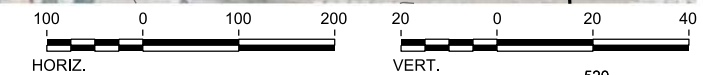
Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DT 117+00 TO DT 145+00**

Scale	AS SHOWN
Drawing Status	FINAL DRAFT
Job No	234180
Drawing No	CVL-DS-01923
Rev	01



PLAN



PROFILE

STATIONING	DT 145+00	DT 150+00	DT 155+00	DT 160+00	DT 165+00	DT 170+00	DT 173+00																						
HOR. ALIGNMENT	L=1114		R=15000 L=370	L=160	L=3575																								
VER. ALIGNMENT					L=7276.19 G=-0.350%																								
CUT AND FILL	+76.2	+73.6	+73.8	+72.5	+71.0	+71.1	+73.9	+74.8	+75.0	+75.6	+75.5	+75.6	+69.4	+79.6	+80.6	+62.4	+70.1	+69.9	+70.3	+70.1	+70.1	+69.7	+69.3	+69.3	+68.7	+68.7	+68.2	+67.7	+67.9
TYP. SECTION	VIADUCT (E)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

DRAWN BY
J. BORGHESI

CHECKED BY
K. SEYMOUR

IN CHARGE
C. TAYLOR

DATE
09/15/2017



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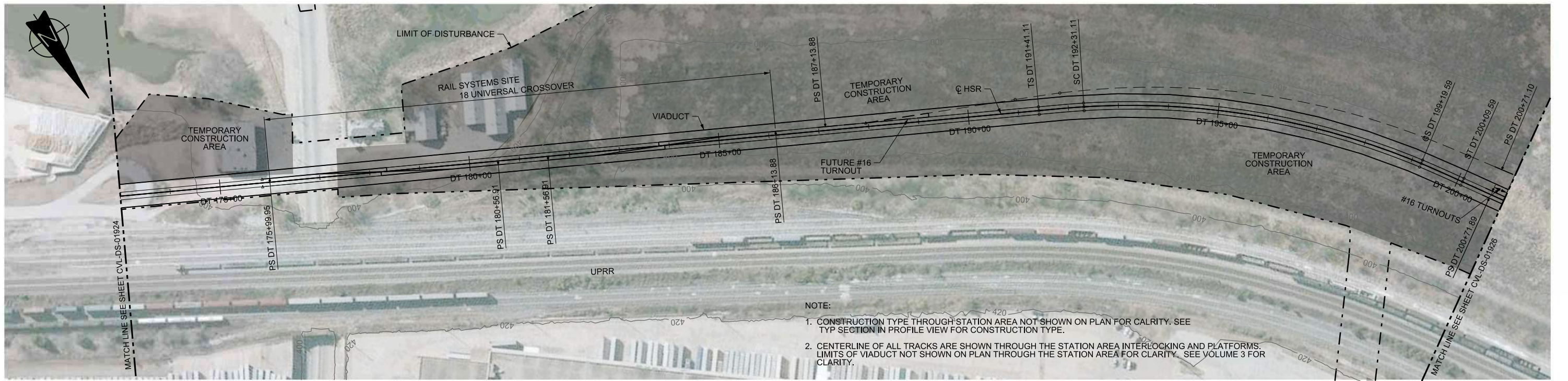
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Client
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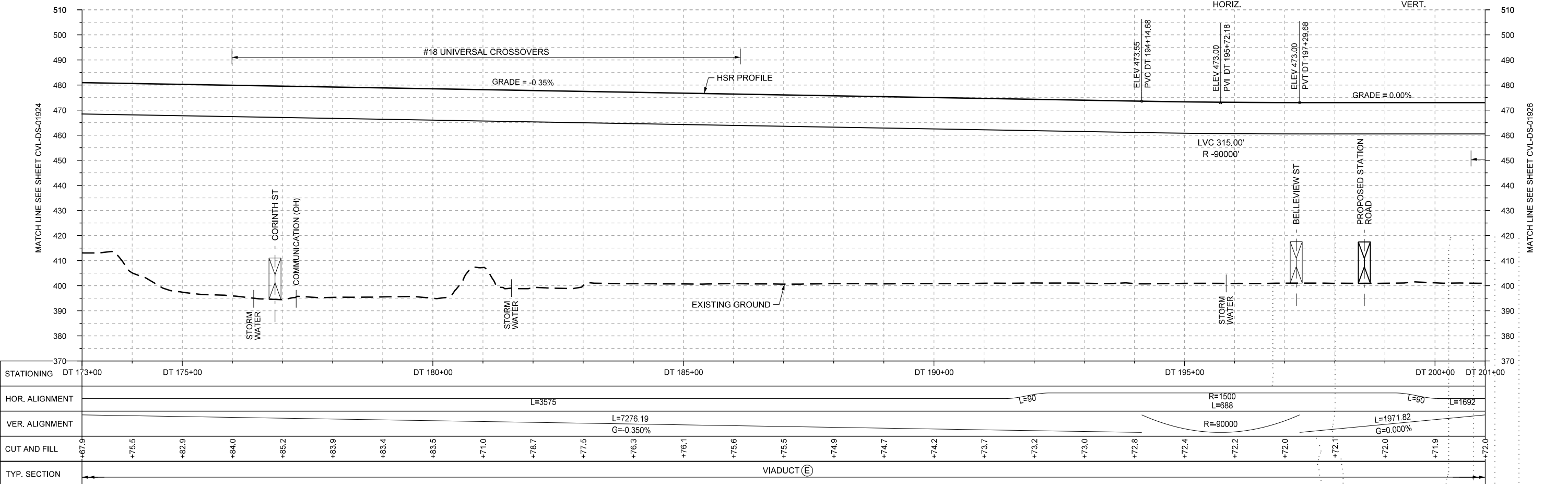
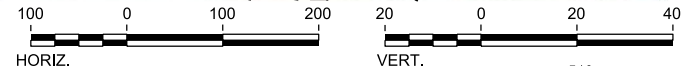
Drawing Title
**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DT 145+00 TO DT 173+00**

