

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

**Appendix G:  
Dallas to Houston High-Speed Rail  
Passenger Service from Houston to Dallas  
Final Draft Conceptual Engineering  
Plans and Details  
Set 10 of 21**



**TEXAS  
CENTRAL**

## Transmittal

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

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

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

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

These are transmitted as checked below:

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

**REMARKS:**

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



Delivered VIA     Outlook Email     Hand Delivery     Courier     PMS Notification     USPS

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

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



**TEXAS  
CENTRAL**



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

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

SEPTEMBER 15, 2017



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

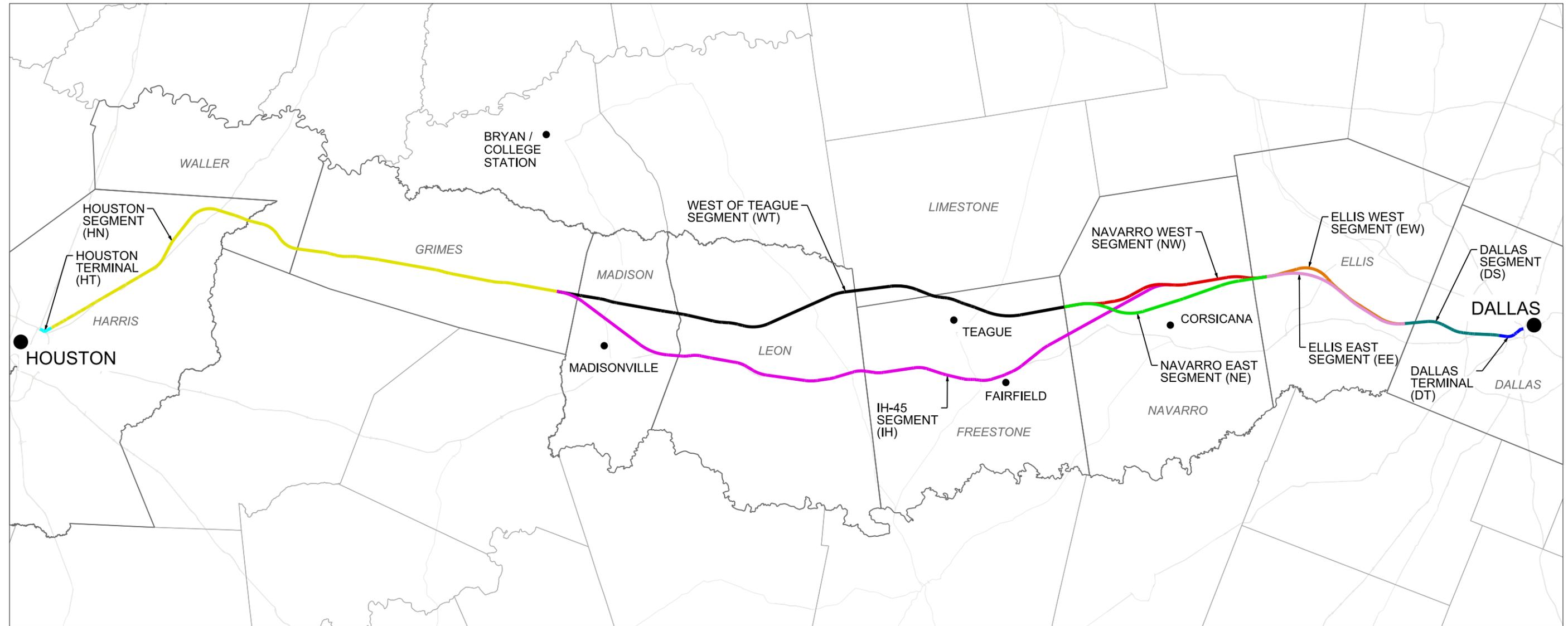
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COVER SHEET



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

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



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**D. THOMPSON**

DRAWN BY  
**D. THOMPSON**

CHECKED BY  
**R. BURNS**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**

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Client

**TEXAS CENTRAL**

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

Drawing Title

**GENERAL LOCATION PLAN**

Scale  
AS SHOWN

Drawing Status  
**FINAL DRAFT**

Job No <b>234180</b>	Drawing No <b>GEN-00-00002</b>	Rev <b>01</b>
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VOLUME 1 - GENERAL SHEETS & TYPICAL SECTIONS

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

VOLUME 2 - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Section: 2-1 HOUSTON SEGMENT. Lists drawing numbers and descriptions for Houston Segment alignment and profile sheets.

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Lists drawing numbers and descriptions for Houston Segment alignment and profile sheets, continuing from Volume 2.

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Lists drawing numbers and descriptions for West of Teague Segment alignment and profile sheets.

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

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



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

VOLUME 2 - RAILWAY ALIGNMENT PLAN AND PROFILE SHEETS

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

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

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

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

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



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

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

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

Table with columns: DRAWING NO., DRAWING DESCRIPTIONS. Includes sections for 2-6 ELLIS WEST SEGMENT, 2-7 ELLIS EAST SEGMENT, and 2-8 DALLAS SEGMENT.

VOLUME 3 - STATIONS, MAINTENANCE FACILITIES AND RAILWAY SYSTEMS SHEETS

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

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

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



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

Table with fields: Drawing Title (GENERAL INDEX SHEET 3 OF 5), Scale (NO SCALE), Drawing Status (FINAL DRAFT), Job No (234180), Drawing No (GEN-00-00005), Rev (01).

VOLUME 3 - STATIONS, MAINTENANCE FACILITIES AND RAILWAY SYSTEMS SHEETS

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

VOLUME 4 - ROADWAY PLAN SHEETS

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

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

Table with 5 columns: REV, DATE, BY, CHK, APP, DESCRIPTION. Revision table for the drawing.

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



Table with 3 columns: Field Name and Value. Includes Drawing Title (GENERAL INDEX SHEET 4 OF 5), Scale (NO SCALE), and Job No (234180).

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

VOLUME 4 - ROADWAY PLAN SHEETS

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

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

VOLUME 5 - WILDLIFE CROSSING SHEETS

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

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

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



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Drawing Title
GENERAL
INDEX SHEET 5 OF 5

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

**GENERAL NOTES:**

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

**BASEMAPPING NOTES:**

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

**LOD NOTES:**

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

**TRACK NOTES:**

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

**PLAN AND PROFILE GENERAL NOTES:**

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

**ROADWAY NOTES:**

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

**TYPICAL SECTIONS NOTES:**

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

**UTILITIES NOTES:**

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

**DRAINAGE NOTES:**

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

**STRUCTURES GENERAL NOTES:**

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

**SYSTEMS GENERAL NOTES:**

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

**FACILITY NOTES:**

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

**CONSTRUCTION CONSIDERATION NOTES:**

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

REV	DATE	BY	CHK	APP	DESCRIPTION

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



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Texas Registered Engineering Firm: F-2144



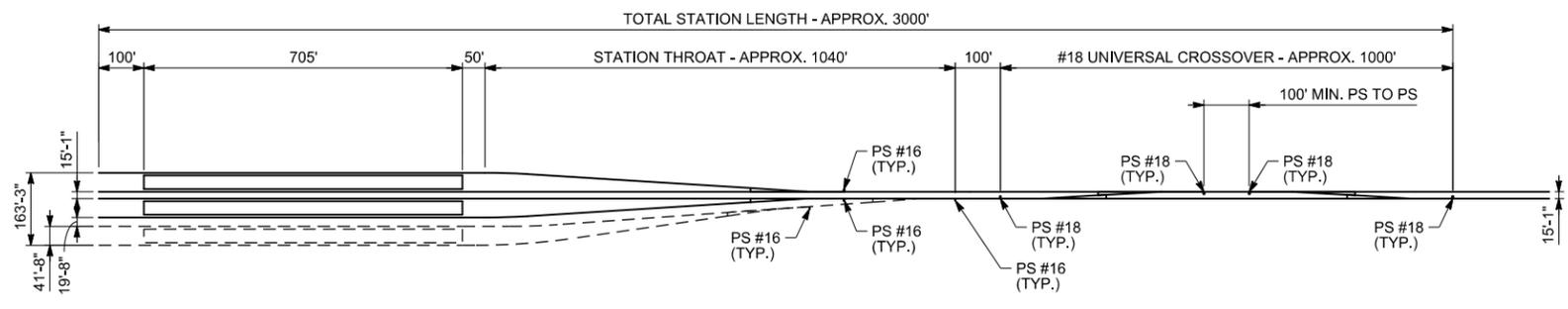
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Client  
Drawing Title  
**GENERAL NOTES**

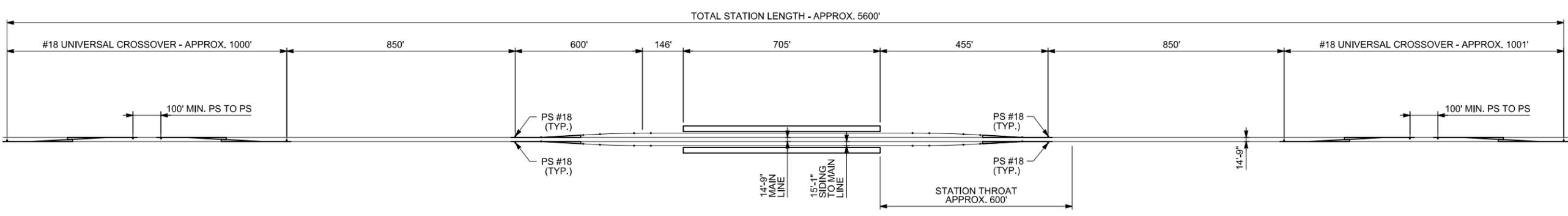
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Job No <b>234180</b>
Drawing No <b>GEN-00-00008</b>
Rev <b>01</b>



3-1  
STATIONS



**TYPICAL ISLAND STATION TRACK CONFIGURATION PLAN**



**TYPICAL SIDE STATION TRACK CONFIGURATION PLAN**

- NOTES:**
1. ALL DIMENSIONS APPROXIMATE EXCEPT TRACK SPACING.
  2. STATION INTERLOCKING GEOMETRY VARIES BASED ON SITE SPECIFIC LAYOUTS, SEE ALIGNMENT DRAWINGS.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**J. HAMMOND**

DRAWN BY  
**C. ZWIEBEL**

CHECKED BY  
**R. BURNS**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**

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Texas Registered Engineering Firm: F-2144

Client

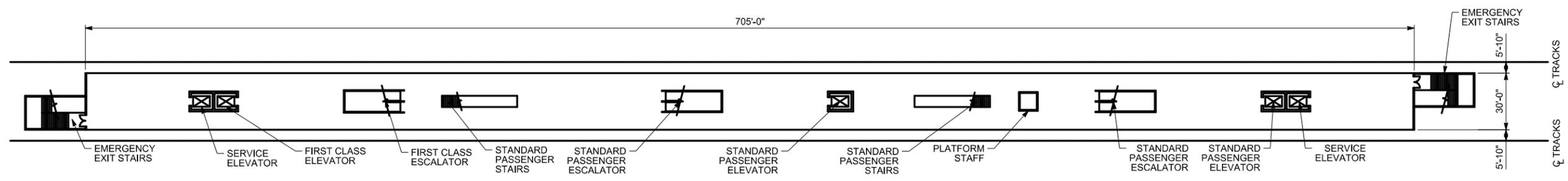
**TEXAS CENTRAL**

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

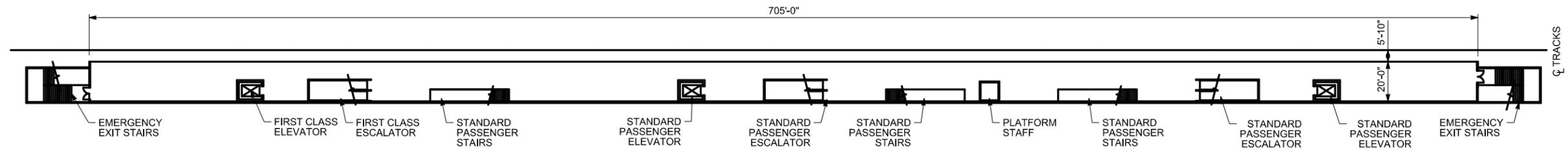
Drawing Title

**GENERAL STATIONS  
TYPICAL STATION  
CONFIGURATION**

Scale AS SHOWN		
Drawing Status <b>FINAL DRAFT</b>		
Job No 234180	Drawing No STA-00-02000	Rev 01



TYPICAL ISLAND PLATFORM CONFIGURATION PLAN



TYPICAL SIDE PLATFORM CONFIGURATION PLAN



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**J. HAMMOND**

DRAWN BY  
**C. ZWIEBEL**

CHECKED BY  
**R. BURNS**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**

**ARUP**

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

Client

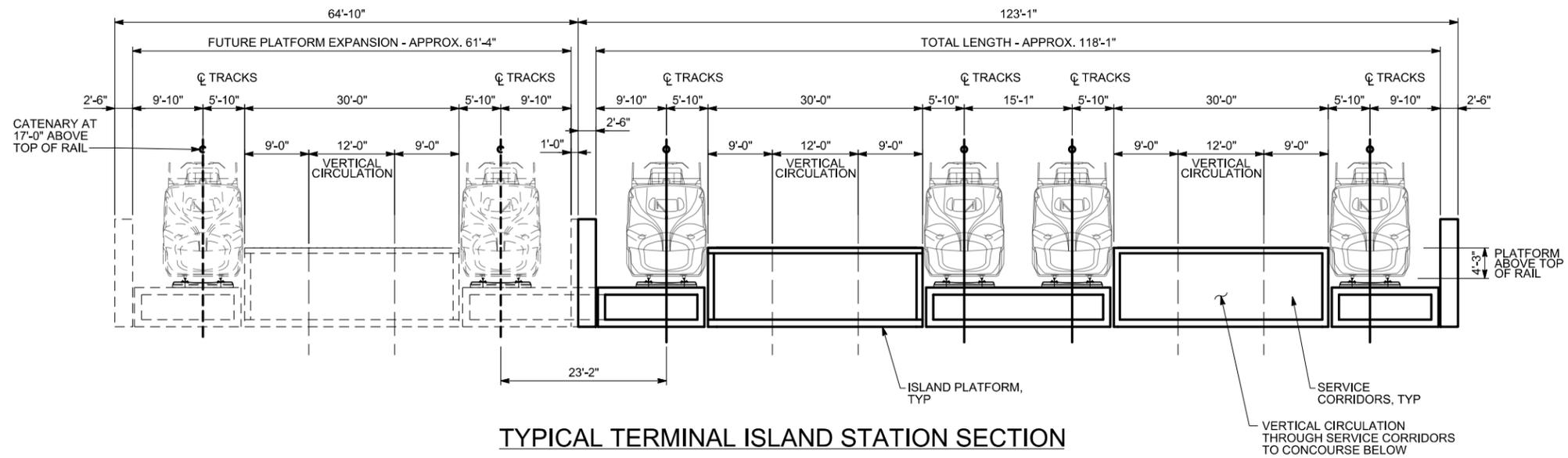
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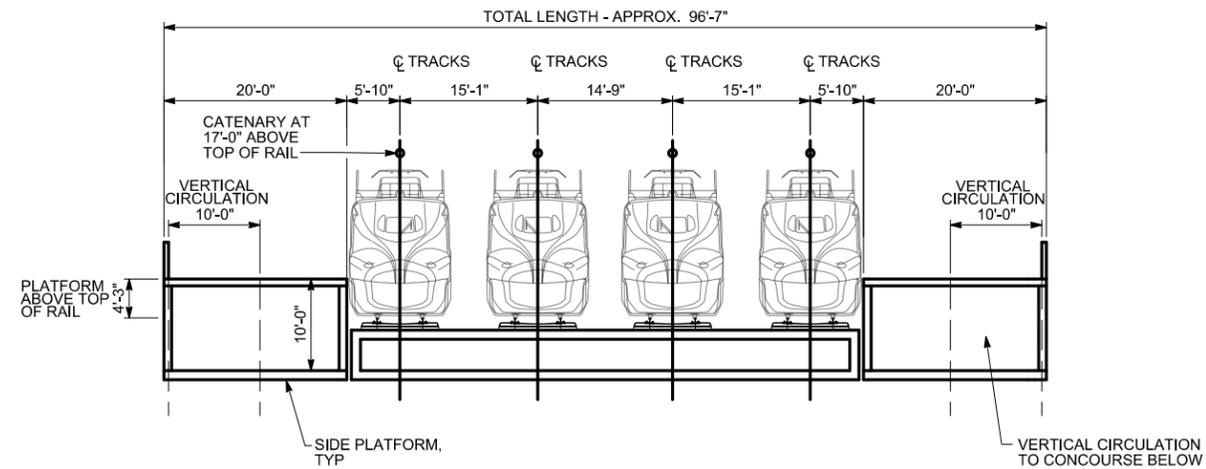
Drawing Title

**GENERAL STATIONS  
TYPICAL PLATFORMS  
CONFIGURATION**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No STA-00-02001	Rev 01



TYPICAL TERMINAL ISLAND STATION SECTION



TYPICAL INTERMEDIATE STATION SECTION

NOTES:

- DRAWING INTENDED TO ILLUSTRATE KEY DIMENSIONS AND CLEARANCES. FINAL DIMENSIONS TO BE DETERMINED DURING MORE ADVANCED DESIGN.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>J. HAMMOND</b>
DRAWN BY <b>C. ZWIEBEL</b>
CHECKED BY <b>R. BURNS</b>
IN CHARGE <b>C. TAYLOR</b>
DATE <b>09/15/2018</b>



