

# **Dallas to Houston High-Speed Rail Final Environmental Impact Statement**

## **Appendix G: Dallas to Houston High-Speed Rail Passenger Service from Houston to Dallas Final Conceptual Engineering Plans and Details Set 3 of 14**



**TEXAS  
CENTRAL**



**TEXAS  
CENTRAL**



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

**FINAL CONCEPTUAL ENGINEERING  
PLANS AND DETAILS**  
PROJECT DEFINITION FOR FINAL ENVIRONMENTAL IMPACT STATEMENT  
VOLUME 2 - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

JULY 1, 2019



U.S. Department of Transportation  
**Federal Railroad Administration**

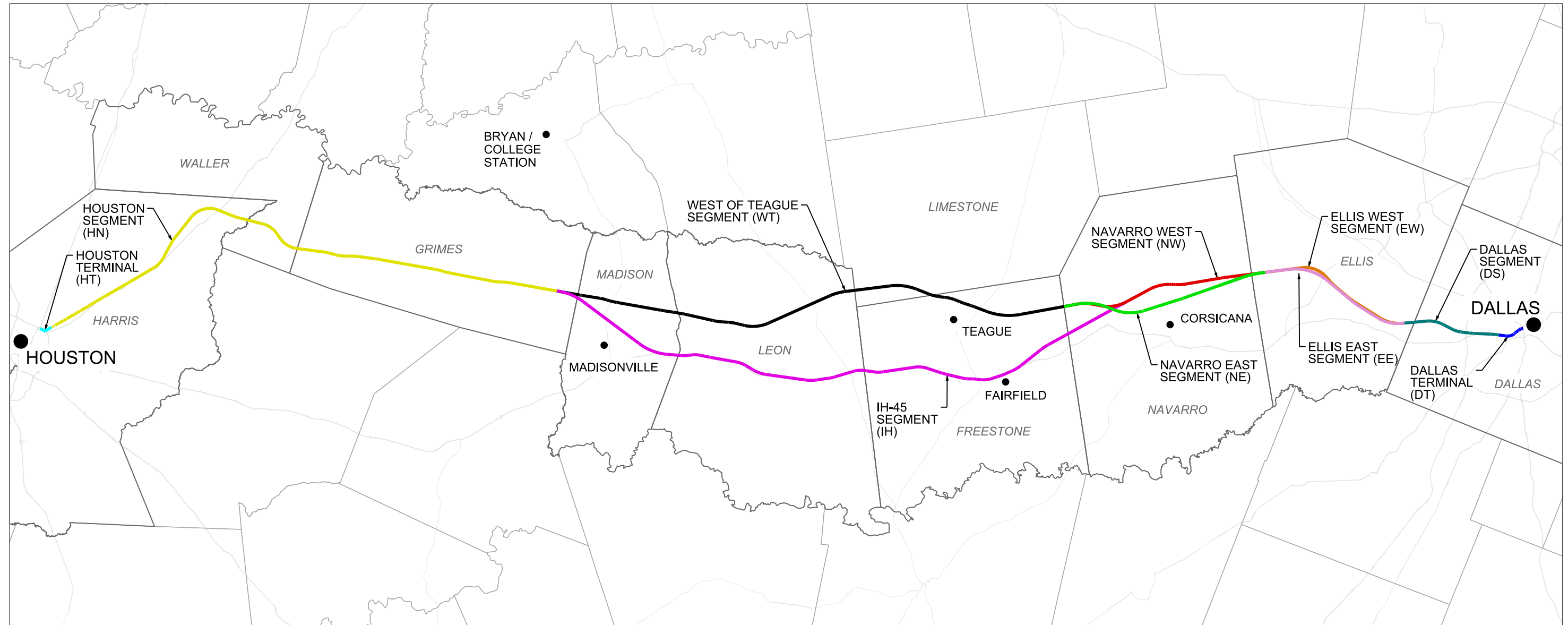
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Arup Texas, Inc.  
10370 Richmond Ave., Suite 475  
Houston, Texas 77042 USA  
Tel (713) 783 2787 Fax (713) 343 1467  
www.arup.com  
Texas Registered Engineering Firm: F-1990

**FRESE  
NICHOLS**

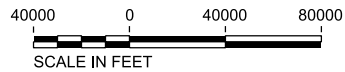
2711 North Haskell Ave., Suite 3300  
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www.freese.com  
Texas Registered Engineering Firm: F-2144

COVER SHEET



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

NOTES:  
 1. REFER TO FCE REPORT 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  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
 FINAL CONCEPTUAL ENGINEERING  
  
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**GENERAL LOCATION PLAN**

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

VOLUME 1A - GENERAL SHEETS & TYPICAL SECTIONS

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

VOLUME 1B - GENERAL SHEETS & TYPICAL SECTIONS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes section 1B-1 RAILWAY TYPICAL SECTIONS and 1B-2 ROADWAY AND GRADE SEPARATION TYPICAL SECTIONS.

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Lists drawing numbers and descriptions for the Houston Segment, including CVL-HN-01101 through CVL-HN-01154-B.

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Lists drawing numbers and descriptions for the Houston Segment, including CVL-HN-01155 through CVL-HN-01206, and West of Teague Segment including CVL-WT-01250 through CVL-WT-01252.

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

Design and drawing information table with fields: DESIGNED BY (D. THOMPSON), DRAWN BY (D. THOMPSON), CHECKED BY (R. BURNS), IN CHARGE (C. TAYLOR), DATE (02/25/2019).



Project information including Drawing Title (GENERAL INDEX SHEET 1 OF 5), Scale (NO SCALE), Drawing Status (FINAL), Job No (234180), Drawing No (GEN-00-00003), and Rev (01).

PLOT TIME: 5/31/2019 9:49:34 AM

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing entries for 2A-2 WEST OF TEAGUE SEGMENT, including drawings CVL-WT-01253 through CVL-WT-01314.

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing entries for 2A-2 WEST OF TEAGUE SEGMENT, 2A-3 NAVARRO WEST SEGMENT, and 2A-4 ELLIS WEST SEGMENT, including drawings CVL-WT-01314-A through CVL-EW-01708.

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing entries for 2A-4 ELLIS WEST SEGMENT and 2A-5 DALLAS SEGMENT, including drawings CVL-EW-01708-A through CVL-DS-01926-A.

Revision table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION. Includes a header row and one data row.

Design information table with fields: DESIGNED BY (D. THOMPSON), DRAWN BY (D. THOMPSON), CHECKED BY (R. BURNS), IN CHARGE (C. TAYLOR), DATE (02/25/2019).



Project information including Drawing Title (GENERAL INDEX SHEET 2 OF 5), Scale (NO SCALE), Drawing Status (FINAL), Job No (234180), Drawing No (GEN-00-00004), and Rev (01).

VOLUME 2B - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing numbers 01350-01420 and descriptions for IH-45 SEGMENT.

VOLUME 2B - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing numbers 01421-01442, 01600-01631, and 01800-01813. Includes sections for NAVARRO EAST SEGMENT and ELLIS EAST SEGMENT.

VOLUME 2B - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing numbers 01814-01823 and descriptions for ELLIS EAST SEGMENT.

Table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION. Includes a revision table and a design log.

DESIGNED BY: D. THOMPSON
DRAWN BY: D. THOMPSON
CHECKED BY: R. BURNS
IN CHARGE: C. TAYLOR
DATE: 02/25/2019



Scale: NO SCALE
Drawing Status: FINAL
Job No: 234180
Drawing No: GEN-00-00005
Rev: 01

PLOT TIME: 5/24/2019 3:22:14 PM
PLOT BY: M-YPWICS01S

**VOLUME 3A - STATIONS, MAINTENANCE FACILITIES AND RAILWAY SYSTEMS SHEETS**

DRAWING NO.	DRAWING DESCRIPTIONS
<b>3A-1 STATIONS</b>	
STA-00-03000	GENERAL - STATIONS - TYPICAL SECTIONS
STA-HN-06000	HOUSTON SEGMENT - STATIONS - STATIONS SECTIONS
STA-HN-06001	HOUSTON SEGMENT - STATIONS - STATION SECTIONS - FUTURE EXPANSION
STA-HN-01005	HOUSTON SEGMENT - STATIONS - HOUSTON TRANSIT STATION - CIVIL SITE PLAN
STA-HN-01015	HOUSTON SEGMENT - STATIONS - HOUSTON NORTHWEST MALL - CIVIL SITE PLAN (FSL)
STA-HN-01016	HOUSTON SEGMENT - STATIONS - HOUSTON NORTHWEST MALL - TERMINAL ROAD - PLAN & PROFILE
STA-HN-01017	HOUSTON SEGMENT - STATIONS - HOUSTON NORTHWEST MALL - MANGUM ROAD - PLAN & PROFILE
STA-HN-01018	HOUSTON SEGMENT - STATIONS - HOUSTON NORTHWEST MALL - 18TH STREET - PLAN & PROFILE
STA-HN-01019	HOUSTON SEGMENT - STATIONS - HOUSTON NORTHWEST MALL - CIVIL SITE PLAN - FUTURE BUILD
STA-HN-01025	HOUSTON SEGMENT - STATIONS - INDUSTRIAL STATION - CIVIL SITE PLAN
STA-HN-01034	HOUSTON SEGMENT - STATIONS - BRAZOS VALLEY STATION - CIVIL SITE PLAN
STA-DS-01045	DALLAS SEGMENT - STATIONS - STATION SECTIONS
STA-DS-01046	DALLAS SEGMENT - STATIONS - STATION SECTIONS - FUTURE EXPANSION
STA-DS-01049	DALLAS SEGMENT - STATIONS - DALLAS STATION - CIVIL SITE PLAN
STA-DS-01050	DALLAS SEGMENT - STATIONS - DALLAS STATION - HOTEL STREET - PLAN & PROFILE
STA-DS-01053	DALLAS SEGMENT - STATIONS - DALLAS STATION - PROPOSED STREET 1 - PLAN & PROFILE
STA-DS-01054	DALLAS SEGMENT - STATIONS - DALLAS STATION - PROPOSED STREET 2 - PLAN & PROFILE
<b>3A-2 MAINTENANCE FACILITIES, YARDS AND SHOPS</b>	
MNT-00-02002	HN, WT, EW, DS - MAINTENANCE FACILITIES - TYPICAL MOW FACILITY
MNT-00-02003	GENERAL - MAINTENANCE FACILITIES - TYPICAL SIDING OFF
MNT-00-02004	GENERAL - MAINTENANCE FACILITIES - KEY MAP
MNT-HN-04008	HOUSTON SEGMENT - MAINTENANCE FACILITIES - MOW-HN-2 - LAYOUT
MNT-HN-04009	HOUSTON SEGMENT - MAINTENANCE FACILITIES - MOW-HN-2 - PROFILE
MNT-HN-04010	HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON TMF - SHEET 1 OF 3
MNT-HN-04011	HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON TMF - SHEET 2 OF 3
MNT-HN-04012	HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON TMF - SHEET 3 OF 3
MNT-HN-04013	HOUSTON SEGMENT - MAINTENANCE FACILITIES - HOUSTON TMF - PROFILE
MNT-HN-04014	HOUSTON SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY HN-5 - LAYOUT
MNT-HN-04015	HOUSTON SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY HN-5 - PROFILE
MNT-WT-04016	WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY WT-1 - LAYOUT
MNT-WT-04017	WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY WT-1 - PROFILE
MNT-WT-04018	WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 1 OF 2
MNT-WT-04019	WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 2 OF 2
MNT-WT-04020	WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY WT-2 - LAYOUT
MNT-WT-04021	WEST OF TEAGUE SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY WT-2 - PROFILE
MNT-EW-04036	ELLIS WEST SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY EW-1 - LAYOUT
MNT-EW-04037	ELLIS WEST SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY EW-1 - PROFILE
MNT-DS-04042	DALLAS SEGMENT - MAINTENANCE FACILITIES - DALLAS TMF - SHEET 1 OF 2
MNT-DS-04043	DALLAS SEGMENT - MAINTENANCE FACILITIES - DALLAS TMF - SHEET 2 OF 2
MNT-DS-04044	DALLAS SEGMENT - MAINTENANCE FACILITIES - DALLAS TMF - PROFILE
<b>3A-3 RAILWAY FACILITIES</b>	
SYS-00-01001	HN, WT, NW, EW, DS - RAILWAY FACILITIES - SP, SSP, ATP - TYPICAL LAYOUT PLAN
SYS-00-01002	HN, WT, NW, EW, DS - RAILWAY FACILITIES - MSH, SSH, ISH, CH - TYPICAL LAYOUT PLAN
SYS-00-01003	HN, WT, NW, EW, DS - RAILWAY FACILITIES - TPSS LOOP 2FDR - TYPICAL LAYOUT PLAN
SYS-00-01004	HN, WT, NW, EW, DS - RAILWAY FACILITIES - TPSS LOOP 1FDR - TYPICAL LAYOUT PLAN
SYS-00-01005	HN, WT, NW, EW, DS - RAILWAY FACILITIES - TPSS RADIAL 2FDR - TYPICAL LAYOUT PLAN
SYS-00-01006	HN, WT, NW, EW, DS - RAILWAY FACILITIES - TPSS RADIAL 1FDR - TYPICAL LAYOUT PLAN
SYS-00-02000	GENERAL - RAILWAY FACILITIES - FACILITIES SPACING - ALIGN ALT A FSL
SYS-00-02001	GENERAL - RAILWAY FACILITIES - FACILITIES SPACING - ALIGN ALT A ISL
SYS-00-03000	HT1, HT2, HT3, HN1, HN2, - WT, NW, EW, DS, DT - RAILWAY FACILITIES - FACILITY LOCATIONS
<b>3A-4 ROADWAY FACILITIES</b>	
RDY-00-03037	GENERAL - ROADWAY FACILITIES - EMERGENCY RESPONSE MAINTENANCE - AND STAGING AREA LAYOUTS

**VOLUME 3B - STATIONS, MAINTENANCE FACILITIES AND RAILWAY SYSTEMS SHEETS**

DRAWING NO.	DRAWING DESCRIPTIONS
<b>3B-1 STATIONS (NOT USED)</b>	
<b>3B-2 MAINTENANCE FACILITIES, YARDS AND SHOPS</b>	
MNT-00-02012	IH, EE - MAINTENANCE FACILITIES - TYPICAL MOW FACILITY
MNT-IH-04022	IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-1 - LAYOUT - SHEET 1 OF 3
MNT-IH-04023	IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-1 - LAYOUT - SHEET 2 OF 3
MNT-IH-04024	IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-1 - LAYOUT - SHEET 3 OF 3
MNT-IH-04025	IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 1 OF 8
MNT-IH-04026	IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 2 OF 8
MNT-IH-04027	IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 3 OF 8
MNT-IH-04028	IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 4 OF 8
MNT-IH-04029	IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 5 OF 8
MNT-IH-04030	IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 6 OF 8
MNT-IH-04031	IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 7 OF 8
MNT-IH-04032	IH-45 SEGMENT - MAINTENANCE FACILITIES - TRACK CONNECTION - LAYOUT - SHEET 8 OF 8
MNT-IH-04033	IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-2 - LAYOUT - SHEET 1 OF 3
MNT-IH-04034	IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-2 - LAYOUT - SHEET 2 OF 3
MNT-IH-04035	IH-45 SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY IH-2 - LAYOUT - SHEET 3 OF 3
MNT-EE-04038	ELLIS EAST SEGMENT - MAINTENANCE FACILITIES - MOW FACILITY EE-1 - LAYOUT
<b>3B-3 RAILWAY FACILITIES</b>	
SYS-00-01010	IH, NE, EE - RAILWAY FACILITIES - TPSS - TYPICAL LAYOUT PLAN
SYS-00-01011	IH, NE, EE - RAILWAY FACILITIES - SP, SSP, ATP - TYPICAL LAYOUT PLAN
SYS-00-01012	IH, NE, EE - RAILWAY FACILITIES - MSH, SSH, ISH, CH - TYPICAL LAYOUT PLAN
SYS-00-02002	GENERAL - RAILWAY FACILITIES - FACILITY SPACING - ALIGNMENT ALTERNATIVE B
SYS-00-02003	GENERAL - RAILWAY FACILITIES - FACILITY SPACING - ALIGNMENT ALTERNATIVE C
SYS-00-02004	GENERAL - RAILWAY FACILITIES - FACILITY SPACING - ALIGNMENT ALTERNATIVE D
SYS-00-02005	GENERAL - RAILWAY FACILITIES - FACILITY SPACING - ALIGNMENT ALTERNATIVE E
SYS-00-02006	GENERAL - RAILWAY FACILITIES - FACILITY SPACING - ALIGNMENT ALTERNATIVE F
SYS-00-03010	IH, NE, EE - RAILWAY FACILITIES - FACILITY LOCATIONS

**VOLUME 4B - NOT USED**

**VOLUME 4B - ROADWAY PLAN SHEETS**

DRAWING NO.	DRAWING DESCRIPTIONS
<b>4B-1 IH-45 SEGMENT</b>	
RDY-IH-01101	IH-45 SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 1 OF 5 IH1 10+00 TO IH1 1120+00
RDY-IH-01102	IH-45 SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 2 OF 5 IH1 1120+00 TO IH1 2240+00
RDY-IH-01103	IH-45 SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 3 OF 5 IH1 2240+00 TO IH1 3360+00
RDY-IH-01104	IH-45 SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 4 OF 5 IH1 3360+00 TO IH2 224+00
RDY-IH-01105	IH-45 SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 5 OF 5 IH2 224+00 TO IH2 540+81
RDY-IH1-04001	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 100+00 TO IH1 100+00
RDY-IH1-04002	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 100+00 TO IH1 190+00
RDY-IH1-04003	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 190+00 TO IH1 280+00
RDY-IH1-04004	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 280+00 TO IH1 370+00
RDY-IH1-04005	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 370+00 TO IH1 460+00
RDY-IH1-04006	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 460+00 TO IH1 550+00
RDY-IH1-04007	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 550+00 TO IH1 640+00
RDY-IH1-04008	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 640+00 TO IH1 730+00
RDY-IH1-04009	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 730+00 TO IH1 820+00
RDY-IH1-04010	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 820+00 TO IH1 910+00
RDY-IH1-04011	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 910+00 TO IH1 1000+00
RDY-IH1-04012	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1000+00 TO IH1 1090+00
RDY-IH1-04013	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1090+00 TO IH1 1180+00
RDY-IH1-04014	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1180+00 TO IH1 1270+00
RDY-IH1-04015	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1270+00 TO IH1 1360+00
RDY-IH1-04016	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1360+00 TO IH1 1450+00
RDY-IH1-04017	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1450+00 TO IH1 1540+00
RDY-IH1-04018	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1540+00 TO IH1 1630+00
RDY-IH1-04019	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1630+00 TO IH1 1720+00
RDY-IH1-04020	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1720+00 TO IH1 1810+00
RDY-IH1-04021	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1810+00 TO IH1 1900+00
RDY-IH1-04022	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1900+00 TO IH1 1990+00
RDY-IH1-04023	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 1990+00 TO IH1 2080+00
RDY-IH1-04024	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2080+00 TO IH1 2170+00
RDY-IH1-04025	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2170+00 TO IH1 2260+00
RDY-IH1-04026	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2260+00 TO IH1 2350+00
RDY-IH1-04027	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2350+00 TO IH1 2440+00
RDY-IH1-04028	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2440+00 TO IH1 2530+00
RDY-IH1-04029	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2530+00 TO IH1 2620+00
RDY-IH1-04030	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2620+00 TO IH1 2710+00
RDY-IH1-04031	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2710+00 TO IH1 2800+00
RDY-IH1-04032	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2800+00 TO IH1 2890+00
RDY-IH1-04033	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2890+00 TO IH1 2980+00
RDY-IH1-04034	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 2980+00 TO IH1 3070+00

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>D. THOMPSON</b>
DRAWN BY <b>D. THOMPSON</b>
CHECKED BY <b>R. BURNS</b>
IN CHARGE <b>C. TAYLOR</b>
DATE <b>02/25/2019</b>



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Texas Registered Engineering Firm: F-2144



DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING



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

Drawing Title  
**GENERAL INDEX SHEET 4 OF 5**

Scale <b>NO SCALE</b>		
Drawing Status <b>FINAL</b>		
Job No <b>234180</b>	Drawing No <b>GEN-00-00006</b>	Rev <b>01</b>

**VOLUME 4B - ROADWAY PLAN SHEETS**

DRAWING NO.	DRAWING DESCRIPTIONS
<b>4B-1 IH-45 SEGMENT</b>	
RDY-IH1-04035	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3070+00 TO IH1 3160+00
RDY-IH1-04036	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3160+00 TO IH1 3250+00
RDY-IH1-04037	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3250+00 TO IH1 3340+00
RDY-IH1-04038	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3340+00 TO IH1 3430+00
RDY-IH1-04039	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3430+00 TO IH1 3520+00
RDY-IH1-04040	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3520+00 TO IH1 3610+00
RDY-IH1-04041	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3610+00 TO IH1 3700+00
RDY-IH1-04042	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3700+00 TO IH1 3790+00
RDY-IH1-04043	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3790+00 TO IH1 3880+00
RDY-IH1-04044	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3880+00 TO IH1 3970+00
RDY-IH1-04045	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 3970+00 TO IH1 4060+00
RDY-IH1-04046	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 4060+00 TO IH1 4150+00
RDY-IH1-04047	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 4150+00 TO IH1 4240+00
RDY-IH1-04048	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH1 4240+00 TO IH1 4329+69
RDY-IH2-04049	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH2 10+00 TO IH2 100+00
RDY-IH2-04050	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH2 100+00 TO IH2 190+00
RDY-IH2-04051	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH2 190+00 TO IH2 280+00
RDY-IH2-04052	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH2 280+00 TO IH2 370+00
RDY-IH2-04053	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH2 370+00 TO IH2 460+00
RDY-IH2-04054	IH-45 SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. IH2 460+00 TO IH2 540+81
<b>4B-2 NAVARRO EAST SEGMENT</b>	
RDY-NE-01101	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 1 OF 2 NE 10+00 TO NE 1070+00
RDY-NE-01102	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 2 OF 2 NE 1070+00 TO NE 1652+05
RDY-NE-04001	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 10+00 TO NE 100+00
RDY-NE-04002	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 100+00 TO NE 190+00
RDY-NE-04003	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 190+00 TO NE 280+00
RDY-NE-04004	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 280+00 TO NE 370+00
RDY-NE-04005	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 370+00 TO NE 460+00
RDY-NE-04006	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 460+00 TO NE 550+00
RDY-NE-04007	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 550+00 TO NE 640+00
RDY-NE-04008	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 640+00 TO NE 730+00
RDY-NE-04009	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 730+00 TO NE 820+00
RDY-NE-04010	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 820+00 TO NE 910+00
RDY-NE-04011	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 910+00 TO NE 1000+00
RDY-NE-04011A	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - MATCHLINE RDY-NE-04011
RDY-NE-04012	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 1000+00 TO NE 1090+00
RDY-NE-04013	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 1090+00 TO NE 1180+00
RDY-NE-04014	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 1180+00 TO NE 1270+00
RDY-NE-04015	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 1270+00 TO NE 1360+00
RDY-NE-04016	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 1360+00 TO NE 1450+00
RDY-NE-04017	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 1450+00 TO NE 1540+00
RDY-NE-04018	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 1540+00 TO NE 1630+00
RDY-NE-04019	NAVARRO EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. NE 1630+00 TO NE 1652+05
<b>4B-3 ELLIS EAST SEGMENT</b>	
RDY-EE-01101	ELLIS EAST SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 1 OF 2 EE 9+56 TO EE 1064+00
RDY-EE-01102	ELLIS EAST SEGMENT - CIVIL HIGHWAY - KEY MAP - SHEET 2 OF 2 EE 1064+00 TO EE 1232+15
RDY-EE-04001	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 9+56 TO EE 100+00
RDY-EE-04002	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 100+00 TO EE 190+00
RDY-EE-04003	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 190+00 TO EE 280+00
RDY-EE-04004	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 280+00 TO EE 370+00
RDY-EE-04005	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 370+00 TO EE 460+00
RDY-EE-04006	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 460+00 TO EE 550+00
RDY-EE-04007	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 550+00 TO EE 640+00
RDY-EE-04008	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 640+00 TO EE 730+00
RDY-EE-04009	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 730+00 TO EE 820+00
RDY-EE-04010	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 820+00 TO EE 910+00
RDY-EE-04011	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 910+00 TO EE 1000+00
RDY-EE-04012	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 1000+00 TO EE 1090+00
RDY-EE-04013	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 1090+00 TO EE 1180+00
RDY-EE-04014	ELLIS EAST SEGMENT - CIVIL HIGHWAY - PLAN VIEW - STA. EE 1180+00 TO EE 1232+15

**Volume 5A - WILDLIFE CROSSING SHEETS**

DRAWING NO.	DRAWING DESCRIPTIONS
<b>Volume 5A</b>	
WLC-DS-04001	DS SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 1 OF 23)
WLC-DS-04002	DS SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 2 OF 23)
WLC-DS-04003	DS SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 3 OF 23)
WLC-EW-04001	EW SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 4 OF 23)
WLC-EW-04002	EW SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 5 OF 23)
WLC-NW-04001	NW SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 6 OF 23)
WLC-NW-04002	NW SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 7 OF 23)
WLC-NW-04003	NW SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 8 OF 23)
WLC-WT-04001	WT SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 9 OF 23)
WLC-WT-04002	WT SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 10 OF 23)
WLC-WT-04003	WT SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 11 OF 23)
WLC-WT-04004	WT SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 12 OF 23)
WLC-WT-04005	WT SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 13 OF 23)
WLC-WT-04006	WT SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 14 OF 23)
WLC-WT-04007	WT SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 15 OF 23)
WLC-HN-04001	HN SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 16 OF 23)
WLC-HN-04002	HN SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 17 OF 23)
WLC-HN-04003	HN SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 18 OF 23)
WLC-HN-04004	HN SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 19 OF 23)
WLC-HN-04005	HN SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 20 OF 23)
WLC-HN-04006	HN SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 21 OF 23)
WLC-HN-04007	HN SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 22 OF 23)
WLC-HN-04008	HN SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 23 OF 23)

**VOLUME 5B - WILDLIFE CROSSING SHEETS**

DRAWING NO.	DRAWING DESCRIPTIONS
<b>Volume 5B</b>	
WLC-EE-04001	EE SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 1 OF 15)
WLC-EE-04002	EE SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 2 OF 15)
WLC-NE-04001	NE SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 3 OF 15)
WLC-NE-04002	NE SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 4 OF 15)
WLC-NE-04003	NE SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 5 OF 15)
WLC-IH-04001	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 6 OF 15)
WLC-IH-04002	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 7 OF 15)
WLC-IH-04003	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 8 OF 15)
WLC-IH-04004	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 9 OF 15)
WLC-IH-04005	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 10 OF 15)
WLC-IH-04006	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 11 OF 15)
WLC-IH-04007	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 12 OF 15)
WLC-IH-04008	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 13 OF 15)
WLC-IH-04009	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 14 OF 15)
WLC-IH-04010	IH-45 SEGMENT THSR - POTENTIAL WILDLIFE CROSSINGS (SHEET 15 OF 15)

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>D. THOMPSON</b>
DRAWN BY <b>D. THOMPSON</b>
CHECKED BY <b>R. BURNS</b>
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DATE <b>02/25/2019</b>



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Drawing Title  
**GENERAL INDEX SHEET 5 OF 5**

Scale <b>NO SCALE</b>	Drawing Status <b>FINAL</b>
Job No <b>234180</b>	Drawing No <b>GEN-00-00007</b>
	Rev <b>01</b>



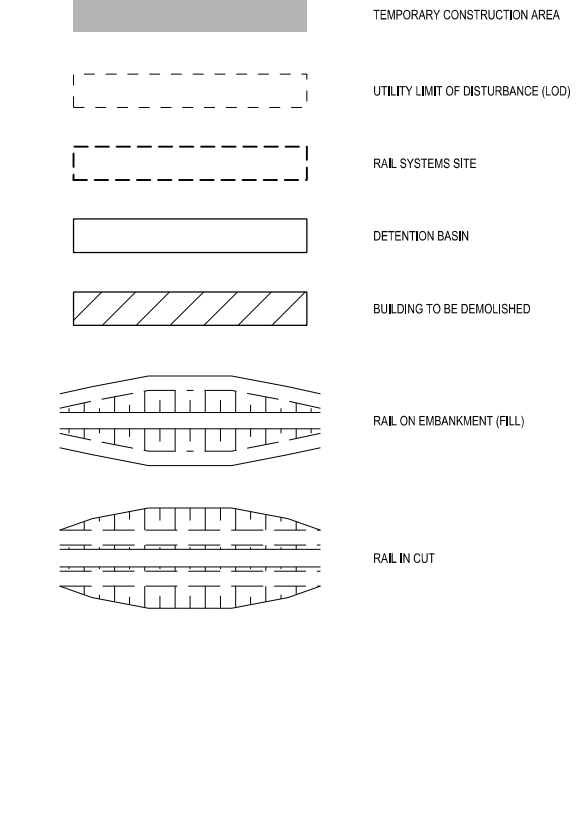
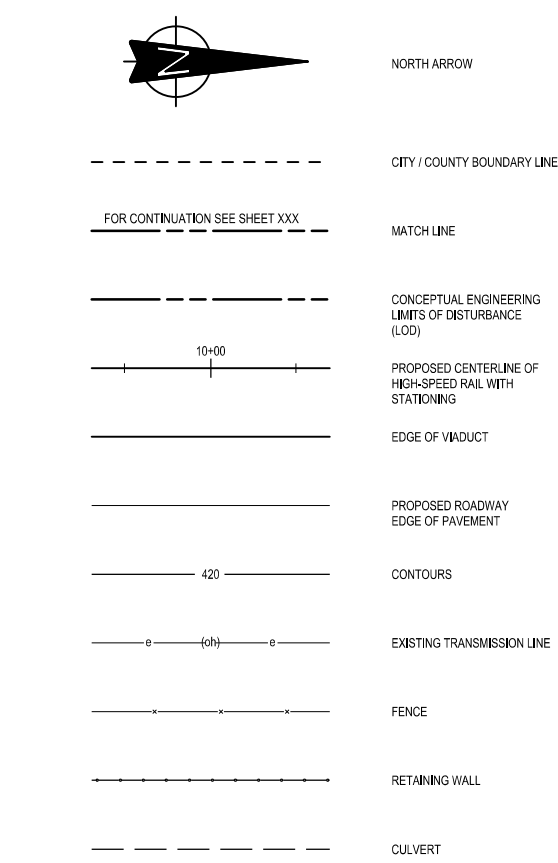


**ABBREVIATIONS**

ALT	ALTERNATE ALIGNMENT	SC	SPIRAL CURVE
APPROX	APPROXIMATE	SH	STATE HIGHWAY
ATP	AUTOTRANSFORMER POST	SO	SIDING OFF
AVE	AVENUE	SP	SECTIONING POST
BLVD	BOULEVARD	SSH	SUB-SIGNAL HOUSE
BNSF	BURLINGTON NORTH SANTE FE RAILROAD	SSP	SUB-SECTIONING POST
BOT	BOTTOM	ST	STREET, SPIRAL TO TANGENT
CH	COMMUNICATION HOUSE	STA	STATION
CO RD	COUNTY ROAD	STD	STANDARD
CL	CENTERLINE	SYM	SYMMETRICAL
C	CENTERLINE	TBD	TO BE DETERMINED
CLSM	CONTROLLED LOW STRENGTH MATERIAL	TCEQ	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CO	COUNTY	TEMP	TEMPORARY
CR	COUNTY ROAD	THFN	TEXAS HIGHWAY FREIGHT NETWORK
CS	CURVE TO SPIRAL	TMF	TRAINSET MAINTENANCE FACILITY
CVL	CIVIL	TPSS	TRACTION POWER SUBSTATION
DIA	DIAMETER	TS	TANGENT SPIRAL
DIST	DISTANCE, DISTRICT	TYP	TYPICAL
DR	DRIVE	TOR	TOP OF RAIL
DRG	DRAWING	US	UNITED STATES, UNITED STATES HIGHWAY
DS	DALLAS SEGMENT	UPRR	UNION PACIFIC RAILROAD
DSN	DALLAS SEGMENT NORTH	VAR	VARIABLE
DSS	DALLAS SEGMENT SOUTH	VERT, V	VERTICAL
DT	DALLAS TERMINUS SEGMENT	WB	WESTBOUND
DWY	DRIVEWAY	WT	WEST OF TEAGUE
Ea	ACTUAL SUPERELEVATION	XING	CROSSING
EE	ELLIS EAST SEGMENT	YR	YEAR
ELECT	ELECTRIC		
ELEV	ELEVATION		
EMB	EMBANKMENT		
ENGR	ENGINEER		
EPA	ENVIRONMENTAL PROTECTION AGENCY		
ERMISA	EMERGENCY RESPONSE AND MAINTENANCE STAGING AREA		
Eu	UNBALANCED SUPERELEVATION		
EW	ELLIS WEST SEGMENT		
EXIST, EX.	EXISTING		
EXT	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		
JRC	CENTRAL JAPAN RAILWAY COMPANY		
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		
MTFP	(CITY OF HOUSTON) MAJOR THOROUGHFARE AND FREEWAY PLAN		
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		

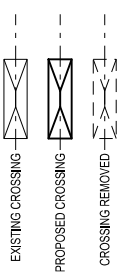
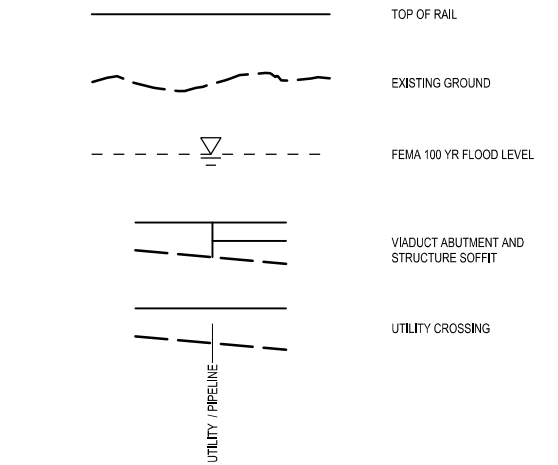
**LEGEND**

**PLAN**



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

**PROFILE**



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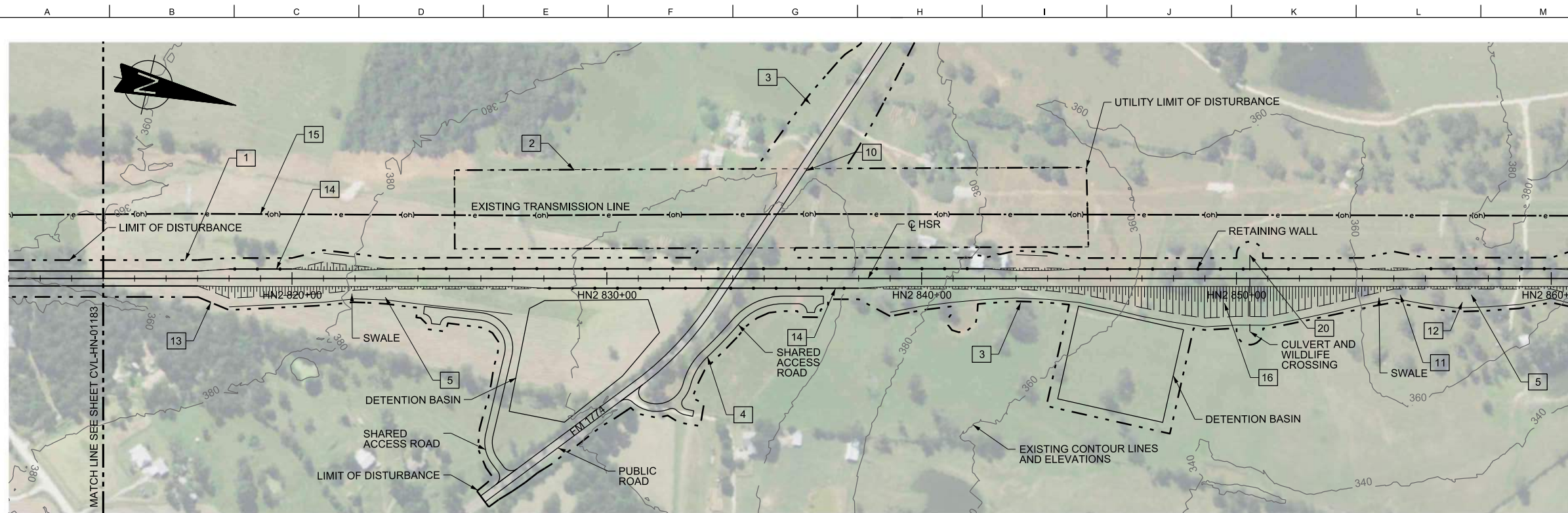
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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

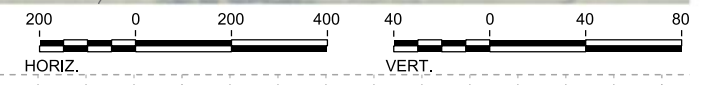


Drawing Title  
**GENERAL ABBREVIATIONS AND LEGEND**

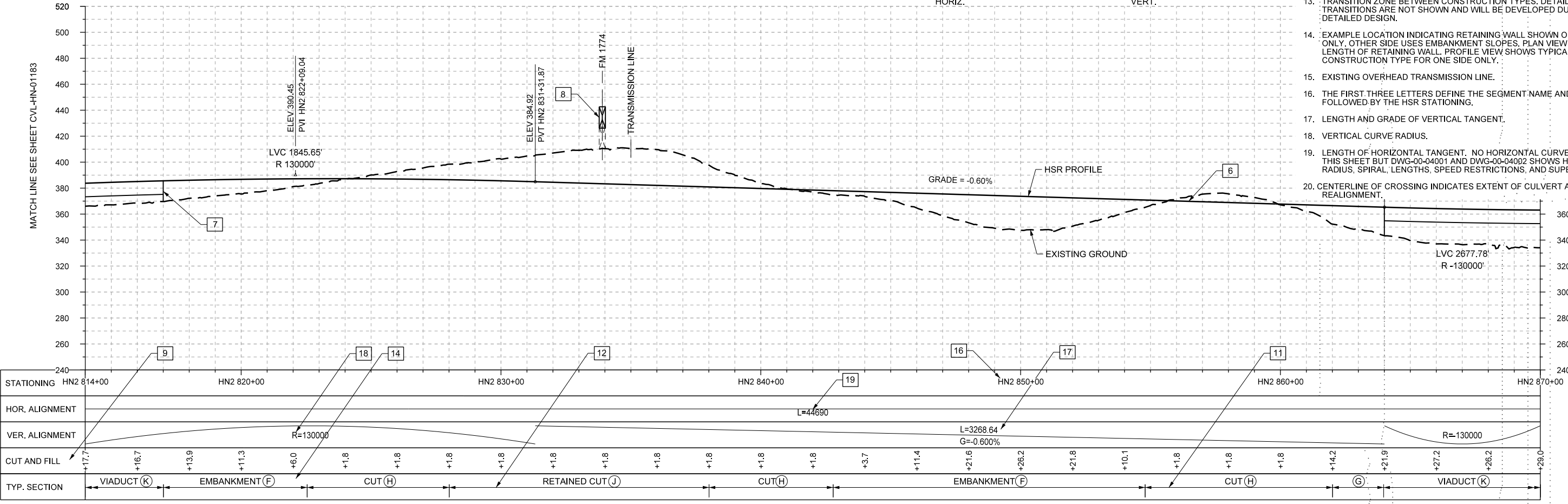
Scale <b>NO SCALE</b>		
Drawing Status <b>FINAL</b>		
Job No <b>234180</b>	Drawing No <b>GEN-00-00009</b>	Rev <b>01</b>



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 SHOWING 16'-6" FROM EXISTING ROADWAY ALIGNMENT. CLEARANCE BOX SHOWS APPROXIMATE SPACE OCCUPIED BY EXISTING OR PROPOSED ROADWAYS OR FREIGHT RAIL LINES. ACTUAL CLEARANCE REQUIRED VARIES BASED ON ROAD OR RAIL TYPE. FOR DETAILS ON REQUIRED CLEARANCE SEE FCE 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. FULL EXTENTS OF ROAD REALIGNMENT SHOWN ON ROADWAY SHEETS IN VOLUME 2.
  - 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.
  - CENTERLINE OF CROSSING INDICATES EXTENT OF CULVERT AND STREAM REALIGNMENT.



PROFILE

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DRAWN BY <b>P. TONKIN</b>
CHECKED BY <b>R. BURNS</b>
IN CHARGE <b>C. TAYLOR</b>
DATE <b>02/25/2019</b>

REV	DATE	BY	CHK	APP	DESCRIPTION

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
 FINAL CONCEPTUAL ENGINEERING

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

Drawing Title  
**GENERAL**  
**RAIL ANNOTATION TO CLARIFY DESIGN INTENT**

Scale  
**AS SHOWN**

Drawing Status  
**FINAL**

Job No <b>234180</b>	Drawing No <b>GEN-00-00010</b>	Rev <b>01</b>
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# VOLUME 2A

## RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

### (SEGMENTS HN, WT, NW, EW, DS)

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. SEYMOUR**

DRAWN BY  
**D. THOMPSON**

CHECKED BY  
**R. BURNS**

IN CHARGE  
**C. TAYLOR**

DATE  
**2/25/2019**

**ARUP**

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Texas Registered Engineering Firm: F-1990

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING



**TEXAS CENTRAL**

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

Drawing Title  
**GENERAL**

Scale <b>NO SCALE</b>		
Drawing Status <b>FINAL</b>		
Job No <b>234180</b>	Drawing No <b>GEN-00-0000</b>	Rev <b>01</b>

# 2A-1

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# HOUSTON SEGMENT

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. SEYMOUR**

DRAWN BY  
**D. THOMPSON**

CHECKED BY  
**R. BURNS**

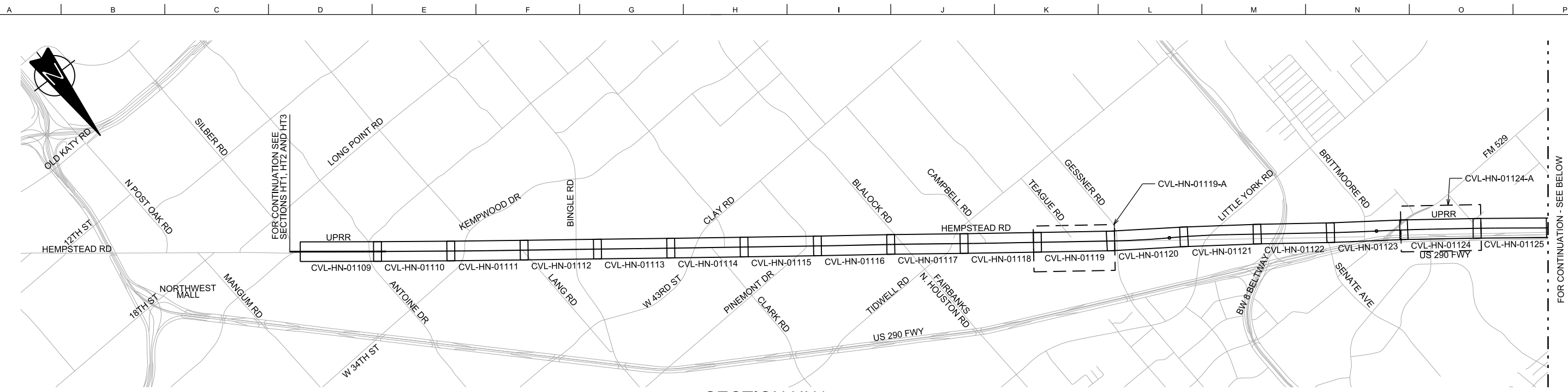
IN CHARGE  
**C. TAYLOR**

DATE  
**2/25/2019**

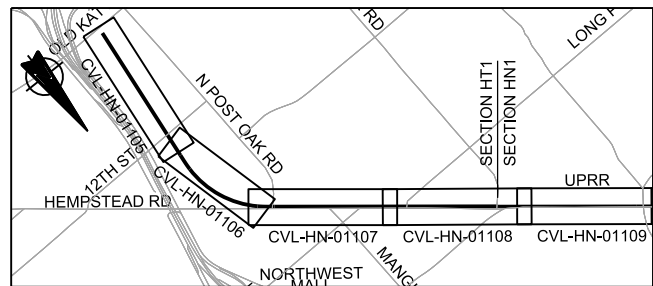


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**GENERAL**

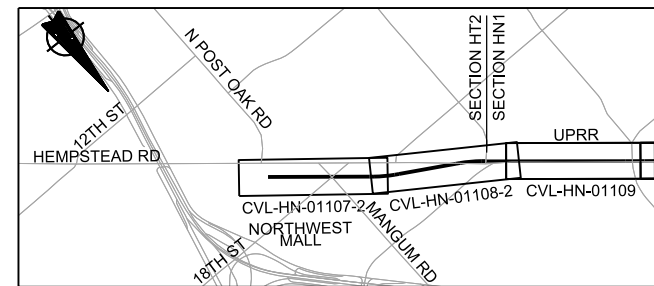
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Drawing Status <b>FINAL</b>		
Job No <b>234180</b>	Drawing No <b>GEN-00-0000</b>	Rev <b>01</b>



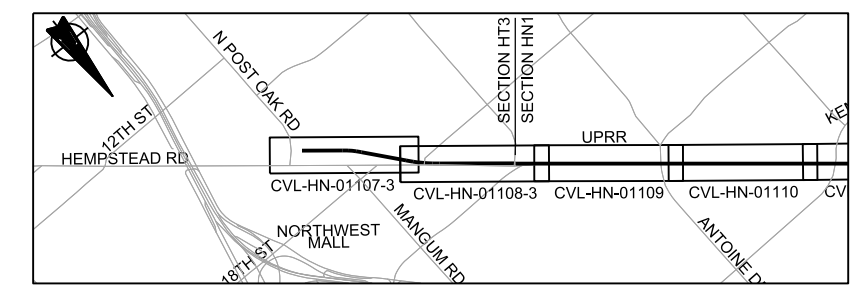
SECTION HN1



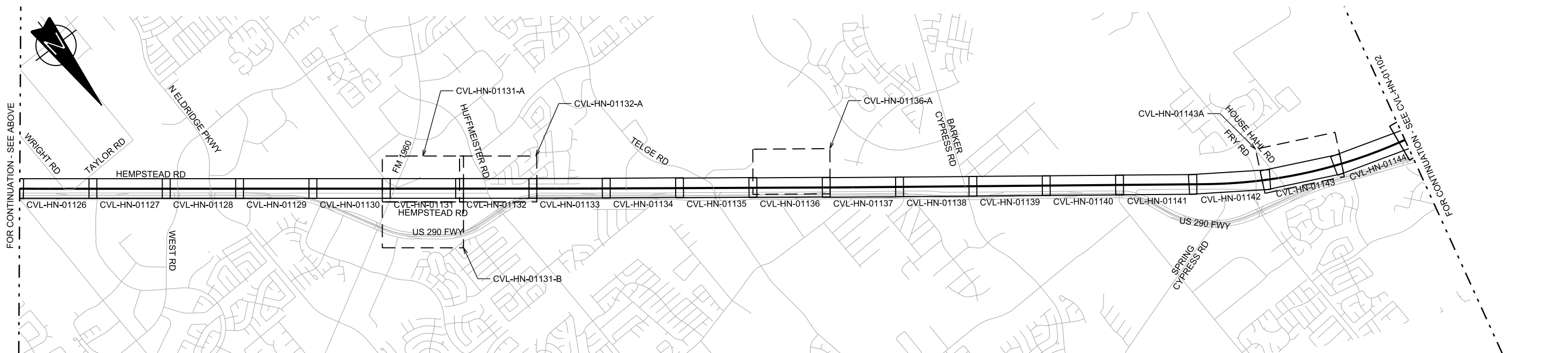
SECTION HT1/HN1



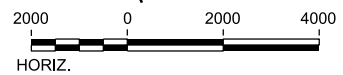
SECTION HT2/HN1



SECTION HT3/HN1



SECTION HN1



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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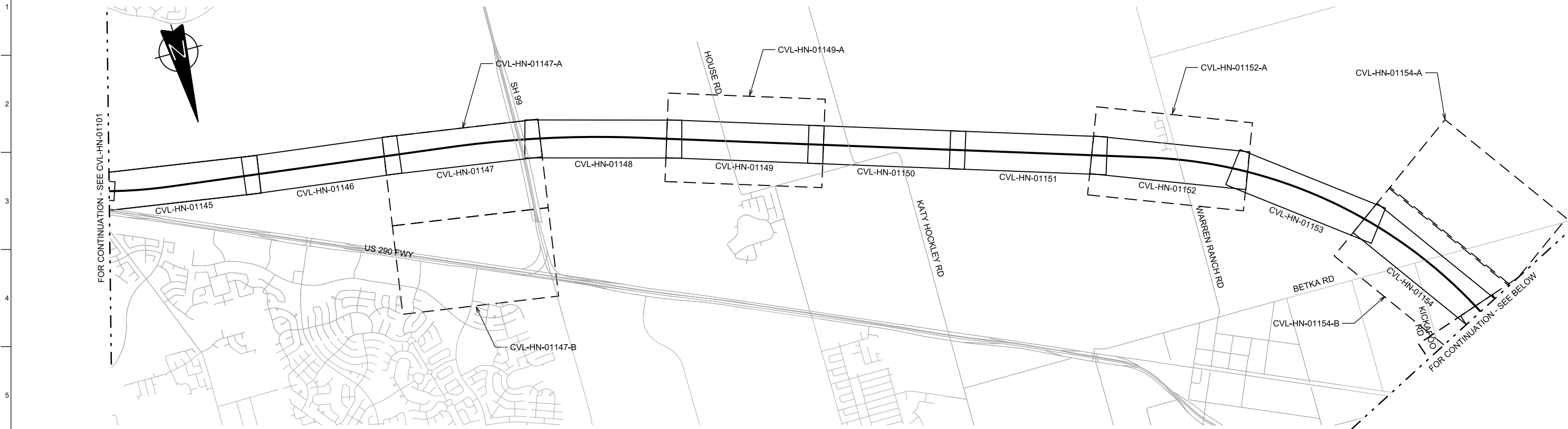
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

**TEXAS CENTRAL**

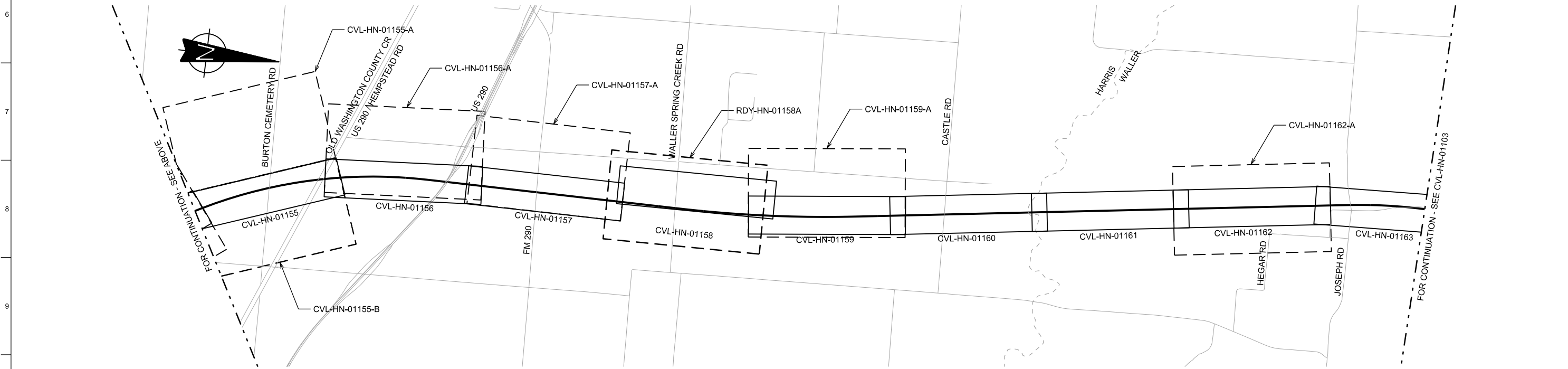
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
KEY MAP - SHEET 1 OF 4  
HT1 10+00 TO HN1 1024+00**

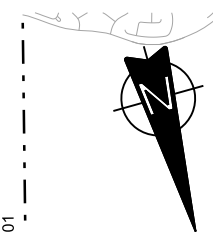
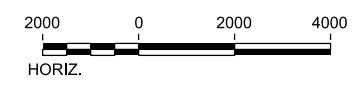
Scale AS SHOWN		
Drawing Status FINAL		
Job No	Drawing No	Rev
	CVL-HN-01101	01



