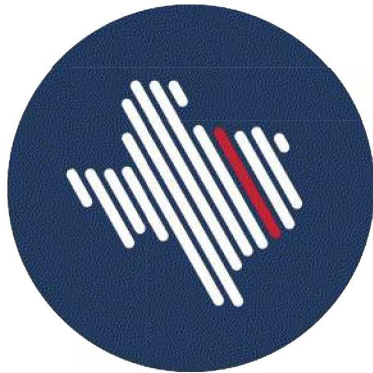


Dallas to Houston High-Speed Rail Final Environmental Impact Statement

Appendix G: Dallas to Houston High-Speed Rail Passenger Service from Houston to Dallas Final Conceptual Engineering Plans and Details Set 6 of 14



**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

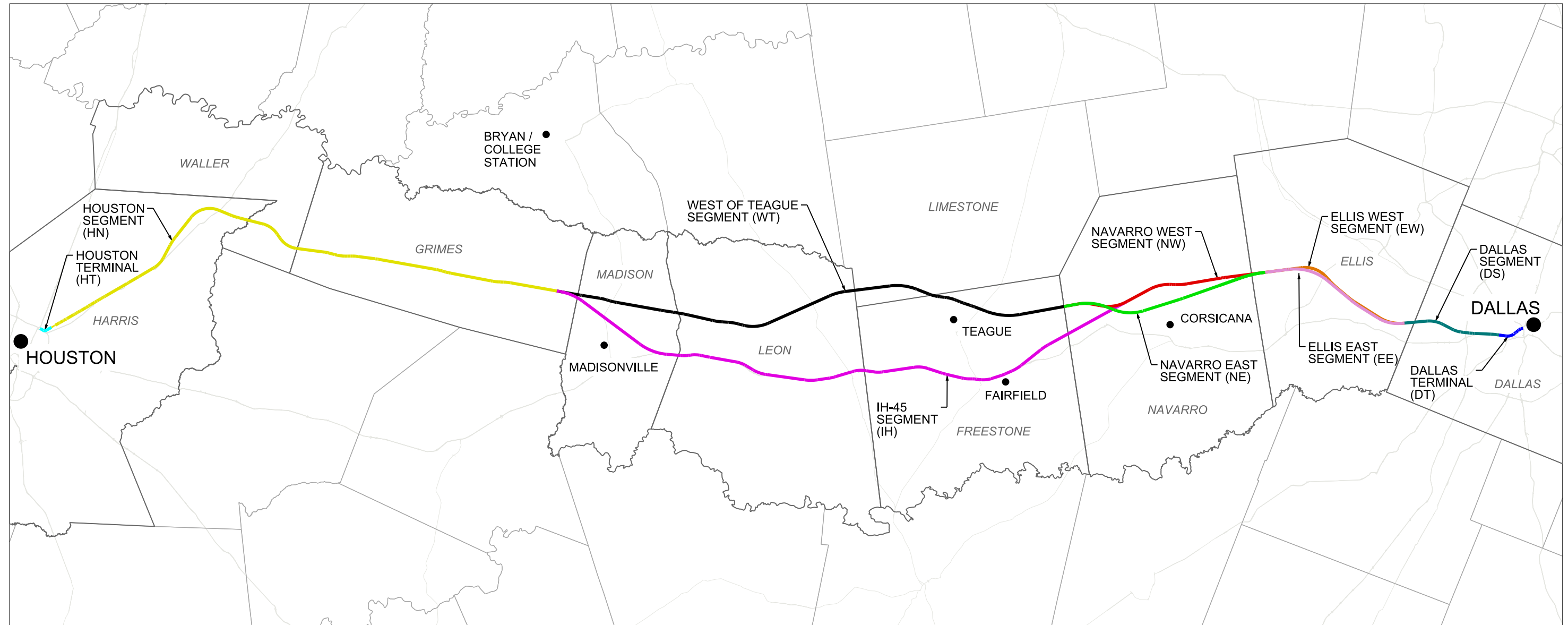
JULY 1, 2019



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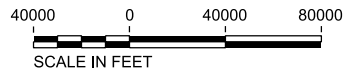
**FRESE
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COVER SHEET



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

TEXAS CENTRAL

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, and 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 drawings for the 2A-1 HOUSTON SEGMENT, including various alignment and profile sheets for different stationing ranges.

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Lists drawings for the 2A-1 HOUSTON SEGMENT and 2A-2 WEST OF TEAGUE SEGMENT, including various alignment and profile sheets.

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

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



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 details for 2A-2 WEST OF TEAGUE SEGMENT.

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing details for 2A-2 WEST OF TEAGUE SEGMENT, 2A-3 NAVARRO WEST SEGMENT, and 2A-4 ELLIS WEST SEGMENT.

VOLUME 2A - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing details for 2A-4 ELLIS WEST SEGMENT and 2A-5 DALLAS SEGMENT.

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

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



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

VOLUME 2B - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing numbers CVL-IH-01350 to CVL-IH-01420 and their corresponding descriptions for the IH-45 segment.

VOLUME 2B - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing numbers CVL-IH-01421 to CVL-IH-01442, CVL-NE-01600 to CVL-NE-01631, and CVL-EE-01800-1 to CVL-EE-01813.

VOLUME 2B - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Contains drawing numbers CVL-EE-01814 to CVL-EE-01823 and their corresponding descriptions for the ELLIS EAST segment.

Revision table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION. Includes a row for revision 1 dated 02/25/2019.

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: 5/24/2018 3:22:14 PM
PLOT BY: M-YPWC501S

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

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes sections 3A-1 STATIONS, 3A-2 MAINTENANCE FACILITIES, YARDS AND SHOPS, 3A-3 RAILWAY FACILITIES, and 3A-4 ROADWAY FACILITIES.

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

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes sections 3B-1 STATIONS (NOT USED), 3B-2 MAINTENANCE FACILITIES, YARDS AND SHOPS, and 3B-3 RAILWAY FACILITIES.

VOLUME 4B - NOT USED
VOLUME 4B - ROADWAY PLAN SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Section 4B-1 IH-45 SEGMENT listing various drawing numbers and descriptions.

Table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION. Includes a 'DESIGNED BY' section with name D. THOMPSON and 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
INDEX SHEET 4 OF 5

Scale
NO SCALE

Drawing Status

FINAL

Job No
234180

Drawing No
GEN-00-00006

Rev
01

VOLUME 4B - ROADWAY PLAN SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes sections 4B-1 IH-45 SEGMENT, 4B-2 NAVARRO EAST SEGMENT, and 4B-3 ELLIS EAST SEGMENT.

Volume 5A - WILDLIFE CROSSING SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes section Volume 5A with drawings WLC-DS-04001 through WLC-HN-04008.

VOLUME 5B - WILDLIFE CROSSING SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes section Volume 5B with drawings WLC-EE-04001 through WLC-IH-04010.

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

Designation table with columns: DESIGNED BY, DRAWN BY, CHECKED BY, IN CHARGE, DATE.



Drawing Title: GENERAL INDEX SHEET 5 OF 5

Scale, Drawing Status, Job No, Drawing No, Rev table.

GENERAL NOTES:

- 1. THESE DRAWINGS ACCOMPANY FINAL CONCEPTUAL ENGINEERING (FCE) REPORT.
2. DRAWING SET INCLUDES FIVE (5) VOLUMES, AFTER RELEASE OF THE DRAFT EIS (DEIS), WHICH IDENTIFIED ALTERNATIVE A AS THE PREFERRED ALTERNATIVE. ADDITIONAL DESIGN DEVELOPMENT AND REFINEMENT OF ALTERNATIVE A WAS UNDERTAKEN TO MITIGATE IMPACTS AND TO IMPROVE CONSTRUCTABILITY. THIS REPORT ADDRESSES THE REFINED DESIGN APPROACHES AND DETAILS FOR THE SEGMENTS IN BUILD ALTERNATIVE A, FOR ALL OTHER SEGMENTS NOT A PART OF THE PREFERRED ALTERNATIVE (ELLIS EAST, NAVARRO EAST, AND IH-45 SEGMENTS), NO CHANGES TO DESIGN WAS ADVANCED OTHER THAN ALIGNMENT REVISIONS REQUIRED TO ACCOUNT FOR ALIGNMENT REVISIONS ADVANCED IN ALTERNATIVE A. TO FACILITATE COMPARISON FOR IMPACT ANALYSIS, THE APPENDICES TO THE FCE REPORT INCLUDES ALL SEGMENTS. THE DRAWING SET HAS BEEN ORGANIZED INTO VOLUMES 1A-5A AND 1B-5B, WITH THE PREFERRED ALTERNATIVE DESIGN DRAWINGS INCLUDED IN THE 1A-5A VOLUMES.
3. CONCEPTUAL ENGINEERING WAS DEVELOPED TO IDENTIFY PROJECT LIMIT OF DISTURBANCE (LOD), OR "PROJECT FOOTPRINT". CONCEPTUAL ENGINEERING DRAWINGS AND FCE REPORT ARE ISSUED TO PROVIDE PROJECT DEFINITION FOR ENVIRONMENTAL ANALYSES ONLY. FINAL DESIGN WOULD BE DEVELOPED TO MITIGATE ANY IMPACTS IDENTIFIED THROUGH ENVIRONMENTAL ANALYSES. NOT FOR CONSTRUCTION.
4. FOR STANDARD GENERAL ABBREVIATIONS, SEE DRAWING GEN-00-0009.
5. FOR STANDARD GENERAL SYMBOLS, SEE DRAWING GEN-00-0009.
6. "ORIGINAL GROUND" SHOWN ON PROFILES REFERS TO THE APPROXIMATE EXISTING GROUND LINE AT HSR CENTERLINE AS SHOWN ON PLAN AND PROFILE DRAWINGS.
7. ALL HORIZONTAL AND VERTICAL DISTANCES ARE IN US CUSTOMARY UNITS EXCEPT AS NOTED OTHERWISE.
8. GENERAL NOTES FOR PROJECT ELEMENTS INCLUDED ON GENERAL NOTES PAGES. REFER TO INDIVIDUAL DISCIPLINE DRAWINGS FOR ADDITIONAL NOTES.

BASEMAPPING NOTES:

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

LOD NOTES:

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

TRACK NOTES:

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

PLAN AND PROFILE GENERAL NOTES:

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

ROADWAY NOTES:

- 1. EXISTING ROADWAY LOCATIONS ARE APPROXIMATE BASED ON AERIAL IMAGERY BACKGROUNDS.
2. PROPOSED ROADWAY WORKS, INCLUDING NEW ROADWAYS, RECONFIGURATION AND REALIGNMENTS OF EXISTING ROADWAYS, AND ROADWAY REMOVALS ARE CONCEPTUAL IN NATURE AND WERE DEVELOPED TO IDENTIFY GENERAL CONFIGURATION AND LOCATION FOR ENVIRONMENTAL IMPACT ANALYSES. ROADWAY WORKS WOULD BE DETAILED DURING FINAL DESIGN AND WOULD COMPLY WITH APPLICABLE STATE, CITY, COUNTY, OR LOCAL REQUIREMENTS.
3. SEE SHEET GEN-00-00011 FOR A KEY TO INFORMATION SHOWN ON ROADWAY PLAN DRAWINGS.
4. ROADWAY GEOMETRY IS BASED ON TXDOT ROADWAY DESIGN MANUAL. ROAD DESIGN SPEEDS MATCH EXISTING POSTED SPEED LIMITS OR MATCH DESIGN SPEED DETERMINED FROM TXDOT ROADWAY FUNCTIONAL CLASSIFICATION SPEED GUIDELINES, WHICHEVER IS GREATER.
5. SUPERELEVATION TRANSITION LENGTHS WERE NOT DETAILED IN ROADWAY APPROACH DESIGN.
6. SEE DRAWINGS CVL-00-03030 TO CVL-00-03034B FOR TYPICAL ROADWAY CROSS SECTIONS.
7. FOR SEGMENTS HN, WT, NW, EW, AND DS, ROADWAY REMOVALS ARE SHOWN ON RAIL PLAN AND PROFILE SHEETS. FOR SEGMENTS IH, NE, AND EE, ROADWAY REMOVALS ARE NOT SHOWN ON RAIL PLAN AND PROFILE SHEETS. REFER TO ROADWAY PLAN SHEETS IN VOLUME 4 FOR SEGMENT 2B, 3B, AND 4B ROADWAY REMOVALS.
8. NOT ALL PRIVATE ROADS AND DRIVEWAYS ARE REPRESENTED ON THE RAIL PLAN AND PROFILE SHEETS.
9. THE CLEARANCE ENVELOPES SHOWN ON THE RAIL PLAN AND PROFILE SHEETS REPRESENT THE APPROXIMATE ROADWAY CLEARANCE ENVELOPE. THE BOTTOM OF THE CLEARANCE ENVELOPE REPRESENTS THE TOP OF THE ROADWAY PAVEMENT. CLEARANCE ENVELOPE DOES NOT INCLUDE ROADWAY STRUCTURAL ELEMENTS.
10. ROADWAY ELEVATIONS FOR ROADWAY OVER RAILWAY CROSSINGS DO NOT REPRESENT THE PROPOSED ROADWAY ELEVATION, BUT RATHER THE MINIMUM HEIGHT REQUIRED FOR CLEARANCES, INCLUDING ALLOWANCES FOR ROADWAY STRUCTURAL ELEMENTS. SEE FCE REPORT FOR ADDITIONAL INFORMATION.
11. ROADWAY TYPICAL SECTIONS ACCOUNT FOR THE NECESSARY SPACE TO CONSTRUCT TEMPORARY ROADWAYS DURING CONSTRUCTION. CLOSE COORDINATION WITH ROADWAY AUTHORITIES, COMMUNITIES, AND EMERGENCY RESPONSE ENTITIES WOULD BE UNDERTAKEN DURING FINAL DESIGN AND CONSTRUCTION TO ENSURE ACCESS DURING THE CONSTRUCTION PHASE.
12. USE OF TXDOT RIGHT-OF-WAY FOR PERMANENT IMPROVEMENTS WILL REQUIRE THE APPROPRIATE APPROVAL FROM TXDOT.
13. PLANNED ROADS, SUCH AS MTFP ROADS IN HOUSTON, ARE SHOWN IN PROFILES IN VOLUME 2, BUT ARE NOT SHOWN IN PLAN IN VOLUME 2. AS THESE ROADS ARE PLANNED AND NOT EXISTING, THE AERIAL IMAGERY BACKGROUNDS DO NOT SHOW THESE ROADS. PLANNED ROADS ARE SHOWN IN THE FCE REPORT APPENDIX B: ROAD SEPARATION DATABASE.

TYPICAL SECTIONS NOTES:

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

UTILITIES NOTES:

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

DRAINAGE NOTES:

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

STRUCTURES GENERAL NOTES:

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

SYSTEMS GENERAL NOTES:

- 1. SYSTEMS SCHEMATICS, SHOWN ON SHEETS SYS-00-02000 THROUGH SYS-00-02006, SHOW LOCATIONS OF SYSTEMS FACILITIES THAT HAVE BEEN INCLUDED FOR EACH END-TO-END ALTERNATIVE.
2. AREA FOR SYSTEMS FACILITY SITES HAVE BEEN INCLUDED WITHIN THE PROJECT LOD. THESE AREAS ARE GENERICALLY CALLED OUT AS "RAIL SYSTEMS SITES" ON THE PLAN AND PROFILE SHEETS, REFER TO FCE REPORT TO DETERMINE THE SPECIFIC FACILITY TYPE AT EACH INDIVIDUAL LOCATION.
3. TYPICAL LAYOUT PLANS FOR EACH OF THE SYSTEMS FACILITIES ARE INCLUDED IN SHEETS SYS-00-01000 THROUGH SYS-00-01006.
4. LOD DEVELOPED FOR ENVIRONMENTAL IMPACT ANALYSIS OF SYSTEMS SITES INCLUDED SPACE FOR A DRIVEWAY AND SPACE TO PARK A LIMITED NUMBER OF MAINTENANCE VEHICLES.
5. SYSTEMS BUILDINGS WOULD BE DETAILED DURING FINAL DESIGN TO CONSIDER SITE SPECIFIC CONDITIONS, BE CONTEXT SENSITIVE, AND MINIMIZE VISUAL IMPACT. THE RADIO MAST AT COMMUNICATION FACILITIES WOULD BE APPROXIMATELY 50FT (15M) ABOVE THE TOP OF RAIL ELEVATION.
6. TPSS WOULD BE CONNECTED TO THE NEAREST 138KV TRANSMISSION LINES DESIGNED BY UTILITY PROVIDER AND SUBJECT TO ENVIRONMENTAL REVIEW.

FACILITY NOTES:

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

CONSTRUCTION CONSIDERATION NOTES:

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

Table with columns: REV, DATE, BY, CHK, APP, DESCRIPTION

Table with columns: 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 NOTES

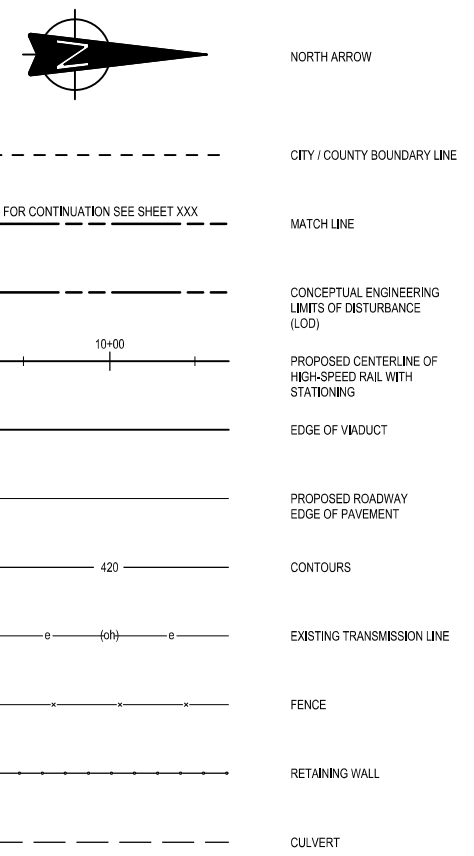
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ABBREVIATIONS

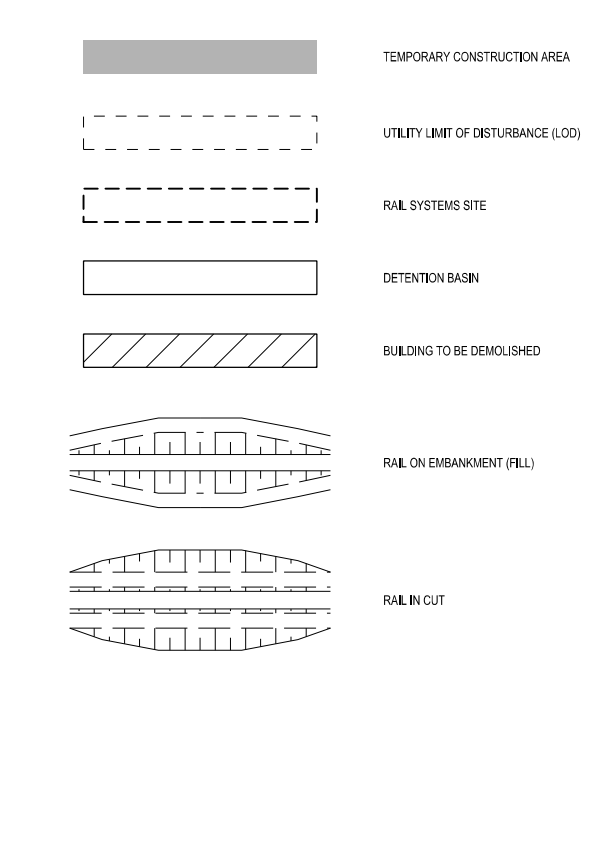
LEGEND

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		

PLAN

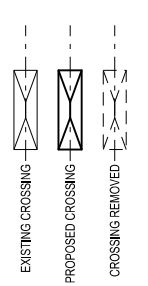
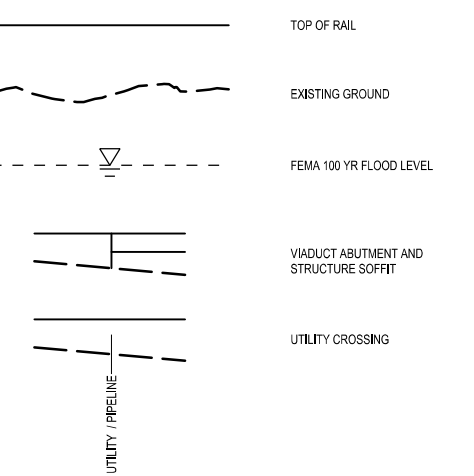


LEGEND



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



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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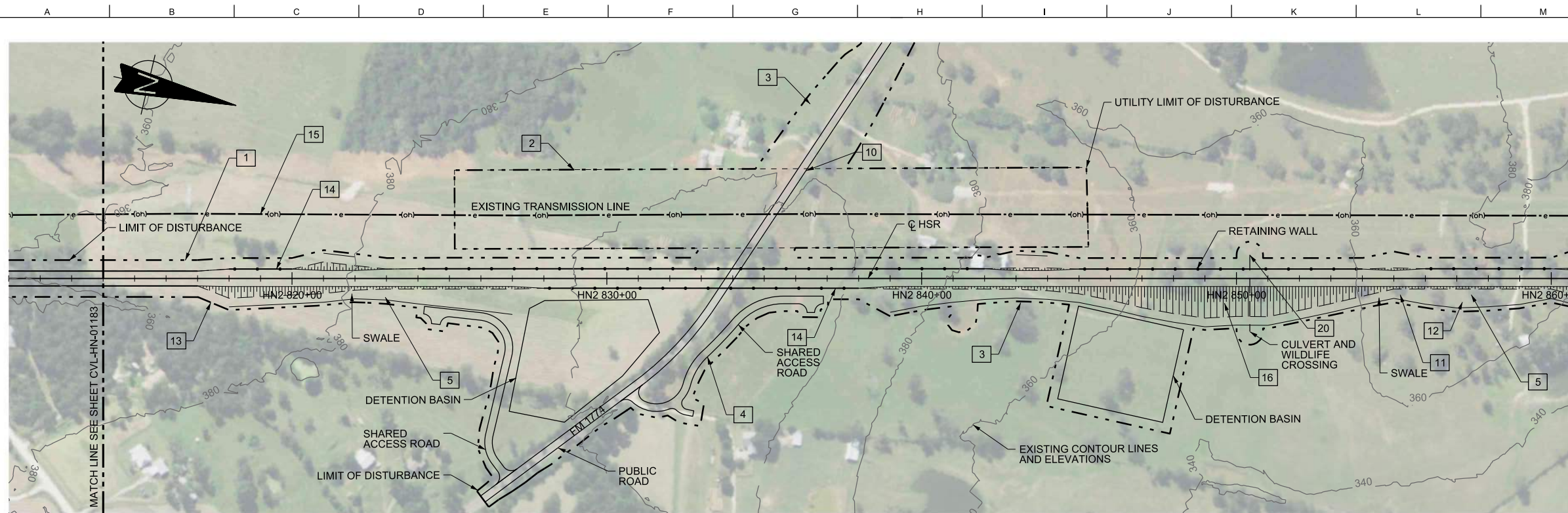
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DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

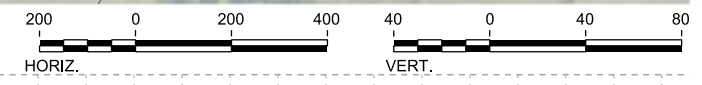


Drawing Title
GENERAL ABBREVIATIONS AND LEGEND

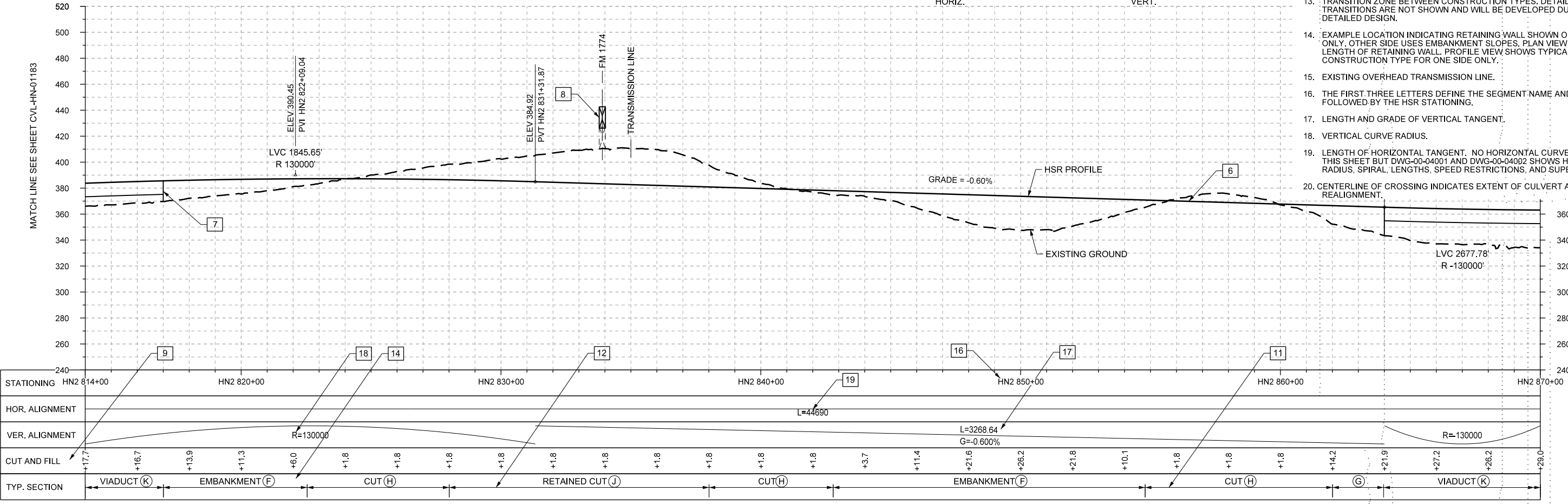
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Drawing Status FINAL		
Job No 234180	Drawing No GEN-00-00009	Rev 01



PLAN



- NOTES:
- LIMIT OF DISTURBANCE (LOD) FOR THE PROJECT. LOD VARIES BASED ON IMPACT AT EACH LOCATION. LOD USED FOR ENVIRONMENTAL ANALYSIS.
 - UTILITY LIMIT OF DISTURBANCE. TRANSMISSION LINE TO BE RAISED AS NECESSARY TO SUIT THE GRADE SEPARATION OF THE ROADWAY. REFER TO UTILITY TYPICAL DETAILS.
 - LOD IS OFFSET FROM THE EDGE OF PROPOSED ROADWAY TO ACCOMMODATE SIDE SLOPES ASSOCIATED WITH THE GRADE SEPARATION OF THE ROADWAY AND ACCESS ROAD.
 - DETAILS ON THE TYPE AND WIDTH OF THE ACCESS ROAD ARE SHOWN IN TYPICAL SECTIONS IN VOLUME 1.
 - SWALE EXTENTS SHOWN ON RAIL PLAN SHEETS ARE ONLY GENERATED BY COMPUTER MODEL FOR EMBANKMENT CONSTRUCTION TYPE AND WOULD EXTEND BEYOND THE LIMITS SHOWN. FINAL EXTENTS AND ARRANGEMENTS OF SWALES WOULD BE DEVELOPED DURING FINAL DESIGN AND BE BASED ON SITE SPECIFIC CONDITIONS AND REQUIREMENTS. LOCATION AND CONFIGURATION OF SWALES FOR OTHER CONSTRUCTION TYPES ARE SHOWN ON THE TYPICAL SECTIONS.
 - PROFILE OF THE HSR ALIGNMENT AT TOP OF RAIL.
 - START, END, AND APPROXIMATE UNDERSIDE OF VIADUCT STRUCTURES. TYPICAL STRUCTURE DEPTH SHOWN.
 - CLEARANCE BOX 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

DESIGNED BY J. ENRIQUEZ
DRAWN BY P. TONKIN
CHECKED BY R. BURNS
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
GENERAL
RAIL ANNOTATION TO CLARIFY DESIGN INTENT

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

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



Drawing Title
GENERAL

Scale NO SCALE		
Drawing Status FINAL		
Job No 234180	Drawing No GEN-00-0000	Rev 01

2A-3

NAVARRO WEST SEGMENT

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
K. SEYMOUR

DRAWN BY
D. THOMPSON

CHECKED BY
R. BURNS

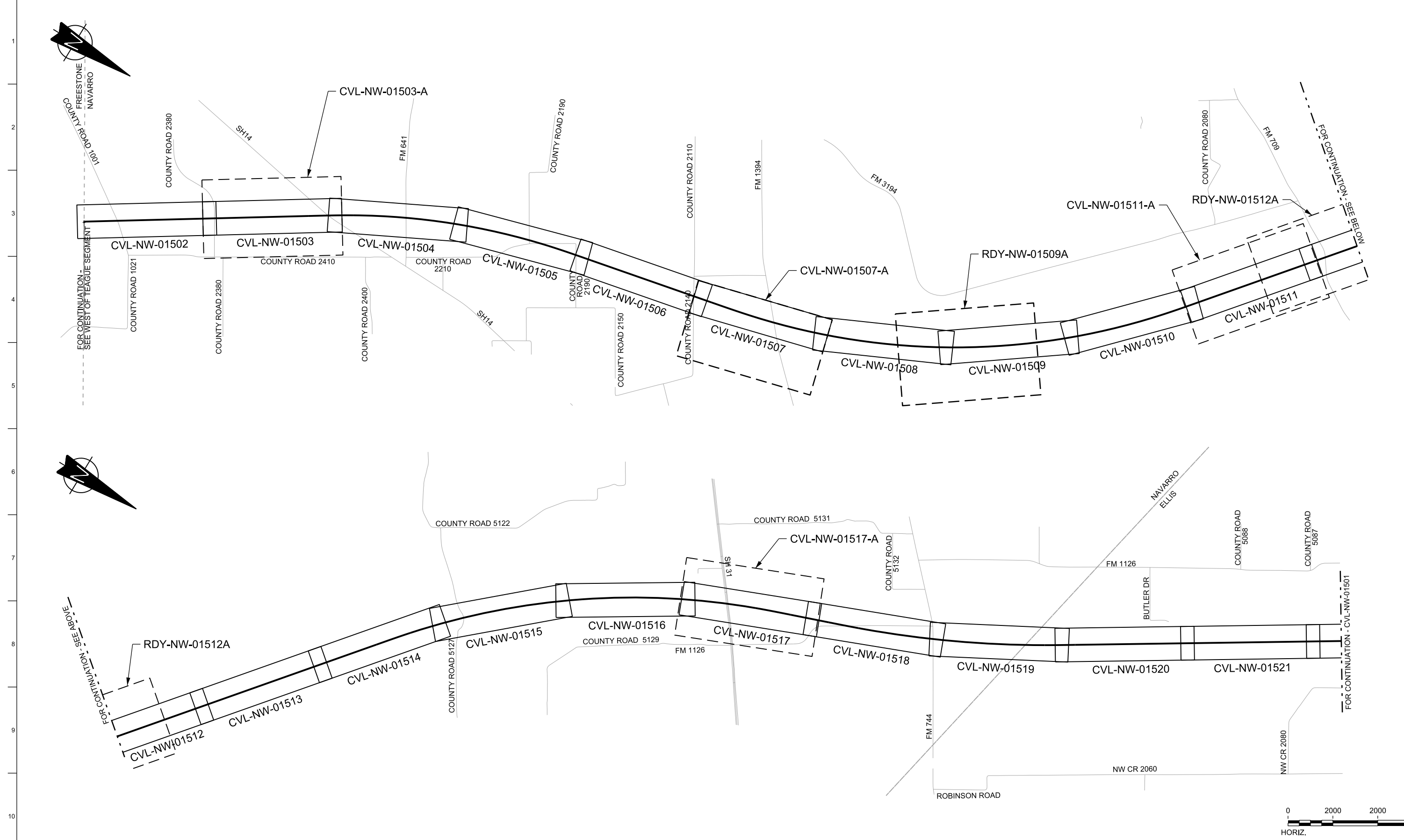
IN CHARGE
C. TAYLOR

DATE
2/25/2019



Drawing Title
GENERAL

Scale NO SCALE		
Drawing Status FINAL		
Job No 234180	Drawing No GEN-00-0000	Rev 01



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

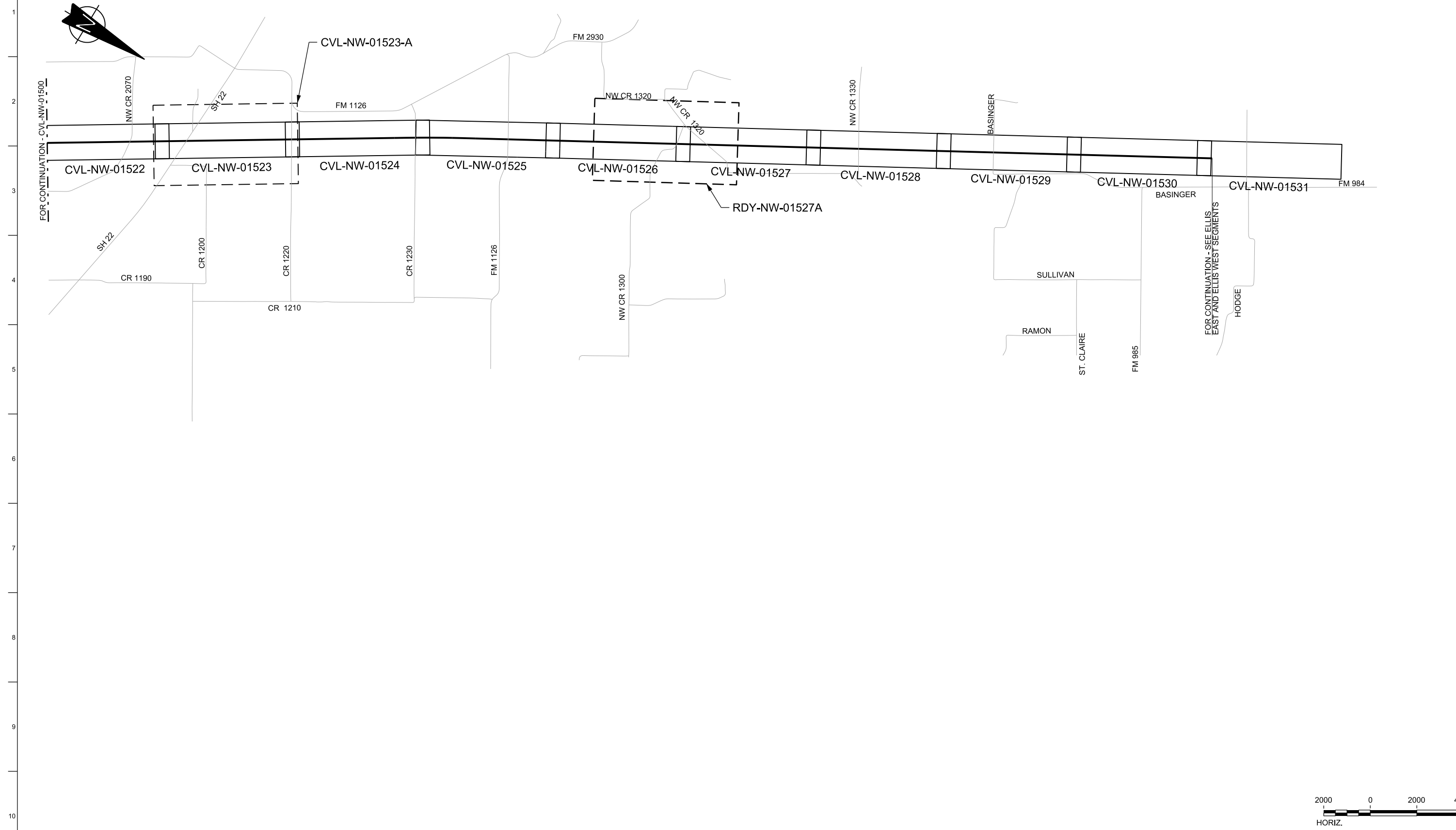
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
KEY MAP - SHEET 1 OF 2
NW 10+00 TO NW 1130+00**

Scale
AS SHOWN

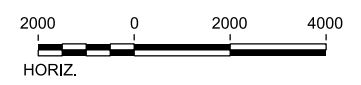
Drawing Status
FINAL

Job No 234180	Drawing No CVL-NW-01500	Rev 01
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FOR CONTINUATION - CVL-NW-01500

FOR CONTINUATION - SEE ELLIS EAST AND ELLIS WEST SEGMENTS



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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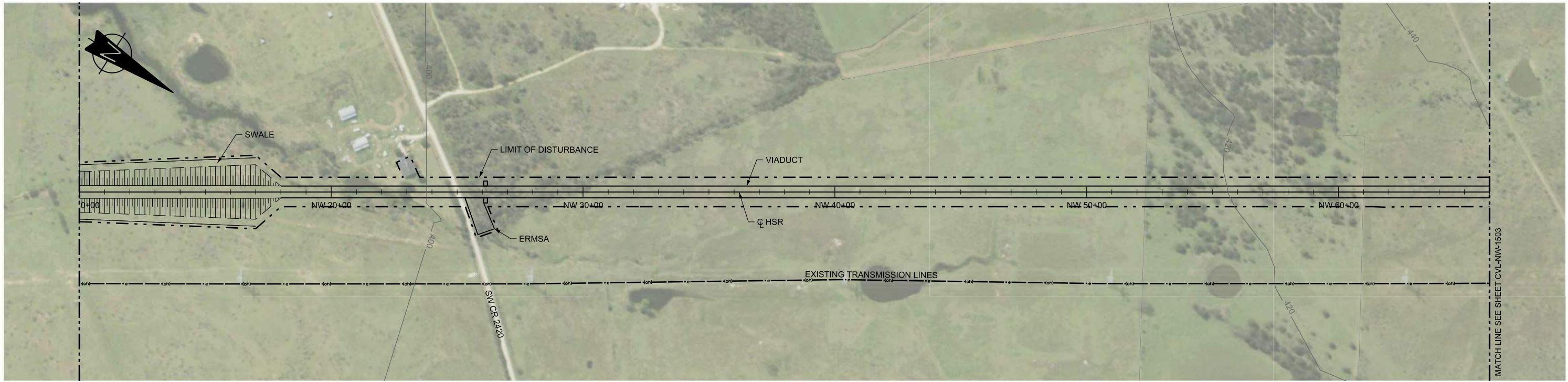
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FINAL CONCEPTUAL ENGINEERING



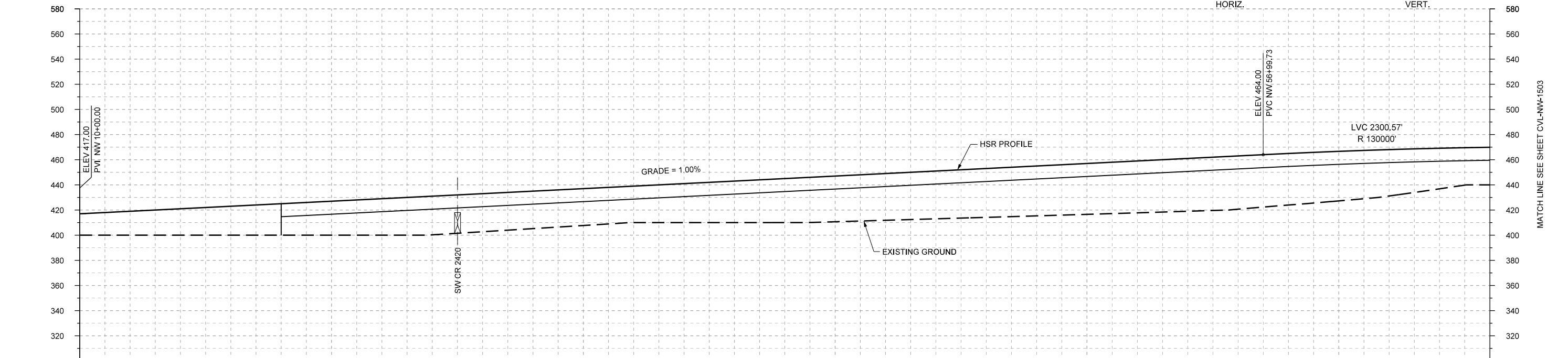
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Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
KEY MAP - SHEET 2 OF 2
NW 1130+00 TO NW 1638+12**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-NW-01501	Rev 01



PLAN



PROFILE

STATIONING	NW 10+00	NW 20+00	NW 30+00	NW 40+00	NW 50+00	NW 60+00	NW 66+00																						
HOR. ALIGNMENT	L=10001																												
VER. ALIGNMENT	L=4699.73 G=1.000%																												
CUT AND FILL	+17.0	+19.0	+21.0	+23.0	+25.0	+27.0	+29.0	+30.7	+30.3	+29.8	+29.3	+29.0	+31.0	+33.0	+35.0	+36.3	+37.2	+38.0	+38.8	+39.7	+40.4	+41.2	+42.0	+42.3	+41.0	+39.5	+36.8	+32.3	+29.9
TYP. SECTION	EMBANKMENT (F)										VIADUCT (K)																		

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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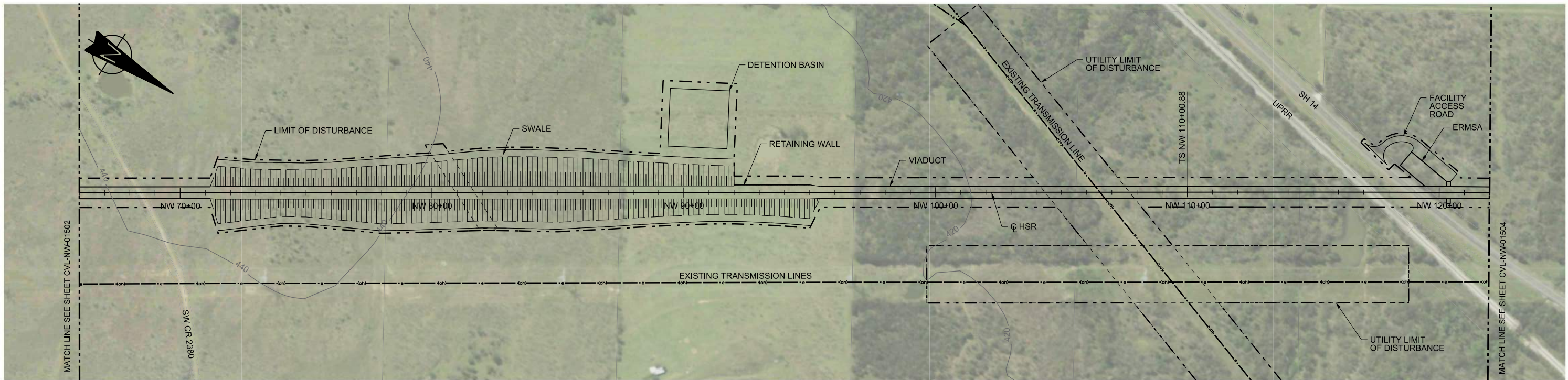
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