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

Client



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

Drawing Title

GENERAL STATIONS  
TYPICAL SECTIONS

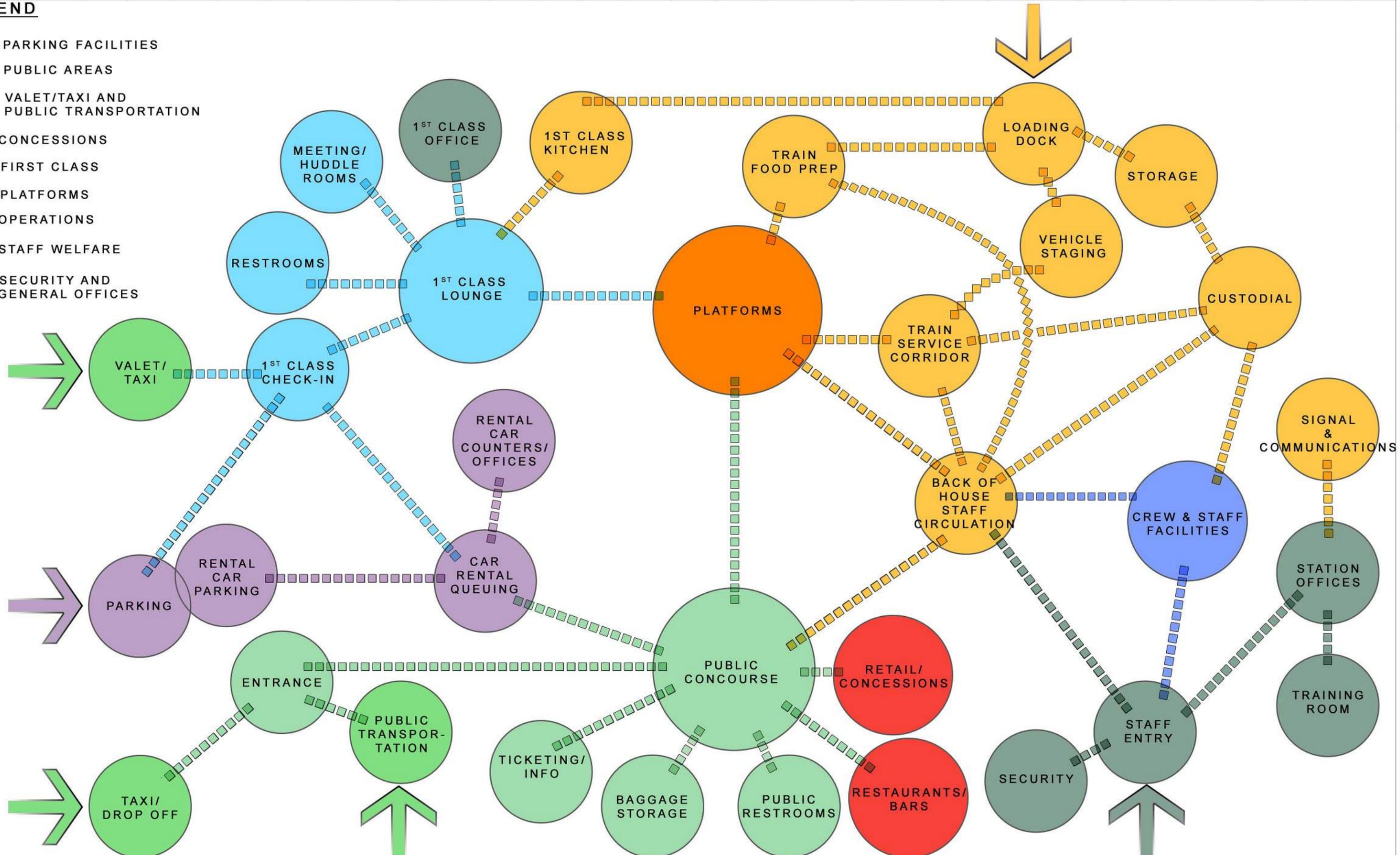
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AS SHOWN

Drawing Status  
FINAL DRAFT

Job No <b>234180</b>	Drawing No <b>STA-00-03000</b>	Rev <b>01</b>
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**LEGEND**

- 1  - PARKING FACILITIES
- 2  - PUBLIC AREAS
- 3  - VALET/TAXI AND PUBLIC TRANSPORTATION
- 4  - CONCESSIONS
- 5  - FIRST CLASS
- 6  - PLATFORMS
- 7  - OPERATIONS
- 8  - STAFF WELFARE
- 9  - SECURITY AND GENERAL OFFICES



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. MILLICAN**

DRAWN BY  
**S. BUNDY**

CHECKED BY  
**K. MILLICAN**

IN CHARGE  
**C. TAYLOR**

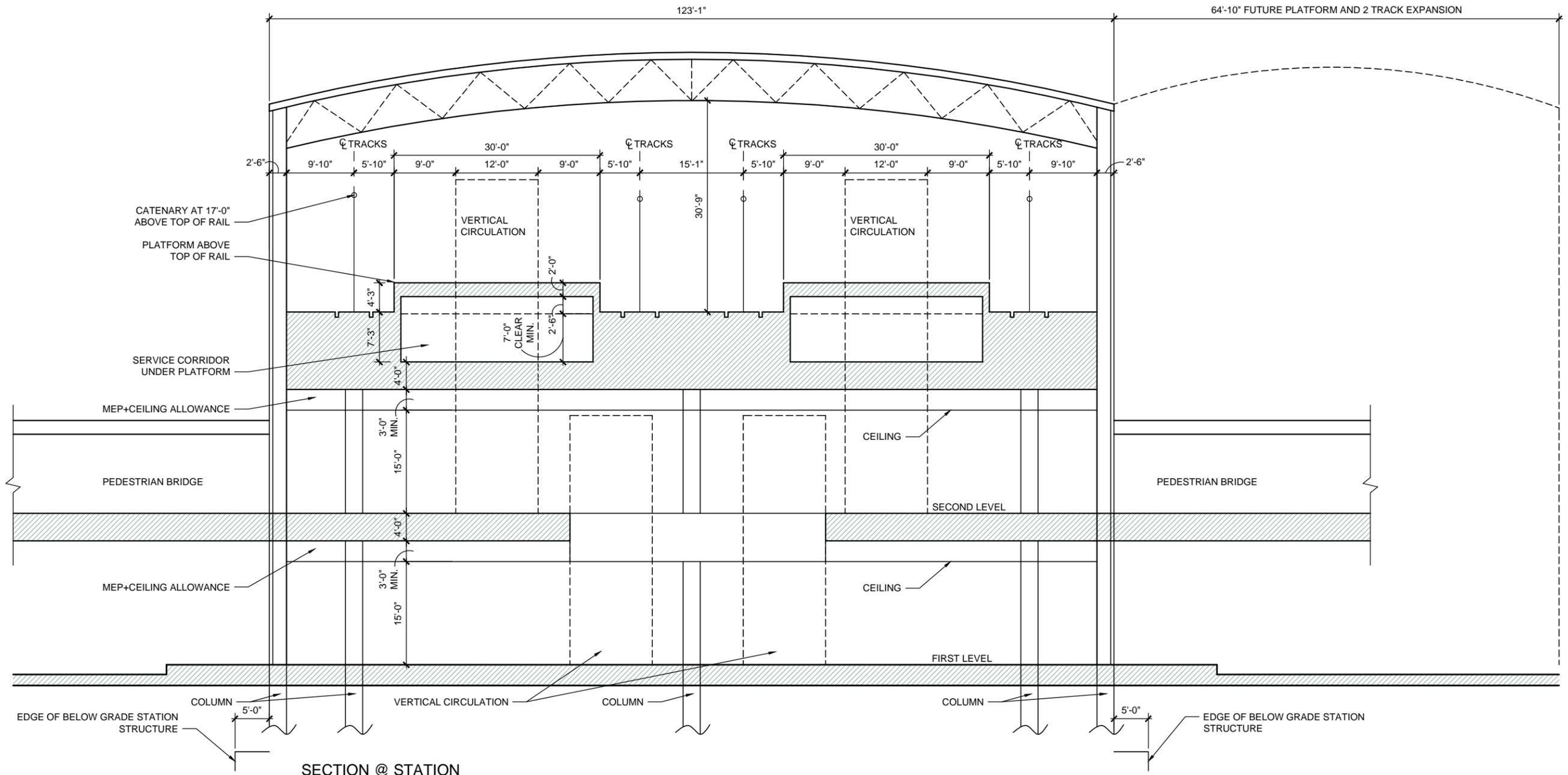
DATE  
**09/15/2017**



Drawing Title  
**GENERAL  
TERMINAL STATIONS  
ADJACENCY DIAGRAM**

Scale NOT TO SCALE		
Drawing Status <b>FINAL DRAFT</b>		
Job No <b>234180</b>	Drawing No <b>STA-00-05000</b>	Rev <b>01</b>





CATENARY AT 17'-0"  
ABOVE TOP OF RAIL  
PLATFORM ABOVE  
TOP OF RAIL  
SERVICE CORRIDOR  
UNDER PLATFORM

MEP+CEILING ALLOWANCE

PEDESTRIAN BRIDGE

MEP+CEILING ALLOWANCE

EDGE OF BELOW GRADE STATION  
STRUCTURE

**SECTION @ STATION**  
1/8" = 1'-0"

EDGE OF BELOW GRADE STATION  
STRUCTURE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. MILLICAN**  
DRAWN BY  
**S. BUNDY**  
CHECKED BY  
**K. MILLICAN**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**09/15/2017**



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Texas Registered Engineering Firm: F-2144

Client



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

Drawing Title

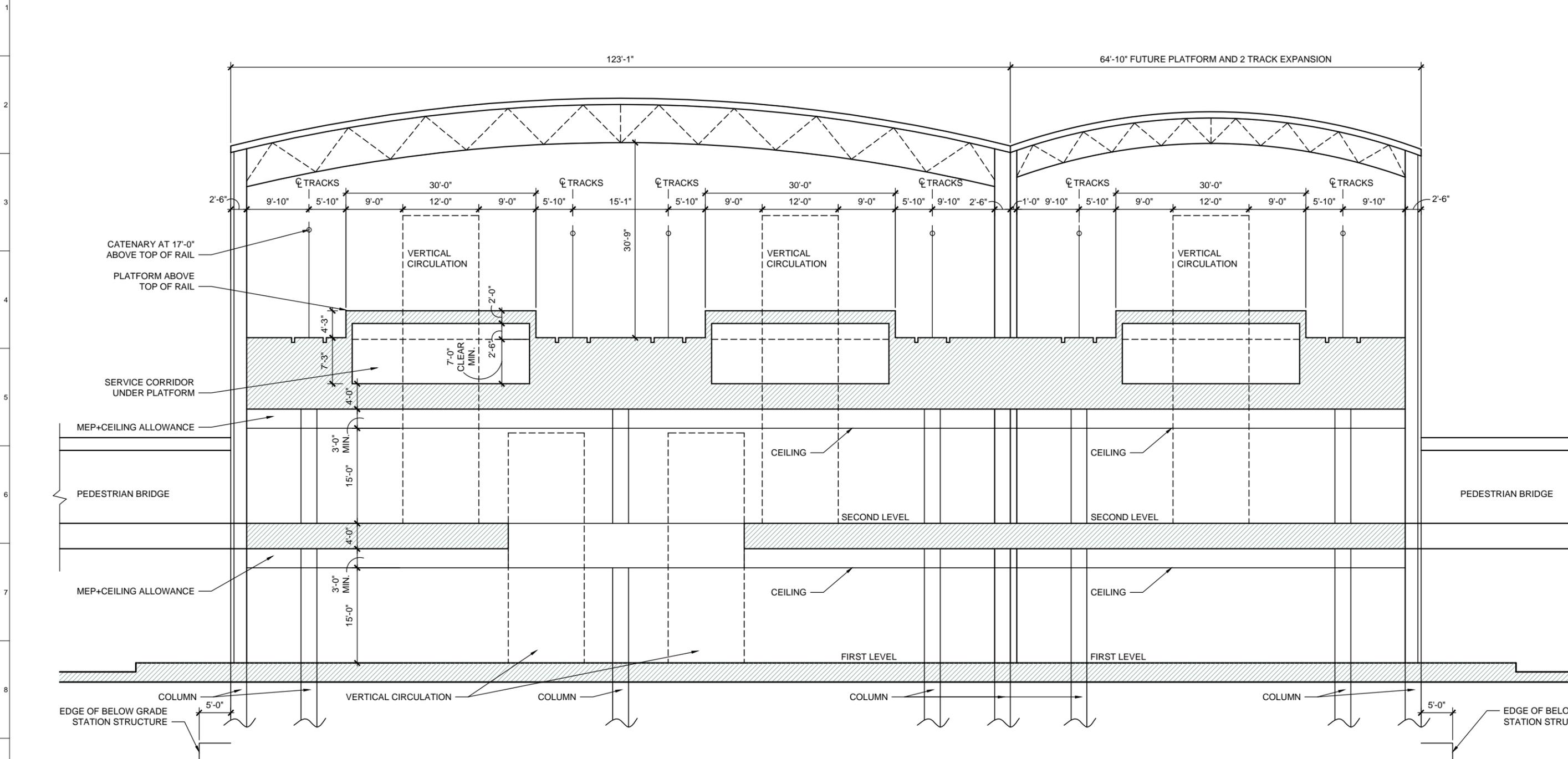
**GENERAL  
HOUSTON SEGMENT  
STATIONS  
STATION SECTIONS**

Scale  
AS SHOWN

Drawing Status

**FINAL DRAFT**

Job No <b>234180</b>	Drawing No <b>STA-00-06000</b>	Rev <b>01</b>
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**SECTION @ STATION - FUTURE EXPANSION**  
 1/8" = 1'-0"



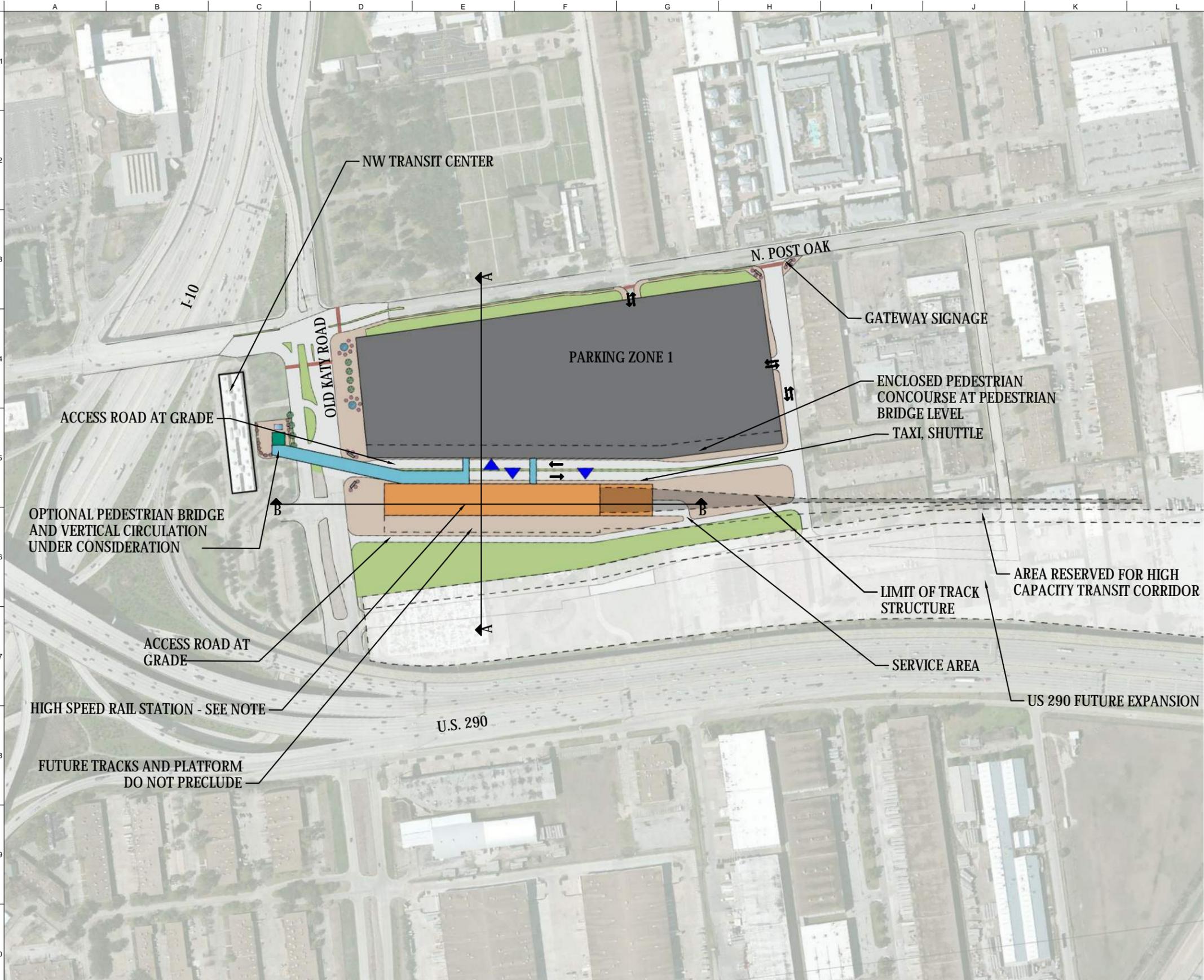
REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. MILLICAN**  
 DRAWN BY  
**S. BUNDY**  
 CHECKED BY  
**K. MILLICAN**  
 IN CHARGE  
**C. TAYLOR**  
 DATE  
**09/15/2017**



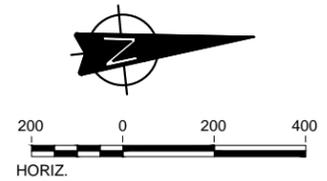
Client  
 Drawing Title  
**GENERAL HOUSTON SEGMENT STATIONS STATION SECTIONS FUTURE EXPANSION**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No STA-00-06001	Rev 01



- NOTES:
1. THIS STATION AREA PLAN IS INTENDED TO ILLUSTRATE POTENTIAL ROADWAY NETWORK IMPROVEMENTS, PARKING AREAS, ELEVATED PEDESTRIAN CONCOURSES, VERTICAL CIRCULATION TOWERS, AND GROUND LEVEL PLAZAS TO SERVE PROPOSED HSR STATION. DETAILED COORDINATION WITH THE CITY OF HOUSTON, HOUSTON METRO, LOCAL AGENCY AND PUBLIC STAKEHOLDERS, AND APPLICABLE REGULATORY BODIES WILL BE UNDERTAKEN DURING MORE DETAILED PLANNING AND DESIGN TO FULLY INTEGRATE URBAN AND TRANSPORTATION PLANNING ELEMENTS WITH LOCAL DEVELOPMENT GOALS.
  2. PARKING CAPACITY PROVIDED AT STATION WAS BASED ON TCRR RIDERSHIP ANALYSES FOR THE MAXIMUM PARKING DEMAND IDENTIFIED THROUGH 2050. SEE FDCE REPORT FOR MORE INFORMATION.
  3. PARKING CAPACITY ALLOCATION SHOWN WAS INTENDED TO SUPPORT TRAFFIC IMPACT ANALYSES. ULTIMATE PARKING CAPACITY REQUIREMENTS AND ALLOCATION WOULD BE CLOSELY COORDINATED WITH THE CITY OF HOUSTON DURING MORE DETAILED DESIGN DEVELOPMENT TO ENSURE COORDINATION WITH LOCAL URBAN DEVELOPMENT GOALS.
  4. REFER TO STATION FLOOR PLANS AND CROSS SECTIONS FOR MORE DETAILS.
  5. REFER TO FDCE REPORT FOR PARKING ALLOWANCES.
  6. THE PROJECT CURRENTLY PROPOSES BUILDING ONLY FOUR TERMINAL TRACKS TO SUPPORT THE INITIAL SERVICE LEVEL. THE DESIGNS OF THE STATION AREA PLANS, ROADWAYS, PARKING, AND TRACK ALIGNMENT WERE DEVELOPED FOR THE PEAK SERVICE LEVEL AND DO NOT PRECLUDE A FUTURE EXPANSION TO A SIX-TRACK TERMINAL. USE OF THE SIX-TRACK TERMINAL DESIGN IN THE FDCE IS INTENDED TO PROVIDE A CONSERVATIVE FOOTPRINT FOR ENVIRONMENTAL ANALYSES SO THAT IMPACTS OF POTENTIAL FUTURE TERMINAL CAPACITY EXPANSION WOULD BE CONSIDERED. SEE FDCE REPORT FOR ADDITIONAL DETAIL.