SECTION HN1



SECTION HN1



FOR CONTINUATION - SEE CVL-HN-01101

FOR CONTINUATION - SEE ABOVE

FOR CONTINUATION - SEE BELOW

FOR CONTINUATION - SEE CVL-HN-01103

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**



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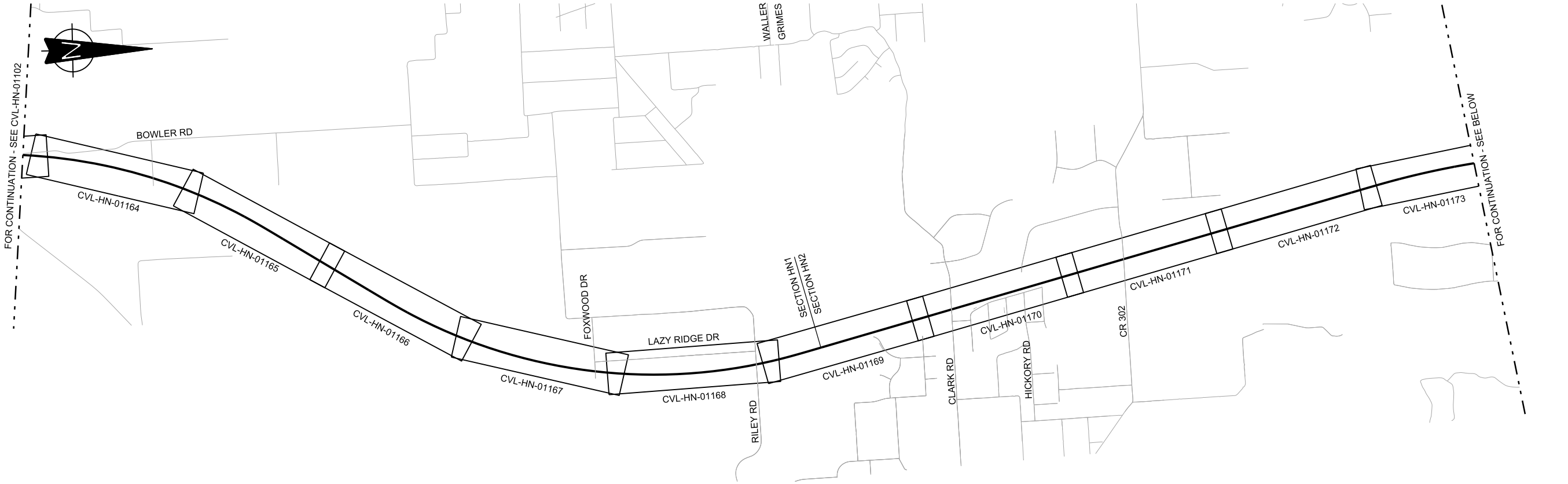
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING



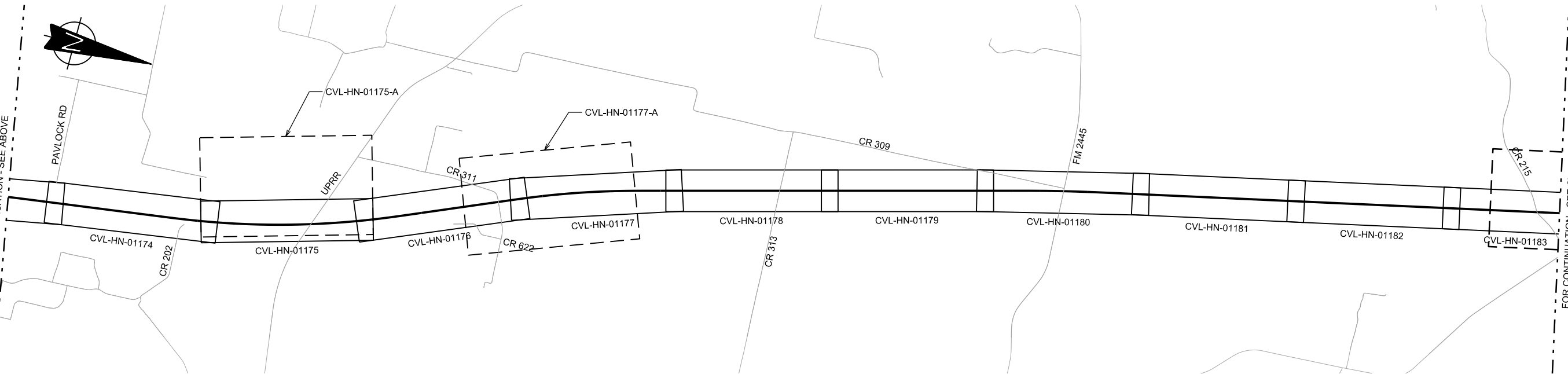
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
KEY MAP - SHEET 2 OF 4  
HN1 1024+00 TO HN1 2088+00**

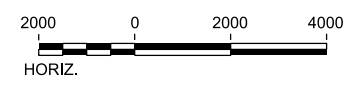
Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-HN-01102	Rev 01



**SECTION HN1/HN2**



**SECTION HN2**



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**



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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

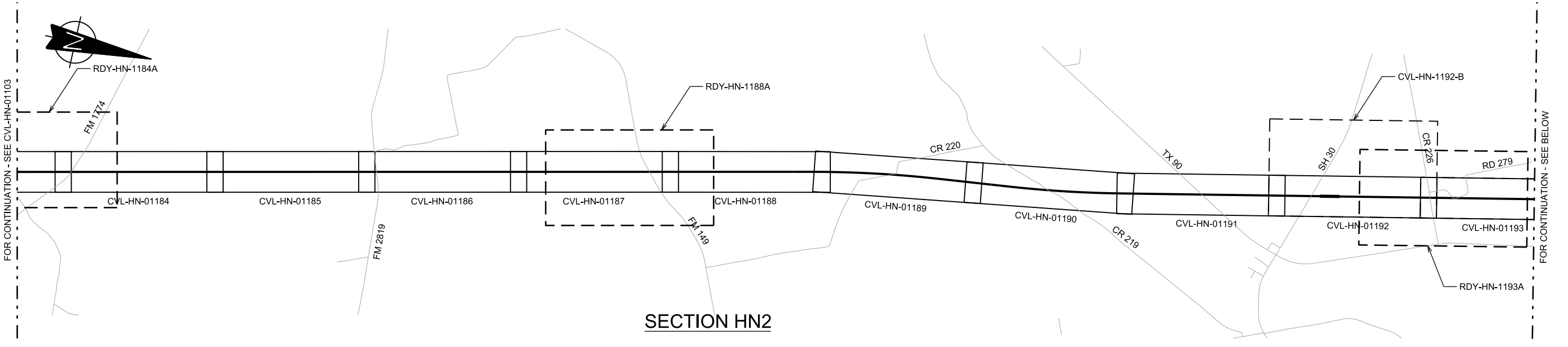


1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

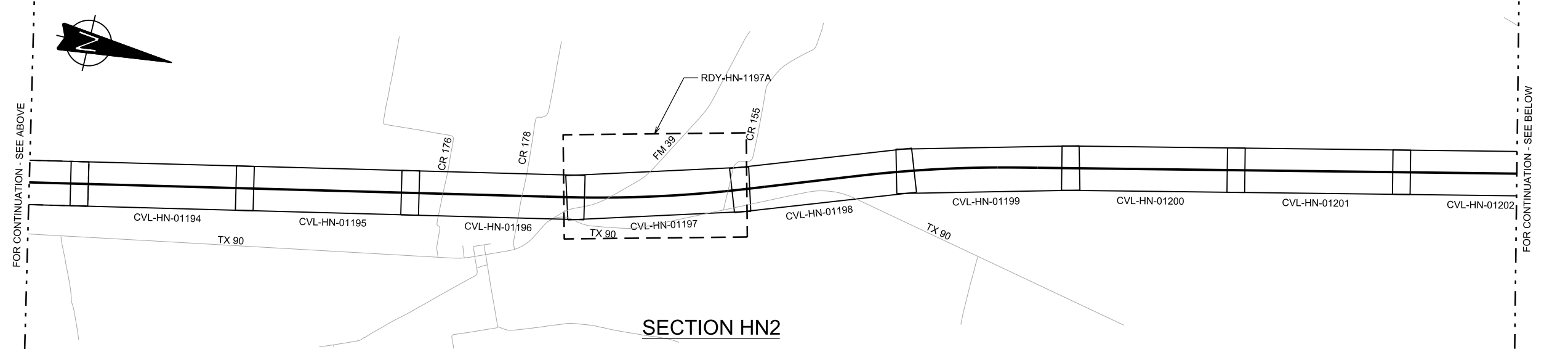
Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
KEY MAP - SHEET 3 OF 4  
HN1 2088+00 TO HN2 814+00**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-HN-01103	Rev 01

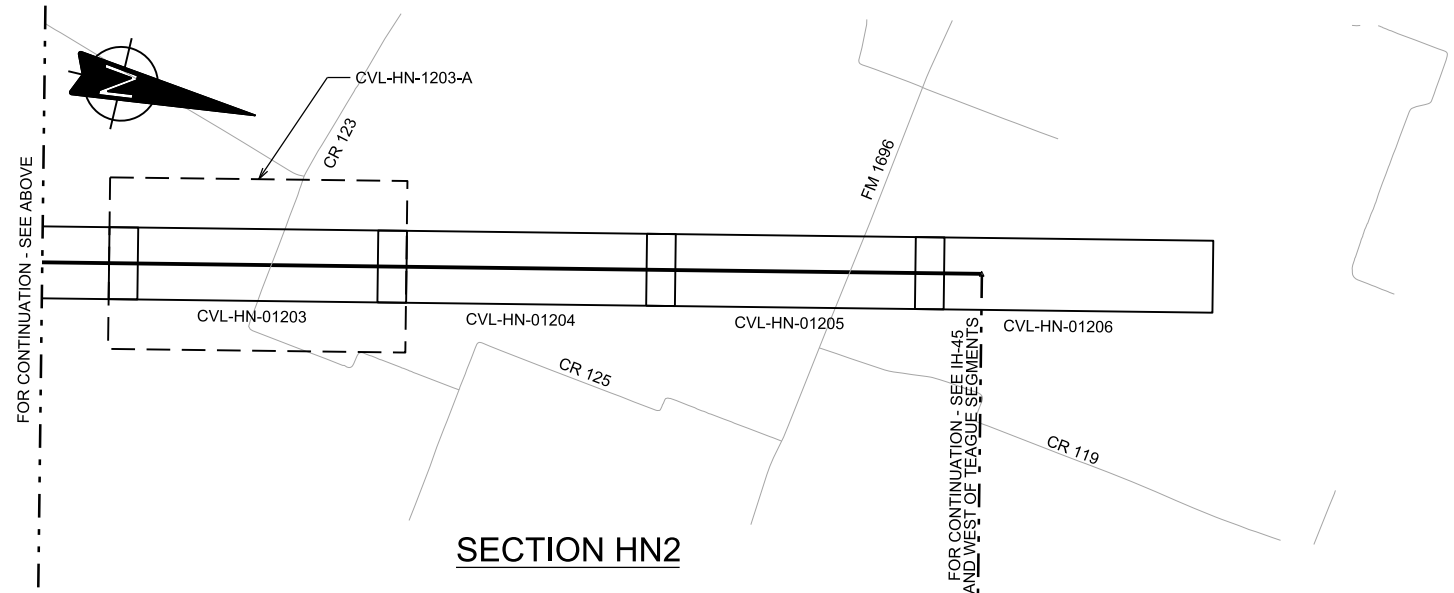




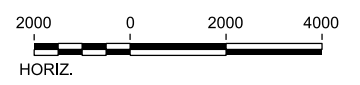
SECTION HN2



SECTION HN2



SECTION HN2



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**



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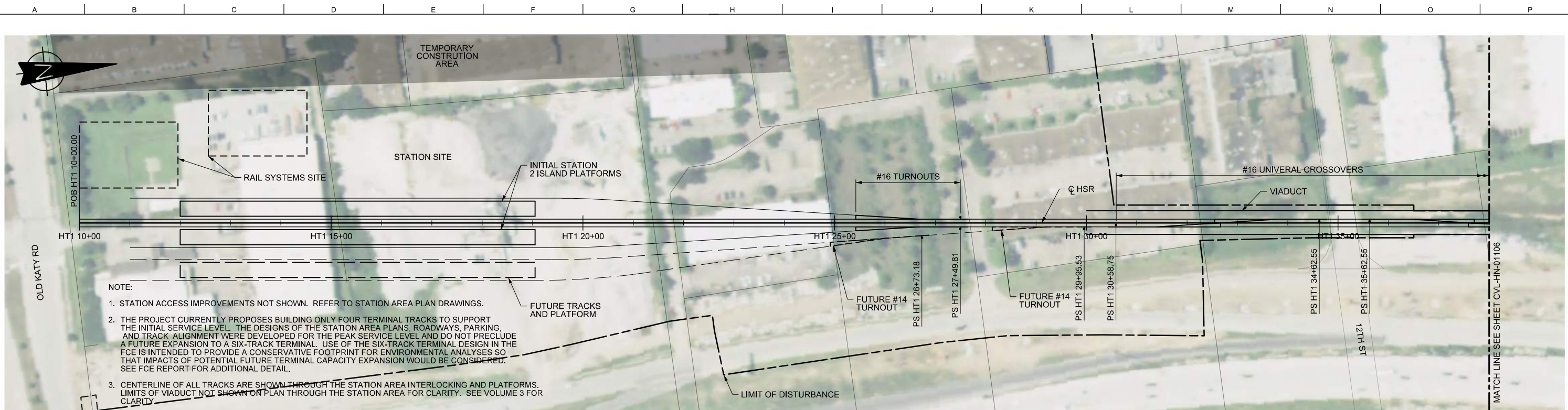
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING



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

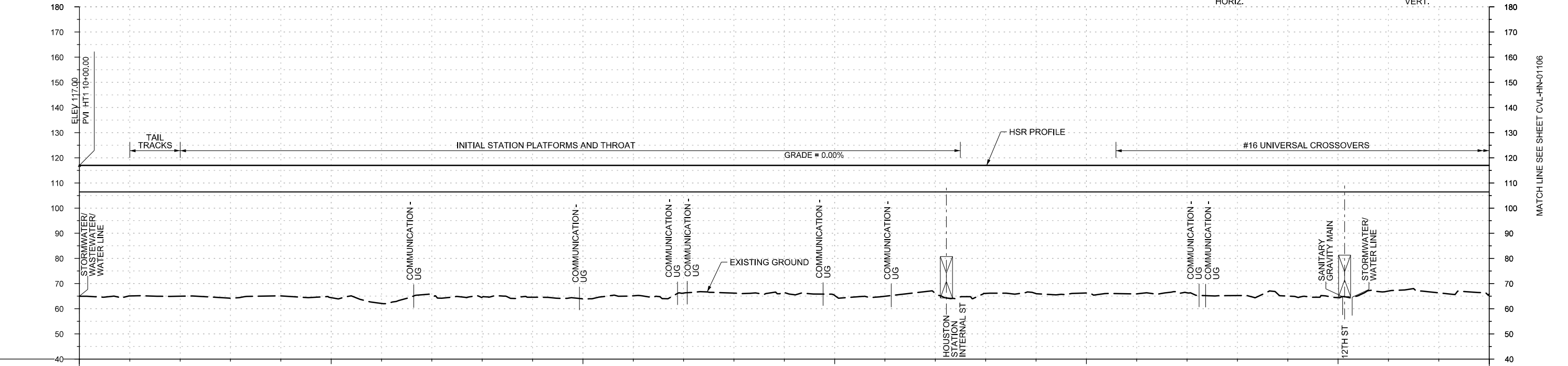
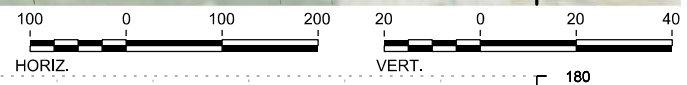
Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
KEY MAP - SHEET 4 OF 4  
HN2 814+00 TO HN2 2073+80**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-HN-01104	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 FCE IS INTENDED TO PROVIDE A CONSERVATIVE FOOTPRINT FOR ENVIRONMENTAL ANALYSES SO THAT IMPACTS OF POTENTIAL FUTURE TERMINAL CAPACITY EXPANSION WOULD BE CONSIDERED. SEE FCE 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

STATIONING	HT1 10+00	HT1 15+00	HT1 20+00	HT1 25+00	HT1 30+00	HT1 35+00	HT1 38+00																			
HOR. ALIGNMENT	L=3022																									
VER. ALIGNMENT	L=4030.82 G=0.000%																									
CUT AND FILL		+52.8	+51.9	+52.6	+54.9	+51.4	+52.4	+52.5	+53.1	+51.9	+50.8	+50.6	+51.8	+52.0	+50.9	+50.9	+51.0	+50.8	+51.1	+50.6	+51.8	+52.0	+52.6	+50.0	+50.7	+51.1
TYP. SECTION	VIADUCT - FOR TYPICAL SECTION THROUGH STATION SEE STA-00-03000												VIADUCT (E)													

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
 DRAWN BY  
**J. BORGHESI**  
 CHECKED BY  
**C. ZWIBEL**  
 IN CHARGE  
**C. TAYLOR**  
 DATE  
**02/25/2019**

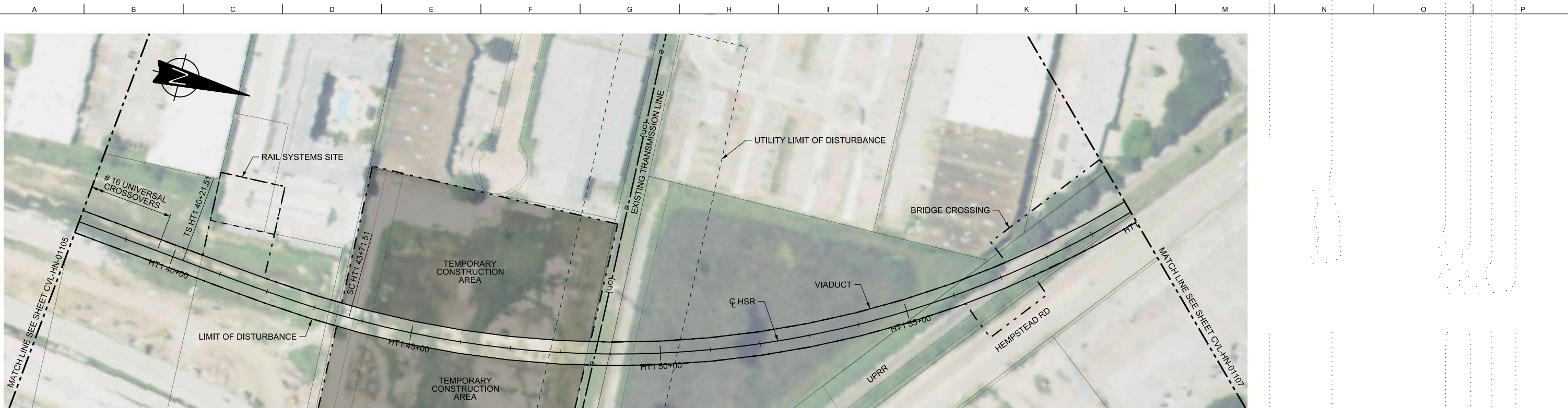
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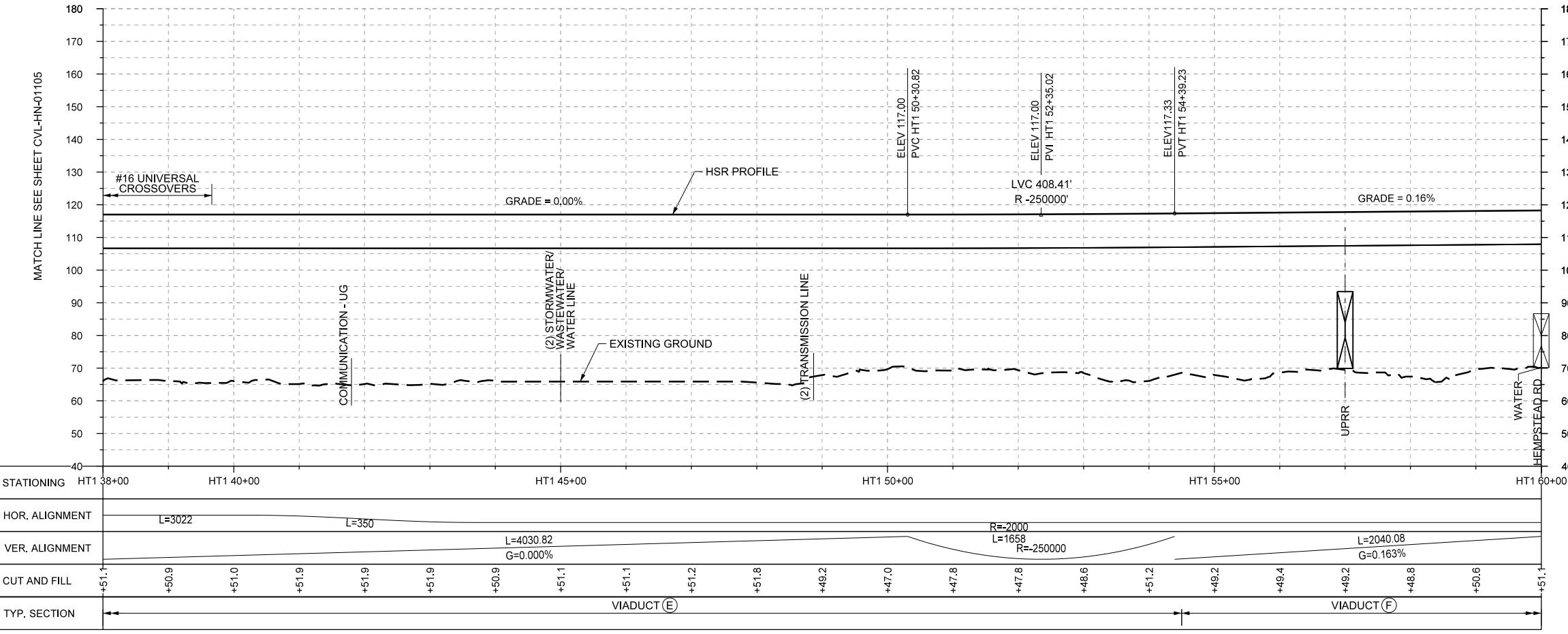
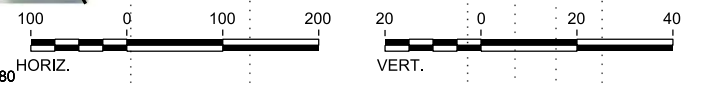
DALLAS TO HOUSTON HIGH-SPEED RAIL  
 FINAL CONCEPTUAL ENGINEERING  
  
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
 CIVIL  
 PLAN AND PROFILE  
 HT1 10+00 TO HT1 38+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	234180	Drawing No	CVL-HN-01105
Rev			01



PLAN



PROFILE

STATIONING	HT1 38+00	HT1 40+00	HT1 45+00	HT1 50+00	HT1 55+00	HT1 60+00
HOR. ALIGNMENT	L=3022		L=350			
VER. ALIGNMENT	L=4030.82 G=0.000%		R=2000 L=1658 R=-250000		L=2040.08 G=0.163%	
CUT AND FILL	+51.1	+50.9	+51.0	+51.9	+51.9	+51.9
TYP. SECTION	VIADUCT (E)				VIADUCT (F)	

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIEBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

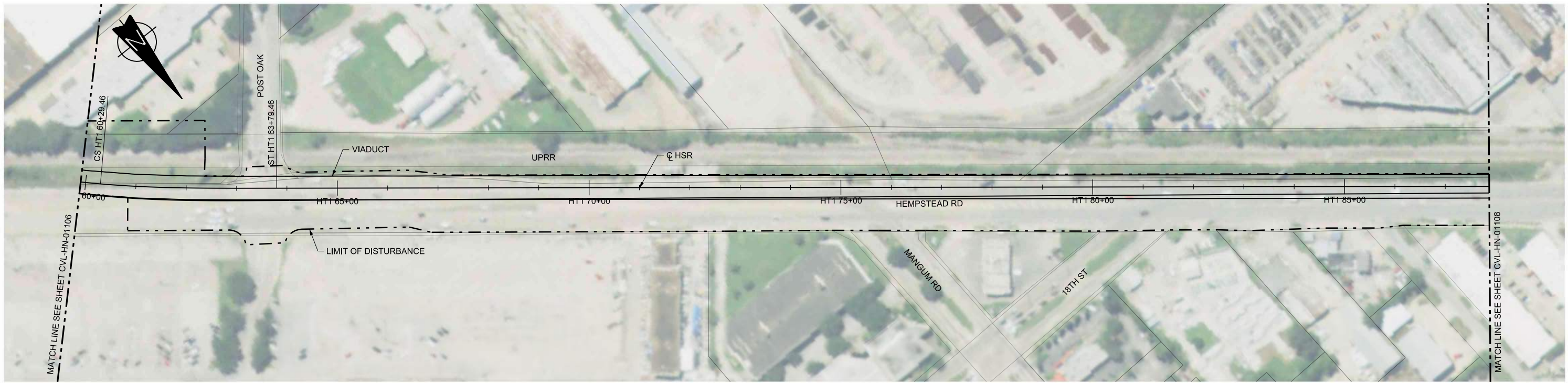
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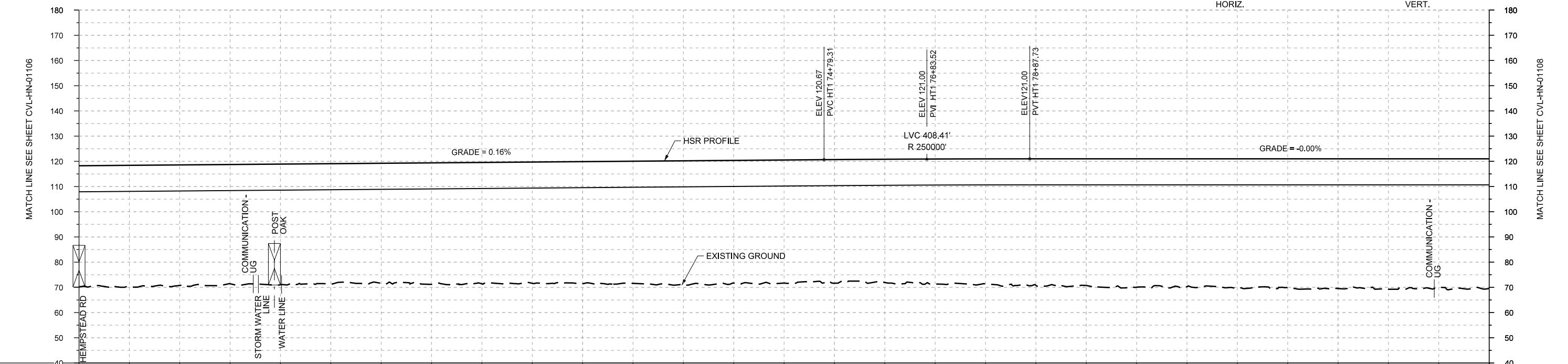
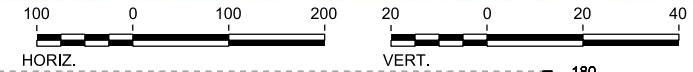
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
**TEXAS CENTRAL**  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HT1 38+00 TO HT1 60+00**

Scale  
**AS SHOWN**  
Drawing Status  
**FINAL**  
Job No: **234180** Drawing No: **CVL-HN-01106** Rev: **01**



PLAN



PROFILE

STATIONING	HT1 60+00	HT1 65+00	HT1 70+00	HT1 75+00	HT1 80+00	HT1 85+00	HT1 88+00																						
HOR. ALIGNMENT	R=20000		L=350		L=4657		L=3148.40																						
VER. ALIGNMENT	L=1658		L=2040.08 G=0.163%		R=250000		G=-0.000%																						
CUT AND FILL	+51.1	+50.1	+49.4	+47.6	+46.2	+47.8	+48.1	+48.7	+48.2	+49.3	+49.0	+48.9	+49.5	+48.8	+49.3	+48.8	+49.4	+49.7	+50.4	+50.8	+51.3	+50.9	+51.1	+51.2	+51.4	+51.6	+51.8	+51.4	+51.7
TYP. SECTION	VIADUCT (F)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

**TEXAS CENTRAL**

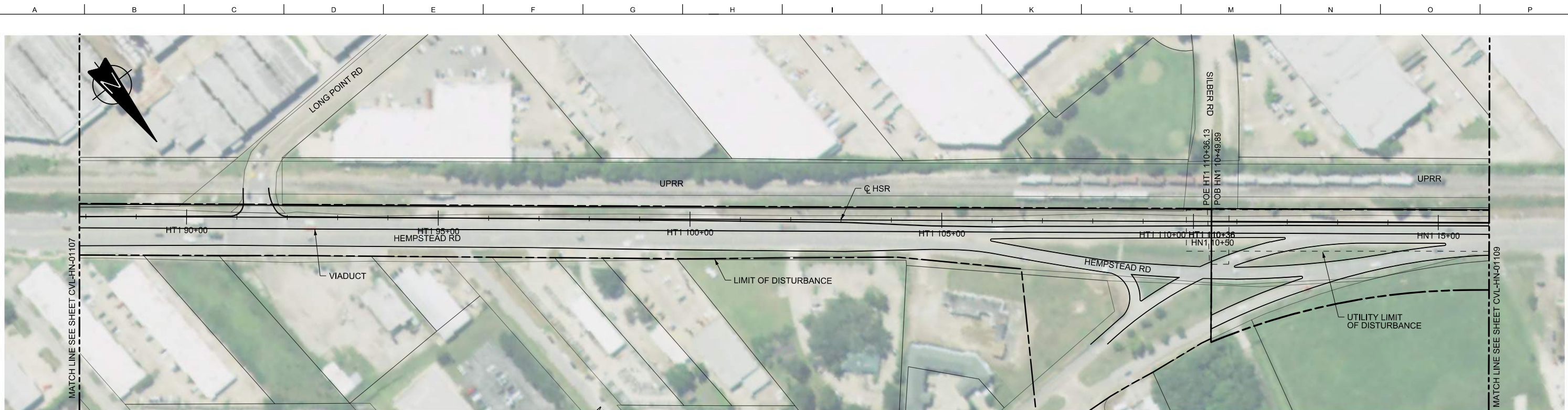
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HT1 60+00 TO HT1 88+00**

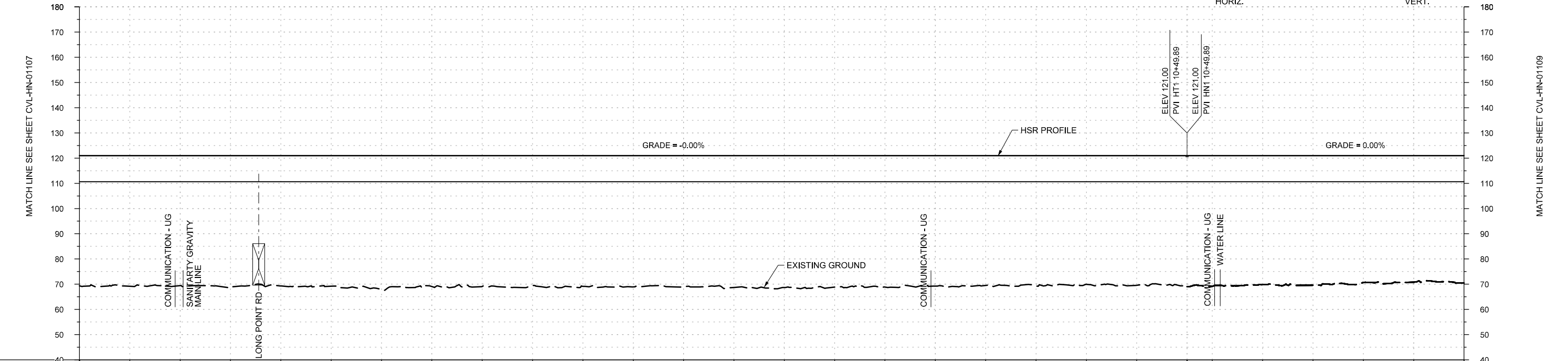
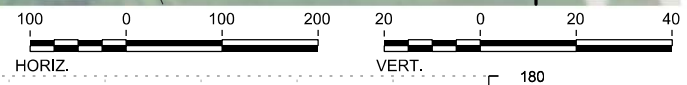
Scale  
**AS SHOWN**

Drawing Status  
**FINAL**

Job No	Drawing No	Rev
234180	CVL-HN-01107	01



PLAN



PROFILE

STATIONING	HT1 88+00	HT1 90+00	HT1 95+00	HT1 100+00	HT1 105+00	HT1 110+00 HN1 10+50	HN1 15+00	HN1 16+00																				
HOR. ALIGNMENT	L=4657				L=2482																							
VER. ALIGNMENT	L=3148.40 G=-0.000%				L=1548.18 G=0.000%																							
CUT AND FILL	+51.7	+51.8	+51.6	+52.2	+51.7	+51.8	+53.1	+51.9	+51.9	+51.5	+51.9	+52.1	+52.0	+52.3	+52.3	+52.1	+51.8	+51.5	+51.7	+51.0	+51.4	+51.3	+51.9	+51.2	+51.4	+50.3	+50.2	+50.6
TYP. SECTION	VIADUCT (F)															VIADUCT (F)												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIEBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

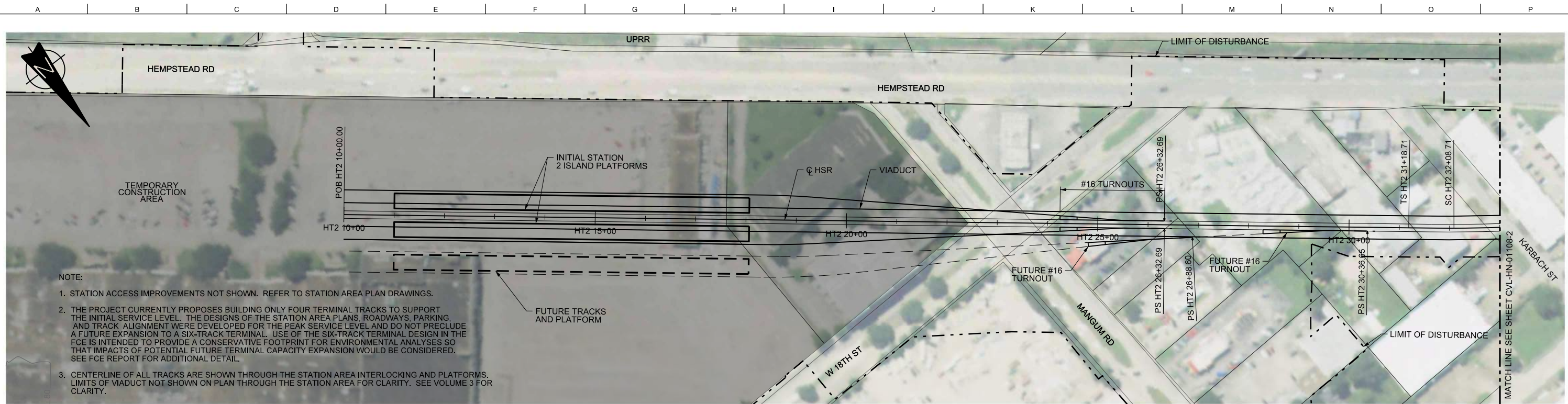
**ARUP**  
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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
**TEXAS CENTRAL**  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HT1 88+00 TO HN1 16+00**

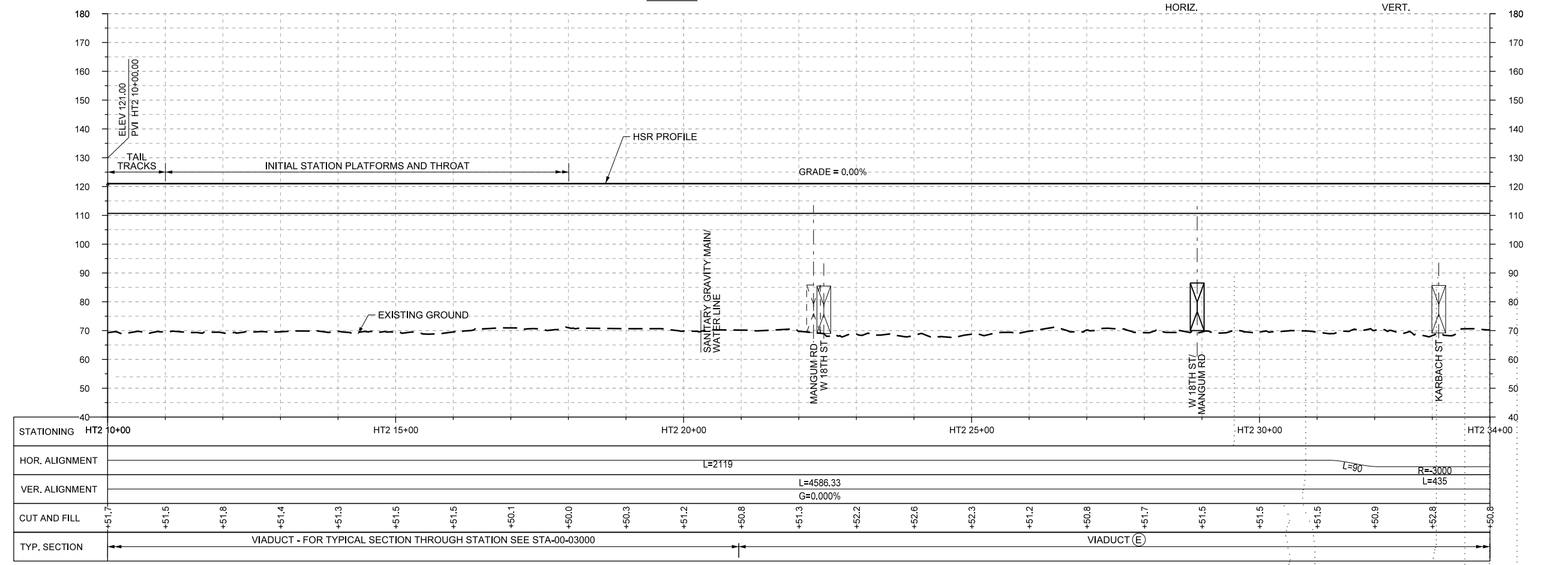
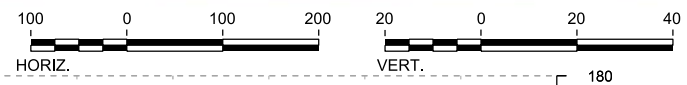
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Drawing Status	FINAL		
Job No	234180	Drawing No	CVL-HN-01108
Rev			01



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 FCE IS INTENDED TO PROVIDE A CONSERVATIVE FOOTPRINT FOR ENVIRONMENTAL ANALYSES SO THAT IMPACTS OF POTENTIAL FUTURE TERMINAL CAPACITY EXPANSION WOULD BE CONSIDERED. SEE FCE 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  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

**ARUP**

Arup Texas, Inc.  
10370 Richmond Ave., Suite 475  
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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

DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

**TEXAS CENTRAL**

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

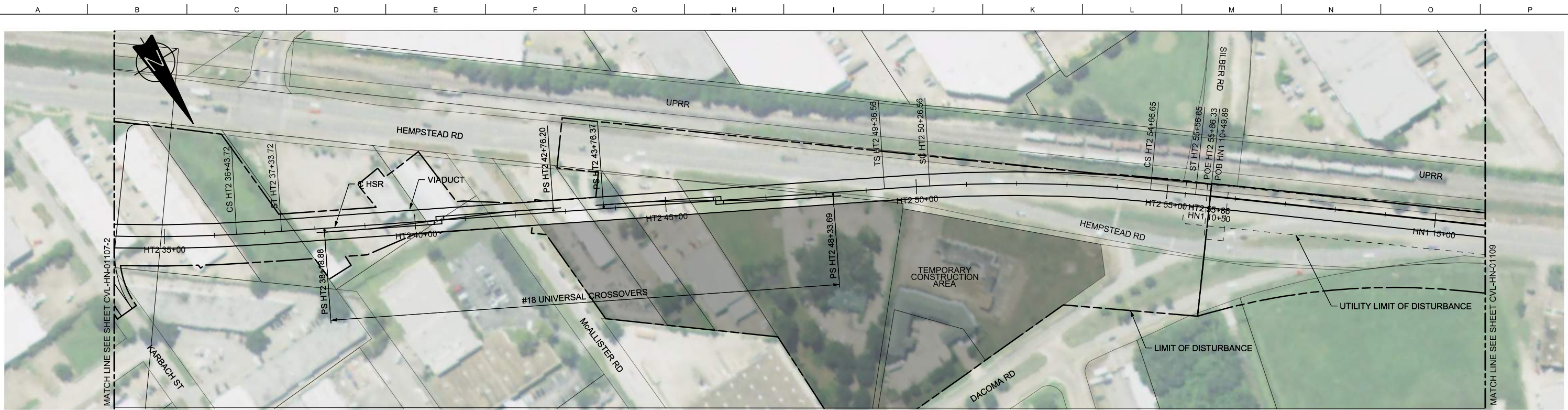
Drawing Title

**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HT2 10+00 TO HT2 34+00**

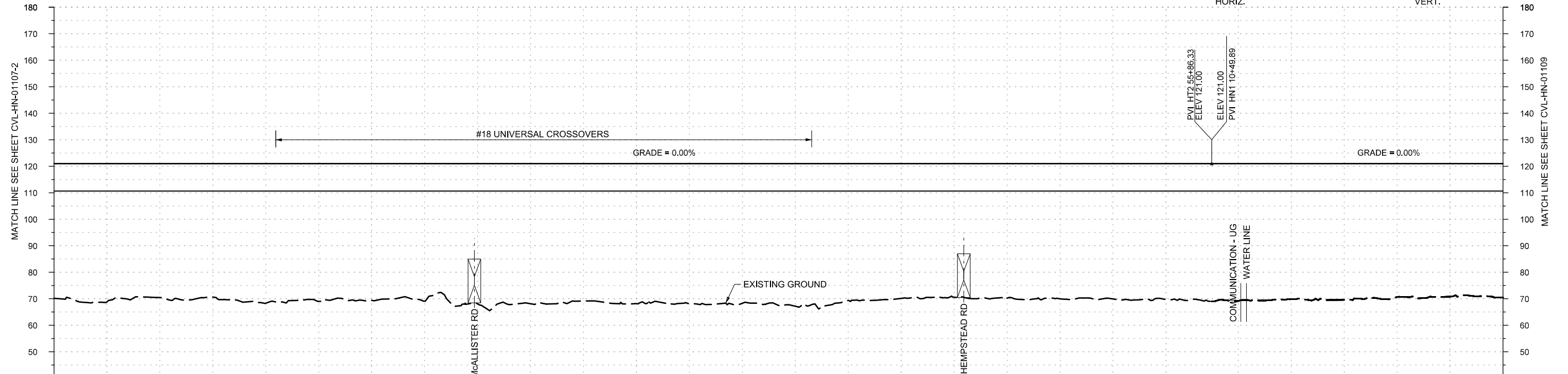
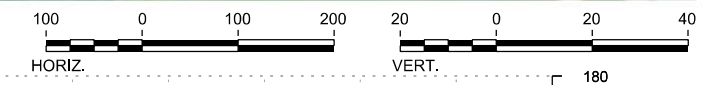
Scale  
**AS SHOWN**

Drawing Status  
**FINAL**

Job No	Drawing No	Rev
234180	CVL-HN-01107-2	01



PLAN



STATIONING	HT2 34+00	HT2 35+00		HT2 40+00		HT2 45+00		HT2 50+00		HT2 55+00	HN1 10+50		HN1 15+00	HN1 16+00													
HOR. ALIGNMENT	R=3000 L=435		L=90		L=1203			L=90		R=3000 L=440		L=90		L=30													
VER. ALIGNMENT					L=4586.33 G=0.000%							L=2482		L=1548.18 G=0.000%													
CUT AND FILL	+50.8	+52.2	+50.6	+50.4	+52.7	+52.0	+51.6	+51.9	+52.9	+51.8	+52.8	+52.7	+53.8	+51.7	+50.8	+50.4	+50.8	+51.0	+51.1	+51.3	+52.9	+51.9	+51.2	+51.4	+50.3	+50.2	+50.6
TYP. SECTION	VIADUCT (F)																VIADUCT (F)										

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIEBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

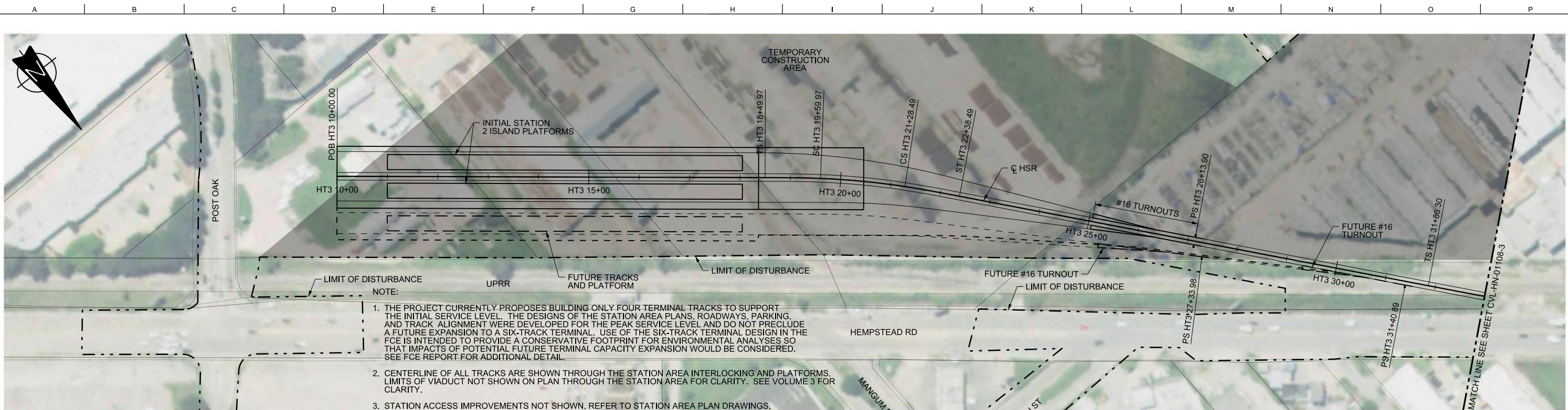
**ARUP**  
Arup Texas, Inc.  
10370 Richmond Ave., Suite 475  
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Dallas, Texas 75204  
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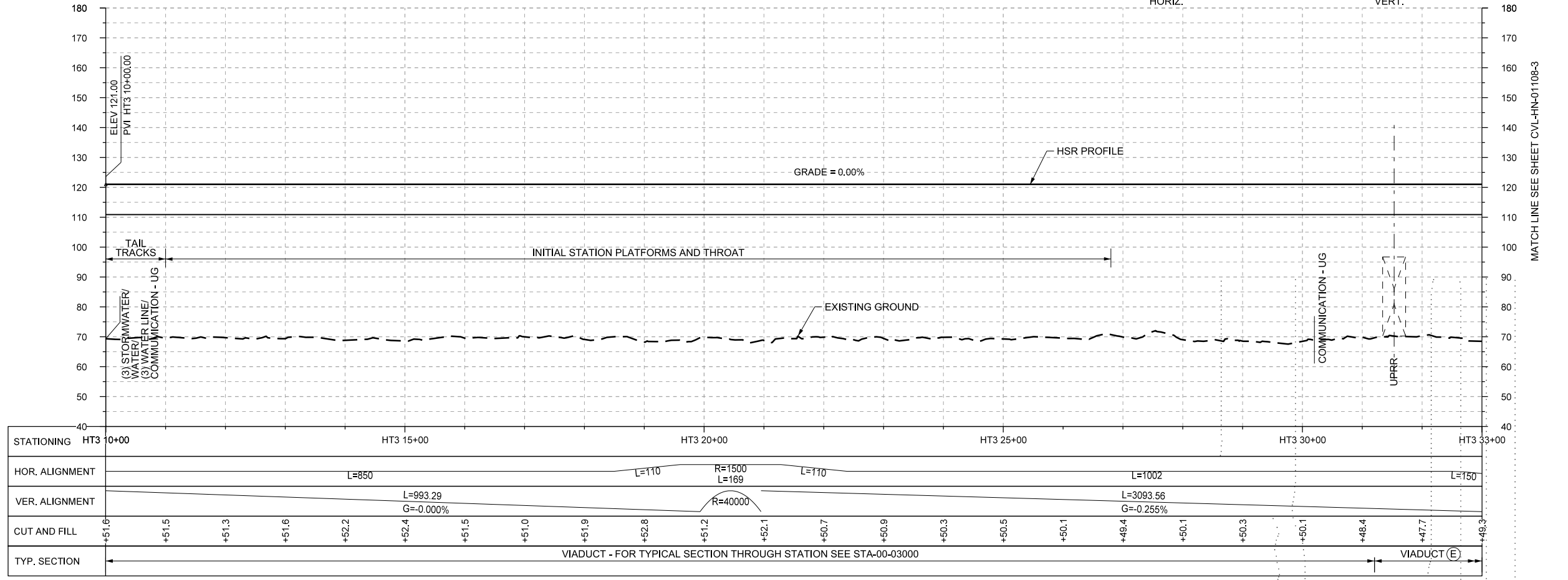
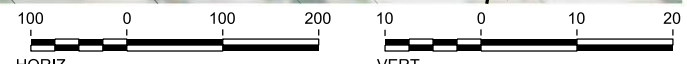
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
**TEXAS CENTRAL**  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HT2 34+00 TO HN1 16+00**

Scale  
**AS SHOWN**  
Drawing Status  
**FINAL**  
Job No. **234180** Drawing No. **CVL-HN-01108-2** Rev. **01**



- NOTE:
1. 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 FCE IS INTENDED TO PROVIDE A CONSERVATIVE FOOTPRINT FOR ENVIRONMENTAL ANALYSES SO THAT IMPACTS OF POTENTIAL FUTURE TERMINAL CAPACITY EXPANSION WOULD BE CONSIDERED. SEE FCE REPORT FOR ADDITIONAL DETAIL.
  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.
  3. STATION ACCESS IMPROVEMENTS NOT SHOWN. REFER TO STATION AREA PLAN DRAWINGS.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

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

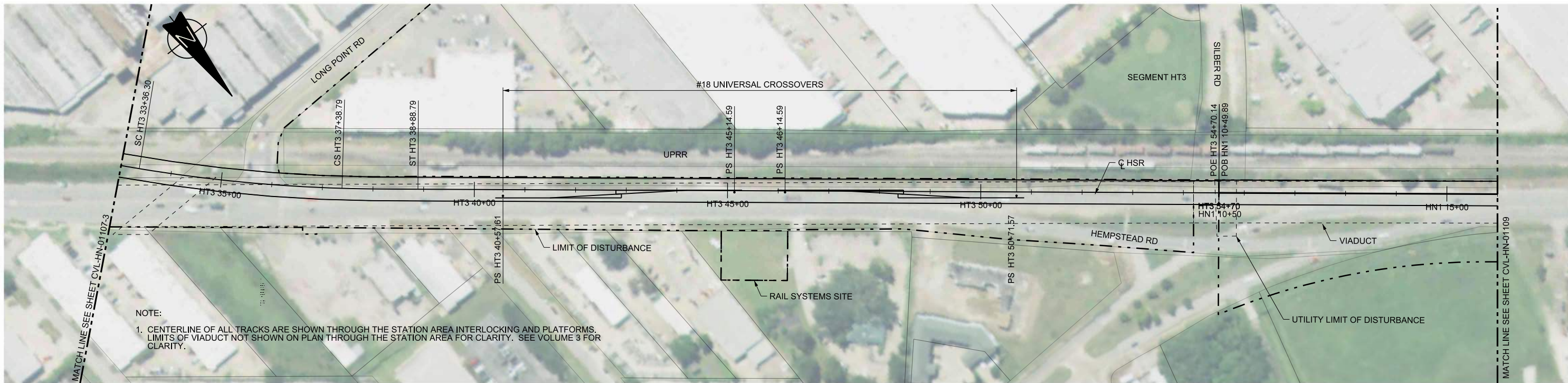
Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HT3 10+00 TO HT3 33+00**

Scale  
**AS SHOWN**

Drawing Status  
**FINAL**

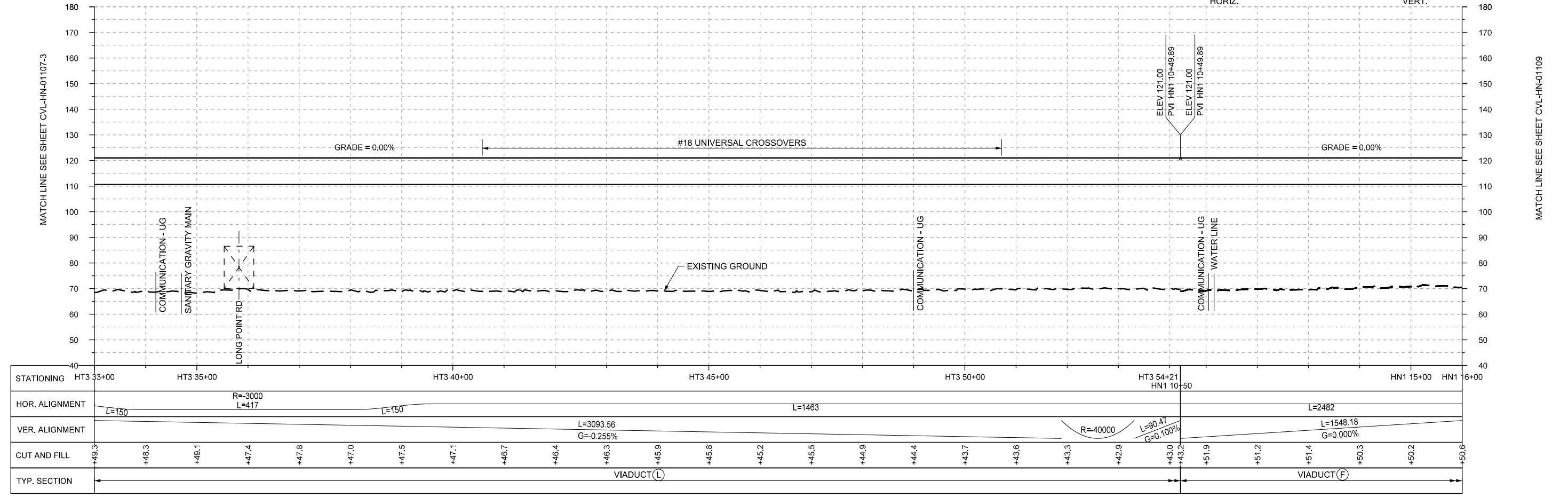
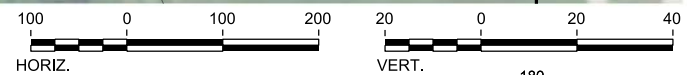
Job No	Drawing No	Rev
234180	CVL-HN-01107-3	01





NOTE:  
 1. 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  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**



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 Texas Registered Engineering Firm: F-2144