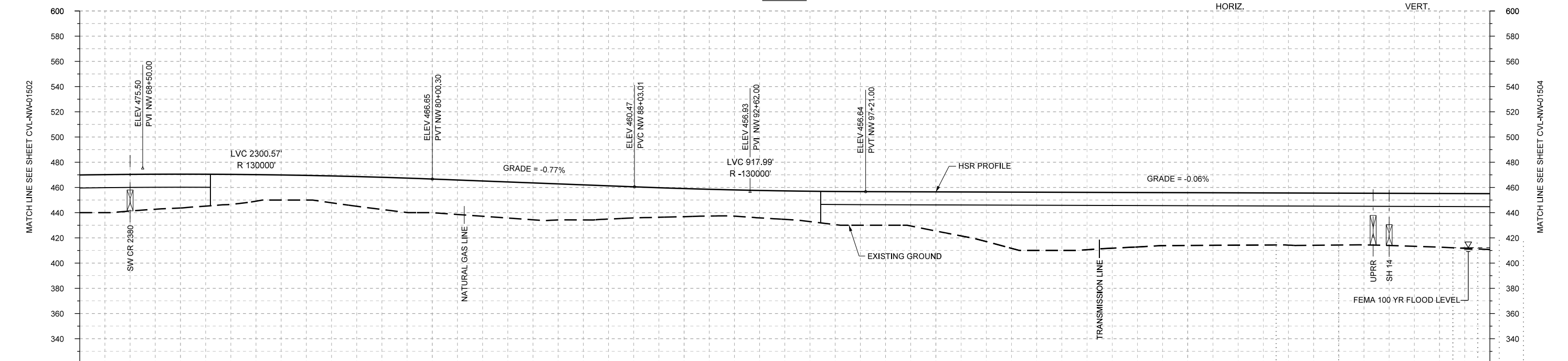
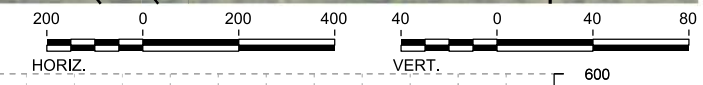
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 10+00 TO 66+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-NW-01502	01	



PLAN



PROFILE

STATIONING	NW 66+00	NW 70+00	NW 80+00	NW 90+00	NW 100+00	NW 110+00	NW 120+00	NW 122+00																					
HOR. ALIGNMENT	L=10001																												
VER. ALIGNMENT	L=802.71 G=-0.770%																												
CUT AND FILL	+29.9	+29.0	+26.8	+23.7	+19.9	+21.3	+25.5	+26.7	+28.0	+29.3	+27.8	+24.7	+22.3	+20.8	+22.6	+26.3	+26.6	+31.1	+39.2	+46.2	+45.5	+43.2	+41.8	+41.5	+41.4	+41.1	+41.3	+42.6	+44.4
TYP. SECTION	VIADUCT (K)			EMBANKMENT (F)										VIADUCT (K)															

REV	DATE	BY	CHK	APP	DESCRIPTION

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

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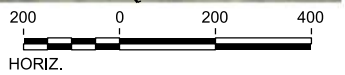
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 66+00 TO NW 122+00**

Scale
AS SHOWN

Drawing Status
FINAL

Job No	Drawing No	Rev
234180	CVL-NW-01503	01



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. UTZ

DRAWN BY
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CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019



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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

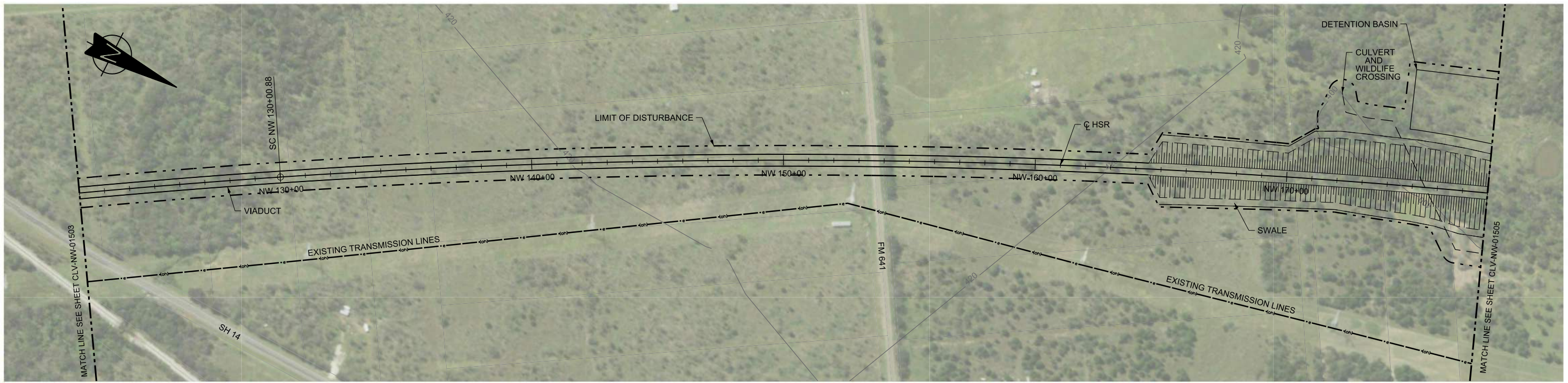
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



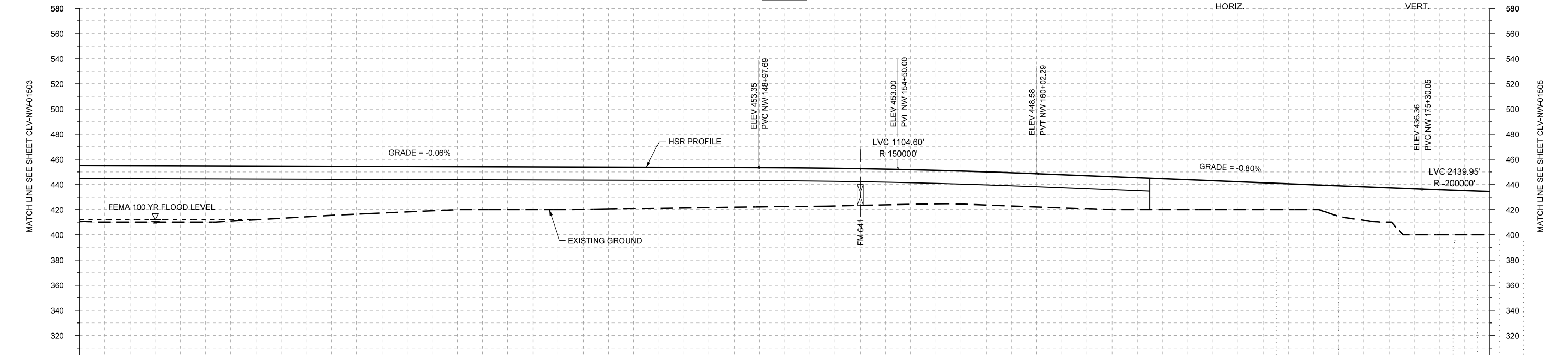
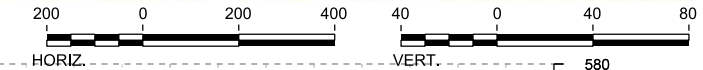
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-NW-01503-A	Rev 01



PLAN



STATIONING	NW 122+00	NW 130+00	NW 140+00	NW 150+00	NW 160+00	NW 170+00	NW 178+00																						
HOR. ALIGNMENT	L=2000		R=30000 L=8842			L=1527.76 G=-0.800%																							
VER. ALIGNMENT	L=5176.69 G=-0.064%			R=150000		L=1527.76 G=-0.800%																							
CUT AND FILL	+44.4	+44.9	+44.8	+43.8	+41.4	+38.9	+37.0	+35.1	+34.0	+33.9	+33.6	+32.8	+32.0	+31.3	+30.7	+29.8	+28.3	+26.6	+26.3	+26.3	+26.2	+25.4	+23.8	+22.2	+20.6	+24.3	+27.4	+35.8	+34.4
TYP. SECTION	VIADUCT (K)										EMBANKMENT (F)																		

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

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

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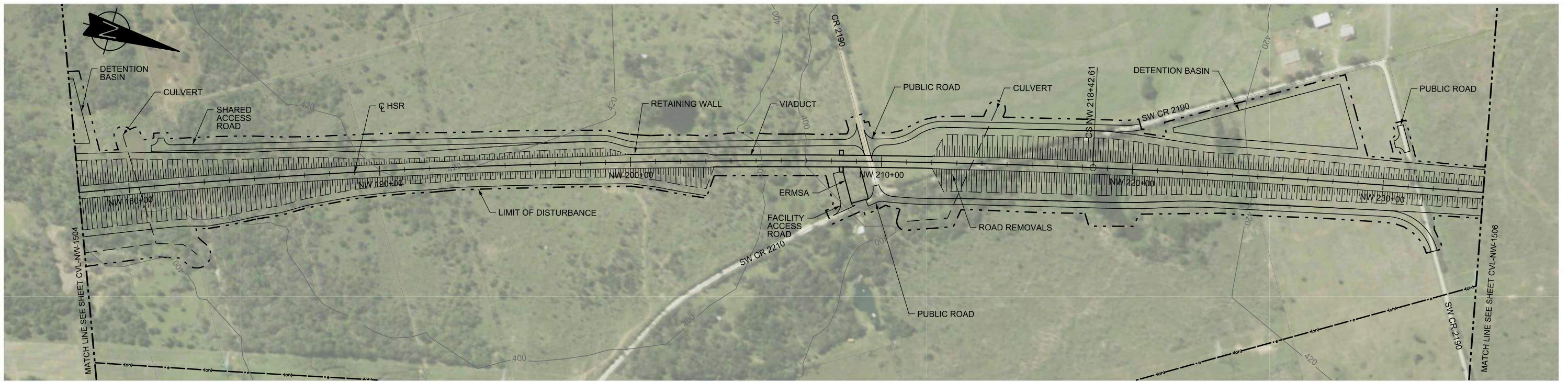
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 122+00 TO NW 178+00**

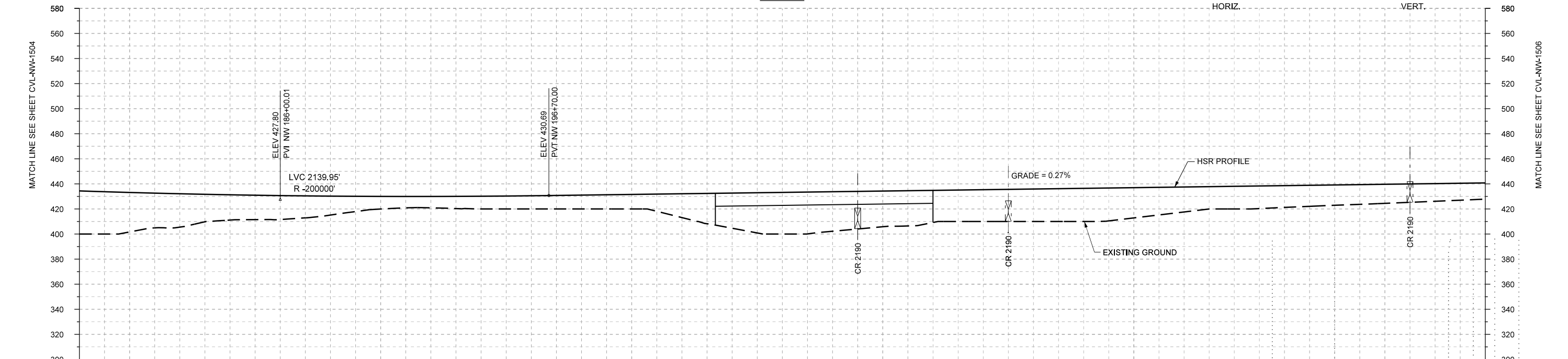
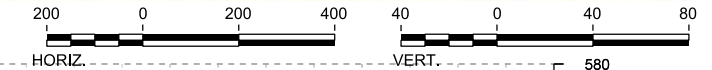
Scale
AS SHOWN

Drawing Status
FINAL

Job No	Drawing No	Rev
234180	CVL-NW-01504	01



PLAN



STATIONING	NW 178+00	NW 180+00	NW 190+00	NW 200+00	NW 210+00	NW 220+00	NW 230+00	NW 234+00																					
HOR. ALIGNMENT	R=300000 L=8842				L=2000																								
VER. ALIGNMENT	R=200000				L=6828.06 G=0.270%																								
CUT AND FILL	+34.4	+31.5	+26.6	+20.2	+19.2	+15.1	+10.0	+9.1	+10.1	+10.5	+11.0	+11.6	+19.0	+28.1	+33.2	+31.5	+28.5	+25.6	+25.4	+25.9	+26.4	+24.1	+19.9	+18.1	+17.4	+16.2	+15.2	+14.1	+13.0
TYP. SECTION	EMBANKMENT (A)										VIADUCT (E)				EMBANKMENT (A)														

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

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

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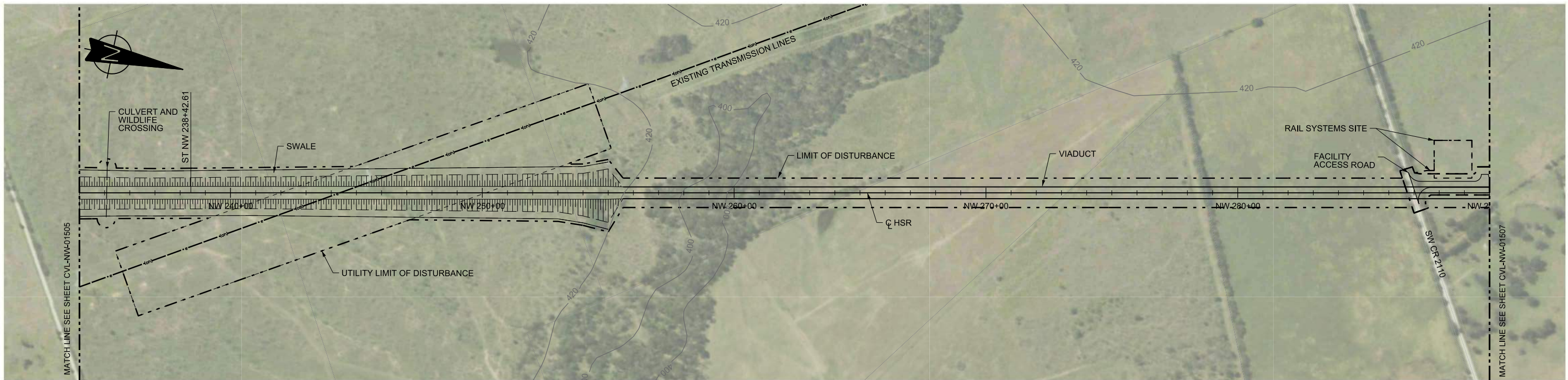
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 178+00 TO NW 234+00**

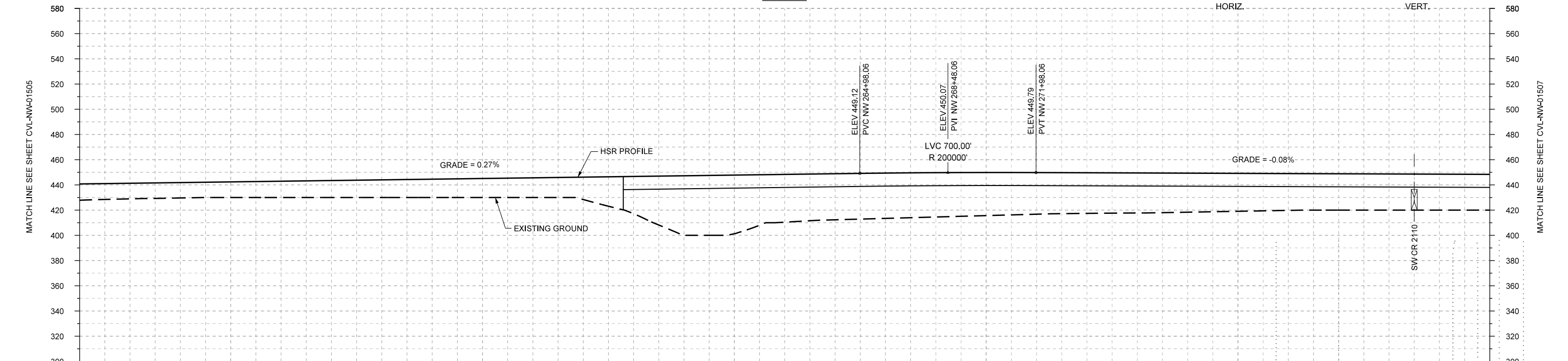
Scale
AS SHOWN

Drawing Status
FINAL

Job No	Drawing No	Rev
234180	CVL-NW-01505	01



PLAN



STATIONING	NW 234+00	NW 240+00	NW 250+00	NW 260+00	NW 270+00	NW 280+00	NW 290+00																						
HOR. ALIGNMENT	L=2000		L=5697			L=4872.92																							
VER. ALIGNMENT	G=0.270%		R=200000			G=-0.080%																							
CUT AND FILL	+13.0	+12.3	+12.2	+12.4	+12.9	+13.5	+14.0	+14.5	+15.1	+15.6	+17.8	+29.6	+47.2	+46.5	+37.9	+36.6	+36.0	+35.1	+34.2	+33.0	+32.2	+31.8	+30.9	+30.0	+29.2	+28.8	+28.7	+28.5	+28.3
TYP. SECTION	EMBANKMENT (A)												VIADUCT (E)																

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. UTZ

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CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

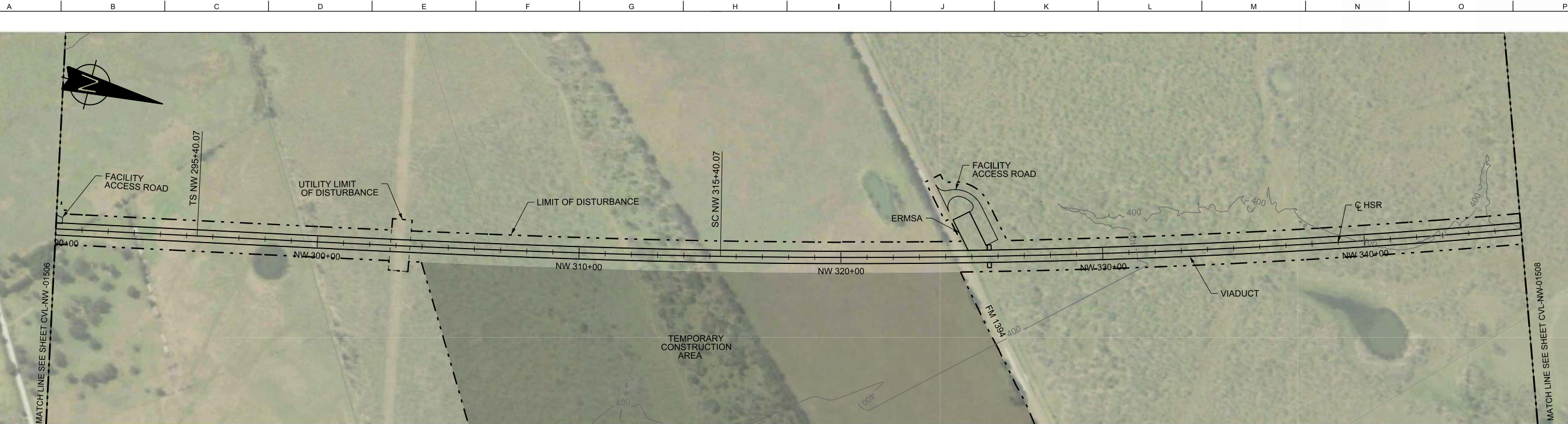
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 234+00 TO NW 290+00**

Scale
AS SHOWN

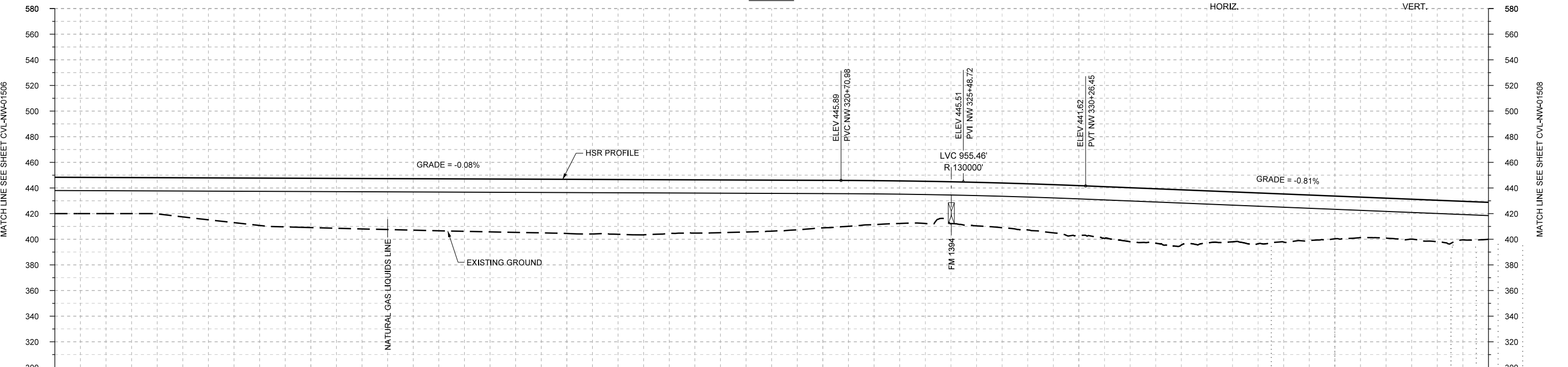
Drawing Status
FINAL

Job No	Drawing No	Rev
234180	CVL-NW-01506	01



FOR CONTINUATION SEE SHEET CVL-NW-01507-A

PLAN



STATIONING	NW 290+00	NW 300+00	NW 310+00	NW 320+00	NW 330+00	NW 340+00	NW 346+00																						
HOR. ALIGNMENT	L=5697		L=2000		R=30000 L=18299																								
VER. ALIGNMENT	L=4872.92 G=-0.080%		R=130000			L=8646.60 G=-0.815%																							
CUT AND FILL	+28.3	+28.2	+28.2	+32.7	+36.9	+38.4	+39.4	+40.1	+40.9	+41.6	+42.2	+42.7	+41.9	+41.2	+39.8	+37.0	+34.3	+32.9	+34.0	+36.0	+38.8	+42.1	+43.1	+38.9	+37.5	+33.3	+31.2	+32.4	+28.8
TYP. SECTION	VIADUCT (E)																												

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. UTZ
DRAWN BY
J. BORGHESI
CHECKED BY
T. WAGNER
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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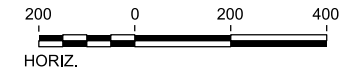
Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 290+00 TO NW 346+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-NW-01507	01	



1
2
3
4
5
6
7
8
9
10

PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019



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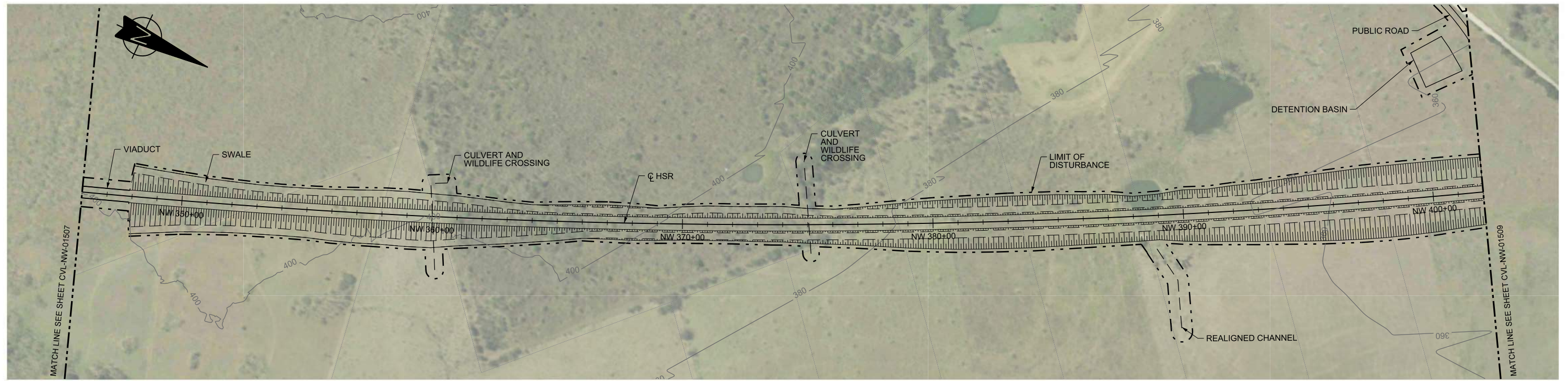
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



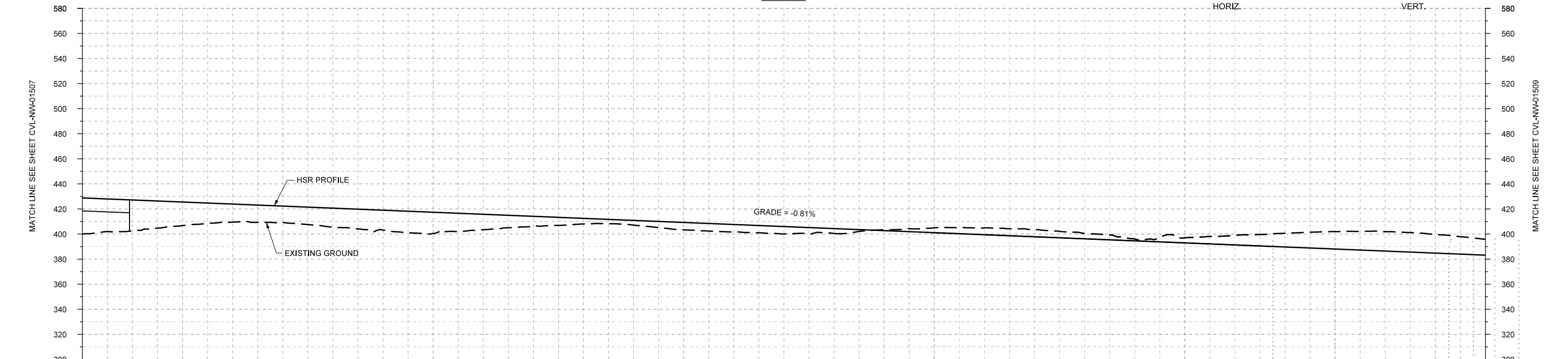
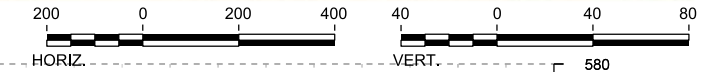
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-NW-01507-A	Rev 01



PLAN



STATIONING	NW 346+00	NW 350+00	NW 360+00	NW 370+00	NW 380+00	NW 390+00	NW 400+00	NW 402+00																												
HOR. ALIGNMENT	$R=30000$ $L=18299$ $L=8646.60$ $G=-0.815\%$																																			
CUT AND FILL	+28.8	+24.5	+18.8	+14.4	+13.4	+15.1	+15.9	+16.9	+12.4	+8.2	+4.5	+3.8	+5.8	+6.0	+5.9	+3.9	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0
TYP. SECTION	(E)	EMBANKMENT (A)										CUT (C)		EMBANKMENT (A)										CUT (C)												

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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FRESE & NICHOLS

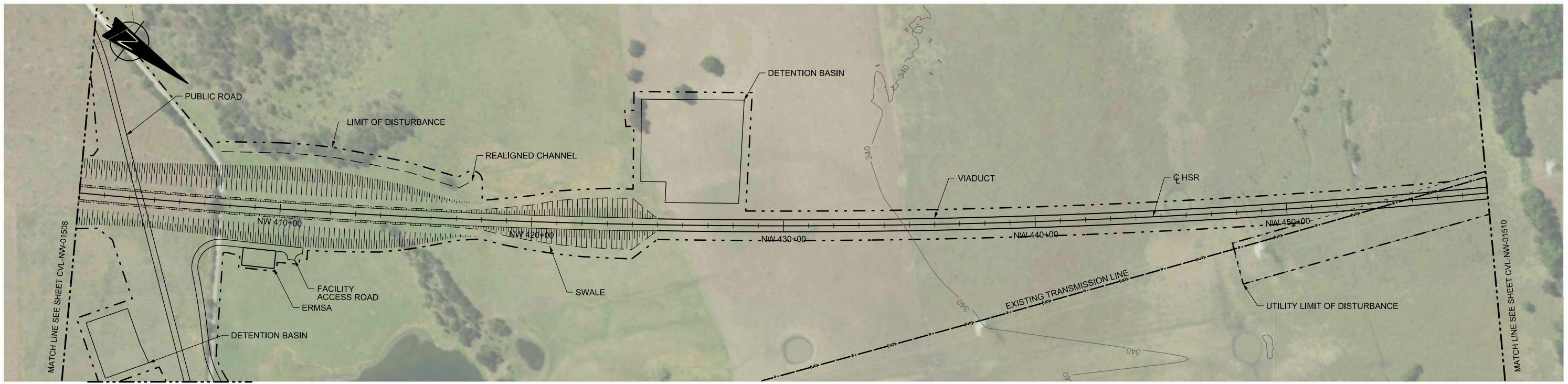
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
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Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

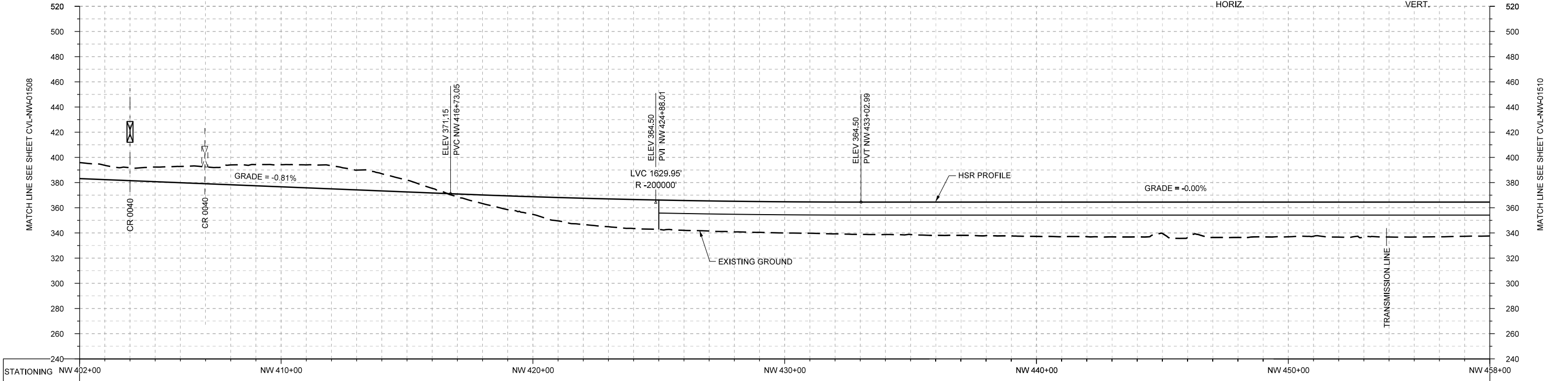
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 346+00 TO NW 402+00**

Scale	AS SHOWN
Drawing Status	FINAL
Job No	234180
Drawing No	CVL-NW-01508
Rev	01



PLAN



PROFILE

STATIONING	NW 402+00	NW 410+00	NW 420+00	NW 430+00	NW 440+00	NW 450+00	NW 458+00
HOR. ALIGNMENT							
VER. ALIGNMENT	$L=8646.60$ $G=-0.815\%$						
CUT AND FILL	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0
TYP. SECTION	CUT (C)			EMBANKMENT (A)		VIADUCT (E)	

REV	DATE	BY	CHK	APP	DESCRIPTION

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

ARUP
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 Houston, Texas 77042 USA
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 www.arup.com
 Texas Registered Engineering Firm: F-2149

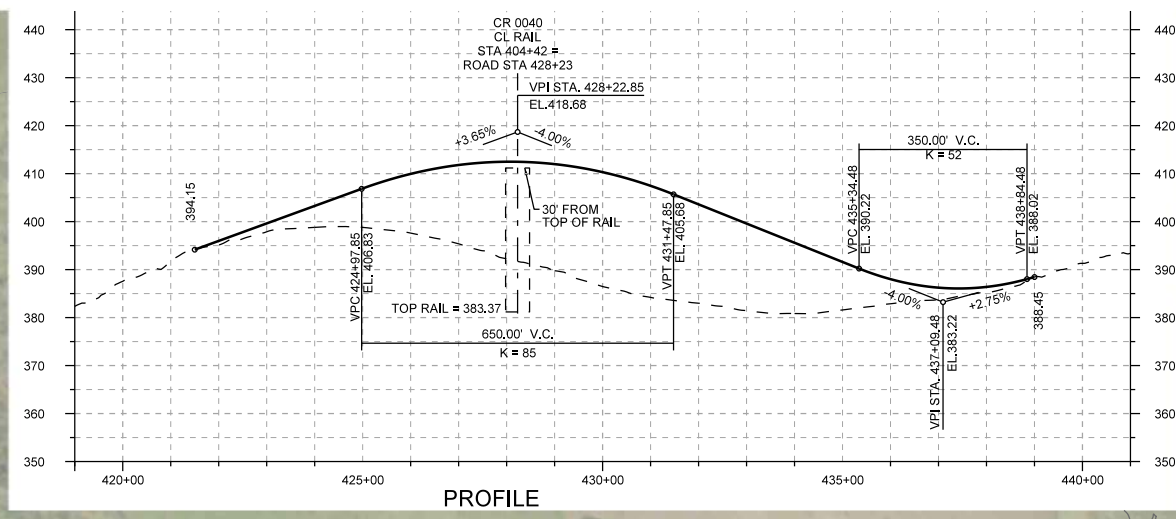
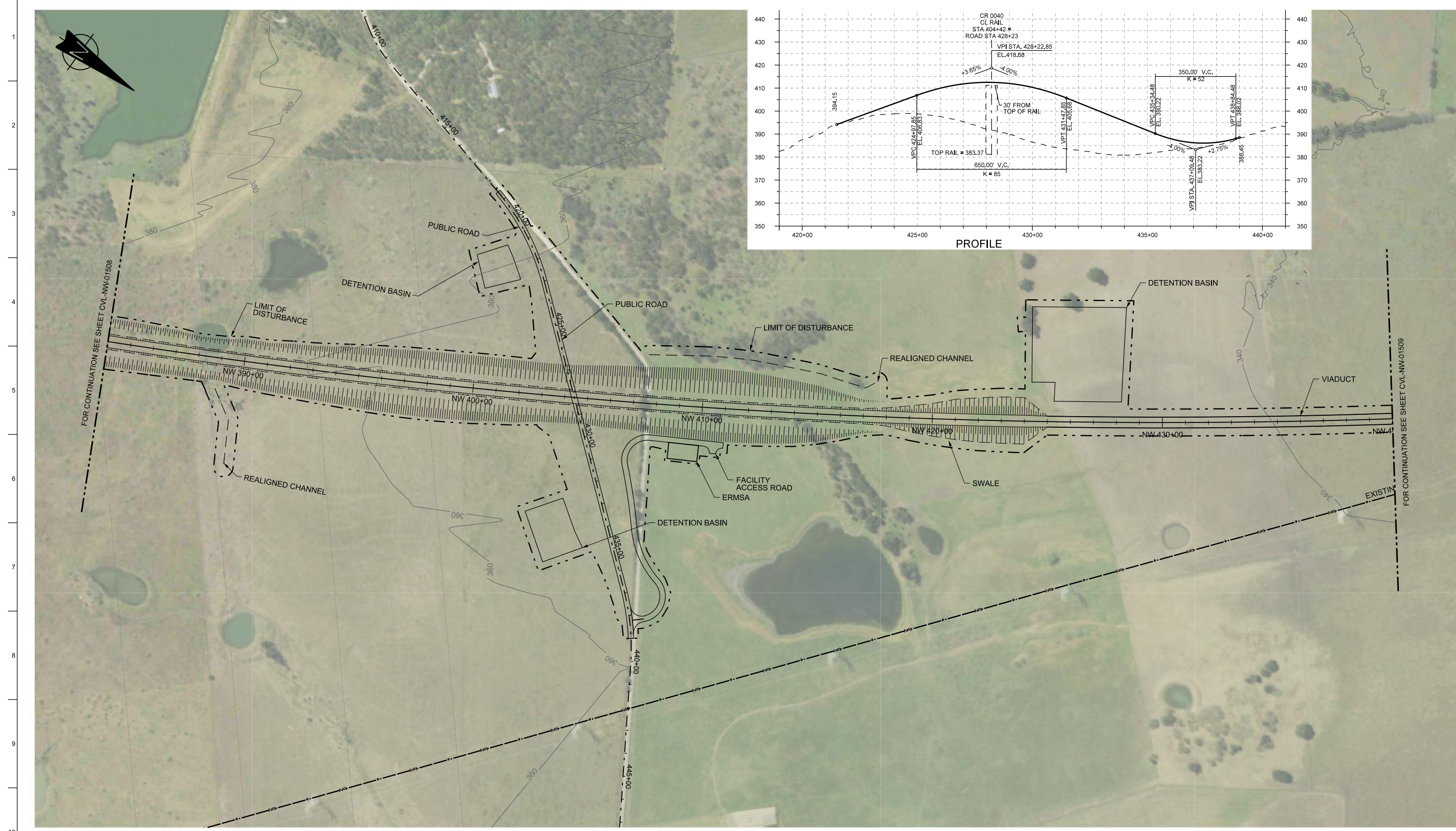
FRESE AND NICHOLS
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 Tel (214) 217 2200 Fax (214) 217 2201
 www.freese.com
 Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

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

Drawing Title
**NAVARRO WEST SEGMENT
 CIVIL
 PLAN AND PROFILE
 NW 402+00 TO NW 458+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-NW-01509	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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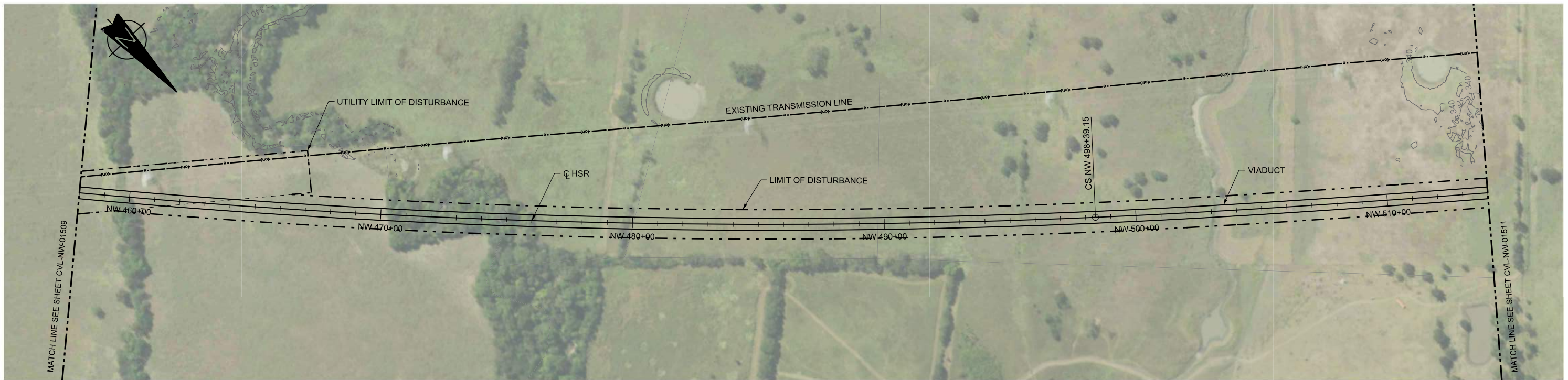
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



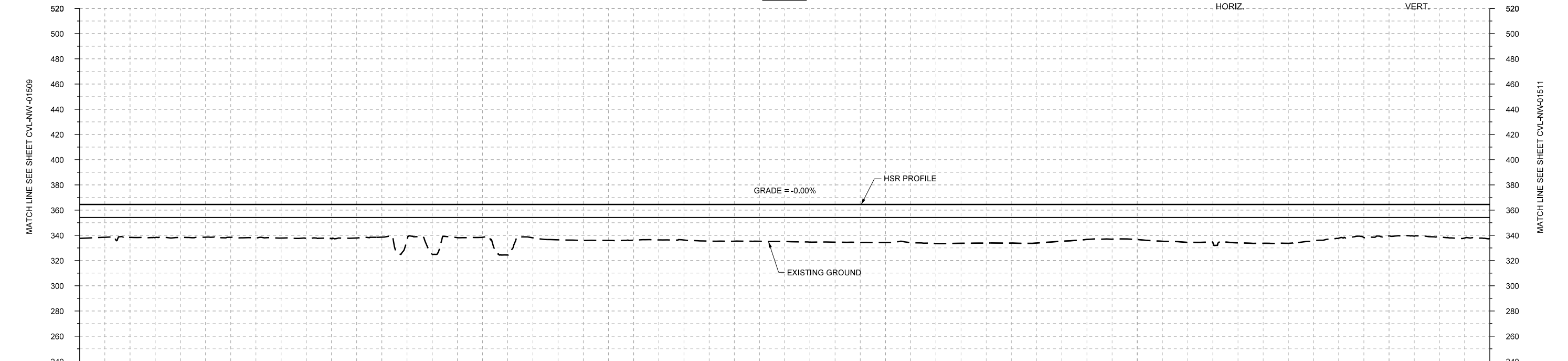
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL HIGHWAY
PLAN
CR 0040**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No RDY-NW-01509A	Rev 01



PLAN



PROFILE

STATIONING	NW 458+00	NW 460+00		NW 470+00		NW 480+00		NW 490+00		NW 500+00		NW 510+00	NW 514+00																
HOR. ALIGNMENT																													
VER. ALIGNMENT																													
CUT AND FILL	+26.9	+26.1	+26.1	+26.1	+26.7	+27.1	+25.9	+39.5	+26.0	+26.5	+28.6	+28.3	+28.2	+29.2	+29.4	+29.9	+30.2	+30.9	+30.6	+30.6	+27.8	+27.8	+30.1	+30.5	+30.8	+26.8	+25.0	+25.7	+27.1
TYP. SECTION	VIADUCT (E)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