- LEGEND:
- PASSENGER DROP-OFF & PICK UP ▲
  - PEDESTRIAN PLAZA ■
  - PARKING ZONE ■
  - STATION ■
  - LIMITS OF HSR STRUCTURE - - -
  - PEDESTRIAN BRIDGE ■
  - VERTICAL CIRCULATION ■



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. DRESNER**

DRAWN BY  
**S. BUNDY**

CHECKED BY  
**K. MILLICAN**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**

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Texas Registered Engineering Firm: F-2144

Client

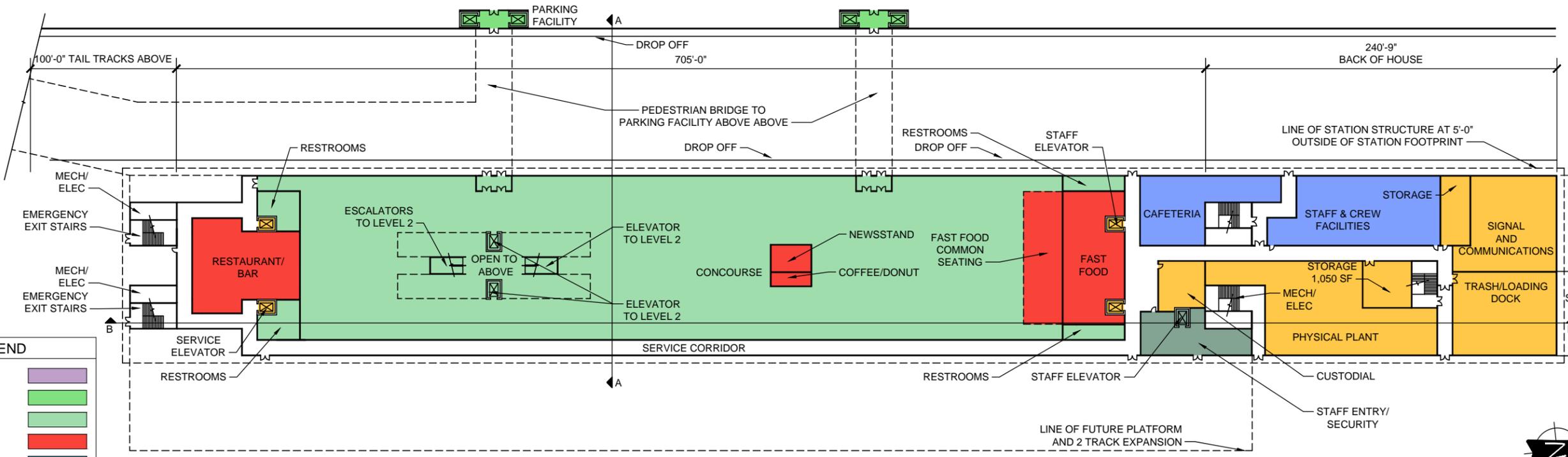
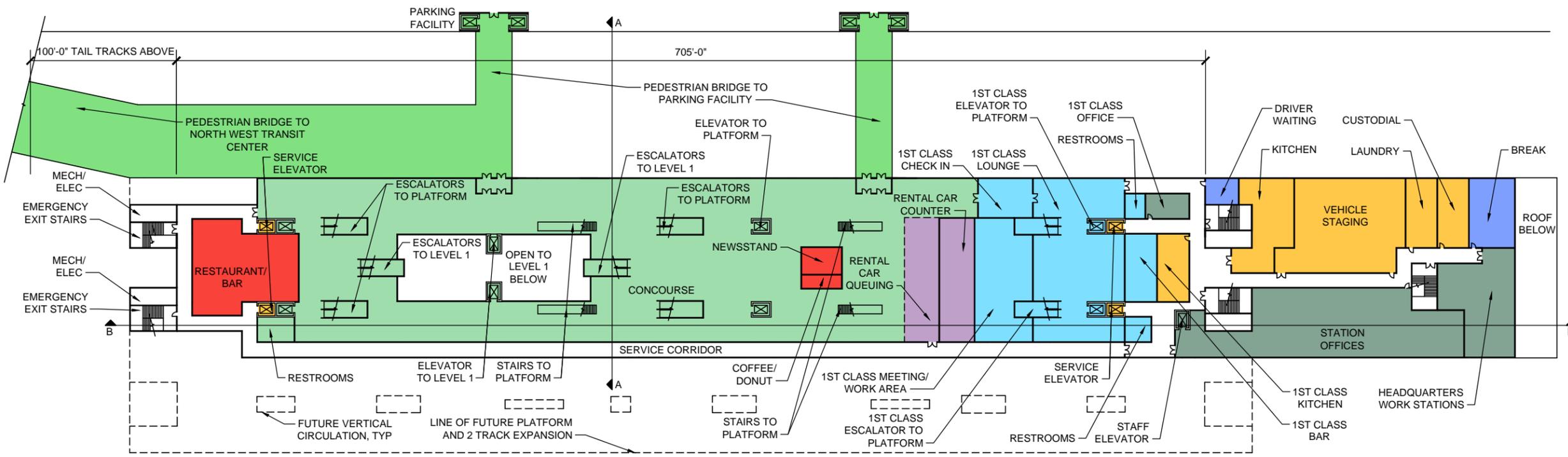
**TEXAS CENTRAL**

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

Drawing Title

**HOUSTON SEGMENT STATIONS  
HOUSTON TRANSIT STATION OPTION  
STATION AREA PLAN**

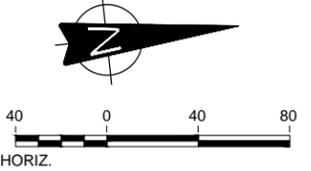
Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	STA-HN-01001	01	



**COLOR LEGEND**

PARKING FACILITIES	[Purple Box]
PEDESTRIAN CIRCULATION	[Light Green Box]
PUBLIC AREAS	[Medium Green Box]
CONCESSIONS	[Red Box]
FIRST CLASS	[Light Blue Box]
SECURITY & GENERAL OFFICES	[Dark Green Box]
STAFF WELFARE	[Blue Box]
OPERATIONS	[Yellow Box]

NOTE: DIMENSIONS SHOWN ARE CONCEPTUAL AND ARE SUBJECT TO CHANGE.



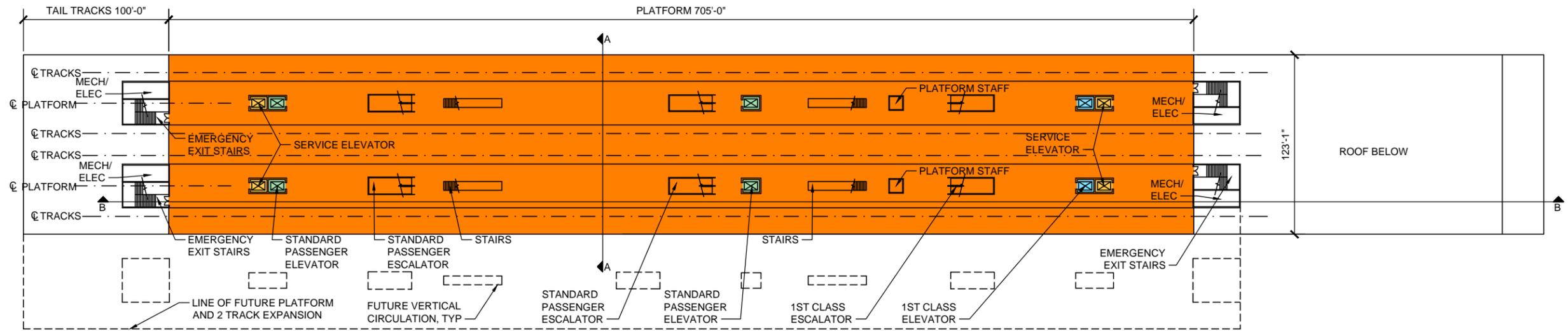
REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. MILLICAN**  
DRAWN BY  
**S. BUNDY**  
CHECKED BY  
**K. MILLICAN**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**09/15/2017**



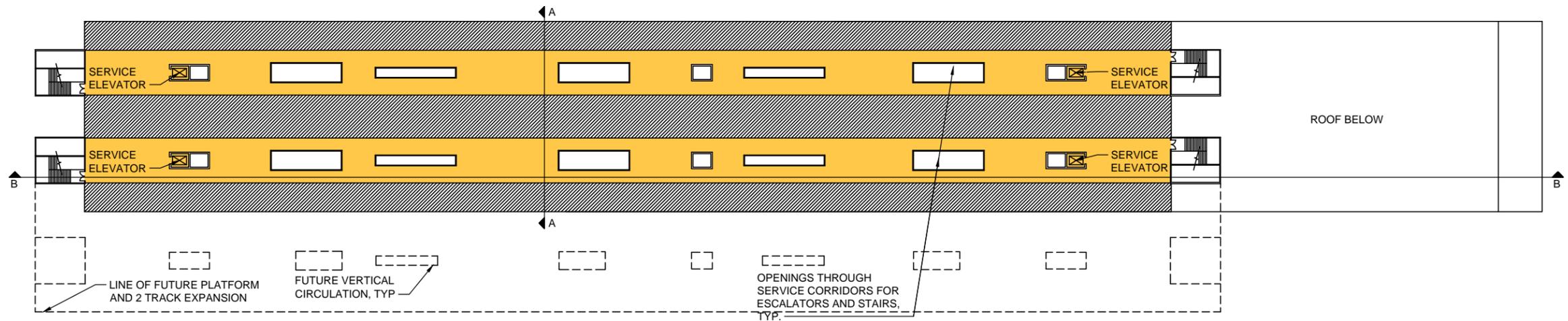
Drawing Title  
**HOUSTON SEGMENT STATIONS  
HOUSTON TRANSIT STATION OPTION  
STATION FLOOR PLAN  
SHEET 1 OF 2**

Scale	AS SHOWN
Drawing Status	FINAL DRAFT
Job No	234180
Drawing No	STA-HN-01002
Rev	01



**LEVEL 3 - PLATFORM LEVEL**

1" = 40'-0"

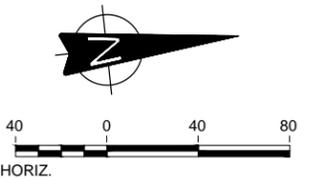


**SERVICE CORRIDOR LEVEL BELOW PLATFORMS**

1" = 40'-0"

NOTE: DIMENSIONS SHOWN ARE CONCEPTUAL AND ARE SUBJECT TO CHANGE.

COLOR LEGEND	
PASSENGER ELEVATORS	
FIRST CLASS	
PLATFORMS AND TRACKS	
OPERATIONS	



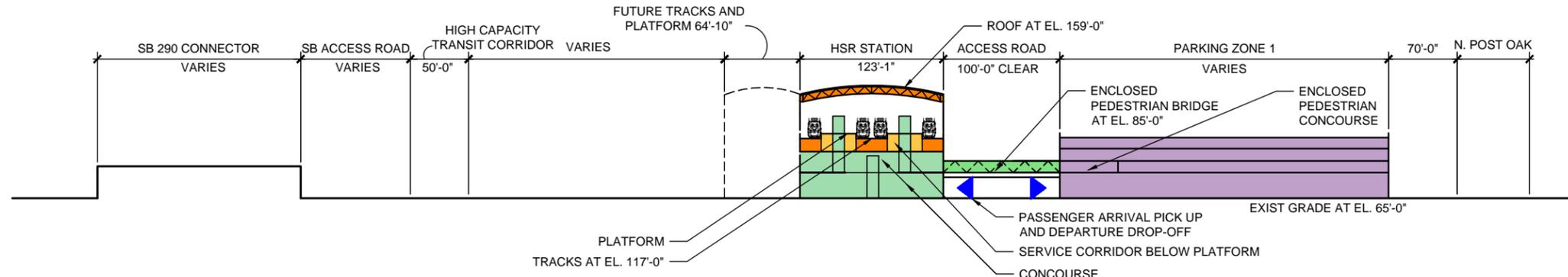
REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY <b>K. MILLICAN</b>
DRAWN BY <b>S. BUNDY</b>
CHECKED BY <b>K. MILLICAN</b>
IN CHARGE <b>C. TAYLOR</b>
DATE <b>09/15/2017</b>

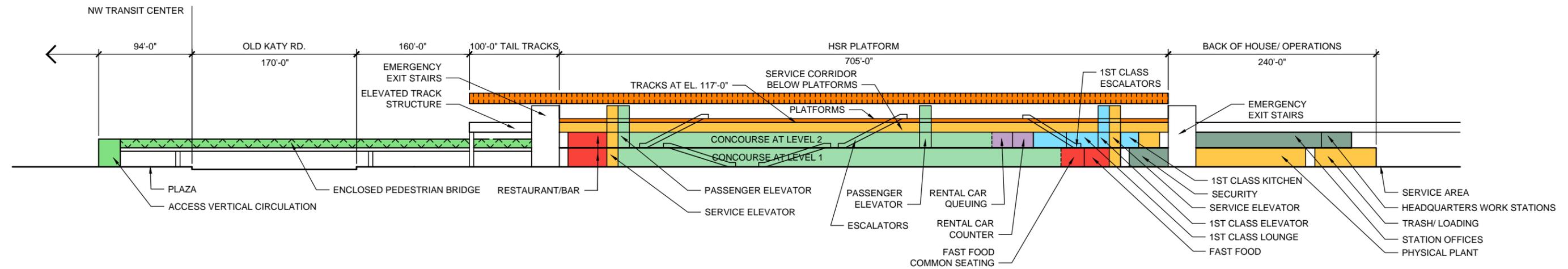
 Arup Texas, Inc. 10370 Richmond Ave., Suite 475 Houston, Texas 77042 USA Tel (713) 783 2787 Fax (713) 343 1467 www.arup.com Texas Registered Engineering Firm: F-1990	 2711 North Haskell Ave., Suite 3300 Dallas, Texas 75204 Tel (214) 217 2200 Fax (214) 217 2201 www.freese.com Texas Registered Engineering Firm: F-2144	Client  1409 South Lamar Street, Suite 1022, Dallas, Texas 75215	Drawing Title <b>HOUSTON SEGMENT STATIONS HOUSTON TRANSIT STATION OPTION STATION FLOOR PLAN SHEET 2 OF 2</b>	Scale AS SHOWN Drawing Status <b>FINAL DRAFT</b> Job No 234180 Drawing No STA-HN-01003 Rev 01
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1  
2  
3  
4  
5  
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7  
8  
9  
10

PLOT BY: N-YPWCSS PLOT TIME: 9/8/2017 2:30:00 PM



1 SECTION A-A  
1" = 60'-0"



2 SECTION B-B  
1" = 60'-0"

**COLOR LEGEND**

PARKING FACILITIES	[Purple Box]
PEDESTRIAN CIRCULATION	[Light Green Box]
PUBLIC AREAS	[Light Green Box]
FIRST CLASS	[Light Blue Box]
PLATFORMS AND TRACKS	[Orange Box]
STAFF WELFARE	[Blue Box]
OPERATIONS	[Yellow Box]

NOTE:  
DIMENSIONS SHOWN ARE CONCEPTUAL AND ARE SUBJECT TO CHANGE.