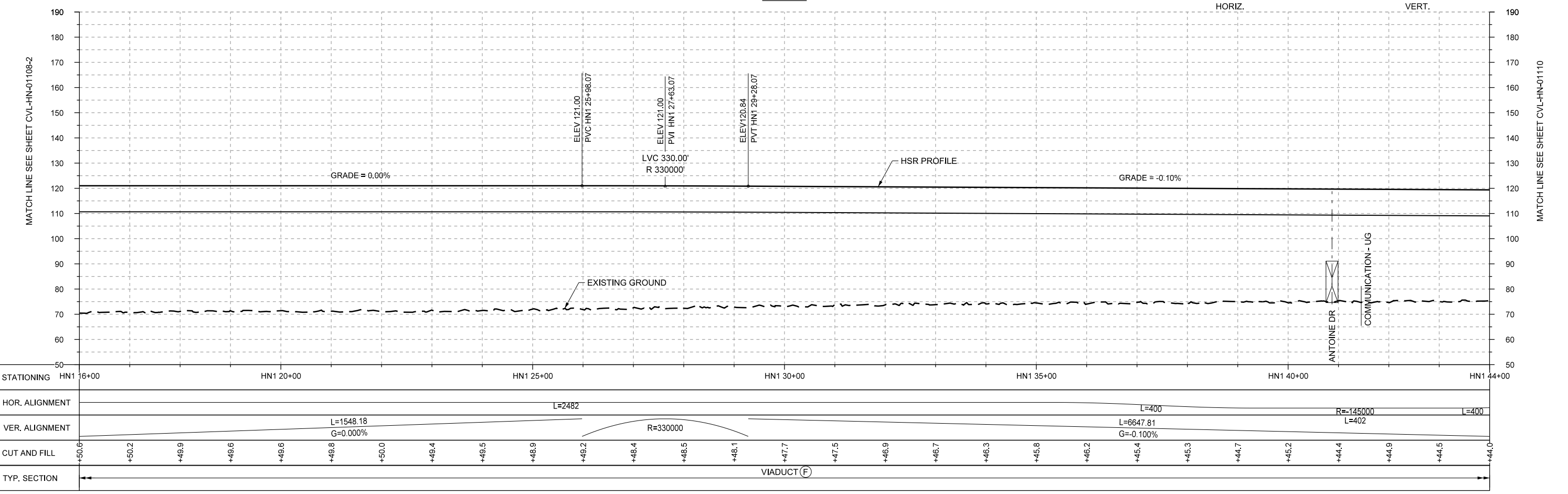
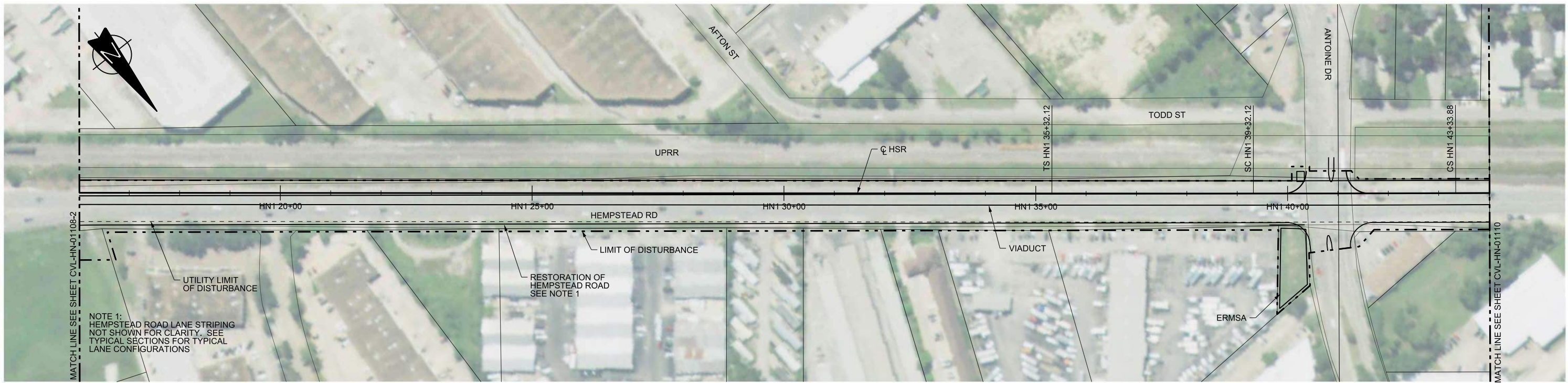
DALLAS TO HOUSTON HIGH-SPEED RAIL  
 FINAL CONCEPTUAL ENGINEERING



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

Drawing Title  
**HOUSTON SEGMENT  
 CIVIL  
 PLAN AND PROFILE  
 HT3 33+00 TO HN1 16+00**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-HN-01108-3	Rev 01



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**



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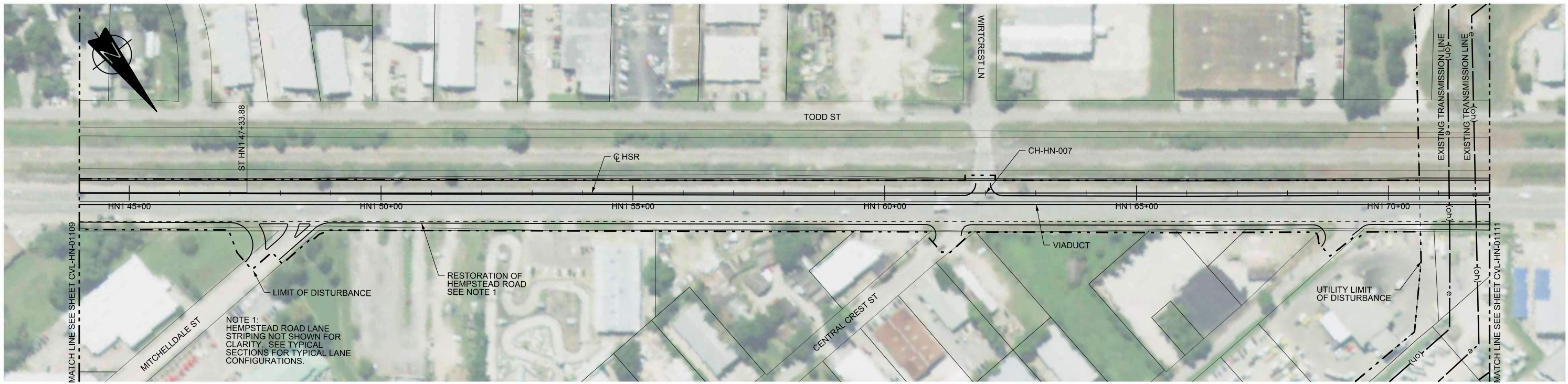
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING



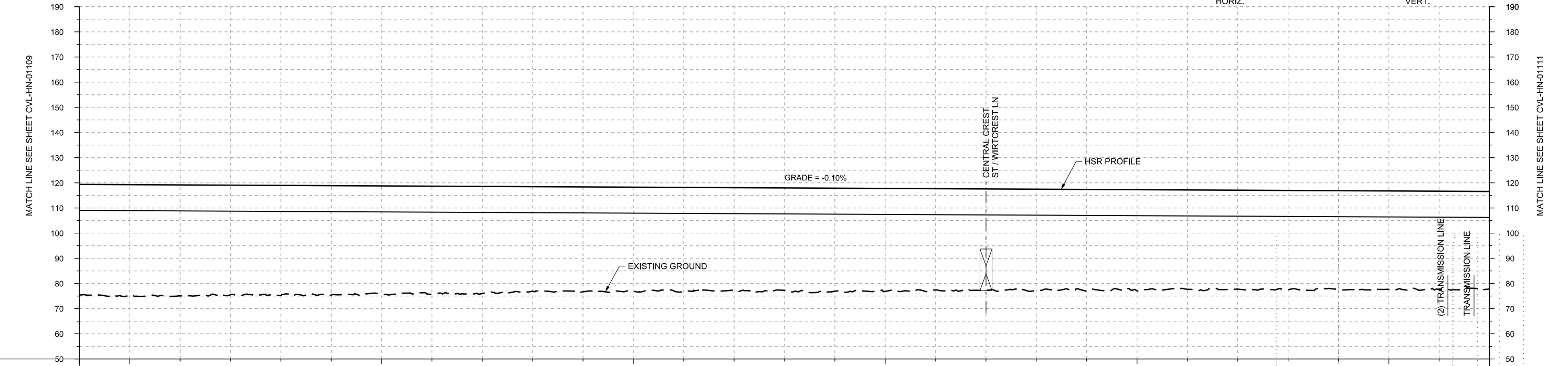
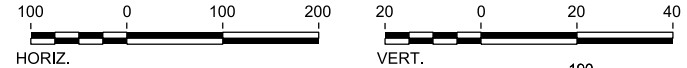
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 16+00 TO HN1 44+00**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-HN-01109	Rev 01



PLAN



PROFILE

STATIONING	HN1 44+00	HN1 45+00	HN1 50+00	HN1 55+00	HN1 60+00	HN1 65+00	HN1 70+00	HN1 72+00																						
HOR. ALIGNMENT	L=400		L=2870																											
VER. ALIGNMENT	L=6647.81						G=-0.100%																							
CUT AND FILL	+44.0	+44.1	+44.2	+43.6	+43.8	+43.5	+43.1	+42.9	+42.6	+41.6	+41.7	+41.4	+41.4	+40.8	+40.7	+41.0	+41.0	+40.3	+40.4	+40.4	+40.3	+40.2	+39.5	+39.4	+39.4	+39.5	+39.3	+39.2	+39.1	+38.8
TYP. SECTION	VIADUCT (F)																													

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

**TEXAS CENTRAL**

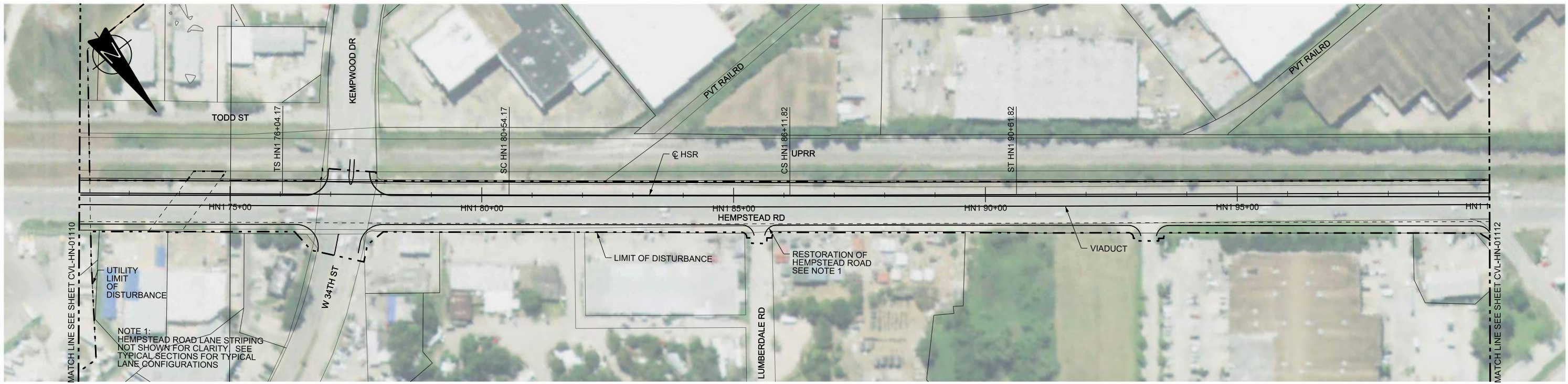
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT CIVIL  
PLAN AND PROFILE  
HN1 44+00 TO HN1 72+00**

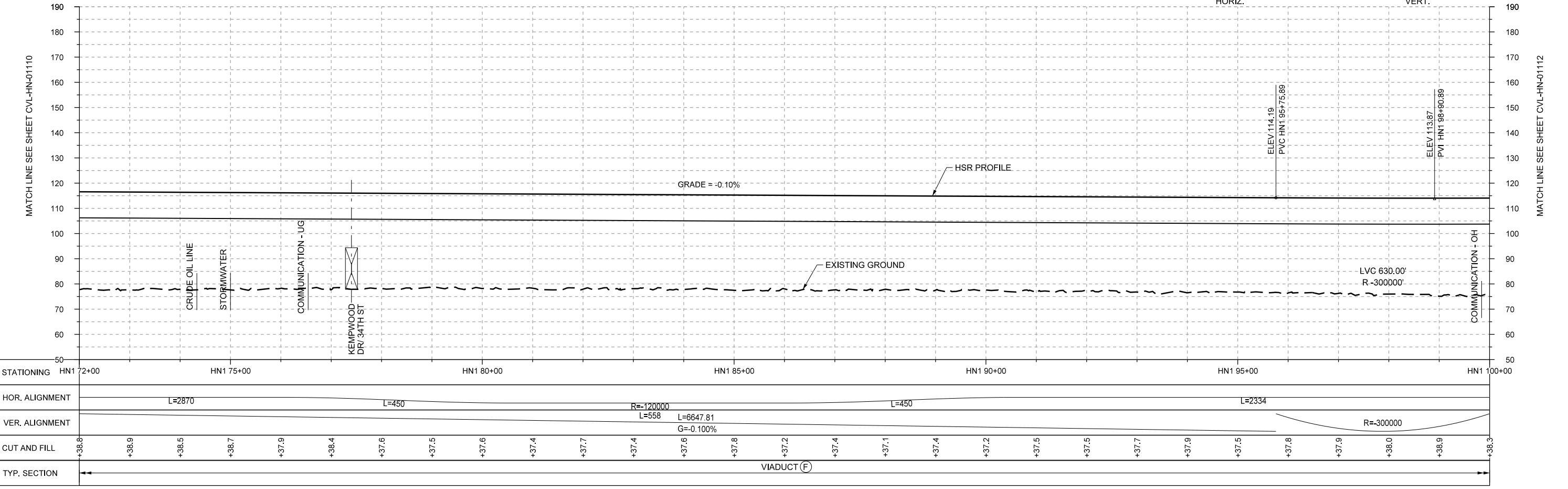
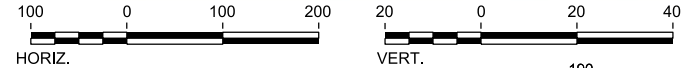
Scale  
**AS SHOWN**

Drawing Status  
**FINAL**

Job No	Drawing No	Rev
234180	CVL-HN-01110	01



PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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**FRESE AND NICHOLS**

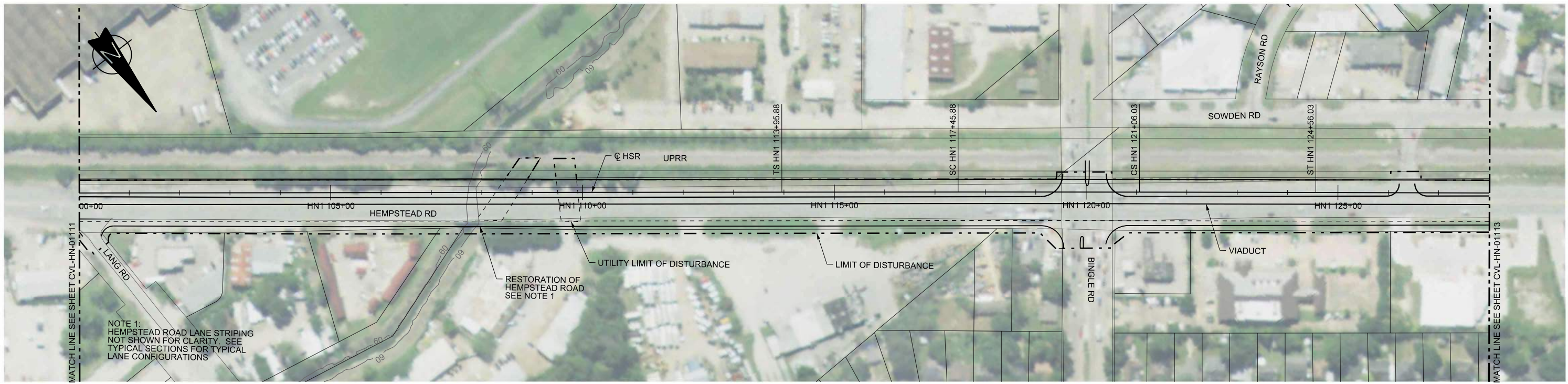
2711 North Haskell Ave., Suite 3300  
Dallas, Texas 75204  
Tel (214) 217 2200 Fax (214) 217 2201  
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Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

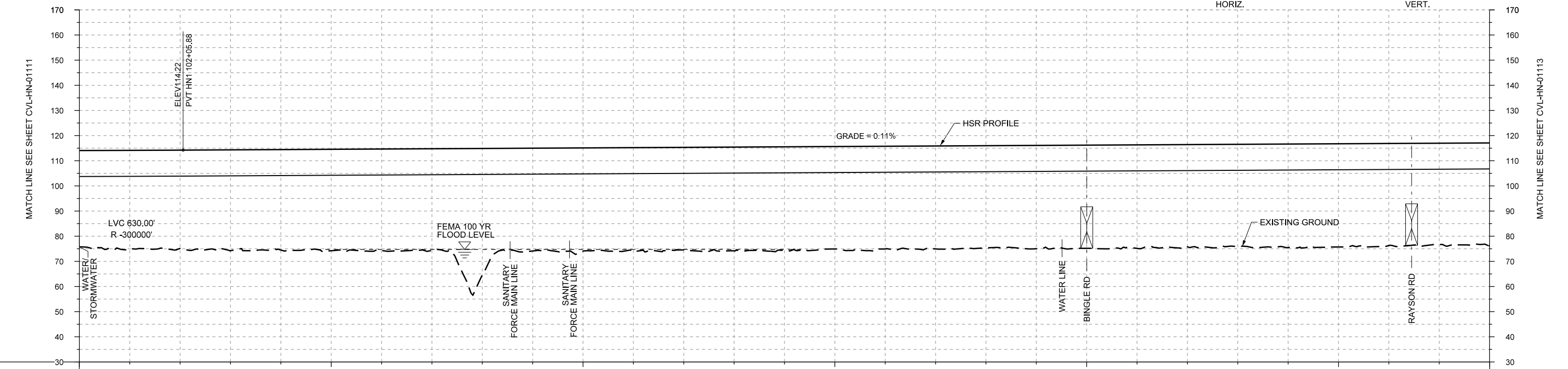
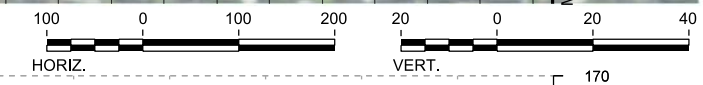
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 72+00 TO HN1 100+00**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-HN-01111	Rev 01



PLAN



PROFILE

STATIONING	HN1 100+00	HN1 105+00	HN1 110+00	HN1 115+00	HN1 120+00	HN1 125+00	HN1 128+00																						
HOR. ALIGNMENT	L=2334			L=350	R=190000 L=360	L=350	L=1741																						
VER. ALIGNMENT	R=300000			L=19377.26 G=0.110%																									
CUT AND FILL	+36.3	+36.3	+36.1	+40.1	+39.9	+40.3	+40.6	+40.5	+50.3	+40.9	+41.0	+40.8	+40.8	+41.2	+41.2	+40.7	+40.9	+41.0	+40.7	+41.1	+41.0	+41.1	+40.7	+40.6	+41.1	+41.0	+40.6	+40.3	+40.9
TYP. SECTION	VIADUCT (F)																												

DESIGNED BY	A. UTZ
DRAWN BY	J. BORGHESI
CHECKED BY	C. ZWIEBEL
IN CHARGE	C. TAYLOR
DATE	02/25/2019

REV	DATE	BY	CHK	APP	DESCRIPTION

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

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

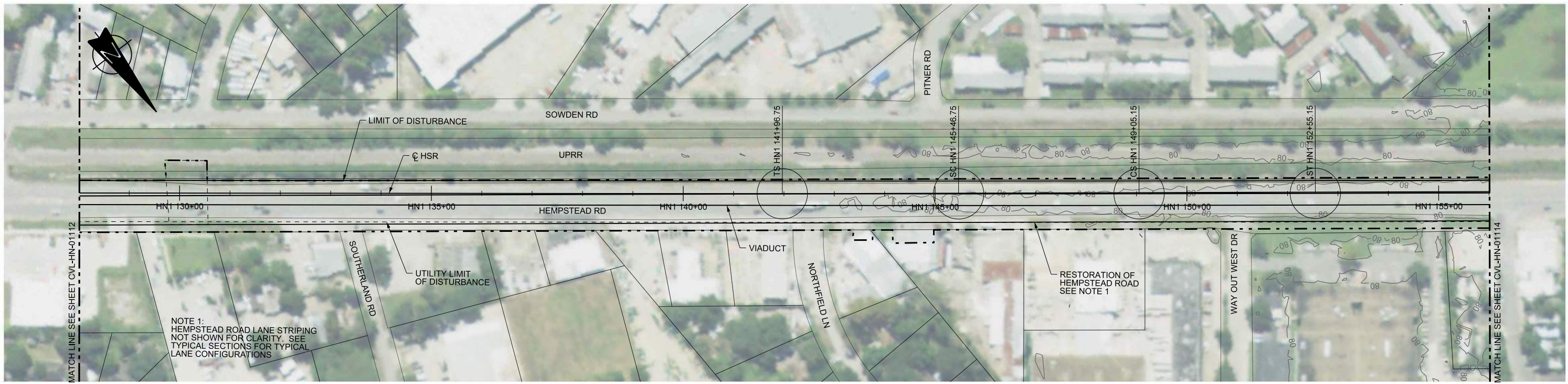
Drawing Title

**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 100+00 TO HN1 128+00**

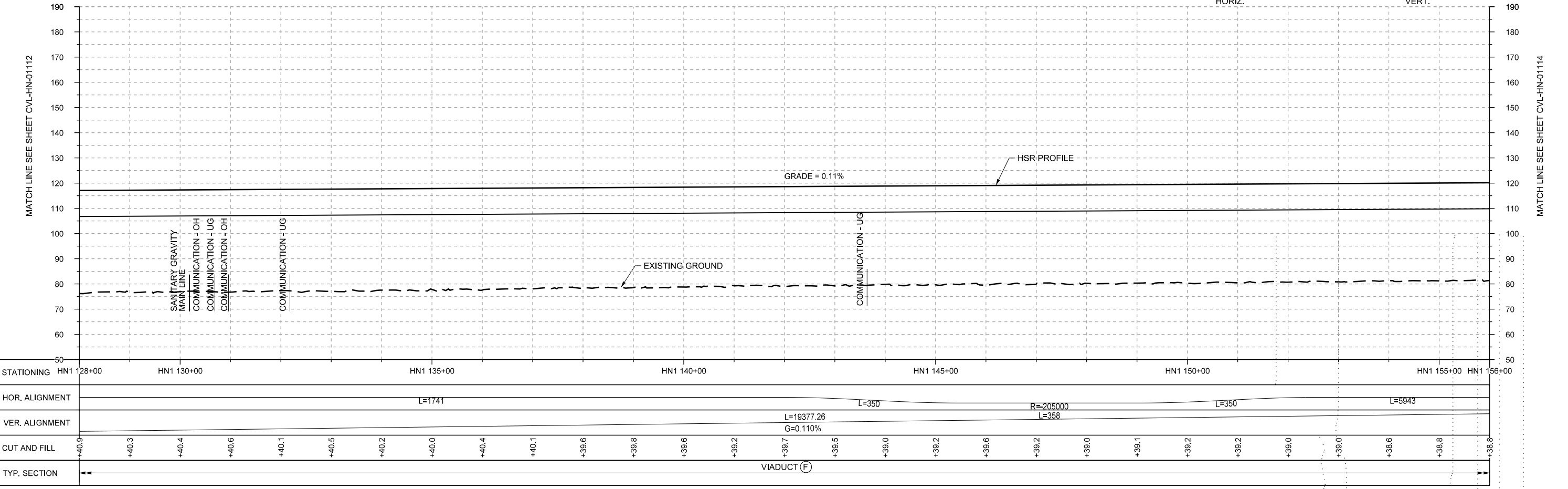
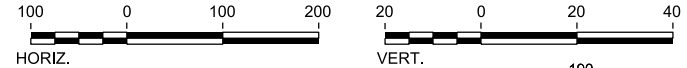
Scale  
AS SHOWN

Drawing Status  
**FINAL**

Job No	Drawing No	Rev
234180	CVL-HN-01112	01



PLAN



PROFILE

STATIONING	HN1 128+00	HN1 130+00	HN1 135+00	HN1 140+00	HN1 145+00	HN1 150+00	HN1 155+00	HN1 156+00																					
HOR. ALIGNMENT	L=1741			L=350		R=205000 L=358	L=350	L=5943																					
VER. ALIGNMENT	L=19377.26 G=0.110%																												
CUT AND FILL	+40.9	+40.3	+40.4	+40.6	+40.1	+40.5	+40.2	+40.0	+40.4	+40.1	+39.6	+39.8	+39.6	+39.2	+39.7	+39.5	+39.0	+39.2	+39.6	+39.2	+39.0	+39.1	+39.2	+39.2	+39.0	+39.0	+39.6	+39.8	+39.8
TYP. SECTION	VIADUCT (F)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

**TEXAS CENTRAL**

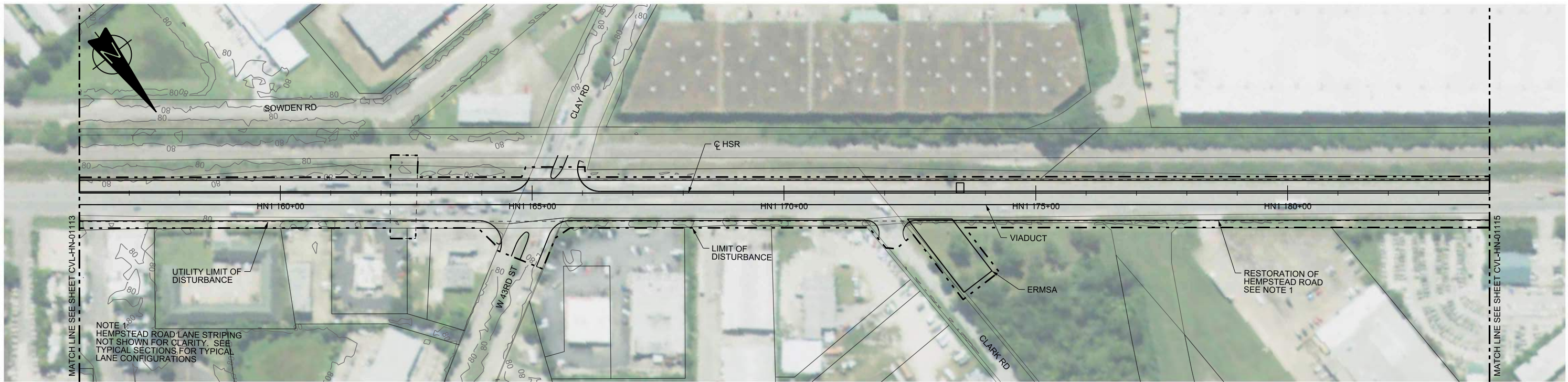
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT CIVIL  
PLAN AND PROFILE  
HN1 128+00 TO HN1 156+00**

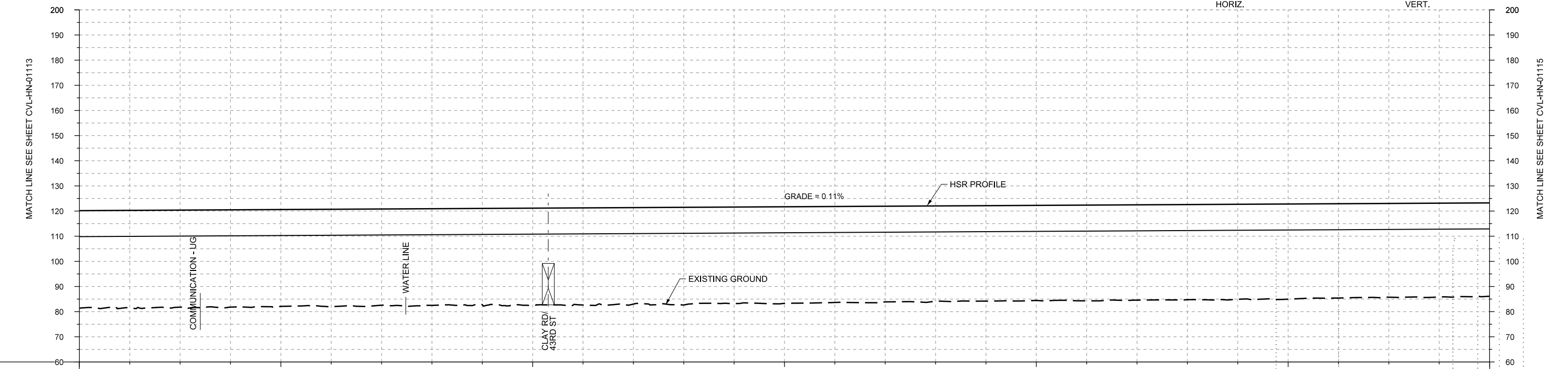
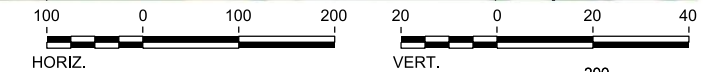
Scale  
**AS SHOWN**

Drawing Status  
**DRAFT**

Job No	Drawing No	Rev
234180	CVL-HN-01113	01



PLAN



PROFILE

STATIONING	HN1 156+00	HN1 160+00	HN1 165+00	HN1 170+00	HN1 175+00	HN1 180+00	HN1 184+00																					
HOR. ALIGNMENT	L=5943																											
VER. ALIGNMENT	L=19377.26 G=0.110%																											
CUT AND FILL	+38.8	+38.8	+38.6	+38.7	+38.5	+38.7	+38.2	+38.4	+38.3	+38.6	+38.7	+38.4	+38.9	+38.4	+38.0	+37.9	+37.9	+37.7	+38.1	+37.9	+37.8	+37.8	+37.8	+37.5	+37.3	+37.1	+37.1	
TYP. SECTION	VIADUCT (F)																											

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

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**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

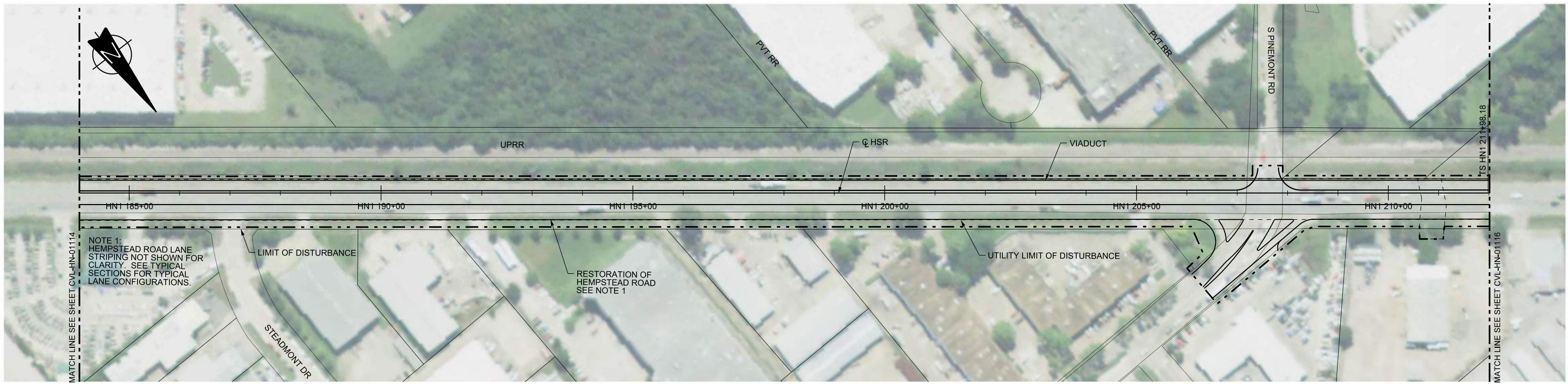
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 156+00 TO HN1 184+00**

Scale  
**AS SHOWN**

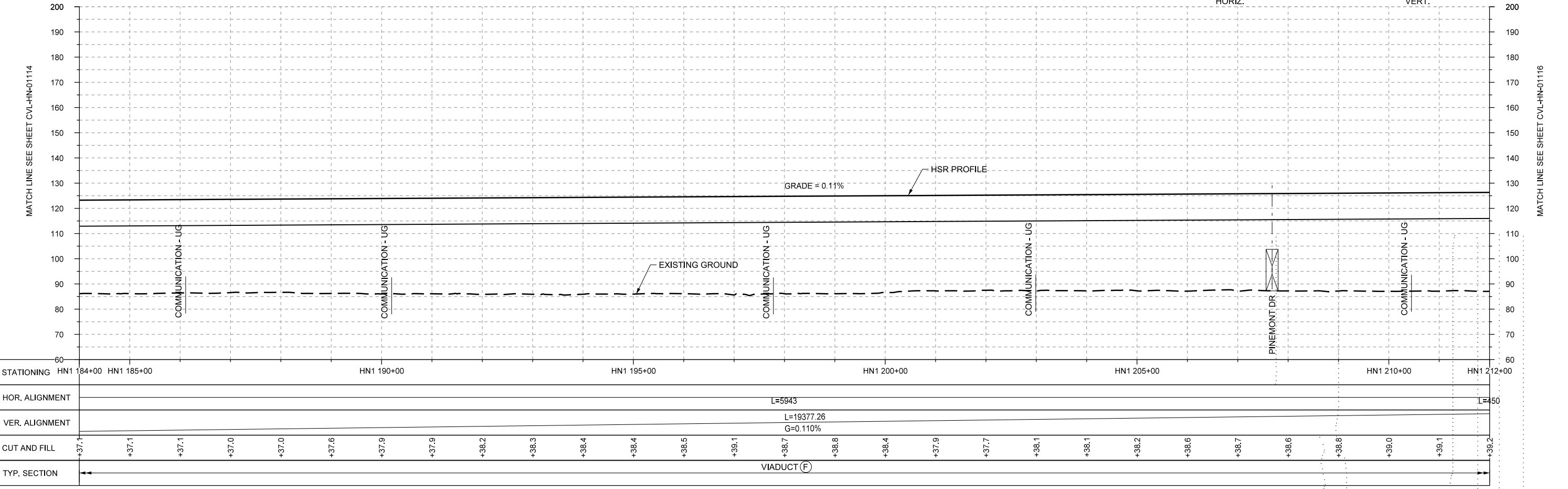
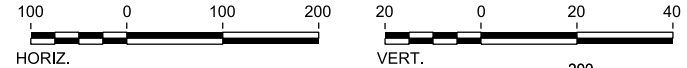
Drawing Status  
**FINAL**

Job No	Drawing No	Rev
234180	CVL-HN-01114	01



NOTE 1:  
HEMPSTEAD ROAD LANE  
STRIPING NOT SHOWN FOR  
CLARITY. SEE TYPICAL  
SECTIONS FOR TYPICAL  
LANE CONFIGURATIONS.

PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIEBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

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10370 Richmond Ave., Suite 475  
Houston, Texas 77042 USA  
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www.arup.com  
Texas Registered Engineering Firm: F-1990

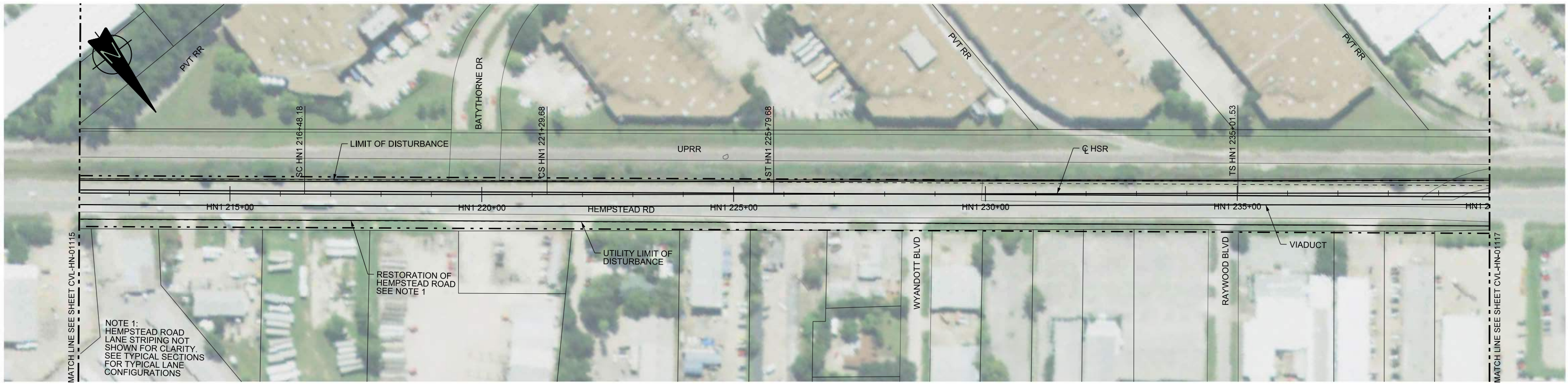
**FREESSE AND NICHOLS**  
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Dallas, Texas 75204  
Tel (214) 217 2200 Fax (214) 217 2201  
www.freese.com  
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
**TEXAS CENTRAL**  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 184+00 TO HN1 212+00**

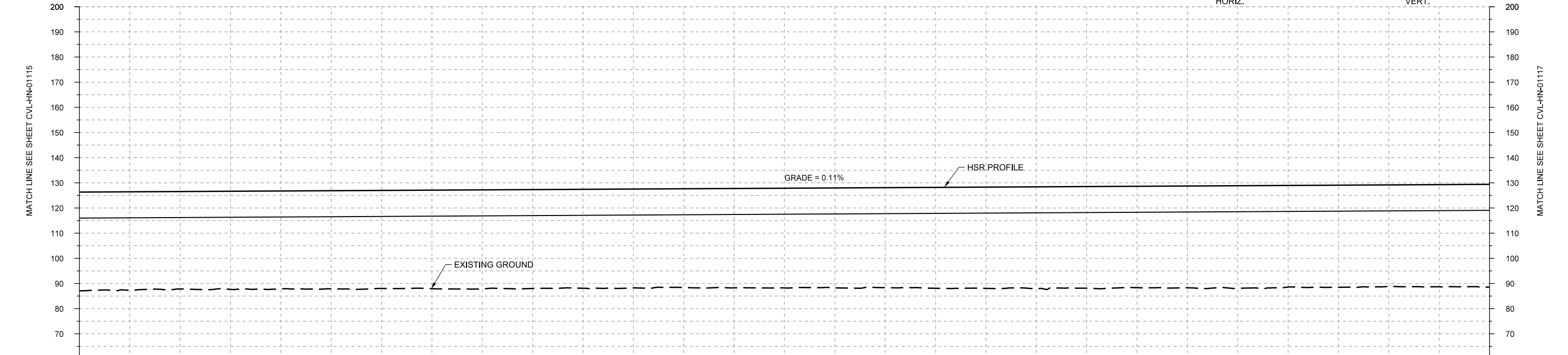
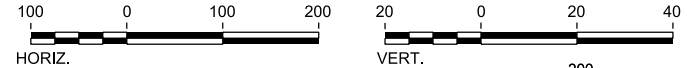
Scale  
**AS SHOWN**  
Drawing Status  
**FINAL**  
Job No: **234180**  
Drawing No: **CVL-HN-01115**  
Rev: **01**





NOTE 1:  
HEMPSTEAD ROAD  
LANE STRIPING NOT  
SHOWN FOR CLARITY.  
SEE TYPICAL SECTIONS  
FOR TYPICAL LANE  
CONFIGURATIONS

PLAN



PROFILE

STATIONING	HN1 212+00	HN1 215+00	HN1 220+00	HN1 225+00	HN1 230+00	HN1 235+00	HN1 240+00																				
HOR. ALIGNMENT	L=450		R=-125000 L=481		L=450	L=922	L=550																				
VER. ALIGNMENT					L=19377.26 G=0.110%																						
CUT AND FILL	+39.2	+39.1	+38.7	+38.9	+39.0	+39.0	+39.2	+39.4	+39.3	+39.3	+39.2	+39.4	+39.7	+39.8	+39.8	+40.1	+40.2	+40.5	+40.4	+40.3	+40.4	+40.7	+40.4	+40.6	+40.4	+40.6	+40.8
TYP. SECTION	VIADUCT (F)																										

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIEBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

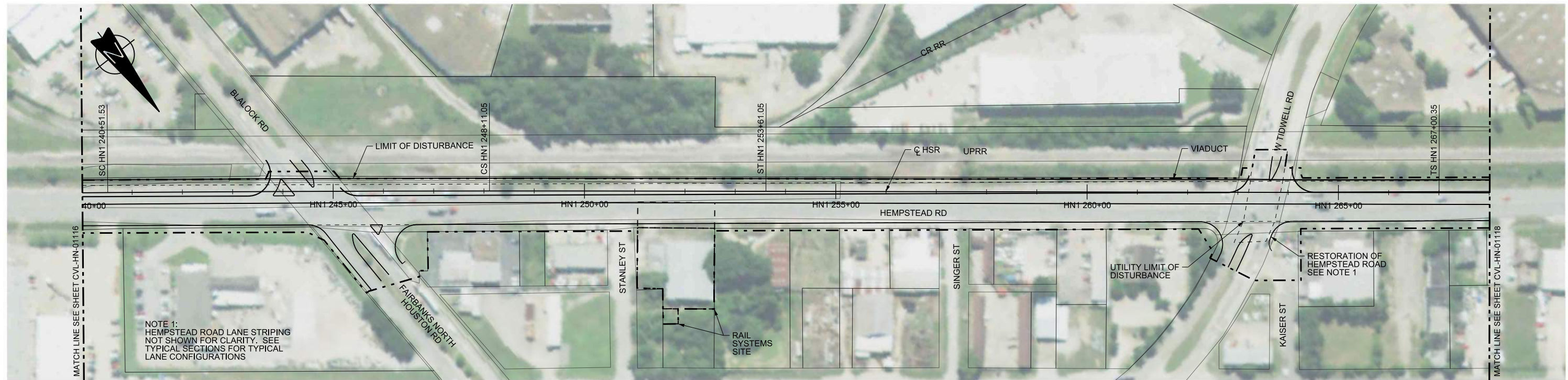
**ARUP**  
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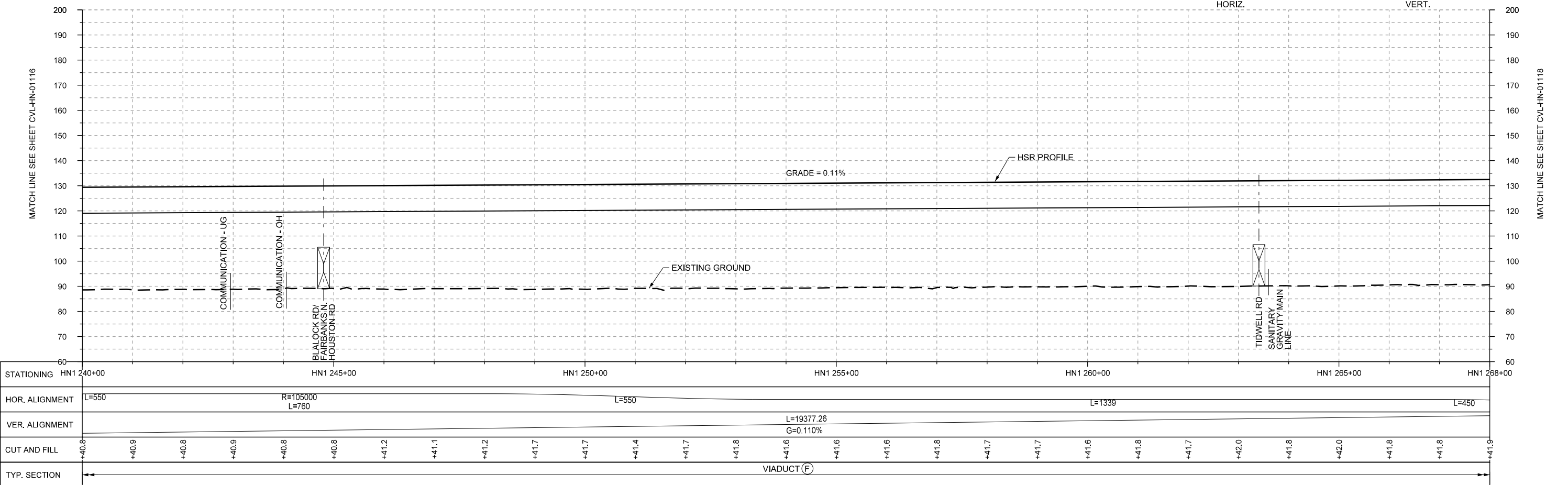
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
**TEXAS CENTRAL**  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 212+00 TO HN1 240+00**

Scale  
AS SHOWN  
Drawing Status  
**FINAL**  
Job No  
234180  
Drawing No  
CVL-HN-01116  
Rev  
01



PLAN



PROFILE

STATIONING	HN1 240+00	HN1 245+00	HN1 250+00	HN1 255+00	HN1 260+00	HN1 265+00	HN1 268+00	
HOR. ALIGNMENT	L=550	R=105000 L=760	L=550	L=19377.26 G=0.110%	L=1339		L=450	
VER. ALIGNMENT								
CUT AND FILL	+40.8	+40.8	+41.2	+41.1	+41.2	+41.7	+41.7	
TYP. SECTION	VIADUCT (F)							+41.9

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIEBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

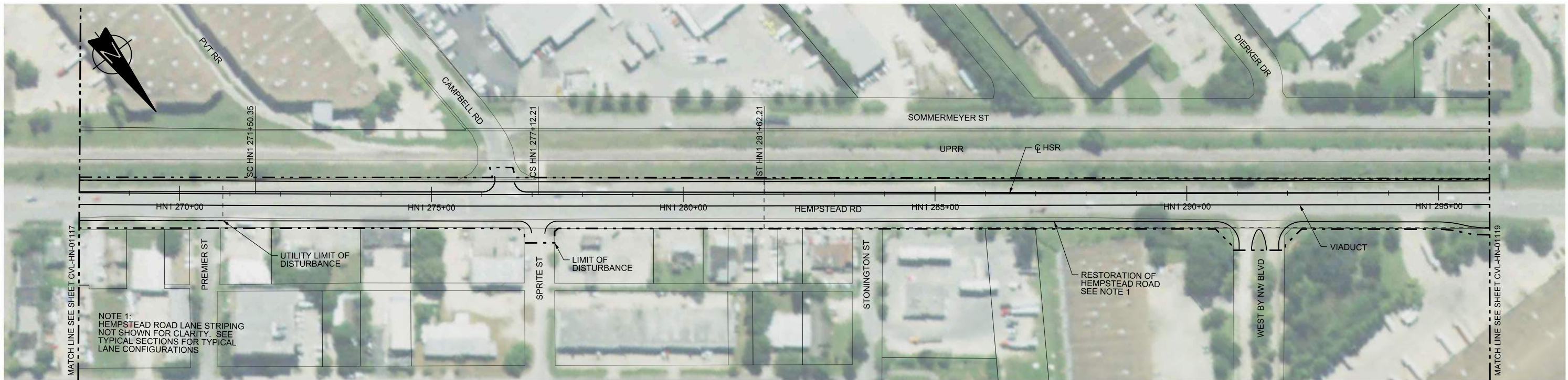
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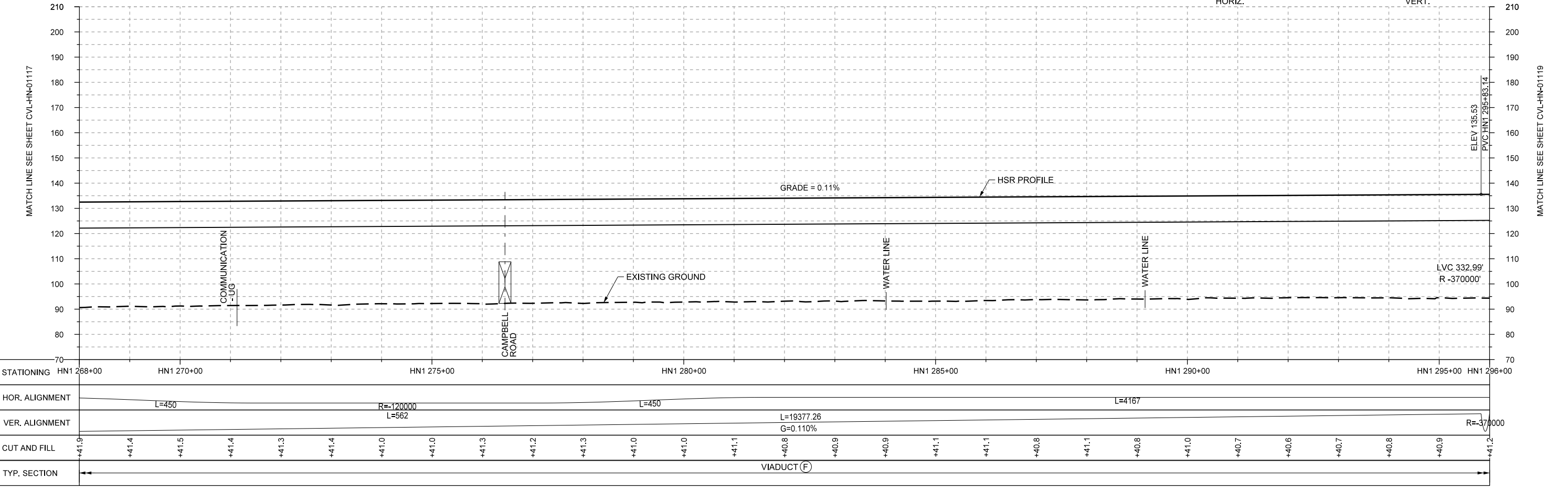
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
**TEXAS CENTRAL**  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 240+00 TO HN1 268+00**

Scale  
**AS SHOWN**  
Drawing Status  
**FINAL**  
Job No: 234180  
Drawing No: CVL-HN-01117  
Rev: 01



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=19377.26 G=0.110%		L=4167
VER. ALIGNMENT							R=-370000	
CUT AND FILL	+41.9	+41.4	+41.5	+41.4	+41.3	+41.4	+41.0	+41.0
TYP. SECTION	VIADUCT (F)							

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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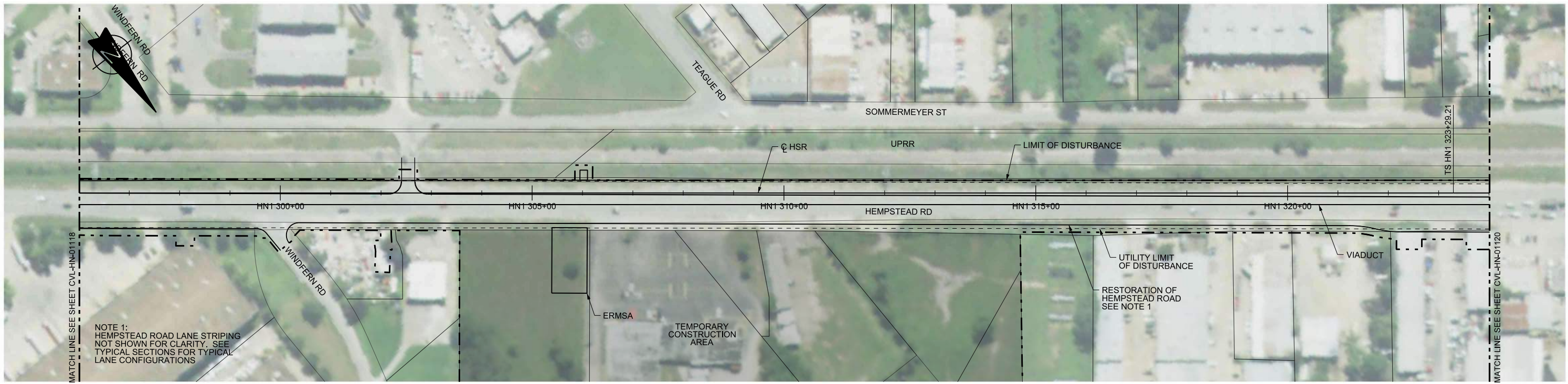
2711 North Haskell Ave., Suite 3300  
Dallas, Texas 75204  
Tel (214) 217 2200 Fax (214) 217 2201  
www.freese.com  
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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

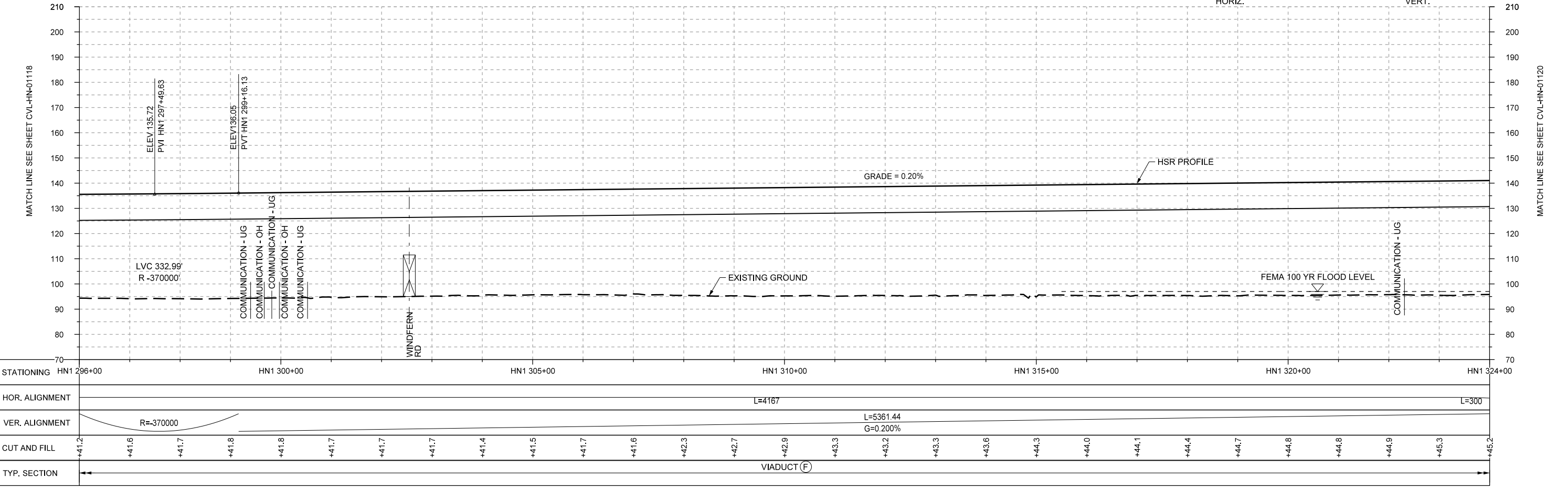
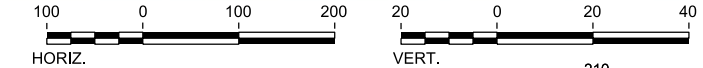
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT CIVIL  
PLAN AND PROFILE  
HN1 268+00 TO HN1 296+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	234180	Drawing No	CVL-HN-01118
Rev			01



PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

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IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
 FINAL CONCEPTUAL ENGINEERING

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

Drawing Title  
**HOUSTON SEGMENT  
 CIVIL  
 PLAN AND PROFILE  
 HN1 296+00 TO HN1 324+00**

Scale  
AS SHOWN

Drawing Status  
**FINAL**

Job No 234180	Drawing No CVL-HN-01119	Rev 01
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PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

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CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**



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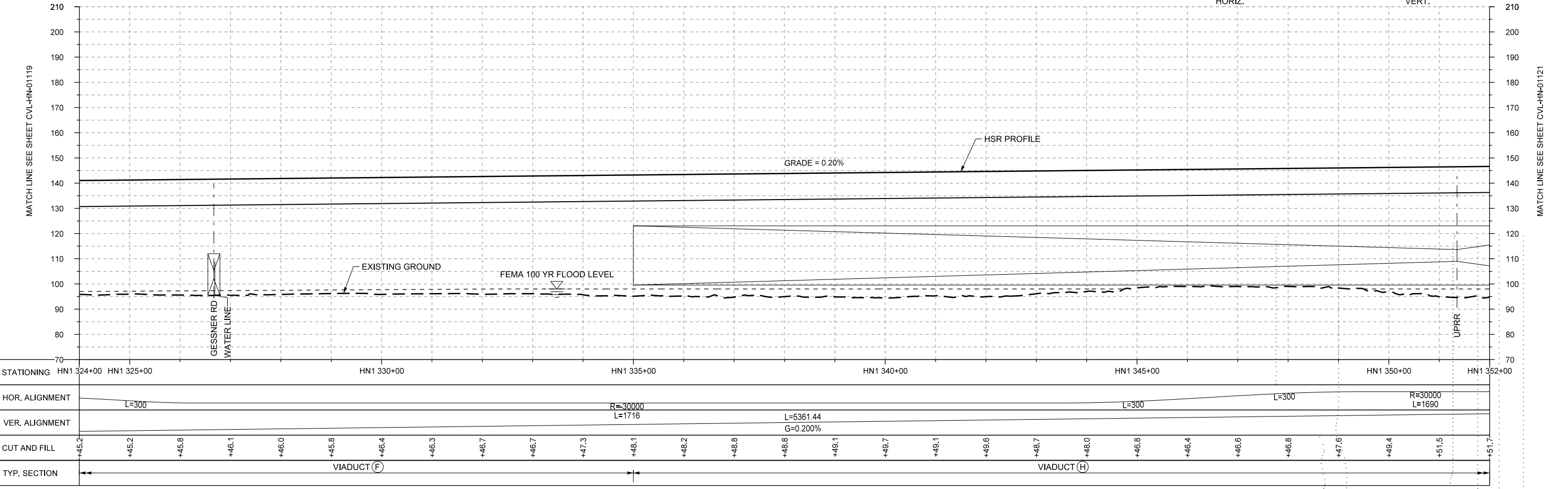
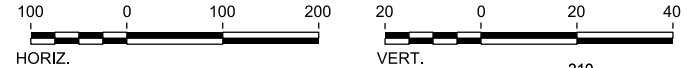
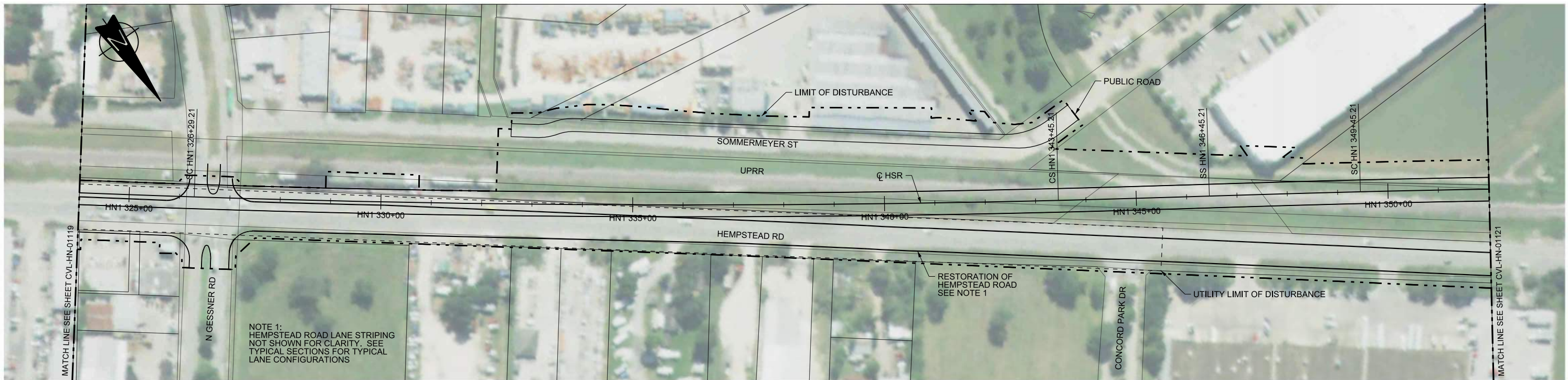
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING



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

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

Scale AS SHOWN		
Drawing Status <b>FINAL</b>		
Job No <b>234180</b>	Drawing No <b>CVL-HN-01119-A</b>	Rev <b>01</b>



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

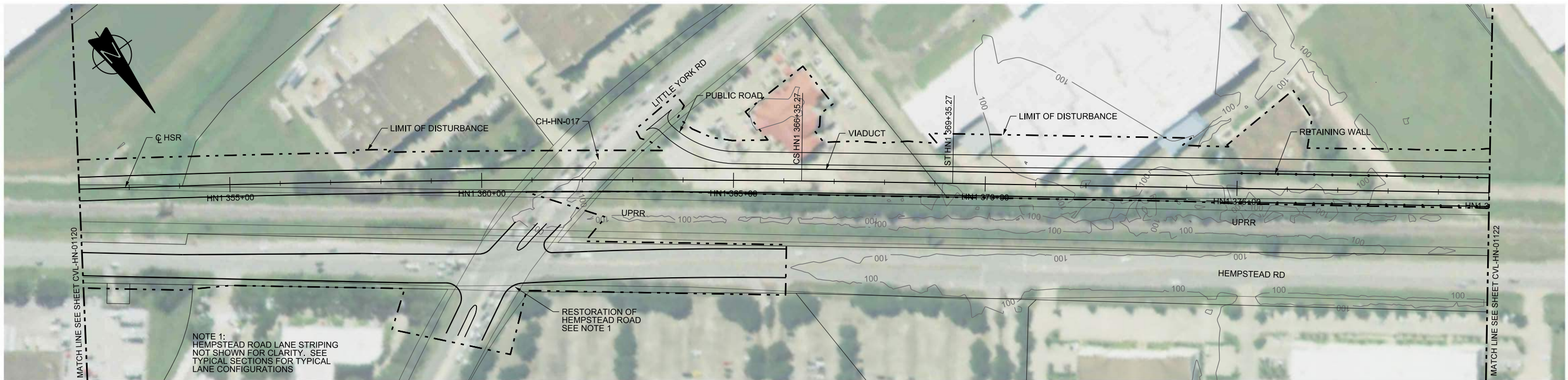
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 324+00 TO HN1 352+00**

Scale  
**AS SHOWN**

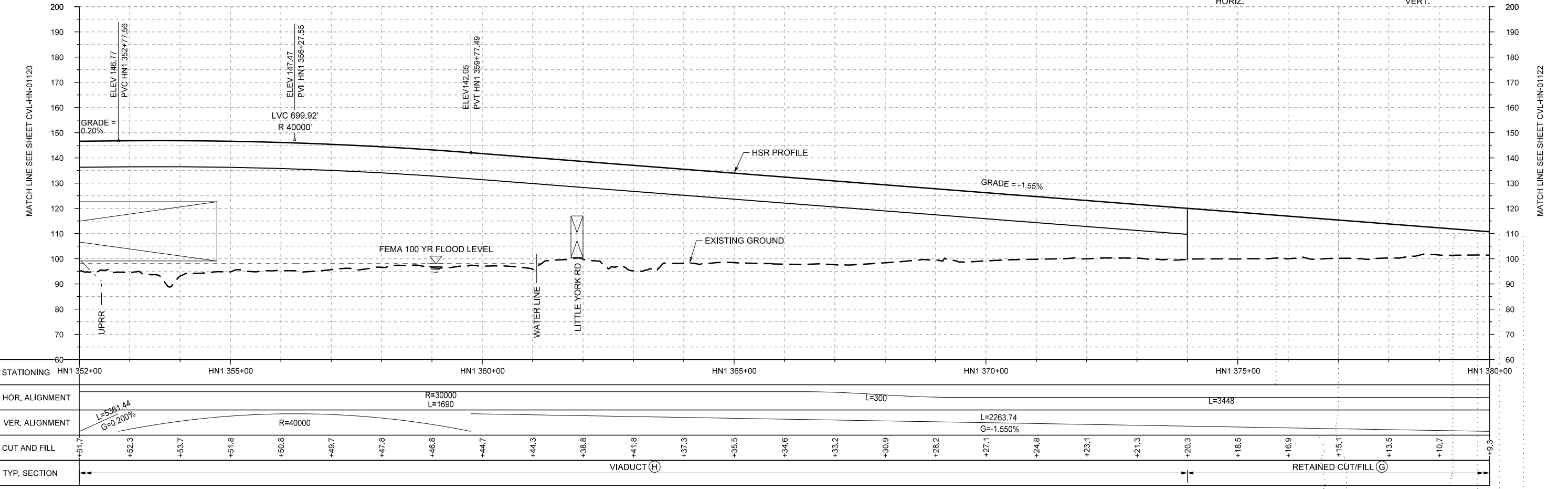
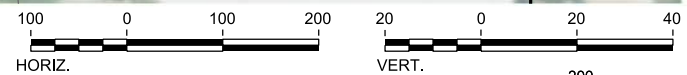
Drawing Status  
**FINAL**

Job No <b>234180</b>	Drawing No <b>CVL-HN-01120</b>	Rev <b>01</b>
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NOTE 1:  
HEMPSTEAD ROAD LANE STRIPING  
NOT SHOWN FOR CLARITY. SEE  
TYPICAL SECTIONS FOR TYPICAL  
LANE CONFIGURATIONS

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																													
VER. ALIGNMENT	L=5361.44 G=0.200%	R=40000	R=30000 L=1690		L=300	L=2263.74 G=-1.550%	L=3448																						
CUT AND FILL	+51.7	+52.3	+53.7	+51.8	+50.8	+49.7	+47.8	+46.8	+44.7	+44.3	+38.8	+41.8	+37.3	+35.5	+34.6	+33.2	+30.9	+28.2	+27.1	+24.8	+23.1	+21.3	+20.3	+18.5	+16.9	+15.1	+13.5	+10.7	+9.3
TYP. SECTION	VIADUCT (H)												RETAINED CUT/FILL (G)																

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIEBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

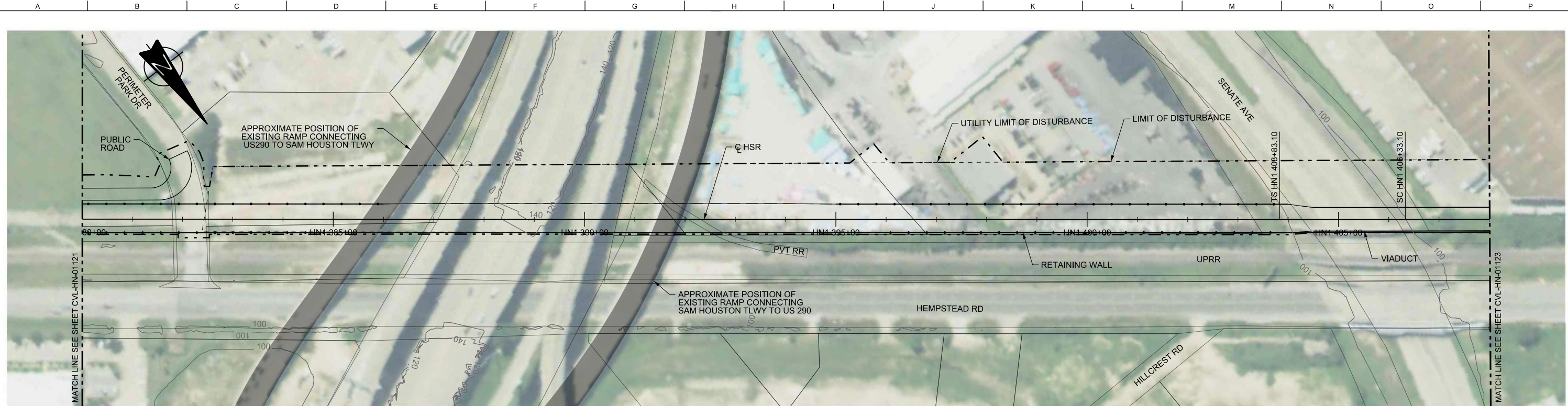
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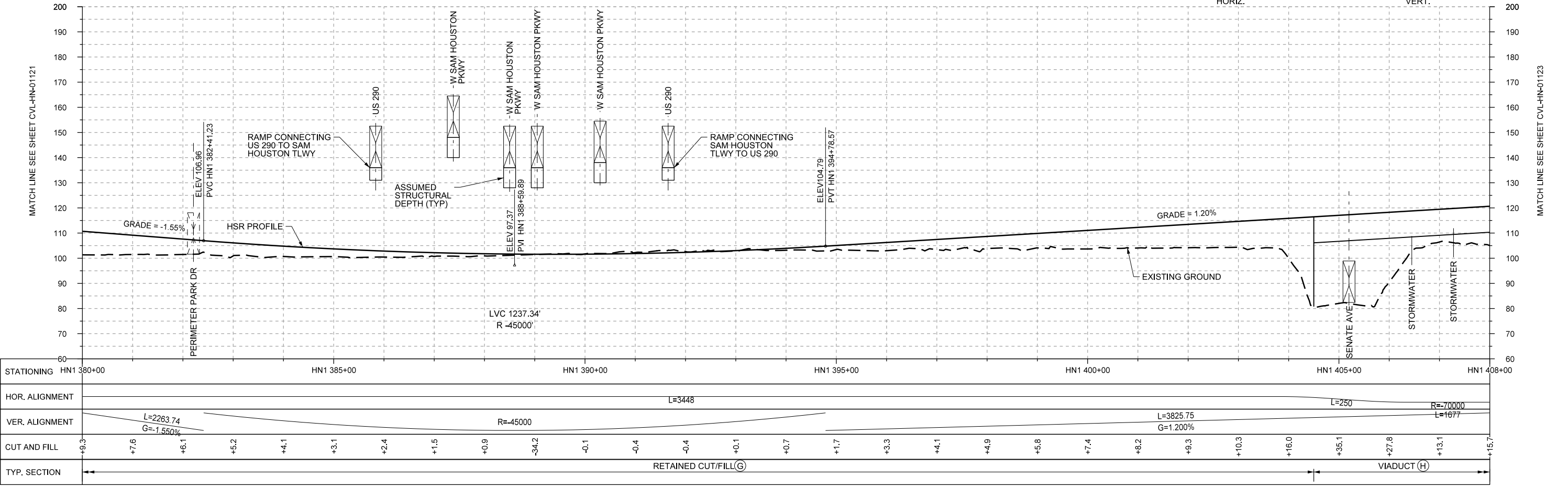
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
**TEXAS CENTRAL**  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 352+00 TO HN1 380+00**

Scale  
**AS SHOWN**  
Drawing Status  
**FINAL**  
Job No  
**234180**  
Drawing No  
**CVL-HN-01121**  
Rev  
**01**



PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>A. UTZ</b>
DRAWN BY <b>J. BORGHESI</b>
CHECKED BY <b>C. ZWIEBEL</b>
IN CHARGE <b>C. TAYLOR</b>
DATE <b>02/25/2019</b>

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

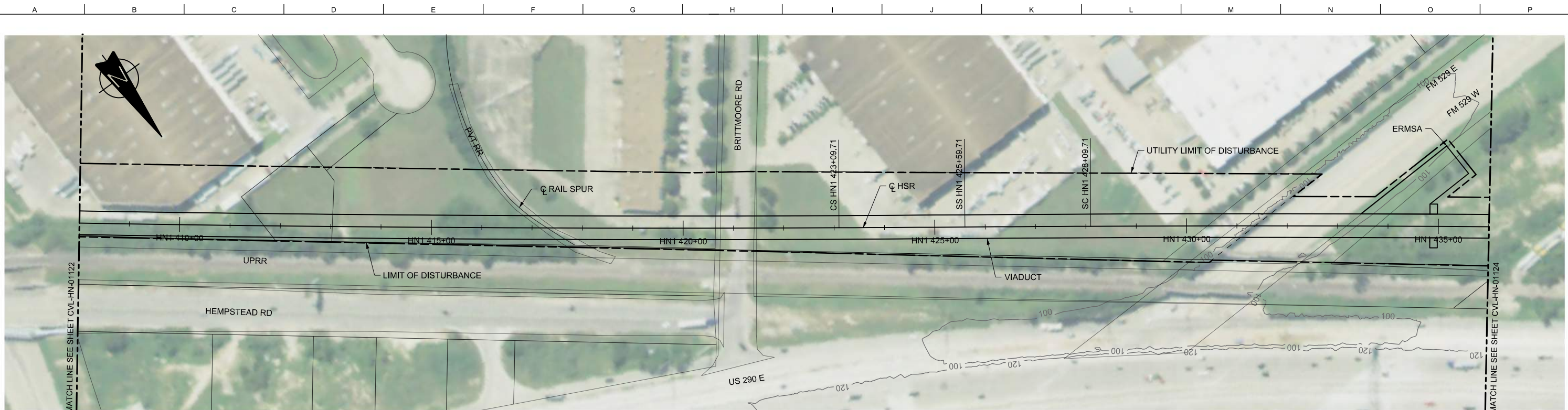
**FRESE AND NICHOLS**  
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DALLAS TO HOUSTON HIGH-SPEED RAIL  
 FINAL CONCEPTUAL ENGINEERING  
  
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

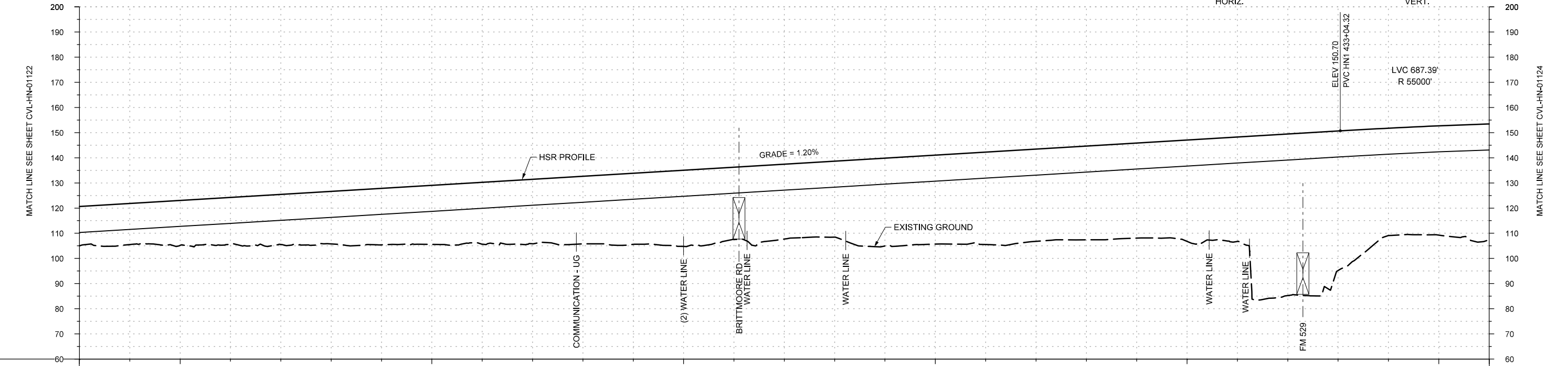
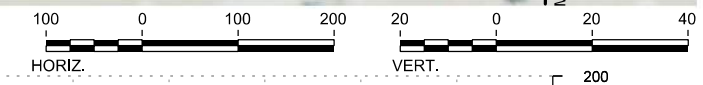
Drawing Title  
**HOUSTON SEGMENT CIVIL  
 PLAN AND PROFILE  
 HN1 380+00 TO HN1 408+00**

Scale AS SHOWN	Drawing Status <b>FINAL</b>	
Job No 234180	Drawing No CVL-HN-01122	Rev 01





PLAN



PROFILE

STATIONING	HN1 408+00	HN1 410+00	HN1 415+00	HN1 420+00	HN1 425+00	HN1 430+00	HN1 435+00	HN1 436+00																					
HOR. ALIGNMENT																													
VER. ALIGNMENT	R=70000 L=1677 L=3825.75 G=1.200% L=250 L=250 R=70000 L=1677 R=55000																												
CUT AND FILL	+15.7	+16.4	+17.9	+18.7	+20.0	+20.9	+22.5	+23.5	+24.6	+25.7	+26.9	+28.3	+30.4	+28.6	+29.7	+30.1	+34.8	+35.3	+36.7	+36.6	+37.2	+37.7	+40.2	+41.4	+64.2	+55.4	+42.7	+43.5	+46.1
TYP. SECTION	VIADUCT (H)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
 DRAWN BY  
**J. BORGHESI**  
 CHECKED BY  
**C. ZWIEBEL**  
 IN CHARGE  
**C. TAYLOR**  
 DATE  
**02/25/2019**

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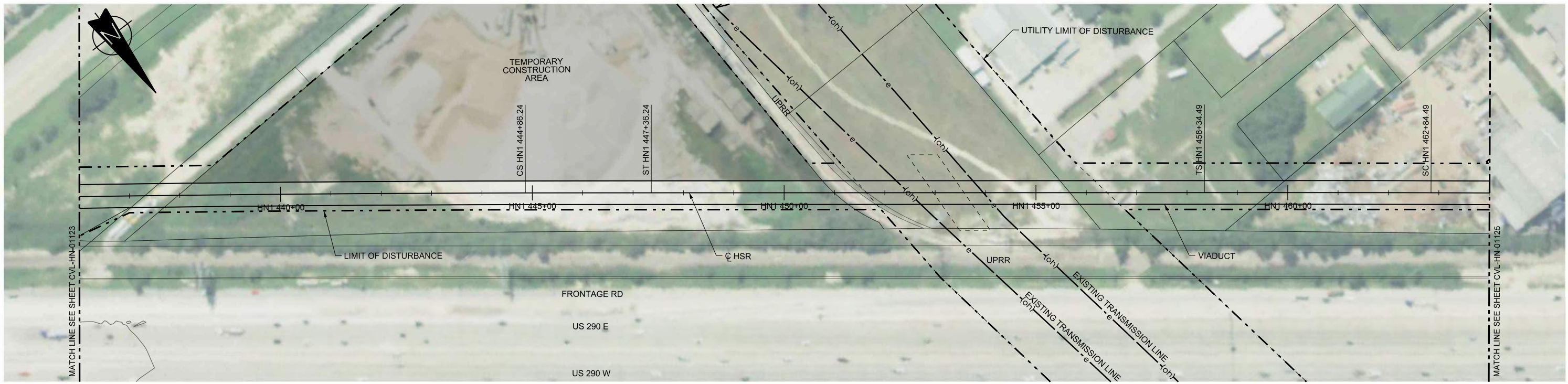
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DALLAS TO HOUSTON HIGH-SPEED RAIL  
 FINAL CONCEPTUAL ENGINEERING

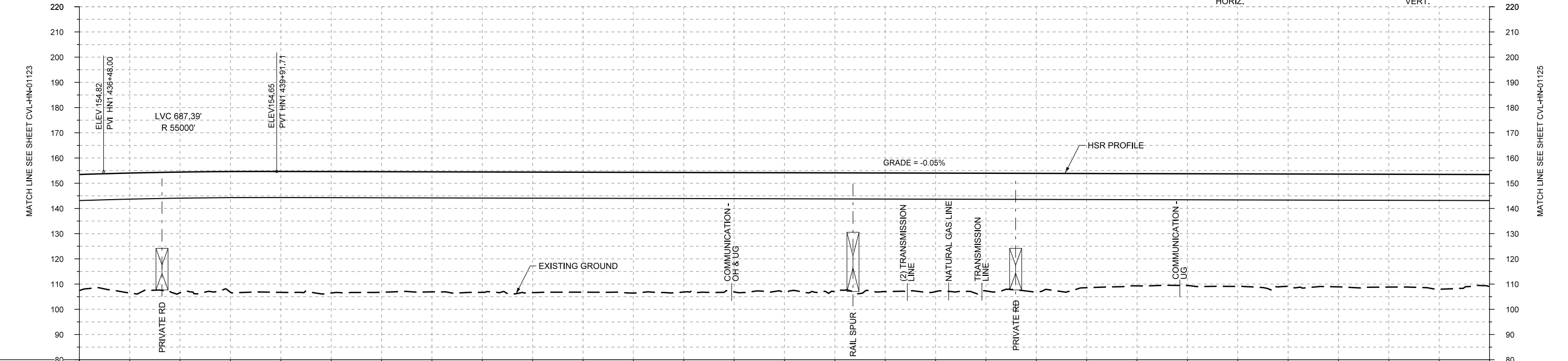
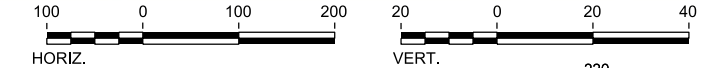
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
 CIVIL  
 PLAN AND PROFILE  
 HN1 408+00 TO HN1 436+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	234180	Drawing No	CVL-HN-01123
Rev			01



PLAN



PROFILE

STATIONING	HN1 436+00	HN1 440+00	HN1 445+00	HN1 450+00	HN1 455+00	HN1 460+00	HN1 464+00
HOR. ALIGNMENT	R=70000 L=1677		L=250		L=1098		R=80000 L=825
VER. ALIGNMENT	R=55000		L=7748.47 G=-0.050%		L=450		
CUT AND FILL	+46.1	+47.5	+47.8	+47.9	+47.9	+48.2	+47.8
TYP. SECTION	VIADUCT (H)						

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIEBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

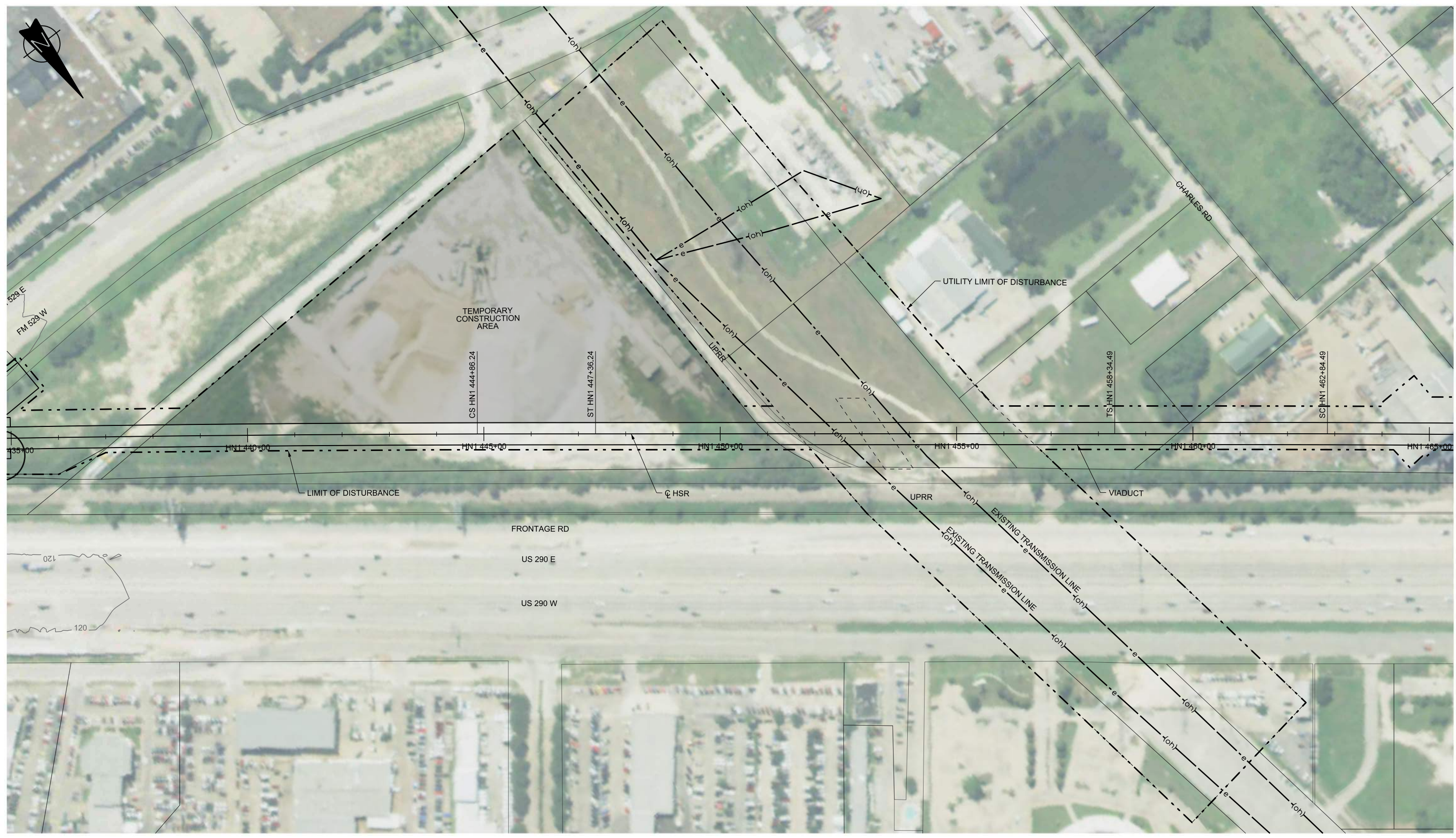
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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
**TEXAS CENTRAL**  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 436+00 TO HN1 464+00**

Scale  
AS SHOWN  
Drawing Status  
**FINAL**  
Job No  
234180  
Drawing No  
CVL-HN-01124  
Rev  
01



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

**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**

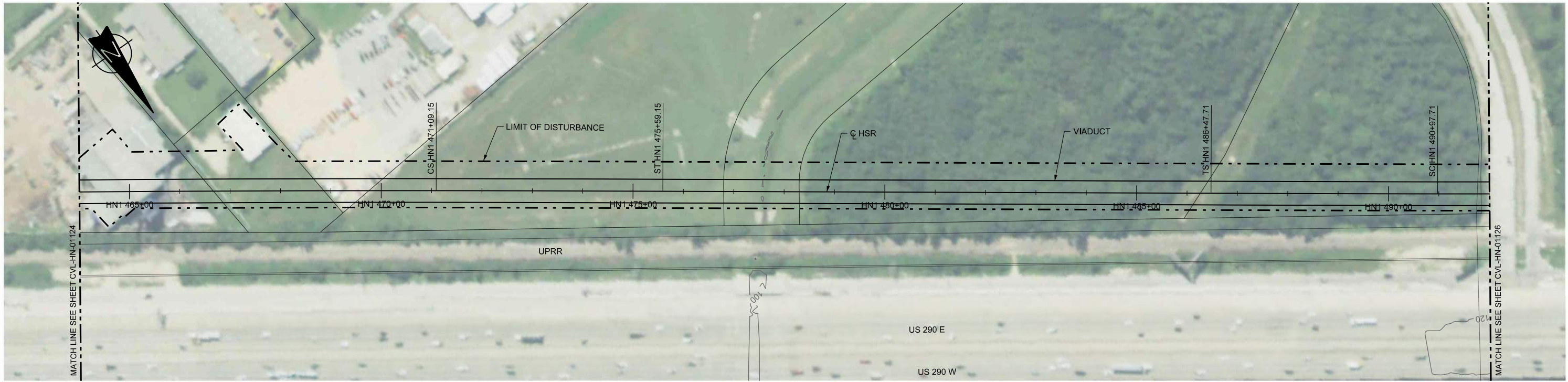
2711 North Haskell Ave., Suite 3300  
Dallas, Texas 75204  
Tel (214) 217 2200 Fax (214) 217 2201  
www.freese.com  
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

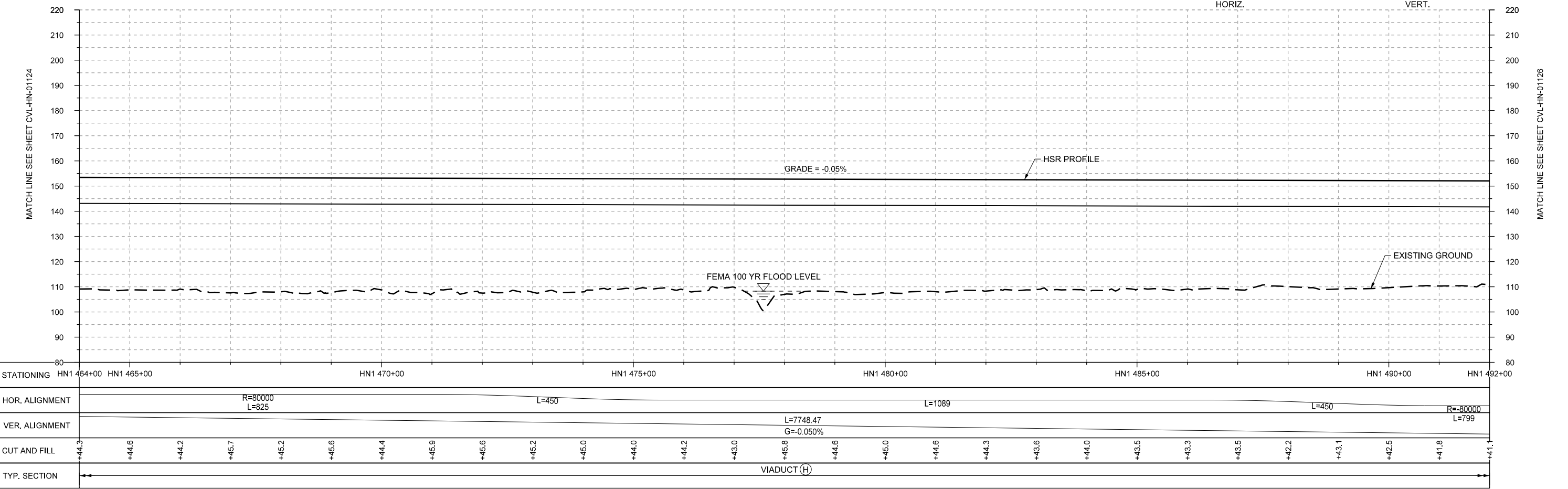
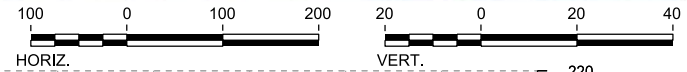
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-HN-01124-A	Rev 01



PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIEBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

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Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

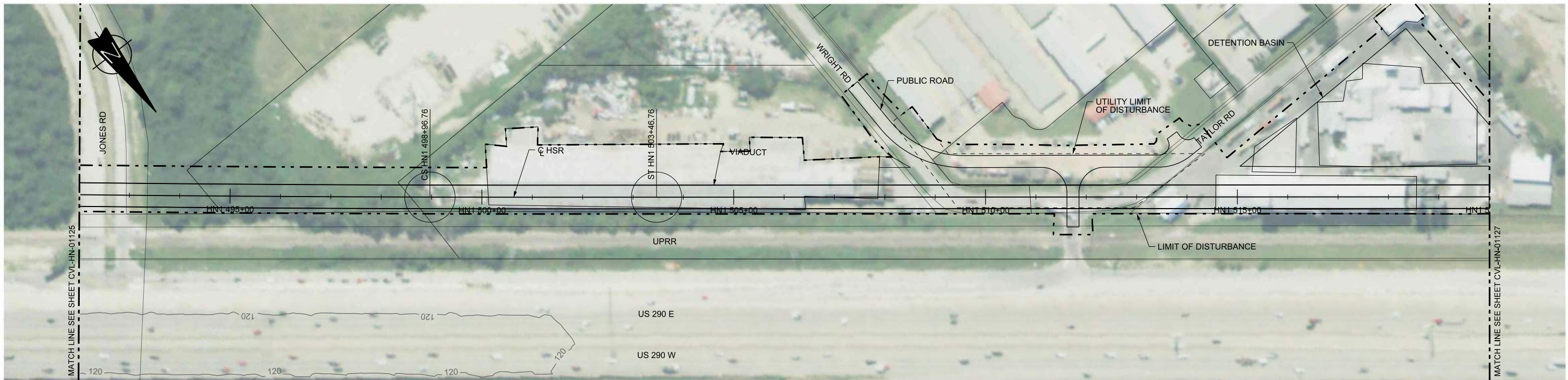
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 464+00 TO HN1 492+00**

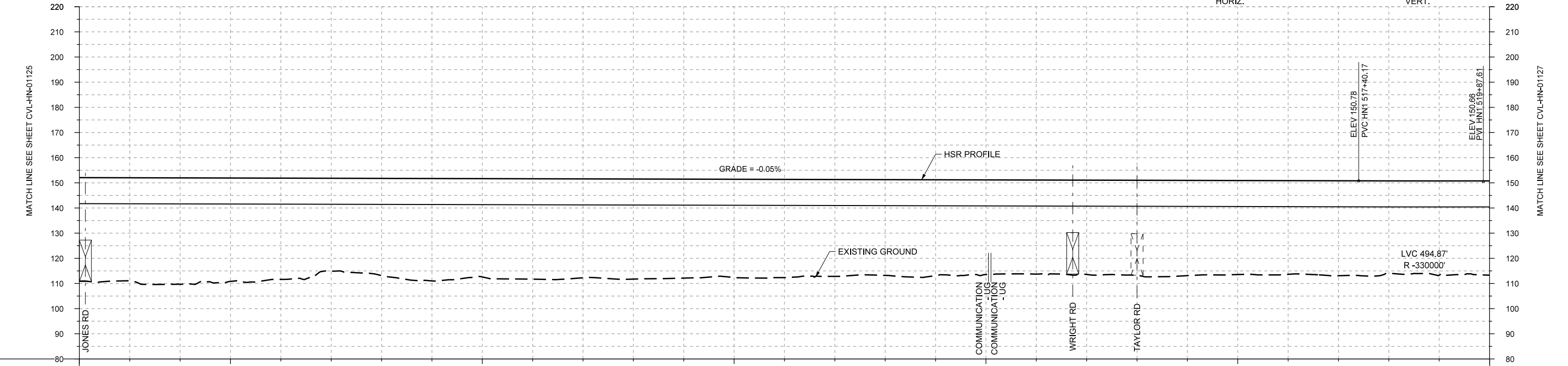
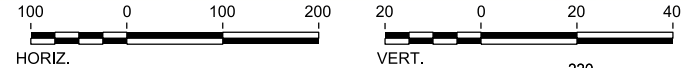
Scale  
AS SHOWN

Drawing Status  
**FINAL**

Job No	Drawing No	Rev
234180	CVL-HN-01125	01



PLAN



PROFILE

STATIONING	HN1 492+00	HN1 495+00	HN1 500+00	HN1 505+00	HN1 510+00	HN1 515+00	HN1 520+00																						
HOR. ALIGNMENT	R=80000 L=799		L=450	L=7748.47 G=-0.050%	L=19350																								
VER. ALIGNMENT							R=330000																						
CUT AND FILL	+41.1	+40.9	+42.3	+41.1	+40.3	+36.9	+38.7	+40.7	+39.1	+39.9	+39.4	+39.8	+39.4	+39.0	+39.1	+38.5	+38.1	+38.1	+37.7	+37.4	+37.5	+37.7	+37.9	+37.4	+37.3	+37.7	+38.7	+37.4	+37.5
TYP. SECTION	←																										→		

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

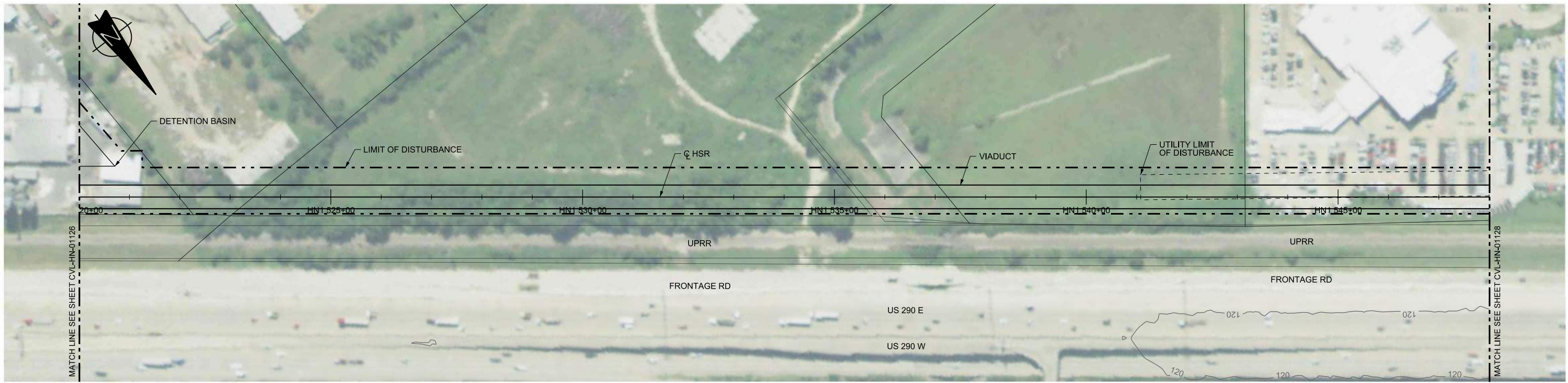
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Dallas, Texas 75204  
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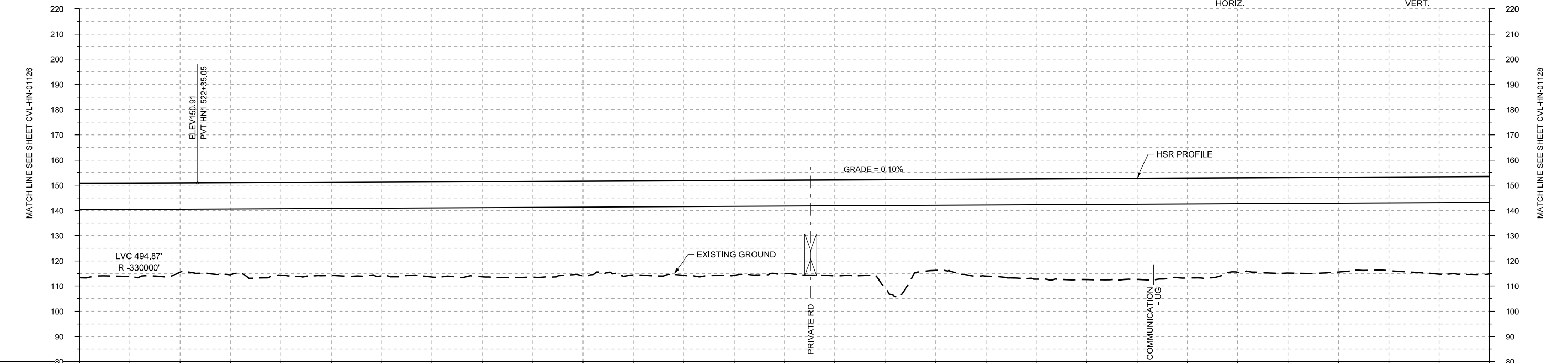
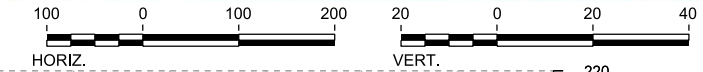
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
**TEXAS CENTRAL**  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 492+00 TO HN1 520+00**

Scale  
AS SHOWN  
Drawing Status  
**FINAL**  
Job No  
234180  
Drawing No  
CVL-HN-01126  
Rev  
01



PLAN



PROFILE

STATIONING	HN1 520+00	HN1 525+00	HN1 530+00	HN1 535+00	HN1 540+00	HN1 545+00	HN1 548+00
HOR. ALIGNMENT	L=19350						
VER. ALIGNMENT	R=330000		L=7162.18			G=0.100%	
CUT AND FILL	+37.5	+37.1	+35.3	+36.6	+37.1	+37.3	+37.9
TYP. SECTION	VIADUCT (H)						

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY	A. UTZ
DRAWN BY	J. BORGHESI
CHECKED BY	C. ZWIBEL
IN CHARGE	C. TAYLOR
DATE	02/25/2019

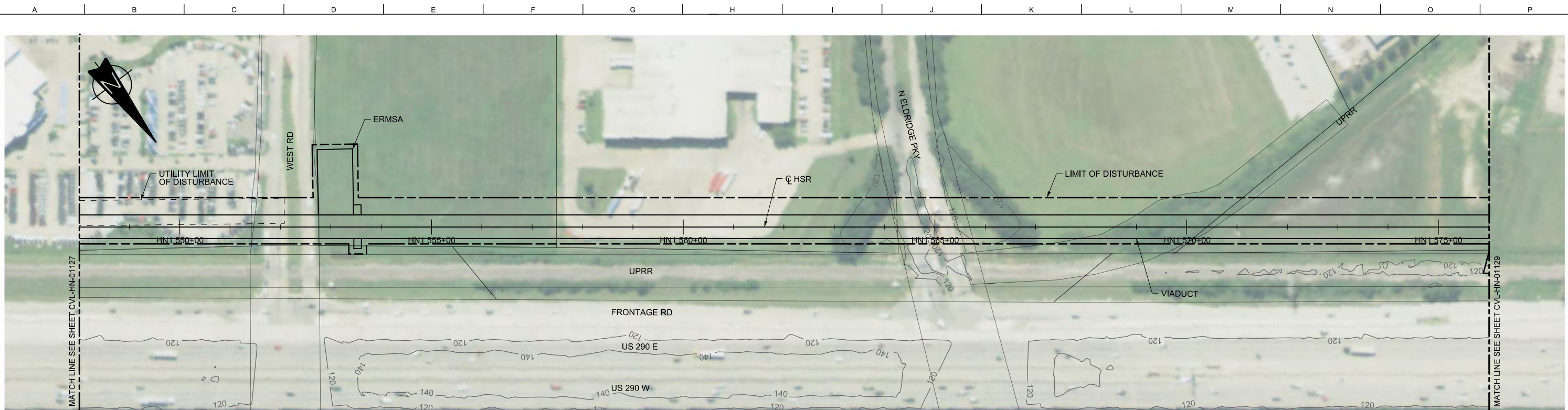
**ARUP**  
 Arup Texas, Inc.  
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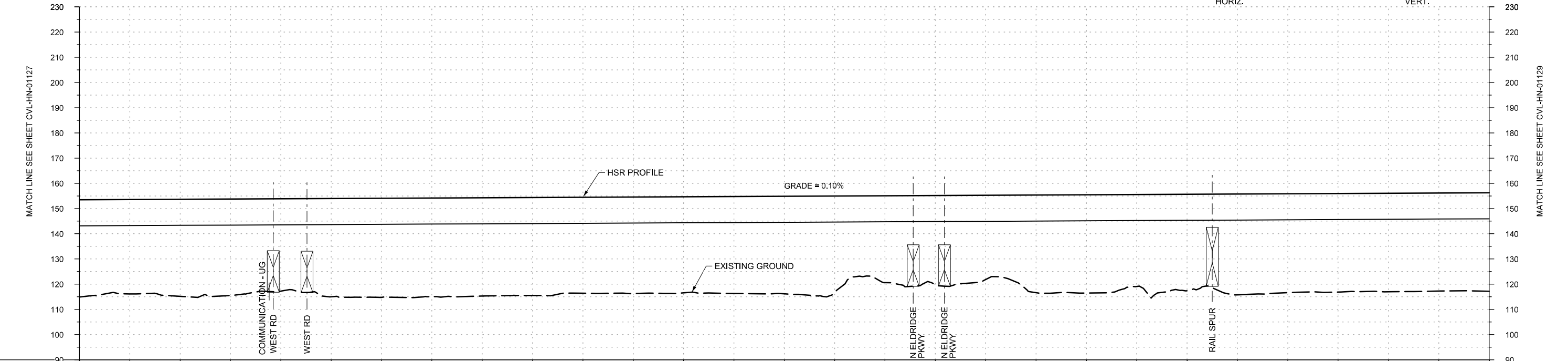
DALLAS TO HOUSTON HIGH-SPEED RAIL  
 FINAL CONCEPTUAL ENGINEERING  
  
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT CIVIL PLAN AND PROFILE**  
 HN1 520+00 TO HN1 548+00

Scale	AS SHOWN
Drawing Status	FINAL
Job No	234180
Drawing No	CVL-HN-01127
Rev	01



PLAN



PROFILE

STATIONING	HN1 548+00	HN1 550+00	HN1 555+00	HN1 560+00	HN1 565+00	HN1 570+00	HN1 575+00	HN1 576+00																					
HOR. ALIGNMENT	L=19350																												
VER. ALIGNMENT	L=7162.18 G=0.100%																												
CUT AND FILL	+38.6	+37.5	+38.5	+38.3	+36.7	+39.0	+38.4	+39.1	+39.0	+38.9	+38.1	+38.3	+38.2	+38.5	+37.7	+38.3	+34.5	+36.4	+33.5	+38.8	+39.0	+36.5	+38.3	+40.0	+38.3	+39.1	+38.1	+38.9	+39.1
TYP. SECTION	VIADUCT (H)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIEBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

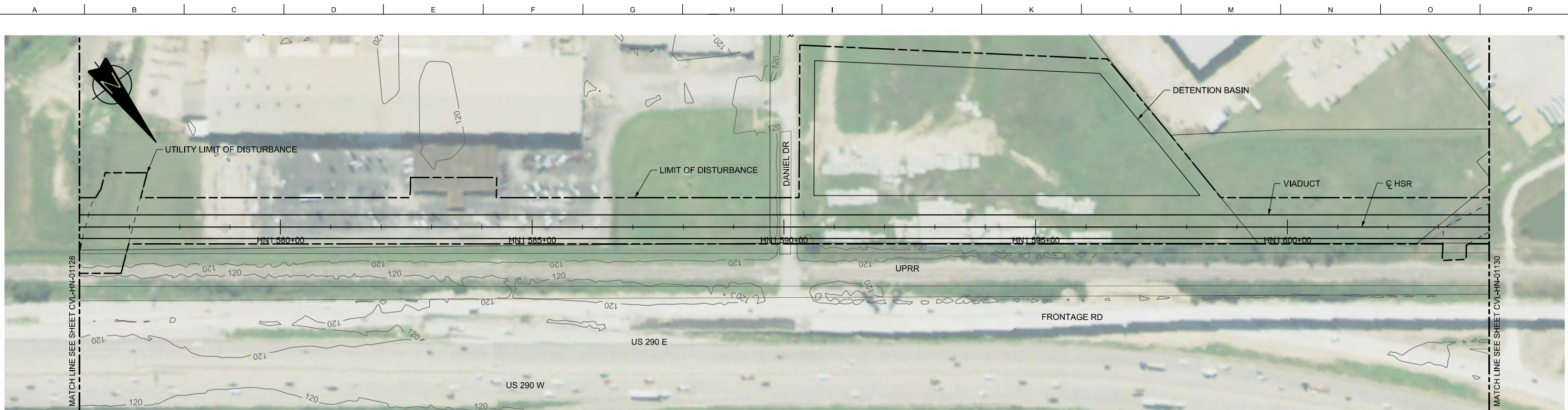
**ARUP**  
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Dallas, Texas 75204  
Tel (214) 217 2200 Fax (214) 217 2201  
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Texas Registered Engineering Firm: F-2144