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CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
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DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

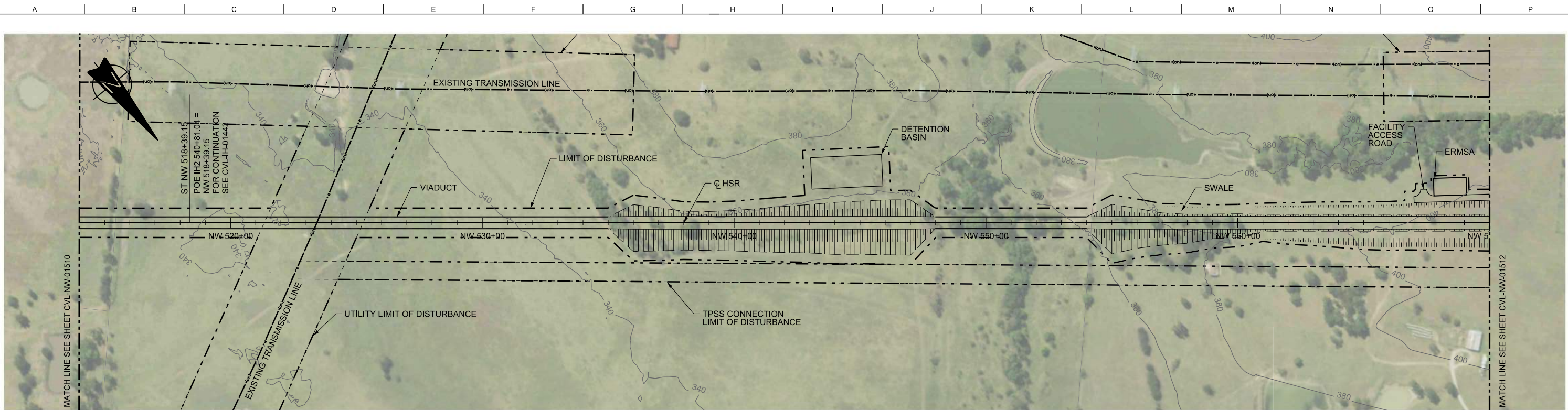
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
 CIVIL
 PLAN AND PROFILE
 NW 458+00 TO NW 514+00**

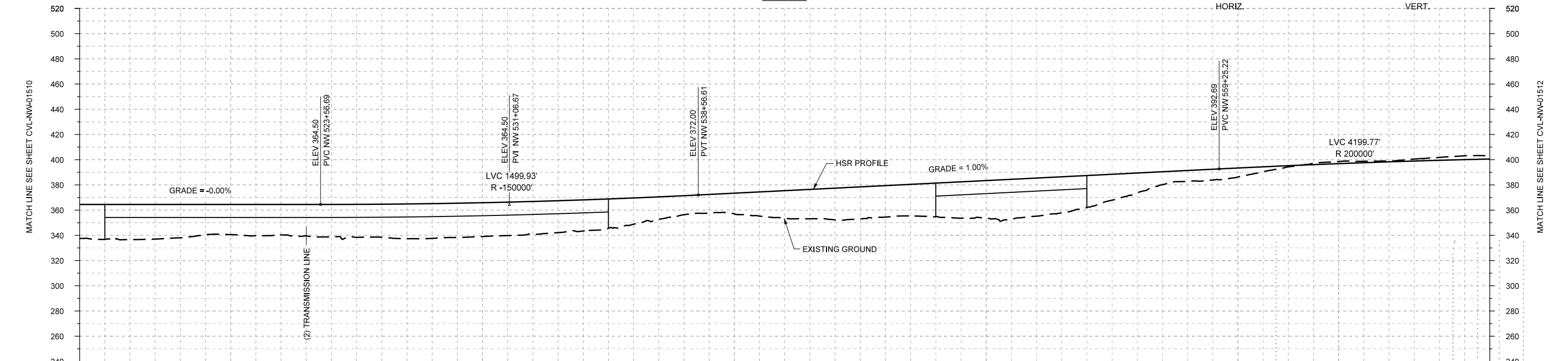
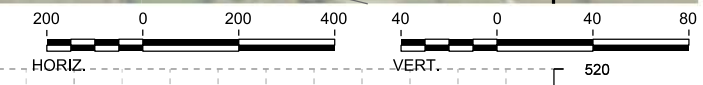
Scale
AS SHOWN

Drawing Status
FINAL

Job No	Drawing No	Rev
234180	CVL-NW-01510	01



PLAN



PROFILE

STATIONING	NW 514+00	NW 520+00	NW 530+00	NW 540+00	NW 550+00	NW 560+00	NW 570+00																					
HOR. ALIGNMENT	L=2000		L=19062																									
VER. ALIGNMENT	L=9053.69 G=-0.000%		R=150000		L=2068.61 G=1.000%		R=200000																					
CUT AND FILL	+27.1	+27.9	+26.4	+23.9	+24.1	+25.7	+26.2	+27.6	+26.9	+25.7	+24.6	+20.9	+15.0	+16.4	+21.9	+25.1	+24.9	+26.6	+29.7	+30.2	+25.3	+16.1	+8.5	+7.1	+2.9	+3.0	+3.0	+2.9
TYP. SECTION	VIADUCT (E)										EMBANKMENT (A)					VIADUCT (E)		EMBANKMENT (A)			CUT (C)							

REV	DATE	BY	CHK	APP	DESCRIPTION

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

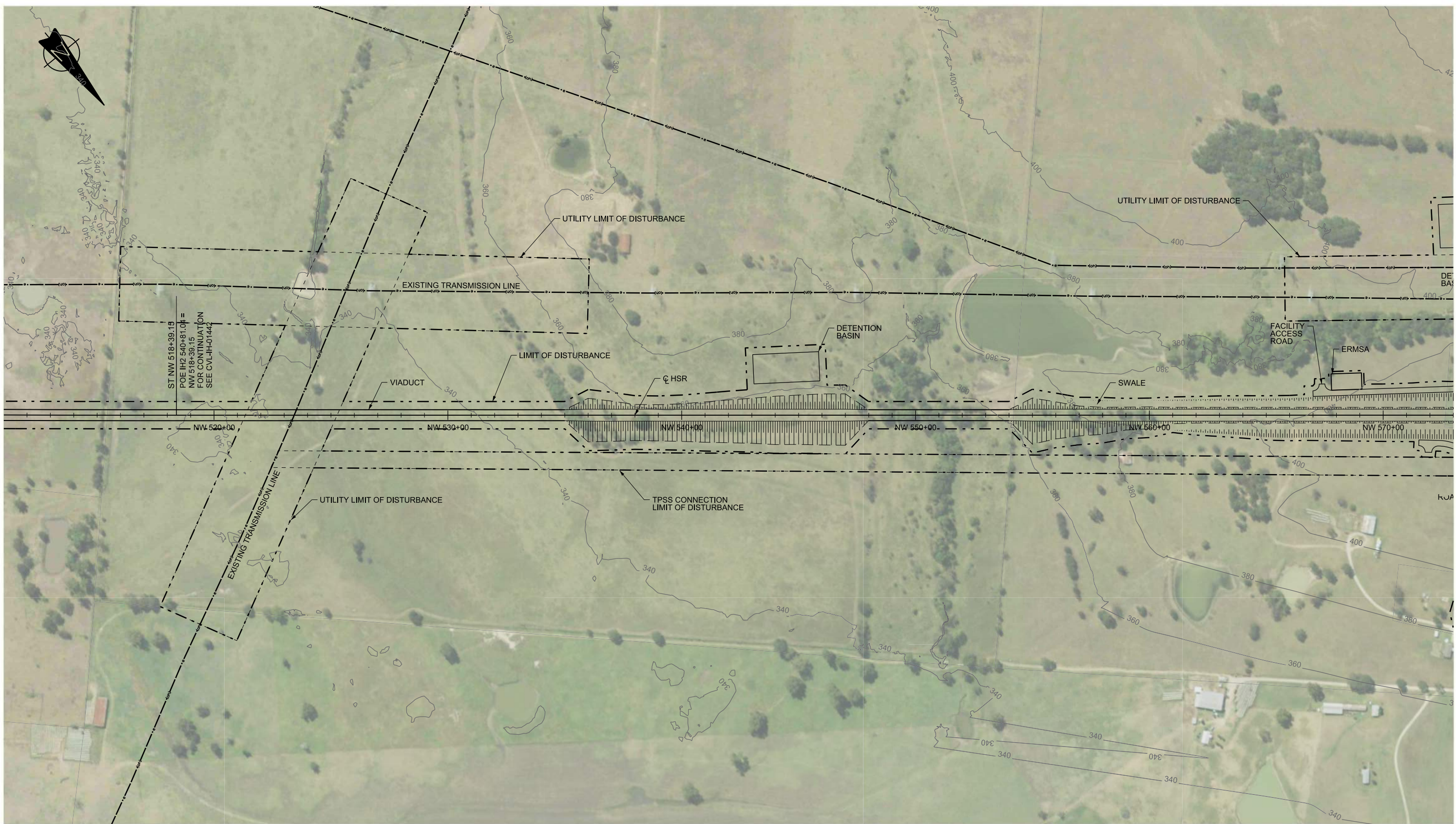
ARUP
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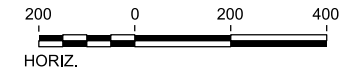
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 514+00 TO NW 570+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-NW-01511	01	



PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
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Texas Registered Engineering Firm: F-2144

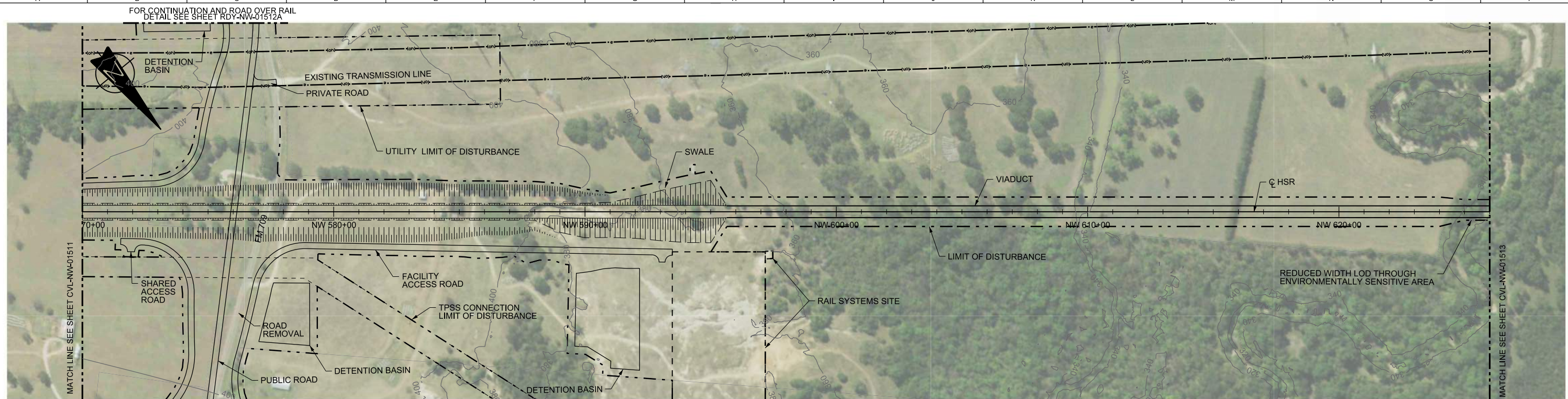
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



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

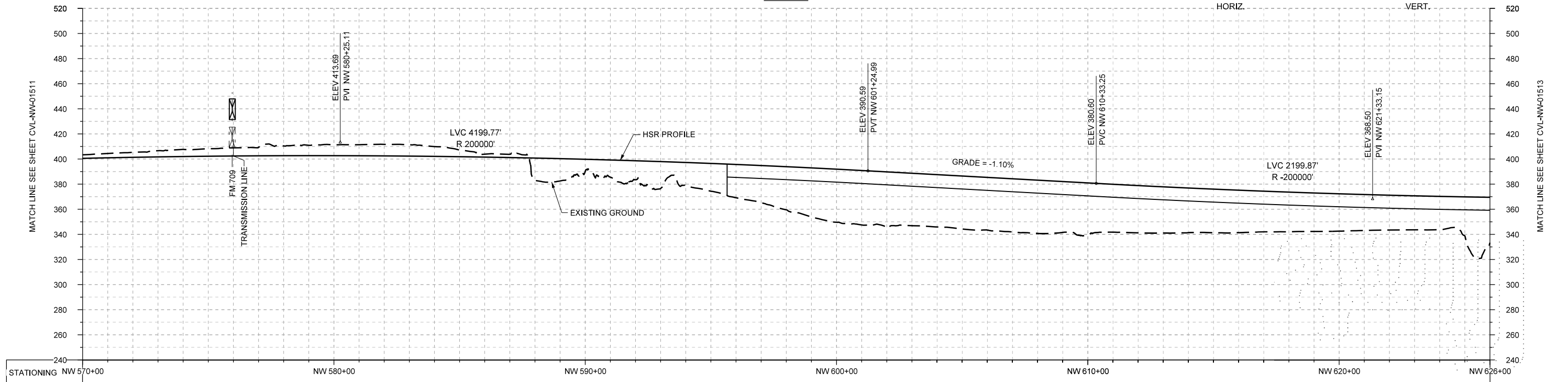
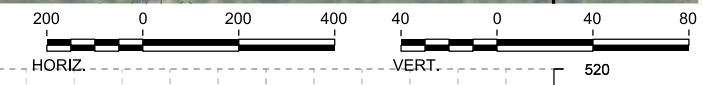
Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-NW-01511-A	Rev 01



FOR CONTINUATION AND ROAD OVER RAIL DETAIL SEE SHEET RDY-NW-01512A

PLAN



STATIONING	NW 570+00	NW 580+00	NW 590+00	NW 600+00	NW 610+00	NW 620+00	NW 626+00
HOR. ALIGNMENT	L=19062						
VER. ALIGNMENT	R=200000						
CUT AND FILL	+2.9	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0
TYP. SECTION	CUT (C)			EMBANKMENT (A)		VIADUCT (E)	
	+17.7	+9.7	+15.1	+18.6	+26.6	+34.4	+42.3
	+44.5	+41.7	+42.1	+42.5	+41.2	+37.6	+35.5
	+33.8	+31.6	+29.7	+27.7	+26.4	+36.1	

PROFILE

DESIGNED BY	A. UTZ				
DRAWN BY	J. BORGHESI				
CHECKED BY	T. WAGNER				
IN CHARGE	C. TAYLOR				
DATE	02/25/2019				
REV	DATE	BY	CHK	APP	DESCRIPTION

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

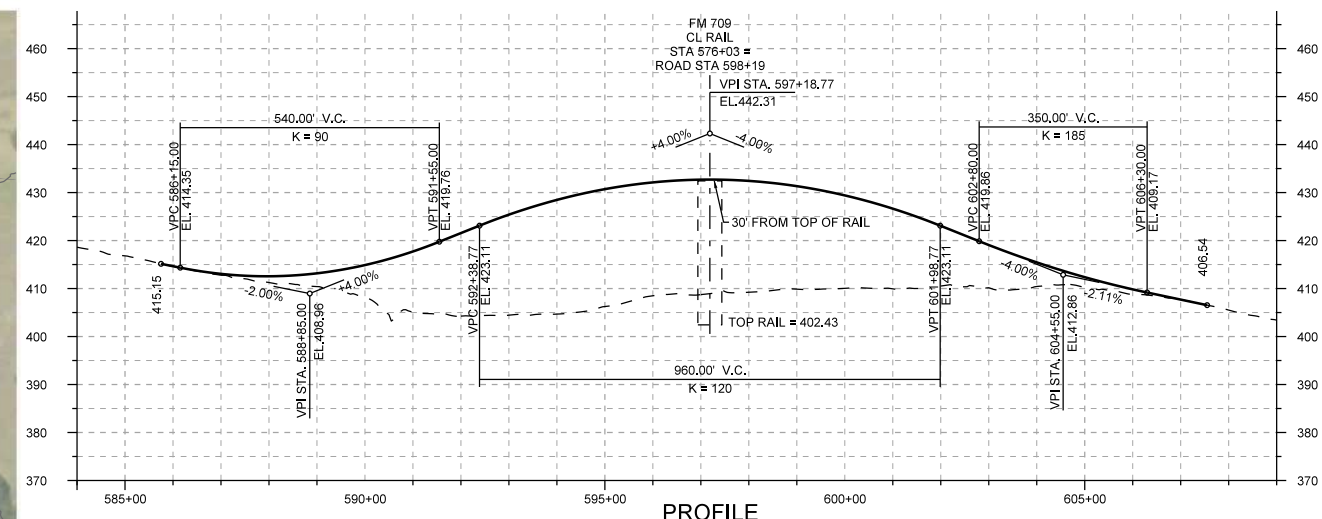
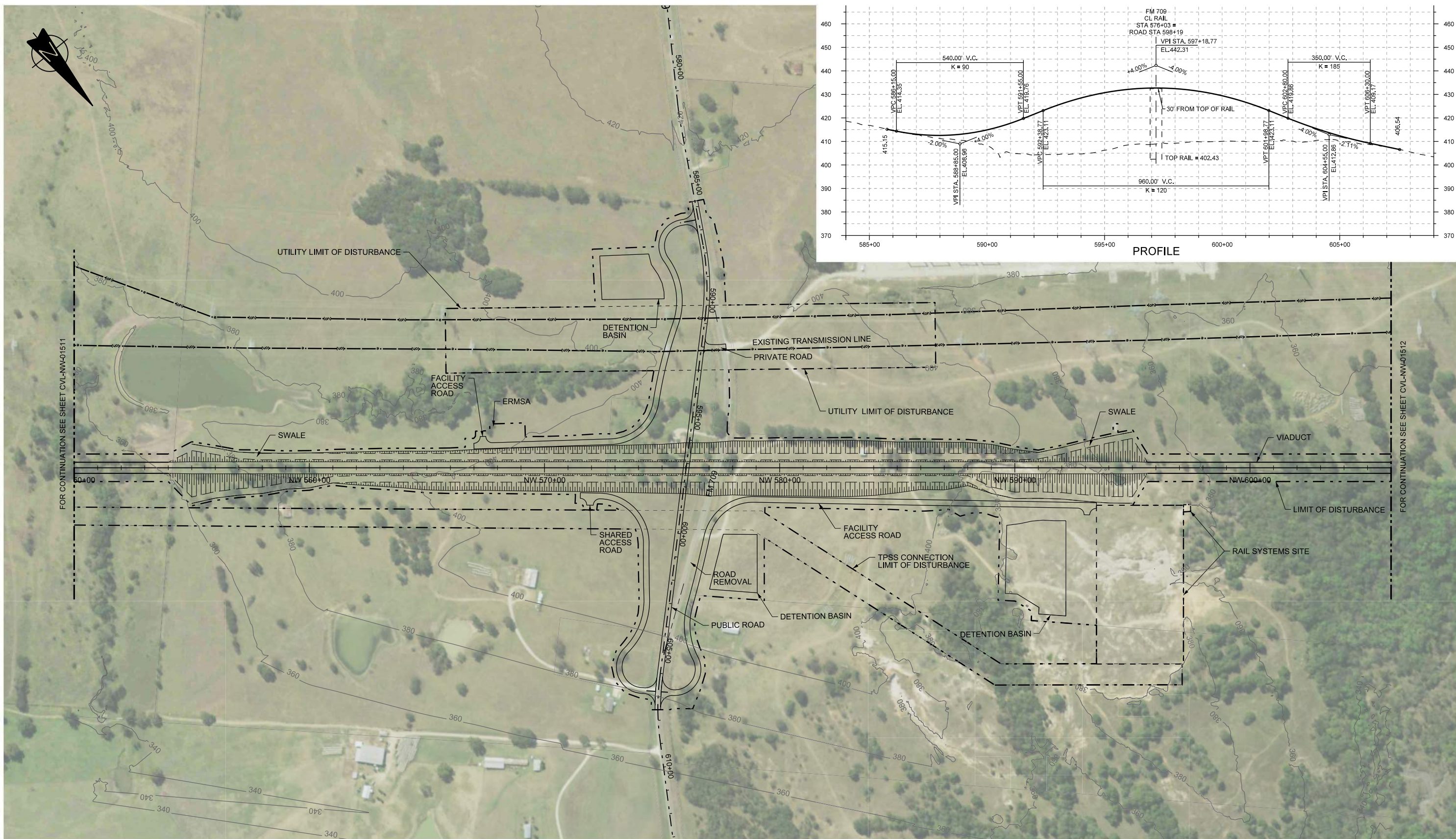
FRESE AND NICHOLS
 2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75204
 Tel (214) 217 2200 Fax (214) 217 2201
 www.freese.com
 Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

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

Drawing Title
**NAVARRO WEST SEGMENT
 CIVIL
 PLAN AND PROFILE
 NW 570+00 TO NW 626+00**

Scale	AS SHOWN
Drawing Status	FINAL
Job No	234180
Drawing No	CVL-NW-01512
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

ARUP

Arup Texas, Inc.
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Houston, Texas 77042 USA
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www.freese.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

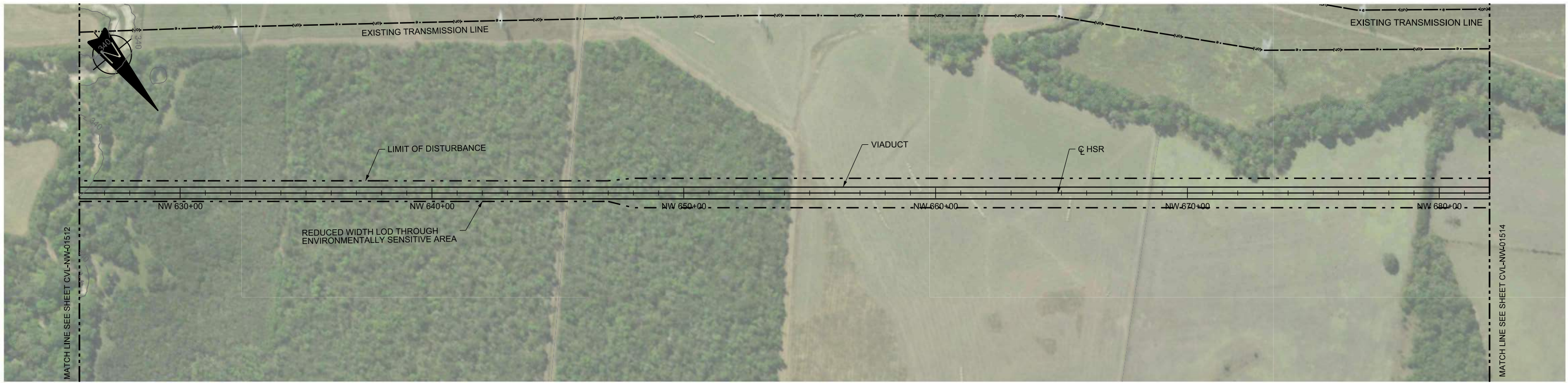
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL HIGHWAY
PLAN
FM 709**

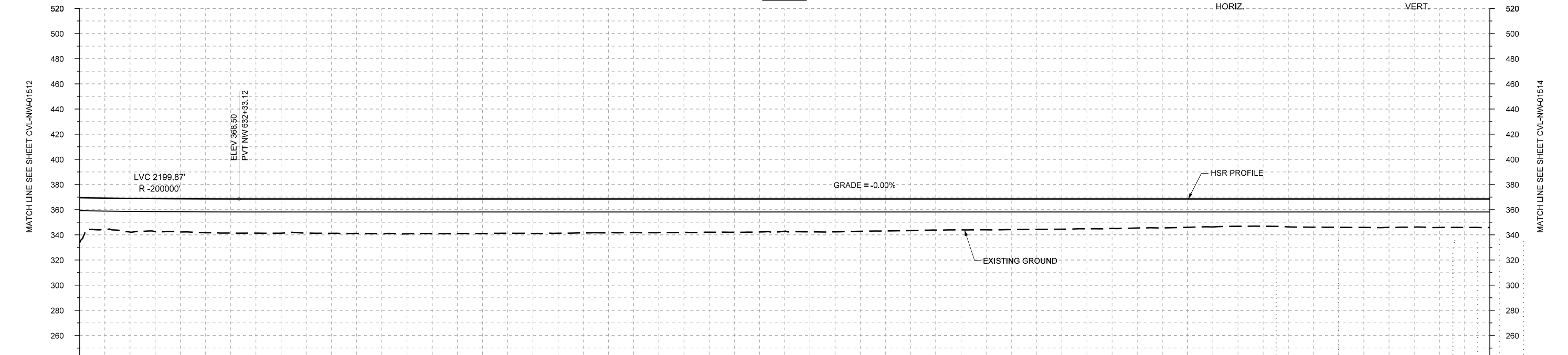
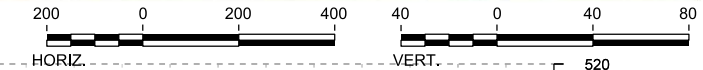
Scale
AS SHOWN

Drawing Status
FINAL

Job No 234180	Drawing No RDY-NW-01512A	Rev 01
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PLAN



STATIONING	NW 626+00	NW 630+00	NW 640+00	NW 650+00	NW 660+00	NW 670+00	NW 680+00	NW 682+00																				
HOR. ALIGNMENT	L=19062																											
VER. ALIGNMENT	R=200000																											
CUT AND FILL	+36.1	+26.8	+26.3	+27.1	+27.2	+27.3	+27.6	+27.5	+27.4	+27.4	+27.0	+26.7	+26.5	+26.4	+25.6	+25.4	+24.7	+24.5	+24.2	+23.7	+23.1	+22.5	+21.7	+22.2	+22.6	+22.6	+22.7	+22.7
TYP. SECTION	VIADUCT (E)																											

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

ARUP

Arup Texas, Inc.
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Tel (713) 783 2787 Fax (713) 343 1467
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FREESSE AND NICHOLS

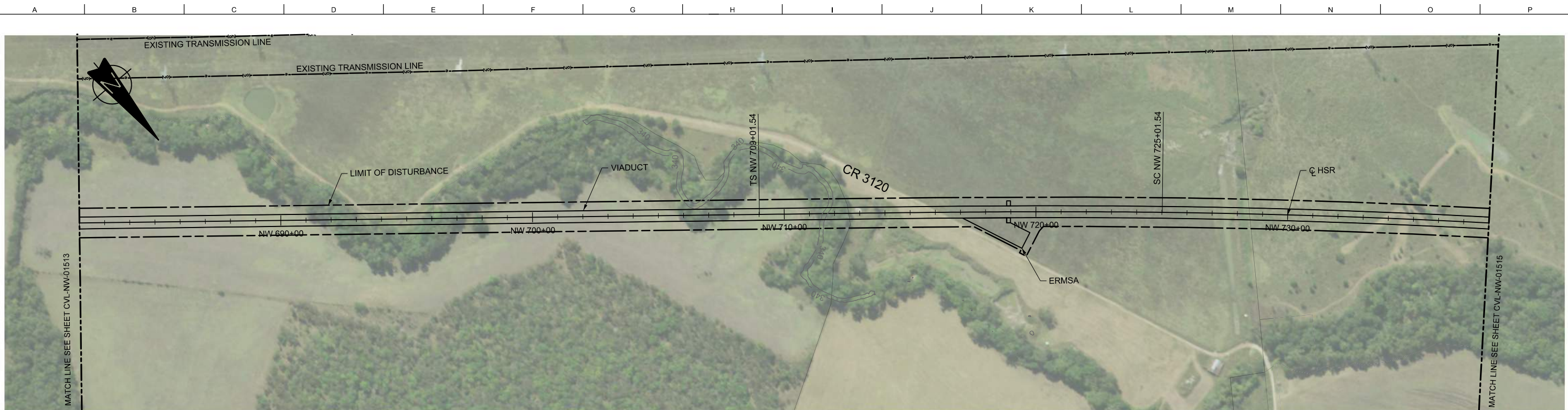
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
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Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

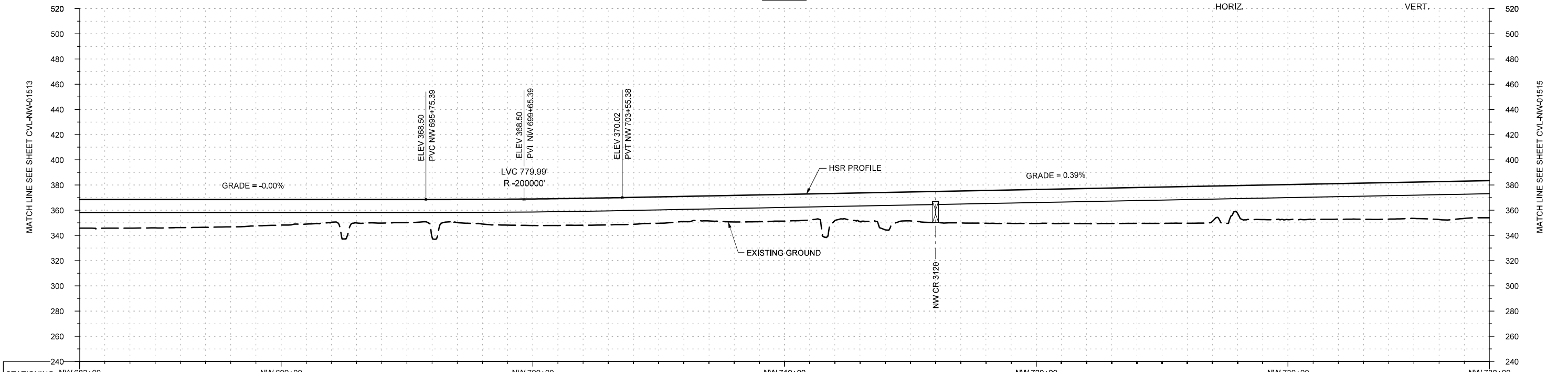
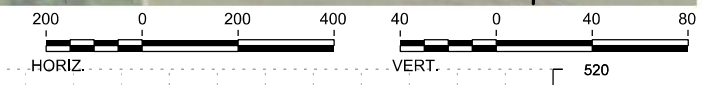
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 626+00 TO NW 682+00**

Scale	AS SHOWN
Drawing Status	FINAL
Job No	234180
Drawing No	CVL-NW-01513
Rev	01



PLAN



PROFILE

STATIONING	NW 682+00	NW 690+00	NW 700+00	NW 710+00	NW 720+00	NW 730+00	NW 738+00																						
HOR. ALIGNMENT	L=6342.27 G=-0.000%		L=19062 R=200000		L=1600		R=32000 L=15580																						
VER. ALIGNMENT	L=6342.27 G=-0.000%		L=19062 R=200000		L=4229.57 G=0.390%																								
CUT AND FILL	+22.7	+22.7	+22.3	+21.7	+20.3	+18.1	+18.8	+30.0	+19.5	+21.1	+21.4	+21.3	+20.1	+21.1	+21.2	+21.5	+29.7	+24.6	+26.0	+26.9	+27.8	+28.3	+29.1	+22.3	+27.8	+28.2	+29.0	+30.1	+29.5
TYP. SECTION	VIADUCT (E)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

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
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 682+00 TO NW 738+00**

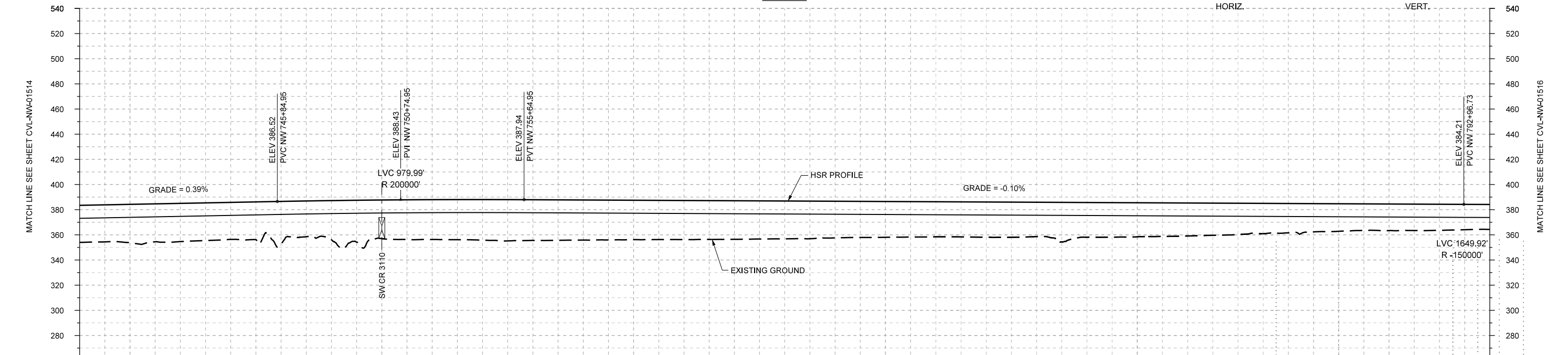
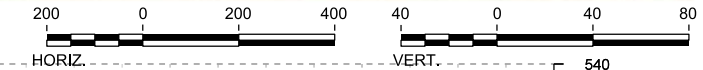
Scale
AS SHOWN

Drawing Status
FINAL

Job No	Drawing No	Rev
234180	CVL-NW-01514	01



PLAN



PROFILE

STATIONING	NW 738+00	NW 740+00	NW 750+00	NW 760+00	NW 770+00	NW 780+00	NW 790+00	NW 794+00																					
HOR. ALIGNMENT					R=32000 L=15580																								
VER. ALIGNMENT	L=4229.57 G=0.390%		R=200000			L=3731.78 G=-0.100%		R=150000																					
CUT AND FILL	+29.5	+30.5	+30.4	+29.4	+34.1	+31.0	+30.7	+31.7	+32.1	+32.3	+31.8	+31.3	+31.1	+30.7	+30.1	+29.1	+28.5	+27.9	+28.0	+27.3	+27.6	+27.1	+26.2	+24.9	+23.3	+21.9	+21.1	+20.8	+19.7
TYP. SECTION	VIADUCT (E)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

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

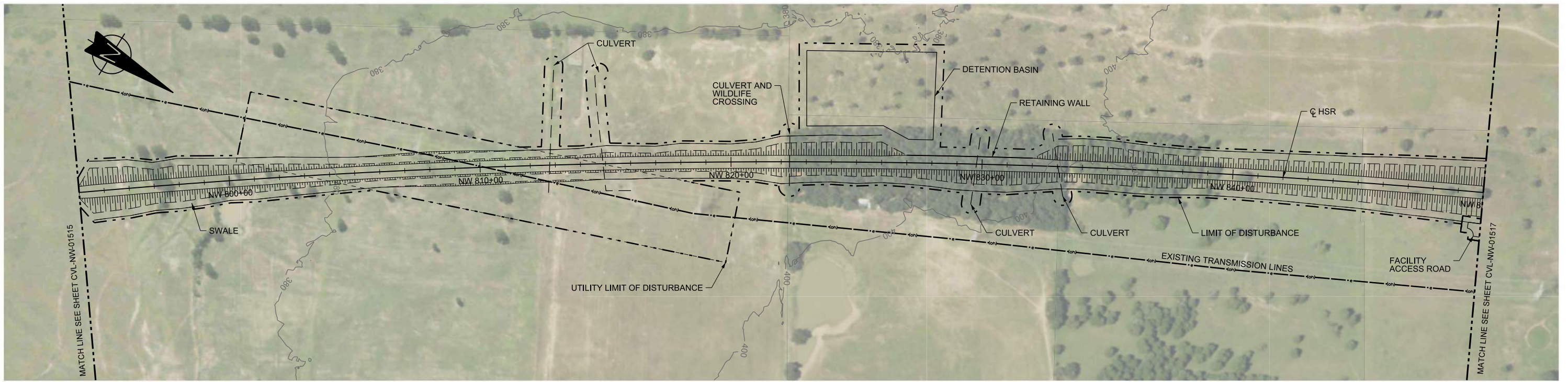
ARUP
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www.arup.com
Texas Registered Engineering Firm: F-1990

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Texas Registered Engineering Firm: F-2144

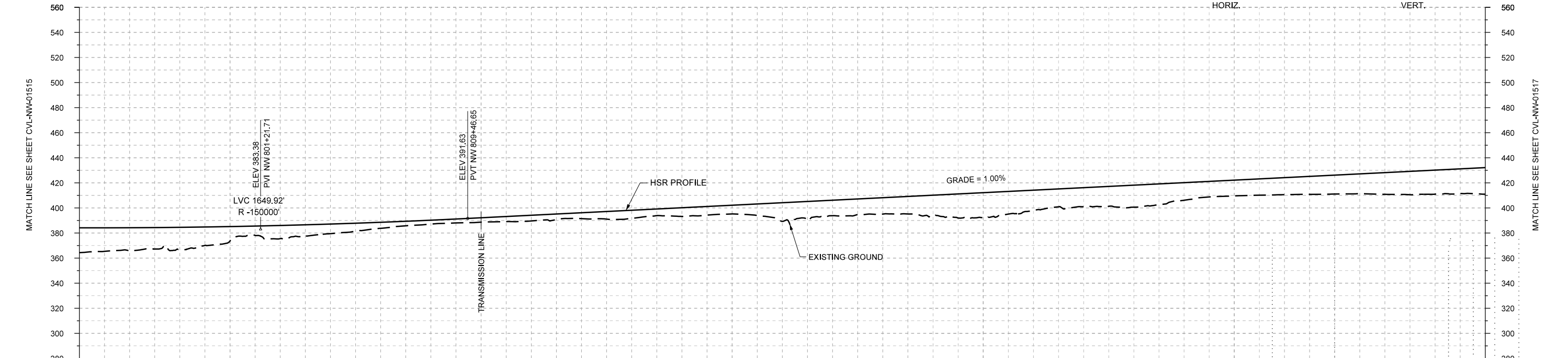
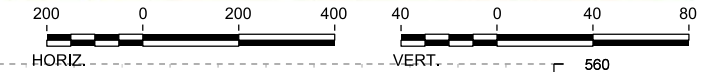
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 738+00 TO NW 794+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-NW-01515	01	



PLAN



STATIONING	NW 794+00	NW 800+00	NW 810+00	NW 820+00	NW 830+00	NW 840+00	NW 850+00																						
HOR. ALIGNMENT				R=32000 L=15580																									
VER. ALIGNMENT	R=150000			L=4574.80 G=1.000%																									
CUT AND FILL	+19.7	+18.1	+17.5	+11.5	+10.5	+7.7	+4.8	+3.1	+3.5	+4.6	+4.7	+6.5	+7.0	+7.0	+14.9	+12.4	+13.1	+16.2	+20.1	+16.2	+15.1	+17.6	+14.1	+12.6	+13.6	+15.1	+17.3	+19.2	+21.2
TYP. SECTION	EMBANKMENT (A)										CUT (C)		EMBANKMENT (A)																

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

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

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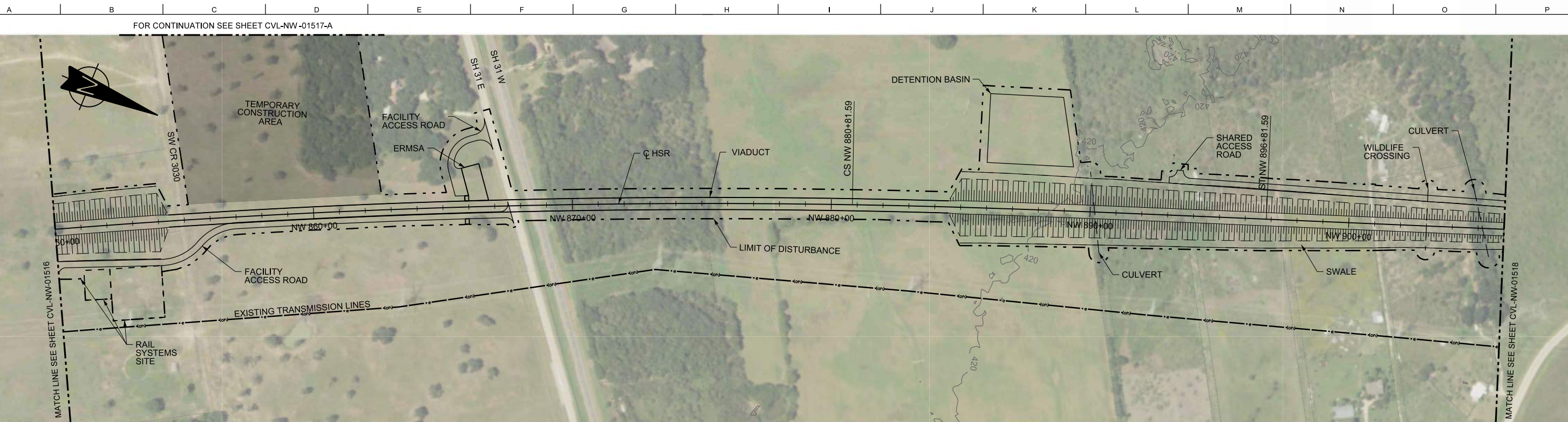
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 Dallas, Texas 75204
 Tel (214) 217 2200 Fax (214) 217 2201
 www.freese.com
 Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

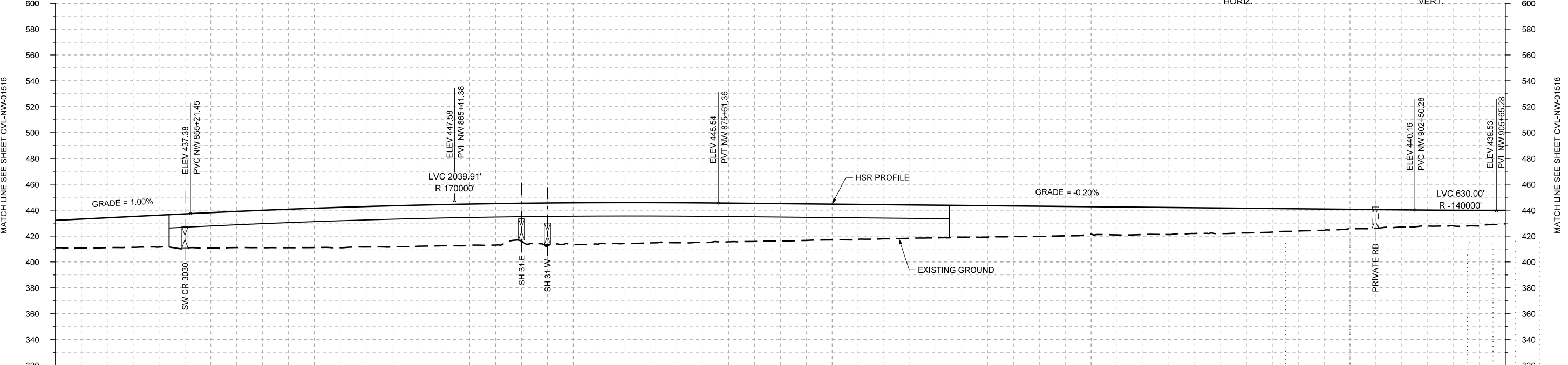
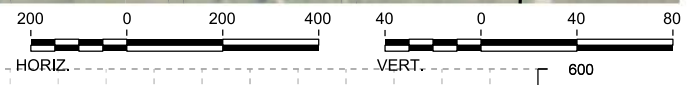
 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
 CIVIL
 PLAN AND PROFILE
 NW 794+00 TO 850+00**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-NW-01516	Rev 01