Scale AS SHOWN	Drawing Status FINAL DRAFT	
Job No 234180	Drawing No CVL-DS-01924	Rev 01



NOTE:
 1. CONSTRUCTION TYPE THROUGH STATION AREA NOT SHOWN ON PLAN FOR CALRTY. SEE TYP SECTION IN PROFILE VIEW FOR CONSTRUCTION TYPE.
 2. CENTERLINE OF ALL TRACKS ARE SHOWN THROUGH THE STATION AREA INTERLOCKING AND PLATFORMS. LIMITS OF VIADUCT NOT SHOWN ON PLAN THROUGH THE STATION AREA FOR CLARITY. SEE VOLUME 3 FOR CLARITY.

PLAN



PROFILE

STATIONING	DT 173+00	DT 175+00	DT 180+00	DT 185+00	DT 190+00	DT 195+00	DT 200+00	DT 201+00																						
HOR. ALIGNMENT	L=3575				L=90	R=1500 L=888	L=90	L=1692																						
VER. ALIGNMENT	L=7276.19 G=-0.350%				R=90000																									
CUT AND FILL	+67.9	+75.5	+82.9	+84.0	+85.2	+83.9	+83.4	+83.5	+71.0	+78.7	+77.5	+76.3	+76.1	+75.6	+75.5	+74.9	+74.7	+74.2	+73.7	+73.2	+73.0	+72.8	+72.4	+72.2	+72.0	+72.0	+72.1	+72.0	+71.9	+72.0
TYP. SECTION	VIADUCT (E)																													