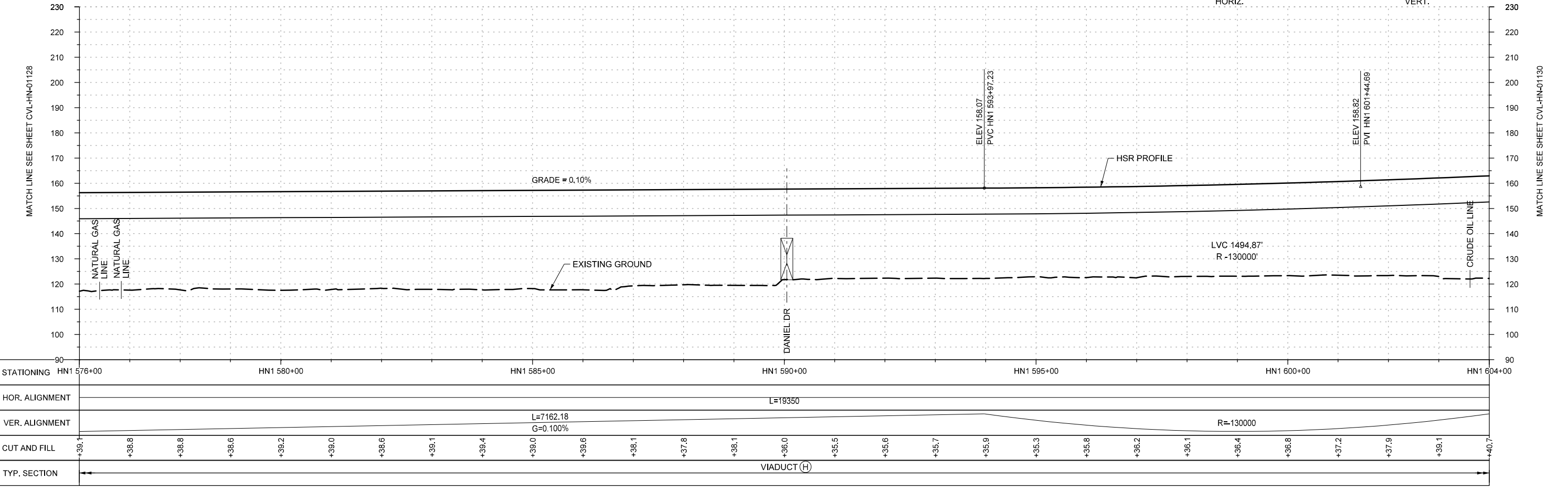
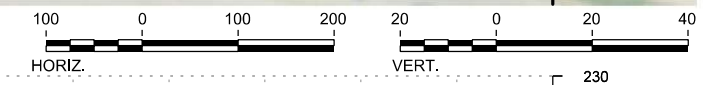
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
**TEXAS CENTRAL**  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 548+00 TO HN1 576+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	234180	Drawing No	CVL-HN-01128
Rev			01



PLAN



PROFILE

STATIONING	HN1 576+00	HN1 580+00	HN1 585+00	HN1 590+00	HN1 595+00	HN1 600+00	HN1 604+00
HOR. ALIGNMENT	L=19350						
VER. ALIGNMENT	L=7162.18 G=0.100%						
CUT AND FILL	+38.1	+38.8	+38.6	+39.2	+39.0	+38.6	+37.2
TYP. SECTION	VIADUCT (H)						

DESIGNED BY	A. UTZ
DRAWN BY	J. BORGHESI
CHECKED BY	C. ZWIEBEL
IN CHARGE	C. TAYLOR
DATE	02/25/2019

REV	DATE	BY	CHK	APP	DESCRIPTION

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

DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

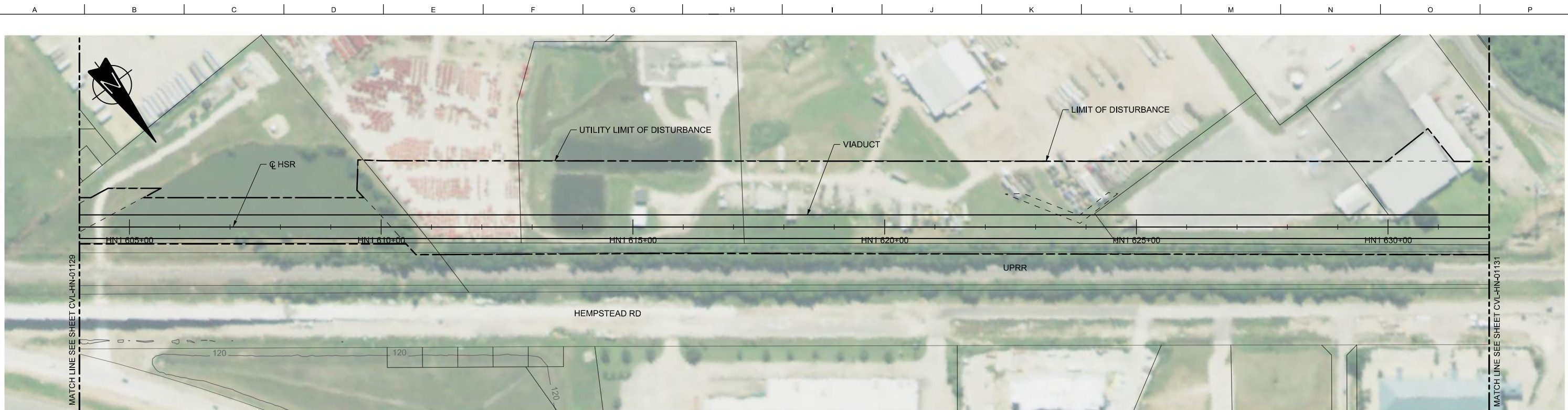
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 576+00 TO HN1 604+00**

Scale  
AS SHOWN

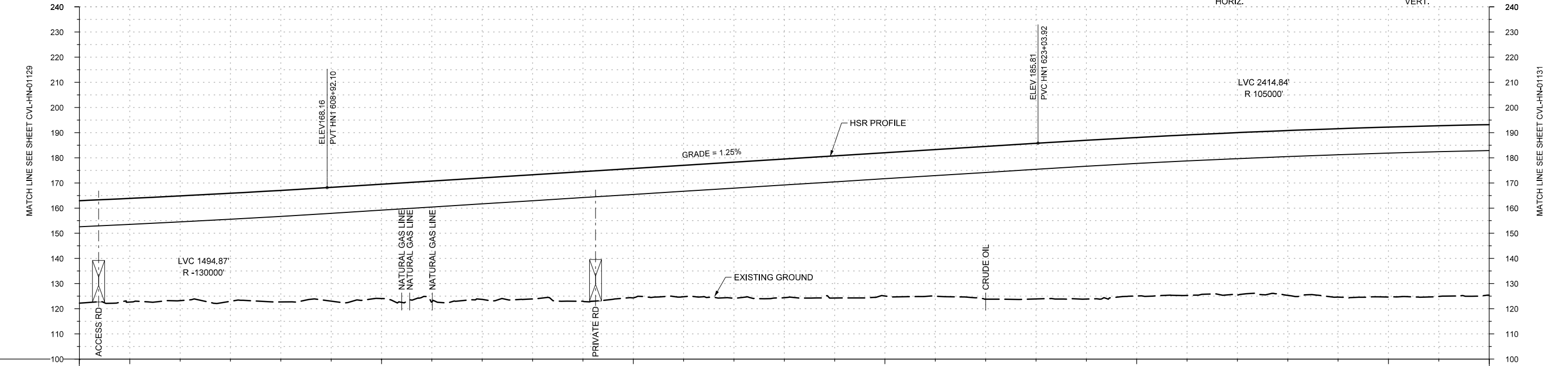
Drawing Status  
**FINAL**

Job No	Drawing No	Rev
234180	CVL-HN-01129	01





PLAN



PROFILE

STATIONING	HN1 604+00	HN1 605+00	HN1 610+00	HN1 615+00	HN1 620+00	HN1 625+00	HN1 630+00	HN1 632+00																					
HOR. ALIGNMENT	L=19350																												
VER. ALIGNMENT	R=-130000			L=1411.82 G=1.250%			R=105000																						
CUT AND FILL	+40.7	+41.2	+41.6	+42.9	+44.3	+45.3	+45.4	+48.0	+48.3	+48.4	+49.4	+51.5	+51.5	+52.3	+54.2	+55.1	+55.6	+57.0	+58.3	+60.7	+61.9	+63.2	+63.0	+63.8	+64.6	+65.5	+67.0	+67.5	+67.8
TYP. SECTION	VIADUCT (H)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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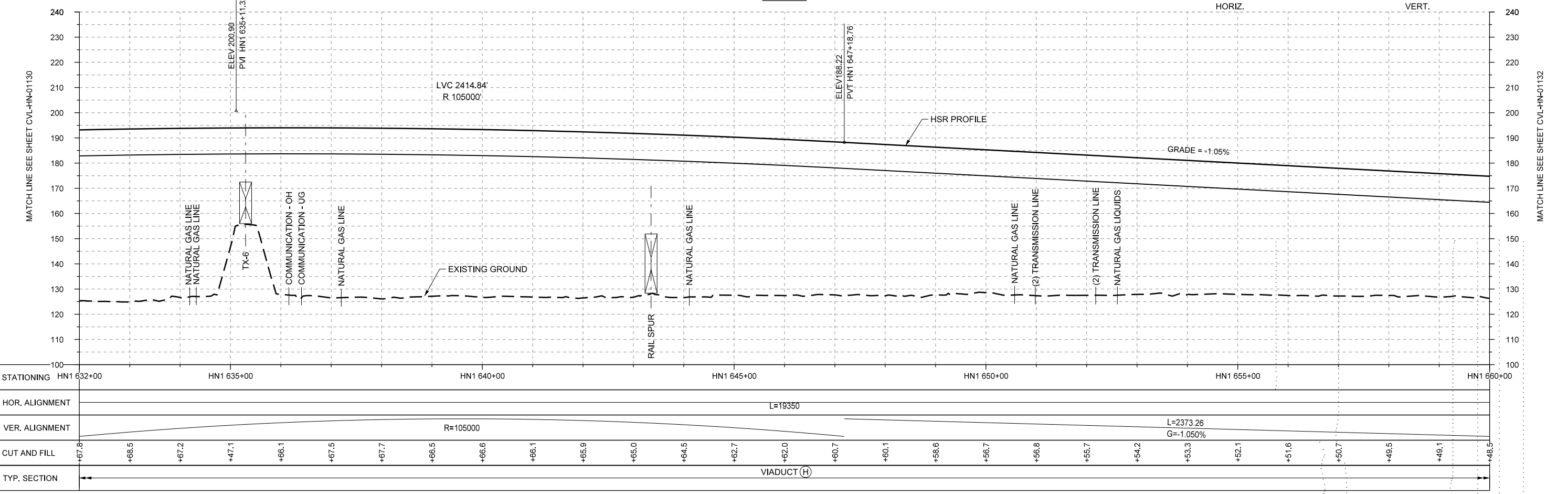
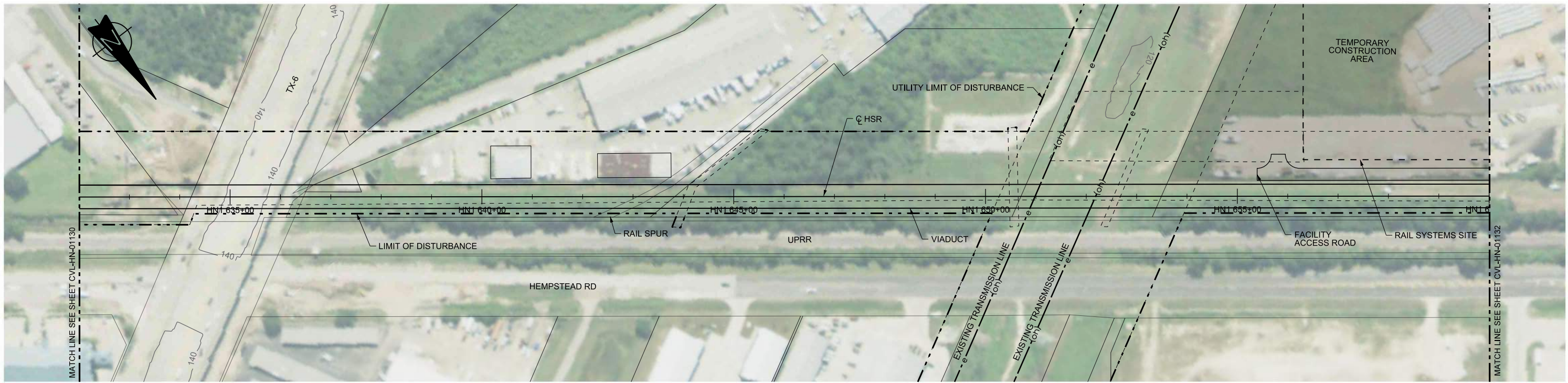
**FRESE AND NICHOLS**  
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DALLAS TO HOUSTON HIGH-SPEED RAIL  
 FINAL CONCEPTUAL ENGINEERING

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

Drawing Title  
**HOUSTON SEGMENT  
 CIVIL  
 PLAN AND PROFILE  
 HN1 604+00 TO HN1 632+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	234180	Drawing No	CVL-HN-01130
Rev			01



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

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CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

**TEXAS CENTRAL**

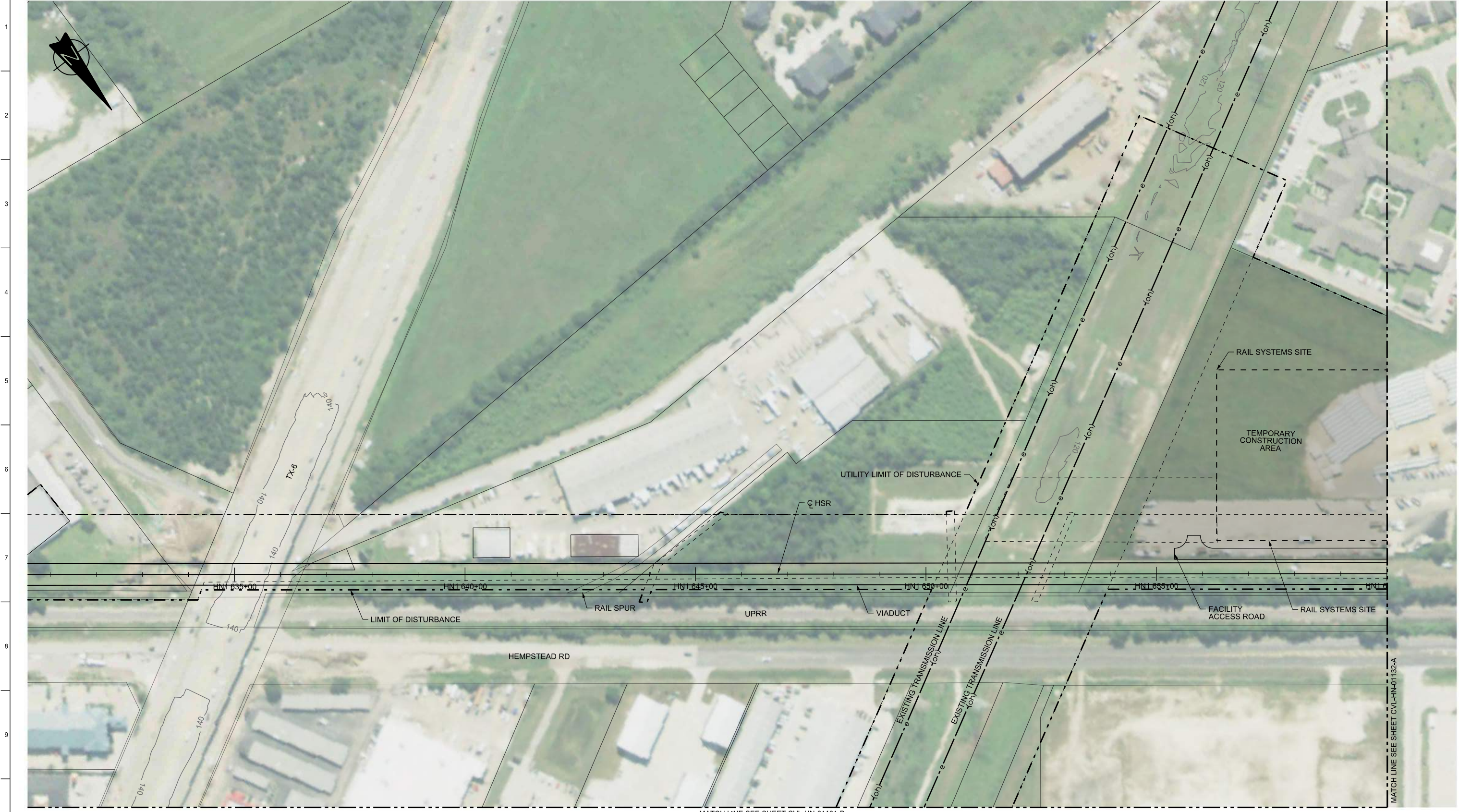
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT CIVIL  
PLAN AND PROFILE  
HN1 632+00 TO HN1 660+00**

Scale  
**AS SHOWN**

Drawing Status  
**FINAL**

Job No <b>234180</b>	Drawing No <b>CVL-HN-01131</b>	Rev <b>01</b>
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MATCH LINE SEE SHEET CVL-HN-01131-B

MATCH LINE SEE SHEET CVL-HN-01132-A

**PLAN**



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

Scale  
**AS SHOWN**

Drawing Status  
**FINAL**

Job No <b>234180</b>	Drawing No <b>CVL-HN-01131-A</b>	Rev <b>01</b>
-------------------------	-------------------------------------	------------------



PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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**FREESSE & NICHOLS**

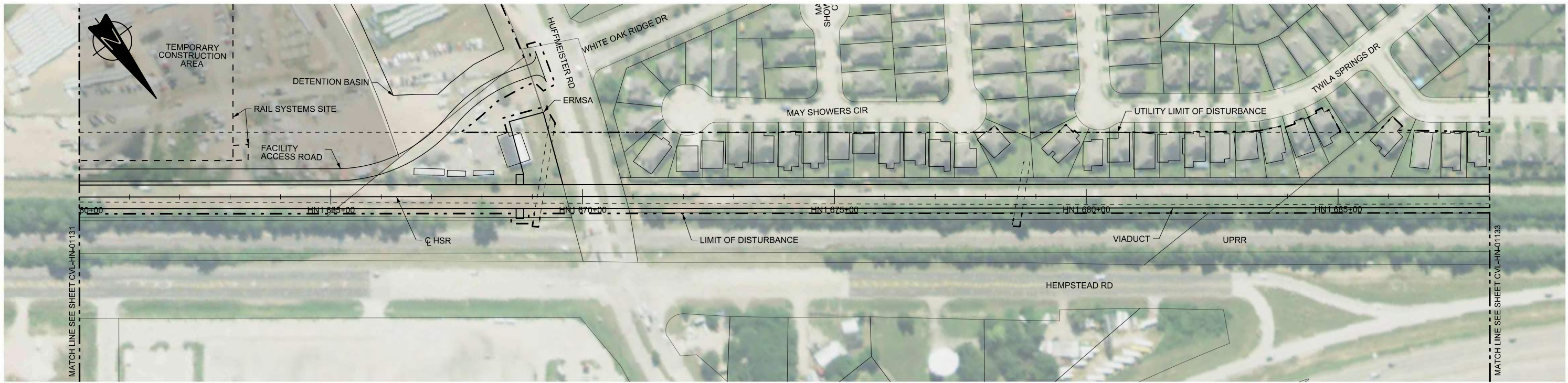
2711 North Haskell Ave., Suite 3300  
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Tel (214) 217 2200 Fax (214) 217 2201  
www.freesse.com  
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

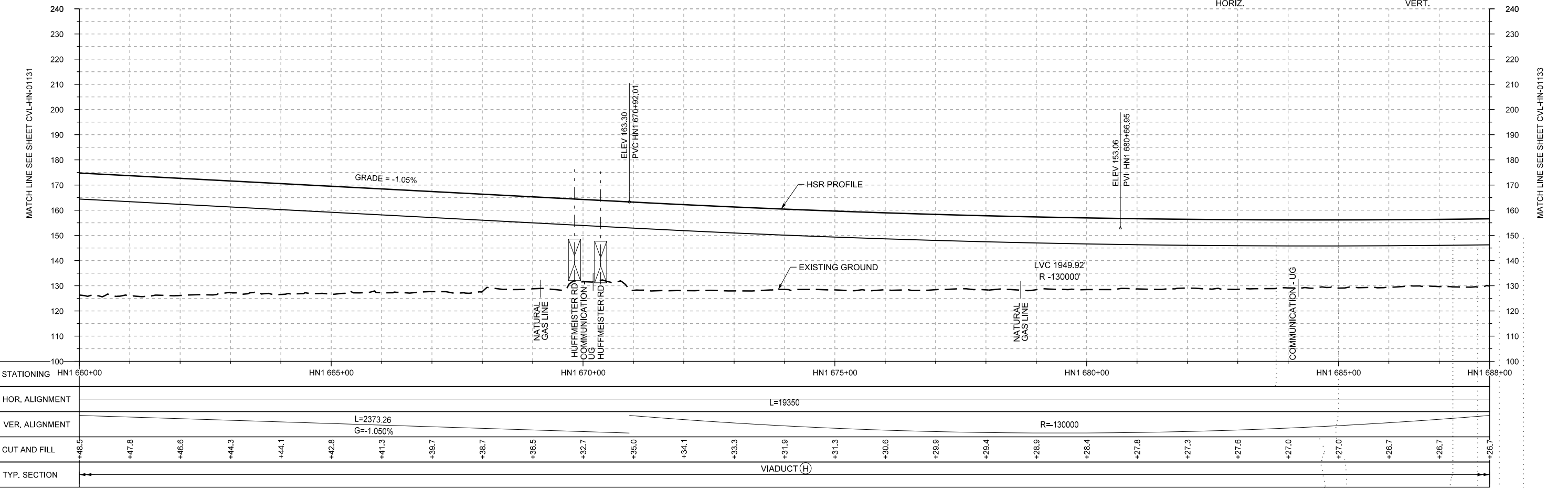
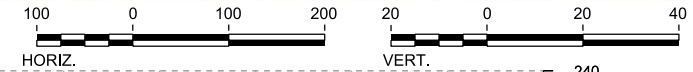
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-HN-01131-B	Rev 01



PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

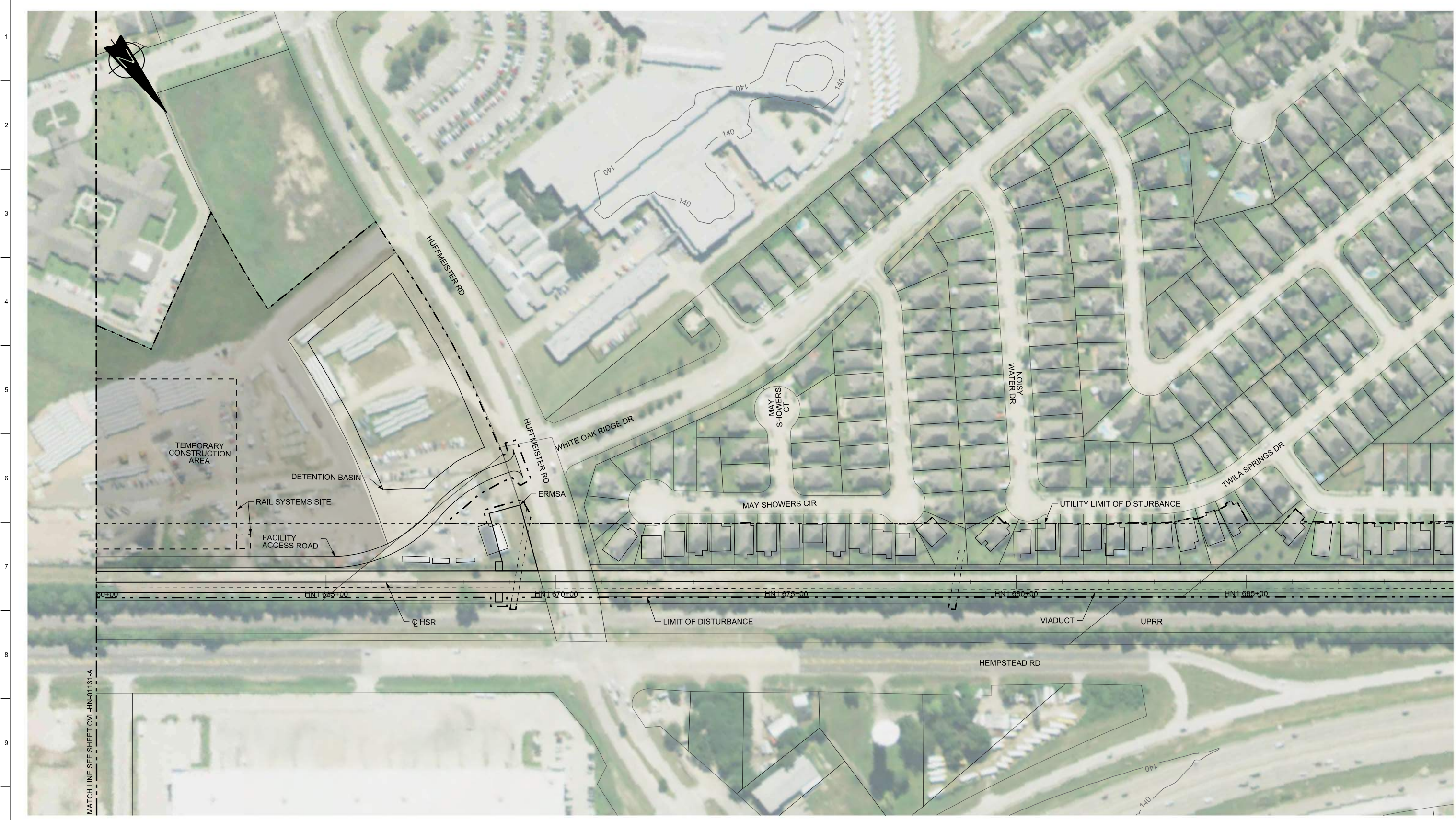
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 660+00 TO HN1 688+00**

Scale  
**AS SHOWN**

Drawing Status  
**FINAL**

Job No <b>234180</b>	Drawing No <b>CVL-HN-01132</b>	Rev <b>01</b>
-------------------------	-----------------------------------	------------------



1  
2  
3  
4  
5  
6  
7  
8  
9  
10

MATCH LINE SEE SHEET CVL-HN-01131-A

**PLAN**



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

**ARUP**

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Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

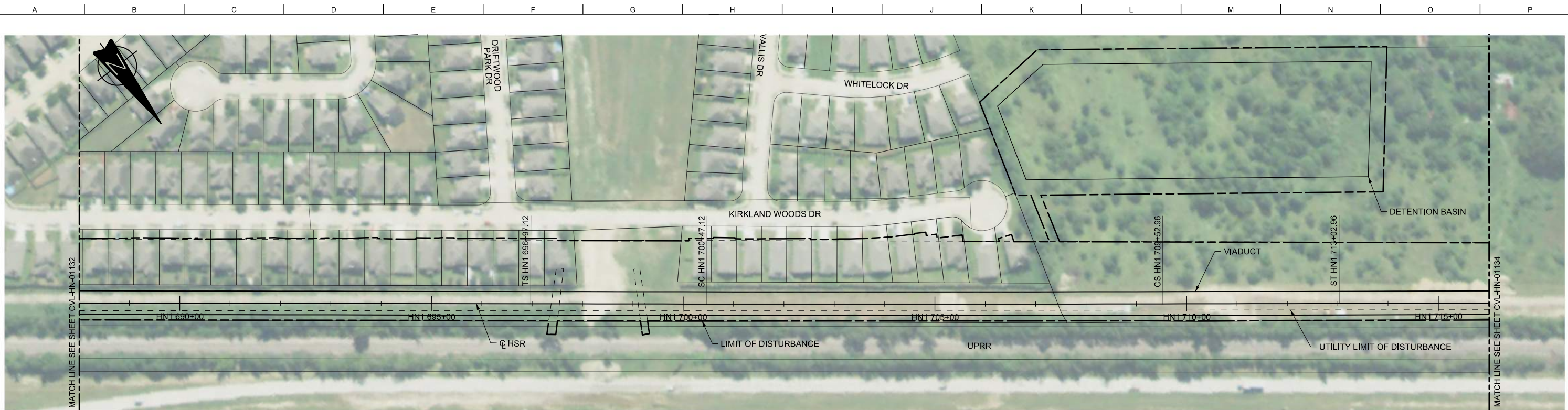
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

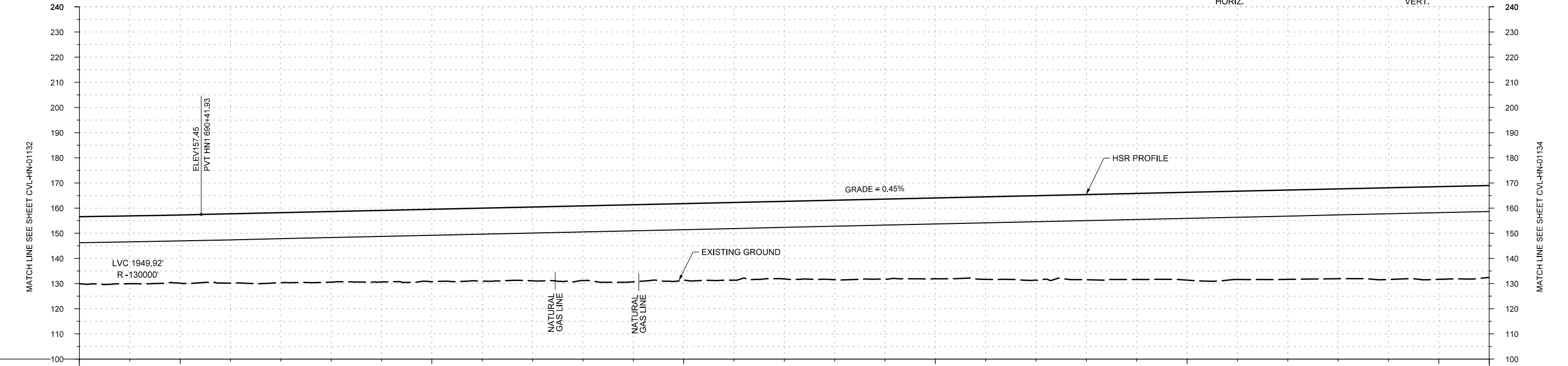
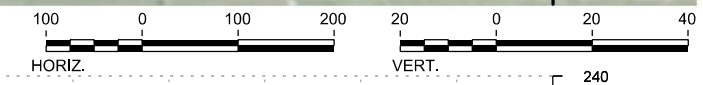
Scale  
**AS SHOWN**

Drawing Status  
**FINAL**

Job No <b>234180</b>	Drawing No <b>CVL-HN-01132-A</b>	Rev <b>01</b>
-------------------------	-------------------------------------	------------------



PLAN



PROFILE

STATIONING	HN1 688+00	HN1 690+00	HN1 695+00	HN1 700+00	HN1 705+00	HN1 710+00	HN1 715+00	HN1 716+00																				
HOR. ALIGNMENT	L=19350		L=350		RE=-320000 L=906		L=350	L=8582																				
VER. ALIGNMENT	R=-130000				L=2758.55 G=0.450%																							
CUT AND FILL	+26.7	+27.0	+27.2	+27.5	+27.9	+28.0	+28.5	+28.8	+29.0	+29.3	+29.7	+30.6	+30.5	+30.8	+30.9	+31.6	+31.8	+32.1	+32.8	+33.5	+33.9	+34.2	+34.9	+35.1	+35.5	+35.7	+36.5	+36.9
TYP. SECTION	VIADUCT (H)																											

DESIGNED BY	A. UTZ
DRAWN BY	J. BORGHESI
CHECKED BY	C. ZWIEBEL
IN CHARGE	C. TAYLOR
DATE	02/25/2019

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  
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Texas Registered Engineering Firm: F-1990

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Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

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

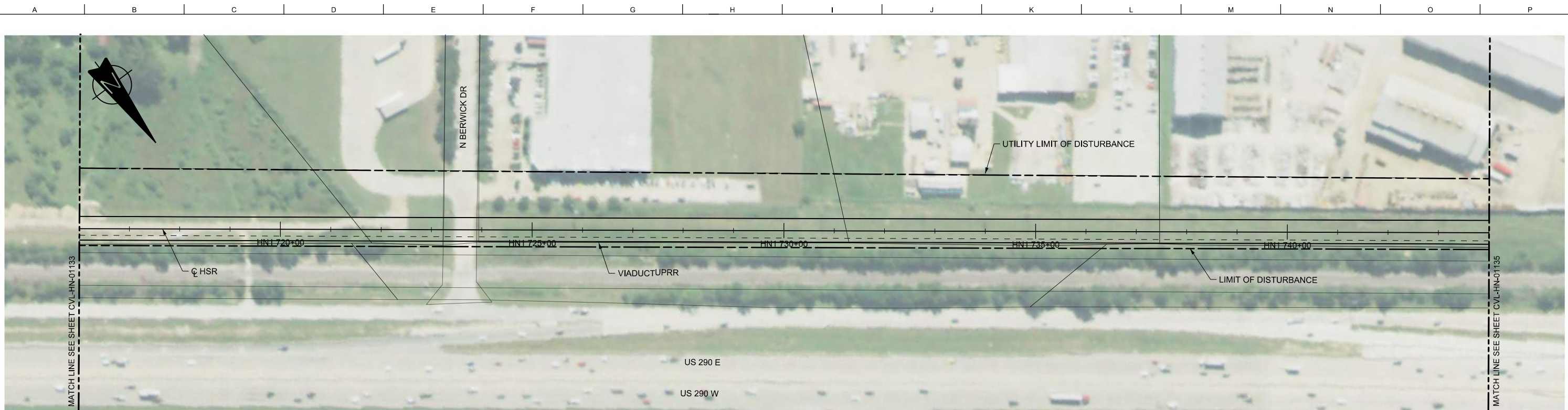
Drawing Title

**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 688+00 TO HN1 716+00**

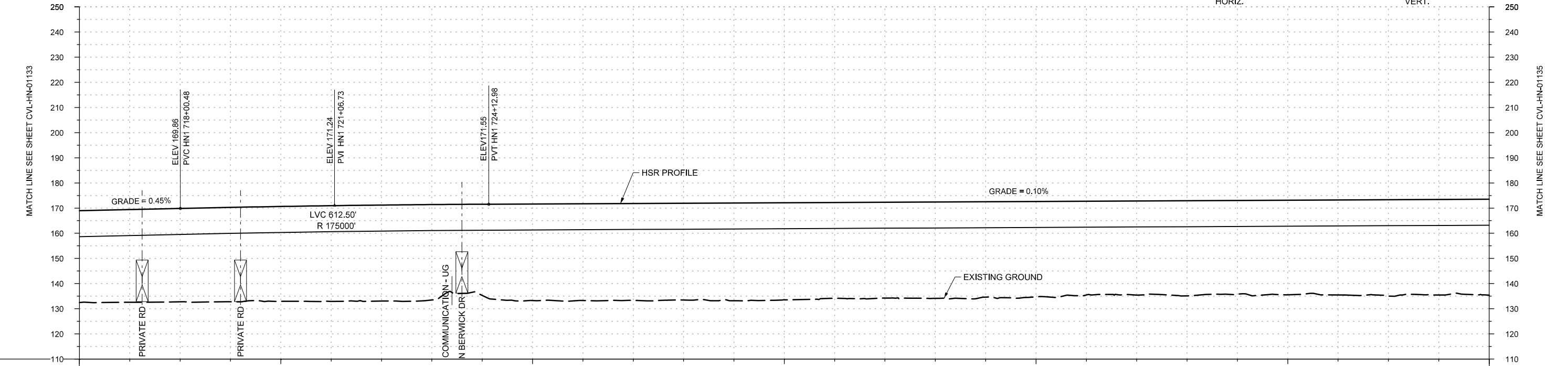
Scale  
AS SHOWN

Drawing Status  
**FINAL**

Job No	Drawing No	Rev
234180	CVL-HN-01133	01



PLAN



PROFILE

STATIONING	HN1 716+00	HN1 720+00	HN1 725+00	HN1 730+00	HN1 735+00	HN1 740+00	HN1 744+00
HOR. ALIGNMENT	L=8582						
VER. ALIGNMENT	L=2758.55 G=0.450%		R=175000			L=9268.41 G=0.100%	
CUT AND FILL	+36.5	+36.8	+37.2	+37.5	+37.7	+38.1	+38.2
TYP. SECTION	VIADUCT (H)						

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIEBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

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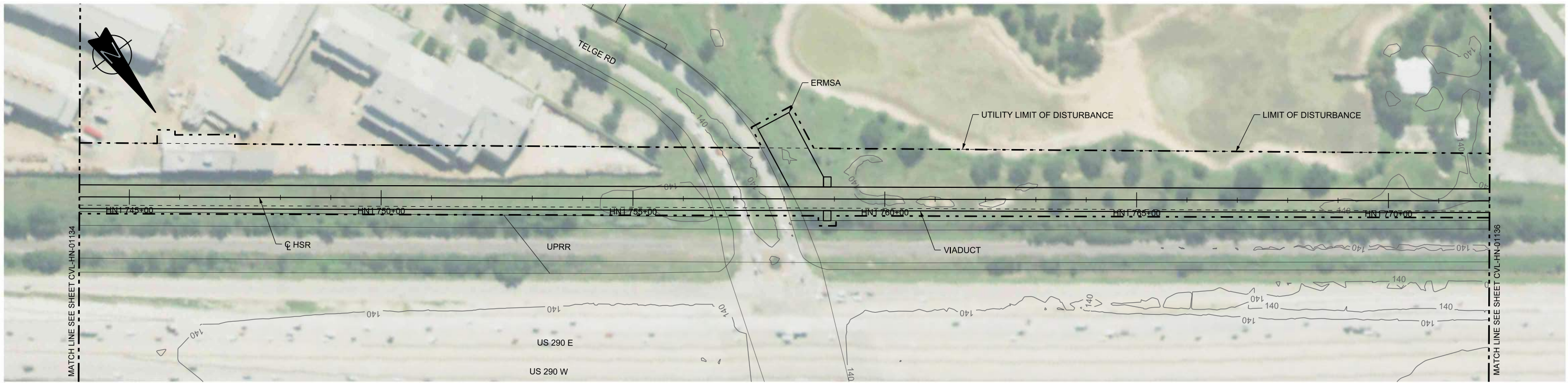
**FRESE AND NICHOLS**  
2711 North Haskell Ave., Suite 3300  
Dallas, Texas 75204  
Tel (214) 217 2200 Fax (214) 217 2201  
www.freese.com  
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
**TEXAS CENTRAL**  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

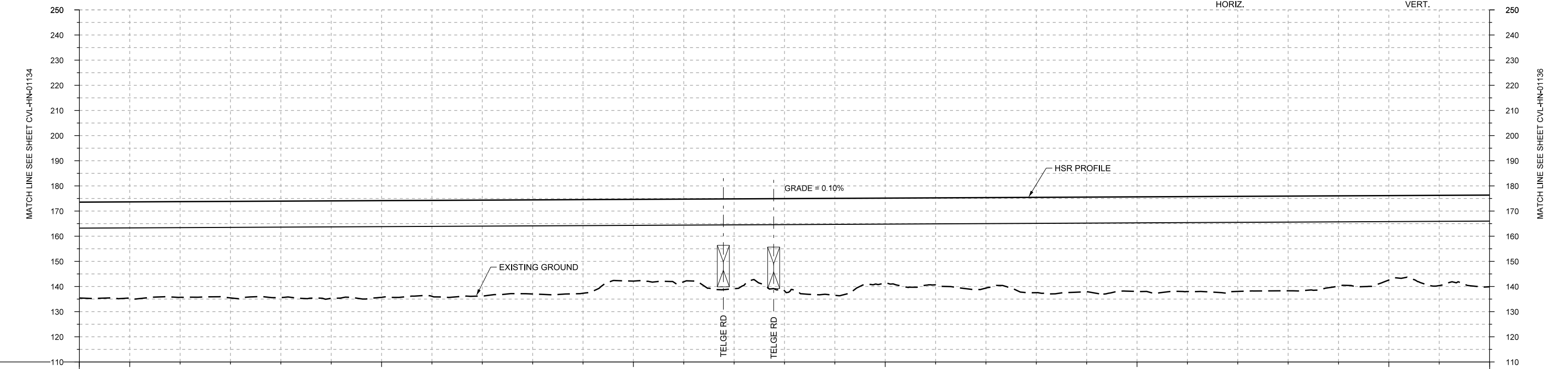
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**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 716+00 TO HN1 744+00**

Scale  
**AS SHOWN**  
Drawing Status  
**FINAL**  
Job No  
**234180**  
Drawing No  
**CVL-HN-01134**  
Rev  
**01**





PLAN



PROFILE

STATIONING	HN1 744+00	HN1 745+00	HN1 750+00	HN1 755+00	HN1 760+00	HN1 765+00	HN1 770+00	HN1 772+00																					
HOR. ALIGNMENT	L=8582																												
VER. ALIGNMENT	L=9268.41 G=0.100%																												
CUT AND FILL	+38.1	+36.2	+38.0	+38.3	+36.3	+38.7	+38.4	+38.1	+38.1	+37.4	+37.2	+32.5	+32.8	+35.7	+36.6	+38.5	+33.7	+34.5	+35.9	+37.9	+37.6	+37.6	+37.7	+37.8	+37.6	+36.8	+33.5	+35.8	+36.4
TYP. SECTION	VIADUCT (H)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>A. UTZ</b>
DRAWN BY <b>J. BORGHESI</b>
CHECKED BY <b>C. ZWIEBEL</b>
IN CHARGE <b>C. TAYLOR</b>
DATE <b>02/25/2019</b>

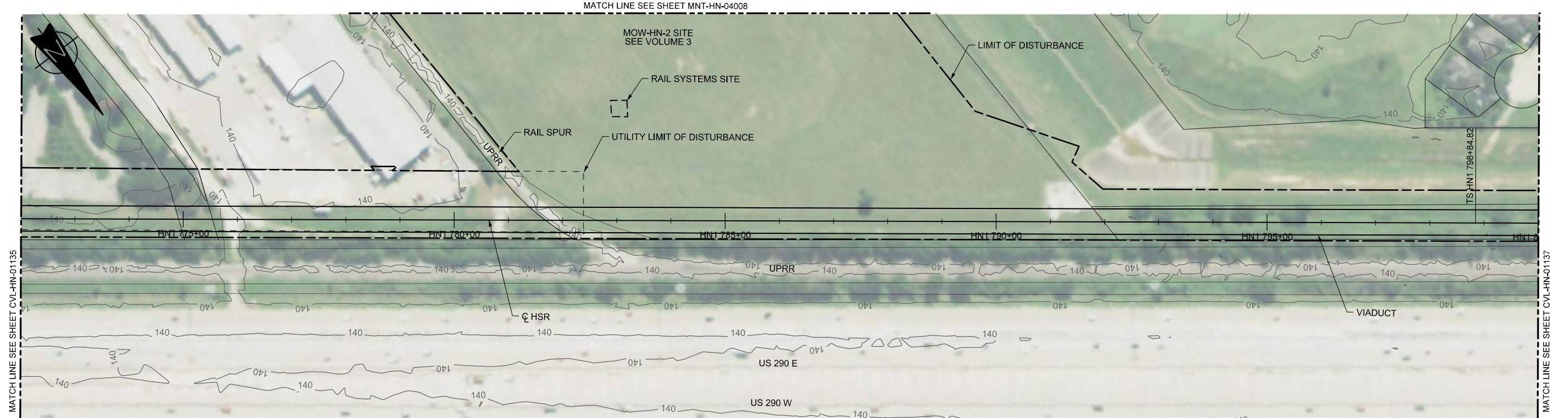
**ARUP**  
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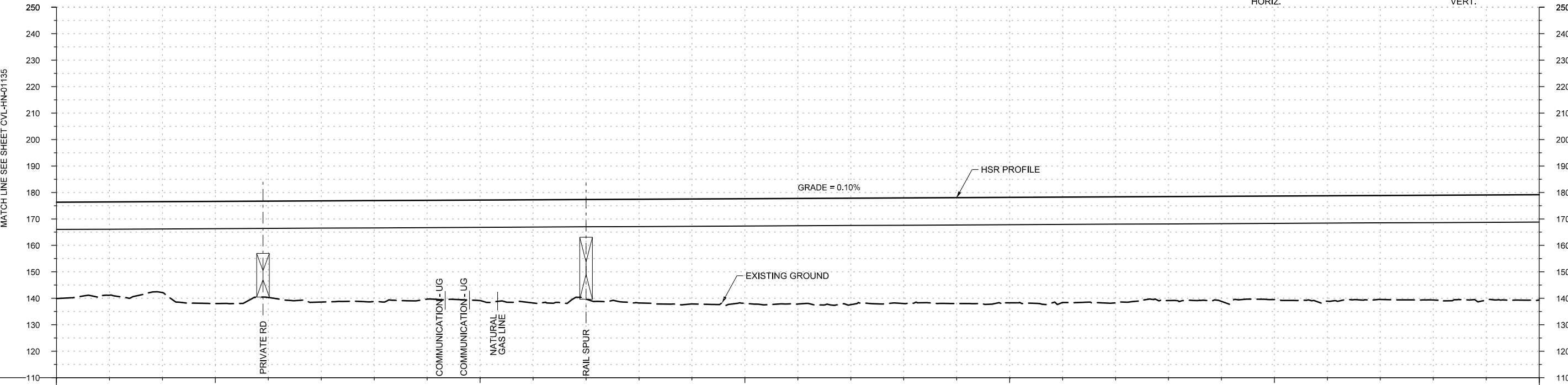
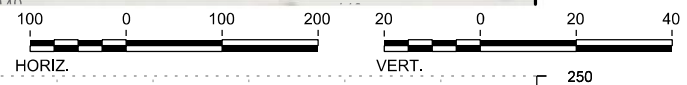
DALLAS TO HOUSTON HIGH-SPEED RAIL  
 FINAL CONCEPTUAL ENGINEERING  
  
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
 CIVIL  
 PLAN AND PROFILE  
 HN1 744+00 TO HN1 772+00**

Scale AS SHOWN		
Drawing Status <b>FINAL</b>		
Job No 234180	Drawing No CVL-HN-01135	Rev 01



PLAN



PROFILE

STATIONING	HN1 772+00	HN1 775+00	HN1 780+00	HN1 785+00	HN1 790+00	HN1 795+00	HN1 800+00																						
HOR. ALIGNMENT	L=8582						L=400																						
VER. ALIGNMENT	L=9268.41 G=0.100%																												
CUT AND FILL	+36.4	+35.3	+34.3	+36.6	+36.4	+38.2	+38.1	+37.3	+38.0	+38.9	+37.6	+38.2	+39.6	+39.5	+39.9	+40.2	+39.9	+40.0	+39.8	+39.8	+40.0	+38.3	+38.7	+38.1	+39.8	+39.2	+39.5	+39.7	+38.8
TYP. SECTION	VIADUCT (H)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

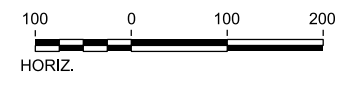
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 772+00 TO HN1 800+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-HN-01136	01	



PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**



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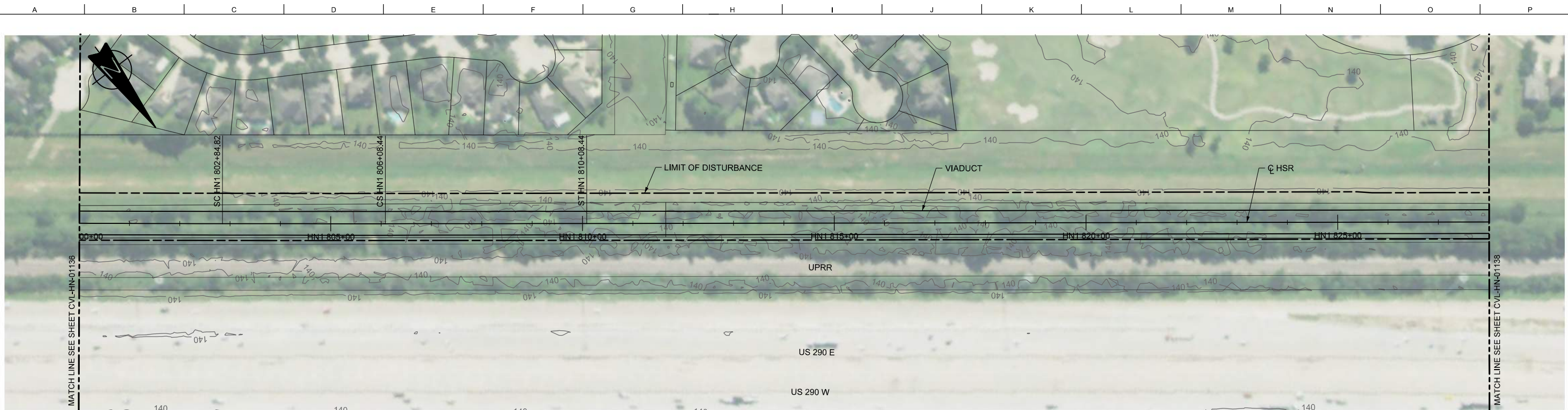
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING



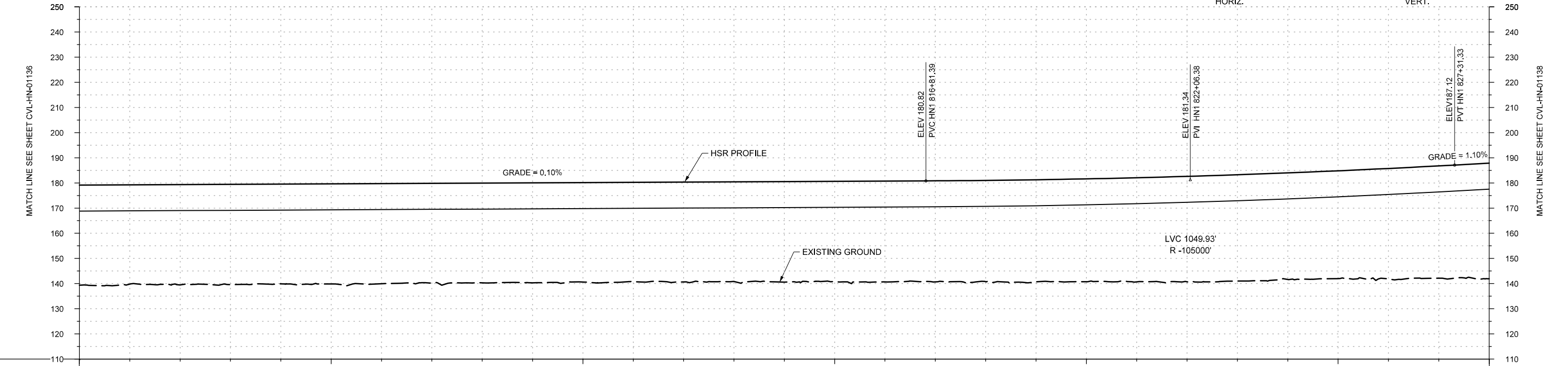
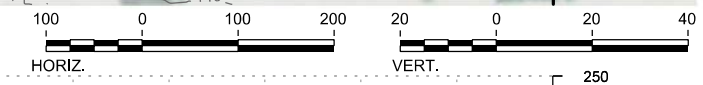
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-HN-01136-A	Rev 01



PLAN



PROFILE

STATIONING	HN1 800+00	HN1 805+00	HN1 810+00	HN1 815+00	HN1 820+00	HN1 825+00	HN1 828+00
HOR. ALIGNMENT	L=400		R=160000	L=400	L=12687		
VER. ALIGNMENT	L=324		L=9268.41	R=-105000		L=1468.40	
CUT AND FILL	+39.8	+39.8	+39.8	+39.7	+40.1	+42.3	+44.7
TYP. SECTION	VIADUCT (H)						

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**



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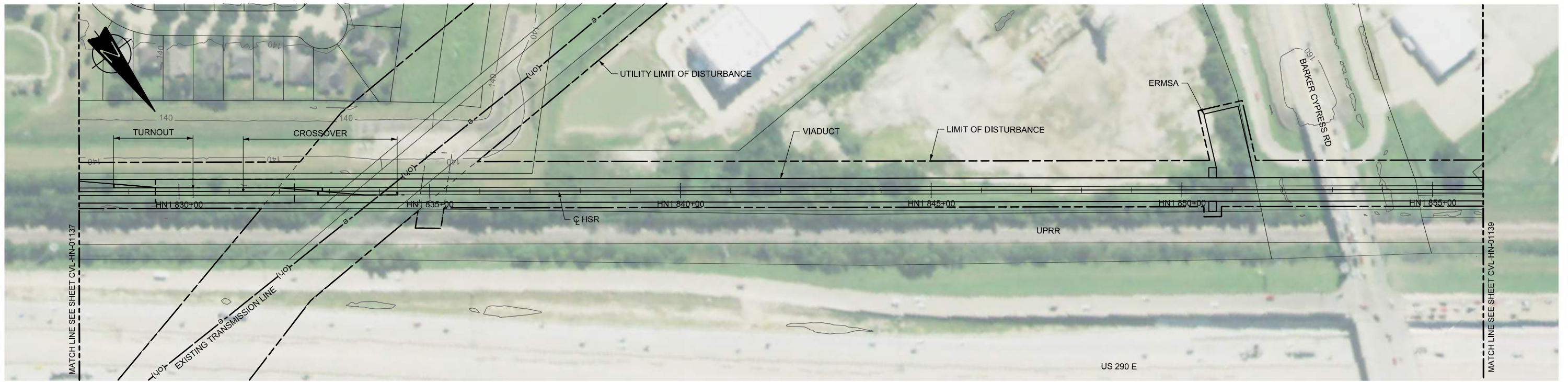
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING



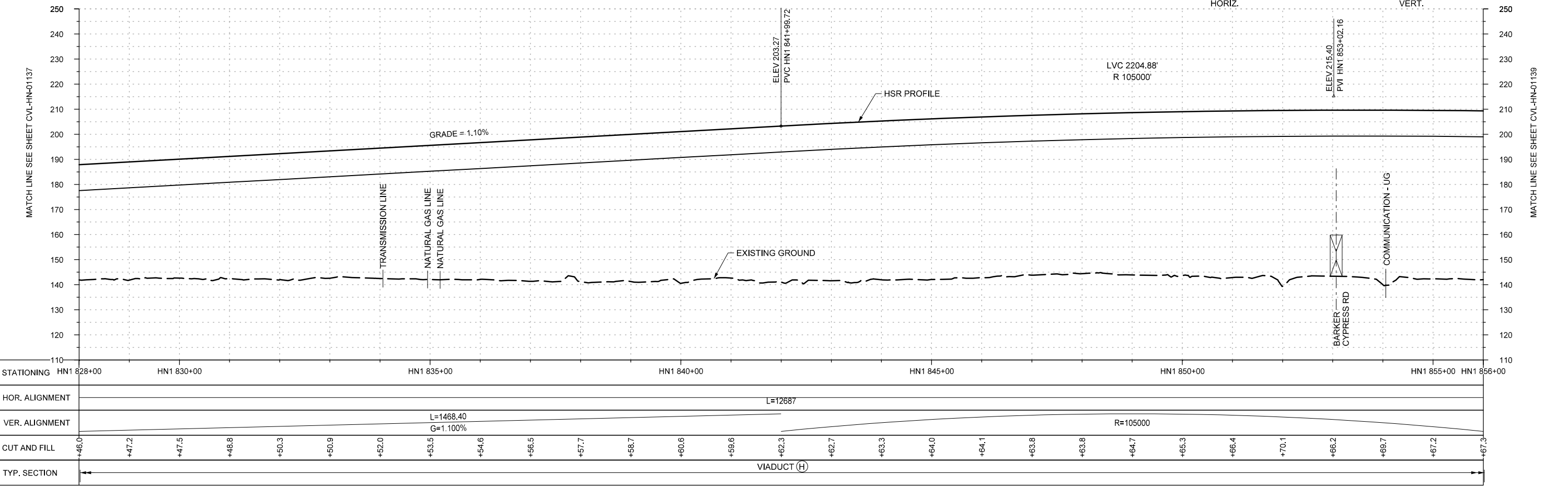
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 800+00 TO HN1 828+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	234180	Drawing No	CVL-HN-01137
Rev			01



PLAN



PROFILE

STATIONING	HN1 828+00	HN1 830+00	HN1 835+00	HN1 840+00	HN1 845+00	HN1 850+00	HN1 855+00	HN1 856+00																					
HOR. ALIGNMENT	L=12687																												
VER. ALIGNMENT	L=1468.40 G=1.100%				R=105000																								
CUT AND FILL	+46.0	+47.2	+47.5	+48.8	+50.3	+50.9	+52.0	+53.5	+54.6	+56.5	+57.7	+58.7	+60.6	+59.6	+62.3	+62.7	+63.3	+64.0	+64.1	+63.8	+63.8	+64.7	+65.3	+66.4	+70.1	+66.2	+68.7	+67.2	+67.3
TYP. SECTION	VIADUCT (H)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIEBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

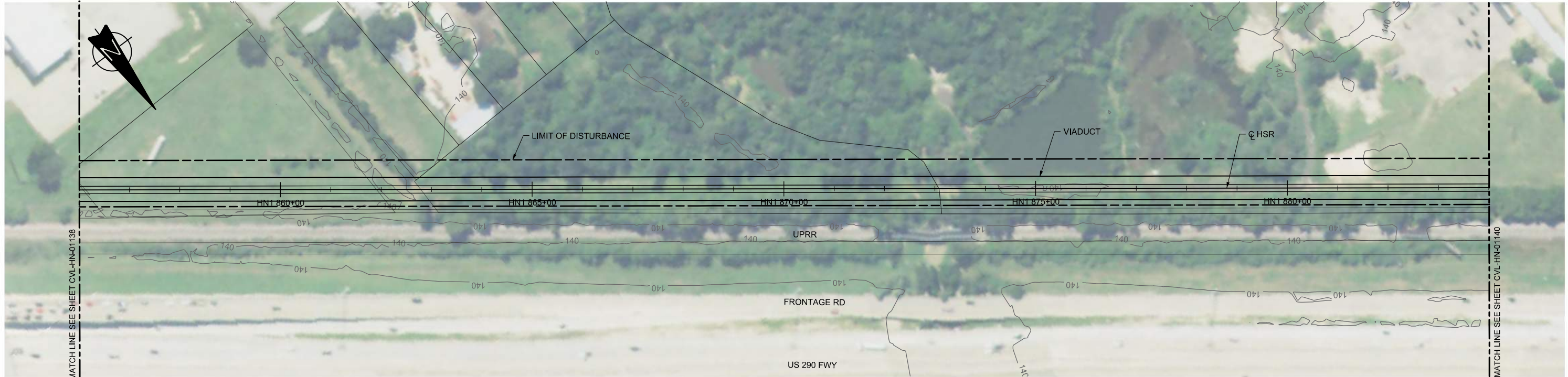
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 828+00 TO HN1 856+00**

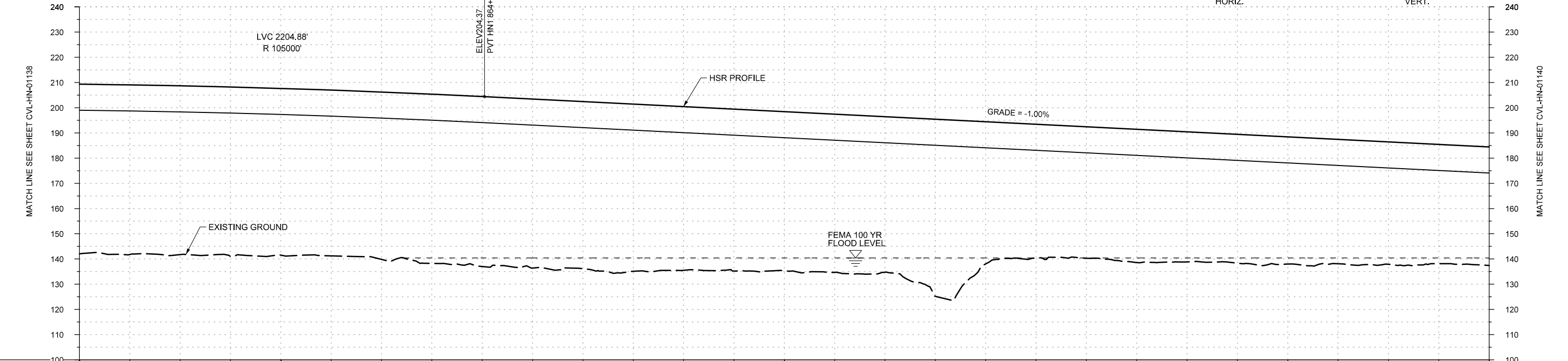
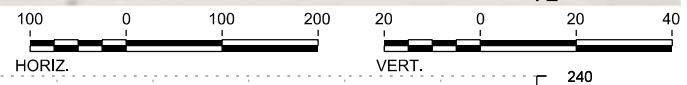
Scale  
**AS SHOWN**

Drawing Status  
**FINAL**

Job No	Drawing No	Rev
234180	CVL-HN-01138	01



PLAN



PROFILE

STATIONING	HN1 856+00	HN1 860+00	HN1 865+00	HN1 870+00	HN1 875+00	HN1 880+00	HN1 884+00																					
HOR. ALIGNMENT	L=12687																											
VER. ALIGNMENT	R=105000			L=2246.72 G=-1.000%																								
CUT AND FILL	+67.3	+67.0	+67.2	+66.1	+65.8	+66.4	+67.2	+67.4	+67.0	+66.3	+66.3	+64.9	+64.2	+63.0	+62.7	+61.6	+70.2	+56.3	+53.1	+52.1	+52.8	+51.6	+51.1	+50.4	+49.3	+48.5	+47.3	+47.0
TYP. SECTION	VIADUCT (H)																											

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

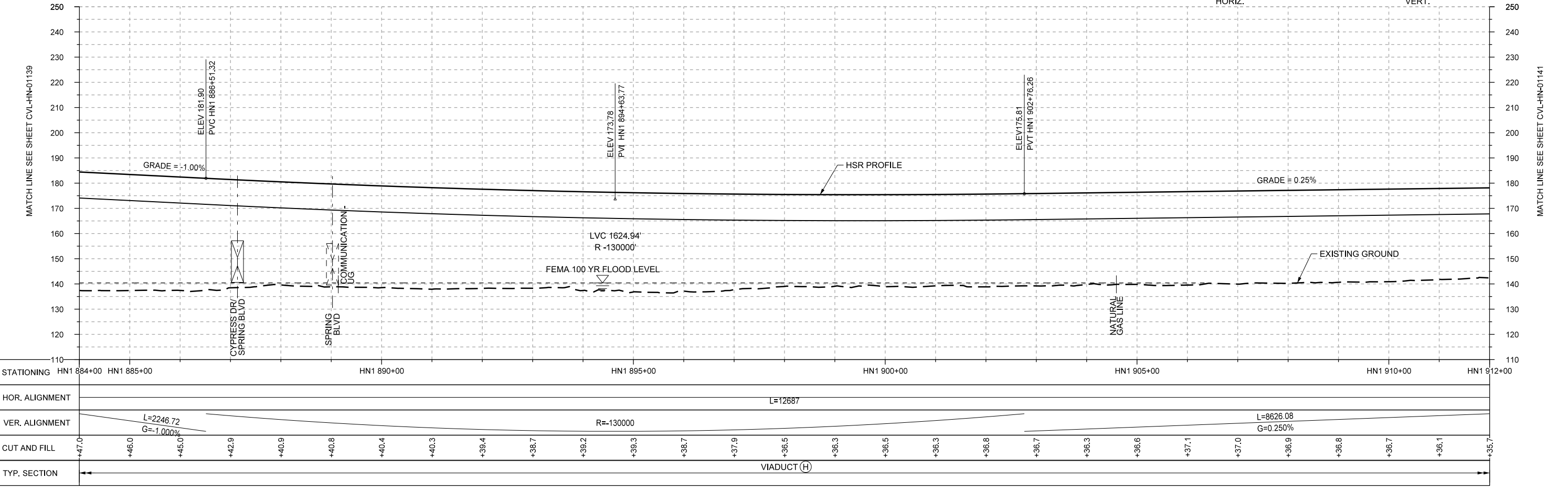
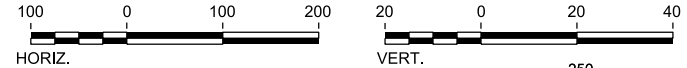
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 856+00 TO HN1 884+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	234180	Drawing No	CVL-HN-01139
Rev	01		



PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

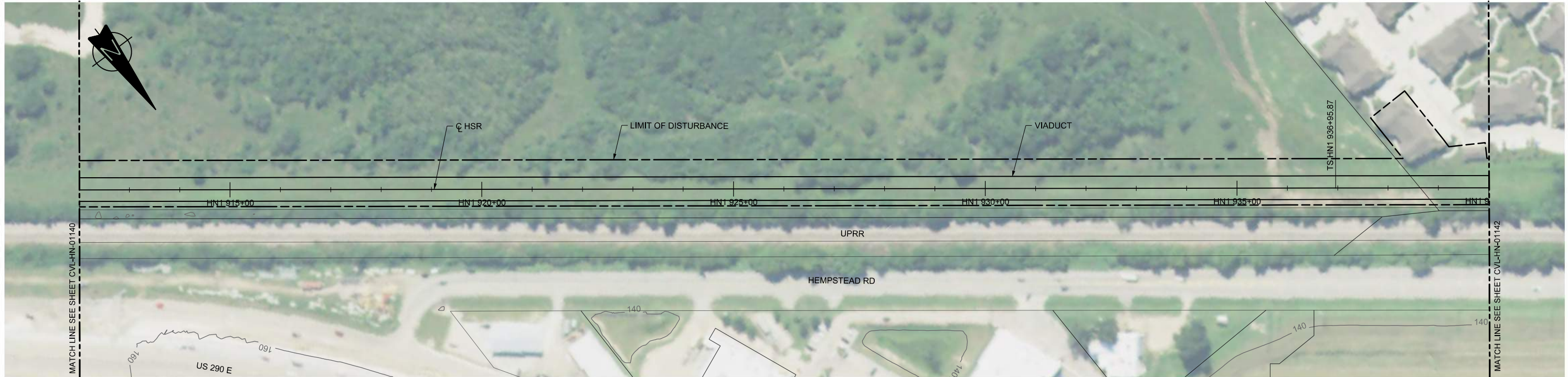
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 884+00 TO HN1 912+00**

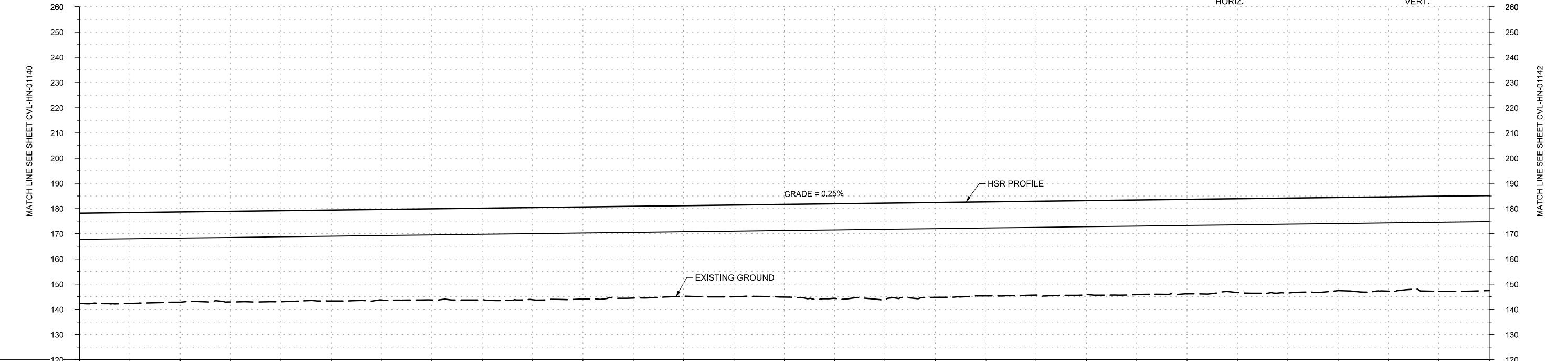
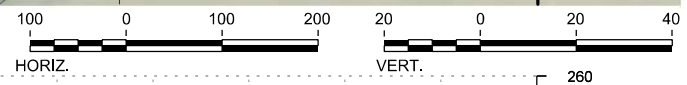
Scale  
**AS SHOWN**

Drawing Status  
**FINAL**

Job No <b>234180</b>	Drawing No <b>CVL-HN-01140</b>	Rev <b>03</b>
-------------------------	-----------------------------------	------------------



PLAN



PROFILE

STATIONING	HN1 912+00	HN1 915+00	HN1 920+00	HN1 925+00	HN1 930+00	HN1 935+00	HN1 940+00																			
HOR. ALIGNMENT	L=12687				L=1610																					
VER. ALIGNMENT	L=8626.08 G=0.250%																									
CUT AND FILL	+35.7	+36.0	+35.7	+35.9	+36.0	+35.9	+36.2	+36.2	+36.6	+36.5	+36.4	+35.9	+36.4	+36.7	+37.5	+38.3	+37.6	+37.3	+37.2	+37.4	+37.2	+37.6	+37.0	+37.4	+37.7	+37.7
TYP. SECTION	←												→													

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

**TEXAS CENTRAL**

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

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 912+00 TO HN1 940+00**

Scale  
**AS SHOWN**

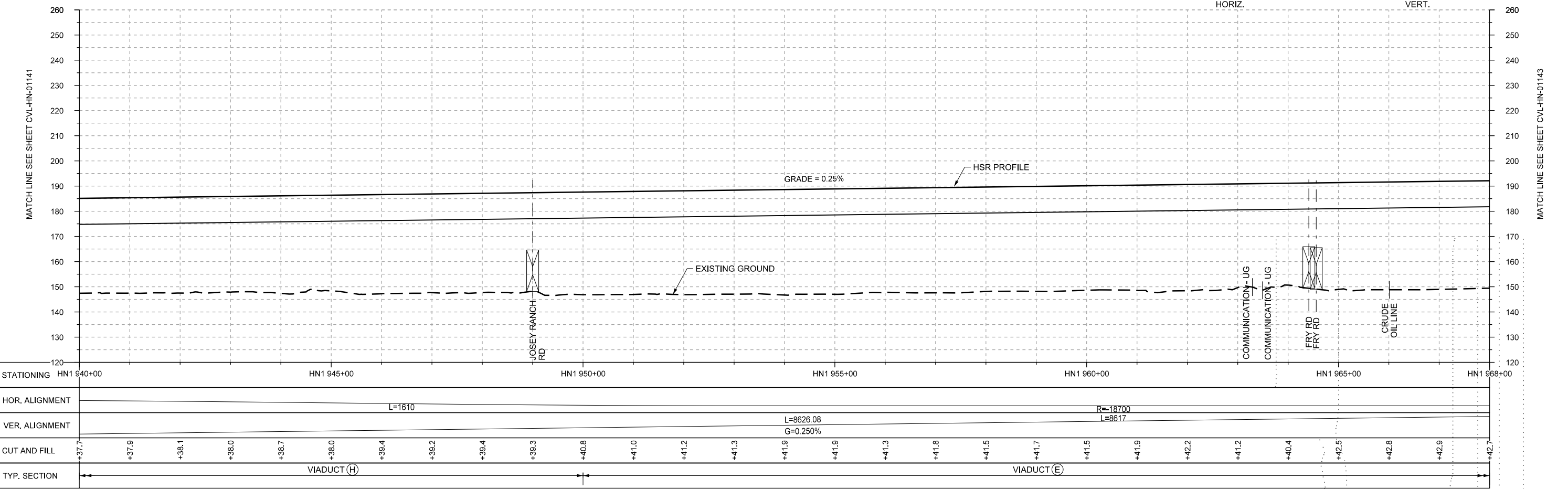
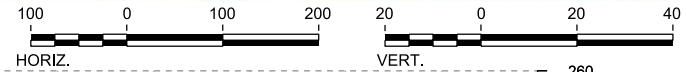
Drawing Status  
**FINAL**

Job No	Drawing No	Rev
234180	CVL-HN-01141	01





PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
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CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

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

Drawing Title  
**HOUSTON SEGMENT CIVIL  
PLAN AND PROFILE  
HN1 940+00 TO HN1 968+00**

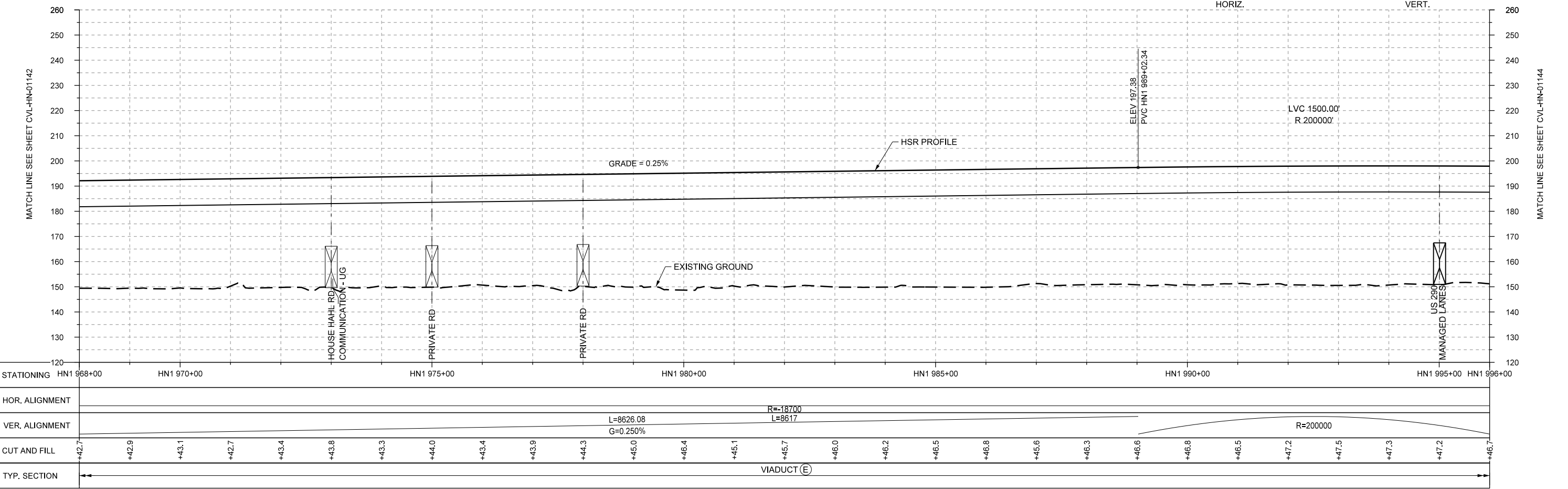
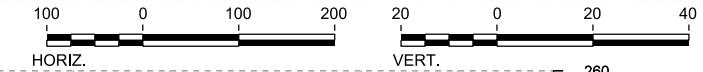
Scale  
**AS SHOWN**

Drawing Status  
**FINAL**

Job No <b>234180</b>	Drawing No <b>CVL-HN-01142</b>	Rev <b>01</b>
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PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

**ARUP**  
Arup Texas, Inc.  
10370 Richmond Ave., Suite 475  
Houston, Texas 77042 USA  
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www.arup.com  
Texas Registered Engineering Firm: F-2144

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

DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

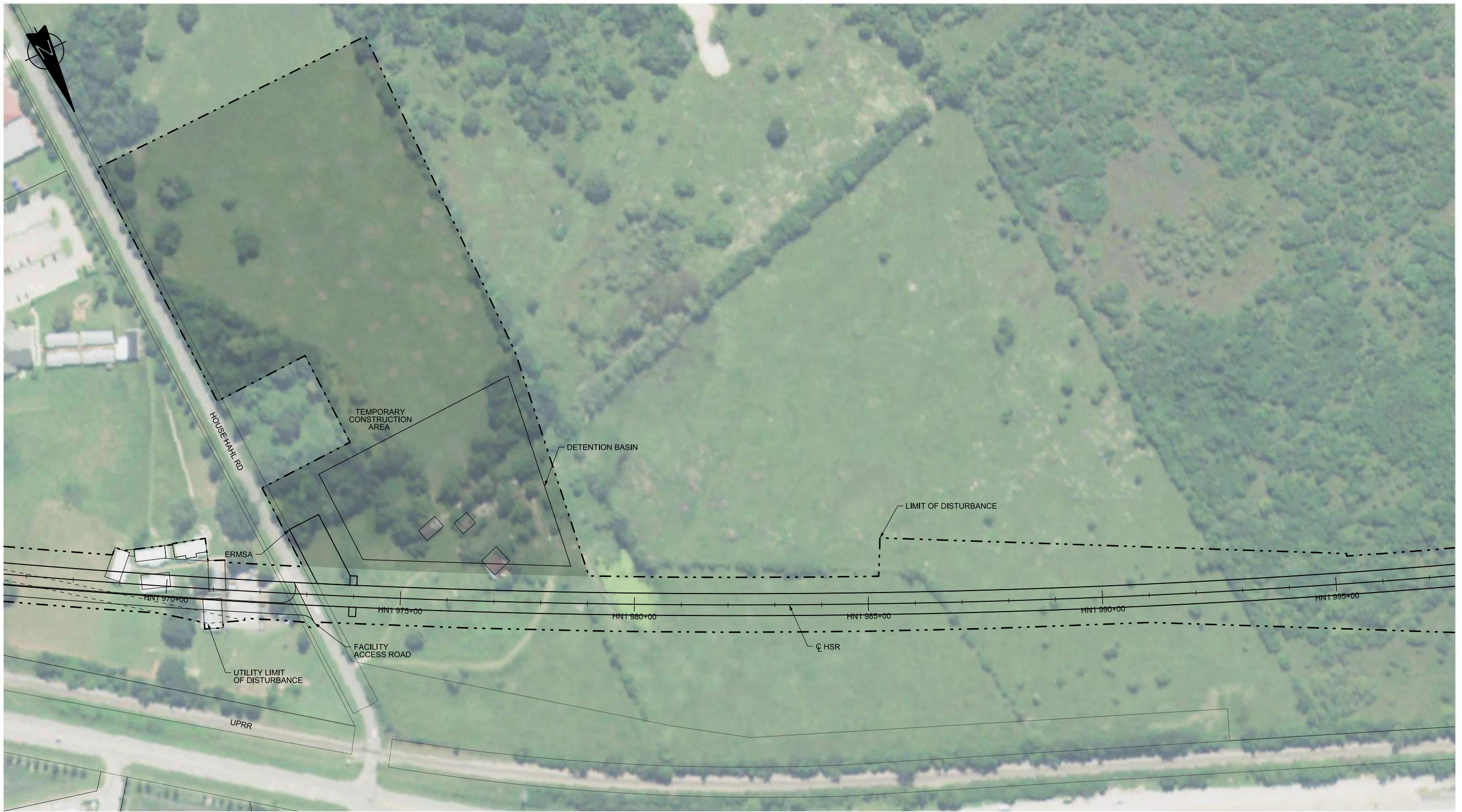
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 968+00 TO HN1 996+00**

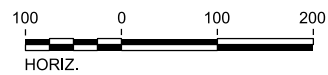
Scale  
AS SHOWN

Drawing Status  
**FINAL**

Job No 234180	Drawing No CVL-HN-01143	Rev 01
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PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

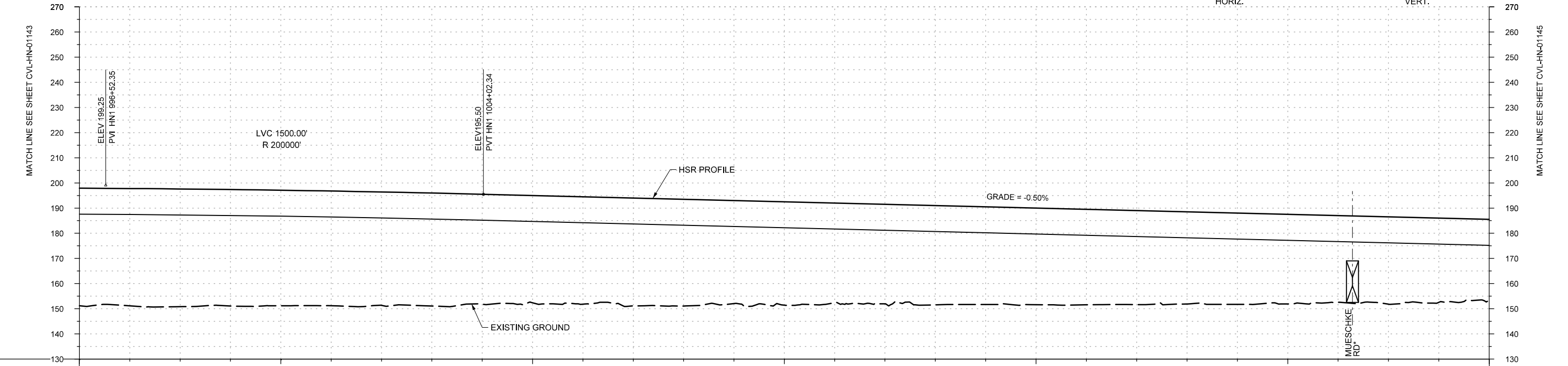
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-HN-01143-A	Rev 01



PLAN



PROFILE

STATIONING	HN1 996+00	HN1 1000+00	HN1 1005+00	HN1 1010+00	HN1 1015+00	HN1 1020+00	HN1 1024+00
HOR. ALIGNMENT							
VER. ALIGNMENT	R=200000			R=18700 L=8617		L=2344.74 G=-0.500%	
CUT AND FILL	+46.7	+46.8	+46.3	+45.9	+45.6	+45.1	+44.9
TYP. SECTION	VIADUCT (E)						

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**



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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING



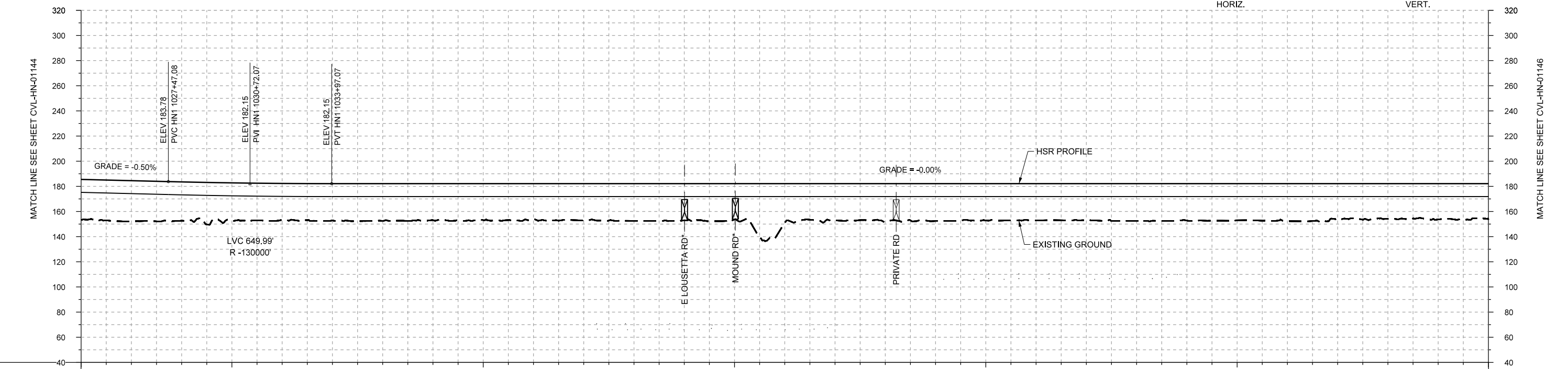
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 996+00 TO HN1 1024+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	234180	Drawing No	CVL-HN-01144
Rev			01



PLAN



STATIONING	HN1 1024+00	HN1 1030+00	HN1 1040+00	HN1 1050+00	HN1 1060+00	HN1 1070+00	HN1 1080+00
HOR. ALIGNMENT							
VER. ALIGNMENT	L=2344.74 G=-0.500%		R=-18700 L=8617 R=-130000			L=1610 L=10182.06 G=-0.000%	
CUT AND FILL							
TYP. SECTION	VIADUCT (E)						

PROFILE

\*ROADS NOT SHOWN IN PLAN, SEE MTFP FOR LOCATIONS.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

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**C. TAYLOR**

DATE  
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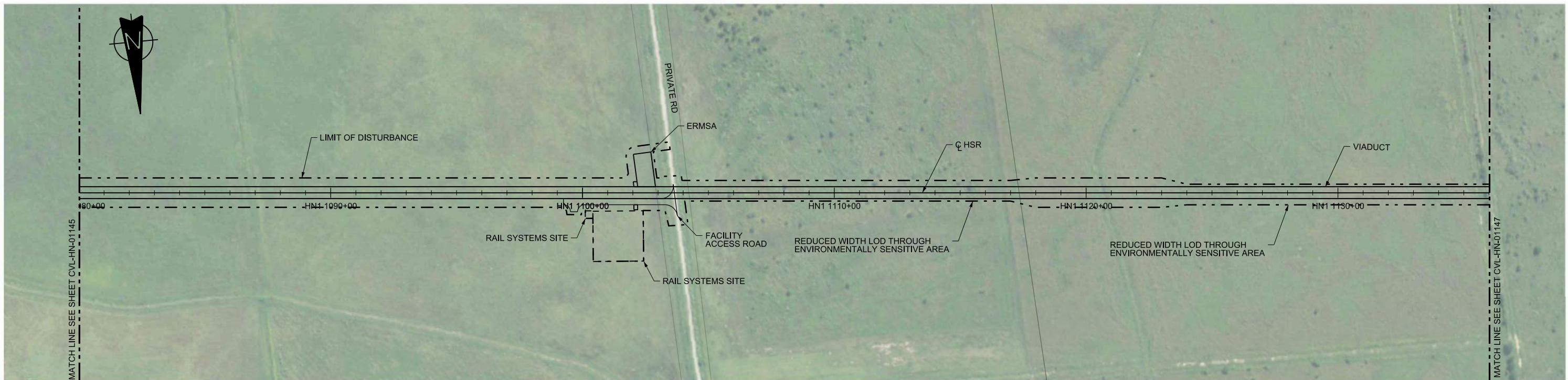
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

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

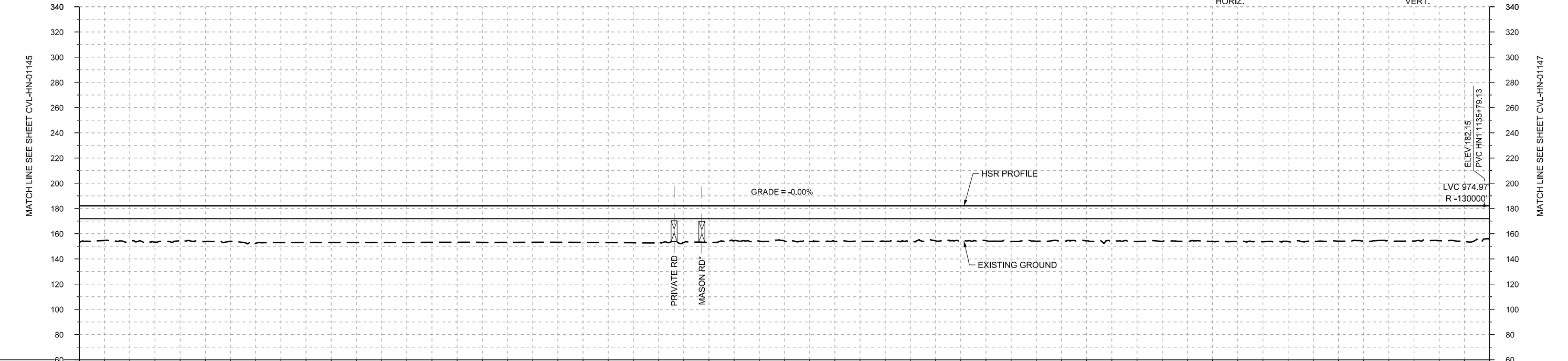
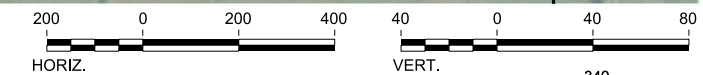
Drawing Title

**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 1024+00 TO HN1 1080+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-HN-01145	01	



PLAN



PROFILE

STATIONING	HN1 1080+00	HN1 1090+00	HN1 1100+00	HN1 1110+00	HN1 1120+00	HN1 1130+00	HN1 1136+00
HOR. ALIGNMENT	L=9698						
VER. ALIGNMENT	L=10182.06 G=-0.000%						
CUT AND FILL	+28.7	+28.4	+27.8	+28.2	+28.3	+29.2	+29.0
TYP. SECTION	VIADUCT (E)						

\*ROADS NOT SHOWN IN PLAN, SEE MTFP FOR LOCATIONS.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIEBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**



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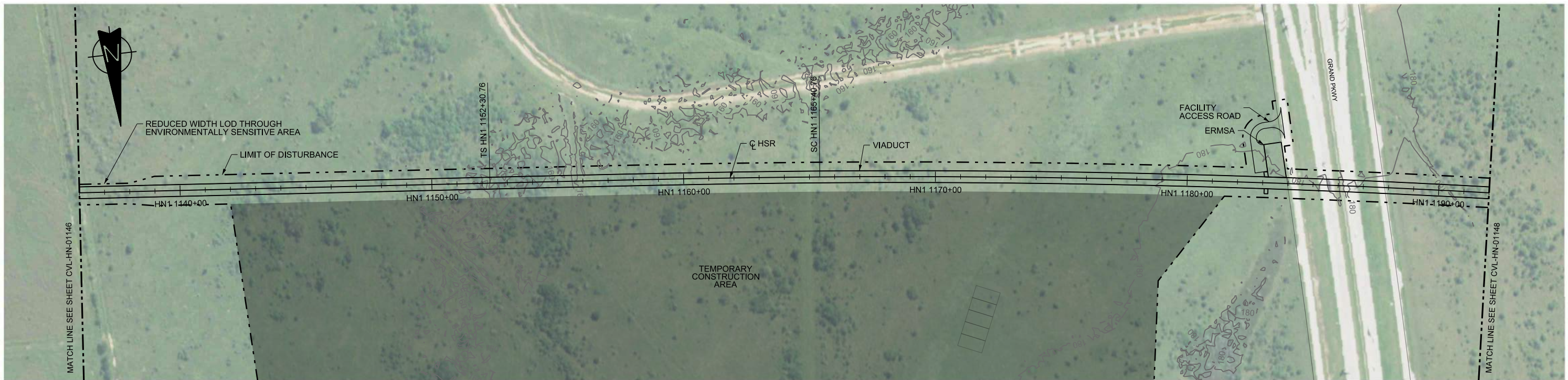
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING



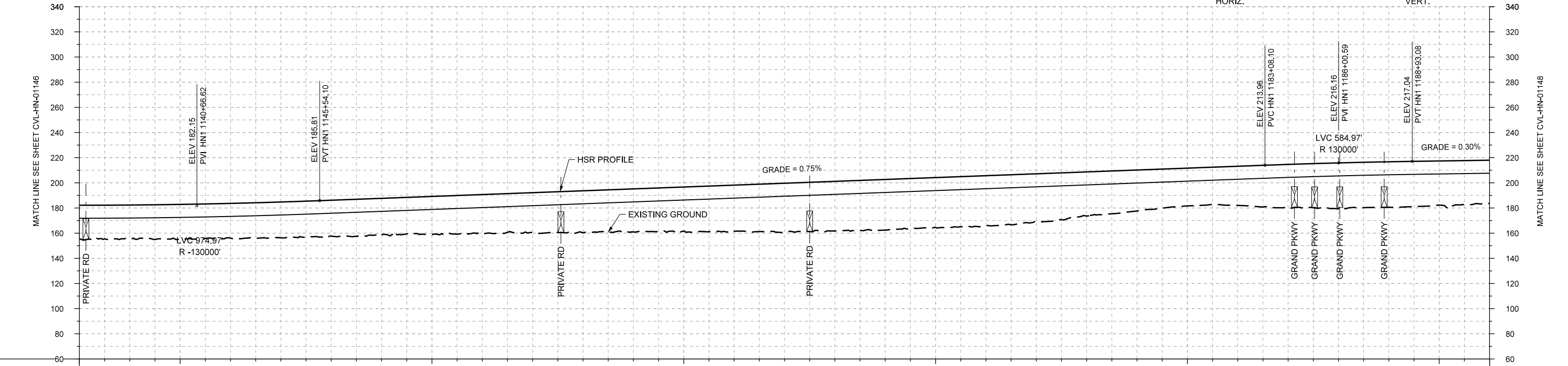
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 1080+00 TO HN1 1136+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	234180	Drawing No	CVL-HN-01146
Rev			01



PLAN



PROFILE

STATIONING	HN1 1136+00	HN1 1140+00	HN1 1150+00	HN1 1160+00	HN1 1170+00	HN1 1180+00	HN1 1190+00	HN1 1192+00
HOR. ALIGNMENT	L=5231				L=1310			
VER. ALIGNMENT	R=130000				L=3754.00 G=0.750%			
CUT AND FILL	+26.6	+26.8	+27.6	+27.6	+28.5	+28.5	+29.2	+30.3
TYP. SECTION	VIADUCT (E)							

\*ROADS NOT SHOWN IN PLAN, SEE MTFP FOR LOCATIONS.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIEBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
**TEXAS CENTRAL**  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT CIVIL  
PLAN AND PROFILE  
HN1 1136+00 TO HN1 1192+00**

Scale	AS SHOWN
Drawing Status	FINAL
Job No	234180
Drawing No	CVL-HN-01147
Rev	01



MATCH LINE SEE SHEET CVL-HN-01147-B



PLAN

HORIZ.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

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

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-HN-01147-A	Rev 01

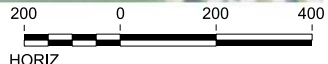


MATCH LINE SEE SHEET CVL-HN-01147-A



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PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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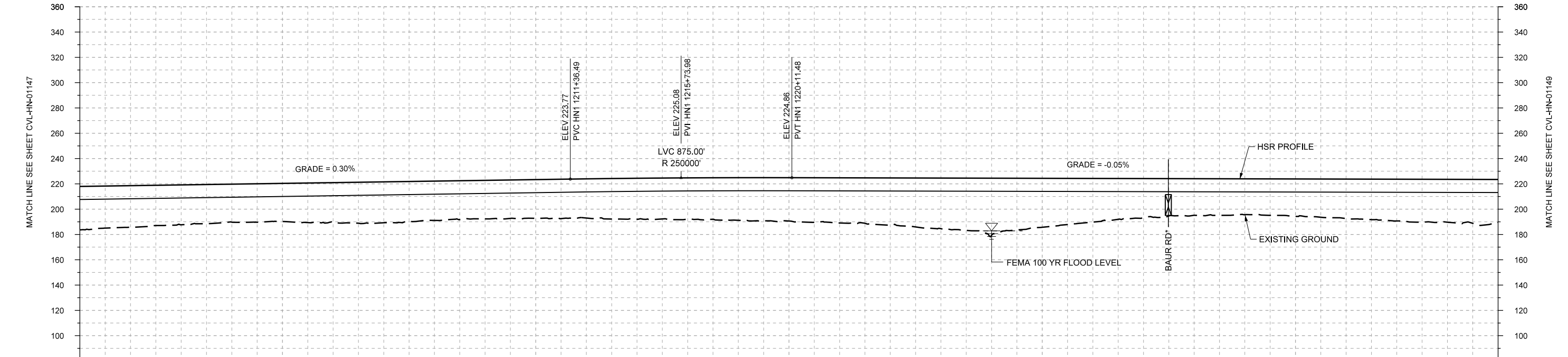
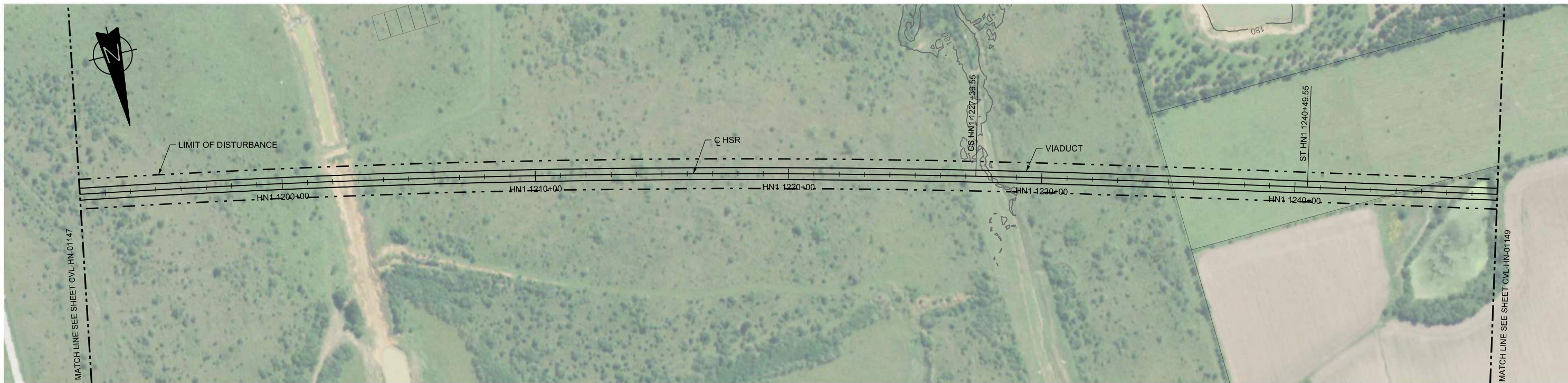
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

**TEXAS CENTRAL**

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

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-HN-01147-B	Rev 01



STATIONING	HN1 1192+00	HN1 1200+00	HN1 1210+00	HN1 1220+00	HN1 1230+00	HN1 1240+00	HN1 1248+00																						
HOR. ALIGNMENT			R=42000 L=6199			L=1310	L=18709																						
VER. ALIGNMENT	L=2243.41 G=0.300%			R=250000		L=4198.86 G=-0.050%																							
CUT AND FILL	+34.4	+33.0	+31.6	+30.1	+30.1	+31.3	+32.3	+31.1	+30.5	+30.9	+30.9	+32.4	+32.6	+33.7	+34.3	+35.7	+37.4	+40.0	+45.2	+38.7	+34.5	+31.0	+28.9	+28.4	+28.6	+31.2	+33.0	+33.9	+34.0
TYP. SECTION	VIADUCT (E)																												

\*ROADS NOT SHOWN IN PLAN, SEE MTFP FOR LOCATIONS.

REV	DATE	BY	CHK	APP	DESCRIPTION

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**FREESSE AND NICHOLS**

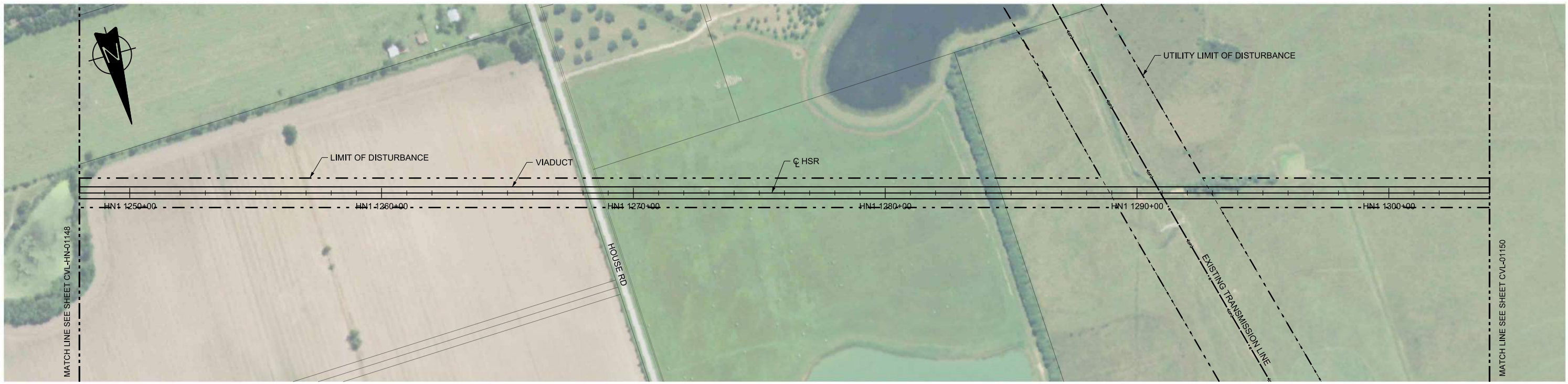
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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

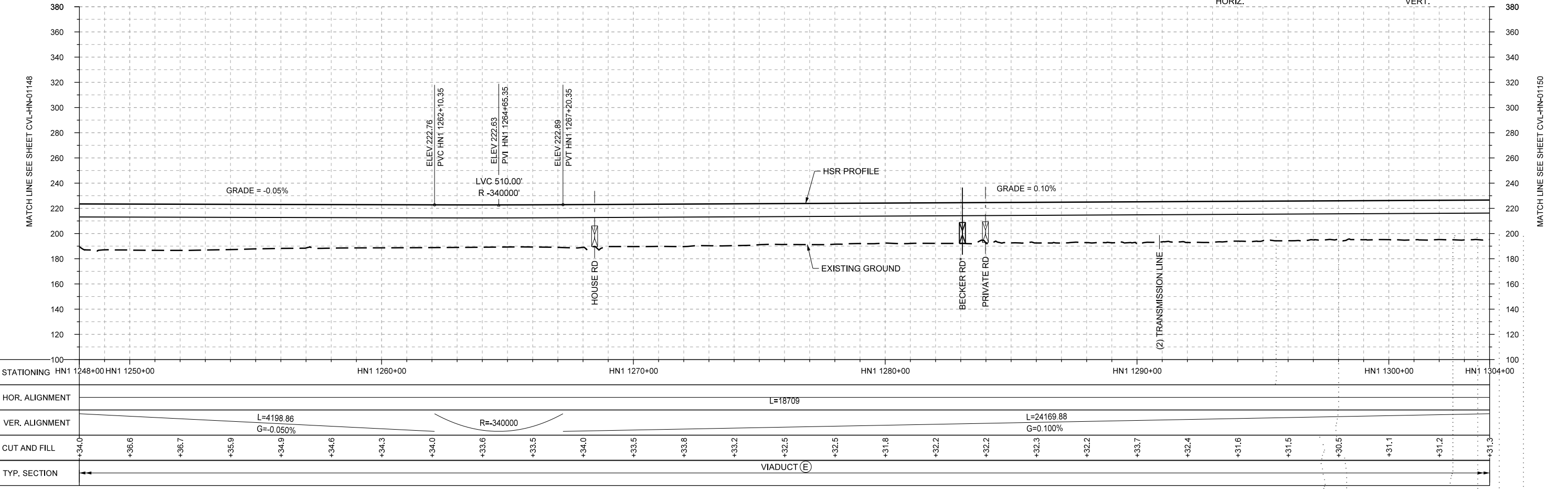
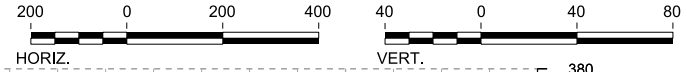
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 1192+00 TO HN1 1248+00**

Scale AS SHOWN	Drawing Status <b>FINAL</b>	
Job No 234180	Drawing No CVL-HN-01148	Rev 01



PLAN



PROFILE

\*ROADS NOT SHOWN IN PLAN, SEE MTFP FOR LOCATIONS.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>A. UTZ</b>
DRAWN BY <b>J. BORGHESI</b>
CHECKED BY <b>C. ZWIEBEL</b>
IN CHARGE <b>C. TAYLOR</b>
DATE <b>02/25/2019</b>



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Drawing Title  
**HOUSTON SEGMENT CIVIL PLAN AND PROFILE**  
HN1 1248+00 TO HN1 1304+00

Scale <b>AS SHOWN</b>		
Drawing Status <b>FINAL</b>		
Job No <b>234180</b>	Drawing No <b>CVL-HN-01149</b>	Rev <b>01</b>



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PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

**TEXAS CENTRAL**

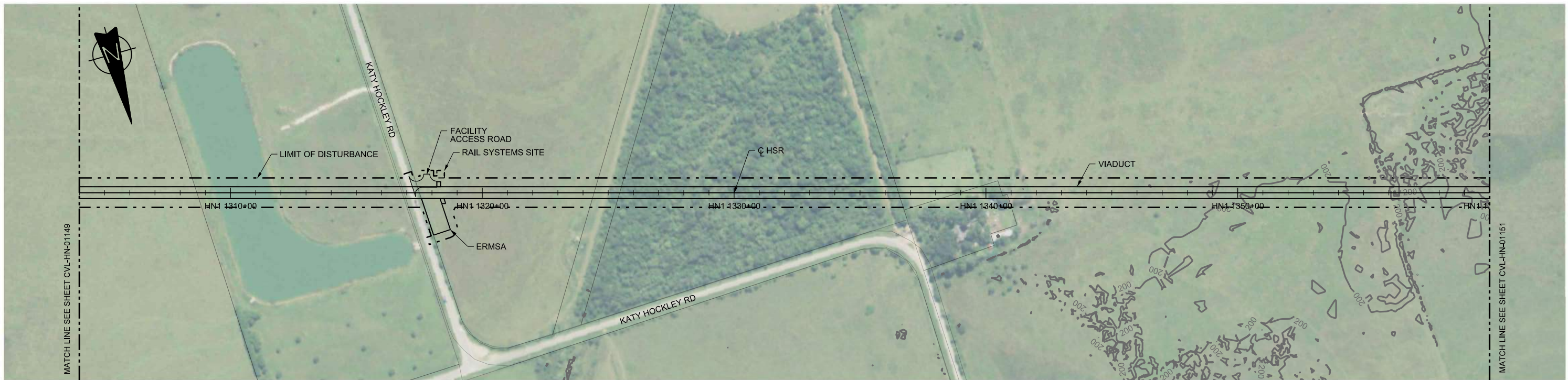
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

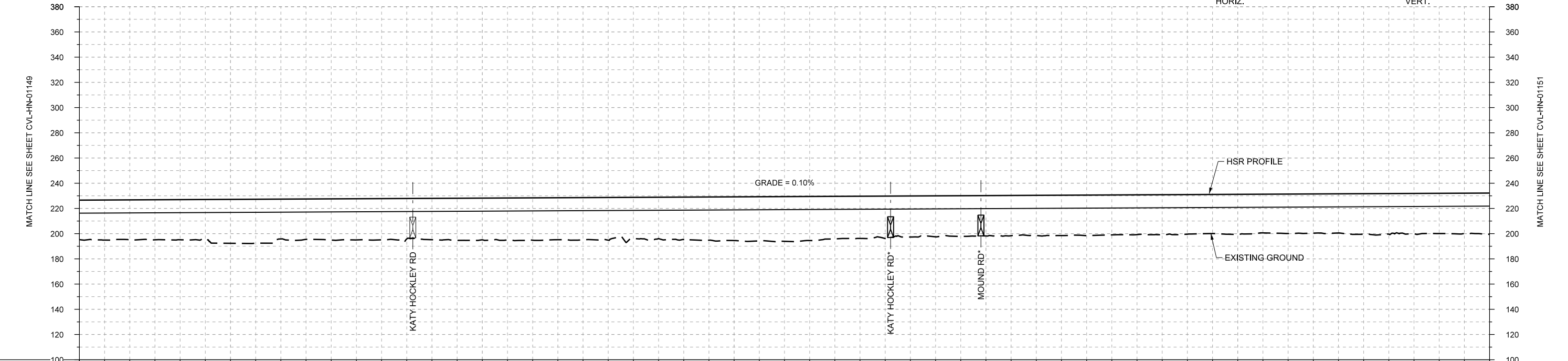
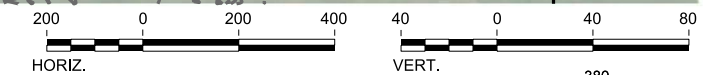
Scale  
**AS SHOWN**

Drawing Status  
**FINAL**

Job No <b>234180</b>	Drawing No <b>CVL-HN-01149-A</b>	Rev <b>01</b>
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PLAN



PROFILE

STATIONING	HN1 1304+00	HN1 1310+00	HN1 1320+00	HN1 1330+00	HN1 1340+00	HN1 1350+00	HN1 1360+00																						
HOR. ALIGNMENT	L=18709																												
VER. ALIGNMENT	L=24169.88 G=0.100%																												
CUT AND FILL	+31.3	+31.5	+31.9	+34.9	+31.6	+32.7	+32.8	+32.8	+33.1	+33.6	+33.5	+32.7	+33.7	+34.7	+35.5	+33.8	+33.7	+32.5	+32.0	+31.9	+32.2	+31.6	+31.5	+31.7	+31.3	+31.1	+32.2	+31.9	+32.8
TYP. SECTION	VIADUCT (E)																												

\*ROADS NOT SHOWN IN PLAN, SEE MTFP FOR LOCATIONS.