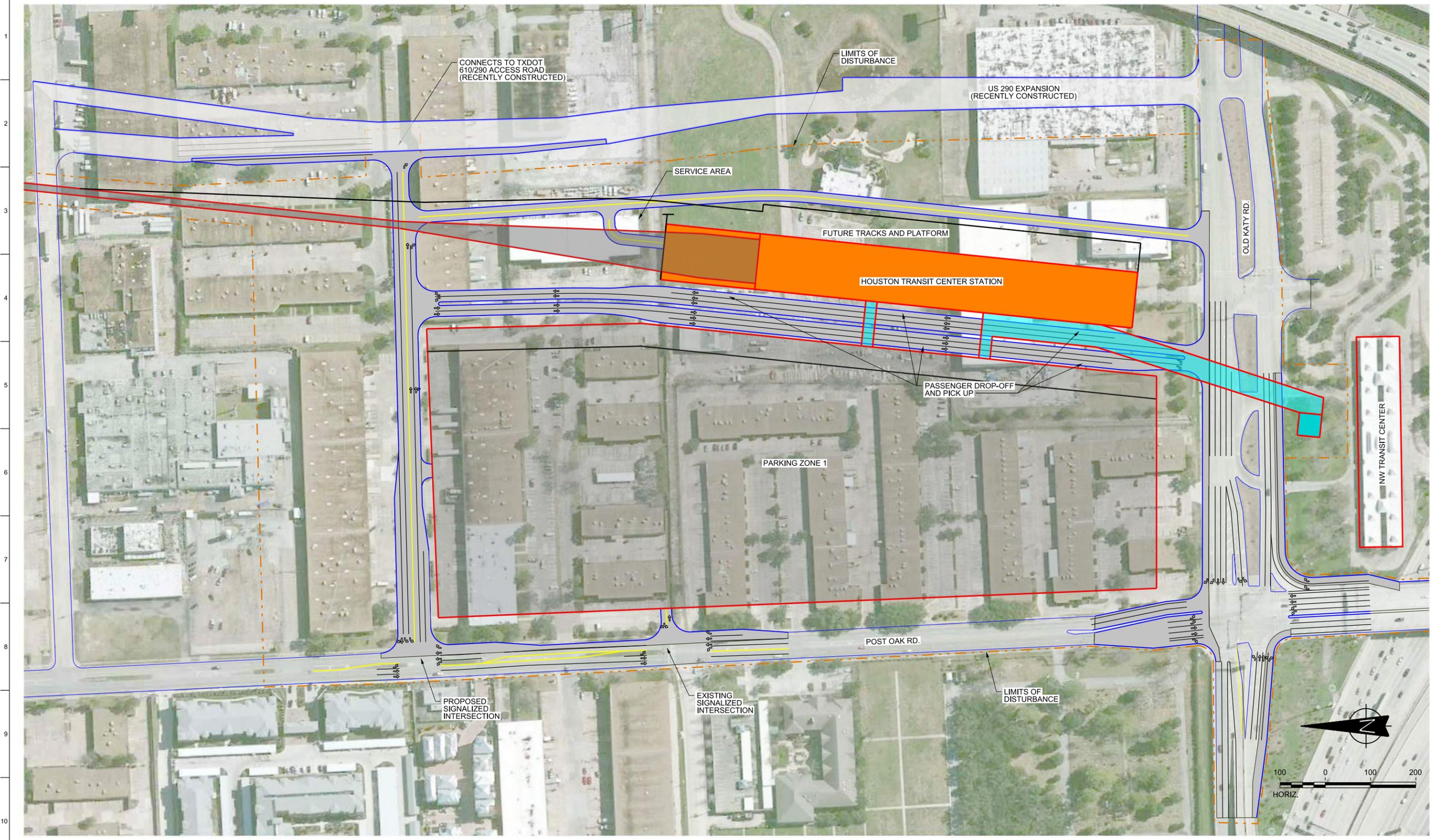
REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. MILLICAN**  
DRAWN BY  
**S. BUNDY**  
CHECKED BY  
**K. MILLICAN**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**09/15/2017**



Drawing Title  
**HOUSTON SEGMENT STATIONS  
HOUSTON TRANSIT STATION OPTION  
STATION SECTIONS**

Scale	AS SHOWN
Drawing Status	FINAL DRAFT
Job No	234180
Drawing No	STA-HN-01004
Rev	01



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. SASSER**

DRAWN BY  
**S. SASSER**

CHECKED BY  
**T. SANSONE**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**

**ARUP**

Arup Texas, Inc.  
10370 Richmond Ave., Suite 475  
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Tel (713) 783 2787 Fax (713) 343 1467  
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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  
www.freese.com  
Texas Registered Engineering Firm: F-2144

Client

**TEXAS CENTRAL**

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

Drawing Title

**HOUSTON SEGMENT STATIONS  
TRANSIT CENTER STATION  
STATION OPTION  
CIVIL SITE PLAN**

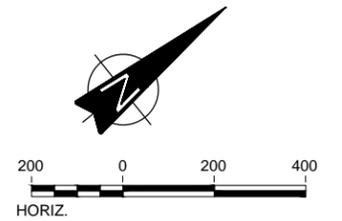
Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No STA-HN-01005	Rev 01



- NOTES:
1. THIS STATION AREA PLAN IS INTENDED TO ILLUSTRATE POTENTIAL ROADWAY NETWORK IMPROVEMENTS, PARKING AREAS, ELEVATED PEDESTRIAN CONCOURSES, VERTICAL CIRCULATION TOWERS, AND GROUND LEVEL PLAZAS TO SERVE PROPOSED HSR STATION. DETAILED COORDINATION WITH THE CITY OF HOUSTON, HOUSTON METRO, LOCAL AGENCY AND PUBLIC STAKEHOLDERS, AND APPLICABLE REGULATORY BODIES WILL BE UNDERTAKEN DURING MORE DETAILED PLANNING AND DESIGN TO FULLY INTEGRATE URBAN AND TRANSPORTATION PLANNING ELEMENTS WITH LOCAL DEVELOPMENT GOALS.
  2. PARKING CAPACITY PROVIDED AT STATION WAS BASED ON TCRR RIDERSHIP ANALYSES FOR THE MAXIMUM PARKING DEMAND IDENTIFIED THROUGH 2050. SEE FDCE REPORT FOR MORE INFORMATION.
  3. PARKING CAPACITY ALLOCATION SHOWN WAS INTENDED TO SUPPORT TRAFFIC IMPACT ANALYSES. ULTIMATE PARKING CAPACITY REQUIREMENTS AND ALLOCATION WOULD BE CLOSELY COORDINATED WITH THE CITY OF HOUSTON DURING MORE DETAILED DESIGN DEVELOPMENT TO ENSURE COORDINATION WITH LOCAL URBAN DEVELOPMENT GOALS.
  4. REFER TO STATION FLOOR PLANS AND CROSS SECTIONS FOR MORE DETAILS.
  5. REFER TO FDCE REPORT FOR PARKING ALLOWANCES.
  6. THE PROJECT CURRENTLY PROPOSES BUILDING ONLY FOUR TERMINAL TRACKS TO SUPPORT THE INITIAL SERVICE LEVEL. THE DESIGNS OF THE STATION AREA PLANS, ROADWAYS, PARKING, AND TRACK ALIGNMENT WERE DEVELOPED FOR THE PEAK SERVICE LEVEL AND DO NOT PRECLUDE A FUTURE EXPANSION TO A SIX-TRACK TERMINAL. USE OF THE SIX-TRACK TERMINAL DESIGN IN THE FDCE IS INTENDED TO PROVIDE A CONSERVATIVE FOOTPRINT FOR ENVIRONMENTAL ANALYSES SO THAT IMPACTS OF POTENTIAL FUTURE TERMINAL CAPACITY EXPANSION WOULD BE CONSIDERED. SEE FDCE REPORT FOR ADDITIONAL DETAIL.

LEGEND:

- PASSENGER DROP-OFF & PICK UP
- PEDESTRIAN PLAZA
- PARKING ZONE
- STATION
- LIMITS OF HSR STRUCTURE
- PEDESTRIAN BRIDGE
- VERTICAL CIRCULATION



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. DRESDNER**

DRAWN BY  
**S. BUNDY**

CHECKED BY  
**K. MILLICAN**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**

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Client

**TEXAS CENTRAL**

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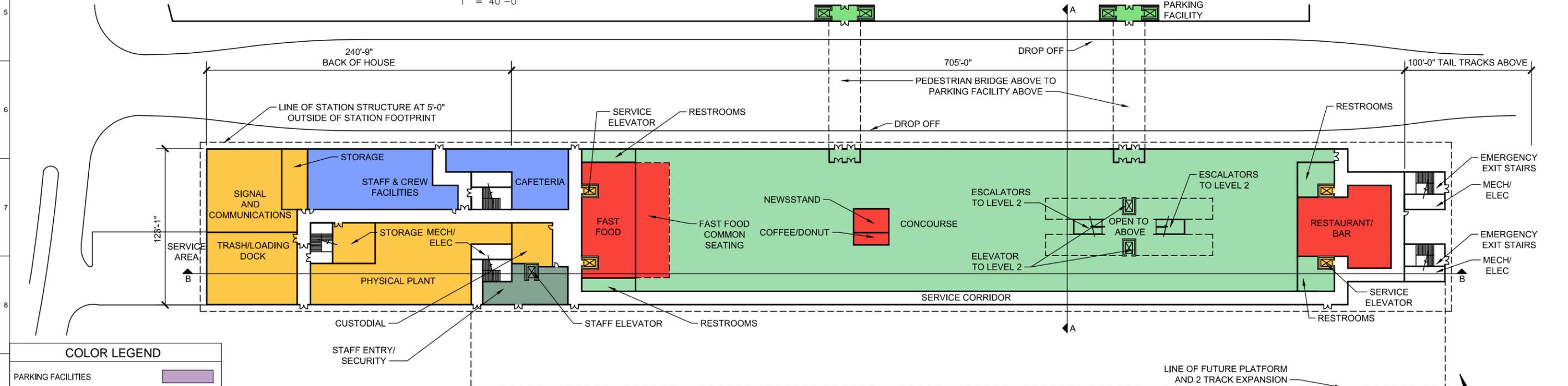
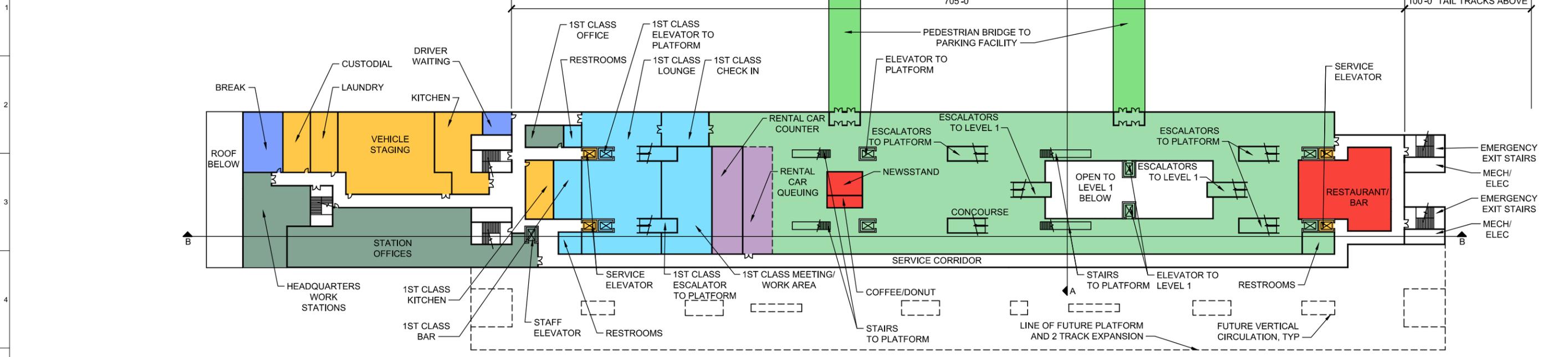
Drawing Title

**HOUSTON SEGMENT STATIONS  
HOUSTON NORTHWEST MALL  
STATION OPTION  
STATION AREA PLAN**

Scale  
AS SHOWN

Drawing Status  
**FINAL DRAFT**

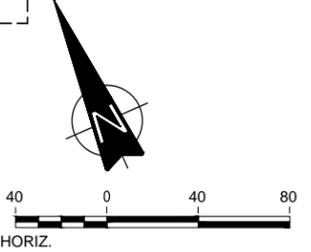
Job No 234180	Drawing No STA-HN-01011	Rev 01
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**COLOR LEGEND**

PARKING FACILITIES	[Purple Box]
PEDESTRIAN CIRCULATION	[Light Green Box]
PUBLIC AREAS	[Medium Green Box]
CONCESSIONS	[Red Box]
FIRST CLASS	[Light Blue Box]
SECURITY & GENERAL OFFICES	[Dark Green Box]
STAFF WELFARE	[Blue Box]
OPERATIONS	[Yellow Box]

NOTE: DIMENSIONS SHOWN ARE CONCEPTUAL AND ARE SUBJECT TO CHANGE.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. MILLICAN**

DRAWN BY  
**S. BUNDY**

CHECKED BY  
**K. MILLICAN**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**



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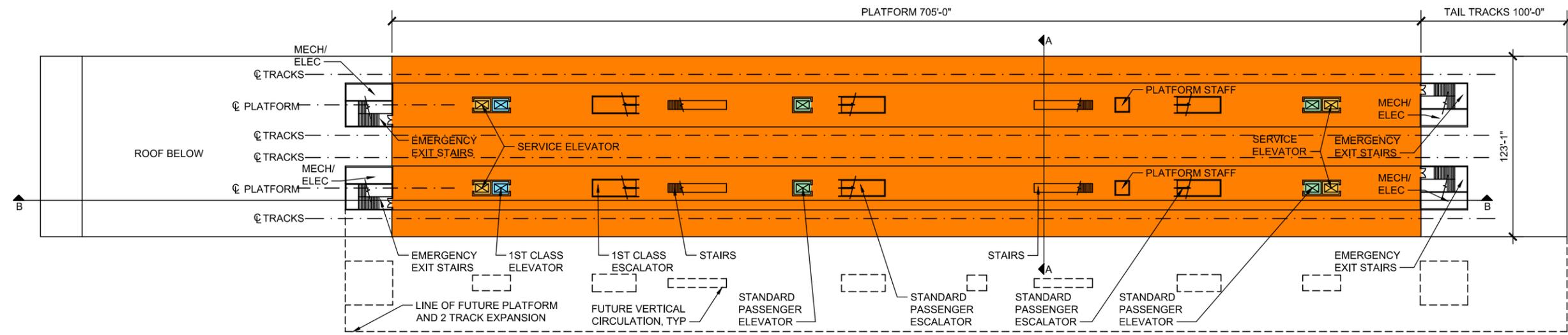
Drawing Title

**HOUSTON SEGMENT STATIONS**  
**HOUSTON NORTHWEST MALL STATION OPTION**  
**STATION FLOOR PLAN SHEET 1 OF 2**

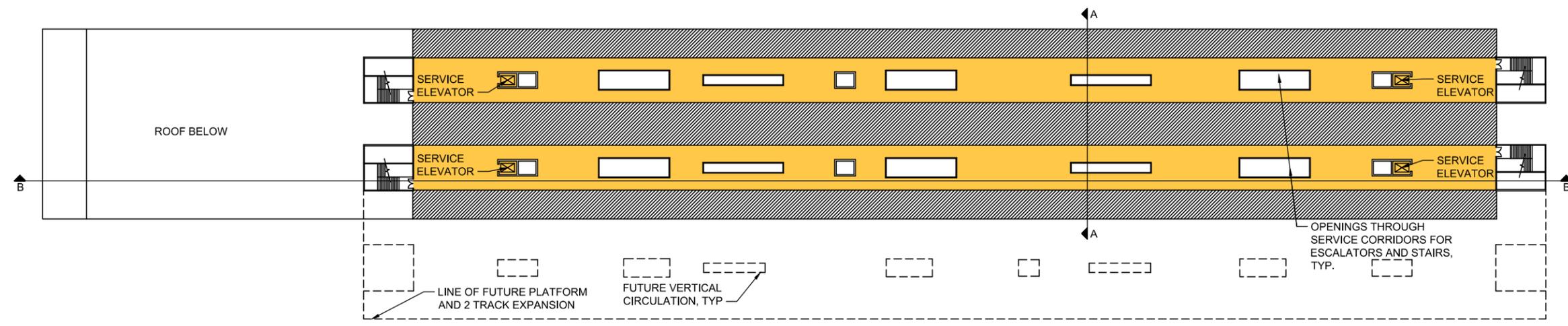
Scale  
AS SHOWN

Drawing Status  
**FINAL DRAFT**

Job No 234180	Drawing No STA-HN-01012	Rev 01
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**LEVEL 3 - PLATFORM LEVEL**  
1" = 40'-0"

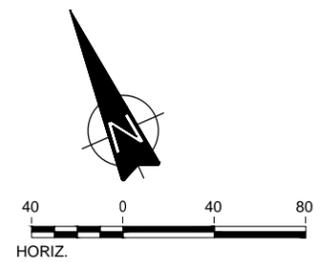


**SERVICE CORRIDOR LEVEL BELOW PLATFORMS**  
1" = 40'-0"

**COLOR LEGEND**

PASSENGER ELEVATORS	
FIRST CLASS	
PLATFORMS AND TRACKS	
OPERATIONS	

NOTE: DIMENSIONS SHOWN ARE CONCEPTUAL AND ARE SUBJECT TO CHANGE.



REV	DATE	BY	CHK	APP	DESCRIPTION

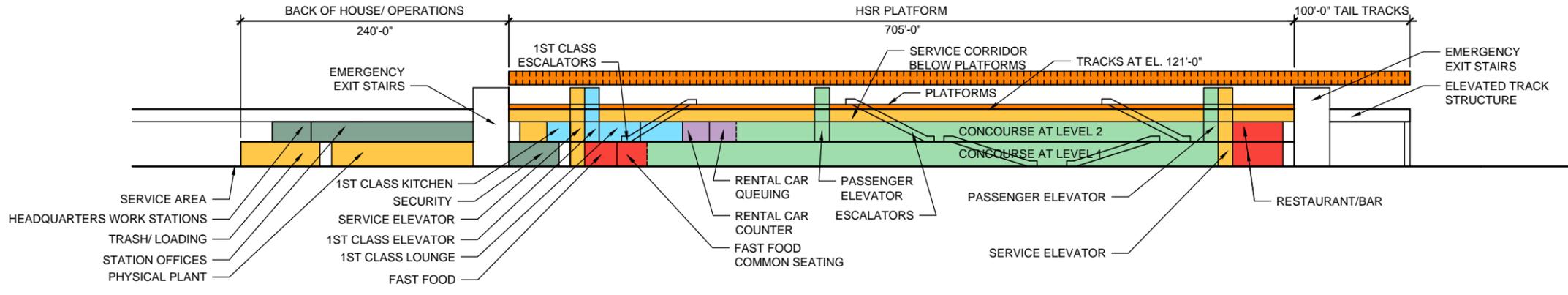
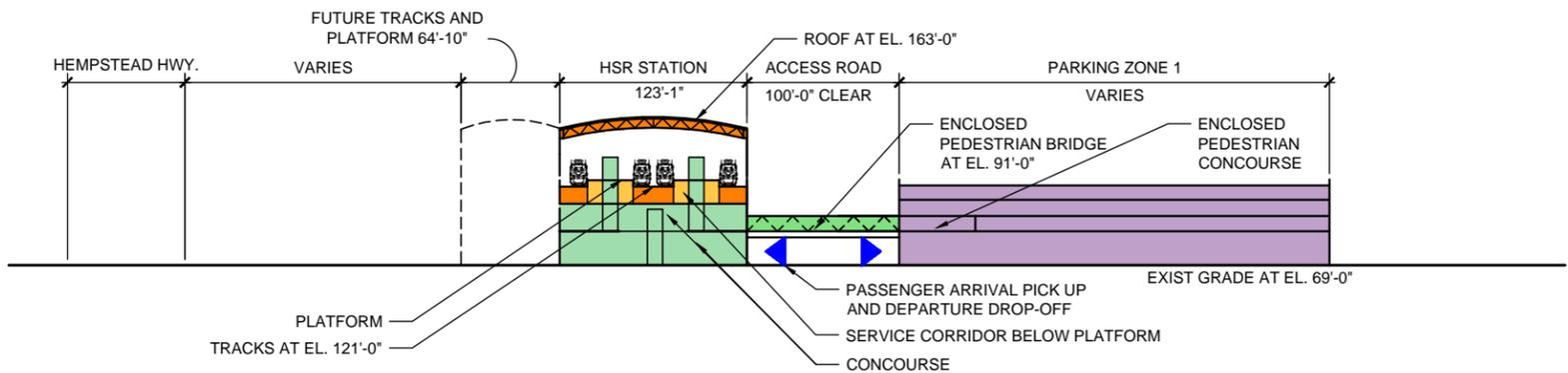
DESIGNED BY  
**K. MILLICAN**  
DRAWN BY  
**S. BUNDY**  
CHECKED BY  
**K. MILLICAN**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**09/15/2017**