DESIGNED BY	T. SMELCER
DRAWN BY	J. BORGHESI
CHECKED BY	K. SEYMOUR
IN CHARGE	C. TAYLOR
DATE	09/15/2017

REV	DATE	BY	CHK	APP	DESCRIPTION



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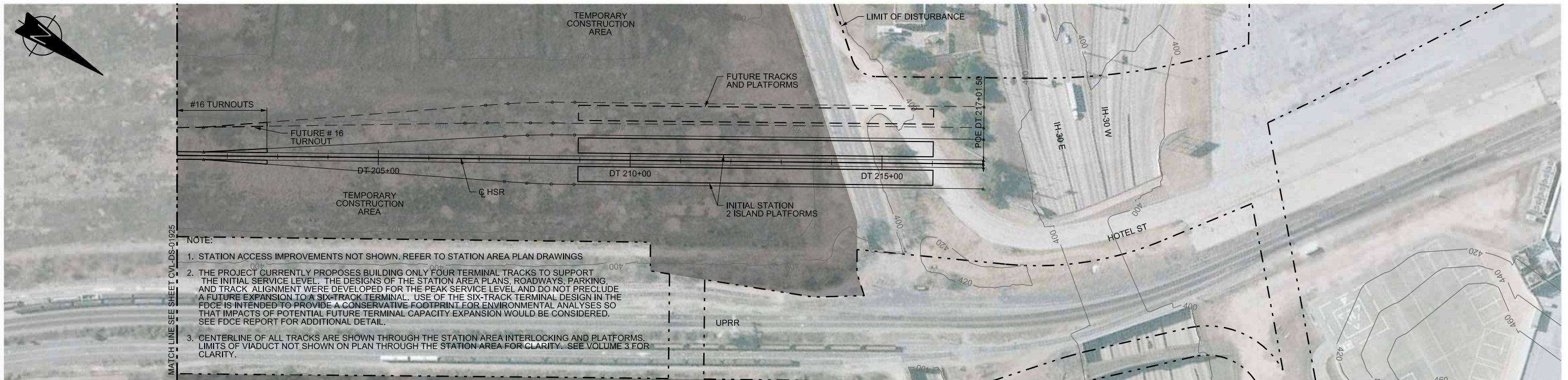


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Drawing Title
DALLAS SEGMENT CIVIL
PLAN AND PROFILE
 DT 173+00 TO DT 201+00