PLAN



PROFILE

STATIONING	NW 850+00	NW 860+00	NW 870+00	NW 880+00	NW 890+00	NW 900+00	NW 906+00																						
HOR. ALIGNMENT			R=32000 L=15580		L=1600		L=1729																						
VER. ALIGNMENT	L=4574.80 G=1.000%		R=170000		L=2688.92 G=-0.200%		R=140000																						
CUT AND FILL	+21.2	+23.1	+24.7	+27.3	+28.9	+30.3	+31.2	+31.8	+31.7	+29.3	+32.2	+31.6	+31.0	+29.9	+29.0	+27.6	+26.4	+25.3	+24.3	+23.4	+21.3	+21.1	+19.9	+19.0	+17.2	+15.1	+13.3	+12.0	+10.5
TYP. SECTION	EMBANKMENT (A)			VIADUCT (E)										EMBANKMENT (A)															

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. UTZ
DRAWN BY
J. BORGHESI
CHECKED BY
T. WAGNER
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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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 850+00 TO NW 906+00**

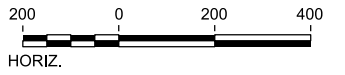
Scale
AS SHOWN

Drawing Status
FINAL

Job No	Drawing No	Rev
234180	CVL-NW-01517	01



PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019



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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

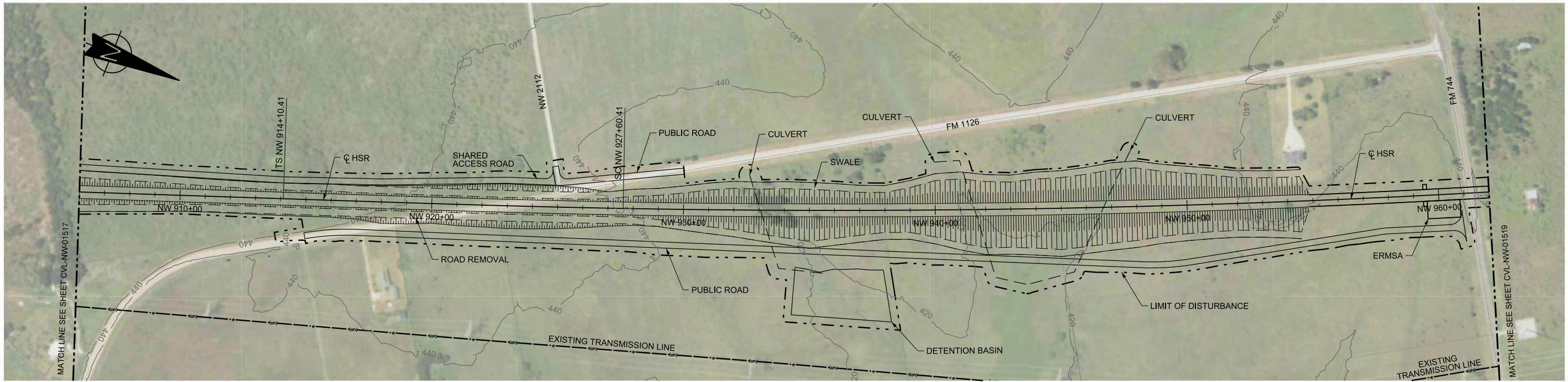
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



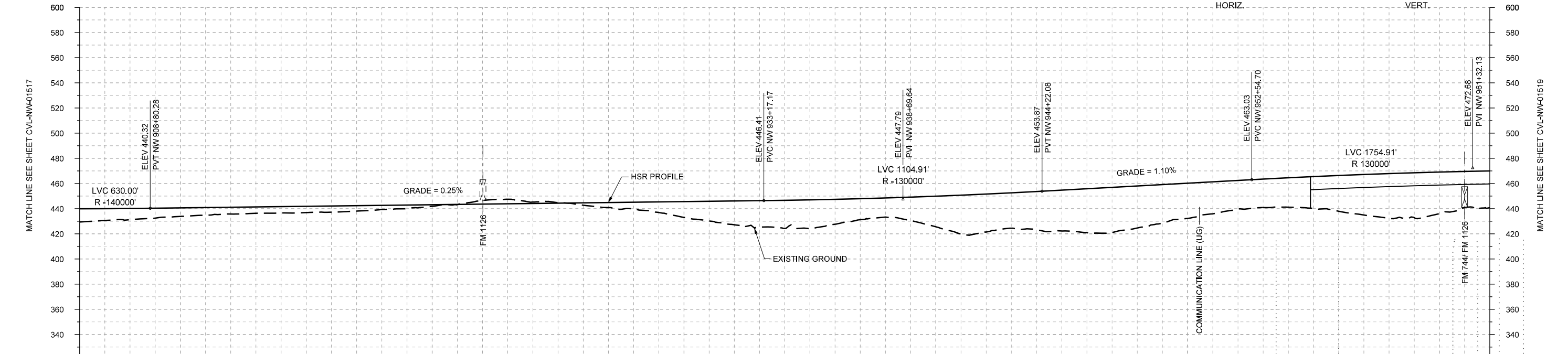
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-NW-01517-A	Rev 01



PLAN



PROFILE

STATIONING	NW 906+00	NW 910+00	NW 920+00	NW 930+00	NW 940+00	NW 950+00	NW 960+00	NW 962+00																					
HOR. ALIGNMENT	L=1729		L=1350		R=130000		R=130000																						
VER. ALIGNMENT	R=-140000	L=2436.89 G=0.250%		R=130000		L=8347 R=46000	L=832.62 G=1.100%	R=130000																					
CUT AND FILL	+10.5	+8.9	+6.8	+5.4	+5.0	+4.9	+3.3	+3.0	+3.0	+3.0	+3.0	+5.3	+12.5	+18.9	+22.3	+19.8	+15.2	+24.3	+30.1	+30.3	+34.8	+33.4	+27.9	+22.7	+23.3	+28.5	+35.9	+33.1	+29.3
TYP. SECTION	EMBANKMENT (A)				CUT (C)				EMBANKMENT (A)										VIADUCT (E)										

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

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

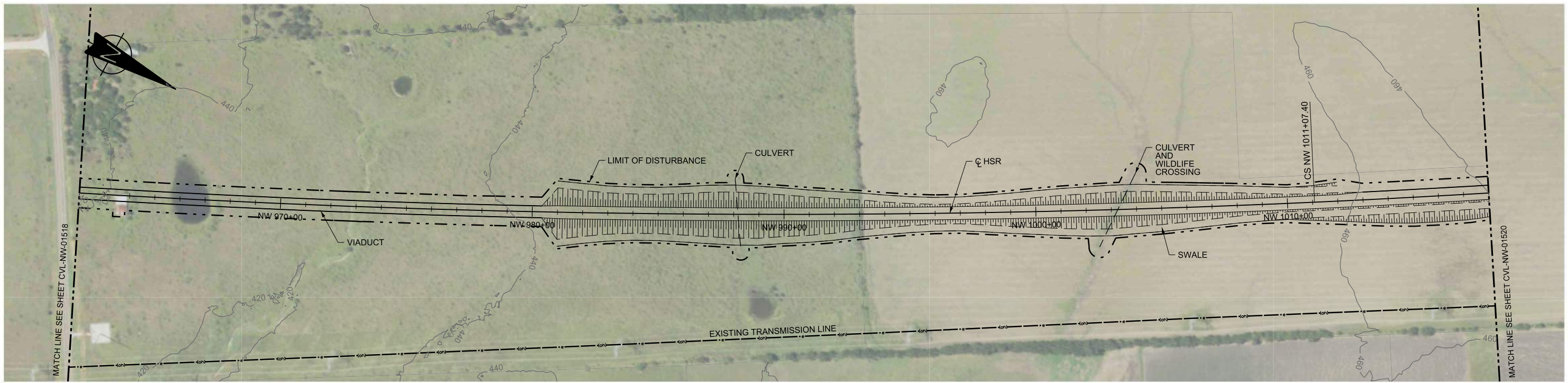
FREESSE & NICHOLS
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Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freesse.com
Texas Registered Engineering Firm: F-2144

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

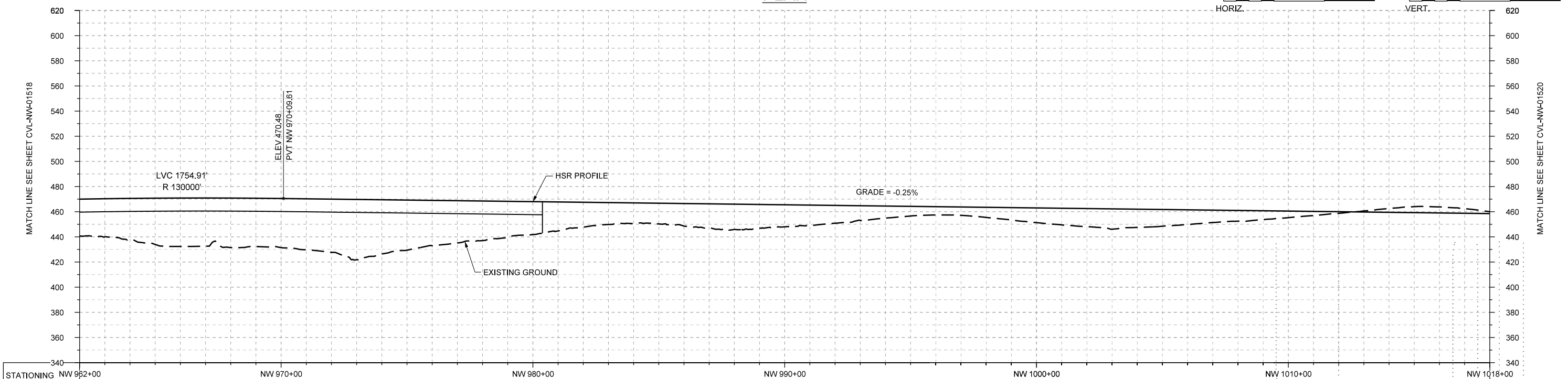
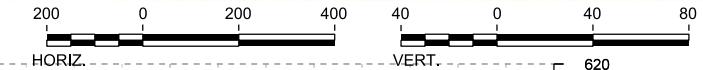
Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 906+00 TO NW 962+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-NW-01518	01	

REV	DATE	BY	CHK	APP	DESCRIPTION



PLAN



STATIONING	NW 962+00	NW 970+00	NW 980+00	NW 990+00	NW 1000+00	NW 1010+00	NW 1018+00																						
HOR. ALIGNMENT	R=46000 L=8347																												
VER. ALIGNMENT	R=130000 L=8266.82 G=-0.250%																												
CUT AND FILL	+29.3	+33.3	+38.5	+39.3	+39.0	+42.3	+43.2	+36.0	+31.4	+26.2	+19.8	+16.4	+17.9	+20.1	+17.5	+14.2	+9.6	+6.6	+8.1	+11.7	+14.4	+14.5	+11.7	+8.5	+5.2	+3.0	+3.0	+3.0	+3.0
TYP. SECTION	VIADUCT (E)										EMBANKMENT (A)										CUT (C)								

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

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

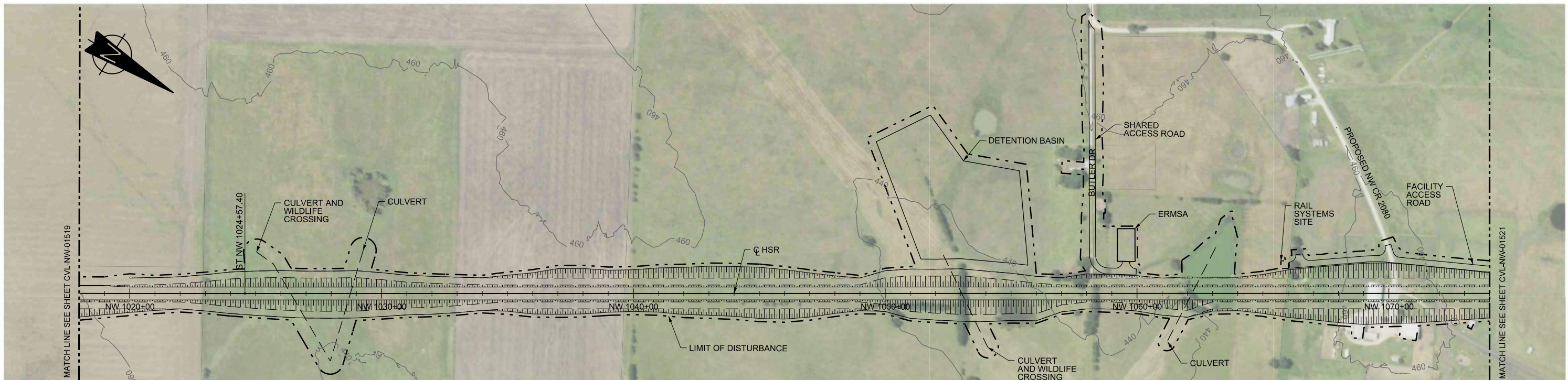
ARUP
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www.freesse.com
Texas Registered Engineering Firm: F-2144

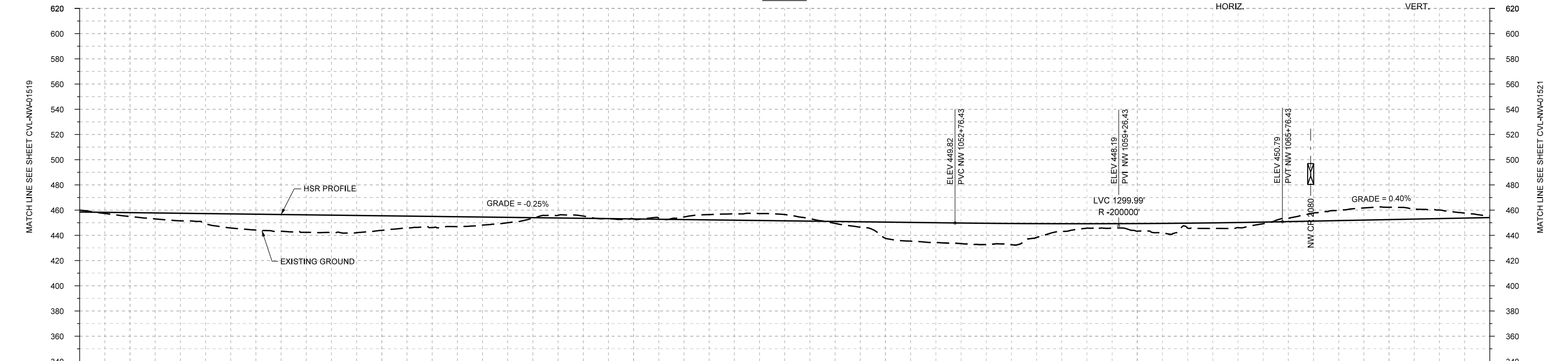
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 962+00 TO 1018+00**

Scale	AS SHOWN
Drawing Status	FINAL
Job No	234180
Drawing No	CVL-NW-01519
Rev	01



PLAN



PROFILE

STATIONING	NW 1018+00	NW 1020+00	NW 1030+00	NW 1040+00	NW 1050+00	NW 1060+00	NW 1070+00	NW 1074+00																				
HOR. ALIGNMENT	L=1350		L=26192				L=2756.08																					
VER. ALIGNMENT	L=8266.82 G=-0.250%																											
CUT AND FILL	+3.0	+3.1	+6.0	+11.2	+13.2	+13.8	+11.5	+8.8	+6.4	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+12.9	+15.7	+16.8	+11.0	+3.5	+6.0	+3.9	+4.1	+3.0	+3.0	+3.0	+3.0	+3.0
TYP. SECTION	C		EMBANKMENT (A)				CUT (C)				EMBANKMENT (A)				C		A		CUT (C)									

REV	DATE	BY	CHK	APP	DESCRIPTION

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

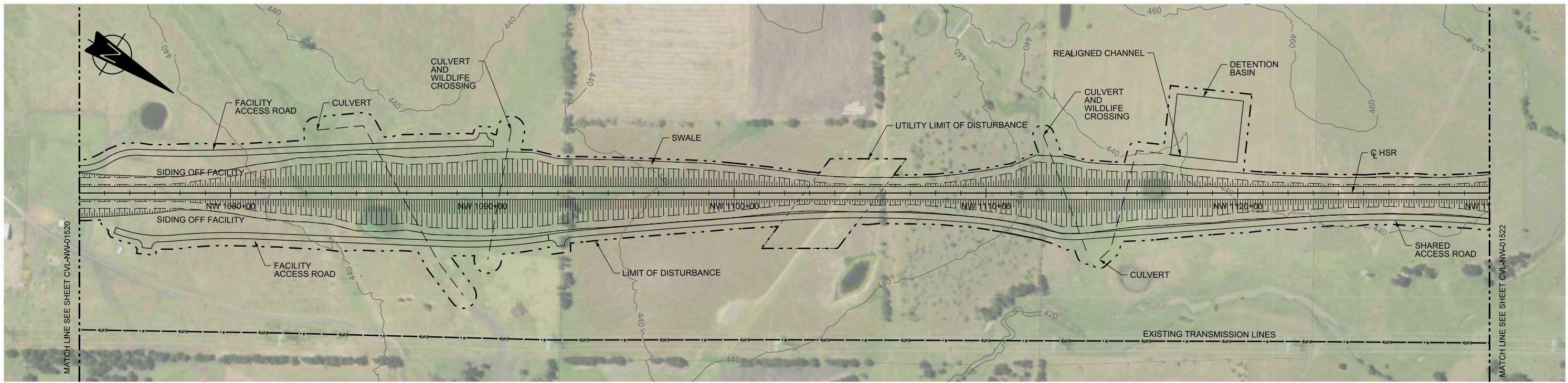
ARUP
Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

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

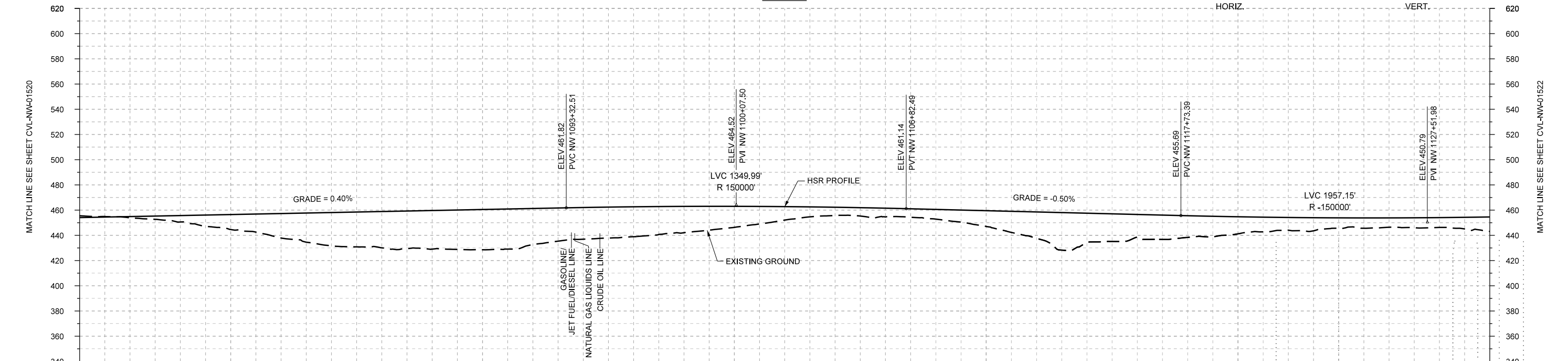
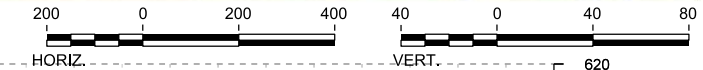
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 1018+00 TO 1074+00**

Scale	AS SHOWN
Drawing Status	FINAL
Job No	234180
Drawing No	CVL-NW-01520
Rev	01



PLAN



STATIONING	NW 1074+00	NW 1080+00	NW 1090+00	NW 1100+00	NW 1110+00	NW 1120+00	NW 1130+00																						
HOR. ALIGNMENT	L=26192																												
VER. ALIGNMENT	L=2756.08 G=0.400%			R=150000		L=1090.90 G=-0.500%		R=150000																					
CUT AND FILL	+3.0	+3.0	+5.1	+11.9	+19.4	+26.3	+28.8	+30.6	+31.9	+28.5	+25.2	+23.7	+20.9	+16.7	+10.7	+6.6	+6.9	+7.7	+12.5	+20.9	+24.1	+17.9	+17.2	+13.5	+10.1	+8.2	+7.4	+7.8	+11.5
TYP. SECTION	CUT (C)			EMBANKMENT (A)																									

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

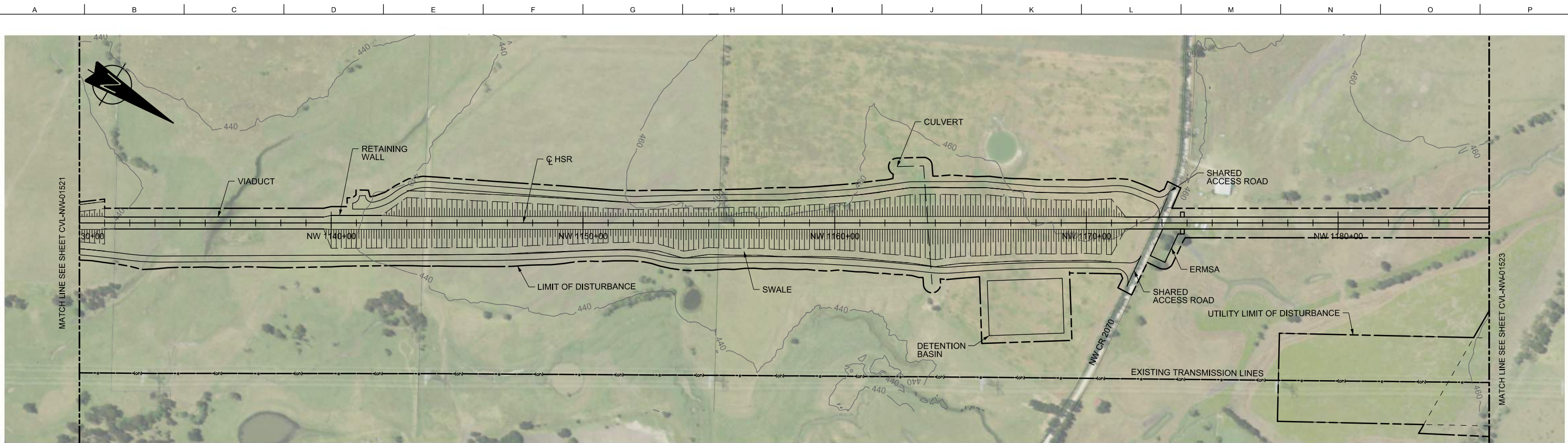
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 1074+00 TO NW 1130+00**

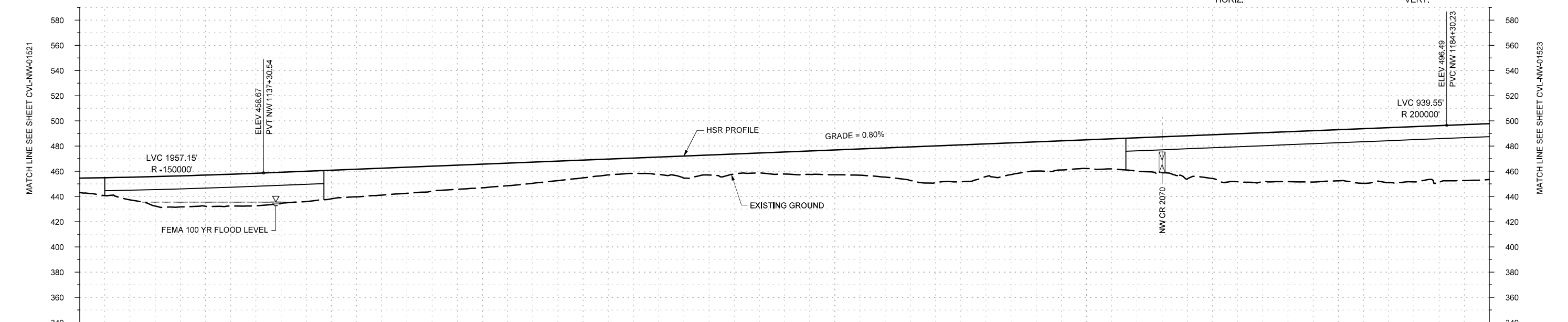
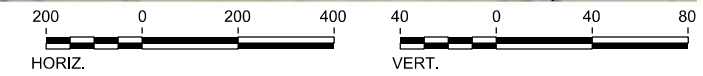
Scale
AS SHOWN

Drawing Status
FINAL

Job No	Drawing No	Rev
234180	CVL-NW-01521	01



PLAN



PROFILE

STATIONING	NW 1130+00	NW 1140+00	NW 1150+00	NW 1160+00	NW 1170+00	NW 1180+00	NW 1186+00																						
HOR. ALIGNMENT	L=26192																												
VER. ALIGNMENT	R=150000		L=4699.69 G=0.805%				R=200000																						
CUT AND FILL	+11.5	+17.9	+24.7	+25.2	+24.7	+22.7	+21.3	+19.8	+18.8	+16.8	+14.1	+12.2	+17.5	+15.9	+17.4	+19.7	+23.1	+28.9	+26.0	+23.2	+22.8	+26.4	+34.3	+38.1	+39.6	+40.5	+43.6	+45.5	+44.4
TYP. SECTION	VIADUCT (E)		EMBANKMENT (A)										VIADUCT (E)																

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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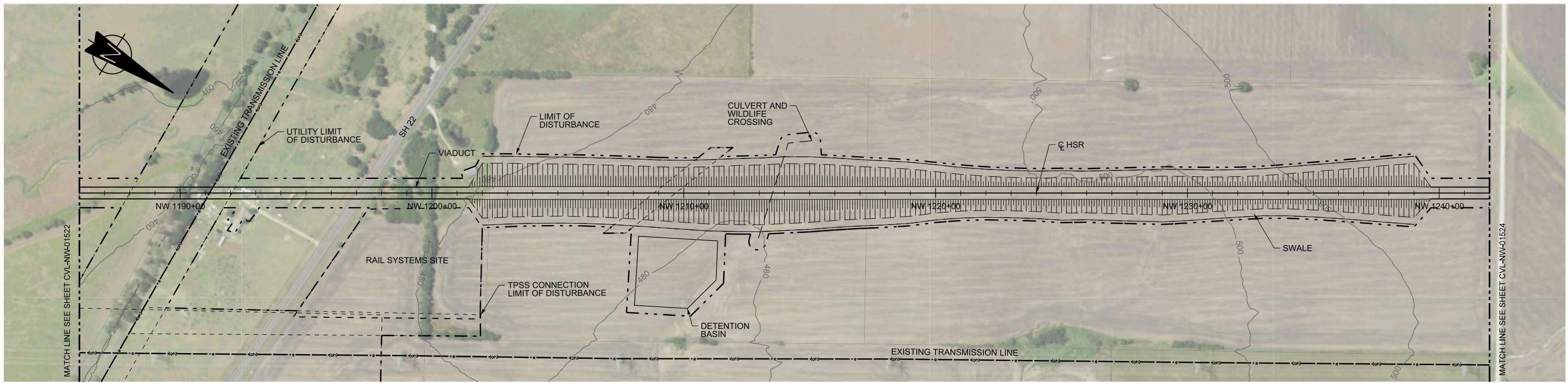
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

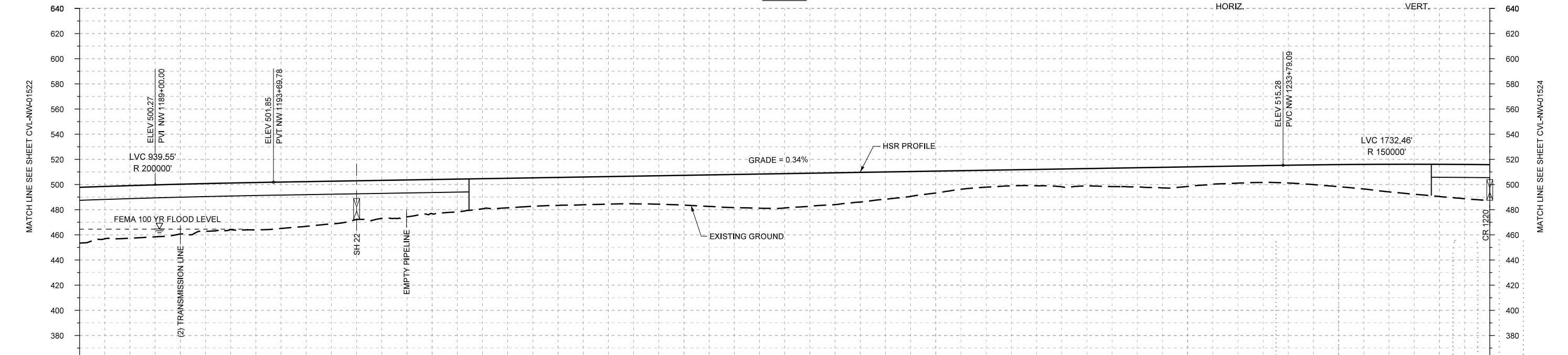
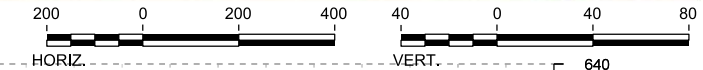
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 1130+00 TO NW 1186+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	234180	Drawing No	CVL-NW-01522
Rev			01



PLAN



STATIONING	NW 1186+00	NW 1190+00	NW 1200+00	NW 1210+00	NW 1220+00	NW 1230+00	NW 1240+00	NW 1242+00																					
HOR. ALIGNMENT	L=26192																												
VER. ALIGNMENT	L=4009.31 G=0.335%																												
CUT AND FILL	+44.4	+41.8	+39.6	+37.1	+36.8	+34.0	+30.2	+27.3	+23.9	+22.6	+22.1	+22.0	+23.7	+26.4	+27.2	+25.3	+21.6	+17.4	+13.4	+13.0	+13.7	+15.2	+15.6	+13.6	+14.1	+17.6	+22.0	+25.6	+28.4
TYP. SECTION	VIADUCT (E)										EMBANKMENT (A)										E								

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

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

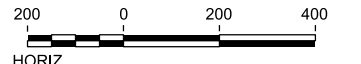
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Arup Texas, Inc.
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 1186+00 TO NW 1242+00**

Scale
AS SHOWN
Drawing Status
FINAL
Job No
234180
Drawing No
CVL-NW-01523
Rev
01



REV	DATE	BY	CHK	APP	DESCRIPTION

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A. UTZ

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J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019



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Dallas, Texas 75204
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Texas Registered Engineering Firm: F-2144

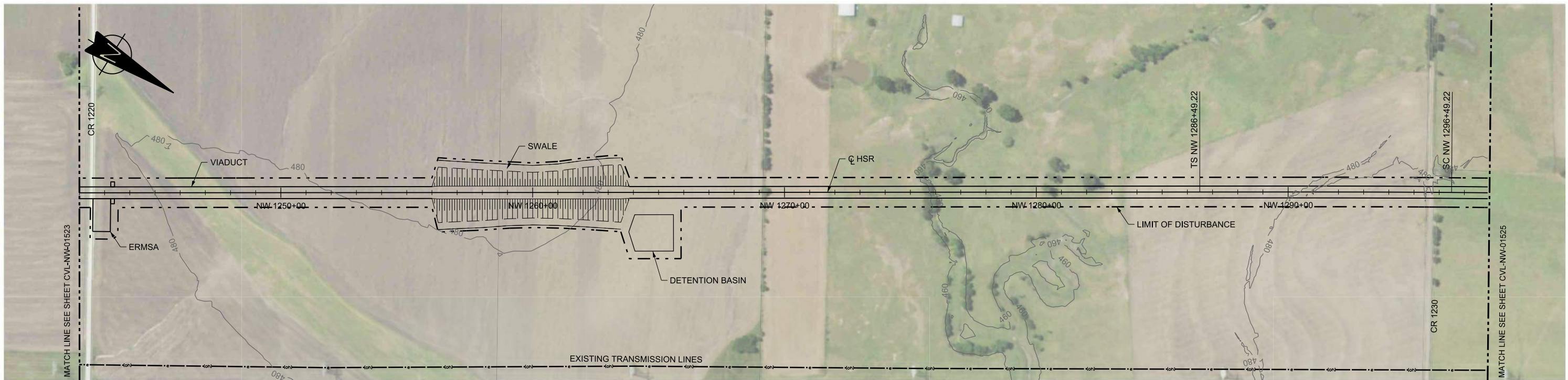
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



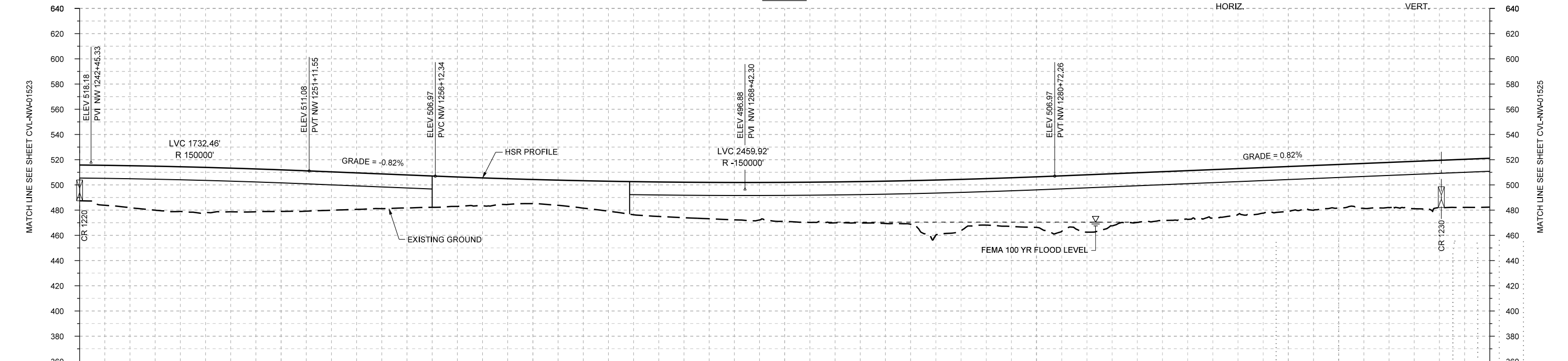
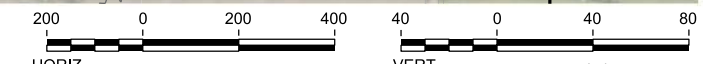
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-NW-01523-A	Rev 01



PLAN



PROFILE

STATIONING	NW 1242+00	NW 1250+00	NW 1260+00	NW 1270+00	NW 1280+00	NW 1290+00	NW 1298+00																						
HOR. ALIGNMENT	L=26192						L=1000	R=80000 L=1478																					
VER. ALIGNMENT	R=150000		L=500.79 G=-0.820%	R=150000		L=4624.15 G=0.820%																							
CUT AND FILL	+28.4	+33.2	+35.4	+34.6	+33.0	+30.5	+27.5	+24.9	+22.0	+19.2	+21.7	+26.3	+28.1	+29.6	+31.0	+32.5	+33.6	+43.7	+36.9	+40.1	+45.5	+39.5	+38.6	+36.4	+35.5	+34.5	+35.8	+37.4	+38.7
TYP. SECTION	VIADUCT (E)					EMBANKMENT (A)					VIADUCT (E)																		

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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Houston, Texas 77042 USA
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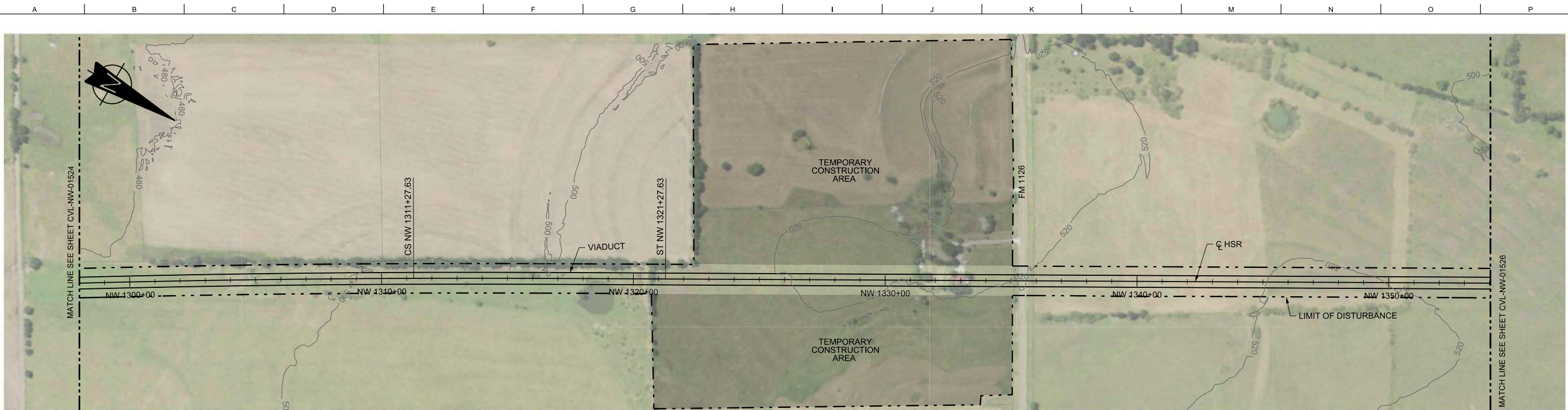
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freesse.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

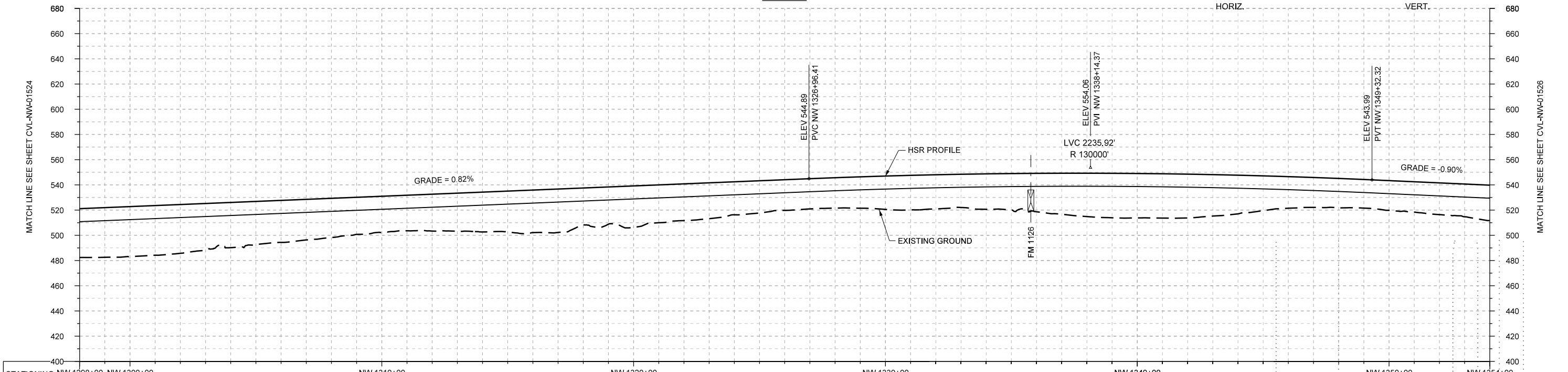
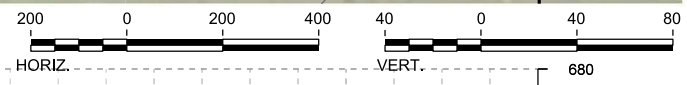
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 1242+00 TO NW 1298+00**

Scale AS SHOWN	Drawing Status FINAL
Job No 234180	Drawing No CVL-NW-01524
	Rev 01



PLAN



PROFILE

STATIONING	NW 1298+00	NW 1300+00	NW 1310+00	NW 1320+00	NW 1330+00	NW 1340+00	NW 1350+00	NW 1354+00																					
HOR. ALIGNMENT	R=60000 L=1478		L=1000			L=31685																							
VER. ALIGNMENT	L=4624.15 G=0.820%						R=130000		L=1708.43 G=-0.900%																				
CUT AND FILL	+38.7	+39.7	+38.7	+35.9	+33.3	+31.2	+28.5	+29.2	+31.6	+33.8	+29.2	+32.9	+29.1	+26.2	+24.3	+24.1	+26.4	+27.2	+28.2	+30.5	+34.4	+35.2	+34.8	+30.7	+25.1	+23.3	+23.6	+25.2	+28.1
TYP. SECTION	VIADUCT (E)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