Drawing Title  
**HOUSTON SEGMENT STATIONS HOUSTON NORTHWEST MALL STATION OPTION STATION FLOOR PLAN SHEET 2 OF 2**

Scale AS SHOWN	Drawing Status FINAL DRAFT
Job No 234180	Drawing No STA-HN-01013
	Rev 01

1  
2  
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10



**COLOR LEGEND**

PARKING FACILITIES	[Purple Box]
PEDESTRIAN CIRCULATION	[Green Box]
PUBLIC AREAS	[Light Green Box]
CONCESSIONS	[Red Box]
FIRST CLASS	[Light Blue Box]
PLATFORMS AND TRACKS	[Orange Box]
STAFF WELFARE	[Blue Box]
OPERATIONS	[Yellow Box]

NOTE: DIMENSIONS SHOWN ARE CONCEPTUAL AND ARE SUBJECT TO CHANGE.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. MILLICAN**

DRAWN BY  
**S. BUNDY**

CHECKED BY  
**K. MILLICAN**

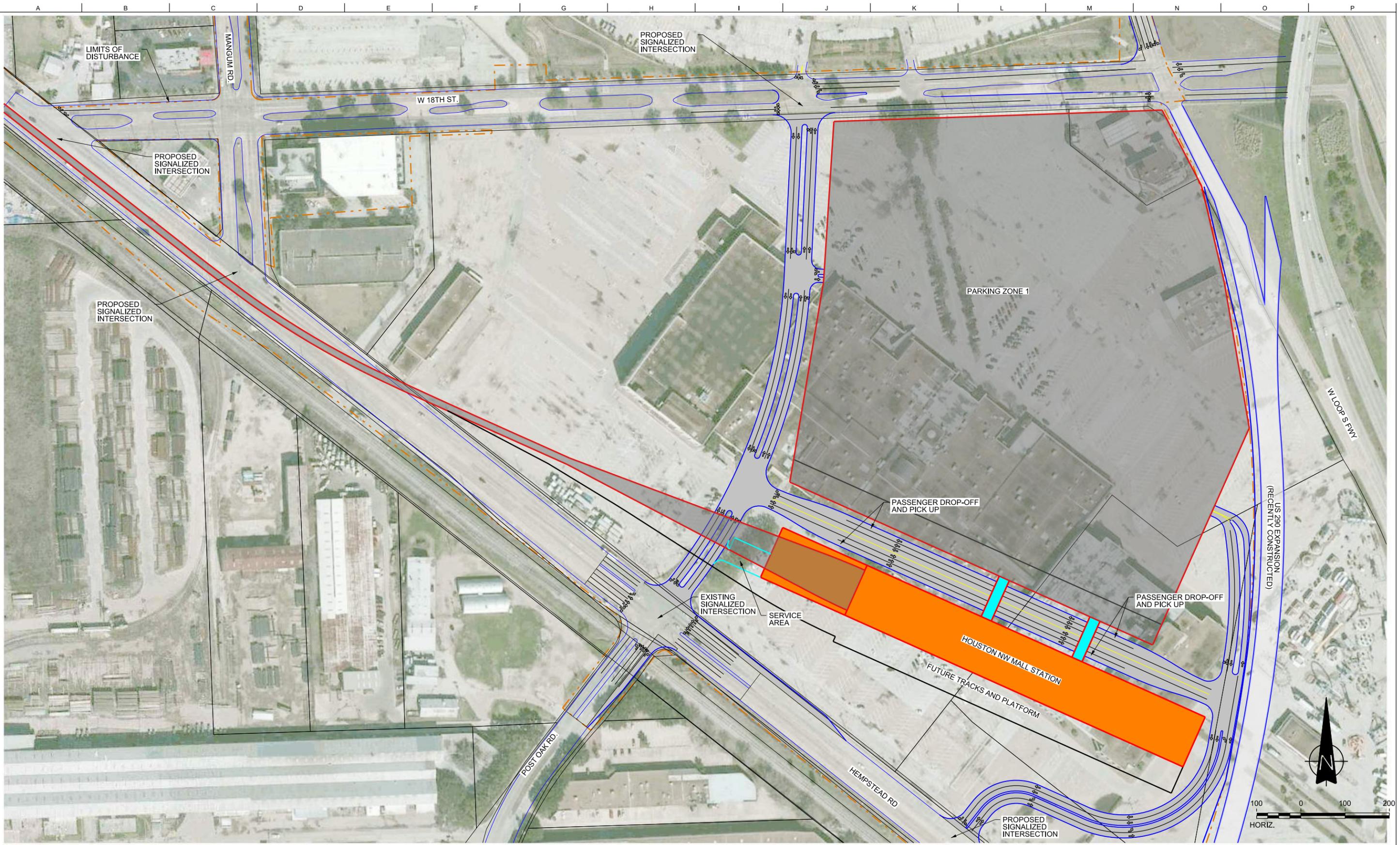
IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**



Drawing Title  
**HOUSTON SEGMENT STATIONS  
HOUSTON NORTHWEST MALL OPTION  
STATION SECTIONS**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No STA-HN-01014	Rev 01



LIMITS OF DISTURBANCE

PROPOSED SIGNALIZED INTERSECTION

PROPOSED SIGNALIZED INTERSECTION

W 18TH ST.

PROPOSED SIGNALIZED INTERSECTION

PARKING ZONE 1

PASSENGER DROP-OFF AND PICK UP

PASSENGER DROP-OFF AND PICK UP

EXISTING SIGNALIZED INTERSECTION

SERVICE AREA

HOUSTON NW MALL STATION

FUTURE TRACKS AND PLATFORM

POST OAK RD.

HEMPSTEAD RD

W LOOP S FWY

US 290 EXPANSION (RECENTLY CONSTRUCTED)



100 0 100 200  
HORIZ.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. SASSER**

DRAWN BY  
**S. SASSER**

CHECKED BY  
**T. SANSONE**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**



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Texas Registered Engineering Firm: F-2144

Client



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

Drawing Title

**HOUSTON SEGMENT STATIONS  
HOUSTON NORTHWEST MALL  
CIVIL SITE PLAN**

Scale

AS SHOWN

Drawing Status

FINAL DRAFT

Job No

234180

Drawing No

STA-HN-01015

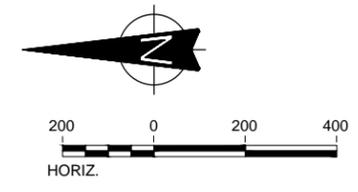
Rev

01



- NOTES:
1. THIS STATION AREA PLAN IS INTENDED TO ILLUSTRATE POTENTIAL ROADWAY NETWORK IMPROVEMENTS, PARKING AREAS, ELEVATED PEDESTRIAN CONCOURSES, VERTICAL CIRCULATION TOWERS, AND GROUND LEVEL PLAZAS TO SERVE PROPOSED HSR STATION. DETAILED COORDINATION WITH THE CITY OF HOUSTON, HOUSTON METRO, LOCAL AGENCY AND PUBLIC STAKEHOLDERS, AND APPLICABLE REGULATORY BODIES WILL BE UNDERTAKEN DURING MORE DETAILED PLANNING AND DESIGN TO FULLY INTEGRATE URBAN AND TRANSPORTATION PLANNING ELEMENTS WITH LOCAL DEVELOPMENT GOALS.
  2. PARKING CAPACITY PROVIDED AT STATION WAS BASED ON TCRR RIDERSHIP ANALYSES FOR THE MAXIMUM PARKING DEMAND IDENTIFIED THROUGH 2050. SEE FDCE REPORT FOR MORE INFORMATION.
  3. PARKING CAPACITY ALLOCATION SHOWN WAS INTENDED TO SUPPORT TRAFFIC IMPACT ANALYSES. ULTIMATE PARKING CAPACITY REQUIREMENTS AND ALLOCATION WOULD BE CLOSELY COORDINATED WITH THE CITY OF HOUSTON DURING MORE DETAILED DESIGN DEVELOPMENT TO ENSURE COORDINATION WITH LOCAL URBAN DEVELOPMENT GOALS.
  4. REFER TO STATION FLOOR PLANS AND CROSS SECTIONS FOR MORE DETAILS.
  5. REDEVELOPMENT OF HISTORIC BUILDINGS AND SITE TO COMPLEMENT HISTORIC CHARACTER AND USE. REDEVELOPMENT MAY CONSIDER USE OF KIOSKS, SMALL STRUCTURES, PAVING TREATMENTS, RESTORED RAIL ROAD FEATURES AND OTHER MEANS TO RECREATE EFFECT OF INDUSTRIAL USE, RAIL ROAD SPURS, AND MATERIALS STAGING YARD.
  6. REFER TO FDCE REPORT FOR PARKING ALLOWANCES.
  7. THE PROJECT CURRENTLY PROPOSES BUILDING ONLY FOUR TERMINAL TRACKS TO SUPPORT THE INITIAL SERVICE LEVEL. THE DESIGNS OF THE STATION AREA PLANS, ROADWAYS, PARKING, AND TRACK ALIGNMENT WERE DEVELOPED FOR THE PEAK SERVICE LEVEL AND DO NOT PRECLUDE A FUTURE EXPANSION TO A SIX-TRACK TERMINAL. USE OF THE SIX-TRACK TERMINAL DESIGN IN THE FDCE IS INTENDED TO PROVIDE A CONSERVATIVE FOOTPRINT FOR ENVIRONMENTAL ANALYSES SO THAT IMPACTS OF POTENTIAL FUTURE TERMINAL CAPACITY EXPANSION WOULD BE CONSIDERED. SEE FDCE REPORT FOR ADDITIONAL DETAIL.

- LEGEND:
- PASSENGER DROP-OFF & PICK UP
  - PEDESTRIAN PLAZA
  - PARKING ZONE
  - STATION
  - LIMITS OF HSR STRUCTURE
  - PEDESTRIAN BRIDGE
  - VERTICAL CIRCULATION
  - ELIGIBLE HISTORIC STRUCTURE \*



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. DRESDNER**

DRAWN BY  
**S. BUNDY**

CHECKED BY  
**K. MILLICAN**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**

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Client

**TEXAS CENTRAL**

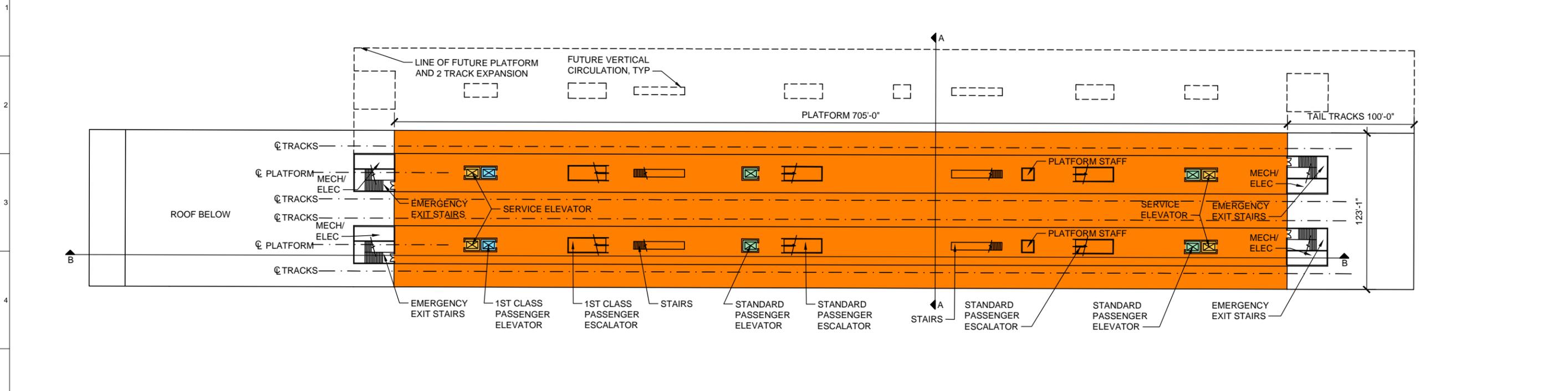
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

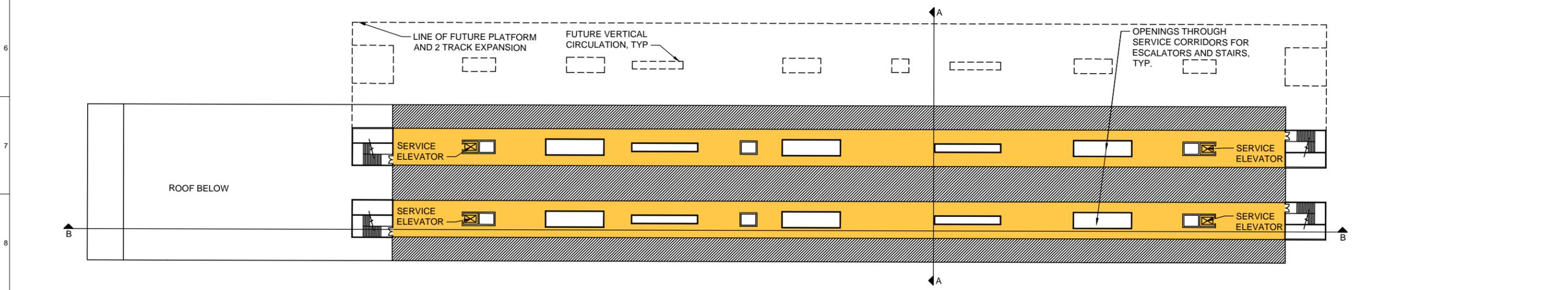
**HOUSTON SEGMENT STATIONS  
HOUSTON INDUSTRIAL OPTION  
STATION AREA PLAN**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No STA-HN-01021	Rev 01





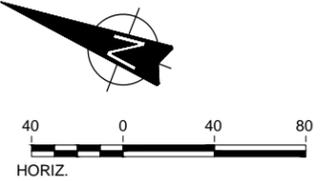
**LEVEL 3 - PLATFORM LEVEL**  
1" = 40'-0"



**SERVICE CORRIDOR LEVEL BELOW PLATFORMS**  
1" = 40'-0"

COLOR LEGEND	
PASSENGER ELEVATORS	
FIRST CLASS	
PLATFORMS AND TRACKS	
OPERATIONS	

NOTE: DIMENSIONS SHOWN ARE CONCEPTUAL AND ARE SUBJECT TO CHANGE.



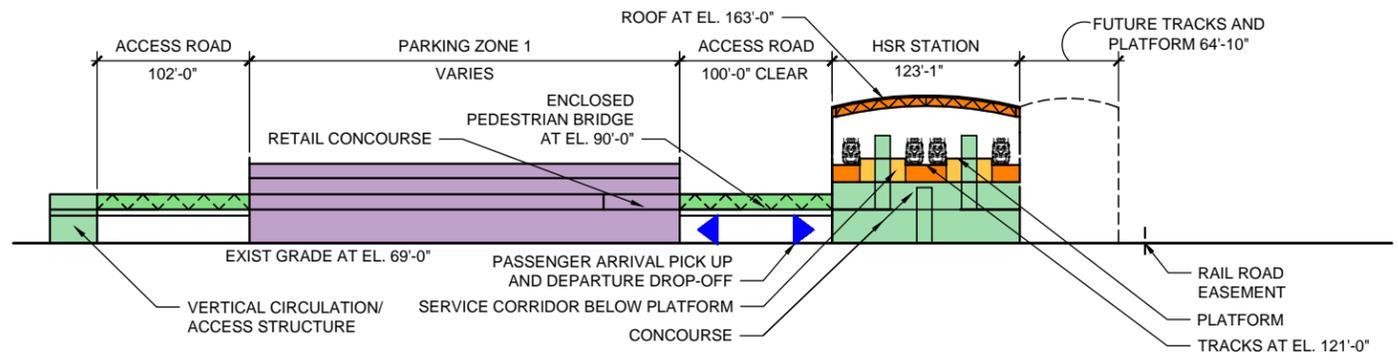
REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. MILLICAN**  
DRAWN BY  
**S. BUNDY**  
CHECKED BY  
**K. MILLICAN**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**09/15/2017**

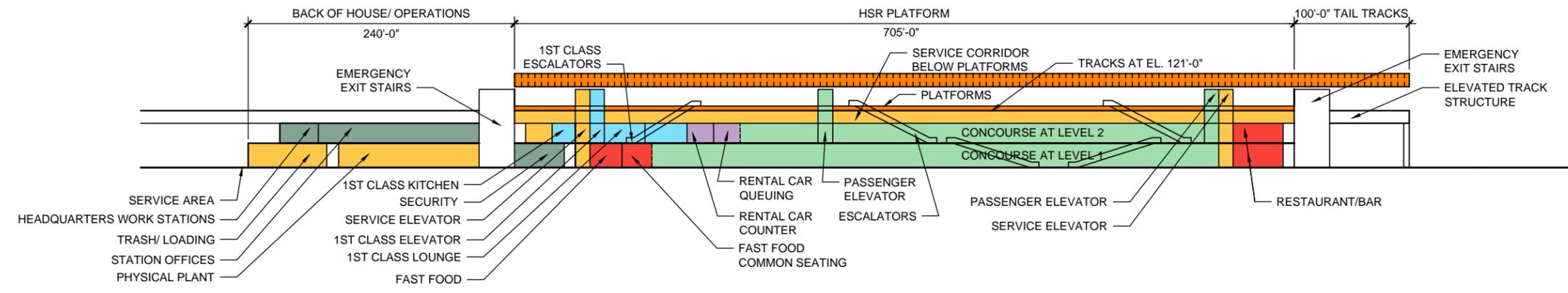


Drawing Title  
**HOUSTON SEGMENT STATIONS  
HOUSTON INDUSTRIAL STATION OPTION  
STATION FLOOR PLAN  
SHEET 2 OF 2**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No STA-HN-01023	Rev 01



1 SECTION A-A  
1" = 60'-0"



2 SECTION B-B  
1" = 60'-0"

COLOR LEGEND	
PARKING FACILITIES	
PEDESTRIAN CIRCULATION	
PUBLIC AREAS	
CONCESSIONS	
FIRST CLASS	
PLATFORMS AND TRACKS	
SECURITY & GENERAL OFFICES	
STAFF WELFARE	
OPERATIONS	

NOTE: DIMENSIONS SHOWN ARE CONCEPTUAL AND ARE SUBJECT TO CHANGE.