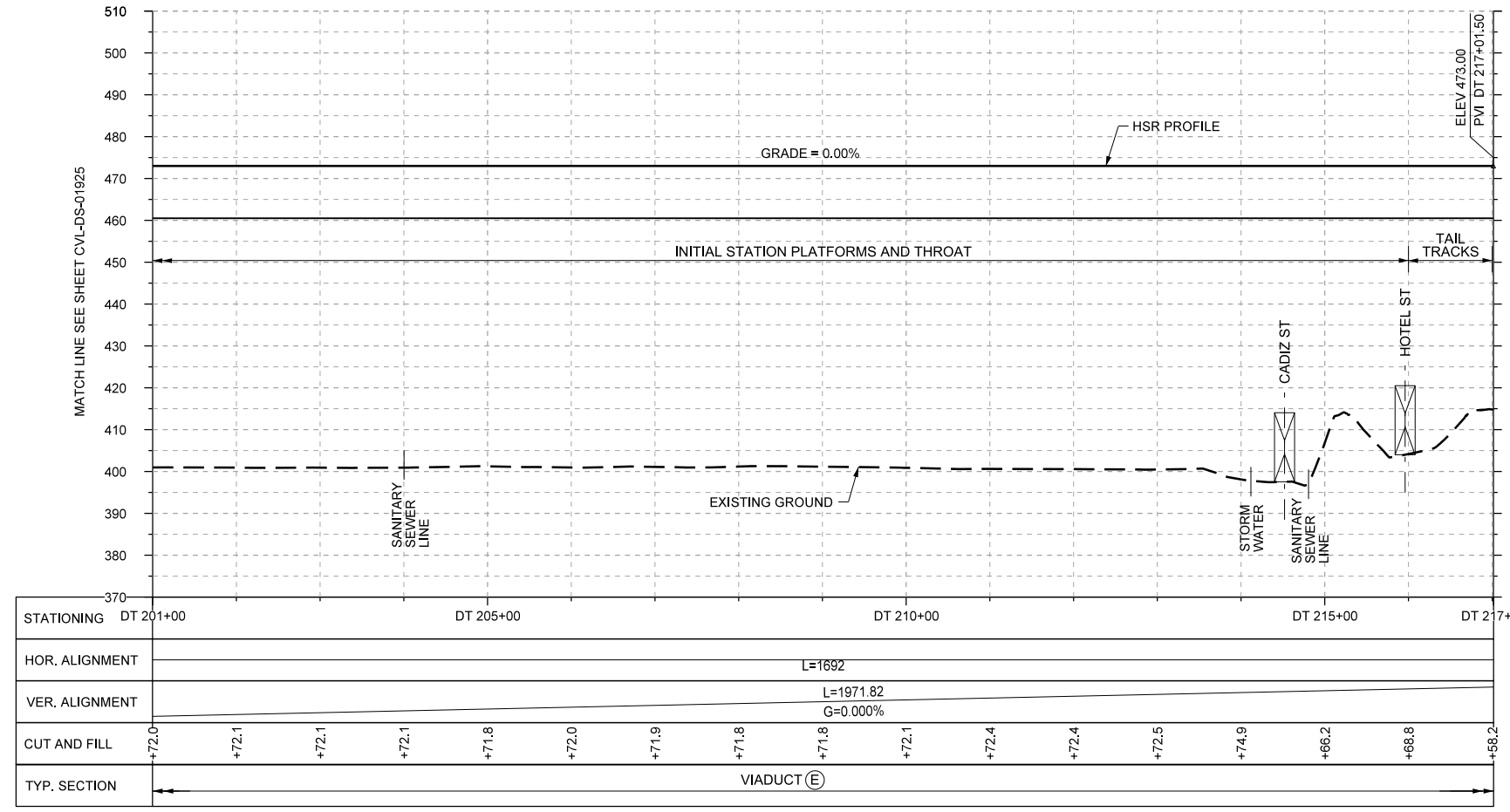
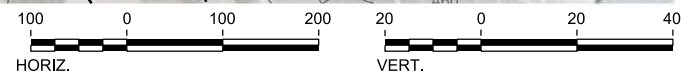
Scale	AS SHOWN
Drawing Status	FINAL DRAFT
Job No	234180
Drawing No	CVL-DS-01925
Rev	01



NOTE:

1. STATION ACCESS IMPROVEMENTS NOT SHOWN. REFER TO STATION AREA PLAN DRAWINGS
2. THE PROJECT CURRENTLY PROPOSES BUILDING ONLY FOUR TERMINAL TRACKS TO SUPPORT THE INITIAL SERVICE LEVEL. THE DESIGNS OF THE STATION AREA PLANS, ROADWAYS, PARKING, AND TRACK ALIGNMENT WERE DEVELOPED FOR THE PEAK SERVICE LEVEL AND DO NOT PRECLUDE A FUTURE EXPANSION TO A SIX-TRACK TERMINAL. USE OF THE SIX-TRACK TERMINAL DESIGN IN THE FDCE IS INTENDED TO PROVIDE A CONSERVATIVE FOOTPRINT FOR ENVIRONMENTAL ANALYSES SO THAT IMPACTS OF POTENTIAL FUTURE TERMINAL CAPACITY EXPANSION WOULD BE CONSIDERED. SEE FDCE REPORT FOR ADDITIONAL DETAIL.
3. CENTERLINE OF ALL TRACKS ARE SHOWN THROUGH THE STATION AREA INTERLOCKING AND PLATFORMS. LIMITS OF VIADUCT NOT SHOWN ON PLAN THROUGH THE STATION AREA FOR CLARITY. SEE VOLUME 3 FOR CLARITY.

PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
T. SMELCER

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Client

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Drawing Title

**DALLAS SEGMENT
CIVIL
PLAN AND PROFILE
DT 201+00 TO DT 217+01.50**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No CVL-DS-01926	Rev 01