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

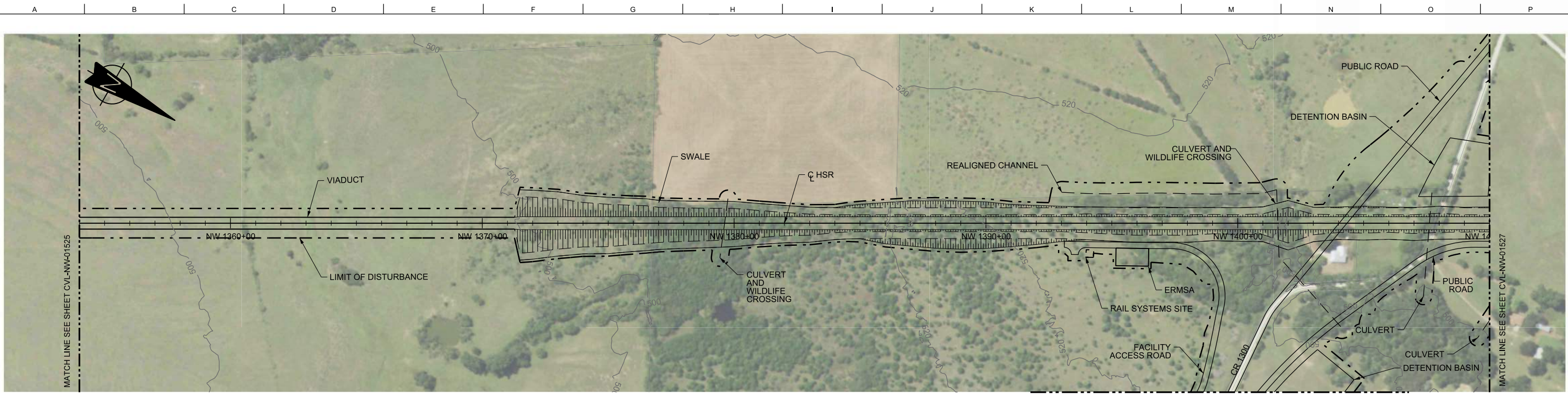
ARUP
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Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

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

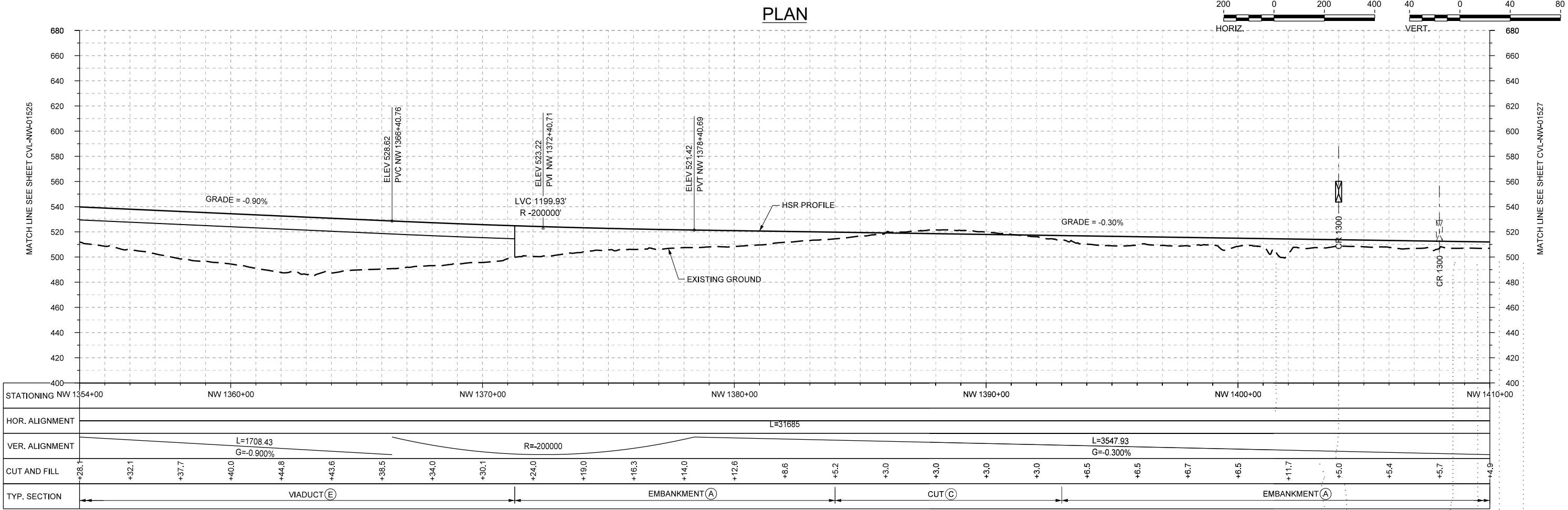
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 1298+00 TO NW 1354+00**

Scale
AS SHOWN
Drawing Status
FINAL
Job No. **234180** Drawing No. **CVL-NW-01525** Rev. **01**



FOR CONTINUATION AND ROAD OVER RAIL DETAIL SEE SHEET RDY-NW-01527A



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

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

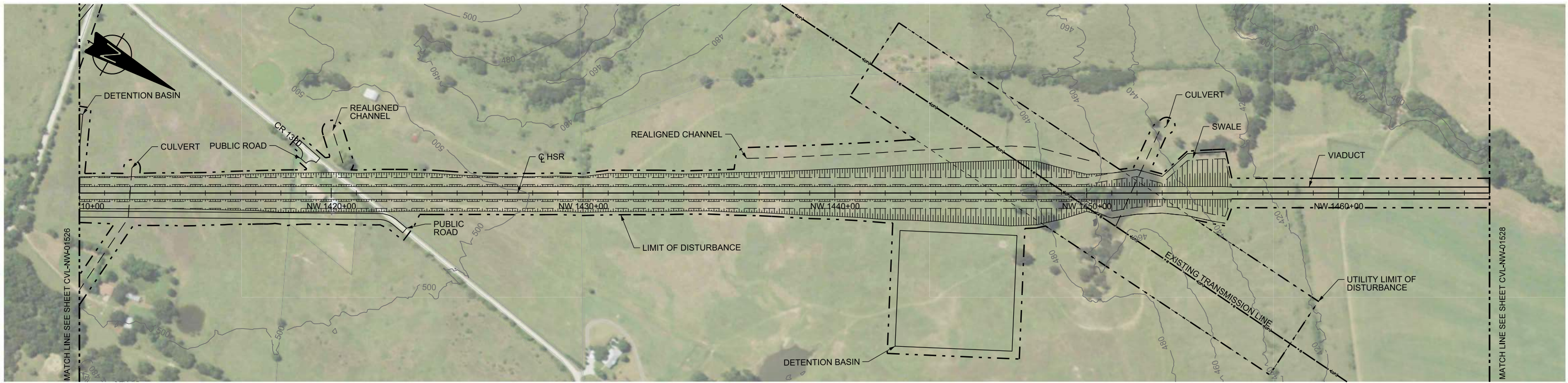
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 1354+00 TO NW 1410+00**

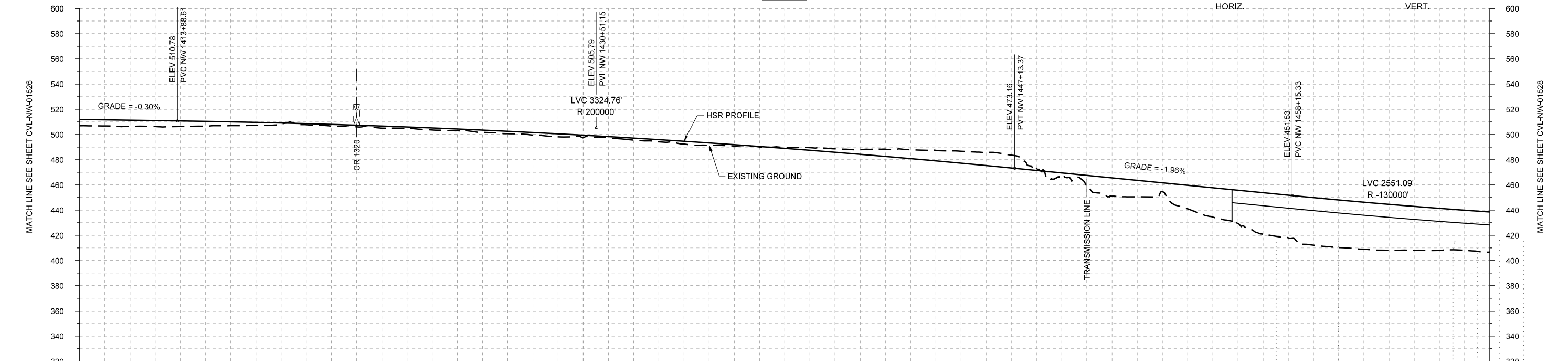
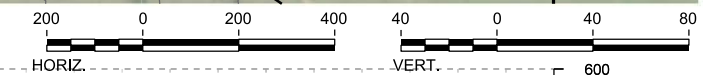
Scale
AS SHOWN

Drawing Status
FINAL

Job No 234180	Drawing No CVL-NW-01526	Rev 01
-------------------------	-----------------------------------	------------------



PLAN



STATIONING	NW 1410+00	NW 1420+00	NW 1430+00	NW 1440+00	NW 1450+00	NW 1460+00	NW 1466+00															
HOR. ALIGNMENT	L=31685																					
VER. ALIGNMENT	L=3547.93 G=-0.300%			R=200000		L=1101.95 G=-1.963%		R=130000														
CUT AND FILL	+4.9	+4.8	+4.3	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0	+8.9	+13.0	+18.6	+26.4	+33.8	+37.7	+36.6	+33.4	+31.7
TYP. SECTION	EMBANKMENT (A)			CUT (C)										EMBANKMENT (A)			VIADUCT (E)					

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

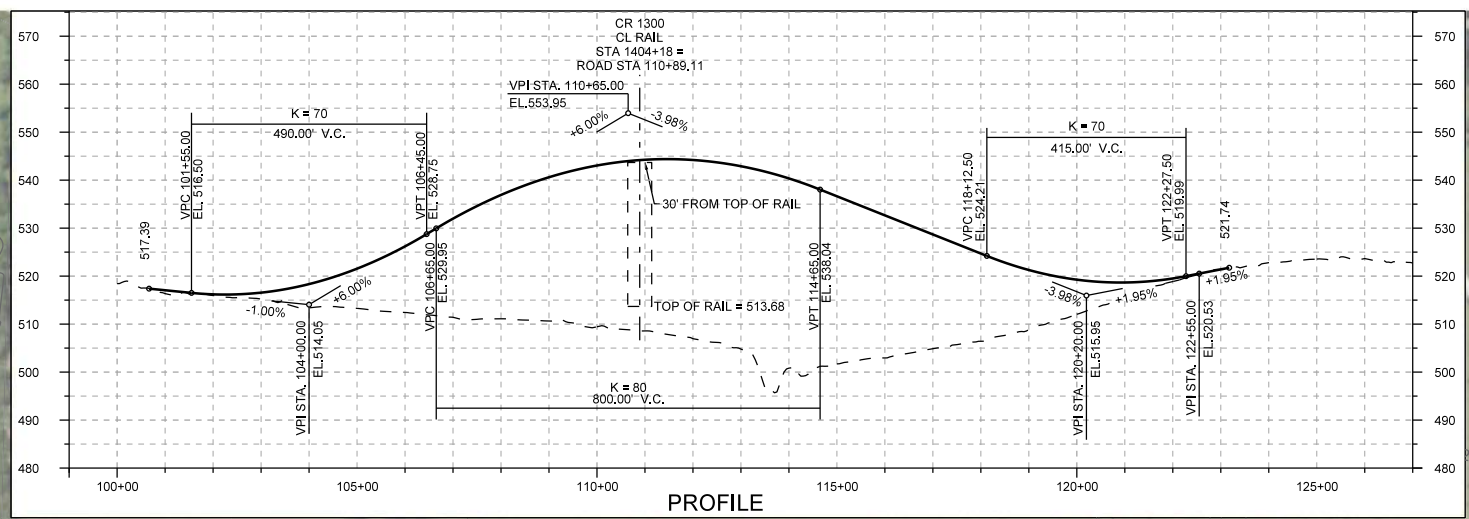
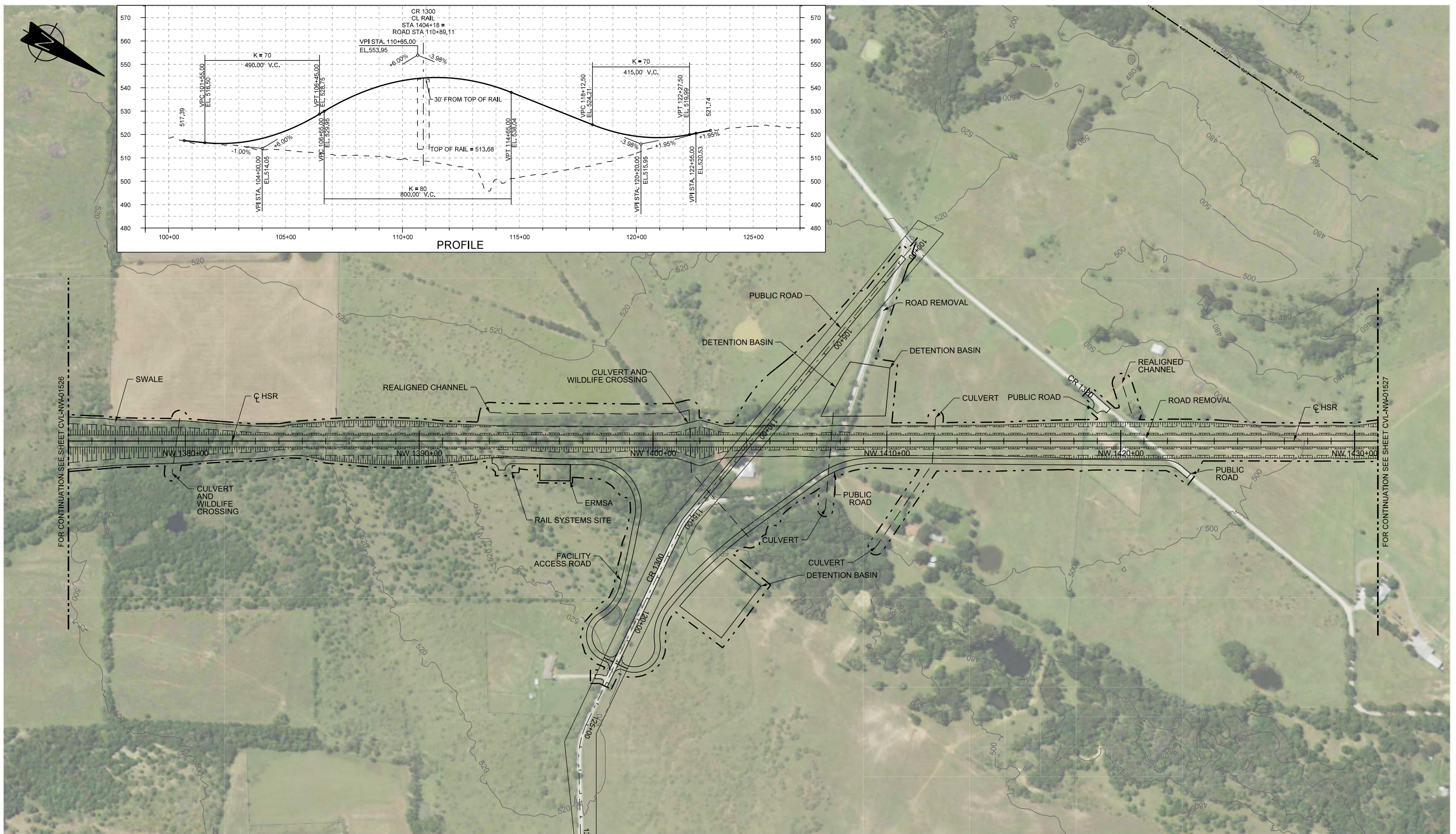
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 1410+00 TO NW 1466+00**

Scale
AS SHOWN

Drawing Status
FINAL

Job No	Drawing No	Rev
234180	CVL-NW-01527	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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Houston, Texas 77042 USA
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Texas Registered Engineering Firm: F-1990



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www.freese.com
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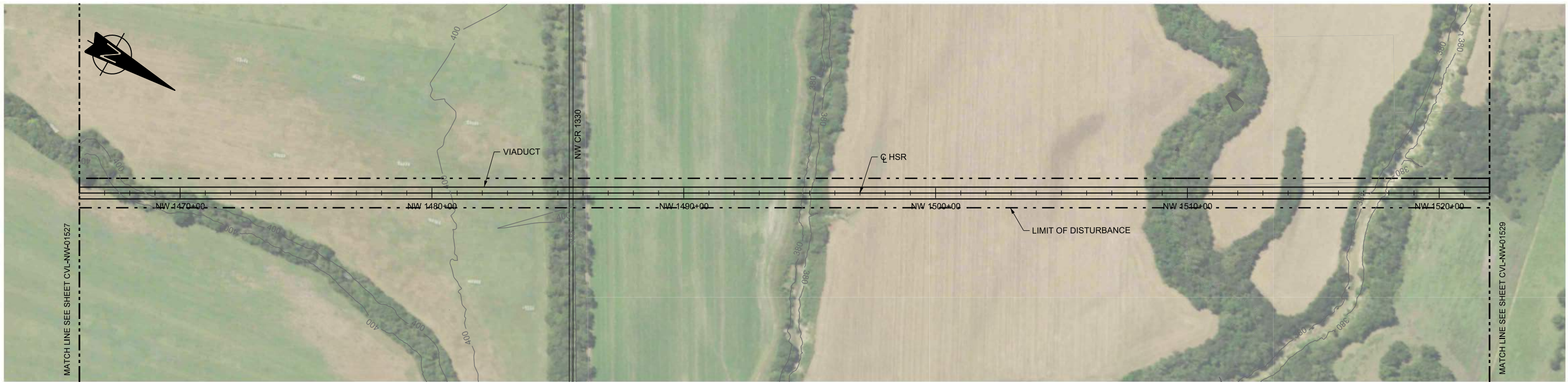
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



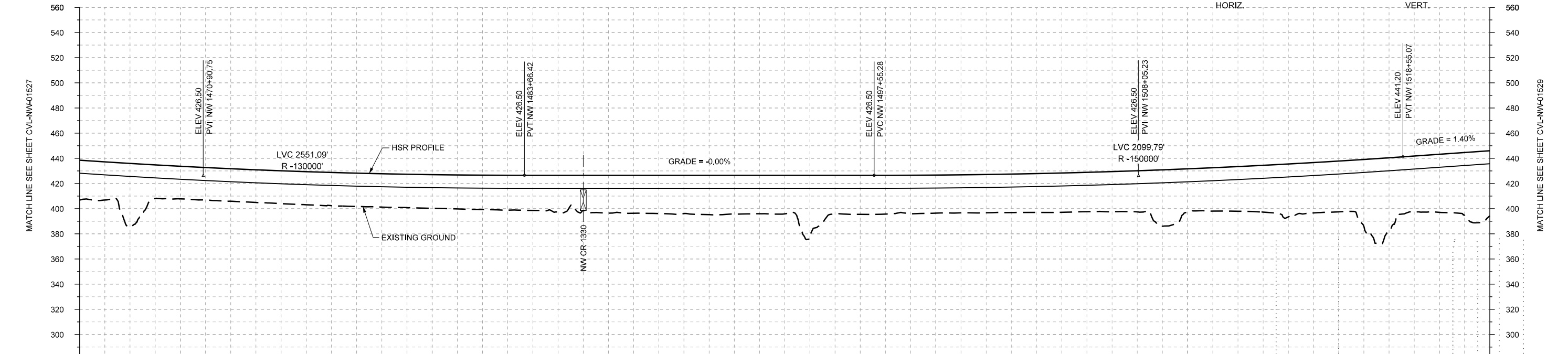
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL HIGHWAY
PLAN
CR 1300**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No RDY-NW-01527A	Rev 01



PLAN



STATIONING	NW 1466+00	NW 1470+00	NW 1480+00	NW 1490+00	NW 1500+00	NW 1510+00	NW 1520+00	NW 1522+00																					
HOR. ALIGNMENT	L=31685																												
VER. ALIGNMENT	R=-130000		L=1388.86 G=-0.000%			R=150000		L=1001.96 G=1.400%																					
CUT AND FILL	+31.7	+48.5	+25.9	+25.8	+26.1	+26.4	+26.5	+26.7	+27.3	+27.9	+28.0	+30.2	+30.4	+30.8	+30.6	+30.7	+30.8	+30.2	+30.4	+30.9	+31.3	+32.6	+34.4	+35.6	+42.1	+40.3	+57.2	+46.2	+51.6
TYP. SECTION	VIADUCT (E)																												

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

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

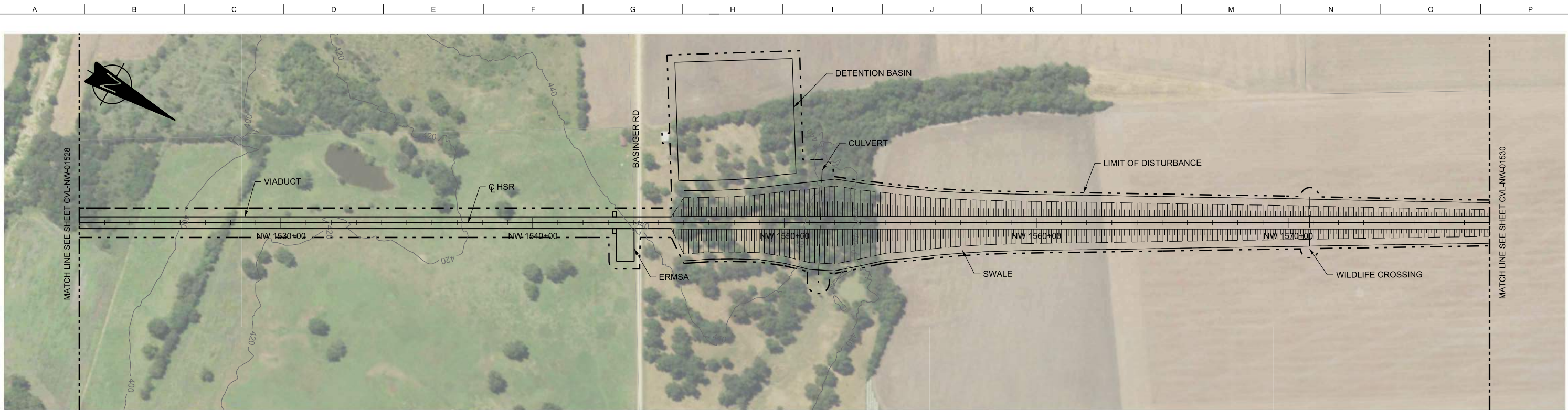
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Texas Registered Engineering Firm: F-1990

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

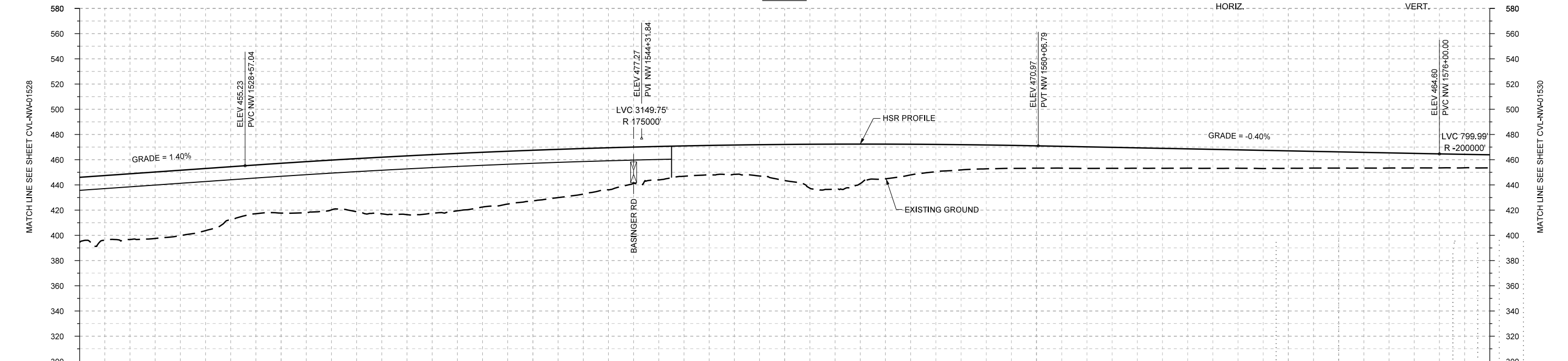
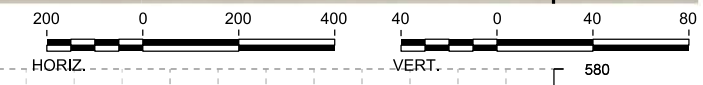
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 1466 TO NW 1522+00**

Scale
AS SHOWN
Drawing Status
FINAL
Job No: 234180
Drawing No: CVL-NW-01528
Rev: 01



PLAN



PROFILE

STATIONING	NW 1522+00	NW 1530+00	NW 1540+00	NW 1550+00	NW 1560+00	NW 1570+00	NW 1578+00																						
HOR. ALIGNMENT	L=31685																												
VER. ALIGNMENT	L=1001.96 G=1.400%		R=175000			L=1593.21 G=-0.400%																							
CUT AND FILL	+51.6	+52.1	+51.8	+42.2	+39.5	+39.5	+44.9	+47.0	+43.5	+40.2	+36.2	+28.5	+24.0	+23.2	+28.7	+35.7	+27.4	+21.7	+18.9	+17.7	+17.1	+16.2	+15.3	+14.6	+13.8	+12.9	+12.0	+11.1	+10.4
TYP. SECTION	VIADUCT (E)												EMBANKMENT (A)																

REV	DATE	BY	CHK	APP	DESCRIPTION

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

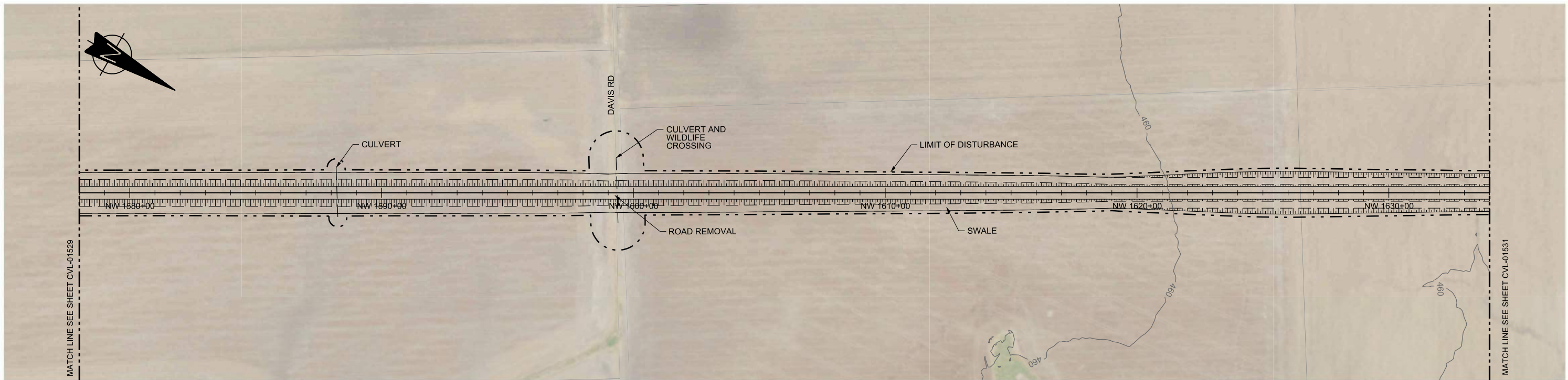
ARUP
Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
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Texas Registered Engineering Firm: F-1990

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Texas Registered Engineering Firm: F-2144

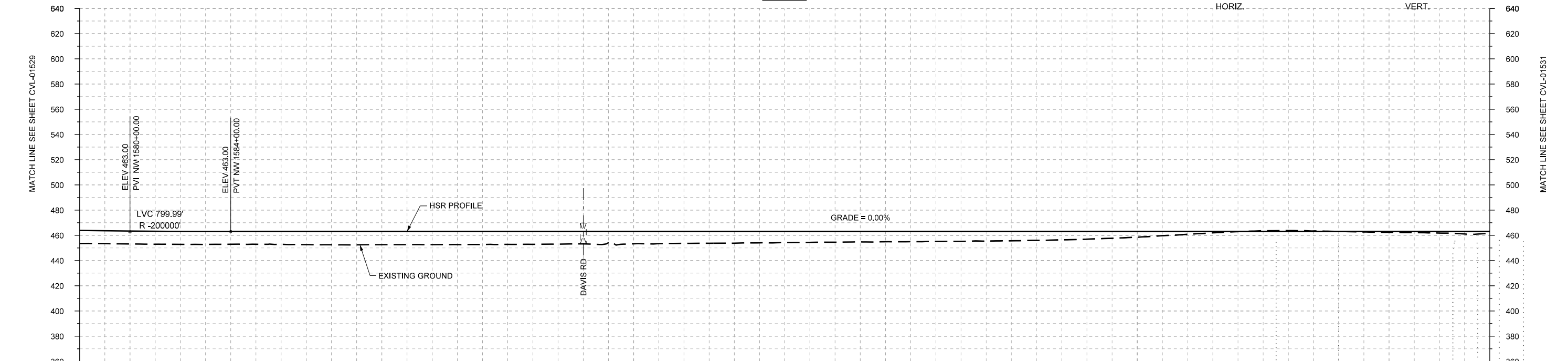
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 1522+00 TO NW 1578+00**

Scale
AS SHOWN
Drawing Status
FINAL
Job No. **234180** Drawing No. **CVL-NW-01529** Rev. **01**



PLAN



PROFILE

STATIONING	NW 1578+00	NW 1580+00	NW 1590+00	NW 1600+00	NW 1610+00	NW 1620+00	NW 1630+00	NW 1634+00																				
HOR. ALIGNMENT	L=31685																											
VER. ALIGNMENT	R=200000		L=5412.27 G=0.000%																									
CUT AND FILL	+10.4	+10.2	+10.2	+10.1	+10.2	+10.5	+10.4	+10.4	+10.3	+10.1	+9.8	+9.7	+9.4	+9.2	+8.8	+8.4	+8.1	+7.9	+7.6	+7.0	+6.0	+4.5	+3.0	+3.0	+3.0	+3.0	+3.0	+3.0
TYP. SECTION	EMBANKMENT (A)												CUT (C)															

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
A. UTZ

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

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

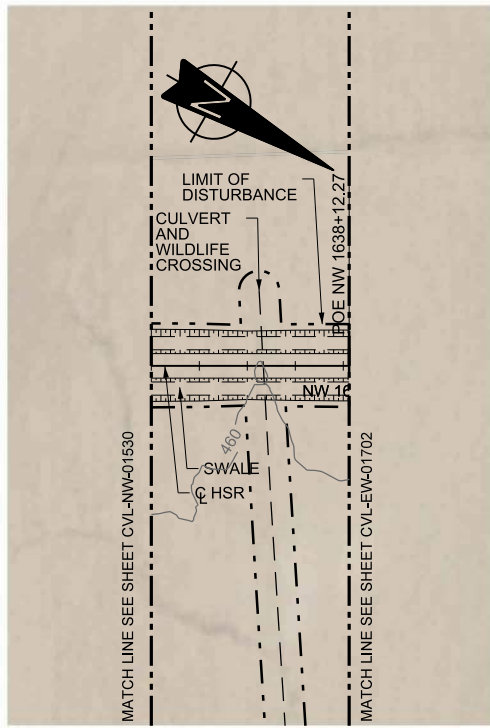
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**NAVARRO WEST SEGMENT
CIVIL
PLAN AND PROFILE
NW 1578+00 TO NW 1634+00**

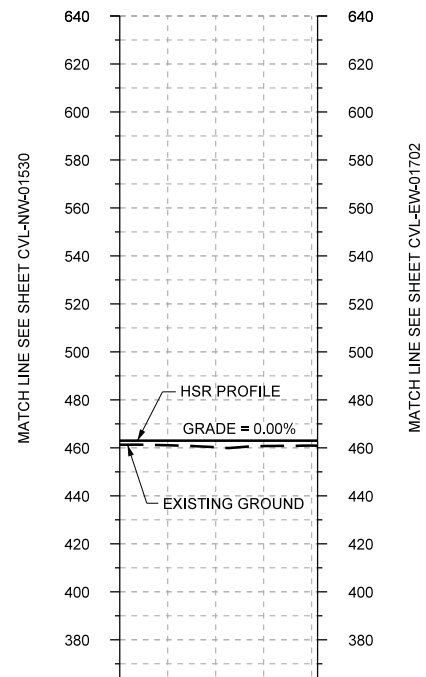
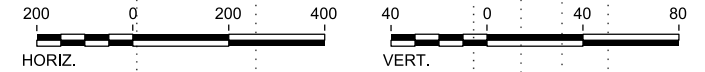
Scale
AS SHOWN

Drawing Status
FINAL

Job No	Drawing No	Rev
234180	CVL-NW-01530	01

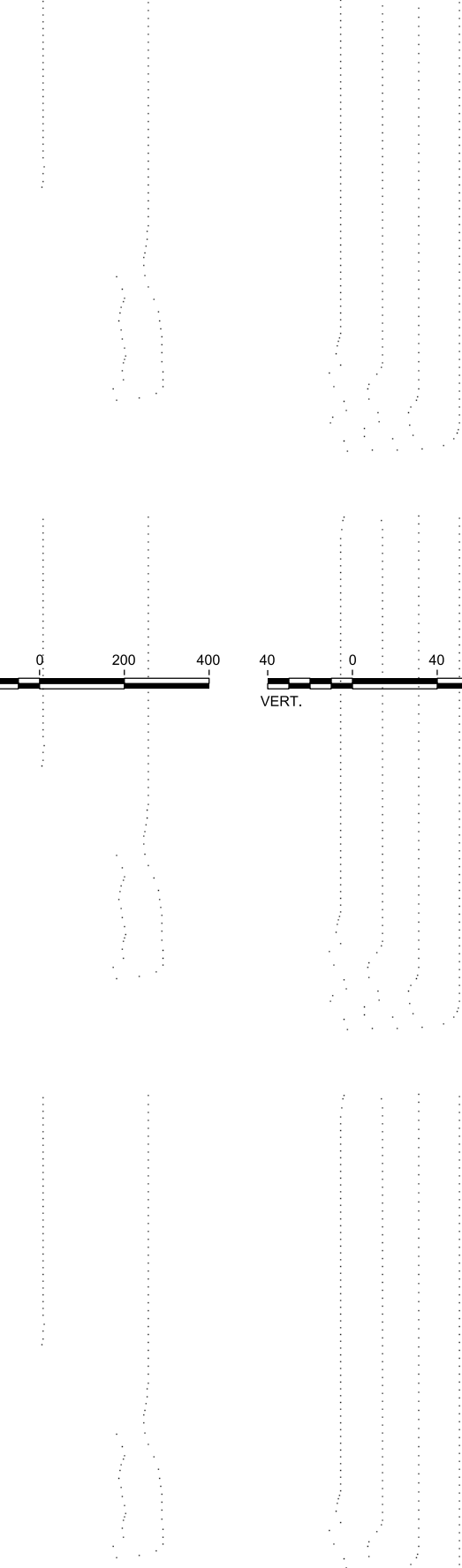


PLAN



STATIONING	NW 1634+00	NW 1638+12
HOR. ALIGNMENT	L=31685	
VER. ALIGNMENT	L=5412.27 G=0.000%	
CUT AND FILL	+3.0	+3.0
TYP. SECTION	CUT (C)	

PROFILE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY	A. UTZ
DRAWN BY	J. BORGHESI
CHECKED BY	T. WAGNER
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
**NAVARRO WEST SEGMENT
 CIVIL
 PLAN AND PROFILE
 NW 1634+00 TO NW 1638+12**

Scale	AS SHOWN
Drawing Status	FINAL
Job No	234180
Drawing No	CVL-NW-01531
Rev	01

2A-4

ELLIS WEST SEGMENT

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
K. SEYMOUR

DRAWN BY
D. THOMPSON

CHECKED BY
R. BURNS

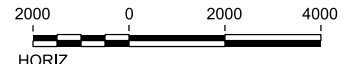
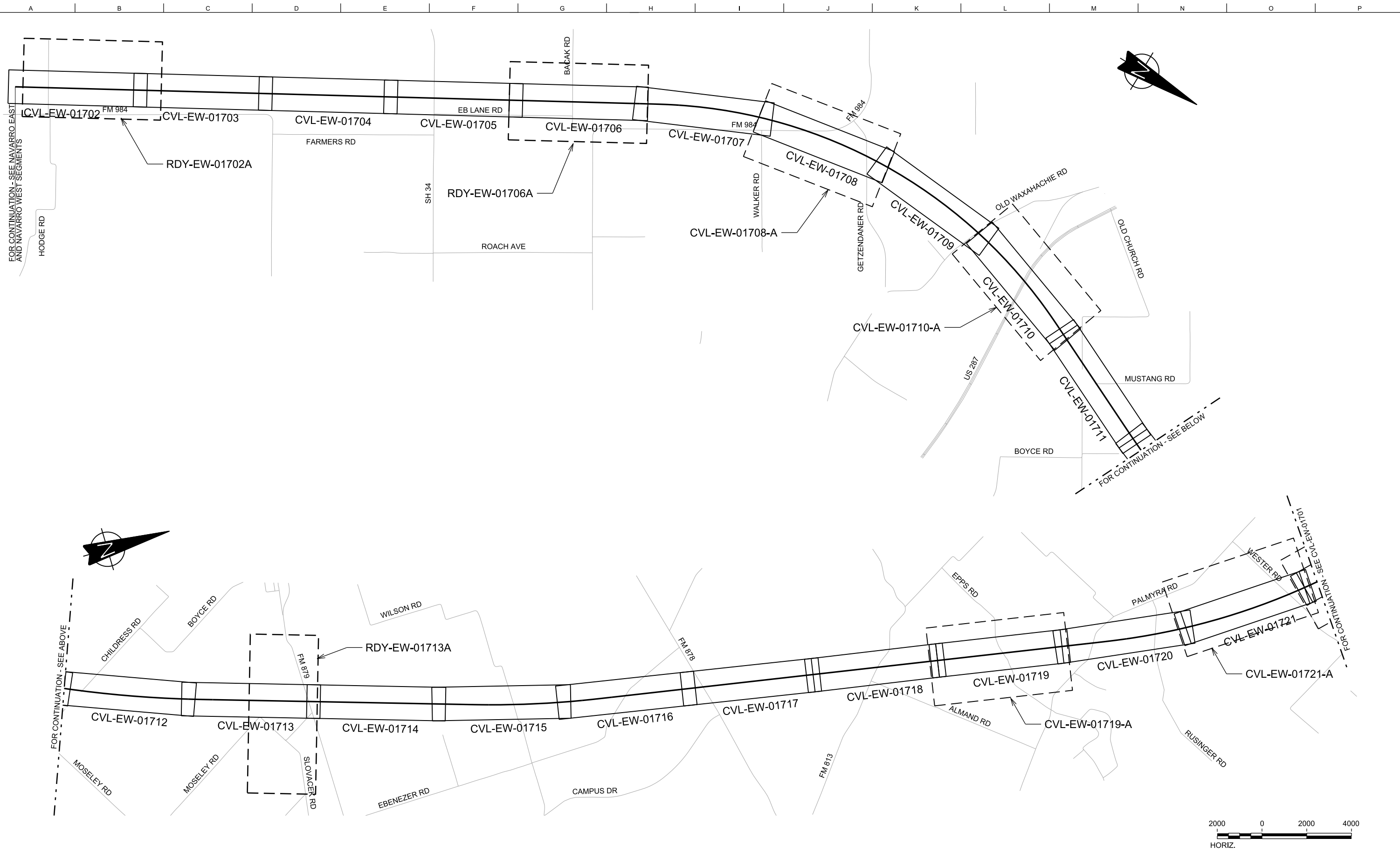
IN CHARGE
C. TAYLOR

DATE
2/25/2019



Drawing Title
GENERAL

Scale NO SCALE		
Drawing Status FINAL		
Job No 234180	Drawing No GEN-00-0000	Rev 01



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019



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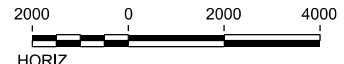
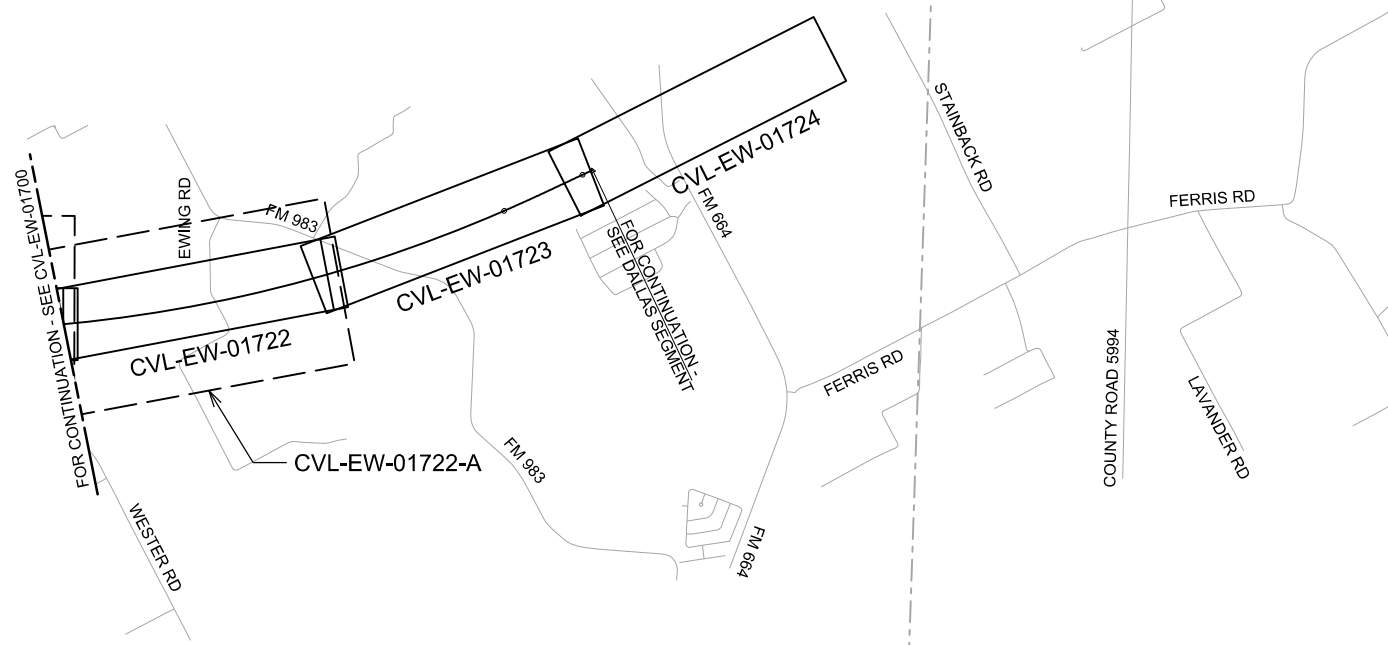
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