DESIGNED BY	A. UTZ
DRAWN BY	J. BORGHESI
CHECKED BY	C. ZWIBEL
IN CHARGE	C. TAYLOR
DATE	02/25/2019

REV	DATE	BY	CHK	APP	DESCRIPTION

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE**

HN1 1304+00 TO HN1 1360+00

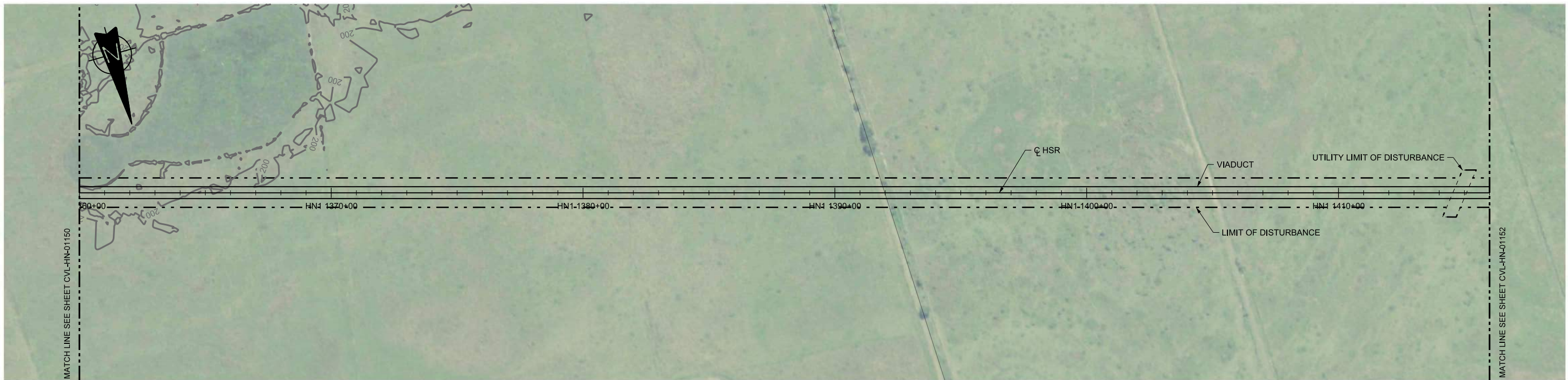
Scale

AS SHOWN

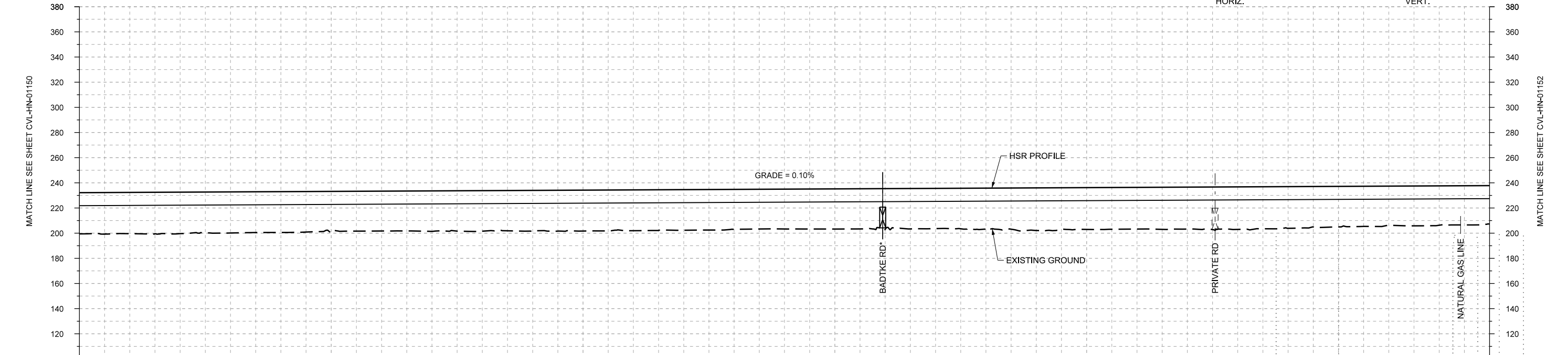
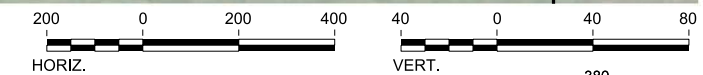
Drawing Status

**FINAL**

Job No	Drawing No	Rev
234180	CVL-HN-01150	01



PLAN



PROFILE

STATIONING	HN1 1360+00	HN1 1370+00	HN1 1380+00	HN1 1390+00	HN1 1400+00	HN1 1410+00	HN1 1416+00
HOR. ALIGNMENT	L=18709						
VER. ALIGNMENT	L=24169.88 G=0.100%						
CUT AND FILL	+32.8	+32.8	+33.0	+32.7	+32.5	+31.6	+31.7
TYP. SECTION	VIADUCT (E)						

\*ROADS NOT SHOWN IN PLAN, SEE MTFP FOR LOCATIONS.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIBEL**  
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**C. TAYLOR**  
DATE  
**02/25/2019**



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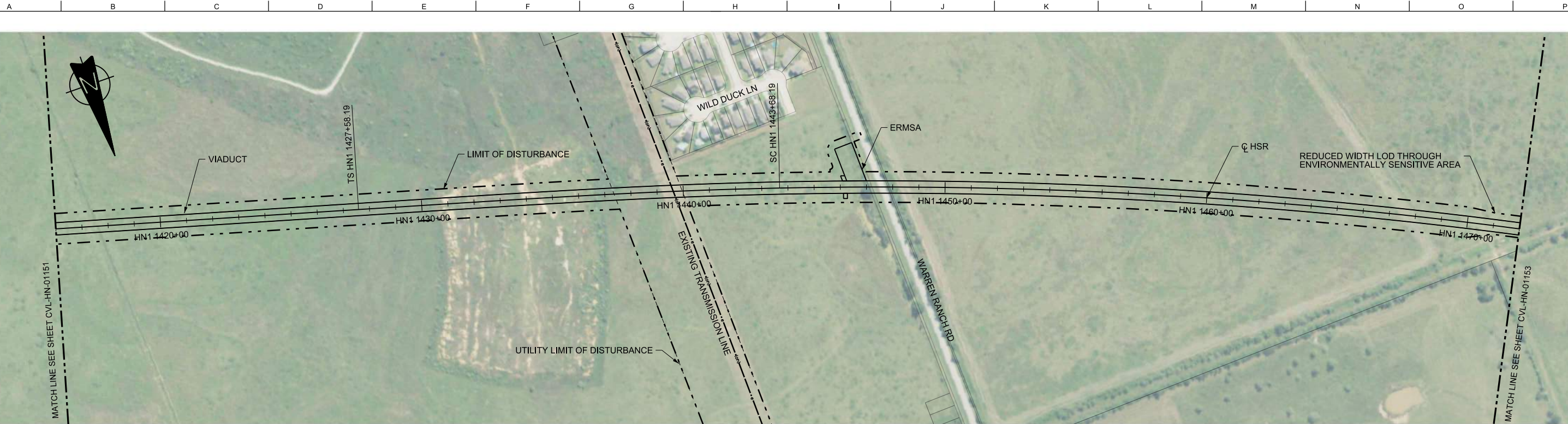
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING



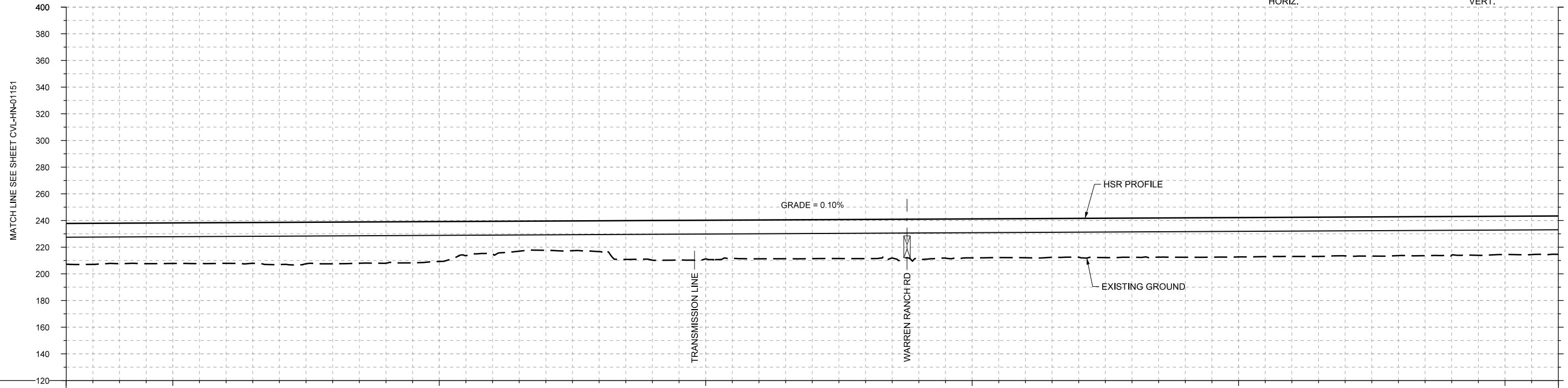
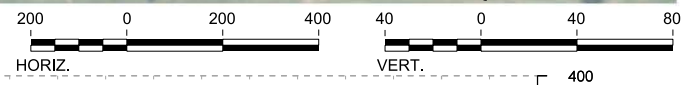
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 1360+00 TO HN1 1416+00**

Scale	AS SHOWN
Drawing Status	FINAL
Job No	234180
Drawing No	CVL-HN-01151
Rev	01



PLAN



PROFILE

STATIONING	HN1 1416+00	HN1 1420+00	HN1 1430+00	HN1 1440+00	HN1 1450+00	HN1 1460+00	HN1 1470+00	HN1 1472+00																
HOR. ALIGNMENT	L=18709			L=1610		R=18700 L=22514																		
VER. ALIGNMENT	L=24169.88 G=0.100%																							
CUT AND FILL	+30.6	+30.4	+30.4	+30.6	+31.6	+31.3	+31.1	+29.9	+24.3	+22.0	+23.2	+29.7	+29.0	+29.2	+29.2	+29.4	+29.4	+29.6	+29.5	+29.4	+29.1	+29.2	+29.0	+28.7
TYP. SECTION	VIADUCT (E)																							

\*ROADS NOT SHOWN IN PLAN, SEE MTFP FOR LOCATIONS.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**



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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING



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Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 1416+00 TO HN1 1472+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-HN-01152	01	



PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

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**J. BORGHESI**

CHECKED BY  
**C. ZWIBEL**

IN CHARGE  
**C. TAYLOR**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

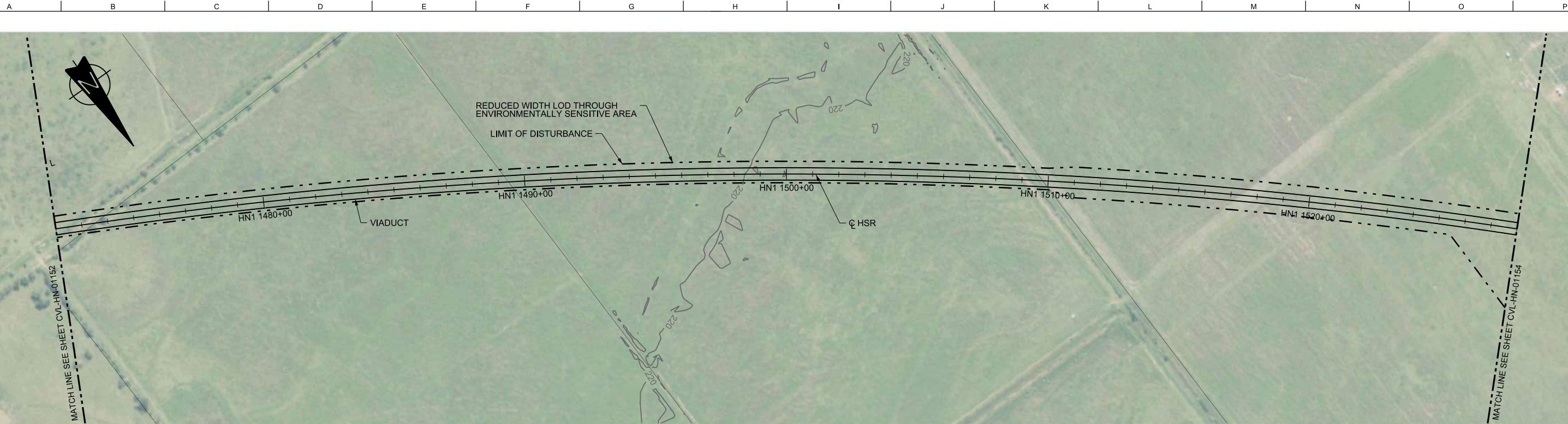


1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

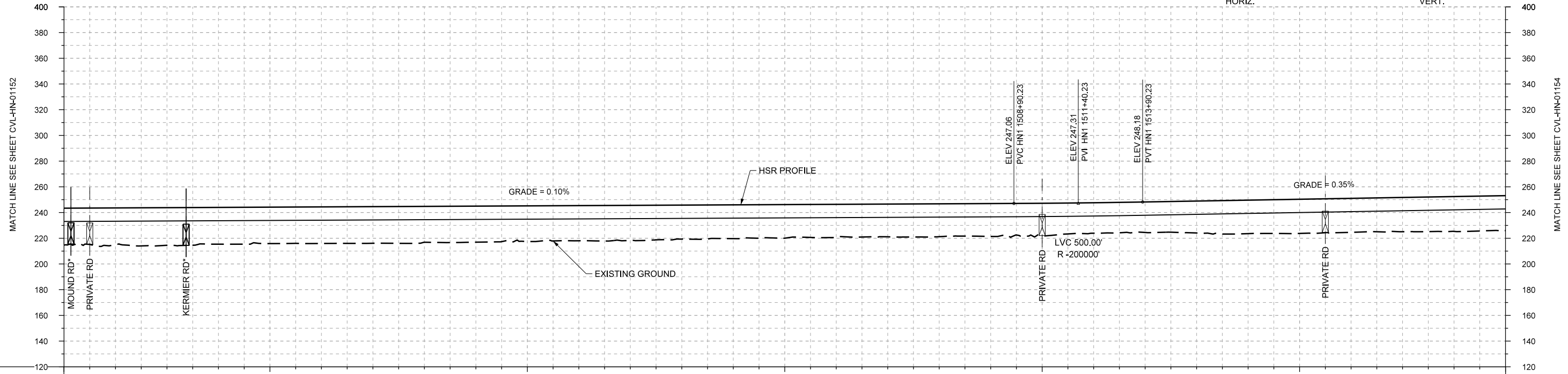
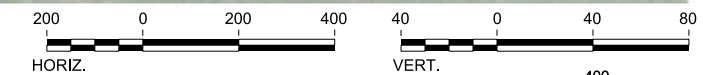
Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

Scale AS SHOWN		
Drawing Status <b>FINAL</b>		
Job No <b>234180</b>	Drawing No <b>CVL-HN-01152-A</b>	Rev <b>01</b>





PLAN



PROFILE

\*ROADS NOT SHOWN IN PLAN, SEE MTFP FOR LOCATIONS.

STATIONING	HN1 1472+00	HN1 1480+00	HN1 1490+00	HN1 1500+00	HN1 1510+00	HN1 1520+00	HN1 1528+00
HOR. ALIGNMENT					R=18700 L=22514		
VER. ALIGNMENT	L=24169.88 G=0.100%				R=200000	L=4401.88 G=0.350%	
CUT AND FILL	+26.7	+26.5	+26.3	+26.2	+25.5	+24.8	+26.6
TYP. SECTION	VIADUCT (E)						

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY	A. UTZ
DRAWN BY	J. BORGHESI
CHECKED BY	C. ZWIEBEL
IN CHARGE	C. TAYLOR
DATE	02/25/2019

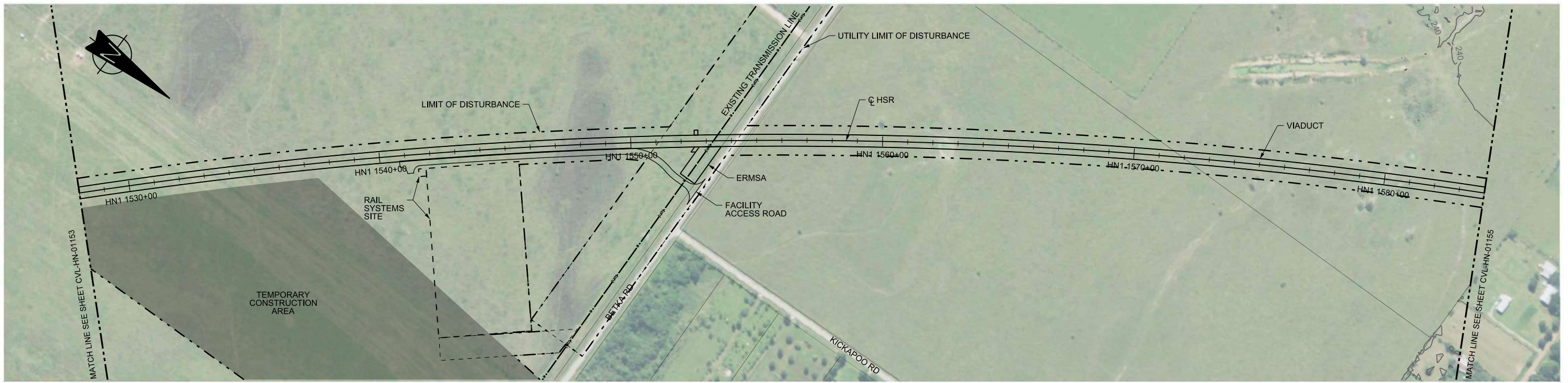
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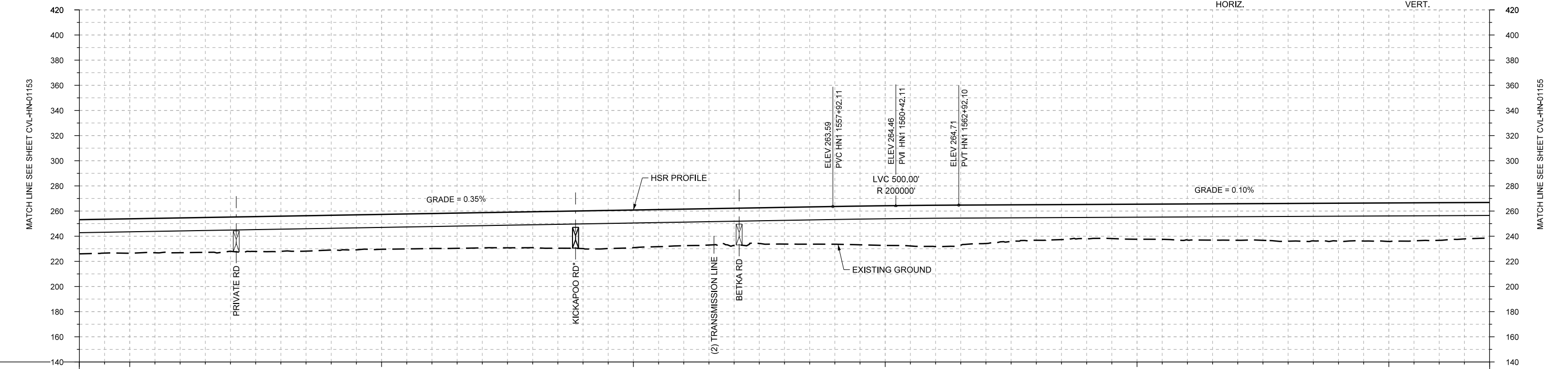
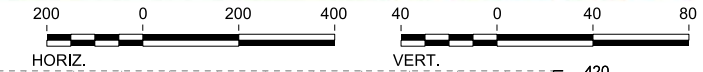
DALLAS TO HOUSTON HIGH-SPEED RAIL  
 FINAL CONCEPTUAL ENGINEERING  
  
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT CIVIL**  
**PLAN AND PROFILE**  
 HN1 1472+00 TO HN1 1528+00

Scale	AS SHOWN
Drawing Status	FINAL
Job No	234180
Drawing No	CVL-HN-01153
Rev	01



PLAN



PROFILE

\*ROADS NOT SHOWN IN PLAN, SEE MTFP FOR LOCATIONS.

STATIONING	HN1 1528+00	HN1 1530+00	HN1 1540+00	HN1 1550+00	HN1 1560+00	HN1 1570+00	HN1 1580+00	HN1 1584+00																					
HOR. ALIGNMENT	R=18700 L=22514																												
VER. ALIGNMENT	L=4401.88 G=0.350%				R=200000		L=3941.08 G=0.100%																						
CUT AND FILL	+27.1	+27.4	+27.6	+27.2	+28.0	+27.6	+27.7	+27.8	+28.0	+28.5	+29.9	+30.0	+28.1	+29.6	+29.2	+30.0	+31.6	+32.9	+30.6	+28.2	+27.2	+27.8	+28.6	+29.0	+30.0	+30.1	+30.6	+29.9	+28.2
TYP. SECTION	←																→												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

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

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 1528+00 TO HN1 1584+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	234180	Drawing No	CVL-HN-01154
Rev			01



MATCH LINE SEE SHEET CVL-HN-01154-B



**PLAN**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
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CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**



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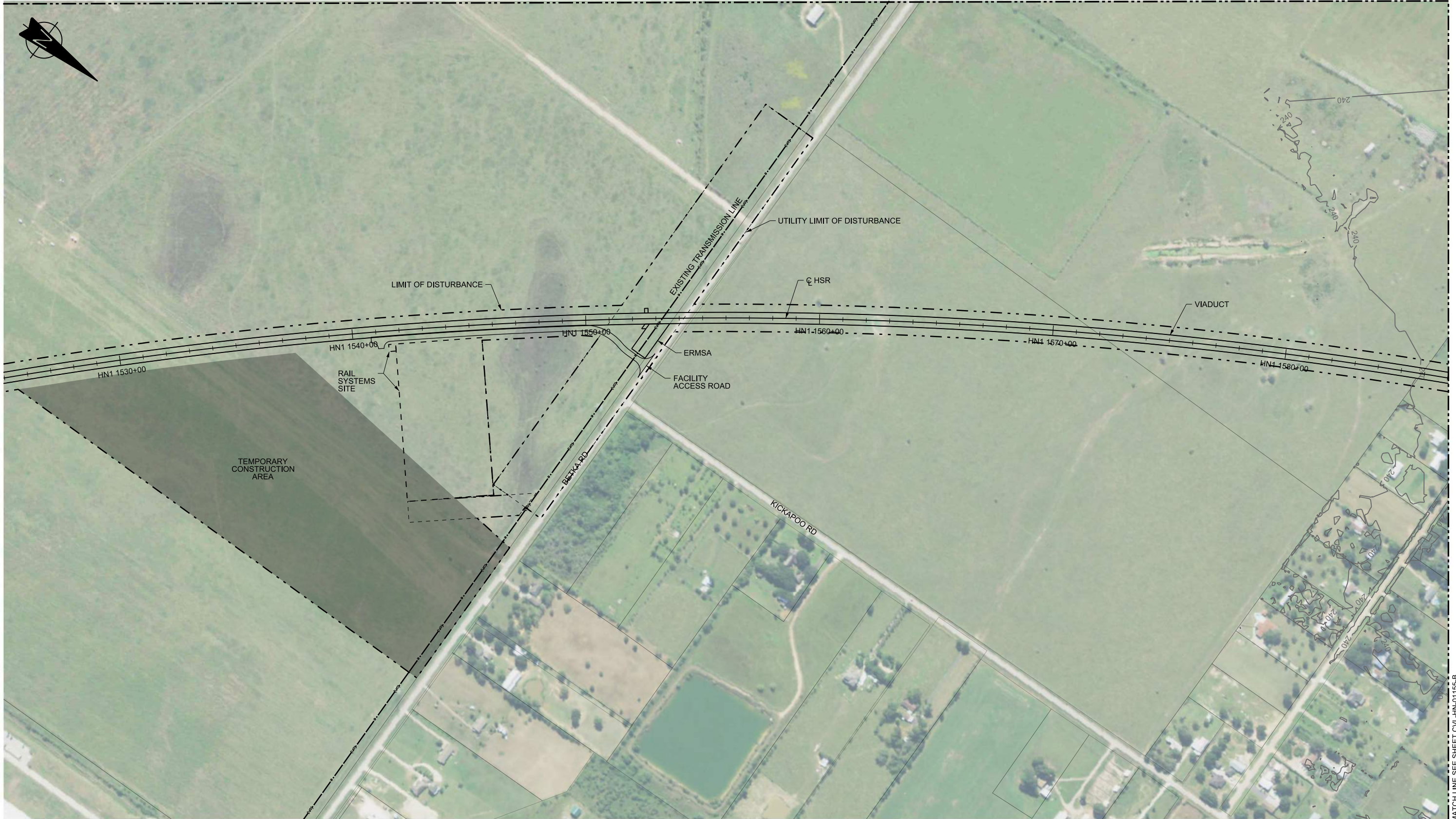
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING



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

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-HN-01154-A	Rev 01



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PLAN



PLOT BY: NYPWICS01S PLOT TIME: 6/28/2019 3:08:37 PM  
MATCH LINE SEE SHEET CVL-HN-01155-B

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**



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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING



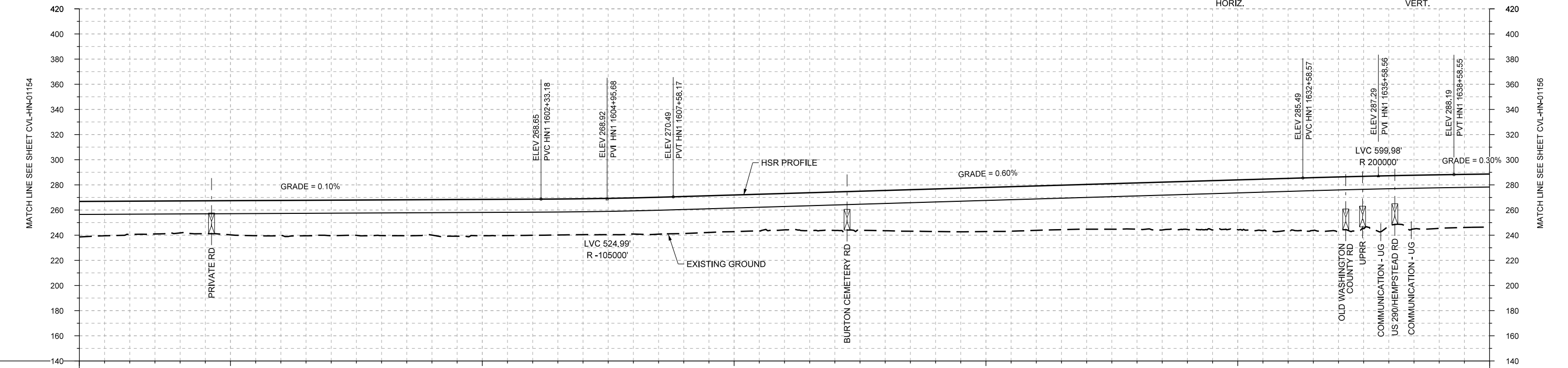
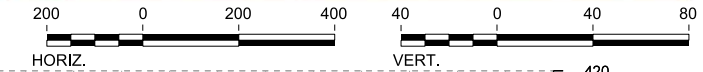
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

Scale AS SHOWN		
Drawing Status <b>FINAL</b>		
Job No 234180	Drawing No CVL-HN-01154-B	Rev 01



PLAN



PROFILE

STATIONING	HN1 1584+00	HN1 1590+00	HN1 1600+00	HN1 1610+00	HN1 1620+00	HN1 1630+00	HN1 1640+00																						
HOR. ALIGNMENT	R=18700 L=22514																												
VER. ALIGNMENT	L=3941.08 G=0.100%		R=-105000		L=2500.40 G=0.600%		R=200000 L=5885.40 G=0.300%																						
CUT AND FILL	+26.2	+26.4	+25.4	+27.1	+27.9	+28.2	+28.3	+28.1	+28.8	+28.7	+28.6	+28.8	+29.4	+29.1	+28.9	+30.5	+31.9	+33.8	+35.0	+35.3	+35.5	+36.7	+38.2	+39.5	+41.2	+43.4	+39.6	+42.6	+42.2
TYP. SECTION	VIADUCT (E)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>A. UTZ</b>
DRAWN BY <b>J. BORGHESI</b>
CHECKED BY <b>C. ZWIBEL</b>
IN CHARGE <b>C. TAYLOR</b>
DATE <b>02/25/2019</b>

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
 FINAL CONCEPTUAL ENGINEERING  
  
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

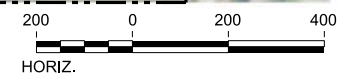
Drawing Title  
**HOUSTON SEGMENT CIVIL PLAN AND PROFILE**  
 HN1 1584+00 TO HN1 1640+00

Scale AS SHOWN	Drawing Status <b>FINAL</b>
Job No 234180	Drawing No CVL-HN-01155
Rev 01	



MATCH LINE SEE SHEET CVL-HN-01155-B

PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

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CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

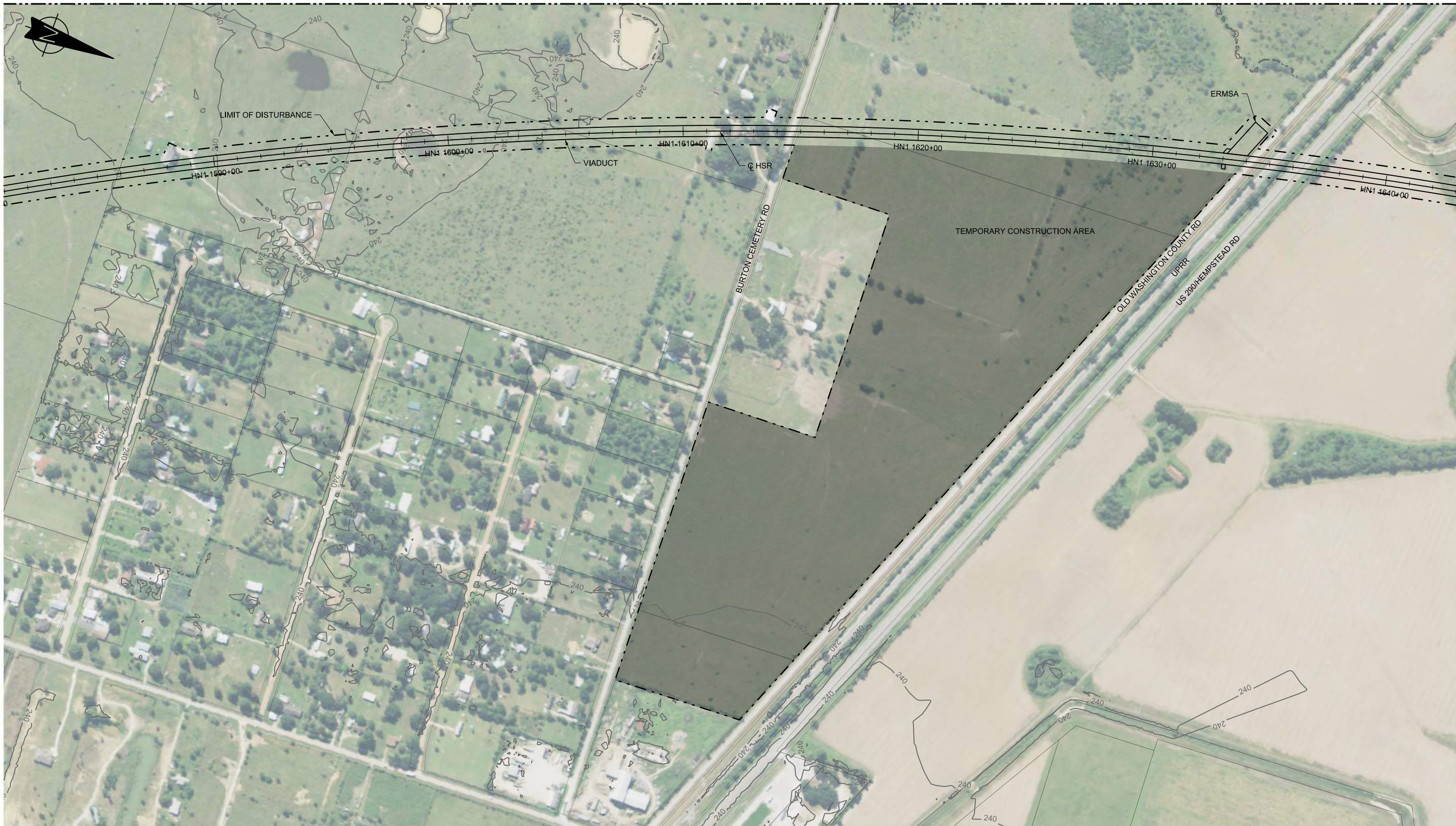
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

Scale  
AS SHOWN

Drawing Status  
**FINAL**

Job No <b>234180</b>	Drawing No <b>CVL-HN-01155-A</b>	Rev <b>01</b>
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PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY	A. UTZ
DRAWN BY	J. BORGHESI
CHECKED BY	C. ZWIEBEL
IN CHARGE	C. TAYLOR
DATE	02/25/2019

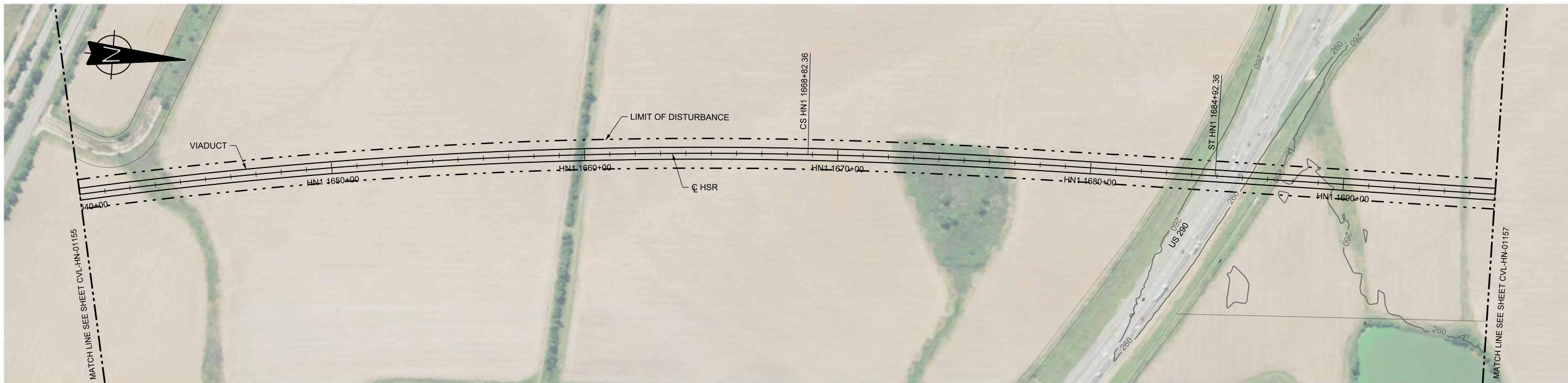
**ARUP**  
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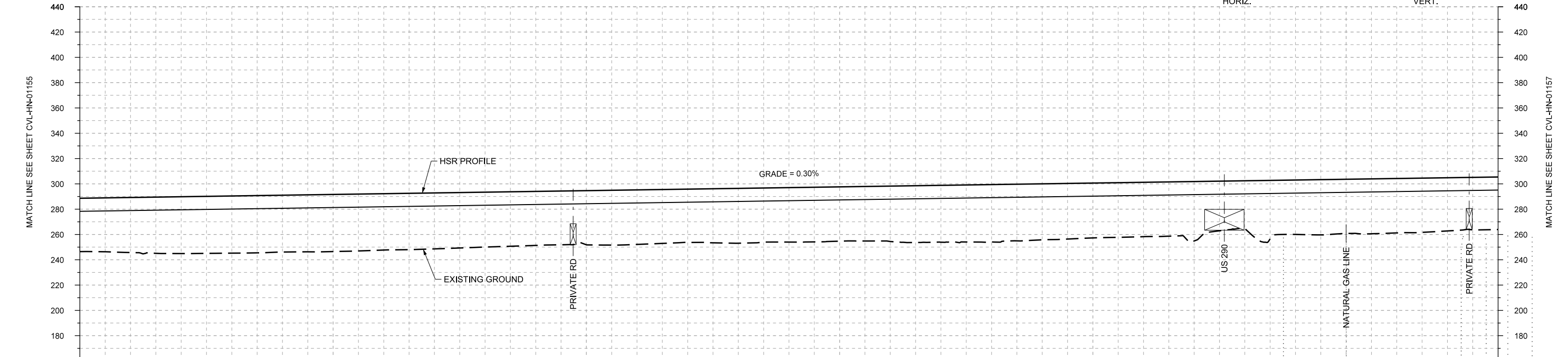
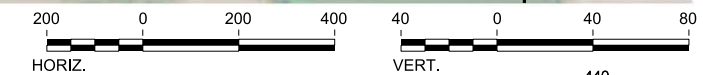
DALLAS TO HOUSTON HIGH-SPEED RAIL  
 FINAL CONCEPTUAL ENGINEERING  
  
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
 CIVIL  
 PLAN**

Scale	AS SHOWN	
Drawing Status	FINAL	
Job No	Drawing No	Rev
234180	CVL-HN-01155-B	01



PLAN



PROFILE

STATIONING	HN1 1640+00	HN1 1650+00	HN1 1660+00	HN1 1670+00	HN1 1680+00	HN1 1690+00	HN1 1696+00
HOR. ALIGNMENT	R=18700 L=22514			L=5885.40 G=0.300%			L=8430
VER. ALIGNMENT							
CUT AND FILL	+42.2	+43.5	+44.9	+45.2	+44.9	+45.1	+44.5
TYP. SECTION	VIADUCT (E)						

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>A. UTZ</b>
DRAWN BY <b>J. BORGHESI</b>
CHECKED BY <b>C. ZWIEBEL</b>
IN CHARGE <b>C. TAYLOR</b>
DATE <b>02/25/2019</b>

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
 FINAL CONCEPTUAL ENGINEERING  
  
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT CIVIL  
 PLAN AND PROFILE  
 HN1 1640+00 TO HN1 1696+00**

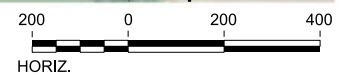
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Drawing Status <b>FINAL</b>		
Job No 234180	Drawing No CVL-HN-01156	Rev 01





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**PLAN**



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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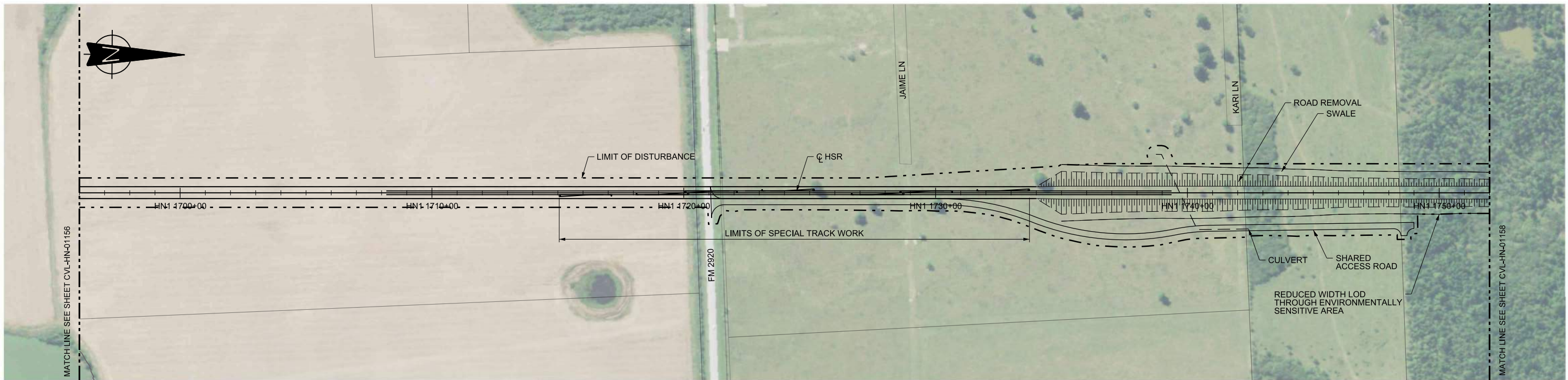
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

**TEXAS CENTRAL**

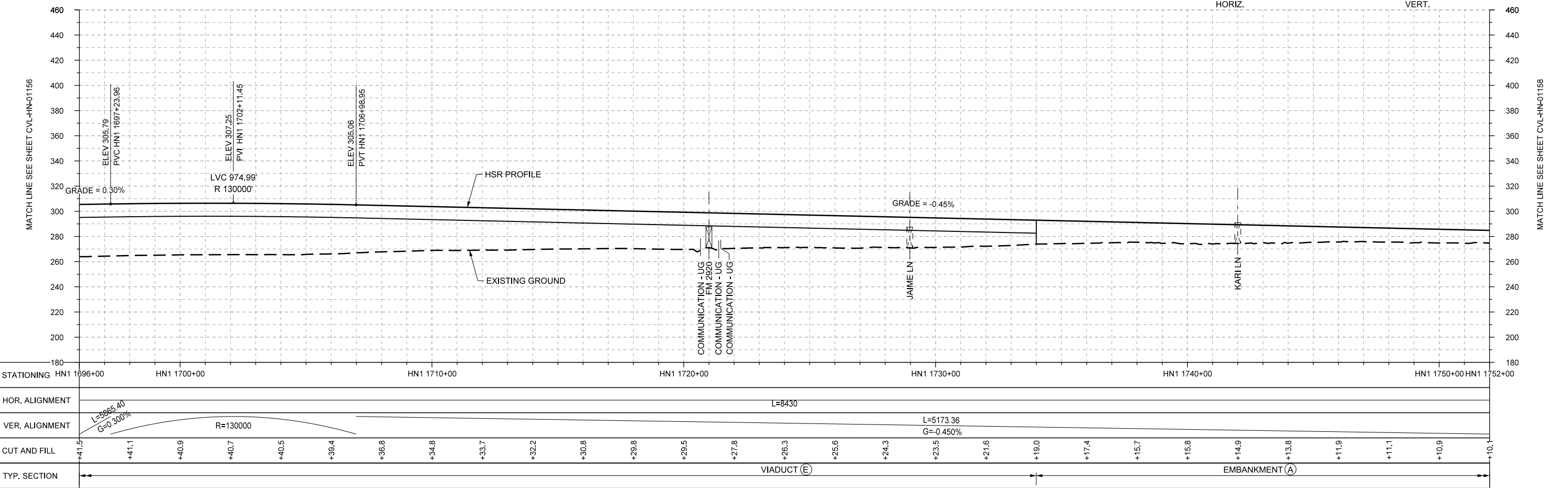
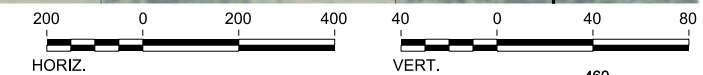
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-HN-01156-A	Rev 01



PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
**TEXAS CENTRAL**  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 1696+00 TO HN1 1752+00**

Scale  
**AS SHOWN**  
Drawing Status  
**FINAL**  
Job No: **234180** Drawing No: **CVL-HN-01157** Rev: **01**



PLAN



MATCH LINE SEE SHEET CVL-HN-01156-A

MATCH LINE SEE SHEET CVL-HN-01158

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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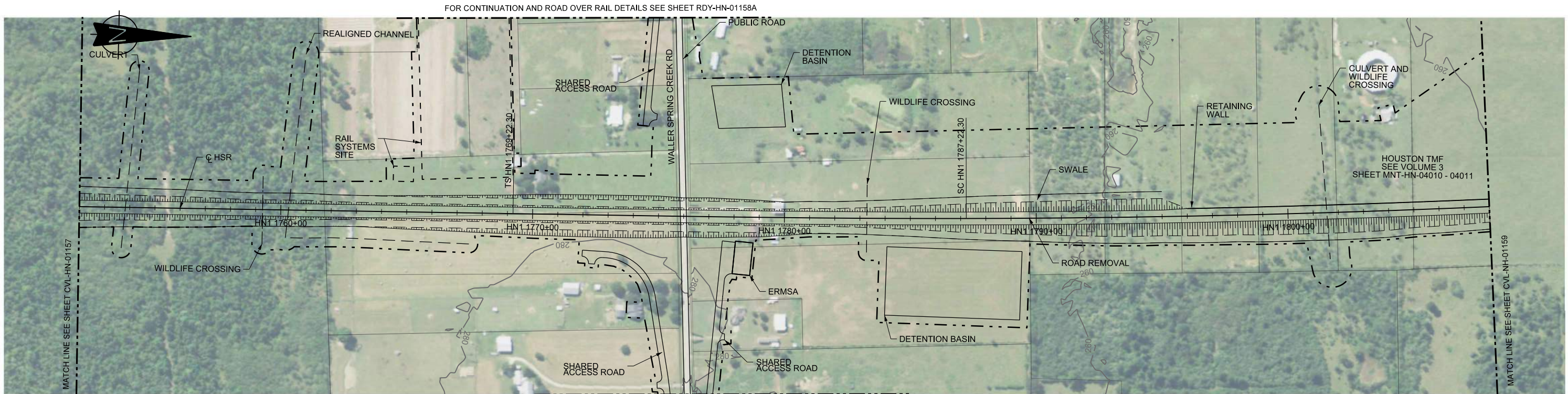
2711 North Haskell Ave., Suite 3300  
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Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

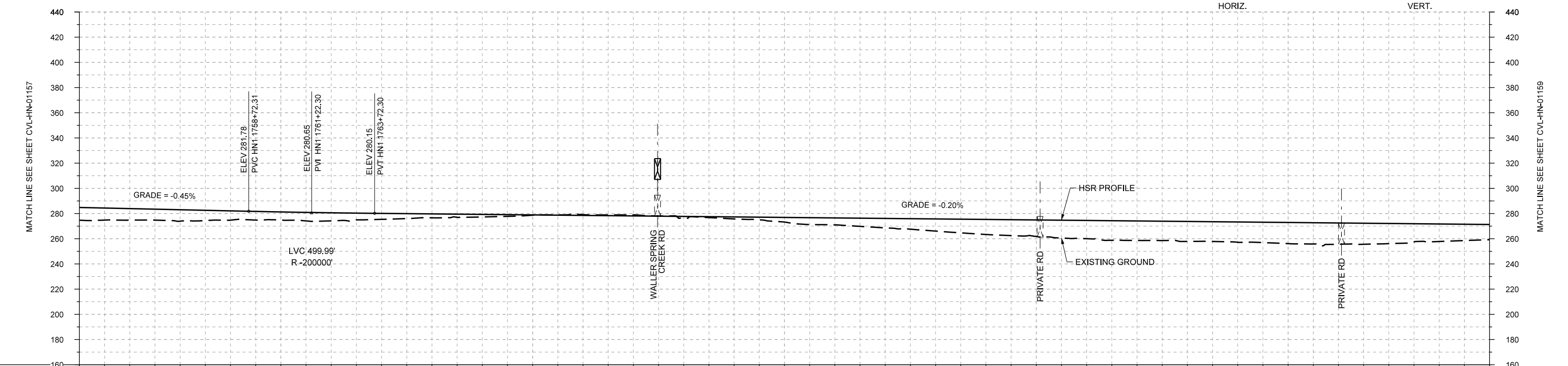
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-HN-01157-A	Rev 01



FOR CONTINUATION AND ROAD OVER RAIL DETAILS SEE SHEET RDY-HN-01158A



STATIONING	HN1 1752+00	HN1 1760+00	HN1 1770+00	HN1 1780+00	HN1 1790+00	HN1 1800+00	HN1 1808+00																						
HOR. ALIGNMENT	L=8430		L=1800		R=50000																								
VER. ALIGNMENT	L=5173.36 G=-0.450%		R=200000		L=4898.92 G=-0.200%																								
CUT AND FILL	+10.1	+9.1	+9.1	+7.4	+6.4	+6.4	+4.7	+3.1	+2.0	+0.2	-0.6	-0.8	+1.1	+1.6	+3.6	+5.6	+7.5	+9.6	+11.9	+13.1	+14.5	+15.5	+15.9	+16.1	+16.8	+16.9	+18.0	+13.9	+12.1
TYP. SECTION	EMBANKMENT (A)										CUT (C)		EMBANKMENT (A)																

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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Texas Registered Engineering Firm: F-2144

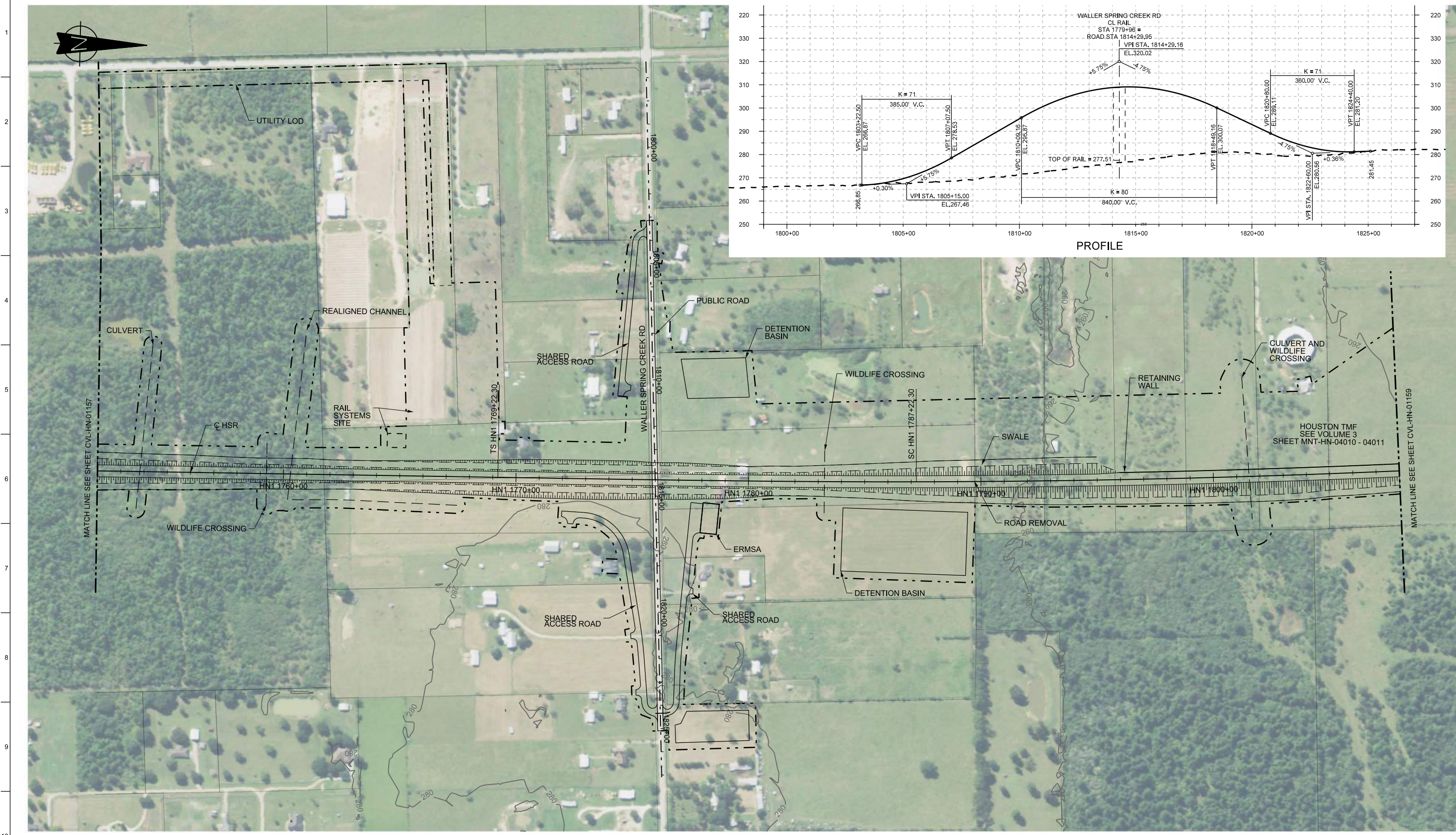
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

**TEXAS CENTRAL**

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

Drawing Title  
**HOUSTON SEGMENT CIVIL PLAN AND PROFILE**  
HN1 1752+00 TO HN1 1808+00

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	234180	Drawing No	CVL-HN-01158
Rev			01



PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. SASSER**

DRAWN BY  
**S. SASSER**

CHECKED BY  
**G. VOWELS**

IN CHARGE  
**C. TAYLOR**

DATE  
**2/25/2019**



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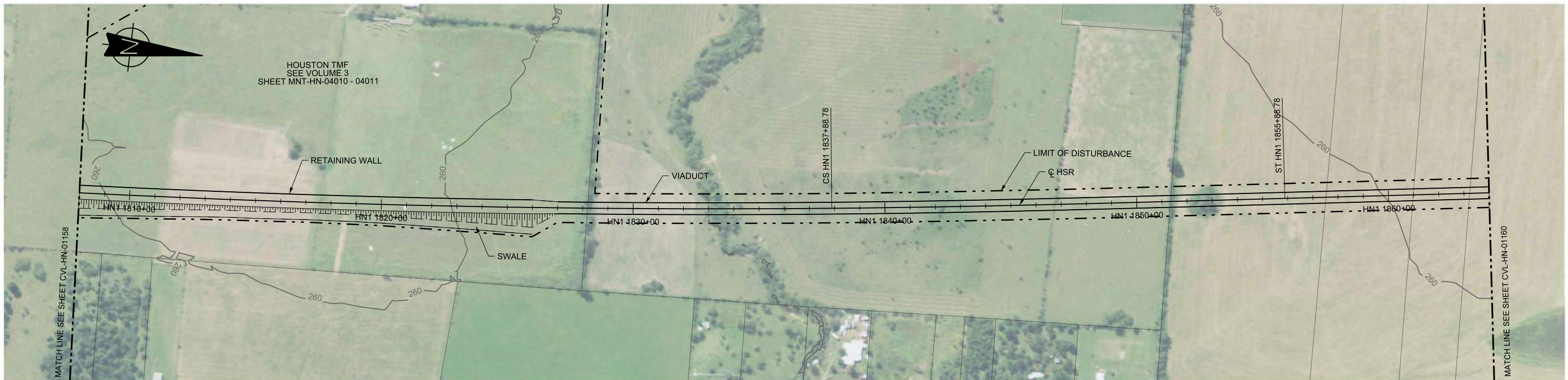
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING