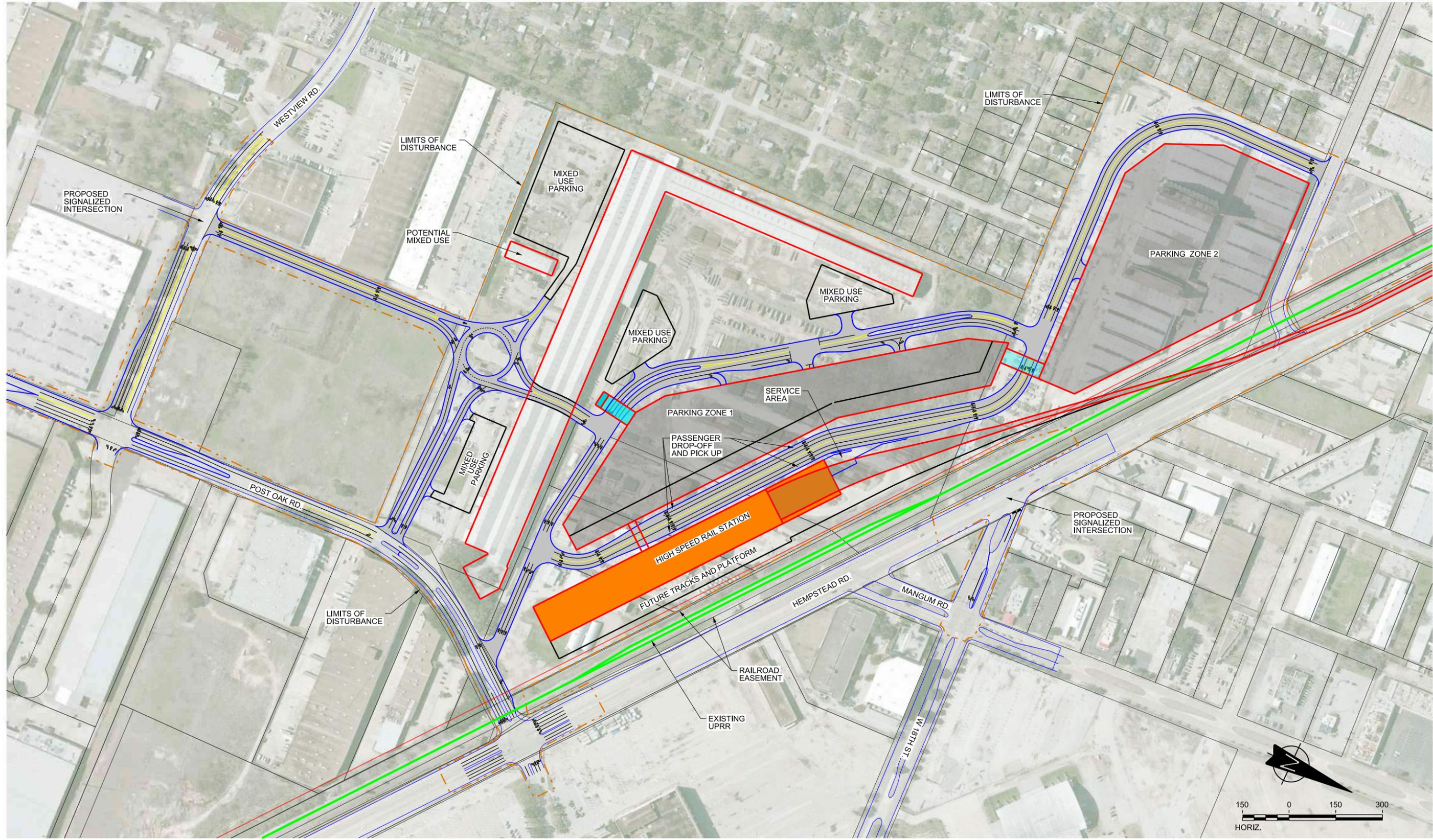
REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. MILLICAN**  
DRAWN BY  
**S. BUNDY**  
CHECKED BY  
**K. MILLICAN**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**09/15/2017**



Client  
Drawing Title  
**HOUSTON SEGMENT STATIONS  
HOUSTON INDUSTRIAL STATION OPTION  
STATION SECTIONS**

Scale AS SHOWN	Drawing Status <b>FINAL DRAFT</b>	
Job No 234180	Drawing No STA-HN-01024	Rev 01



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. SASSER**

DRAWN BY  
**S. SASSER**

CHECKED BY  
**T. SANSONE**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**

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Client

**TEXAS CENTRAL**

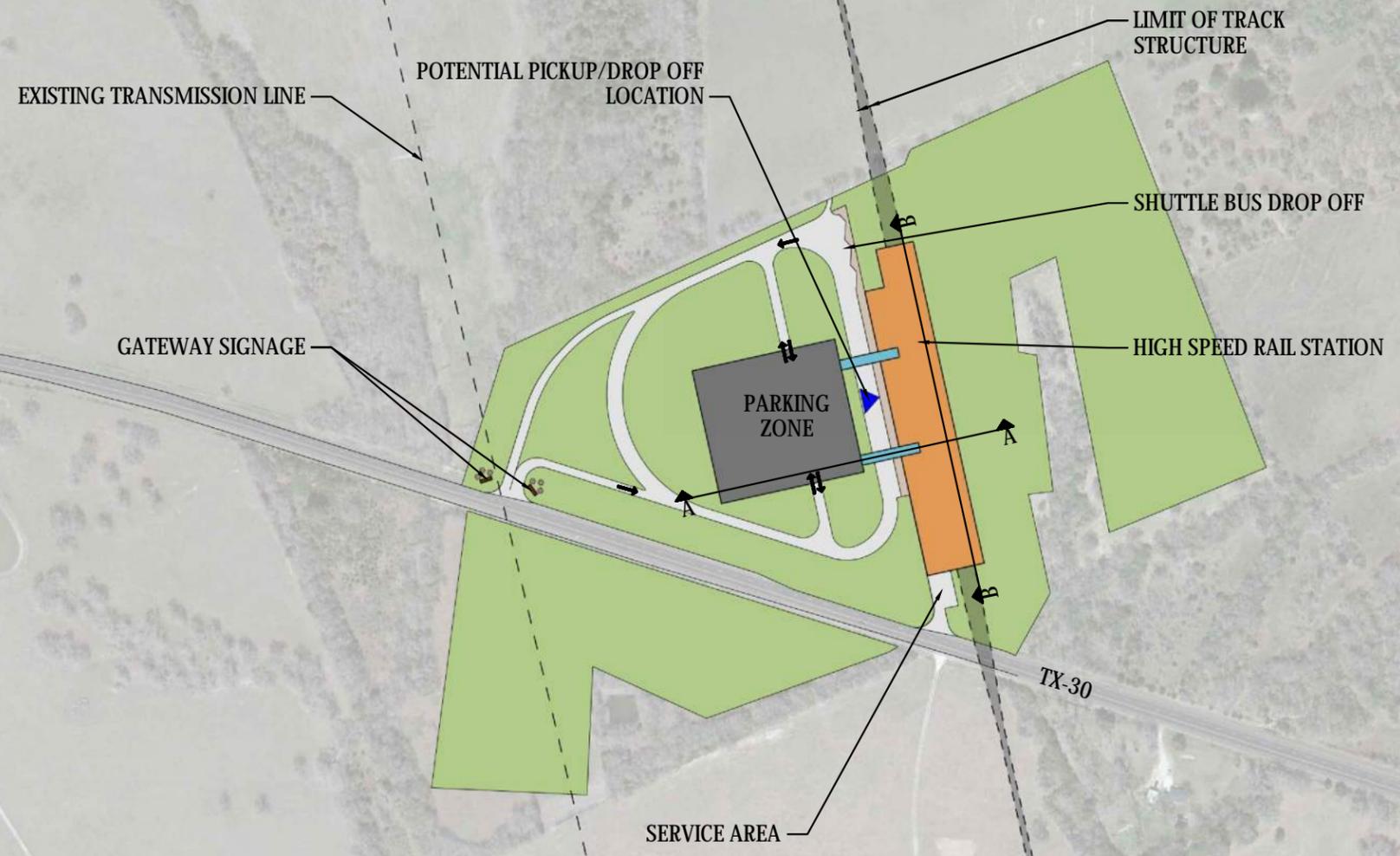
1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

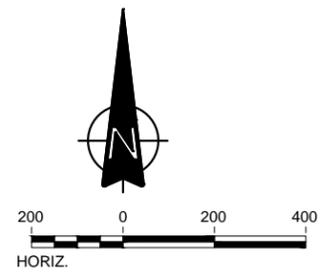
**HOUSTON SEGMENT STATIONS INDUSTRIAL STATION OPTION CIVIL SITE PLAN**

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	STA-HN-01025	01	

- NOTES:
1. THIS STATION AREA PLAN IS INTENDED TO ILLUSTRATE POTENTIAL ROADWAY NETWORK IMPROVEMENTS, PARKING AREAS, ELEVATED PEDESTRIAN CONCOURSES, AND GROUND LEVEL PLAZAS TO SERVE PROPOSED HSR STATION. DETAILED COORDINATION WITH LOCAL AGENCIES AND PUBLIC STAKEHOLDERS, AND APPLICABLE REGULATORY BODIES WILL BE UNDERTAKEN DURING MORE DETAILED PLANNING AND DESIGN TO FULLY INTEGRATE URBAN AND TRANSPORTATION PLANNING ELEMENTS WITH LOCAL DEVELOPMENT GOALS.
  2. PARKING CAPACITY PROVIDED AT STATION WAS BASED ON TCRR RIDERSHIP ANALYSES FOR THE MAXIMUM PARKING DEMAND IDENTIFIED THROUGH 2050. SEE FDCE REPORT FOR MORE INFORMATION.
  3. REFER TO STATION FLOOR PLANS AND CROSS SECTIONS FOR MORE DETAILS.
  4. REFER TO FDCE REPORT FOR PARKING ALLOWANCES.



- LEGEND:
- PASSENGER DROP-OFF & PICK UP
  - PARKING ZONE
  - STATION
  - PEDESTRIAN BRIDGE



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. DRESNER**

DRAWN BY  
**S. BUNDY**

CHECKED BY  
**K. MILLICAN**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**

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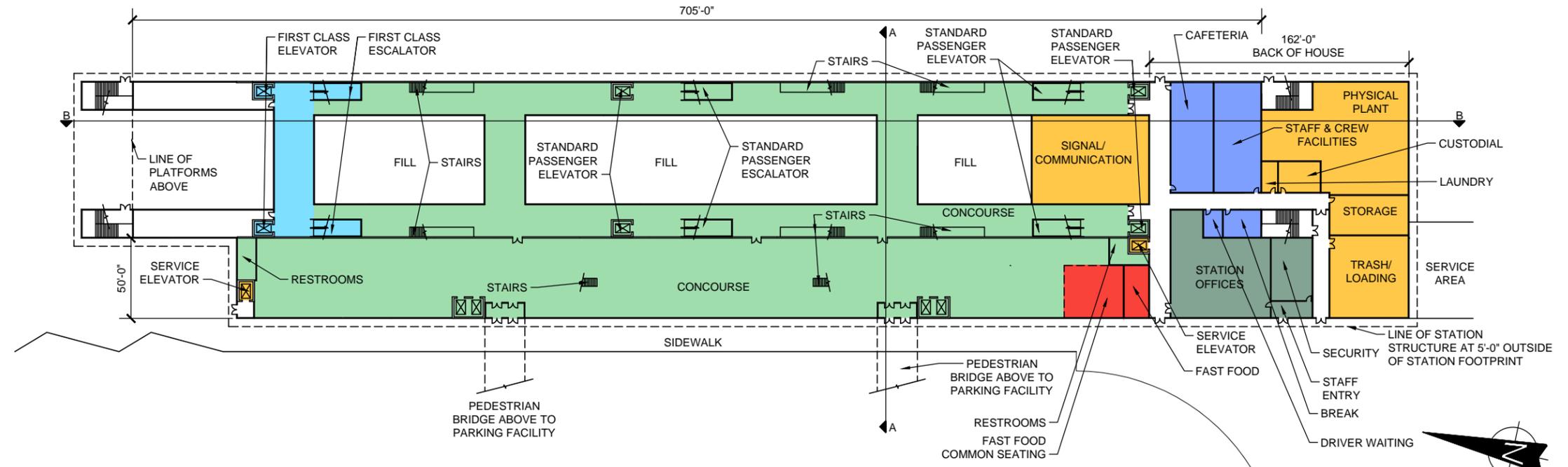
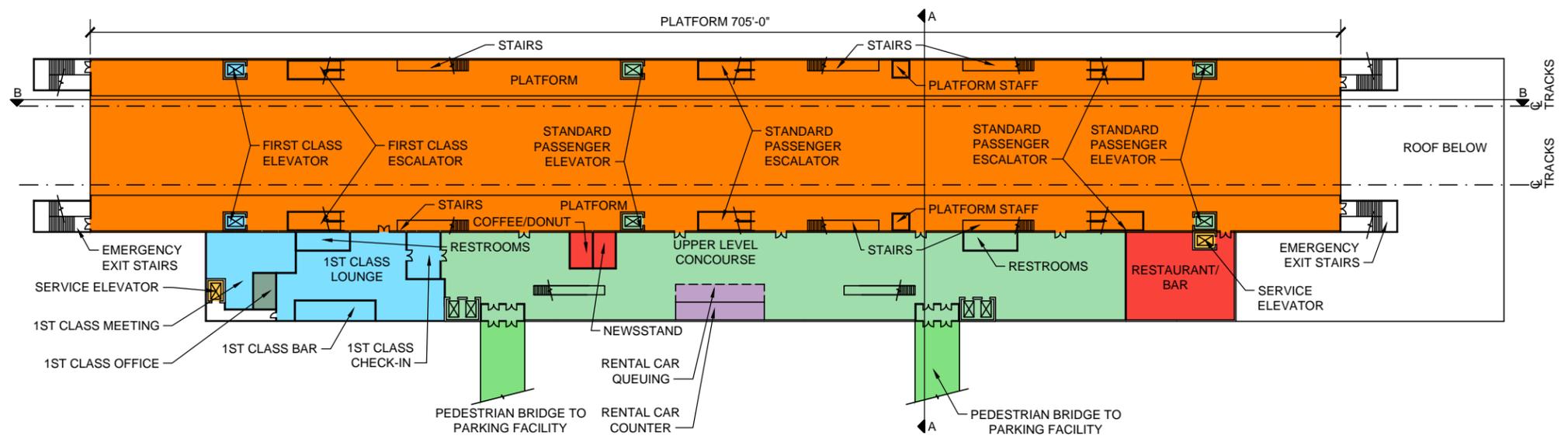
Drawing Title

**HOUSTON SEGMENT STATIONS  
BRAZOS VALLEY STATION  
STATION AREA PLAN**

Scale  
AS SHOWN

Drawing Status  
**FINAL DRAFT**

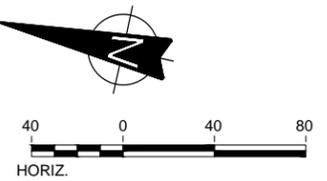
Job No 234180	Drawing No STA-HN-01031	Rev 01
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**COLOR LEGEND**

PARKING FACILITIES	[Purple Box]
PEDESTRIAN CIRCULATION	[Green Box]
PUBLIC AREAS	[Light Green Box]
CONCESSIONS	[Red Box]
FIRST CLASS	[Light Blue Box]
PLATFORMS AND TRACKS	[Orange Box]
SECURITY & GENERAL OFFICES	[Dark Green Box]
STAFF WELFARE	[Blue Box]
OPERATIONS	[Yellow Box]

NOTE: DIMENSIONS SHOWN ARE CONCEPTUAL AND ARE SUBJECT TO CHANGE.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. MILLICAN**

DRAWN BY  
**S. BUNDY**

CHECKED BY  
**K. MILLICAN**

IN CHARGE  
**C. TAYLOR**

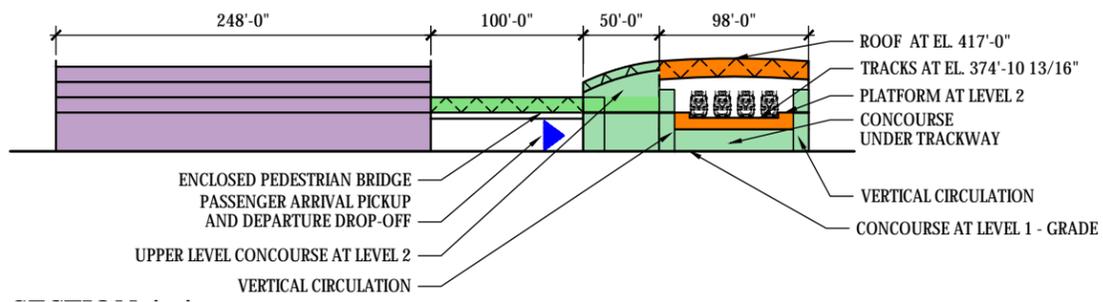
DATE  
**09/15/2017**



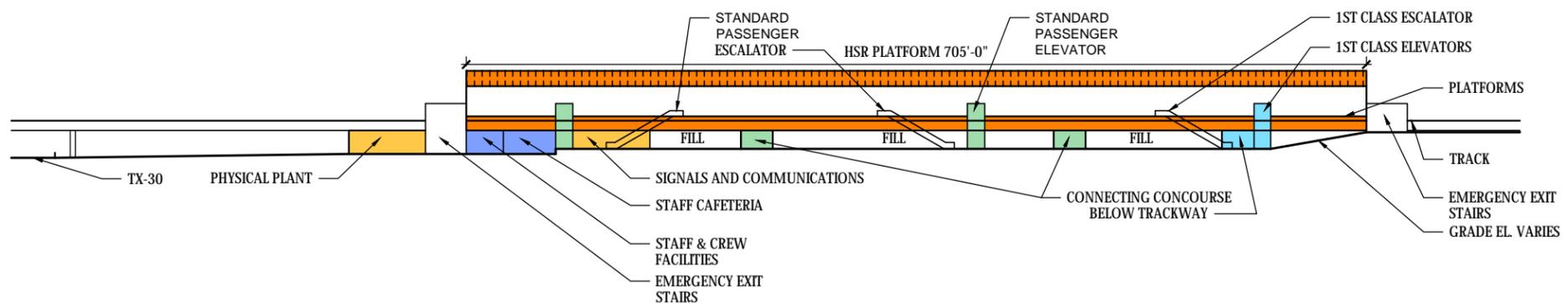
Drawing Title  
**HOUSTON SEGMENT STATIONS BRAZOS VALLEY STATION STATION FLOOR PLAN SHEET**

Scale	AS SHOWN
Drawing Status	FINAL DRAFT
Job No	234180
Drawing No	STA-HN-01032
Rev	01

1  
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9  
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1 SECTION A-A  
1" = 60'-0"



2 SECTION B-B  
1" = 60'-0"

COLOR LEGEND	
PARKING FACILITIES	
PEDESTRIAN CIRCULATION	
PUBLIC AREAS	
FIRST CLASS	
PLATFORMS AND TRACKS	
STAFF WELFARE	
OPERATIONS	

NOTE: DIMENSIONS SHOWN ARE CONCEPTUAL AND ARE SUBJECT TO CHANGE.