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

Drawing Title		
ELLIS WEST SEGMENT CIVIL KEY MAP - SHEET 1 OF 2 EW 10+00 TO EW 1130+00		
Scale AS SHOWN		
Drawing Status FINAL		
Job No	Drawing No	Rev
234180	CVL-EW-01700	01



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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FRESE & NICHOLS

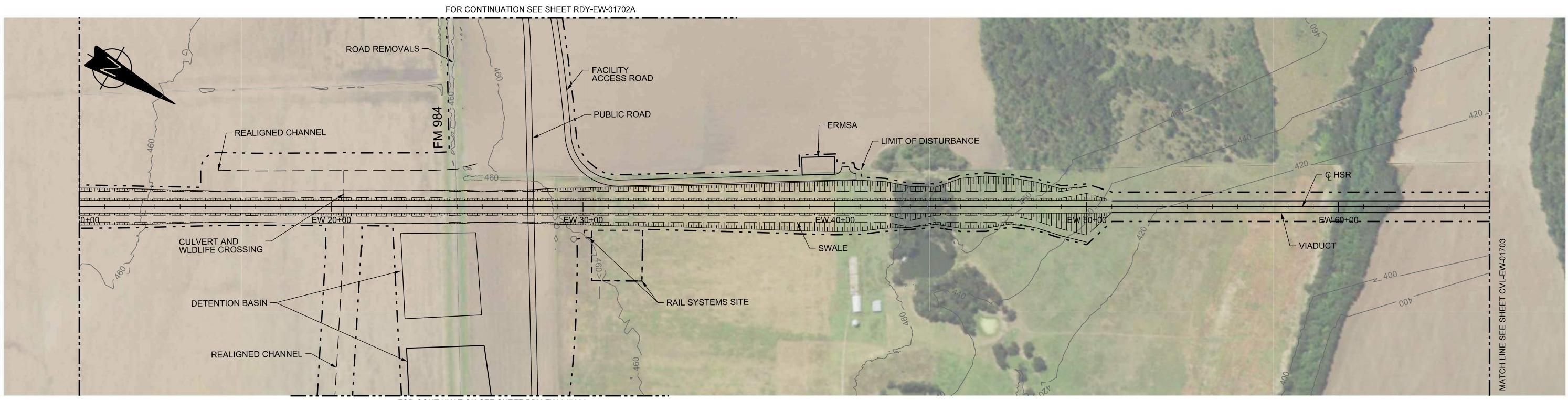
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

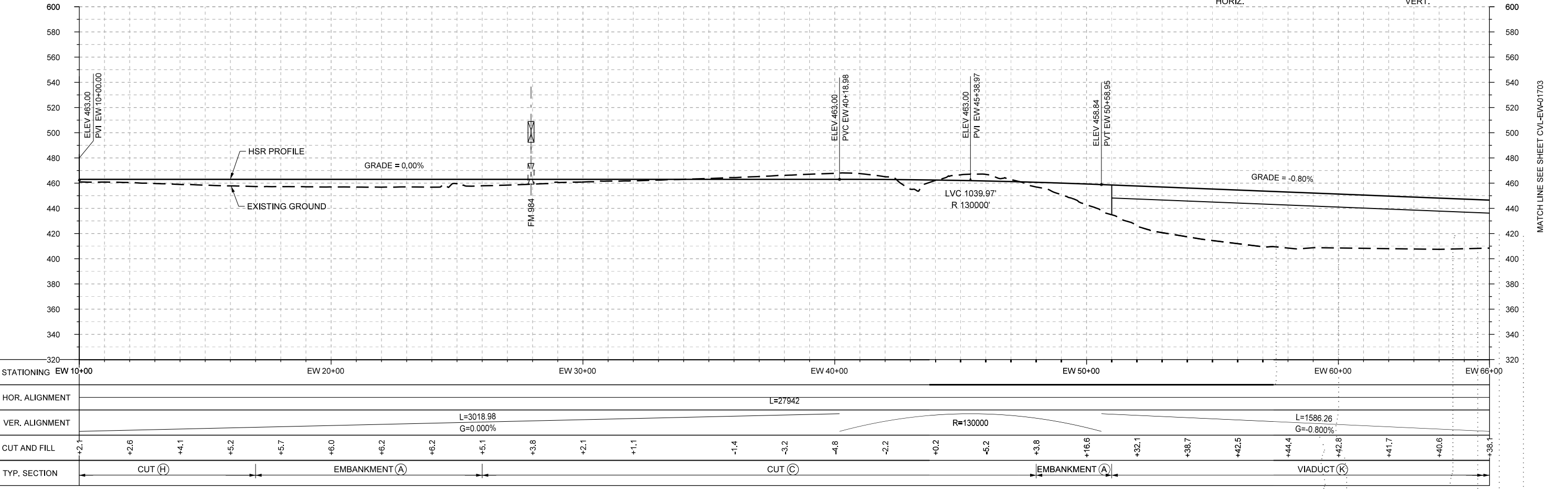
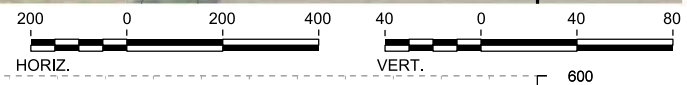
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
KEY MAP - SHEET 2 OF 2
EW 1130+00 TO EW 1246+26**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-EW-01701	Rev 01



PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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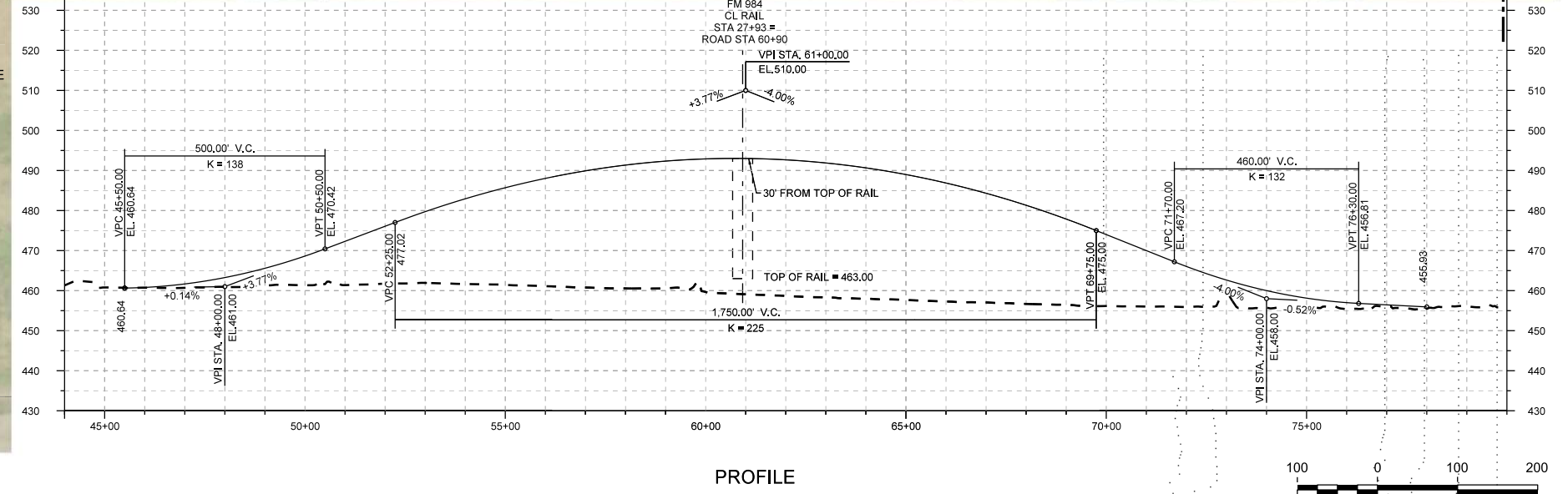
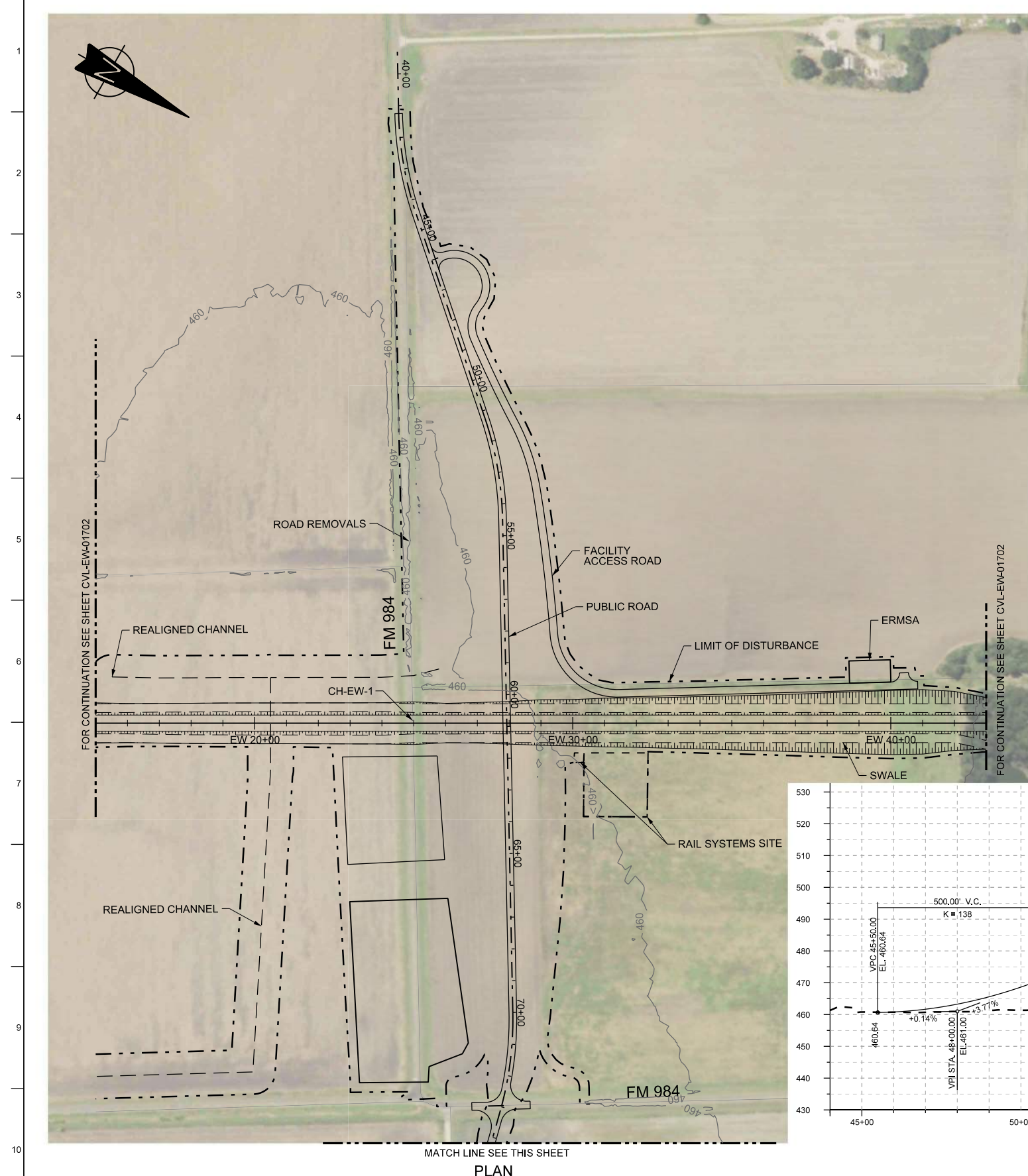
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

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

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 10+00 TO EW 66+00**

Scale AS SHOWN	Drawing Status FINAL	
Job No 234180	Drawing No CVL-EW-01702	Rev 01



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

ARUP
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 Houston, Texas 77042 USA
 Tel (713) 783 2787 Fax (713) 343 1467
 www.arup.com
 Texas Registered Engineering Firm: F-1990

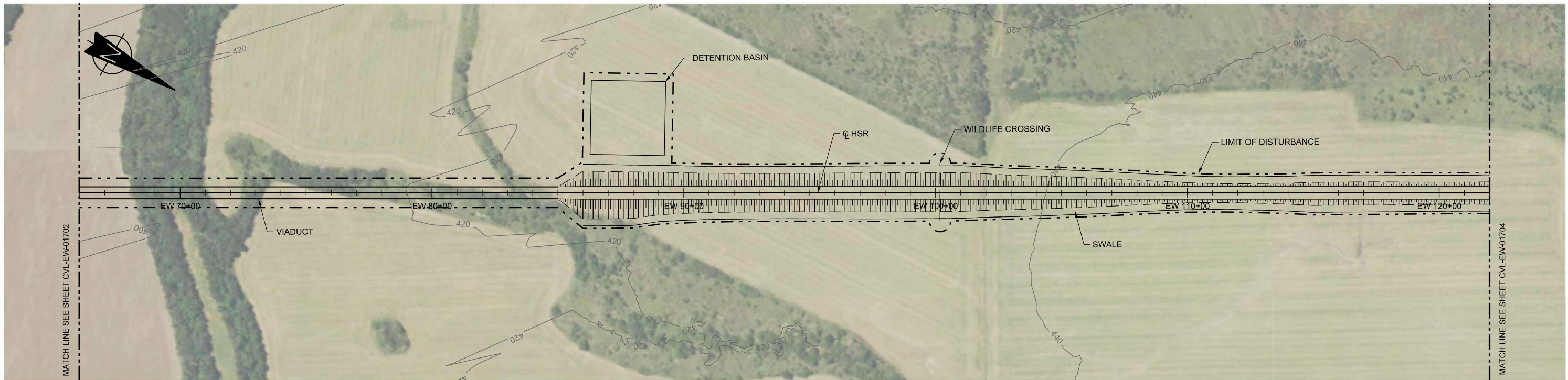
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 Tel (214) 217 2200 Fax (214) 217 2201
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 Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

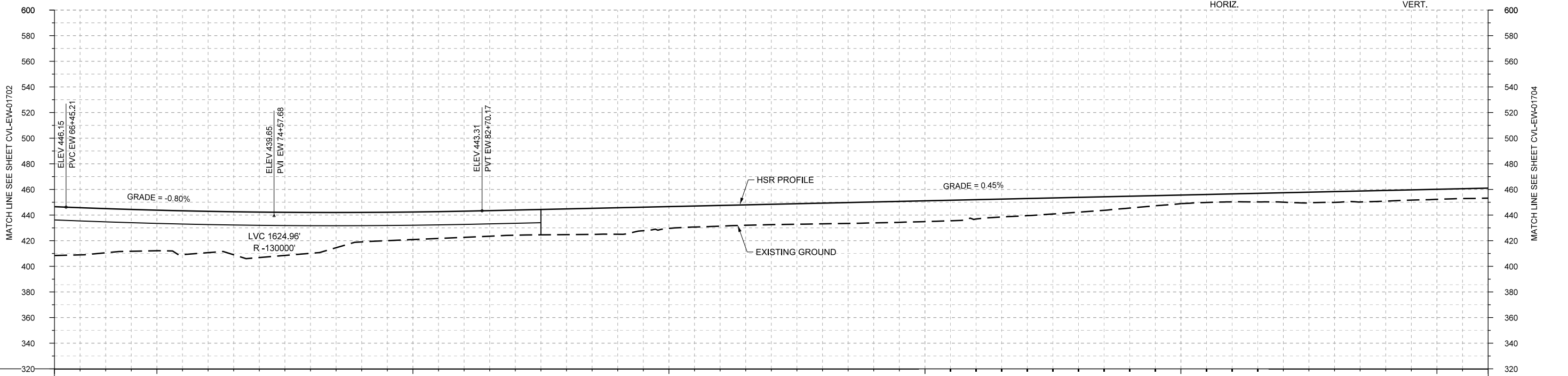
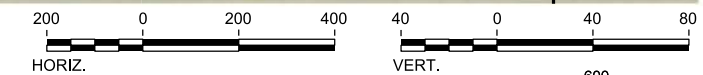
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
 CIVIL HIGHWAY
 PLAN
 FM 984**

Scale AS SHOWN
Drawing Status FINAL
Job No 234180
Drawing No RDY-EW-01702A
Rev 01



PLAN



STATIONING	EW 66+00	EW 70+00	EW 80+00	EW 90+00	EW 100+00	EW 110+00	EW 120+00	EW 122+00																					
HOR. ALIGNMENT	L=27942																												
VER. ALIGNMENT	L=130000 R=130000				L=7260.72 G=0.450%																								
CUT AND FILL	+38.1	+34.4	+31.7	+32.2	+35.5	+31.9	+23.0	+21.5	+20.4	+19.6	+20.1	+20.7	+17.0	+16.2	+15.9	+16.2	+16.3	+16.2	+15.1	+13.4	+11.6	+9.3	+6.7	+6.2	+7.4	+8.4	+8.4	+7.8	+7.8
TYP. SECTION	VIADUCT (E)										EMBANKMENT (A)																		

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

ARUP

Arup Texas, Inc.
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Houston, Texas 77042 USA
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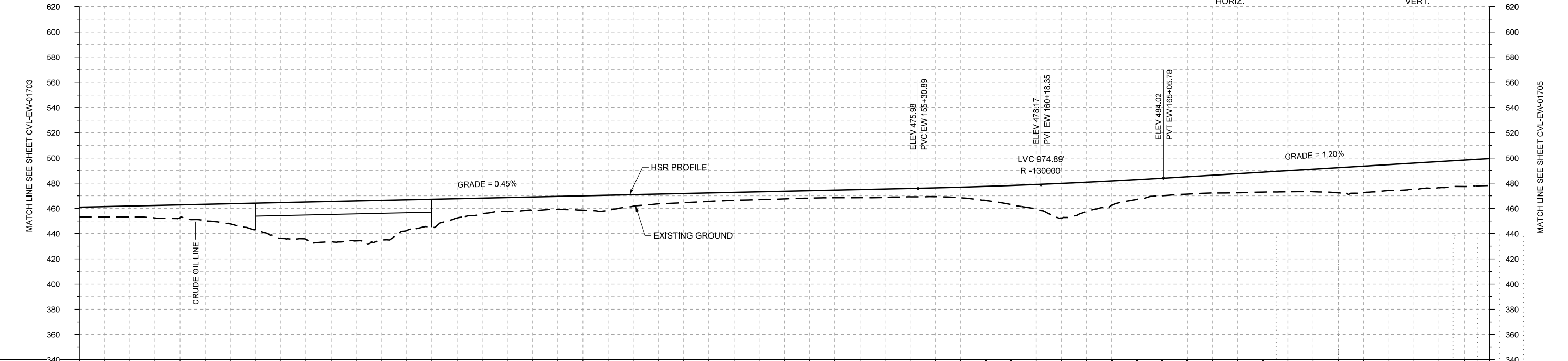
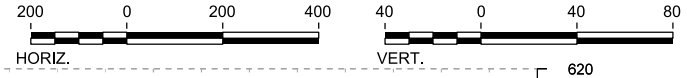
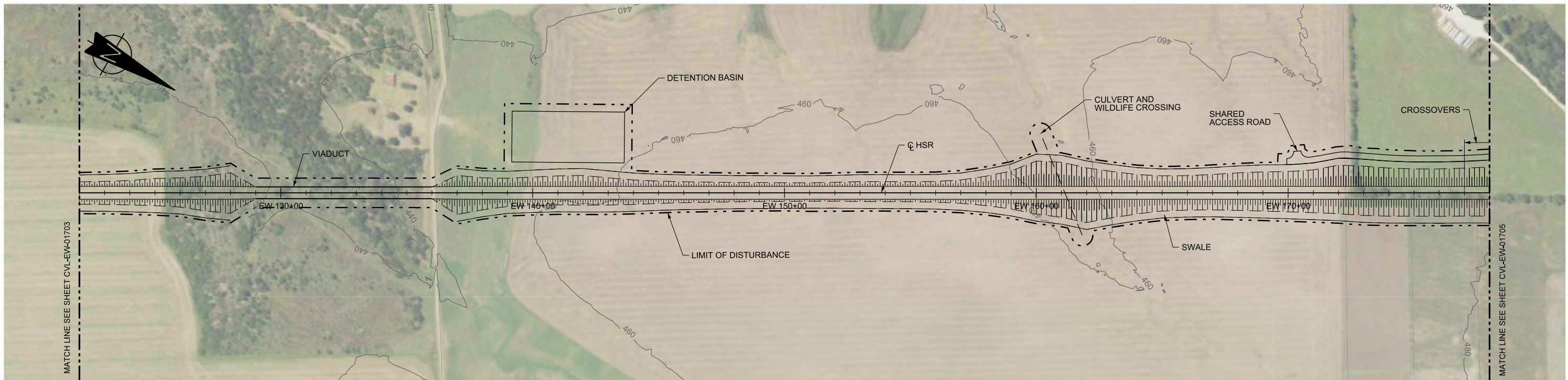
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

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

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 66+00 TO EW 122+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-EW-01703	01	



STATIONING	EW 122+00		EW 130+00	EW 140+00	EW 150+00	EW 160+00	EW 170+00	EW 178+00																					
HOR. ALIGNMENT	L=27942																												
VER. ALIGNMENT	L=7260.72, G=0.450%				R=130000		L=2011.09, G=1.200%																						
CUT AND FILL	+7.8	+8.7	+10.2	+16.0	+28.4	+31.6	+31.4	+22.2	+12.6	+10.9	+11.4	+9.2	+7.3	+6.3	+6.0	+6.0	+6.7	+7.0	+11.2	+19.3	+23.2	+15.6	+13.9	+15.2	+16.9	+20.1	+20.6	+20.8	+21.5
TYP. SECTION	EMBANKMENT (A)			VIADUCT (E)				EMBANKMENT (A)																					

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

ARUP

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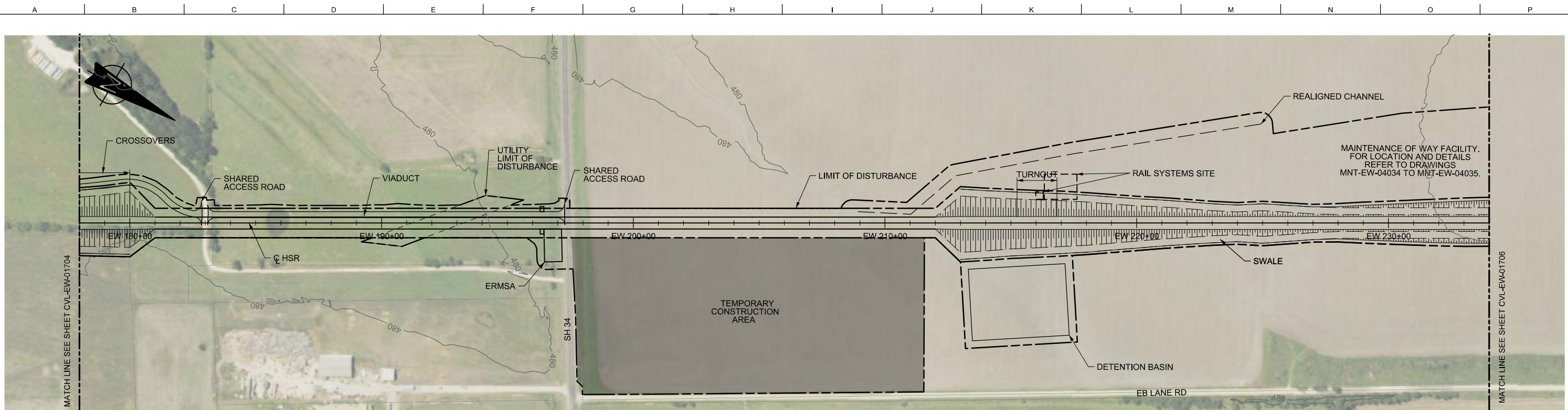
2711 North Haskell Ave., Suite 3300
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Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

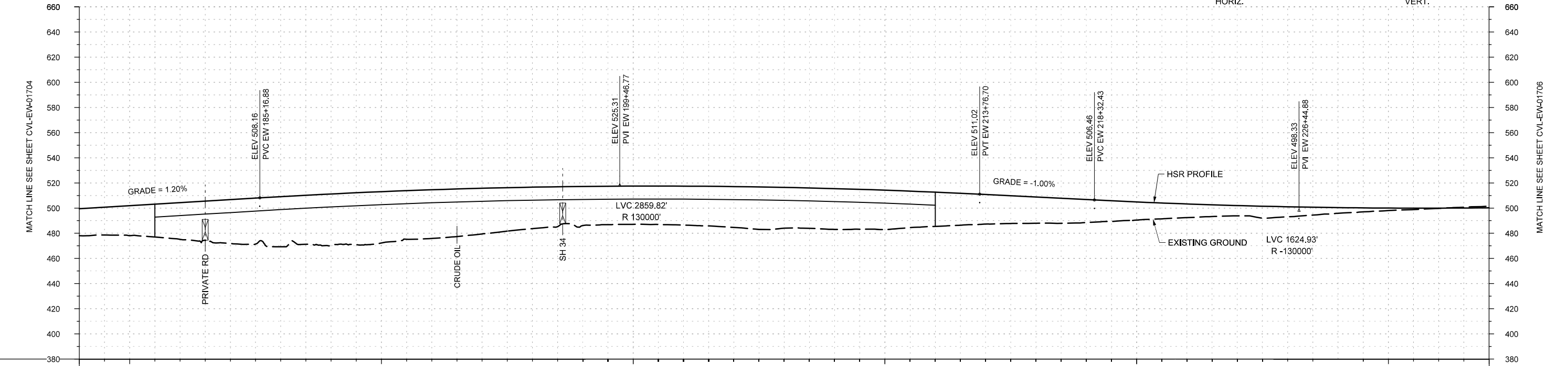
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 122+00 TO EW 178+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-EW-01704	01	



PLAN



PROFILE

STATIONING	EW 178+00	EW 180+00	EW 190+00	EW 200+00	EW 210+00	EW 220+00	EW 230+00	EW 234+00
HOR. ALIGNMENT	L=27942							
VER. ALIGNMENT	L=2011.09 G=1.200%		R=130000				L=455.74 G=-1.000%	
CUT AND FILL	+21.5	+23.9	+23.2	+34.9	+39.9	+40.8	+40.8	+38.8
TYP. SECTION	EMBANKMENT (A)		VIADUCT (E)			EMBANKMENT (A)		CUT (C)

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

ARUP

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Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

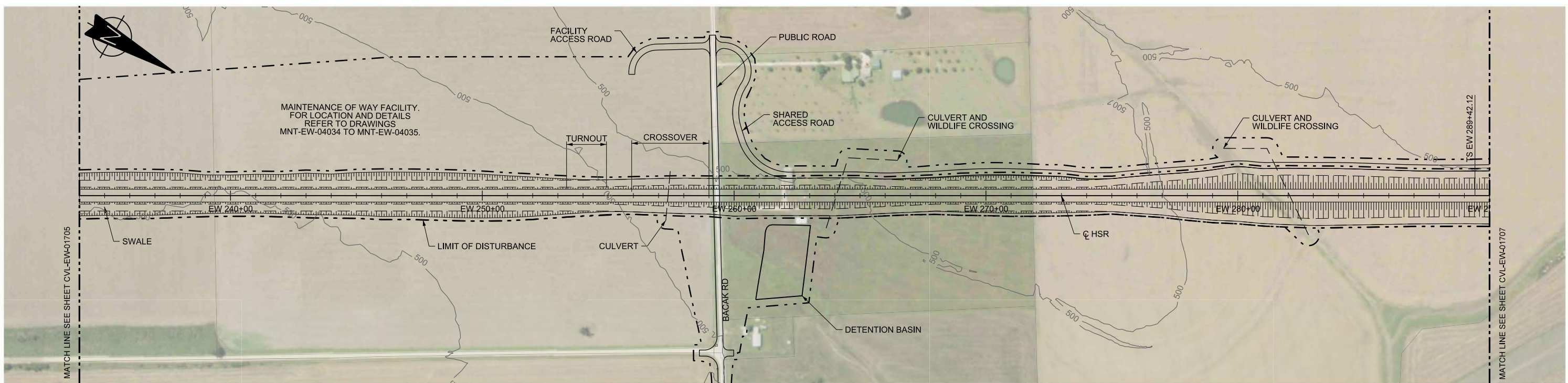
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Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

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

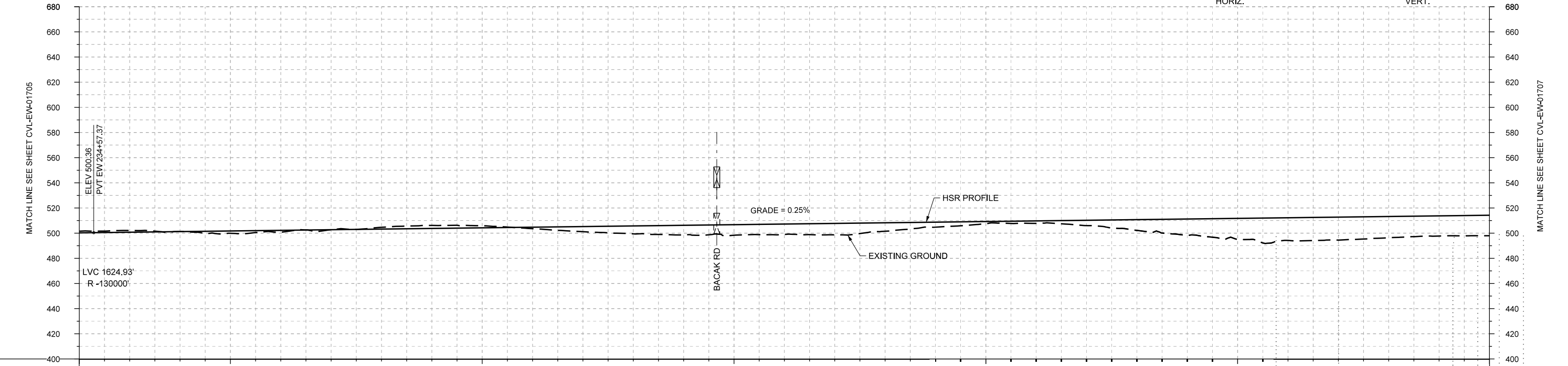
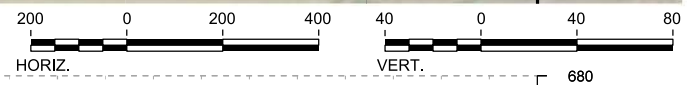
Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 178+00 TO EW 234+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-EW-01705	01	



FOR CONTINUATION AND ROAD OVER RAIL
DETAIL SEE SHEET RDY-EW-01706A

PLAN



PROFILE

STATIONING	EW 234+00	EW 240+00	EW 250+00	EW 260+00	EW 270+00	EW 280+00	EW 290+00																					
HOR. ALIGNMENT	L=27942						L=1780																					
VER. ALIGNMENT	R=130000						L=8264.73 G=0.250%																					
CUT AND FILL	-1.3	-1.4	-0.1	+1.9	+1.4	-1.4	-2.4	-1.7	+1.1	+4.1	+6.3	+7.6	+8.4	+8.2	+9.1	+6.7	+4.0	+1.8	+1.9	+4.2	+8.5	+12.9	+16.6	+18.0	+18.2	+16.9	+16.0	+16.2
TYP. SECTION	CUT (C)				EMBANKMENT (A)				CUT (C)				EMBANKMENT (A)															

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS
DRAWN BY
J. BORGHESI
CHECKED BY
T. WAGNER
IN CHARGE
C. TAYLOR
DATE
02/25/2019



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Texas Registered Engineering Firm: F-2144

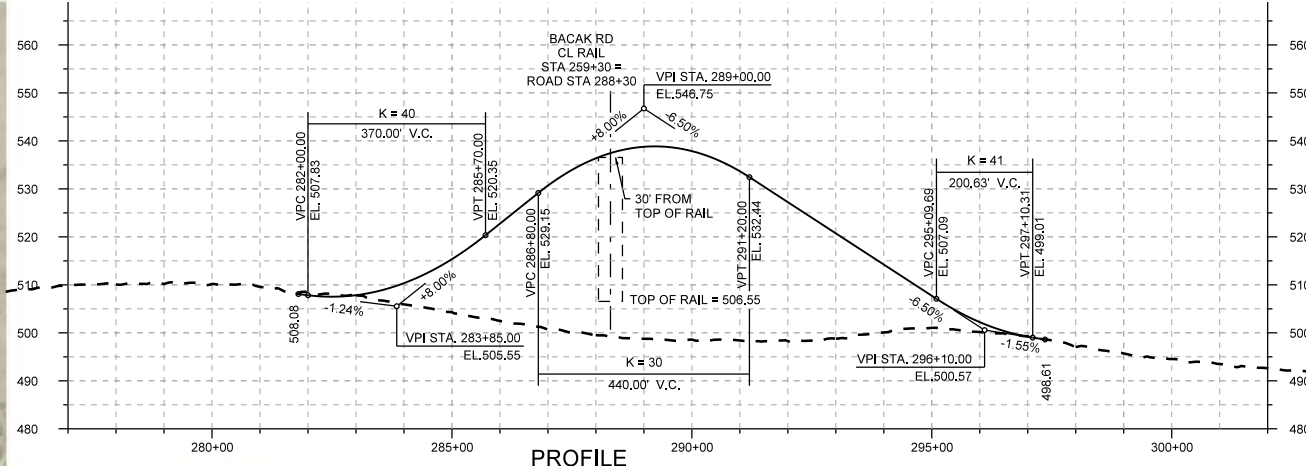
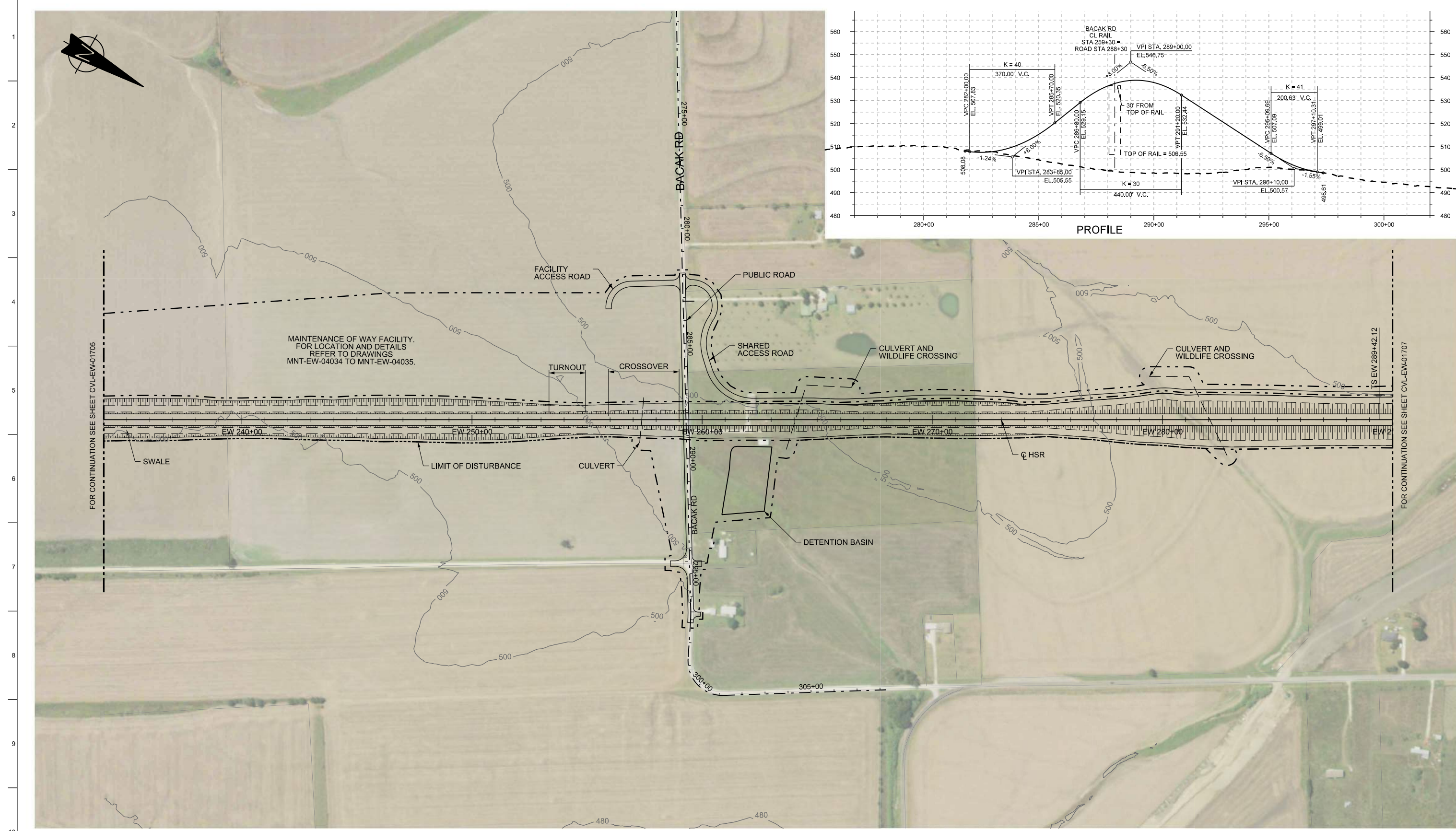
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



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

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 234+00 TO EW 290+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-EW-01706	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

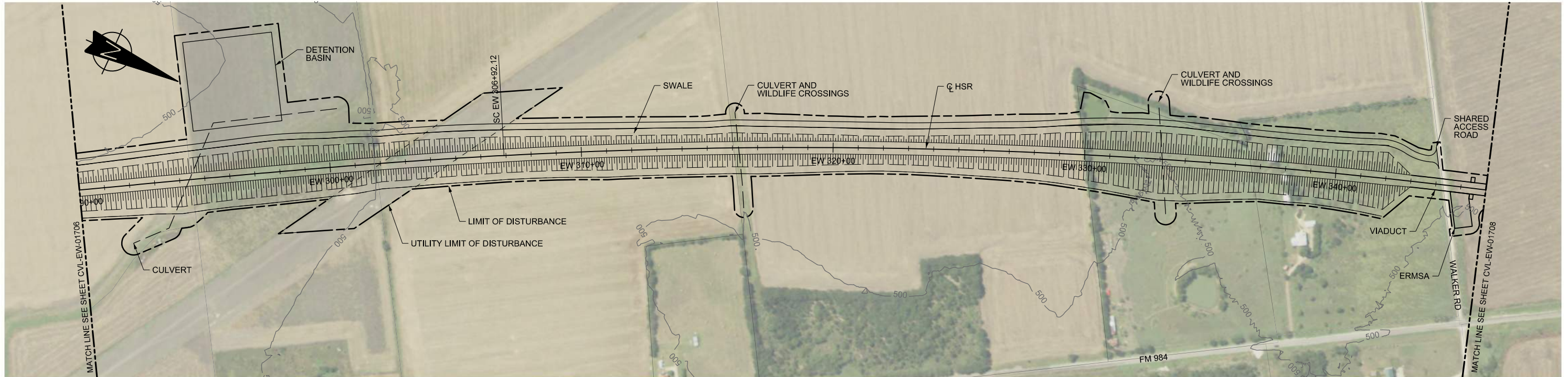
ARUP
Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 343 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

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2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
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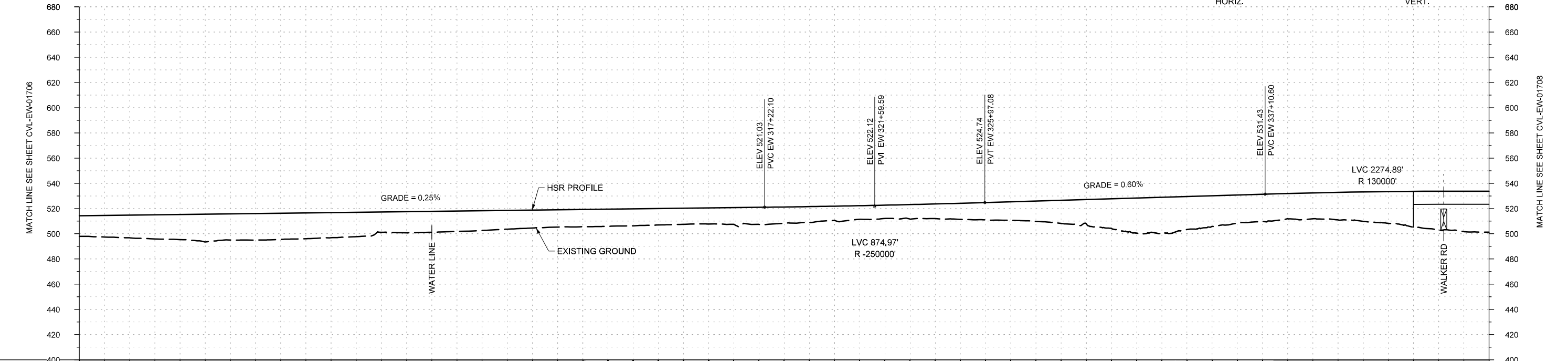
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING
TEXAS CENTRAL
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
CIVIL HIGHWAY
PLAN
BACAK ROAD**

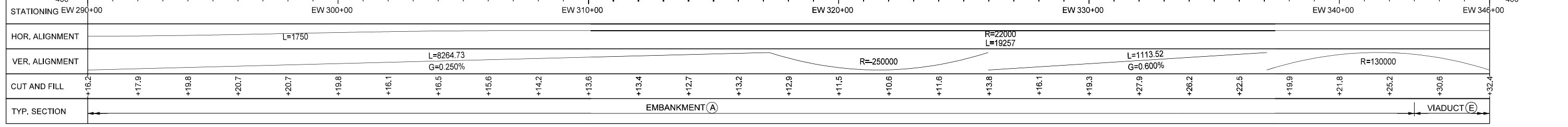
Scale
AS SHOWN
Drawing Status
FINAL
Job No. **234180** Drawing No. **RDY-EW-01706A** Rev. **01**



PLAN



PROFILE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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Arup Texas, Inc.
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Houston, Texas 77042 USA
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FRESE & NICHOLS