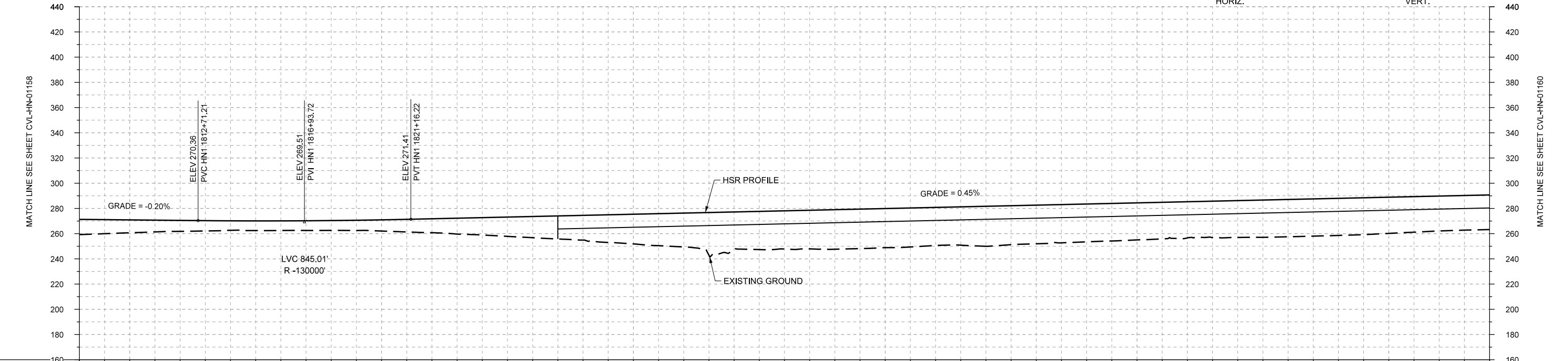
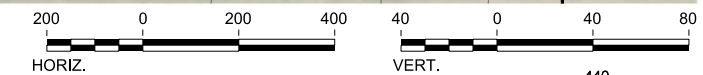
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL HIGHWAY  
PLAN  
WALLER SPRING CREEK RD**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No RDY-HN-01158A	Rev 01



PLAN



PROFILE

STATIONING	HN1 1808+00	HN1 1810+00	HN1 1820+00	HN1 1830+00	HN1 1840+00	HN1 1850+00	HN1 1860+00	HN1 1864+00																					
HOR. ALIGNMENT																													
VER. ALIGNMENT	L=4898.92 G=-0.200%		R=130000		L=5308.92 G=0.450%		L=17879																						
CUT AND FILL	+12.1	+10.2	+8.7	+7.5	+7.6	+7.8	+8.8	+11.0	+13.8	+18.8	+19.6	+23.6	+26.7	+29.6	+30.3	+31.4	+31.0	+30.2	+31.7	+30.6	+30.0	+29.4	+28.7	+29.2	+29.6	+29.4	+28.7	+27.7	+27.5
TYP. SECTION	EMBANKMENT (A)										VIADUCT (E)																		

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
**TEXAS CENTRAL**  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 1808+00 TO HN1 1864+00**

Scale	AS SHOWN
Drawing Status	FINAL
Job No	234180
Drawing No	CVL-HN-01159
Rev	01



PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**



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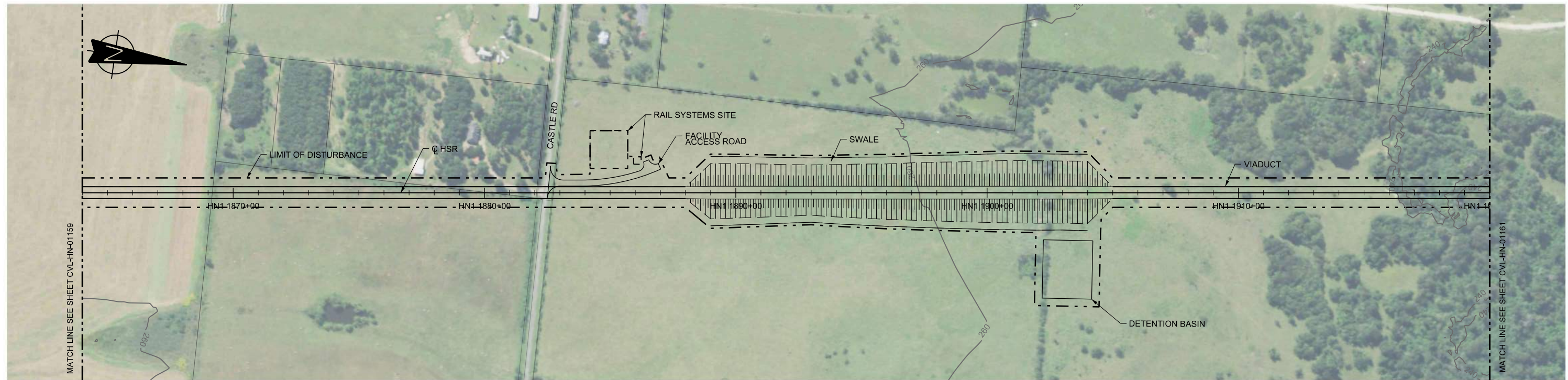
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING



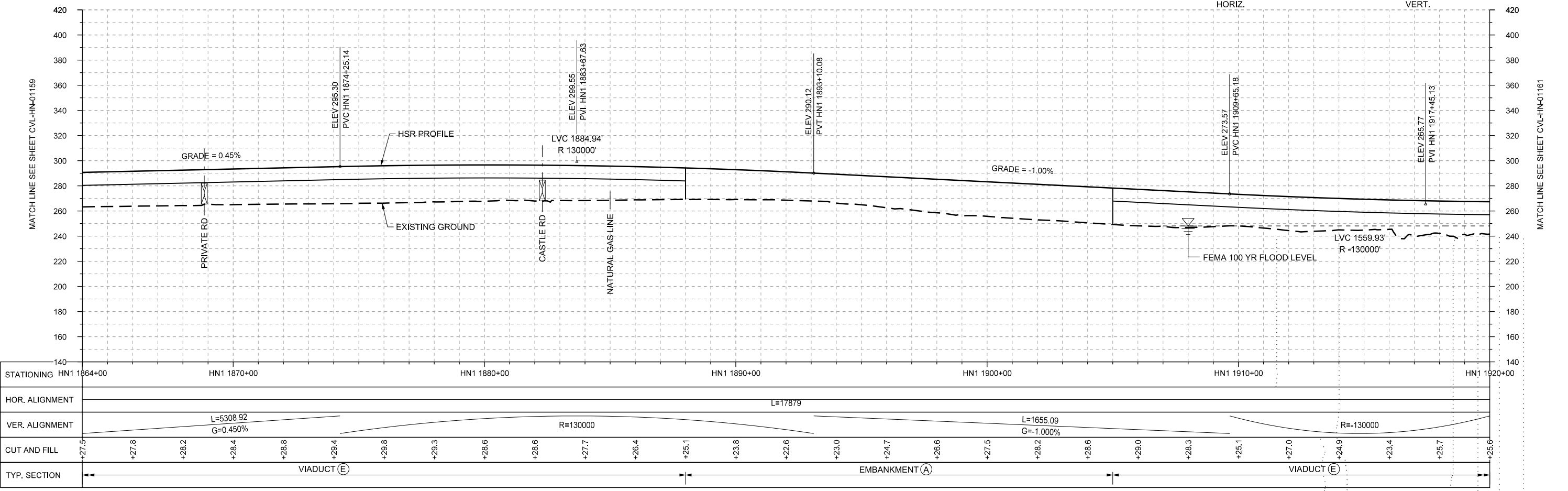
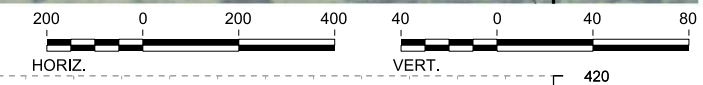
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-HN-01159-A	Rev 01



PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>A. UTZ</b>
DRAWN BY <b>J. BORGHESI</b>
CHECKED BY <b>C. ZWIEBEL</b>
IN CHARGE <b>C. TAYLOR</b>
DATE <b>02/25/2019</b>

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
 FINAL CONCEPTUAL ENGINEERING  
  
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

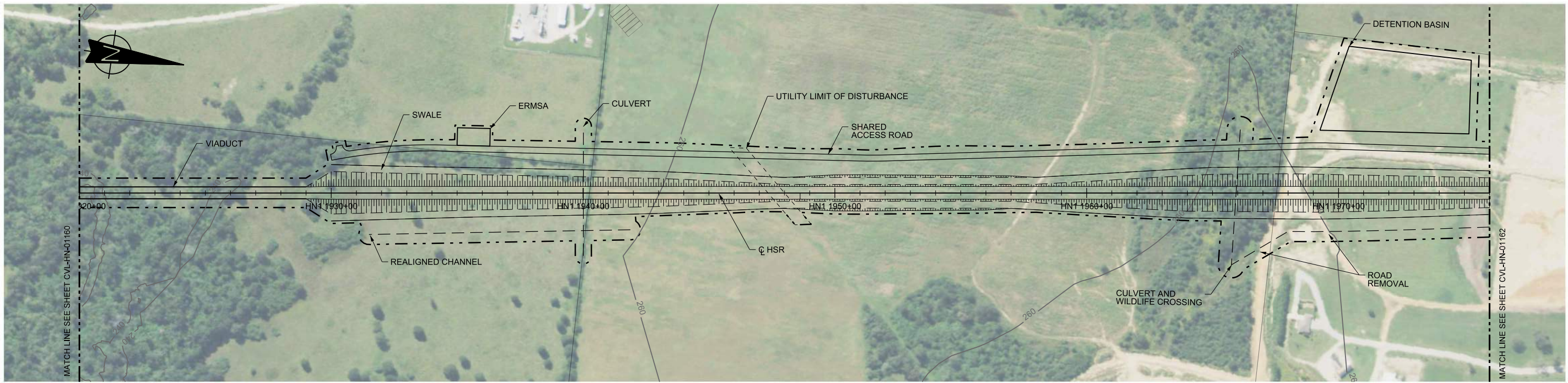
Drawing Title  
**HOUSTON SEGMENT CIVIL PLAN AND PROFILE**  
 HN1 1864+00 TO HN1 1920+00

Scale  
**AS SHOWN**

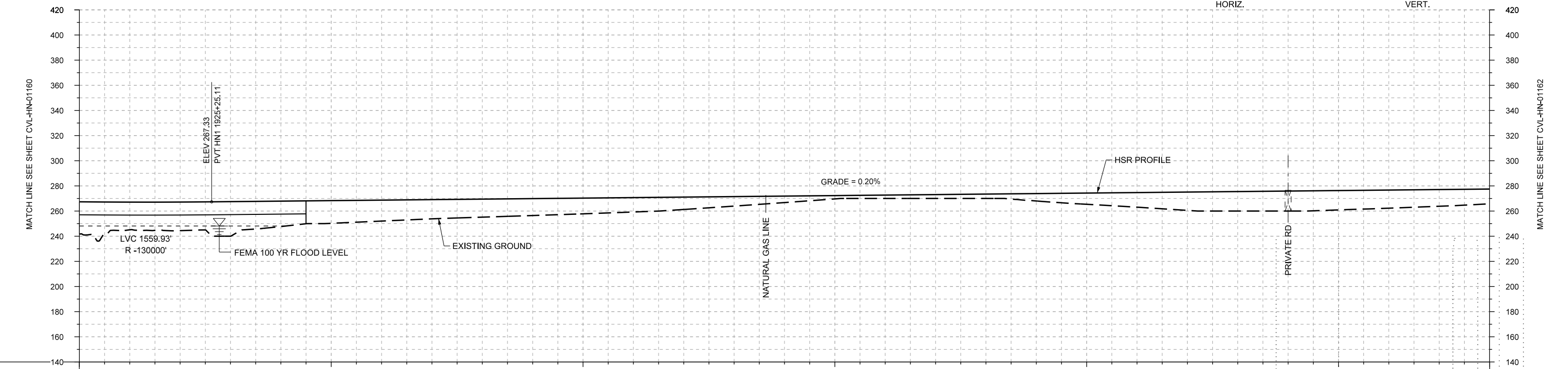
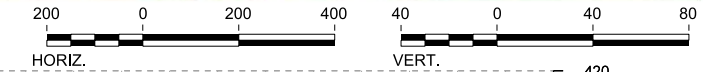
Drawing Status  
**FINAL**

Job No <b>234180</b>	Drawing No <b>CVL-HN-01160</b>	Rev <b>01</b>
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PLAN



PROFILE

STATIONING	HN1 1920+00	HN1 1930+00	HN1 1940+00	HN1 1950+00	HN1 1960+00	HN1 1970+00	HN1 1976+00		
HOR. ALIGNMENT	L=17879								
VER. ALIGNMENT	R=130000		L=7557.12 G=0.200%						
CUT AND FILL	+25.6	+22.0	+22.7	+27.5	+20.2	+18.1	+16.7		
TYP. SECTION	VIADUCT (E)		EMBANKMENT (A)			CUT (C)		EMBANKMENT (A)	

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

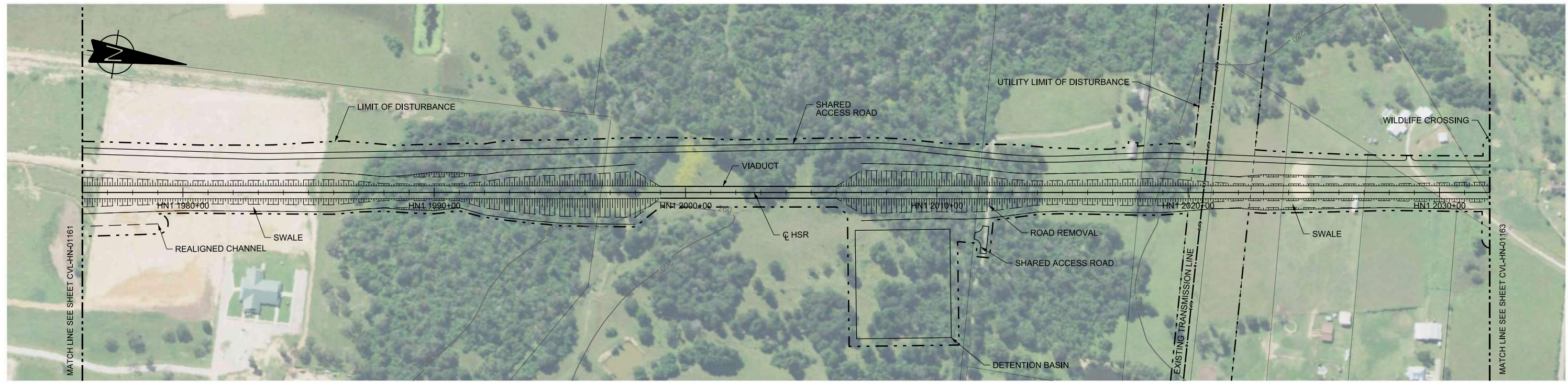
**TEXAS CENTRAL**  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT CIVIL  
PLAN AND PROFILE  
HN1 1920+00 TO HN1 1976+00**

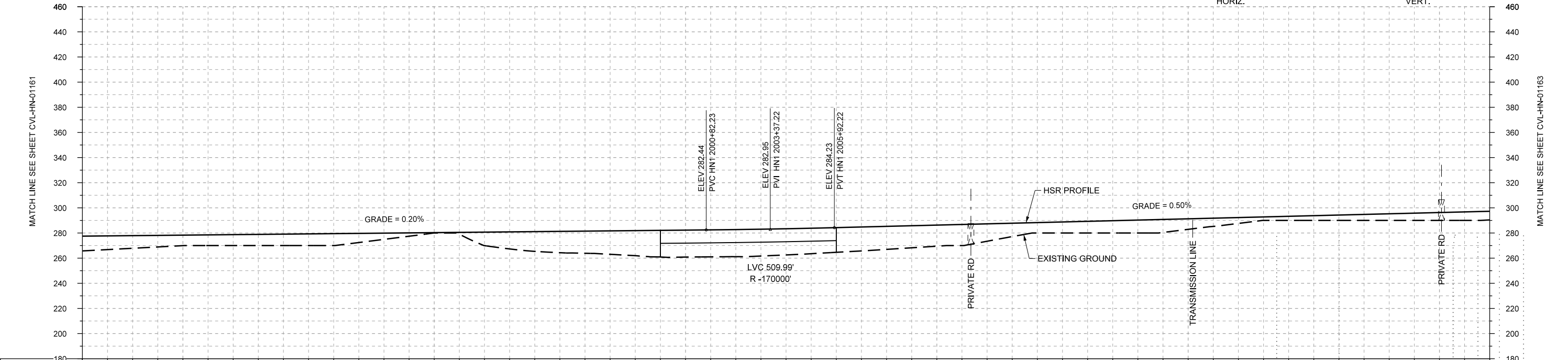
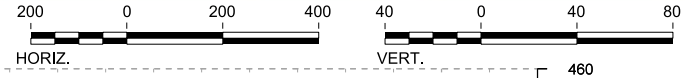
Scale  
**AS SHOWN**

Drawing Status  
**FINAL**

Job No	Drawing No	Rev
234180	CVL-HN-01161	01



PLAN



STATIONING	HN1 1976+00	HN1 1980+00	HN1 1990+00	HN1 2000+00	HN1 2010+00	HN1 2020+00	HN1 2030+00	HN1 2032+00																					
HOR. ALIGNMENT	L=17879																												
VER. ALIGNMENT	L=7557.12 G=0.200%			R=170000		L=5013.46 G=0.500%																							
CUT AND FILL	+11.8	+10.1	+8.4	+8.7	+9.1	+9.5	+5.0	+0.3	+10.8	+15.7	+17.7	+20.0	+21.5	+21.6	+20.8	+19.7	+18.3	+16.8	+13.9	+8.3	+9.3	+10.3	+8.4	+4.7	+3.3	+4.3	+5.3	+6.3	+6.9
TYP. SECTION	EMBANKMENT (A)			CUT (C)		EMBANKMENT (A)			VIADUCT (E)			EMBANKMENT (A)			CUT (C)		EMBANKMENT (A)												

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

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

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 1976+00 TO HN1 2032+00**

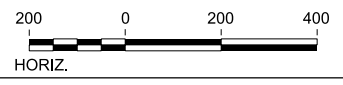
Scale  
**AS SHOWN**

Drawing Status  
**FINAL**

Job No	Drawing No	Rev
234180	CVL-HN-01162	01



PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

**TEXAS CENTRAL**

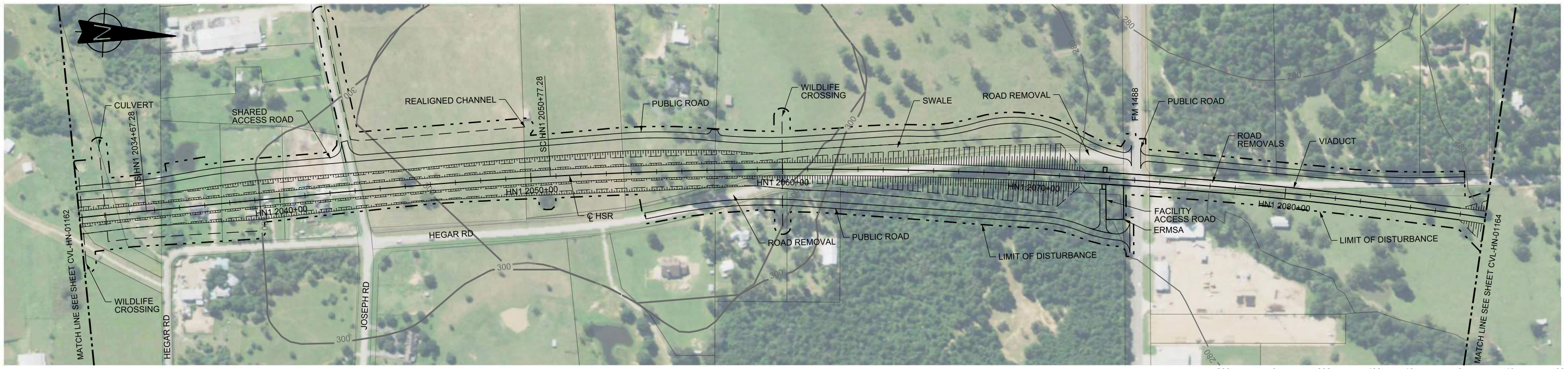
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN**

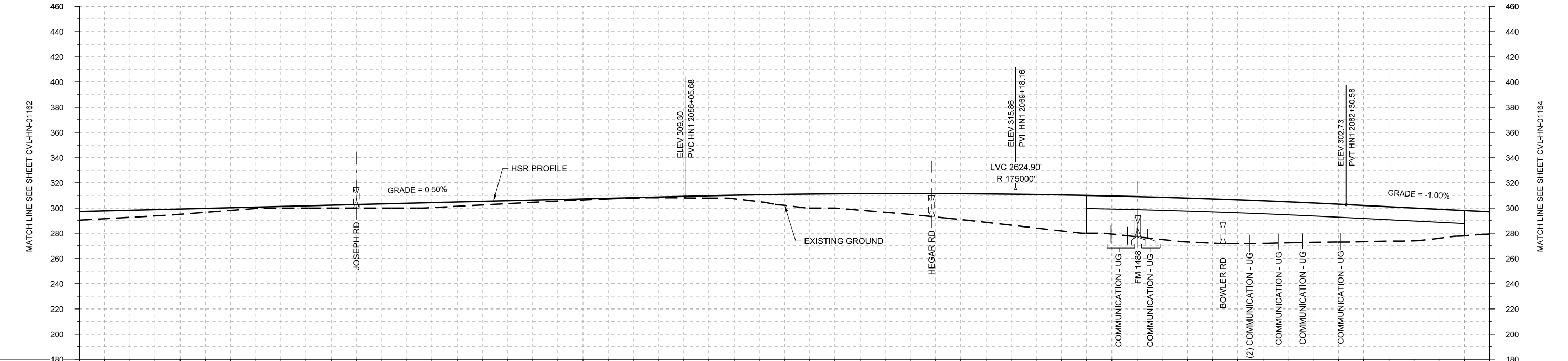
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**AS SHOWN**

Drawing Status  
**FINAL**

Job No <b>234180</b>	Drawing No <b>CVL-HN-01162-A</b>	Rev <b>01</b>
-------------------------	-------------------------------------	------------------



PLAN



PROFILE

STATIONING	HN1 2032+00	HN1 2040+00	HN1 2050+00	HN1 2060+00	HN1 2070+00	HN1 2080+00	HN1 2088+00																						
HOR. ALIGNMENT	L=17879		L=1610		R=18700 L=11508																								
VER. ALIGNMENT	L=5013.46 G=0.500%				R=175000																								
CUT AND FILL	+6.9	+5.7	+4.3	+2.2	+1.3	+2.3	+3.3	+3.9	+2.8	+1.8	+0.9	+0.3	+1.2	+2.8	+8.7	+11.3	+14.9	+18.5	+22.5	+26.6	+30.0	+31.9	+34.7	+34.7	+32.4	+29.9	+27.1	+22.9	+17.6
TYP. SECTION	EMBANKMENT (A)		CUT (C)										EMBANKMENT (A)			VIADUCT (E)					(A)								

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
DRAWN BY  
**J. BORGHESI**  
CHECKED BY  
**C. ZWIEBEL**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING  
**TEXAS CENTRAL**  
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT CIVIL PLAN AND PROFILE**  
HN1 2032+00 TO HN1 2088+00

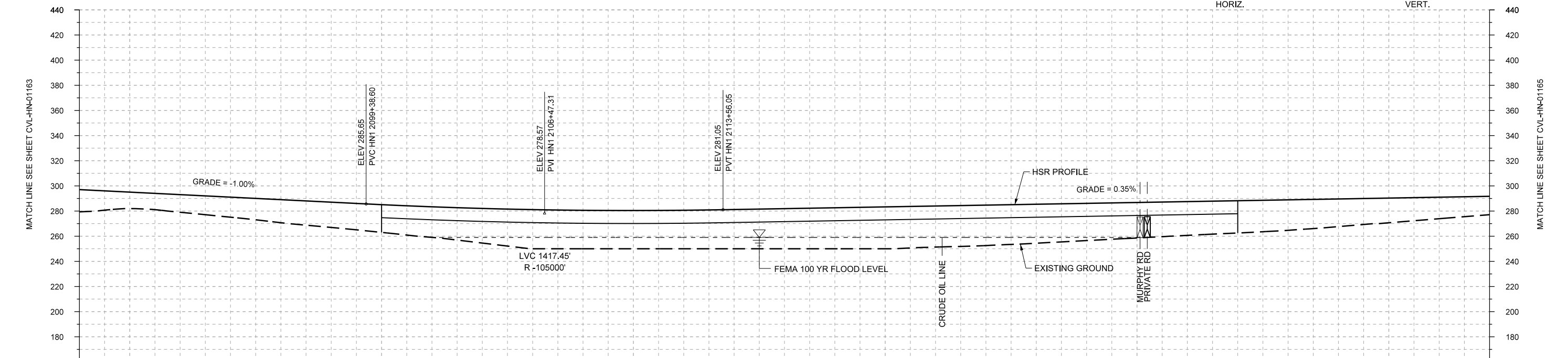
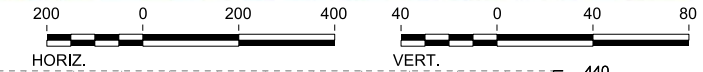
Scale  
AS SHOWN

Drawing Status  
**FINAL**

Job No	Drawing No	Rev
234180	CVL-HN-01163	01



PLAN



PROFILE

STATIONING	HN1 2088+00	HN1 2090+00	HN1 2100+00	HN1 2110+00	HN1 2120+00	HN1 2130+00	HN1 2140+00	HN1 2144+00																					
HOR. ALIGNMENT	R=18700 L=11508																												
VER. ALIGNMENT	L=1708.02 G=-1.000%				R=-105000																								
CUT AND FILL	+17.6	+13.1	+14.0	+15.9	+18.3	+20.1	+22.1	+24.3	+27.6	+31.1	+30.6	+30.4	+30.6	+31.2	+31.9	+32.6	+33.3	+32.6	+32.2	+31.0	+29.6	+26.2	+26.8	+25.7	+24.2	+22.0	+19.6	+17.1	+14.6
TYP. SECTION	EMBANKMENT (A)				VIADUCT (E)				EMBANKMENT (A)																				

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

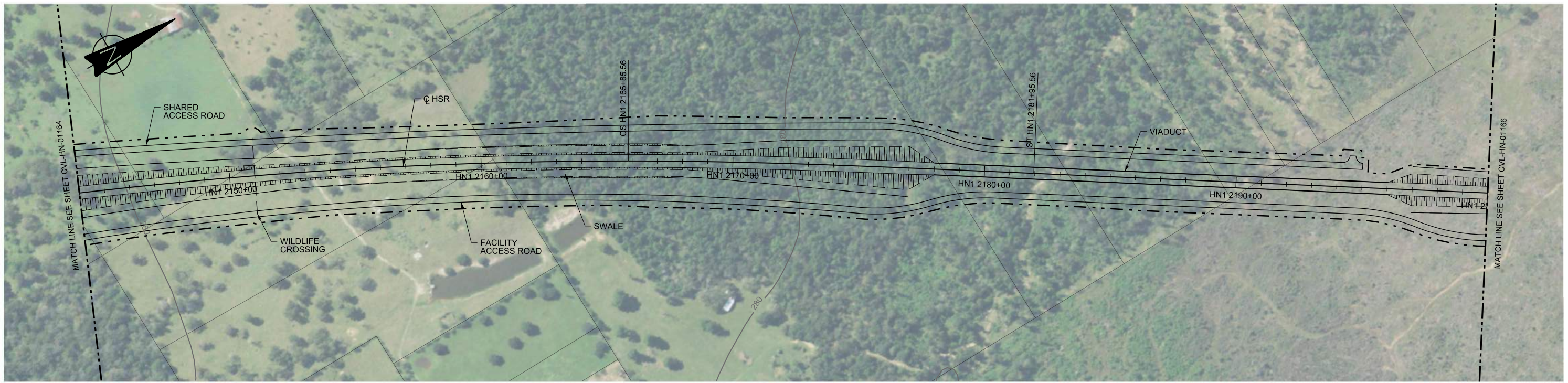
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 2088+00 TO HN1 2144+00**

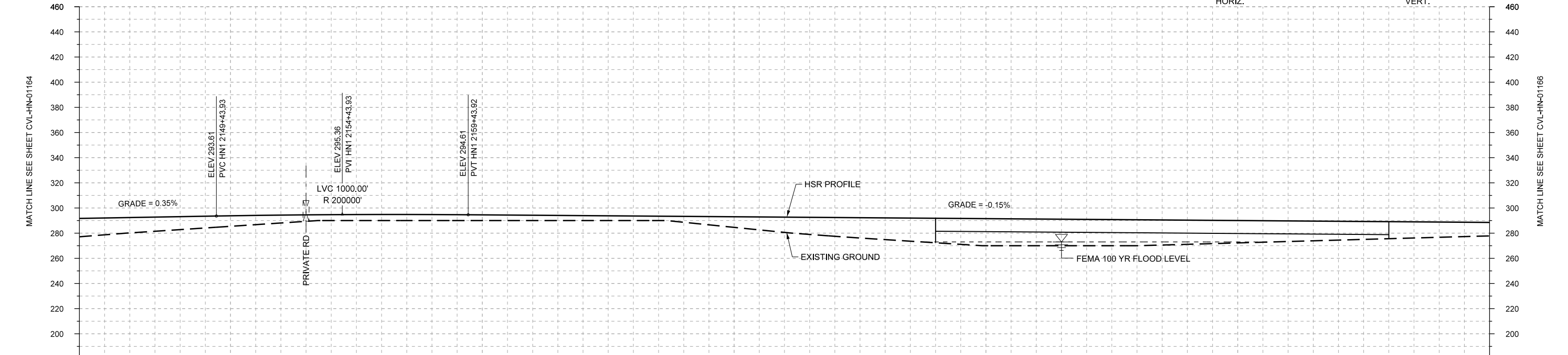
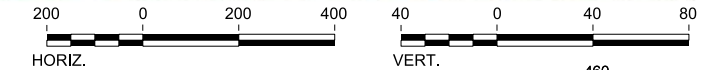
Scale  
AS SHOWN

Drawing Status  
**FINAL**

Job No	Drawing No	Rev
234180	CVL-HN-01164	01



PLAN



PROFILE

STATIONING	HN1 2144+00	HN1 2150+00	HN1 2160+00	HN1 2170+00	HN1 2180+00	HN1 2190+00	HN1 2200+00																						
HOR. ALIGNMENT		R=18700 L=11508		L=1610		L=3583																							
VER. ALIGNMENT	L=3587.88 G=0.350%	R=200000			L=10095.38 G=-0.150%																								
CUT AND FILL	+14.6	+12.2	+10.3	+8.4	+6.2	+4.7	+4.8	+4.8	+4.5	+4.2	+3.9	+3.6	+4.7	+8.4	+12.1	+14.9	+17.2	+19.5	+21.5	+21.2	+20.9	+20.6	+19.2	+17.8	+16.4	+14.9	+13.5	+12.1	+10.7
TYP. SECTION	EMBANKMENT (A)			CUT (C)			EMBANKMENT (A)			VIADUCT (E)			EMBANKMENT (A)																

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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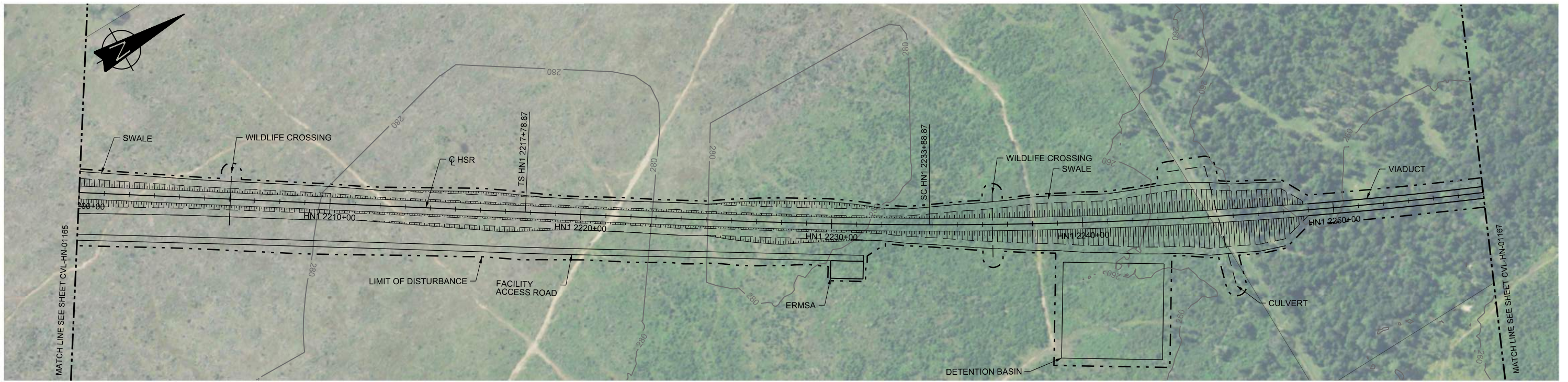
DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

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

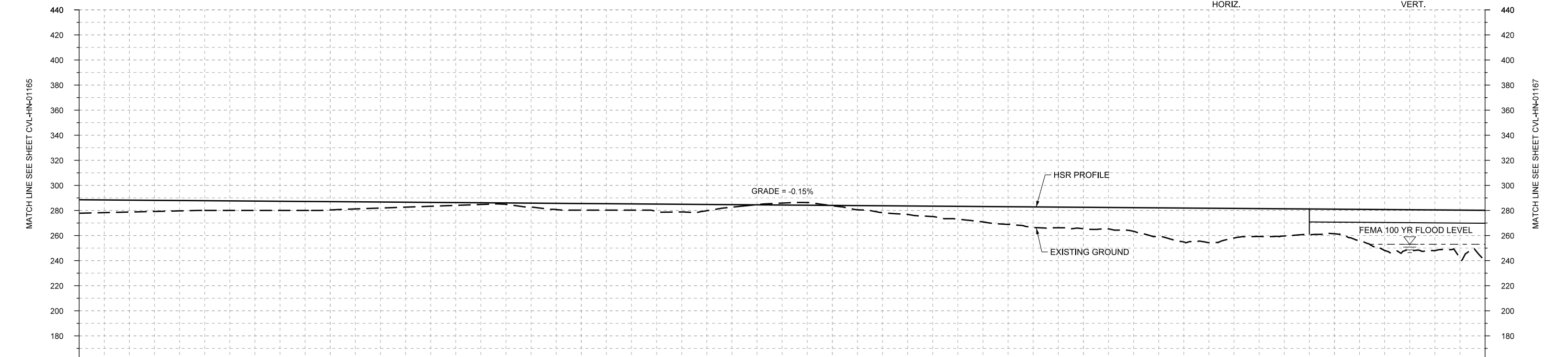
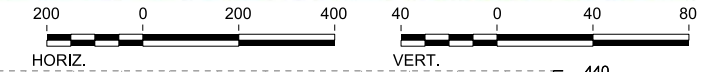
Drawing Title

**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 2144+00 TO HN1 2200+00**

Scale	AS SHOWN
Drawing Status	FINAL
Job No	234180
Drawing No	CVL-HN-01165
Rev	01



PLAN



PROFILE

STATIONING	HN1 2200+00	HN1 2210+00	HN1 2220+00	HN1 2230+00	HN1 2240+00	HN1 2250+00	HN1 2256+00																						
HOR. ALIGNMENT	L=3583		L=1610		R=18700		L=13754																						
VER. ALIGNMENT			L=10095.38 G=-0.150%																										
CUT AND FILL	+10.7	+9.5	+8.2	+7.6	+7.3	+6.6	+4.8	+3.1	+1.3	+3.2	+5.2	+4.9	+6.1	+2.0	-1.6	+0.3	+5.5	+8.3	+12.2	+16.4	+17.0	+16.8	+27.1	+23.6	+21.7	+19.6	+32.6	+32.4	+37.1
TYP. SECTION	EMBANKMENT (A)				CUT (C)		EMBANKMENT (A)				CUT (C)		EMBANKMENT (A)				VIADUCT (E)												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

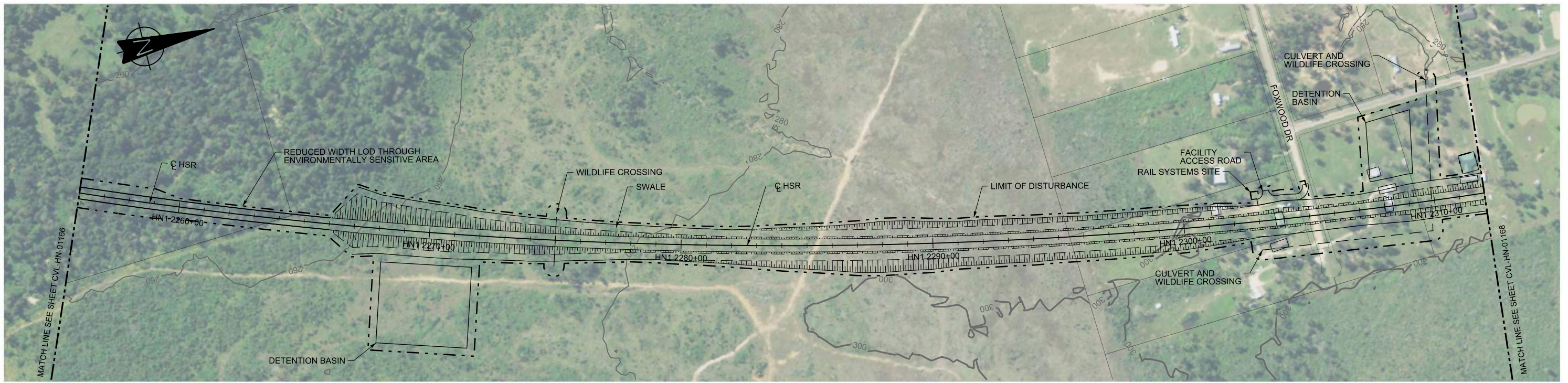
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 2200+00 TO HN1 2256+00**

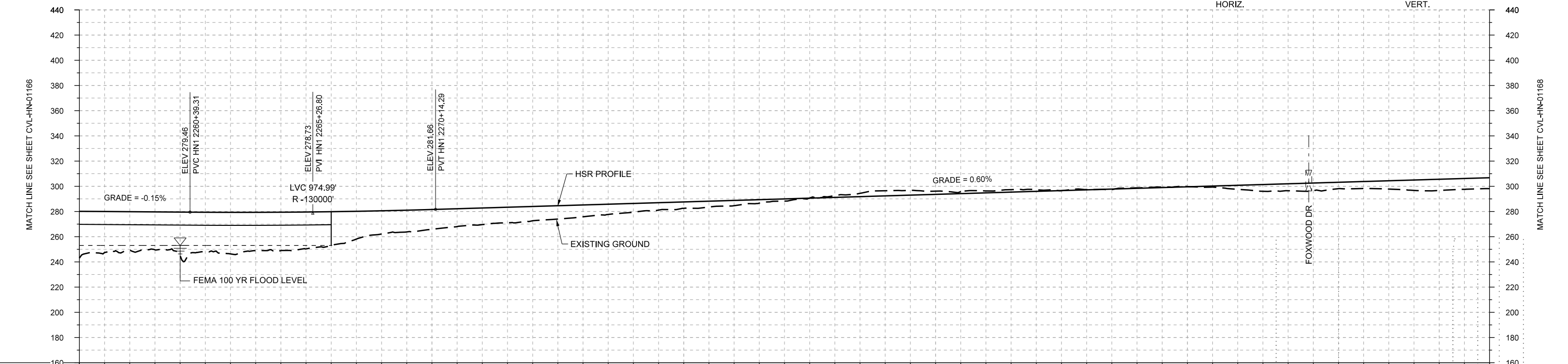
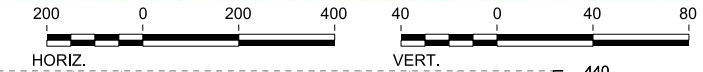
Scale  
AS SHOWN

Drawing Status  
**FINAL**

Job No	Drawing No	Rev
234180	CVL-HN-01166	01



PLAN



PROFILE

STATIONING	HN1 2256+00	HN1 2260+00	HN1 2270+00	HN1 2280+00	HN1 2290+00	HN1 2300+00	HN1 2310+00	HN1 2312+00																					
HOR. ALIGNMENT																													
VER. ALIGNMENT	L=10095.38 G=-0.150%		R=130000			R=18700 L=13754		L=7680.00 G=0.600%																					
CUT AND FILL	+37.1	+30.8	+34.5	+33.0	+30.5	+26.9	+18.4	+15.8	+13.2	+11.3	+9.4	+7.0	+5.1	+4.2	+1.7	-1.4	-4.1	-2.5	-1.5	-1.2	-0.2	-0.3	-0.2	+3.2	+5.5	+5.1	+6.6	+8.9	+8.7
TYP. SECTION	VIADUCT E			EMBANKMENT (A)										CUT (C)				EMBANKMENT (A)											

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

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

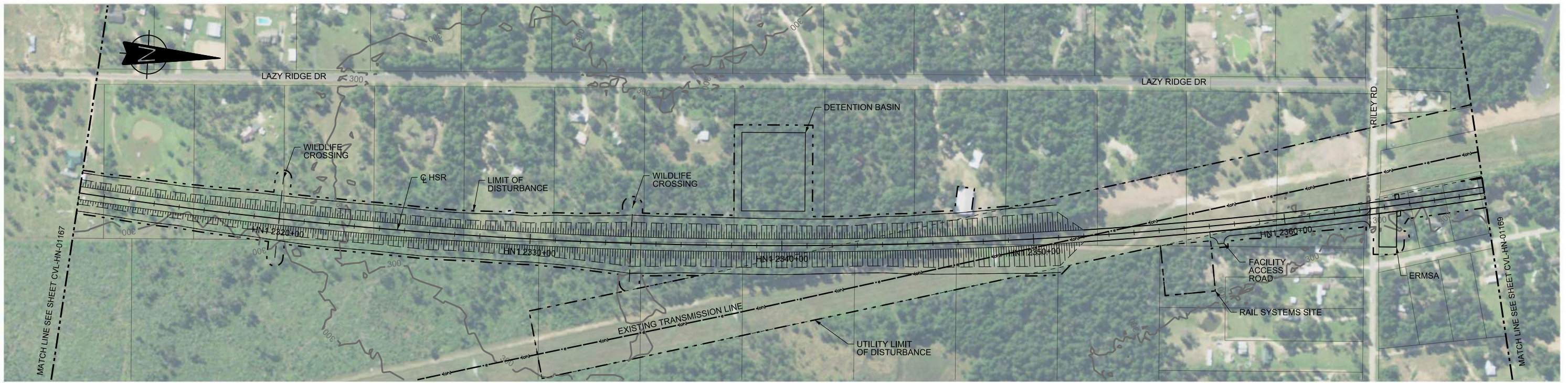
Drawing Title  
**HOUSTON SEGMENT CIVIL PLAN AND PROFILE**  
HN1 2256+00 TO HN1 2312+00

Scale  
AS SHOWN

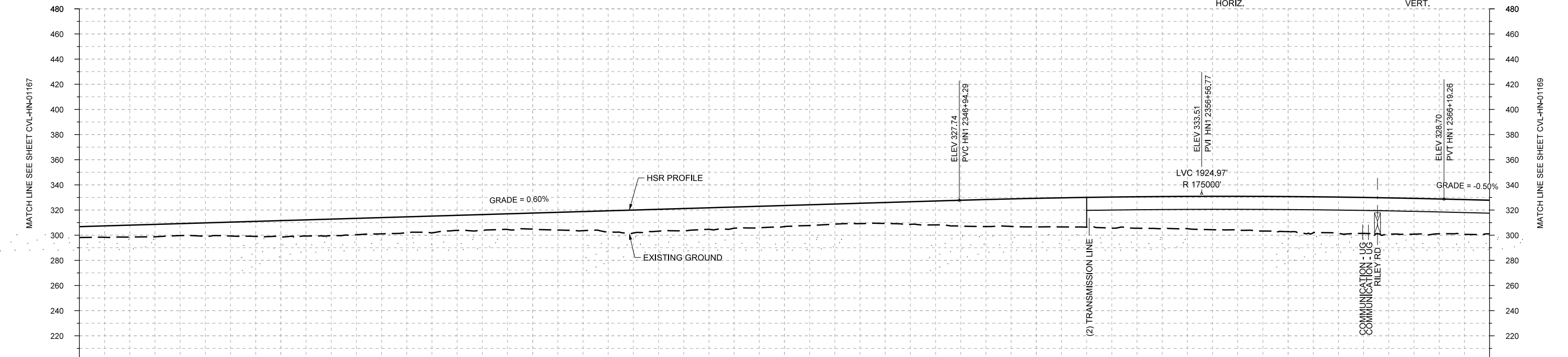
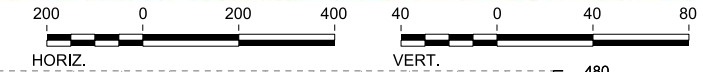
Drawing Status  
**FINAL**

Job No	Drawing No	Rev
234180	CVL-HN-01167	01





PLAN



PROFILE

STATIONING	HN1 2312+00	HN1 2320+00	HN1 2330+00	HN1 2340+00	HN1 2350+00	HN1 2360+00	HN1 2368+00																						
HOR. ALIGNMENT																													
VER. ALIGNMENT	L=7680.00 G=0.600% R=18700 L=13754 R=175000 L=2177.17 G=-0.500%																												
CUT AND FILL	+8.7	+9.5	+9.5	+11.1	+13.1	+13.2	+13.0	+13.4	+12.4	+12.8	+15.2	+16.3	+17.7	+16.9	+16.8	+16.0	+16.7	+19.0	+21.4	+22.7	+23.6	+25.0	+25.6	+26.7	+27.8	+28.9	+28.9	+27.7	+21.6
TYP. SECTION	EMBANKMENT (A)															VIADUCT (E)													

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**  
 DRAWN BY  
**J. BORGHESI**  
 CHECKED BY  
**C. ZWIBEL**  
 IN CHARGE  
**C. TAYLOR**  
 DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
 FINAL CONCEPTUAL ENGINEERING

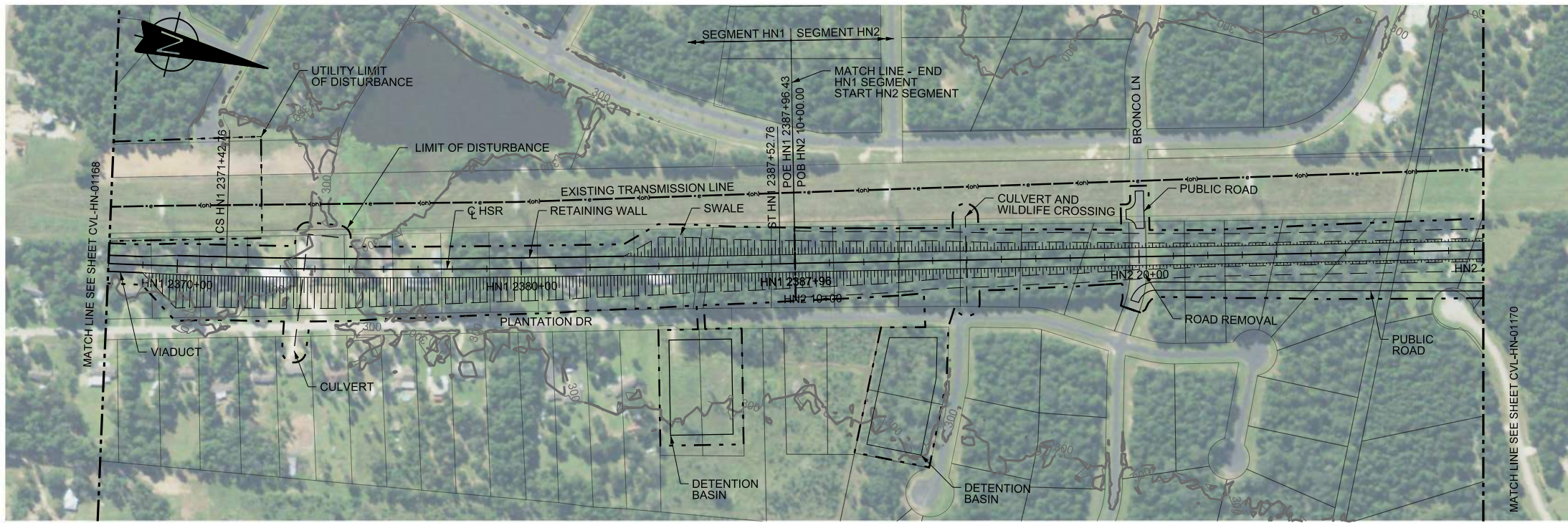
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title  
**HOUSTON SEGMENT  
 CIVIL  
 PLAN AND PROFILE  
 HN1 2312+00 TO HN1 2368+00**

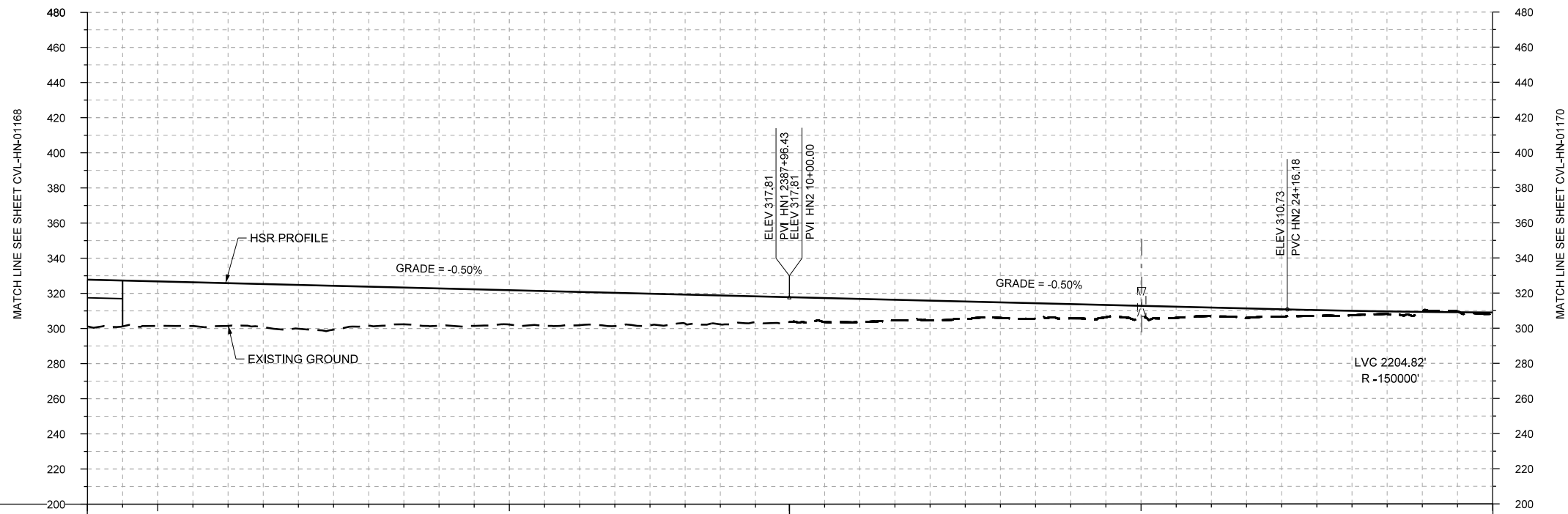
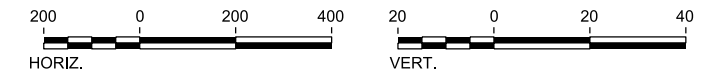
Scale: AS SHOWN

Drawing Status: FINAL

Job No	Drawing No	Rev
234180	CVL-HN-01168	01



PLAN



STATIONING	HN1 2368+00	HN1 2370+00	HN1 2380+00	HN1 2387+96	HN2 20+00	HN2 30+00														
HOR. ALIGNMENT	R=-18700		L=1610	L=44	L=19849															
VER. ALIGNMENT	L=13754		L=2177.17 G=-0.500%		L=1416.18 G=-0.500%	R=150000														
CUT AND FILL	+26.7	+25.3	+24.3	+24.9	+22.2	+21.3	+19.6	+18.9	+18.0	+16.5	+14.1	+13.2	+11.2	+8.8	+8.1	+6.4	+4.9	+4.2	+2.5	+1.8
TYP. SECTION	(E)		EMBANKMENT (A)					EMBANKMENT (A)					CUT (H)							

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**A. UTZ**

DRAWN BY  
**J. BORGHESI**

CHECKED BY  
**C. ZWIEBEL**

IN CHARGE  
**C. TAYLOR**

DATE  
**02/25/2019**

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DALLAS TO HOUSTON HIGH-SPEED RAIL  
FINAL CONCEPTUAL ENGINEERING

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

Drawing Title  
**HOUSTON SEGMENT  
CIVIL  
PLAN AND PROFILE  
HN1 2368+00 TO HN2 30+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-HN-01169	01	