REV	DATE	BY	CHK	APP	DESCRIPTION

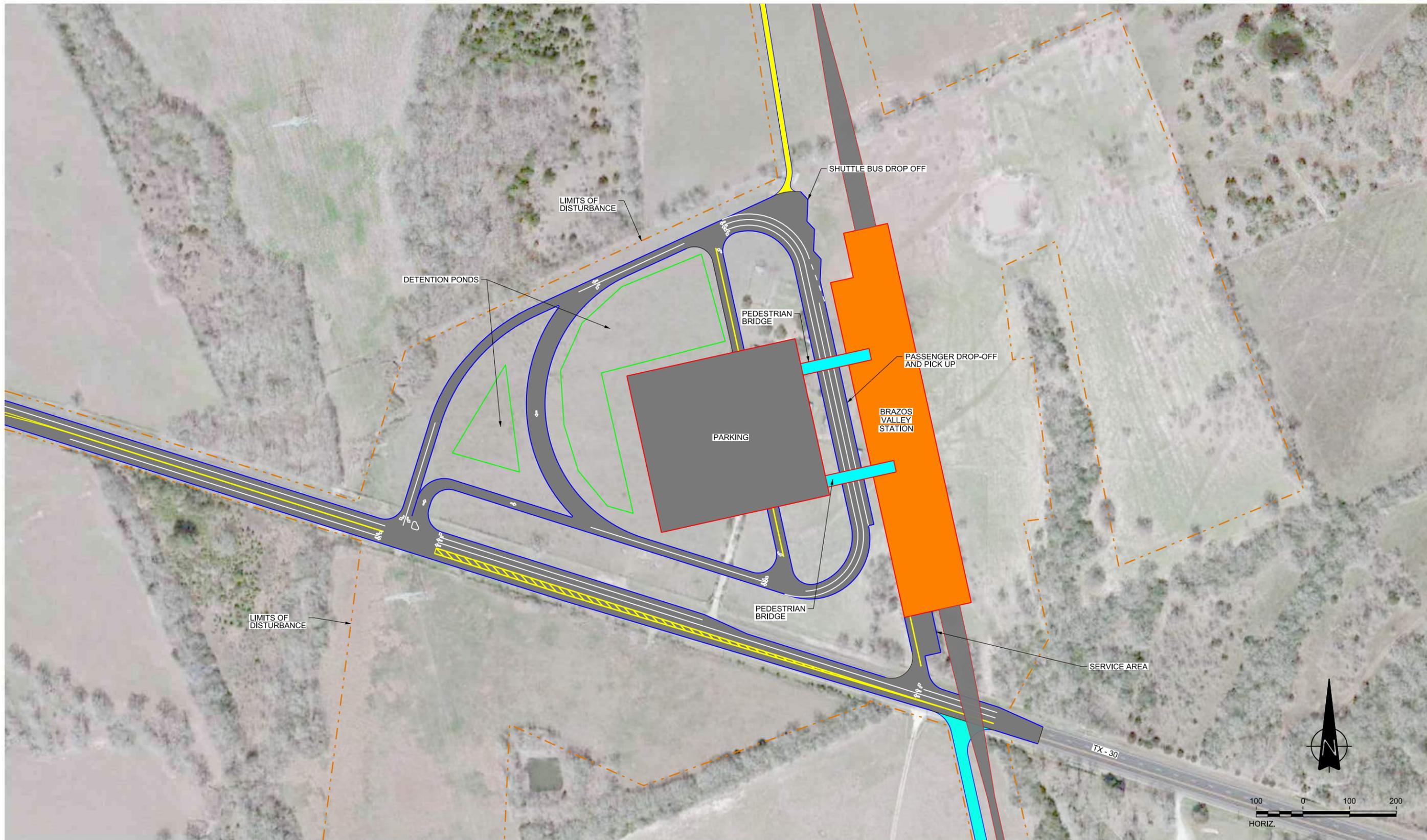
DESIGNED BY  
**K. MILLICAN**  
DRAWN BY  
**S. BUNDY**  
CHECKED BY  
**K. MILLICAN**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**09/15/2017**



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

Drawing Title  
**HOUSTON SEGMENT STATIONS BRAZOS VALLEY STATION STATION SECTION**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No STA-HN-01033	Rev 01



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**S. SPIVEY**

DRAWN BY  
**M. MARROQUIN**

CHECKED BY  
**T. SANSONE**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**

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**FREESSE & NICHOLS**

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

Client

**TEXAS CENTRAL**

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

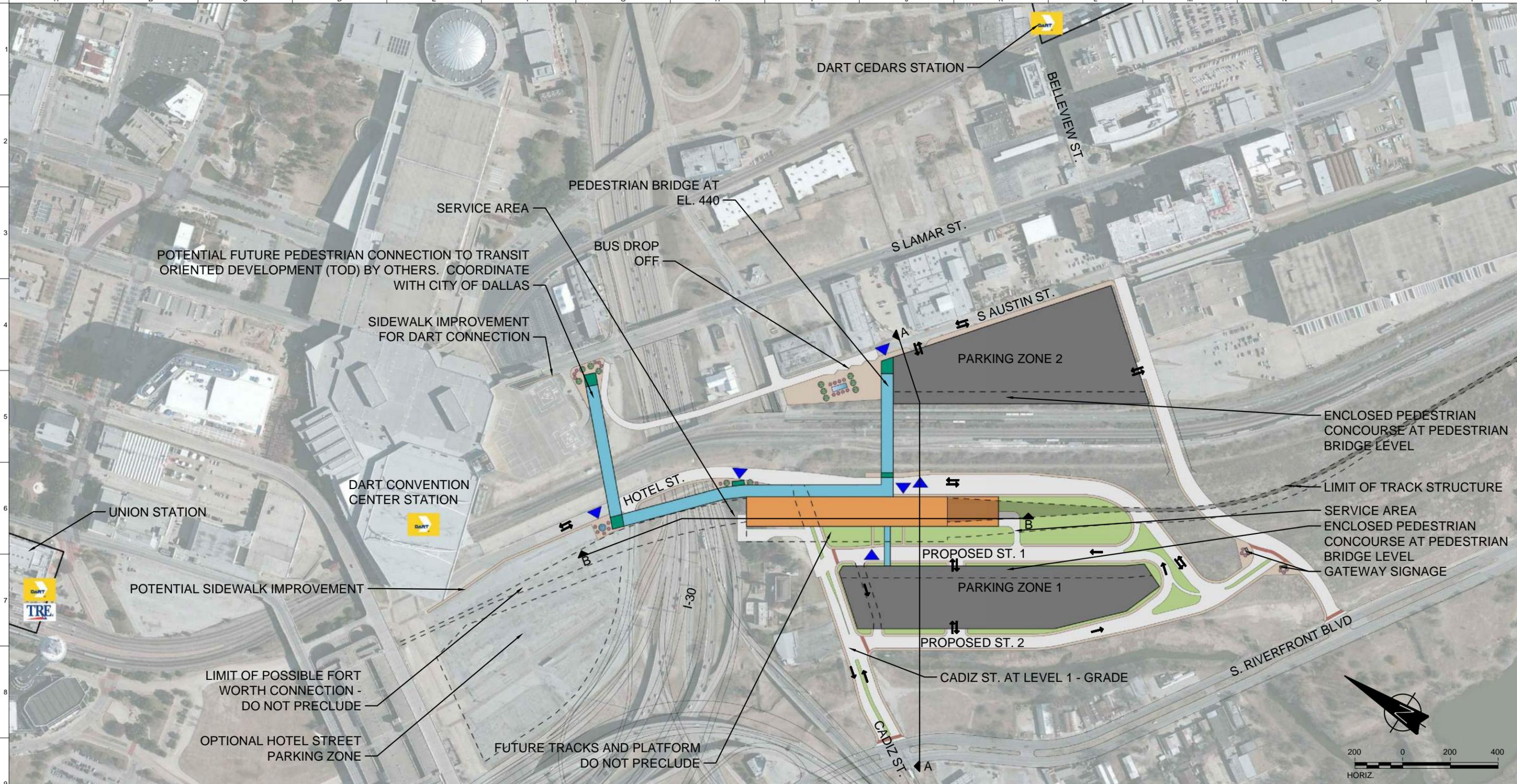
Drawing Title

**HOUSTON SEGMENT STATIONS  
BRAZOS VALLEY STATION  
CIVIL SITE PLAN**

Scale  
AS SHOWN

Drawing Status  
**FINAL DRAFT**

Job No 234180	Drawing No STA-HN-01034	Rev 01
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POTENTIAL FUTURE PEDESTRIAN CONNECTION TO TRANSIT ORIENTED DEVELOPMENT (TOD) BY OTHERS. COORDINATE WITH CITY OF DALLAS

SIDEWALK IMPROVEMENT FOR DART CONNECTION

SERVICE AREA

BUS DROP OFF

PEDESTRIAN BRIDGE AT EL. 440

DART CEDARS STATION

BELLEVUE ST.

S LAMAR ST.

S AUSTIN ST.

PARKING ZONE 2

DART CONVENTION CENTER STATION

HOTEL ST.

ENCLOSED PEDESTRIAN CONCOURSE AT PEDESTRIAN BRIDGE LEVEL

LIMIT OF TRACK STRUCTURE

SERVICE AREA ENCLOSED PEDESTRIAN CONCOURSE AT PEDESTRIAN BRIDGE LEVEL

GATEWAY SIGNAGE

UNION STATION

POTENTIAL SIDEWALK IMPROVEMENT

PROPOSED ST. 1

PARKING ZONE 1

PROPOSED ST. 2

LIMIT OF POSSIBLE FORT WORTH CONNECTION - DO NOT PRECLUDE

CADIZ ST. AT LEVEL 1 - GRADE

OPTIONAL HOTEL STREET PARKING ZONE

FUTURE TRACKS AND PLATFORM DO NOT PRECLUDE

S. RIVERFRONT BLVD



LEGEND:

- ▲ PASSENGER DROP-OFF & PICK UP
- PEDESTRIAN PLAZA
- PARKING ZONE
- STATION
- LIMITS OF HSR STRUCTURE
- PEDESTRIAN BRIDGE
- VERTICAL CIRCULATION

- NOTES:
1. THIS STATION AREA PLAN IS INTENDED TO ILLUSTRATE POTENTIAL ROADWAY NETWORK IMPROVEMENTS, PARKING AREAS, ELEVATED PEDESTRIAN CONCOURSES, VERTICAL CIRCULATION TOWERS, AND GROUND LEVEL PLAZAS TO SERVE PROPOSED HSR STATION. DETAILED COORDINATION WITH THE CITY OF DALLAS, DART, LOCAL AGENCY AND PUBLIC STAKEHOLDERS, AND APPLICABLE REGULATORY BODIES WILL BE UNDERTAKEN DURING MORE DETAILED PLANNING AND DESIGN TO FULLY INTEGRATE URBAN AND TRANSPORTATION PLANNING ELEMENTS WITH LOCAL DEVELOPMENT GOALS.
  2. PARKING CAPACITY PROVIDED AT STATION WAS BASED ON TCRR RIDERSHIP ANALYSES FOR THE MAXIMUM PARKING DEMAND IDENTIFIED THROUGH 2050. SEE FDCE REPORT FOR MORE INFORMATION.
  3. PARKING CAPACITY ALLOCATION SHOWN WAS INTENDED TO SUPPORT TRAFFIC IMPACT ANALYSES. ULTIMATE PARKING CAPACITY REQUIREMENTS AND ALLOCATION WOULD BE CLOSELY COORDINATED WITH THE CITY OF DALLAS DURING MORE DETAILED DESIGN DEVELOPMENT TO ENSURE COORDINATION WITH LOCAL URBAN DEVELOPMENT GOALS.
  4. REFER TO STATION FLOOR PLANS, CROSS SECTIONS, AND RENDERINGS FOR MORE DETAILS. REFER TO FDCE REPORT FOR PARKING ALLOWANCES.
  5. THE PROJECT CURRENTLY PROPOSES BUILDING ONLY FOUR TERMINAL TRACKS TO SUPPORT THE INITIAL SERVICE LEVEL. THE DESIGNS OF THE STATION AREA PLANS, ROADWAYS, PARKING, AND TRACK ALIGNMENT WERE DEVELOPED FOR THE PEAK SERVICE LEVEL AND DO NOT PRECLUDE A FUTURE EXPANSION TO A SIX-TRACK TERMINAL. USE OF THE SIX-TRACK TERMINAL DESIGN IN THE FDCE IS INTENDED TO PROVIDE A CONSERVATIVE FOOTPRINT FOR ENVIRONMENTAL ANALYSES SO THAT IMPACTS OF POTENTIAL FUTURE TERMINAL CAPACITY EXPANSION WOULD BE CONSIDERED. SEE FDCE REPORT FOR ADDITIONAL DETAIL.

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. DRESDNER**

DRAWN BY  
**S. BUNDY**

CHECKED BY  
**K. MILLICAN**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**



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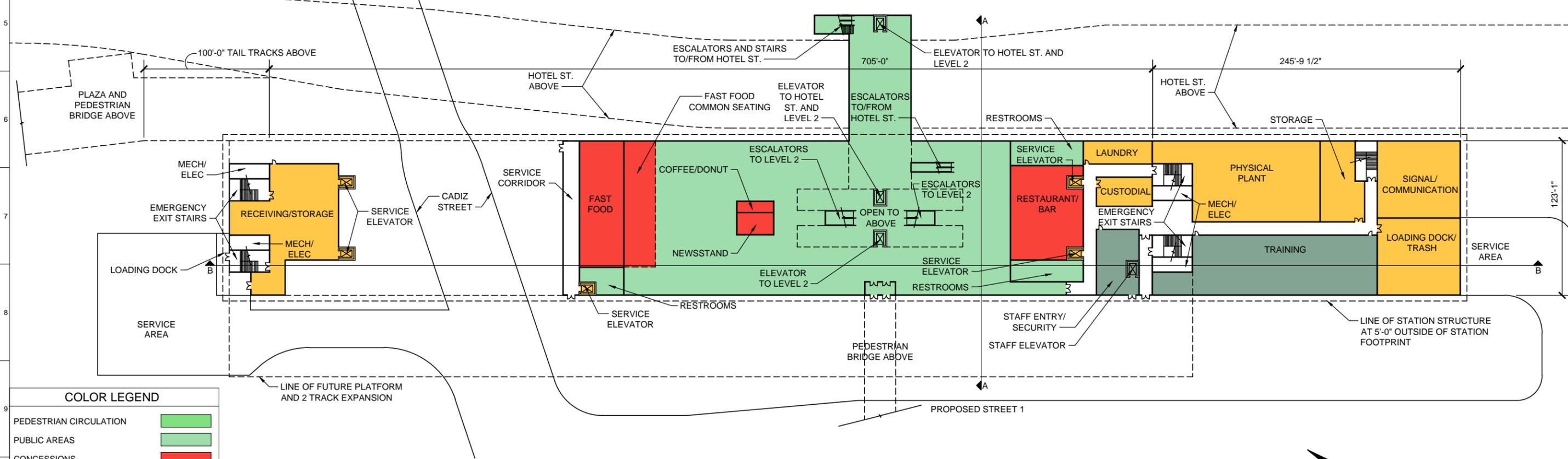
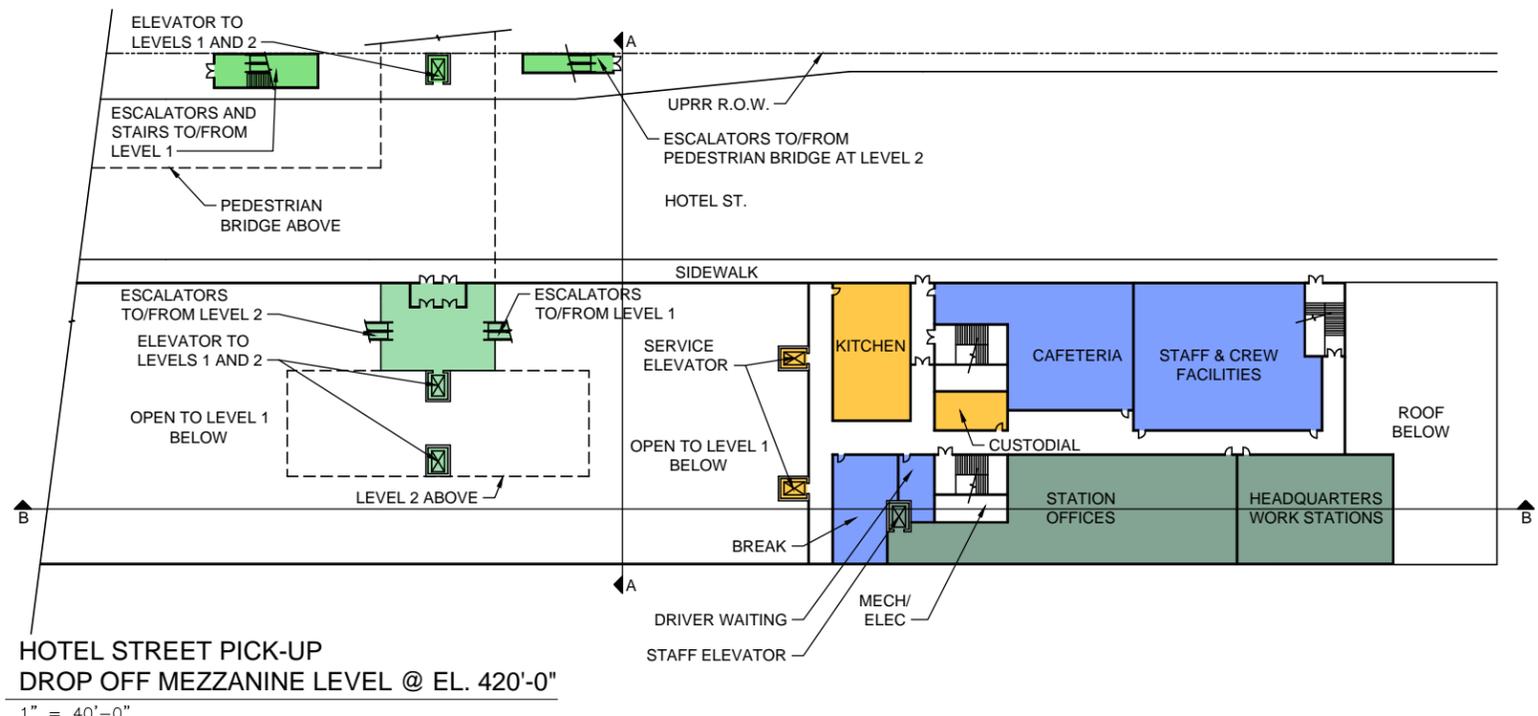
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Tel (214) 217 2200 Fax (214) 217 2201  
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Texas Registered Engineering Firm: F-2144