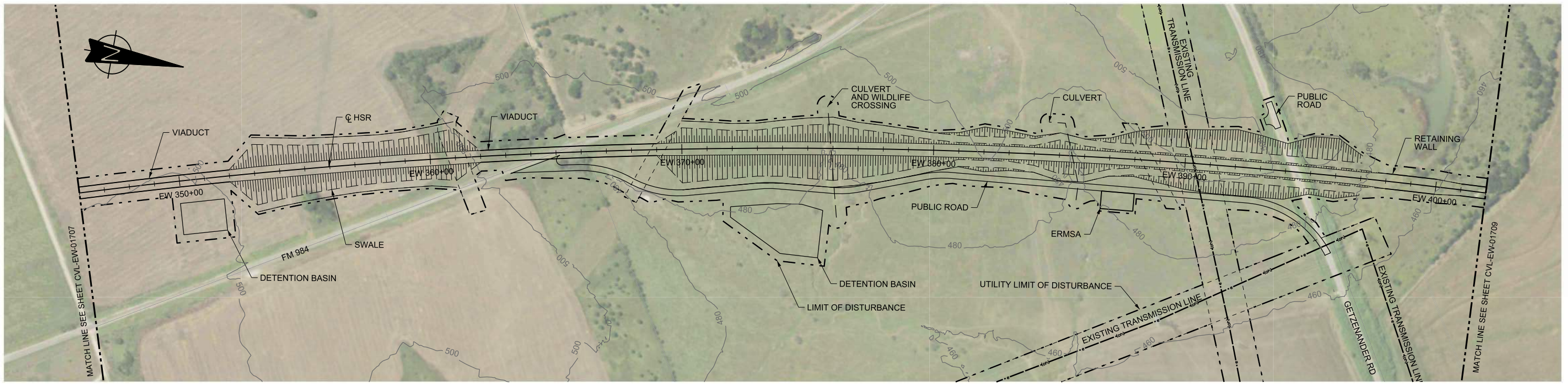
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
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Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

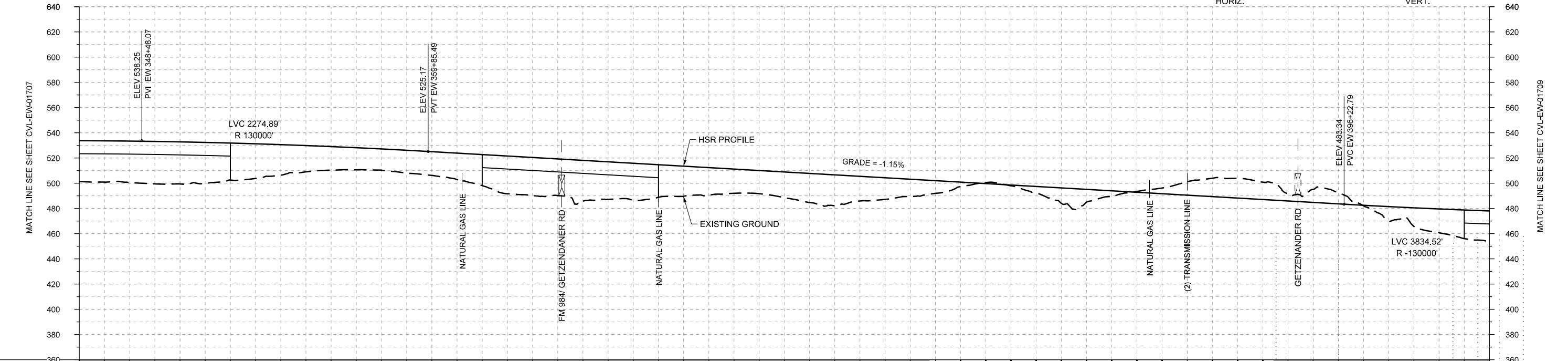
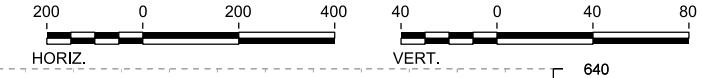
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 290+00 TO EW 346+00**

Scale AS SHOWN	Drawing Status FINAL	
Job No 234180	Drawing No CVL-EW-01707	Rev 01



PLAN



PROFILE

STATIONING	EW 346+00	EW 350+00	EW 360+00	EW 370+00	EW 380+00	EW 390+00	EW 400+00	EW 402+00	
HOR. ALIGNMENT	R=22000 L=19257								
VER. ALIGNMENT	R=130000								
CUT AND FILL	+32.4	+32.9	+33.4	+29.3	+24.2	+18.6	+18.9	+18.8	
TYP. SECTION	VIADUCT (E)		EMBANKMENT (A)			VIADUCT (E)		EMBANKMENT (A)	
						CUT (C)		CUT (C)	
								RETAINED FILL (G) (E)	

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

ARUP

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

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

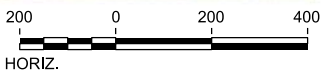
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 346+00 TO EW 402+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-EW-01708	01	



PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019



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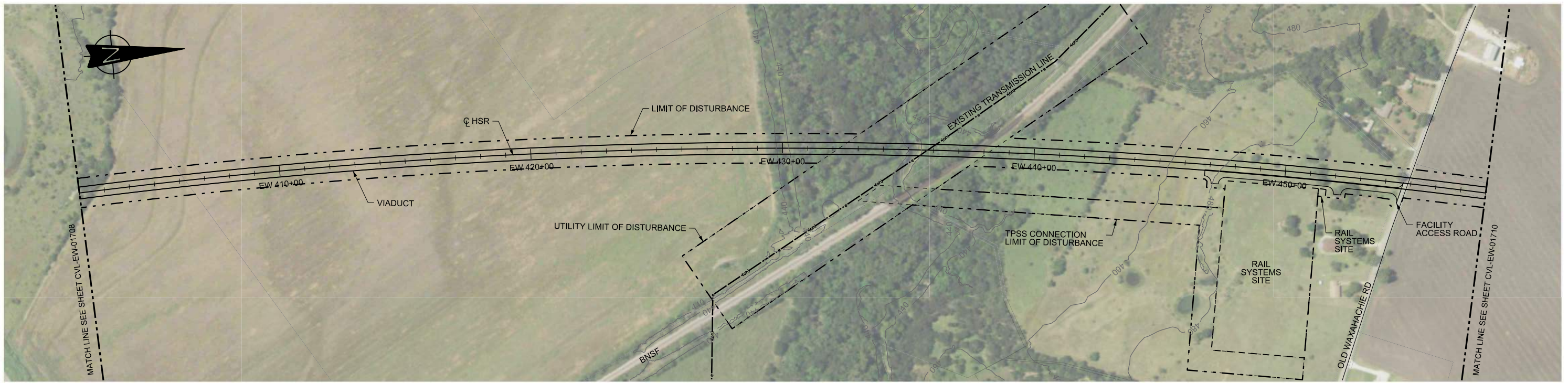
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



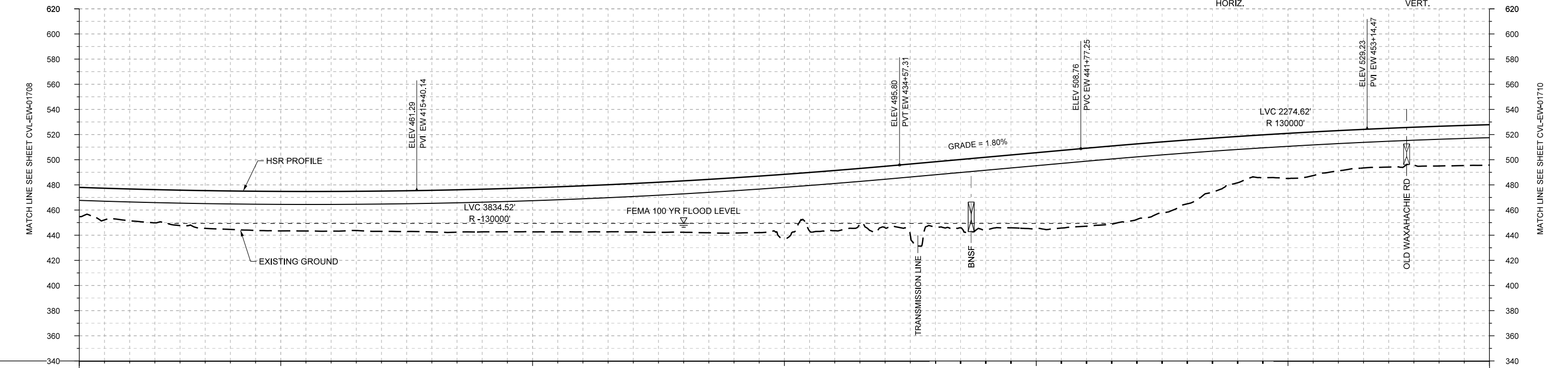
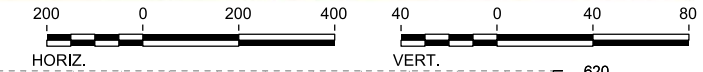
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-EW-01708-A	Rev 01



PLAN



PROFILE

STATIONING	EW 402+00	EW 410+00	EW 420+00	EW 430+00	EW 440+00	EW 450+00	EW 458+00																						
HOR. ALIGNMENT					R=22000 L=19257																								
VER. ALIGNMENT	R=130000																												
CUT AND FILL	+23.5	+25.2	+28.2	+30.5	+31.4	+31.6	+32.1	+33.0	+33.9	+35.1	+36.6	+36.5	+40.9	+43.8	+50.8	+47.8	+48.9	+51.7	+57.7	+60.3	+62.1	+60.1	+50.8	+36.8	+35.9	+32.0	+30.9	+31.6	+32.1
TYP. SECTION	VIADUCT (E)																												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY R. BURNS
DRAWN BY J. BORGHESI
CHECKED BY T. WAGNER
IN CHARGE C. TAYLOR
DATE 02/25/2019

Arup Texas, Inc.
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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

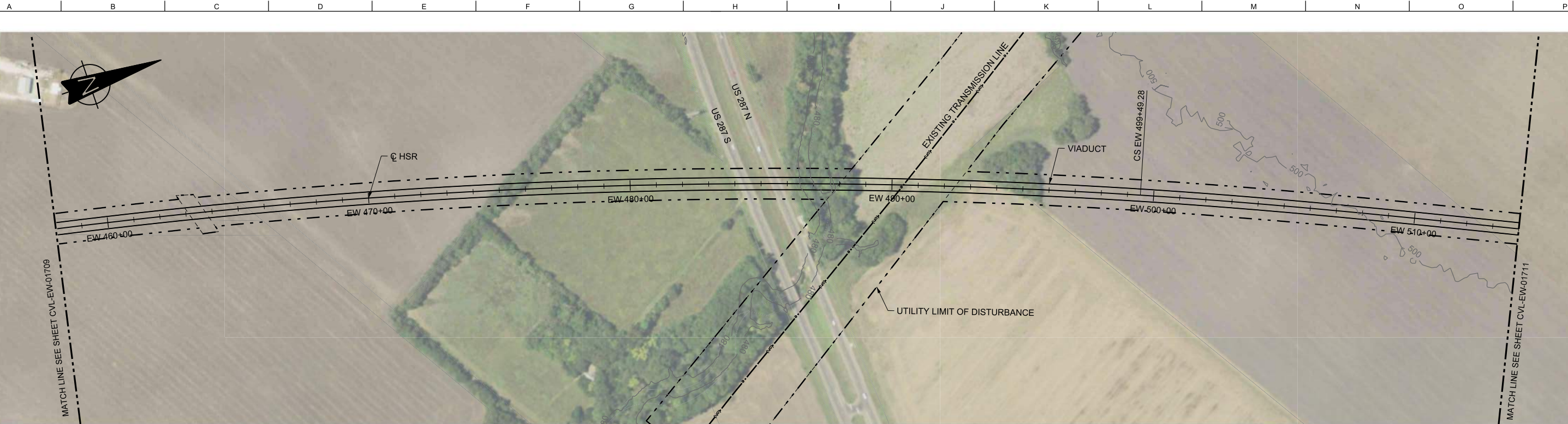
Drawing Title

**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 402+00 TO EW 458+00**

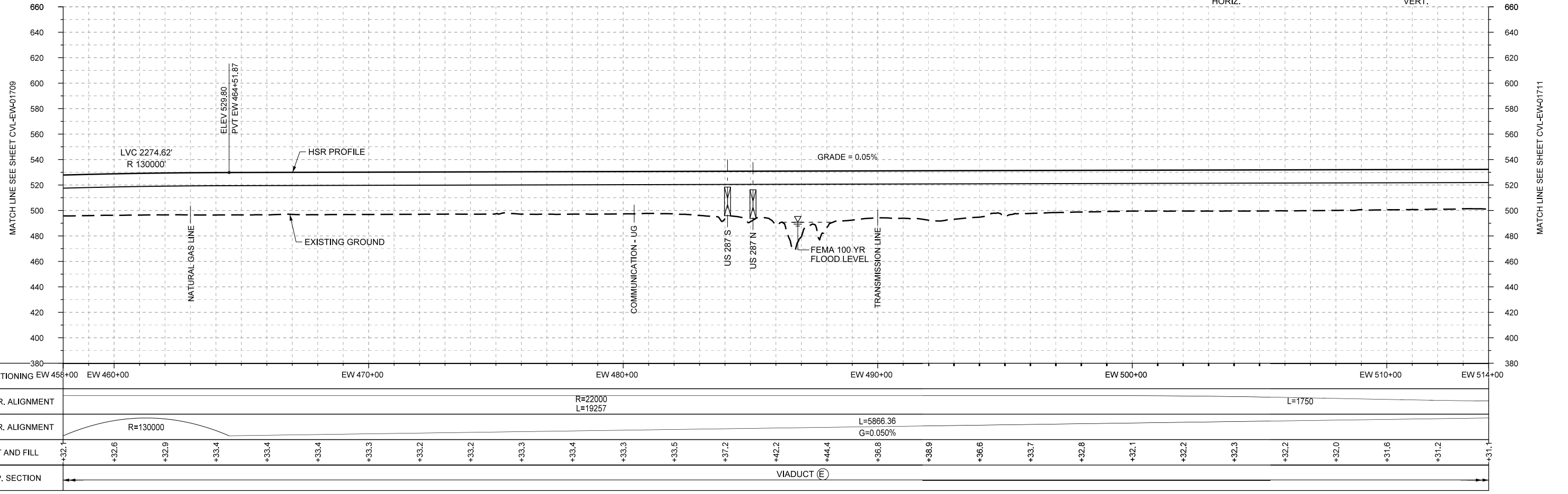
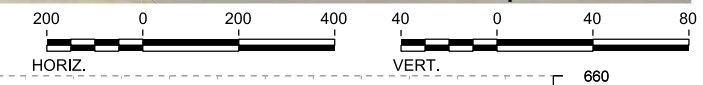
Scale
AS SHOWN

Drawing Status
FINAL

Job No 234180	Drawing No CVL-EW-01709	Rev 01
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PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

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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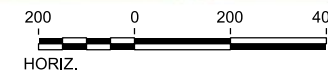
Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 458+00 TO EW 514+00**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-EW-01710	Rev 01



1
2
3
4
5
6
7
8
9
10

PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

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

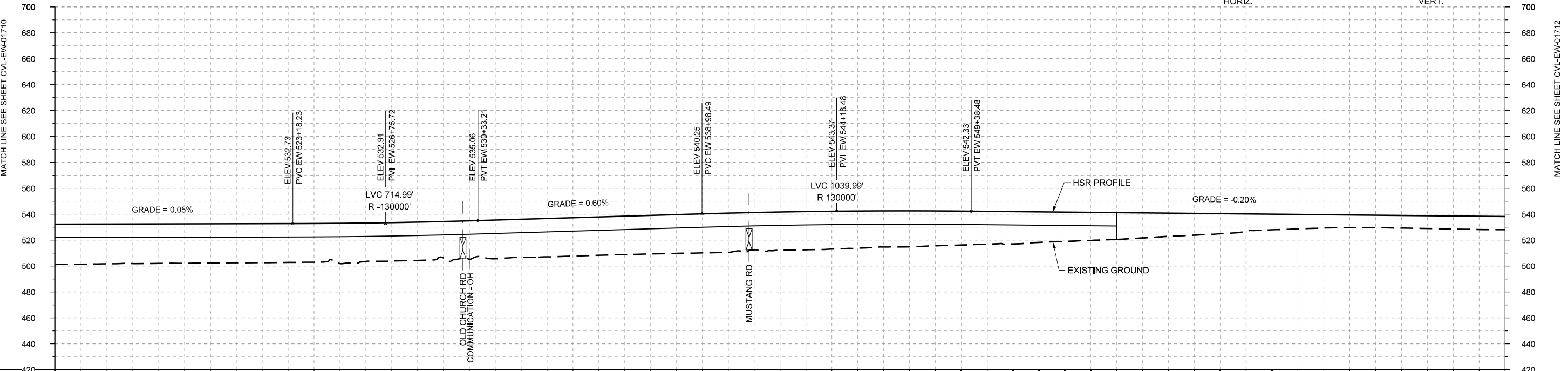
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-EW-01710-A	Rev 01



PLAN



PROFILE

STATIONING	EW 514+00	EW 520+00	EW 530+00	EW 540+00	EW 550+00	EW 560+00	EW 570+00	
HOR. ALIGNMENT	L=1750		L=4307			L=1100		
VER. ALIGNMENT	L=5866.36 G=0.050%		L=865.28 G=0.600%			L=2800.55 G=-0.200%		
CUT AND FILL	+31.1	+30.7	+30.5	+30.3	+30.1	+29.9	+29.6	
TYP. SECTION	VIADUCT (E)						EMBANKMENT (A)	

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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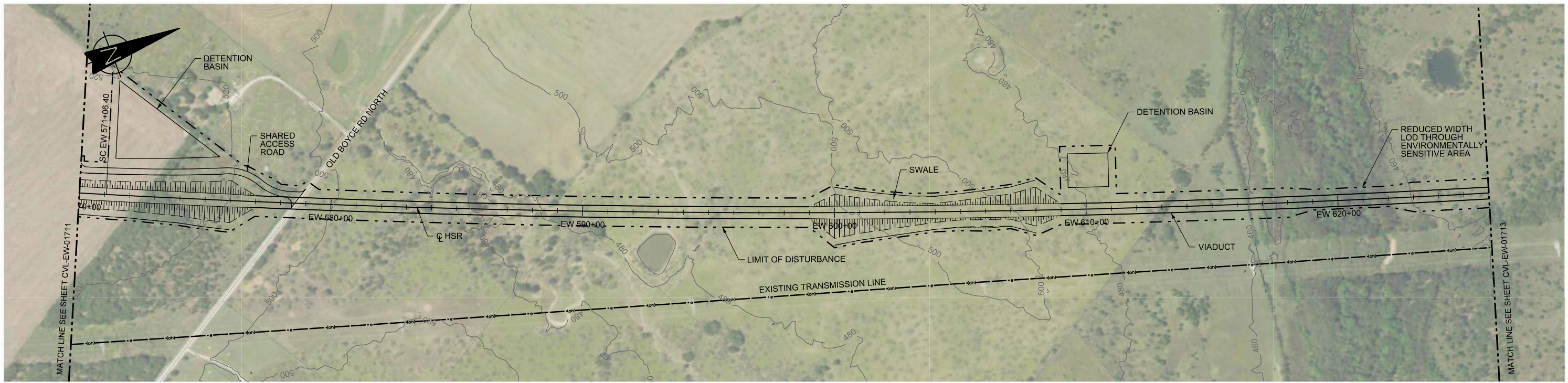
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

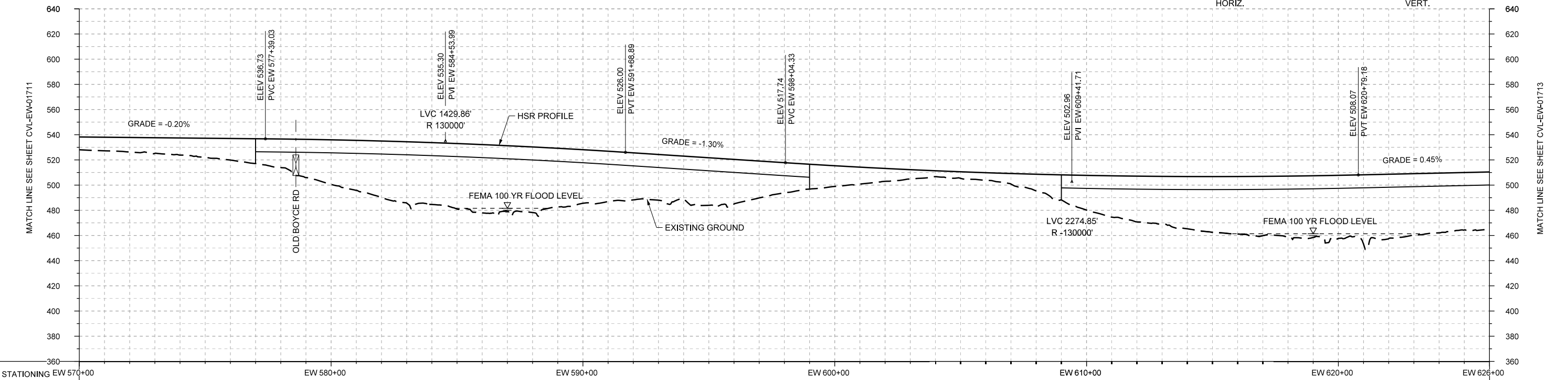
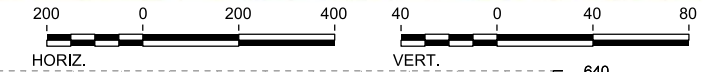
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 514+00 TO EW 570+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-EW-01711	01	



PLAN



PROFILE

STATIONING	EW 570+00		EW 580+00	EW 590+00	EW 600+00	EW 610+00	EW 620+00	EW 626+00																					
HOR. ALIGNMENT	L=1100																												
VER. ALIGNMENT	L=2800.55 G=-0.200%		R=130000			L=635.44 G=-1.300%		L=2295.12 G=0.450%																					
CUT AND FILL	+10.2	+11.5	+13.6	+17.1	+22.7	+35.4	+44.7	+49.1	+54.3	+52.1	+42.5	+37.4	+34.4	+35.4	+23.9	+16.4	+10.2	+4.7	+6.1	+13.2	+27.6	+36.3	+41.5	+45.7	+48.8	+50.1	+51.1	+47.5	+46.1
TYP. SECTION	EMBANKMENT (A)				VIADUCT (K)								EMBANKMENT (F)				VIADUCT (K)												

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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Dallas, Texas 75204
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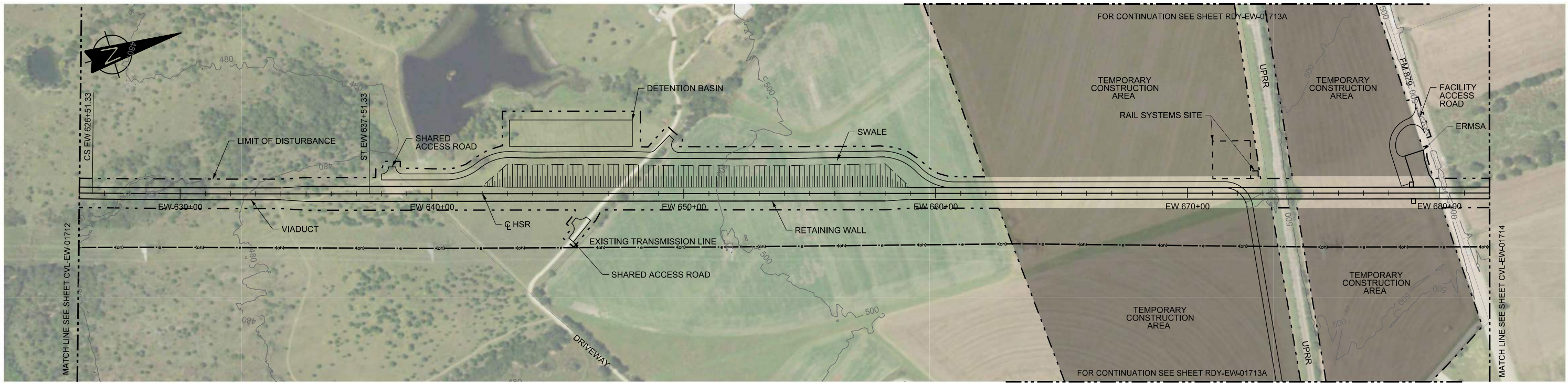
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

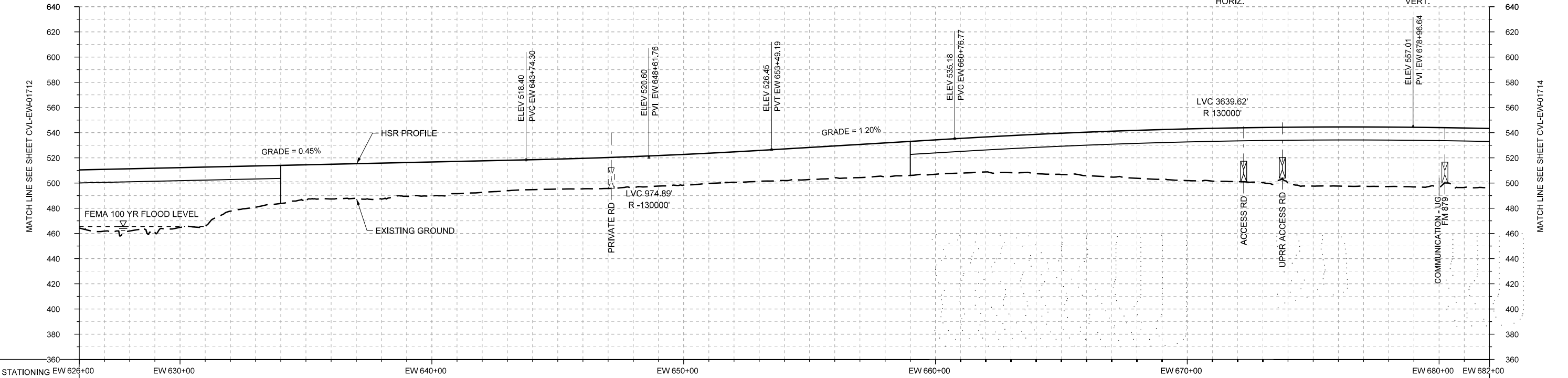
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 570+00 TO EW 626+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-EW-01712	01	



PLAN



PROFILE

STATIONING	EW 626+00	EW 630+00	EW 640+00	EW 650+00	EW 660+00	EW 670+00	EW 680+00	EW 682+00																				
HOR. ALIGNMENT	R=50000 L=1100		L=10994																									
VER. ALIGNMENT	L=5545		L=2295.12 G=0.450%		R=130000		L=727.58 G=1.200% R=130000																					
CUT AND FILL	+46.1	+49.4	+47.5	+35.4	+30.2	+27.5	+28.6	+26.9	+25.0	+23.7	+24.2	+24.6	+24.3	+24.1	+25.1	+25.4	+27.0	+27.3	+27.8	+31.3	+34.6	+38.0	+41.1	+42.7	+44.6	+46.9	+47.2	+47.1
TYP. SECTION	VIADUCT (K)			RETAINED FILL (G)			EMBANKMENT (F)			VIADUCT (K)																		

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS
DRAWN BY
J. BORGHESI
CHECKED BY
T. WAGNER
IN CHARGE
C. TAYLOR
DATE
02/25/2019

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Arup Texas, Inc.
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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
**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 626+00 TO EW 682+00**

Scale	AS SHOWN
Drawing Status	FINAL
Job No	234180
Drawing No	CVL-EW-01713
Rev	01



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

ARUP

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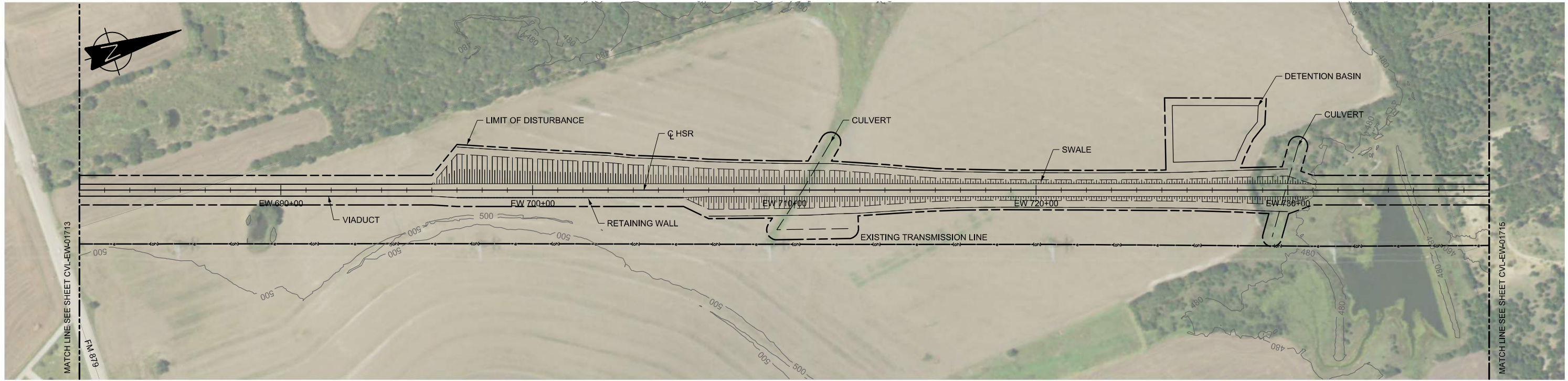
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
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Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

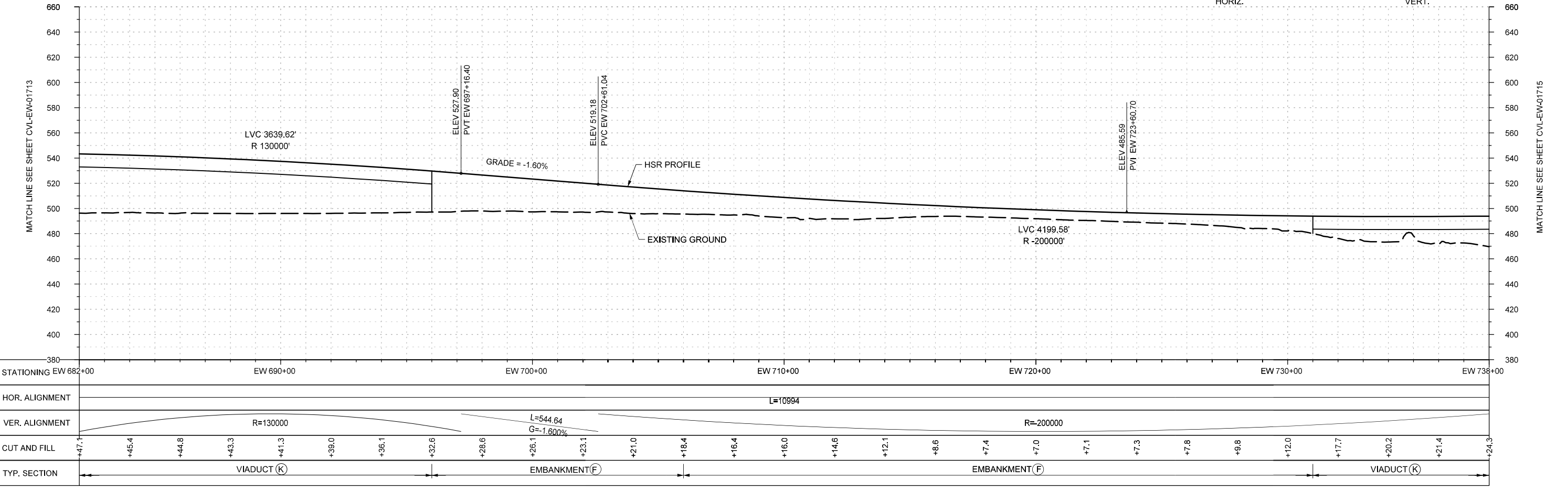
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
CIVIL HIGHWAY
PLAN
EW 655+00 to EW 683+00**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No RDY-EW-01713A	Rev 01



PLAN



PROFILE

DESIGNED BY R. BURNS
DRAWN BY J. BORGHESI
CHECKED BY T. WAGNER
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

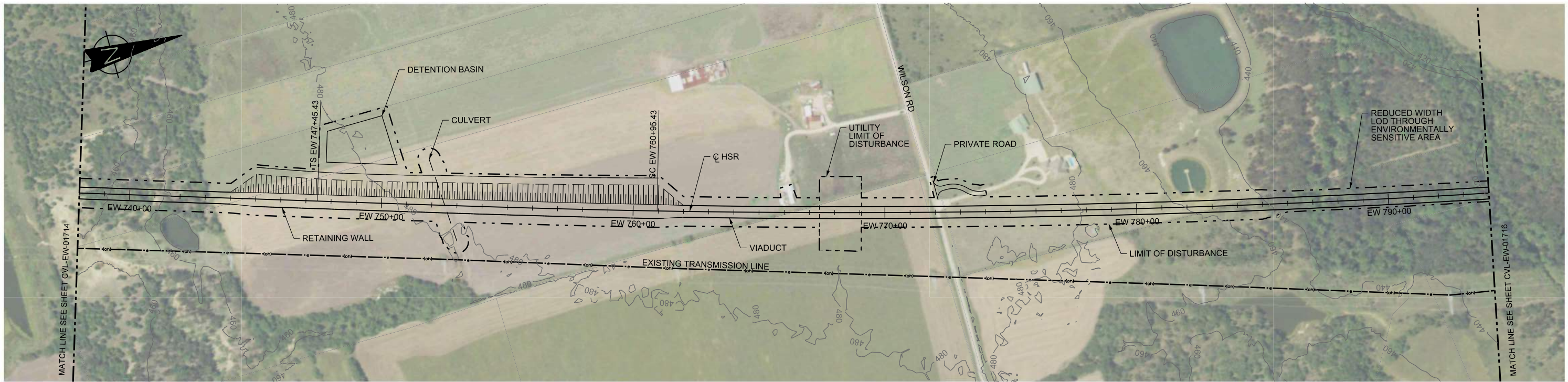
Drawing Title

**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 682+00 TO EW 738+00**

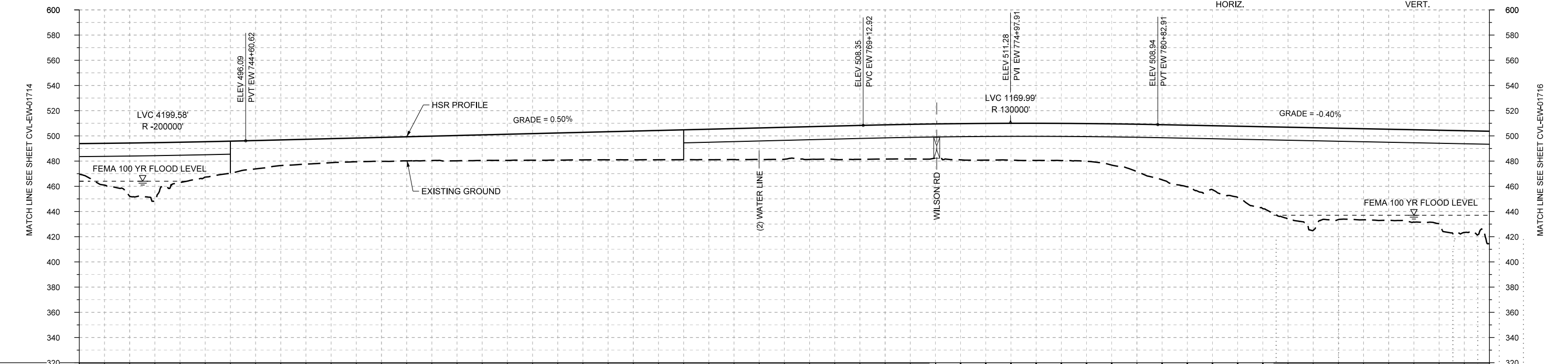
Scale
AS SHOWN

Drawing Status
FINAL

Job No 234180	Drawing No CVL-EW-01714	Rev 01
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PLAN



PROFILE

STATIONING	EW 738+00	EW 740+00	EW 750+00	EW 760+00	EW 770+00	EW 780+00	EW 790+00	EW 794+00																					
HOR. ALIGNMENT	L=10994		L=1350			L=4120.49																							
VER. ALIGNMENT	R=200000		L=2452.30 G=0.500%			R=130000 L=4166 G=-0.400%																							
CUT AND FILL	+24.3	+42.2	+32.0	+25.4	+20.3	+19.1	+19.0	+19.4	+20.3	+21.1	+21.9	+22.8	+23.7	+24.6	+25.3	+26.5	+27.2	+27.2	+29.1	+29.5	+30.0	+37.7	+48.9	+56.6	+73.1	+72.5	+72.3	+74.2	+85.0
TYP. SECTION	VIADUCT (K)		EMBANKMENT (F)										VIADUCT (K)																

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

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

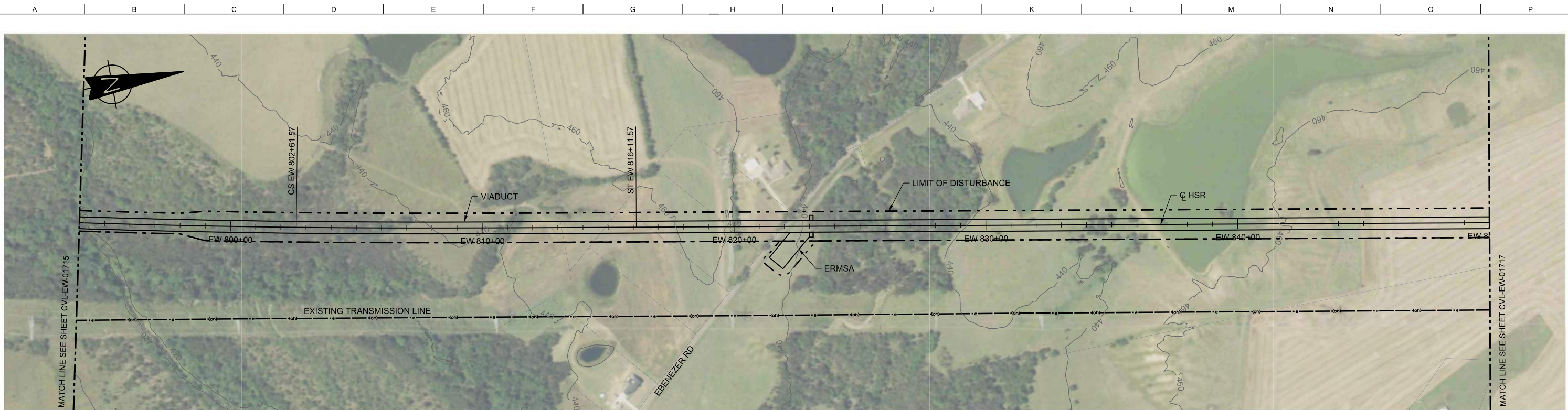
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 738+00 TO EW 794+00**

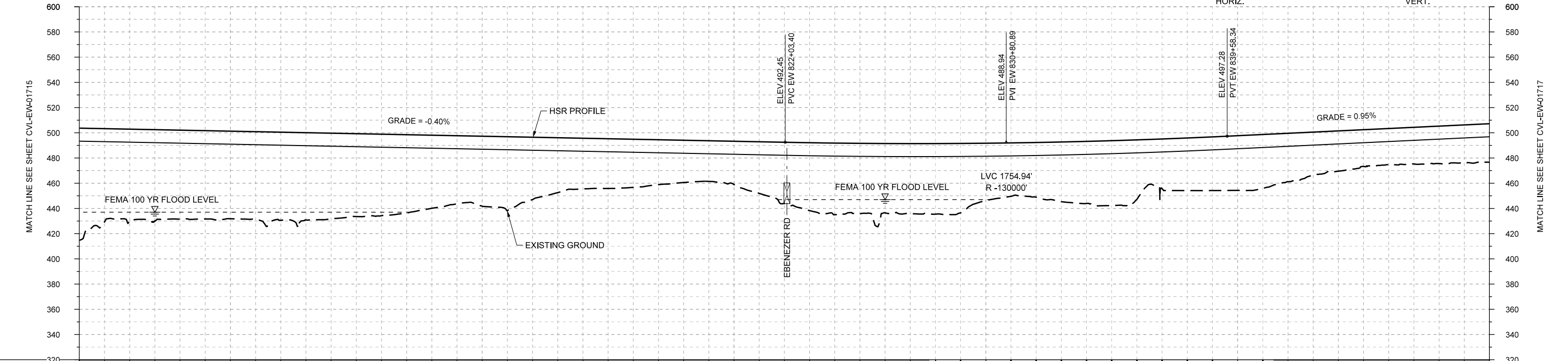
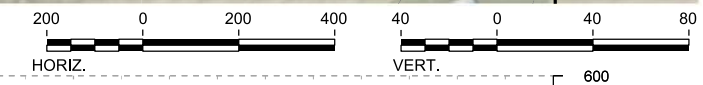
Scale
AS SHOWN

Drawing Status
FINAL

Job No	Drawing No	Rev
234180	CVL-EW-01715	01



PLAN



PROFILE

STATIONING	EW 794+00	EW 800+00	EW 810+00	EW 820+00	EW 830+00	EW 840+00	EW 850+00																						
HOR. ALIGNMENT																													
VER. ALIGNMENT		R=42000 L=4166	L=1350	L=4120.49 G=-0.400%		R=130000 L=21355	L=1244.49 G=0.950%																						
CUT AND FILL	+89.0	+72.6	+70.6	+69.5	+69.9	+66.0	+64.7	+58.0	+55.5	+49.5	+40.3	+36.2	+33.5	+34.3	+48.6	+58.8	+55.0	+56.0	+45.5	+43.4	+49.2	+47.2	+41.8	+43.4	+38.4	+32.0	+28.9	+29.6	+30.6
TYP. SECTION	VIADUCT (K)																												

DESIGNED BY	R. BURNS
DRAWN BY	J. BORGHESI
CHECKED BY	T. WAGNER
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

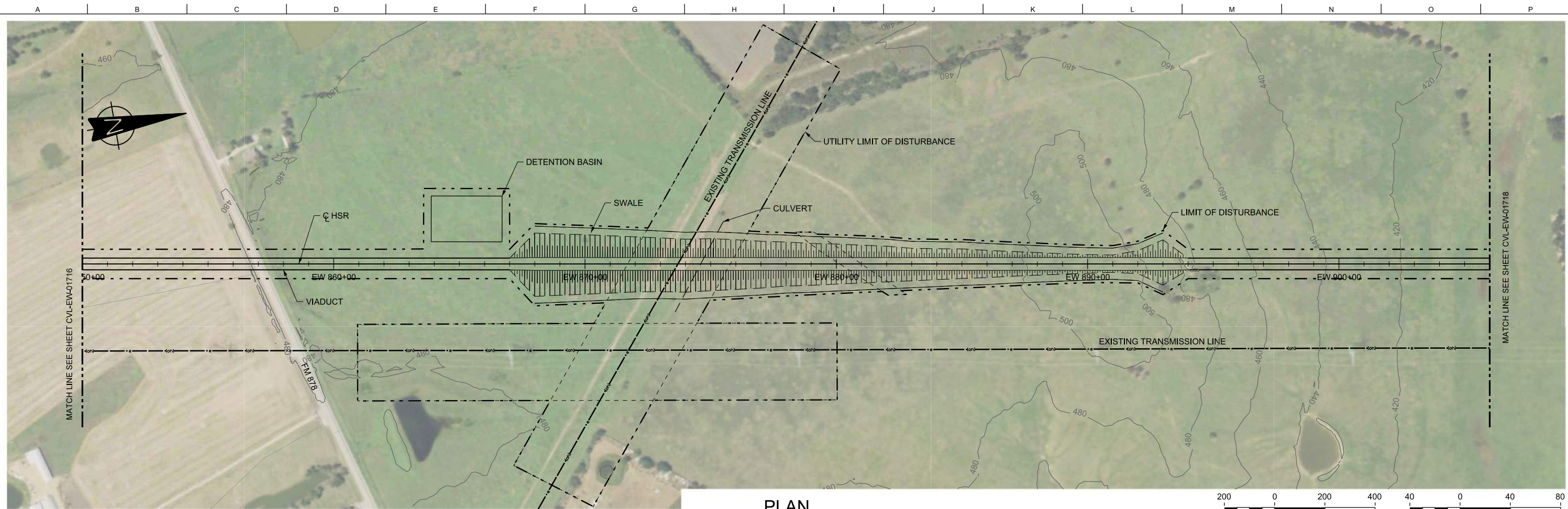
Drawing Title

**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 794+00 TO EW 850+00**

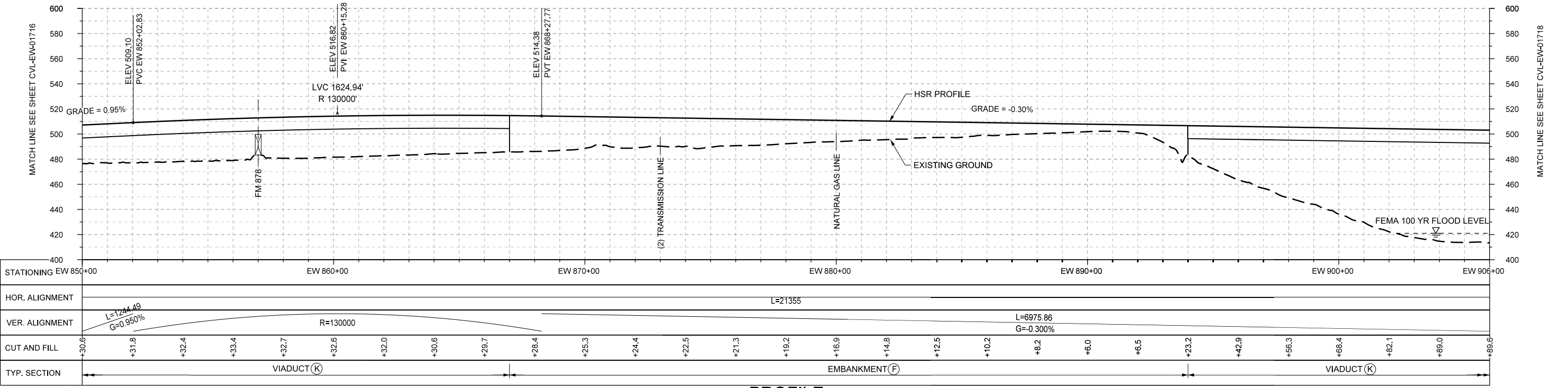
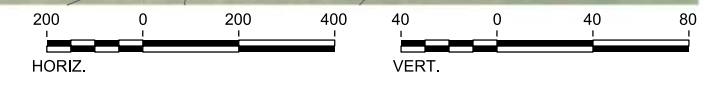
Scale
AS SHOWN

Drawing Status
FINAL

Job No	Drawing No	Rev
234180	CVL-EW-01716	01



PLAN



PROFILE

STATIONING	EW 850+00	EW 860+00	EW 870+00	EW 880+00	EW 890+00	EW 900+00	EW 906+00																						
HOR. ALIGNMENT																													
VER. ALIGNMENT	$L=1244.49$ $G=0.950\%$ $R=130000$ $L=21355$ $L=6975.86$ $G=-0.300\%$																												
CUT AND FILL	+30.6	+31.8	+32.4	+33.4	+32.7	+32.6	+32.0	+30.6	+29.7	+28.4	+25.3	+24.4	+22.5	+21.3	+19.2	+16.9	+14.8	+12.5	+10.2	+8.2	+6.0	+6.5	+23.2	+42.9	+56.3	+68.4	+82.1	+89.0	+89.6
TYP. SECTION	VIADUCT (K)										EMBANKMENT (F)										VIADUCT (K)								

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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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

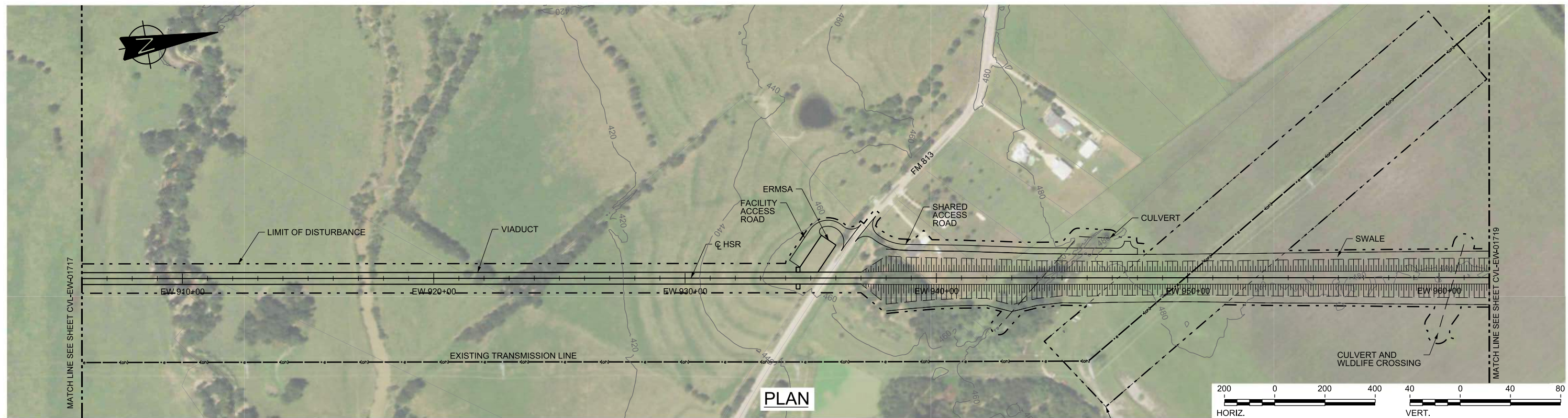
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 2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75204
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 www.freese.com
 Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
 FINAL CONCEPTUAL ENGINEERING

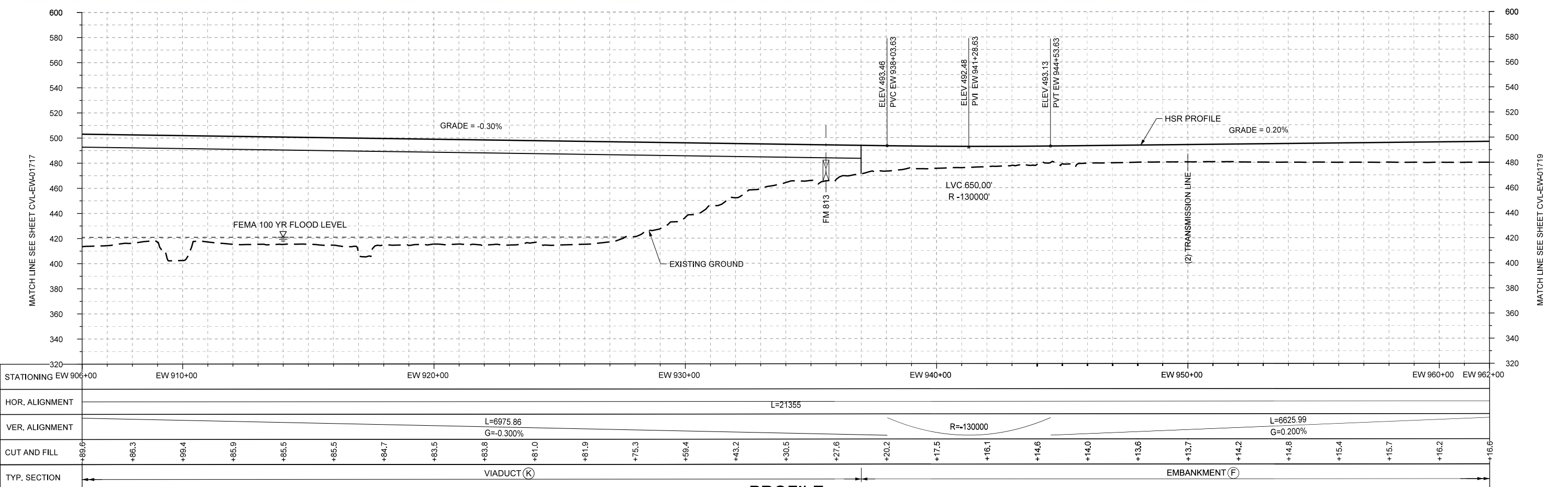
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
 CIVIL
 PLAN AND PROFILE
 EW 850+00 TO EW 906+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-EW-01717	01	



PLAN



PROFILE

STATIONING	EW 906+00	EW 910+00	EW 920+00	EW 930+00	EW 940+00	EW 950+00	EW 960+00	EW 962+00																				
HOR. ALIGNMENT	L=21355																											
VER. ALIGNMENT	L=6975.86 G=-0.300%																											
CUT AND FILL	+89.6	+86.3	+99.4	+85.9	+85.5	+84.7	+83.5	+83.8	+81.0	+81.9	+75.3	+59.4	+43.2	+30.5	+27.6	+20.2	+17.5	+16.1	+14.6	+14.0	+13.6	+13.7	+14.2	+14.8	+15.4	+15.7	+16.2	+16.6
TYP. SECTION	VIADUCT (K)												EMBANKMENT (F)															

DESIGNED BY	R. BURNS
DRAWN BY	J. BORGHESI
CHECKED BY	T. WAGNER
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

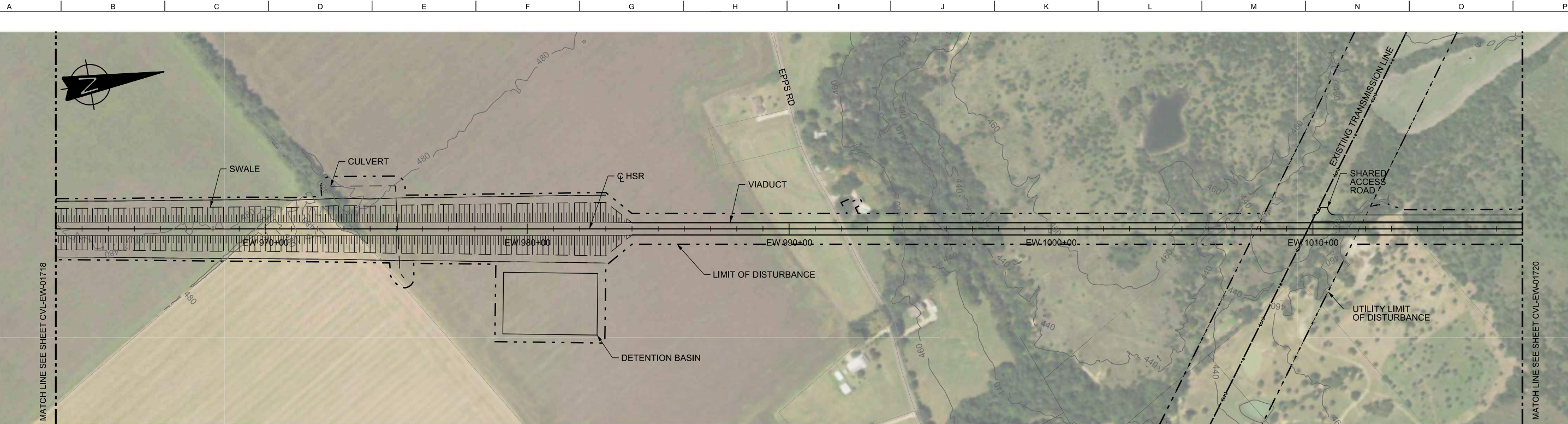
Drawing Title

**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 906+00 TO EW 962+00**

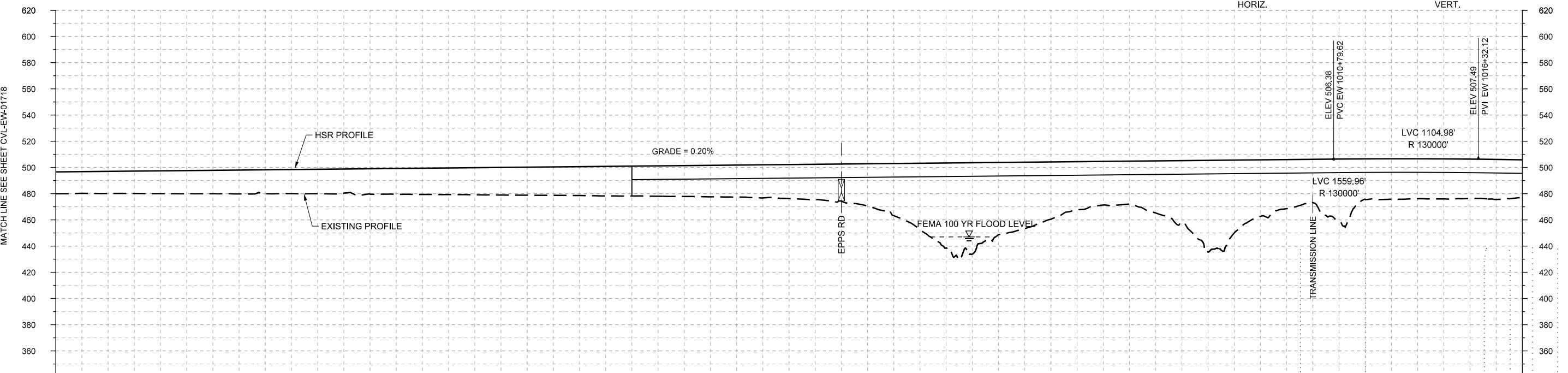
Scale
AS SHOWN

Drawing Status
FINAL

Job No	Drawing No	Rev
234180	CVL-EW-01718	01



PLAN



PROFILE

STATIONING	EW 962+00		EW 970+00	EW 980+00	EW 990+00	EW 1000+00	EW 1010+00	EW 1018+00																					
HOR. ALIGNMENT	L=21355																												
VER. ALIGNMENT	L=6625.99 G=0.200%																												
CUT AND FILL	+16.6	+16.8	+17.3	+17.8	+18.2	+18.6	+19.3	+20.0	+20.7	+21.4	+22.0	+22.8	+23.6	+24.5	+25.9	+28.4	+39.8	+64.8	+55.1	+43.7	+33.2	+39.7	+69.9	+43.1	+33.0	+31.0	+30.4	+30.0	+28.8
TYP. SECTION	EMBANKMENT (F)												VIADUCT (E)																

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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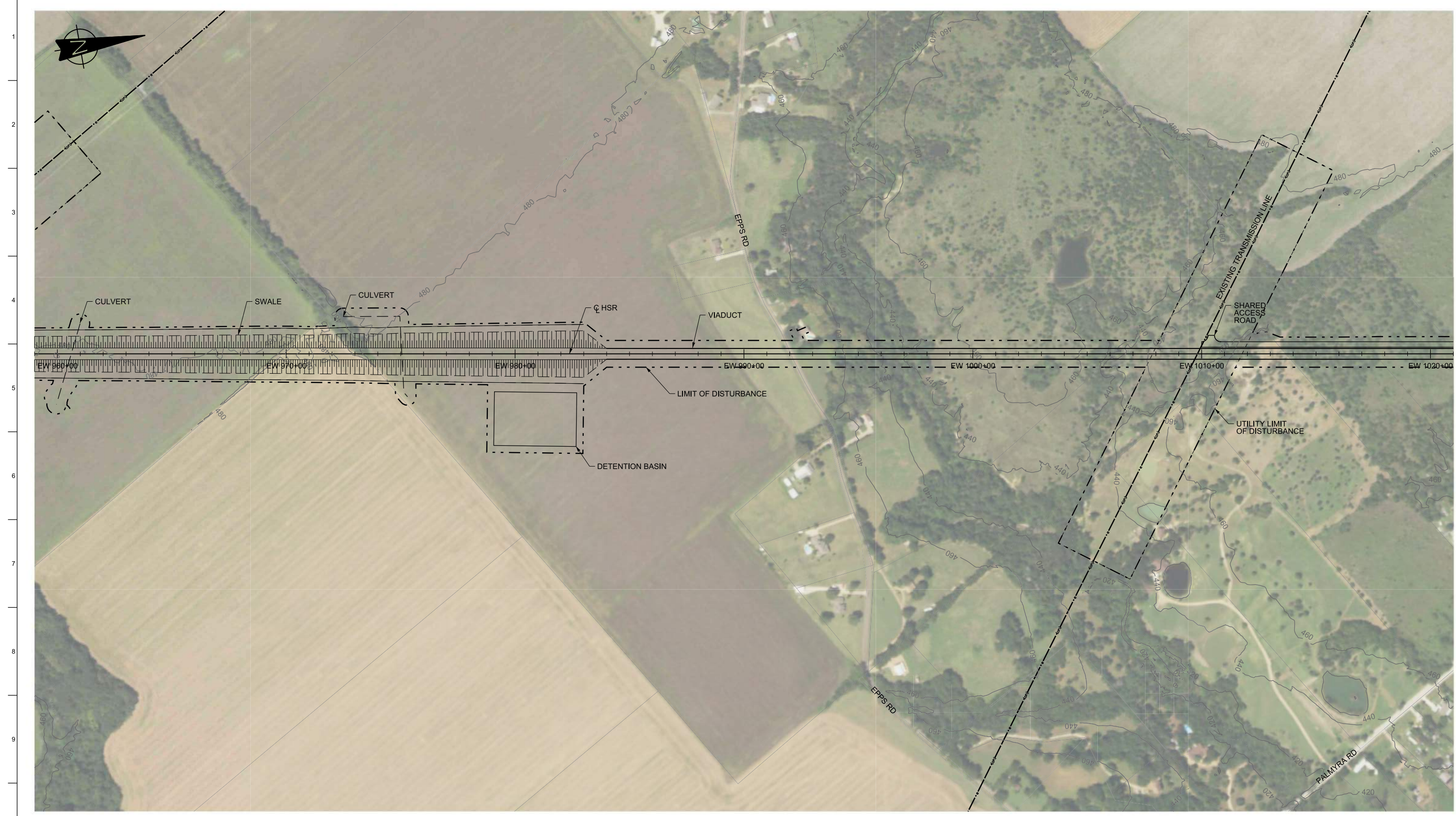
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

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

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 962+00 TO EW 1018+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-EW-01719	01	



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PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

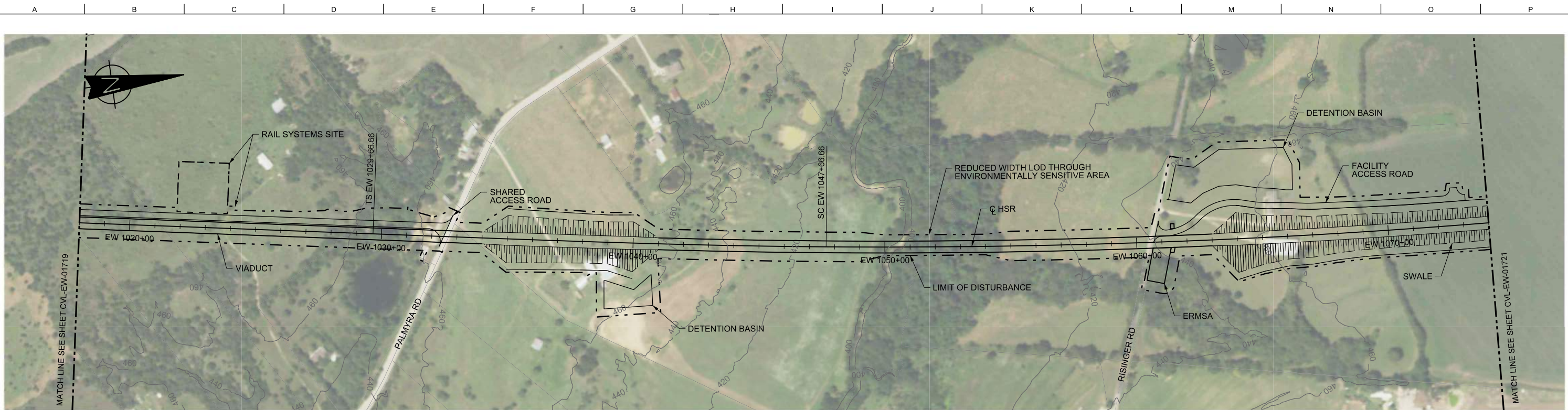
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN**

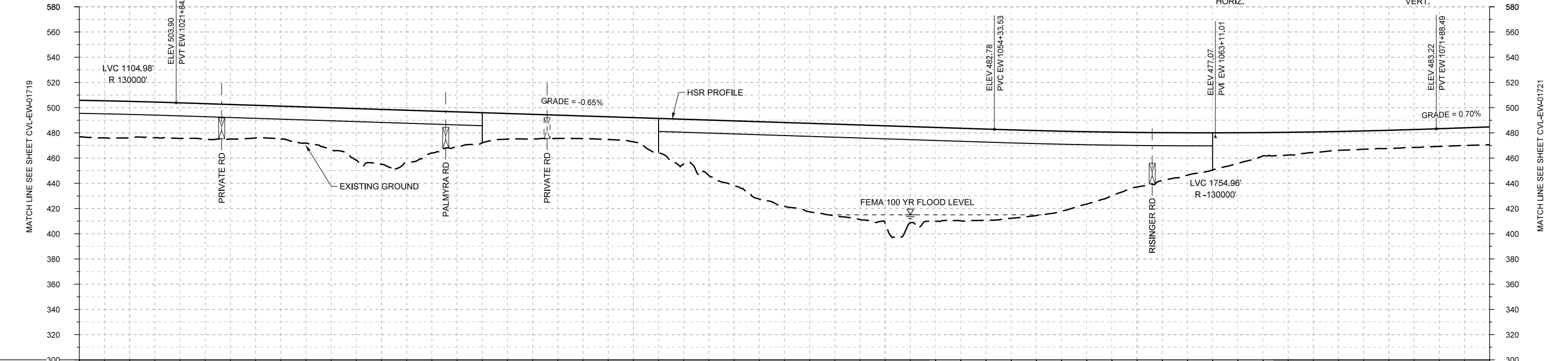
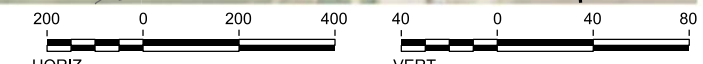
Scale
AS SHOWN

Drawing Status
FINAL

Job No 234180	Drawing No CVL-EW-01719-A	Rev 01
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PLAN



PROFILE

STATIONING	EW 1018+00	EW 1020+00	EW 1030+00	EW 1040+00	EW 1050+00	EW 1060+00	EW 1070+00	EW 1074+00	
HOR. ALIGNMENT	L=21355		L=1800		L=3248.92 G=-0.650%		R=30000 L=17831		
VER. ALIGNMENT	R=130000		L=3248.92 G=-0.650%		R=30000 L=17831		R=130000		
CUT AND FILL	+28.8	+29.1	+28.2	+27.4	+26.1	+33.1	+43.5	+33.3	
TYP. SECTION	VIADUCT (E)			EMBANKMENT (A)			VIADUCT (E)		

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

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

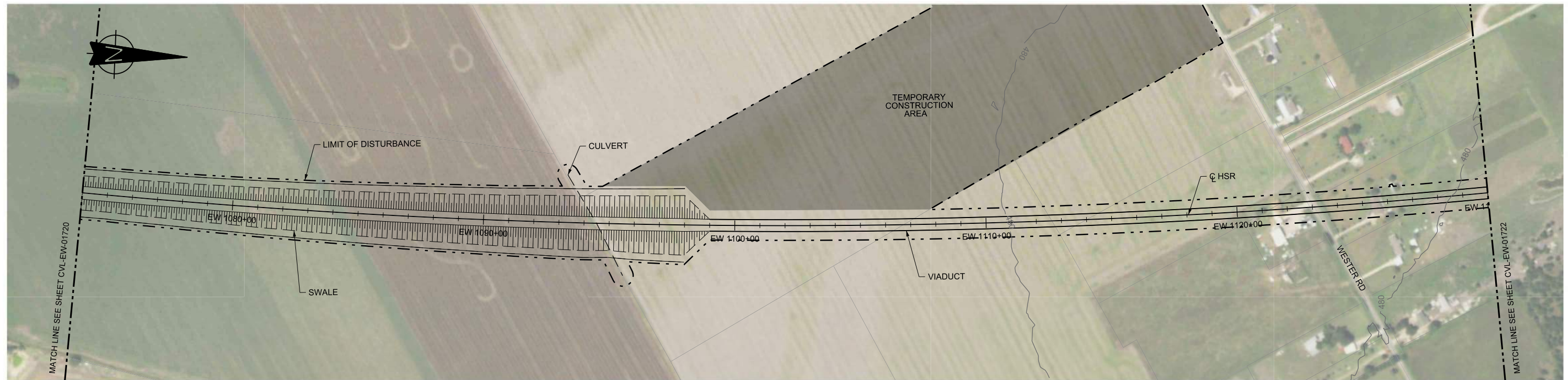
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 1018+00 TO EW 1074+00**

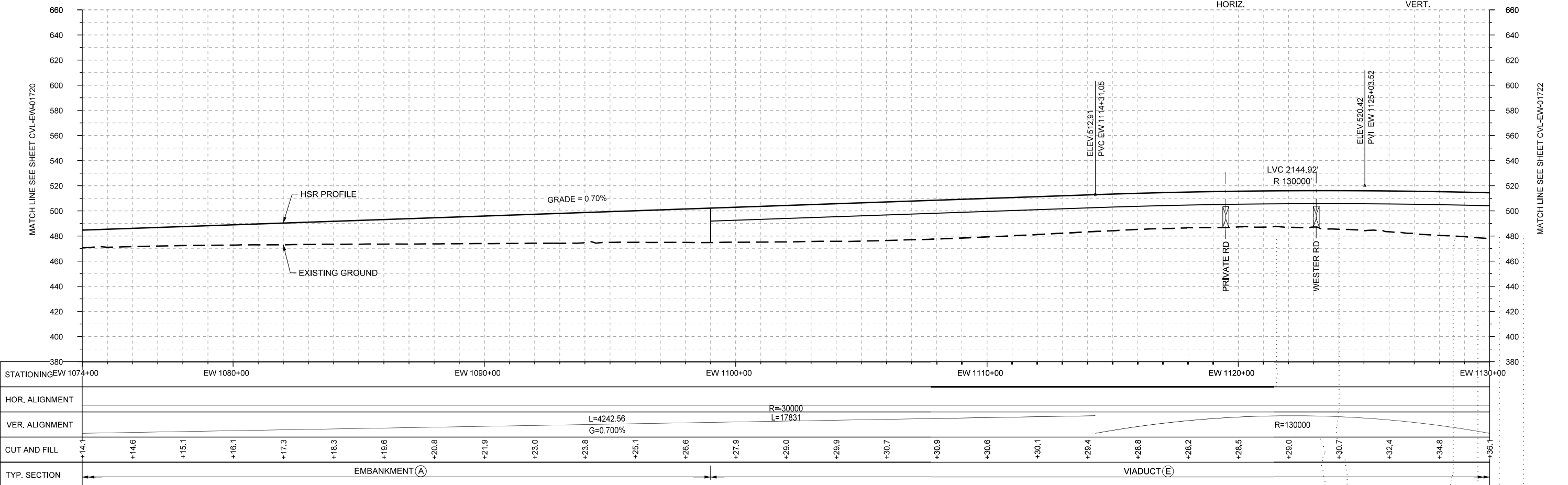
Scale
AS SHOWN

Drawing Status
FINAL

Job No	Drawing No	Rev
234180	CVL-EW-01720	01



PLAN



PROFILE

STATIONING	EW 1074+00	EW 1080+00	EW 1090+00	EW 1100+00	EW 1110+00	EW 1120+00	EW 1130+00																						
HOR. ALIGNMENT																													
VER. ALIGNMENT	L=4242.56 R=30000 L=17831																												
CUT AND FILL	+14.1	+14.6	+15.1	+16.1	+17.3	+18.3	+19.6	+20.8	+21.9	+23.0	+23.8	+25.1	+26.6	+27.9	+29.0	+29.9	+30.7	+30.9	+30.6	+30.1	+29.4	+28.8	+28.2	+28.5	+29.0	+30.7	+32.4	+34.8	+36.1
TYP. SECTION	EMBANKMENT (A)										VIADUCT (E)																		

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

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

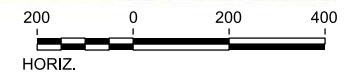
Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 1074+00 TO EW 1130+00**

Scale	AS SHOWN
Drawing Status	FINAL
Job No	234180
Drawing No	CVL-EW-01721
Rev	01



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PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL

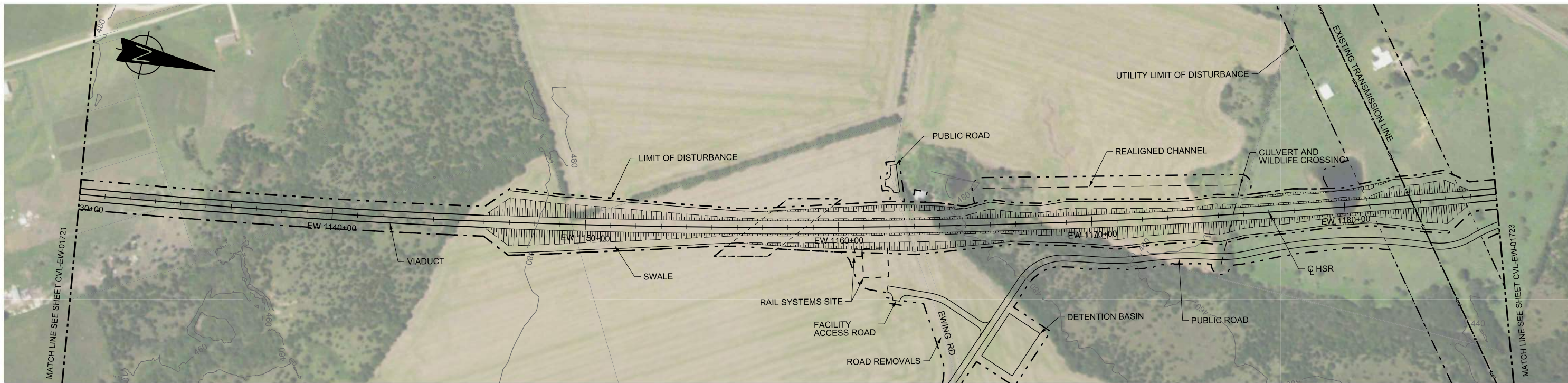
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN**

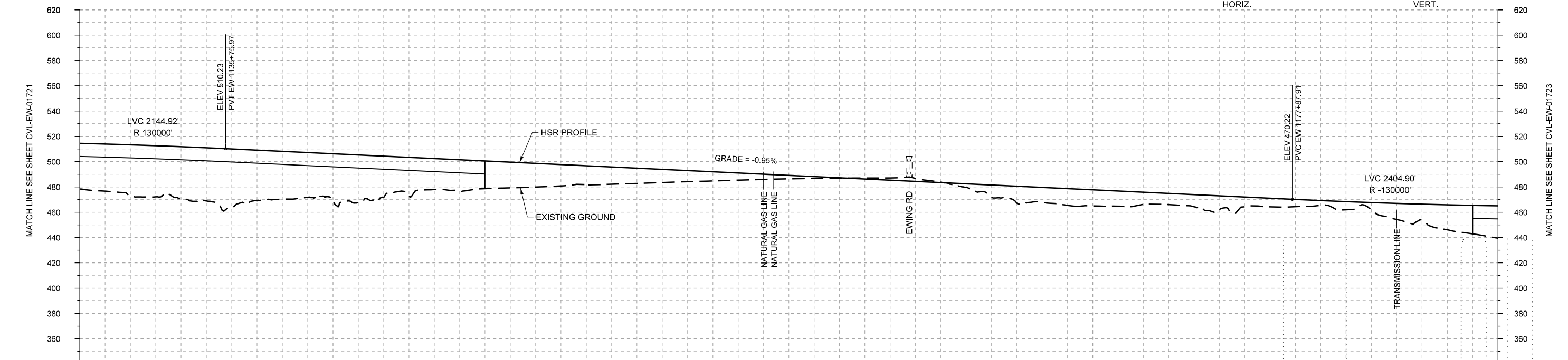
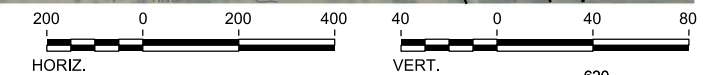
Scale
AS SHOWN

Drawing Status
FINAL

Job No 234180	Drawing No CVL-EW-01721-A	Rev 01
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PLAN



PROFILE

STATIONING	EW 1130+00	EW 1140+00	EW 1150+00	EW 1160+00	EW 1170+00	EW 1180+00	EW 1186+00																						
HOR. ALIGNMENT																													
VER. ALIGNMENT	$R=30000$ $L=17831$ $L=4211.94$ $G=-0.950\%$																												
CUT AND FILL	+36.1	+40.9	+40.6	+46.9	+37.8	+36.1	+32.6	+24.5	+21.9	+18.7	+14.9	+12.0	+8.7	+5.6	+2.7	+0.3	-1.8	-0.3	+9.5	+11.8	+12.7	+9.6	+9.6	+7.7	+5.7	+6.5	+12.7	+19.7	+25.5
TYP. SECTION	VIADUCT (E)			EMBANKMENT (A)										CUT (C)			EMBANKMENT (A)			(E)									

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

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
**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 1130+00 TO EW 1186+00**

Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	Drawing No	Rev	
234180	CVL-EW-01722	01	



PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019



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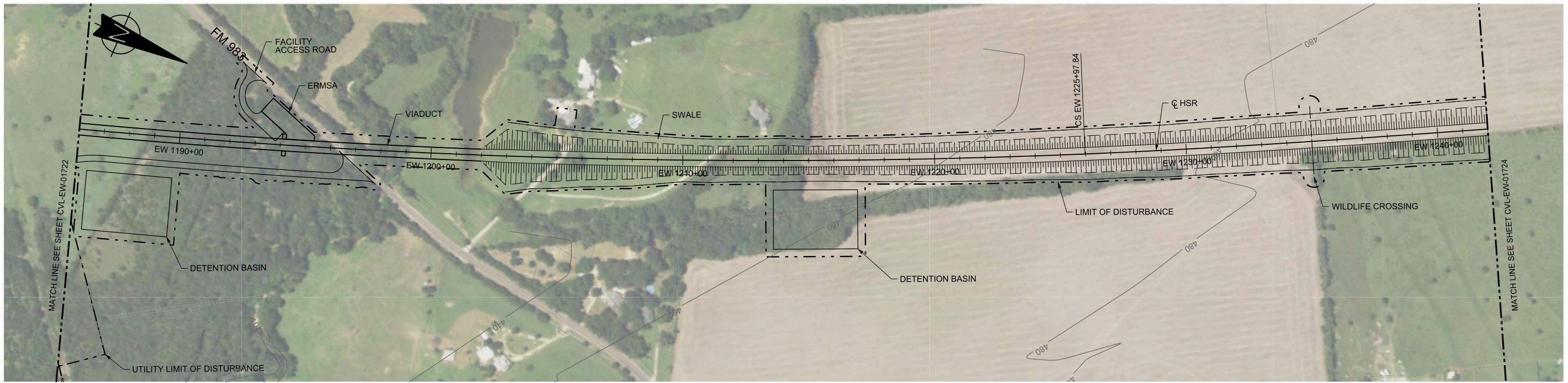
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING



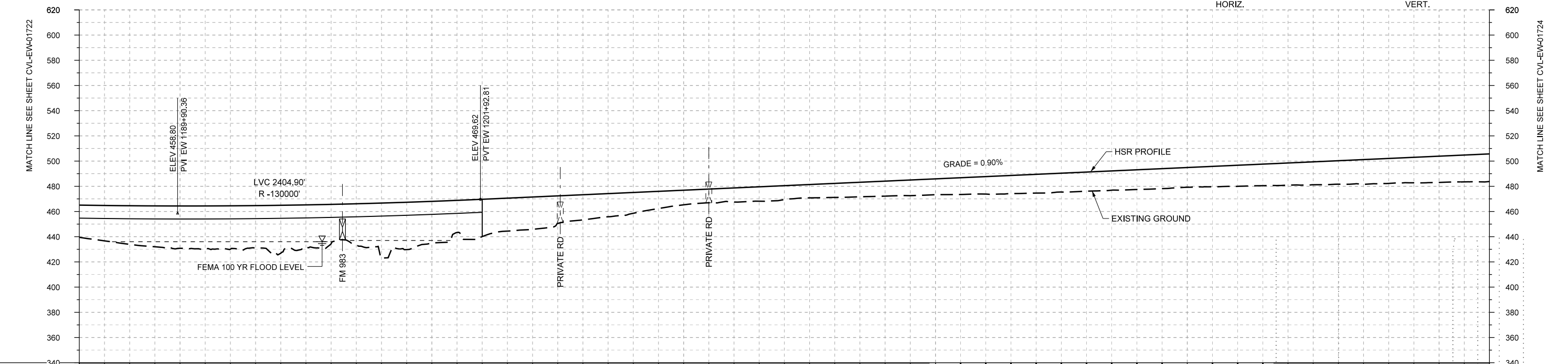
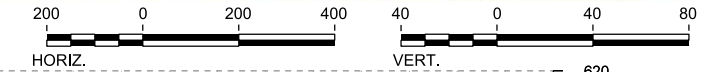
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN**

Scale AS SHOWN		
Drawing Status FINAL		
Job No 234180	Drawing No CVL-EW-01722-A	Rev 01



PLAN



PROFILE

STATIONING	EW 1186+00	EW 1190+00	EW 1200+00	EW 1210+00	EW 1220+00	EW 1230+00	EW 1240+00	EW 1242+00																					
HOR. ALIGNMENT	R=300000 L=17831																												
VER. ALIGNMENT	L=4432.81 G=0.900%																												
CUT AND FILL	+25.5	+30.6	+33.7	+34.4	+38.1	+31.3	+43.7	+33.1	+29.6	+25.7	+19.9	+16.5	+11.6	+11.2	+11.0	+11.1	+11.9	+12.6	+13.9	+14.9	+15.2	+15.7	+15.7	+16.7	+17.6	+18.6	+19.8	+20.9	+22.0
TYP. SECTION	VIADUCT (E)										EMBANKMENT (A)																		

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
R. BURNS

DRAWN BY
J. BORGHESI

CHECKED BY
T. WAGNER

IN CHARGE
C. TAYLOR

DATE
02/25/2019

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Texas Registered Engineering Firm: F-1990

FREESSE & NICHOLS

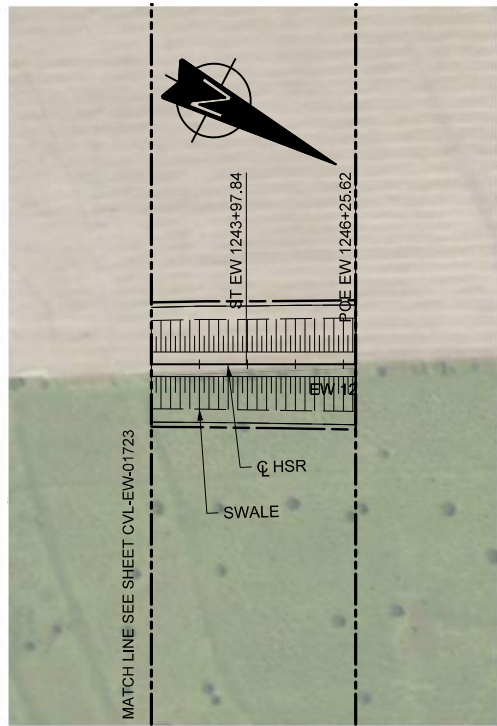
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DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

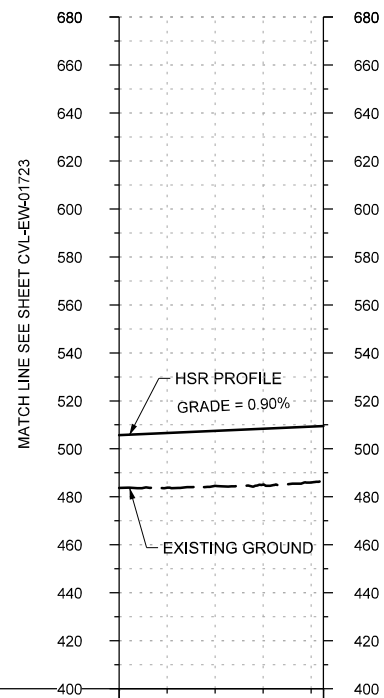
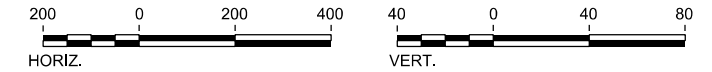
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
**ELLIS WEST SEGMENT
CIVIL
PLAN AND PROFILE
EW 1186+00 TO EW 1242+00**

Scale AS SHOWN	Drawing Status FINAL
Job No 234180	Drawing No CVL-EW-01723
Rev 01	



PLAN



STATIONING	EW 1242+00	EW 1246+26
HOR. ALIGNMENT	L=1800	L=228
VER. ALIGNMENT	L=4432.81 G=0.900%	
CUT AND FILL	+22.0	+22.9
TYP. SECTION	EMBANKMENT (A)	

PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY	R. BURNS
DRAWN BY	J. BORGHESI
CHECKED BY	T. WAGNER
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	ELLIS WEST SEGMENT CIVIL PLAN AND PROFILE EW 1242+00 TO EW 1246+26		
Scale	AS SHOWN		
Drawing Status	FINAL		
Job No	234180	Drawing No	CVL-EW-01724
Rev			01