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

Drawing Title  
**DALLAS SEGMENT STATIONS  
DALLAS STATION  
STATION AREA PLAN**

Scale AS SHOWN	Drawing Status <b>FINAL DRAFT</b>	
Job No 234180	Drawing No STA-DS-01041	Rev 01



**COLOR LEGEND**

PEDESTRIAN CIRCULATION	[Green Box]
PUBLIC AREAS	[Light Green Box]
CONCESSIONS	[Red Box]
SECURITY & GENERAL OFFICES	[Dark Green Box]
STAFF WELFARE	[Blue Box]
OPERATIONS	[Yellow Box]

NOTE:  
DIMENSIONS SHOWN ARE CONCEPTUAL AND ARE SUBJECT TO CHANGE.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. MILLICAN**  
DRAWN BY  
**S. BUNDY**  
CHECKED BY  
**K. MILLICAN**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**09/15/2017**

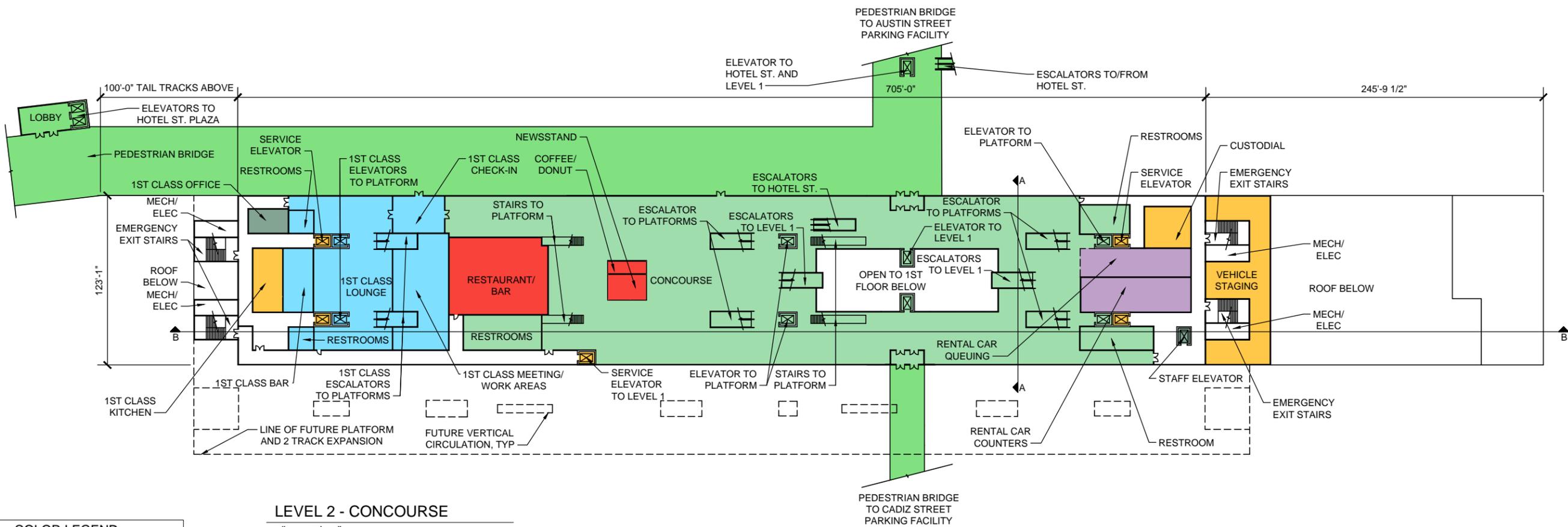
**ARUP**  
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www.freese.com  
Texas Registered Engineering Firm: F-2144

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

Drawing Title  
**DALLAS SEGMENT STATIONS  
DALLAS STATION  
STATION FLOOR PLAN  
SHEET 1 OF 3**

Scale  
AS SHOWN  
Drawing Status  
**FINAL DRAFT**  
Job No  
234180  
Drawing No  
STA-DS-01042  
Rev  
01



LEVEL 2 - CONCOURSE

1" = 40'-0"

**COLOR LEGEND**

PARKING FACILITIES	[Purple Box]
PEDESTRIAN CIRCULATION	[Light Green Box]
PUBLIC AREAS	[Light Green Box]
CONCESSIONS	[Red Box]
FIRST CLASS	[Blue Box]
SECURITY & GENERAL OFFICES	[Grey Box]
OPERATIONS	[Orange Box]

NOTE: DIMENSIONS SHOWN ARE CONCEPTUAL AND ARE SUBJECT TO CHANGE.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. MILLICAN**

DRAWN BY  
**S. BUNDY**

CHECKED BY  
**K. MILLICAN**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**



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Texas Registered Engineering Firm: F-2144

Client



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

Drawing Title

DALLAS SEGMENT STATIONS  
DALLAS STATION  
STATION FLOOR PLAN  
SHEET 2 OF 3

Scale AS SHOWN

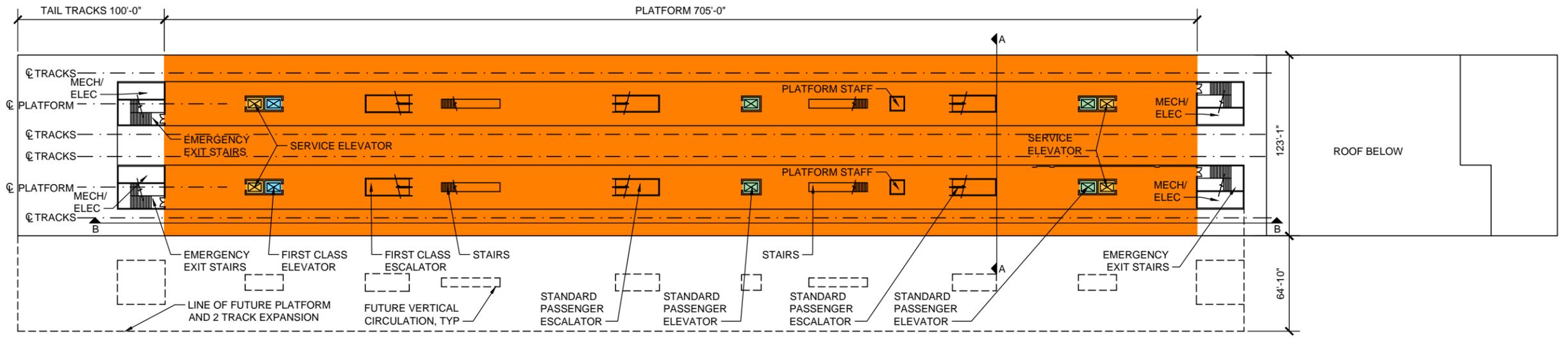
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FINAL DRAFT

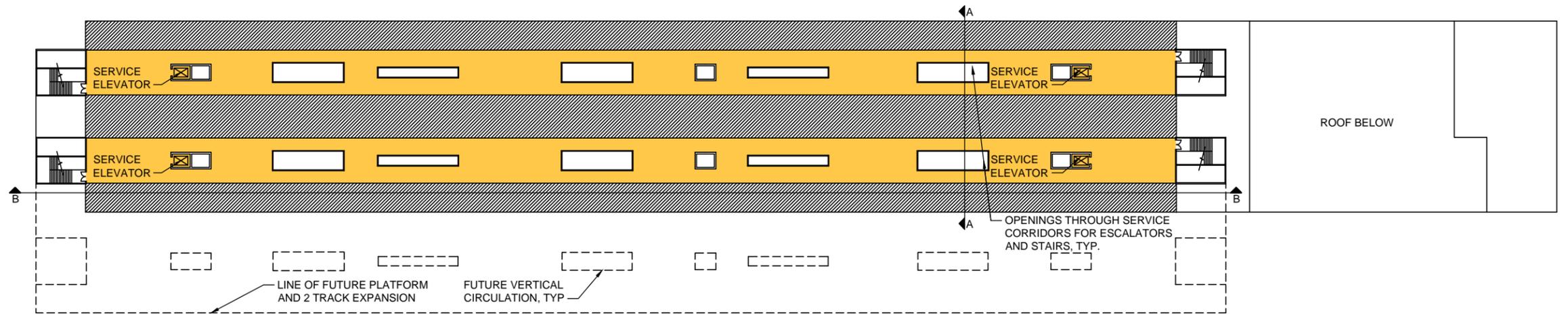
Job No <b>234180</b>	Drawing No <b>STA-DS-01043</b>	Rev <b>01</b>
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1  
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10

PLOT BY: N-YPMWCS\$ PLOT TIME: 9/12/2017 04:30:00 PM



**LEVEL 3 - PLATFORM LEVEL**  
 1" = 40'-0" (NOTE: SERVICE CORRIDORS IMMEDIATELY BELOW PLATFORMS)



**PLATFORM SERVICE CORRIDOR**  
 1" = 40'-0"

**COLOR LEGEND**

PEDESTRIAN CIRCULATION	[Green Box]
PUBLIC AREAS	[Light Green Box]
FIRST CLASS	[Blue Box]
PLATFORMS AND TRACKS	[Orange Box]
OPERATIONS	[Yellow Box]

NOTE: DIMENSIONS SHOWN ARE CONCEPTUAL AND ARE SUBJECT TO CHANGE.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. MILLICAN**

DRAWN BY  
**S. BUNDY**

CHECKED BY  
**K. MILLICAN**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**

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Client

**TEXAS CENTRAL**

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

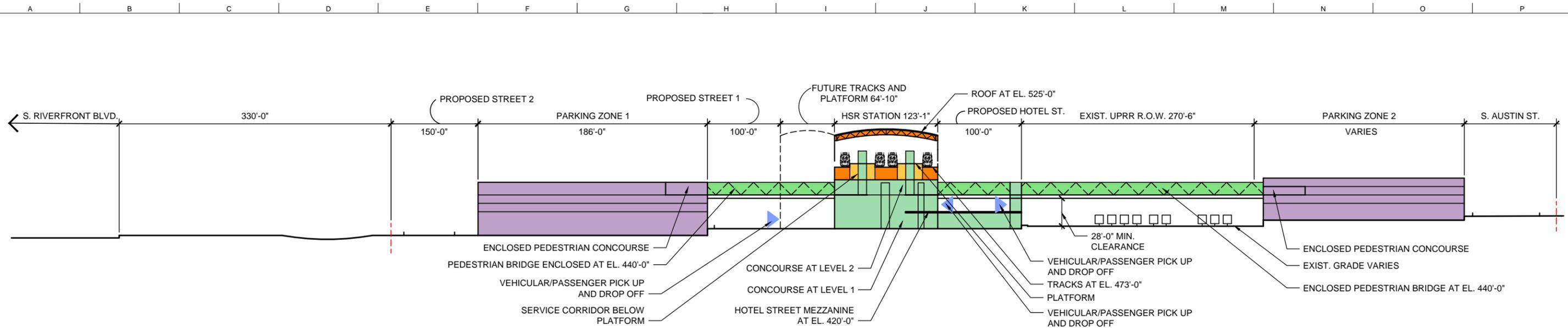
Drawing Title

**DALLAS SEGMENT STATIONS DALLAS STATION STATION FLOOR PLAN SHEET 3 OF 3**

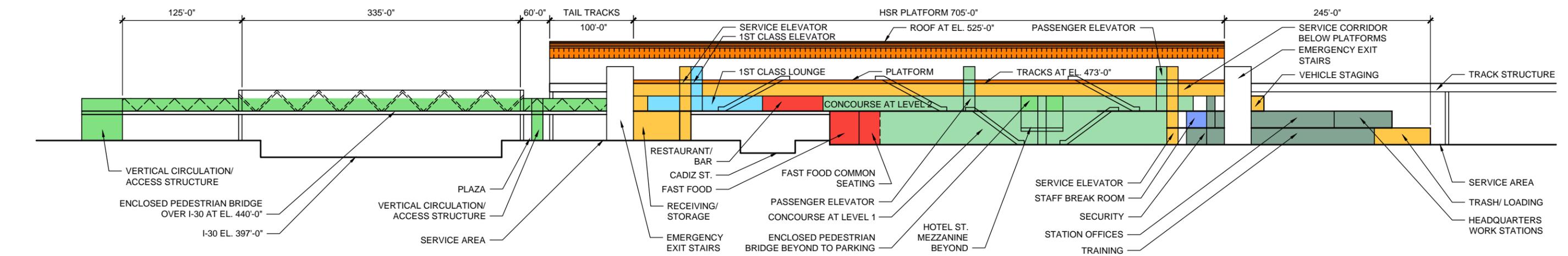
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AS SHOWN

Drawing Status  
**FINAL DRAFT**

Job No 234180	Drawing No STA-DS-01044	Rev 01
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1 SECTION A-A  
1" = 60'-0"



2 SECTION B-B  
1" = 60'-0"

COLOR LEGEND	
PARKING FACILITIES	
PEDESTRIAN CIRCULATION	
PUBLIC AREAS	
CONCESSIONS	
FIRST CLASS	
PLATFORMS AND TRACKS	
SECURITY & GENERAL OFFICES	
STAFF WELFARE	
OPERATIONS	

NOTE:  
DIMENSIONS SHOWN ARE CONCEPTUAL AND ARE SUBJECT TO CHANGE.



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. MILLICAN**  
DRAWN BY  
**S. BUNDY**  
CHECKED BY  
**K. MILLICAN**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**09/15/2017**

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Texas Registered Engineering Firm: F-2144

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

Drawing Title

**DALLAS SEGMENT STATIONS  
DALLAS STATION  
STATION SECTIONS  
SHEET 1 OF 3**

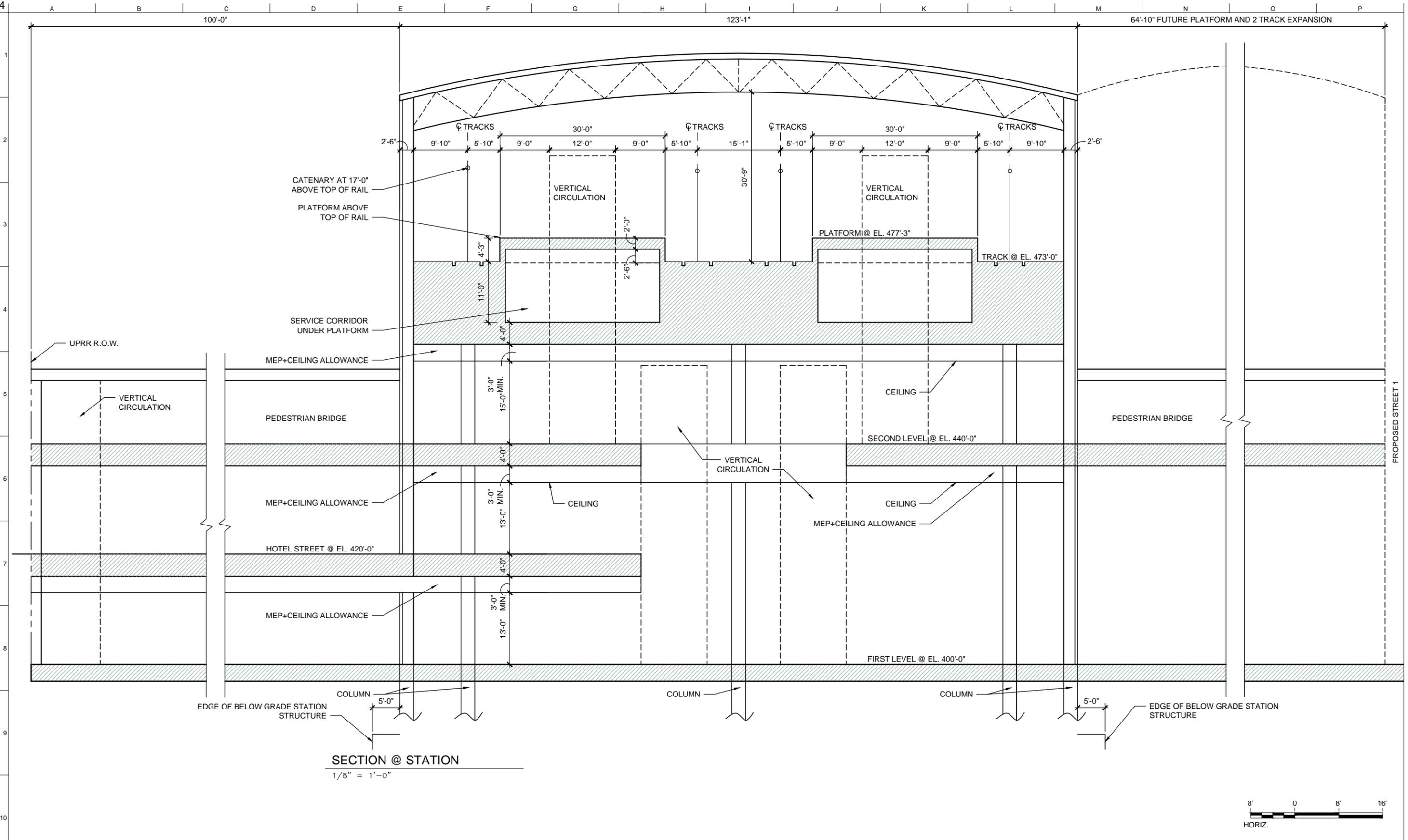
Scale

AS SHOWN

Drawing Status

**FINAL DRAFT**

Job No	Drawing No	Rev
234180	STA-DS-01045	01



**SECTION @ STATION**  
1/8" = 1'-0"



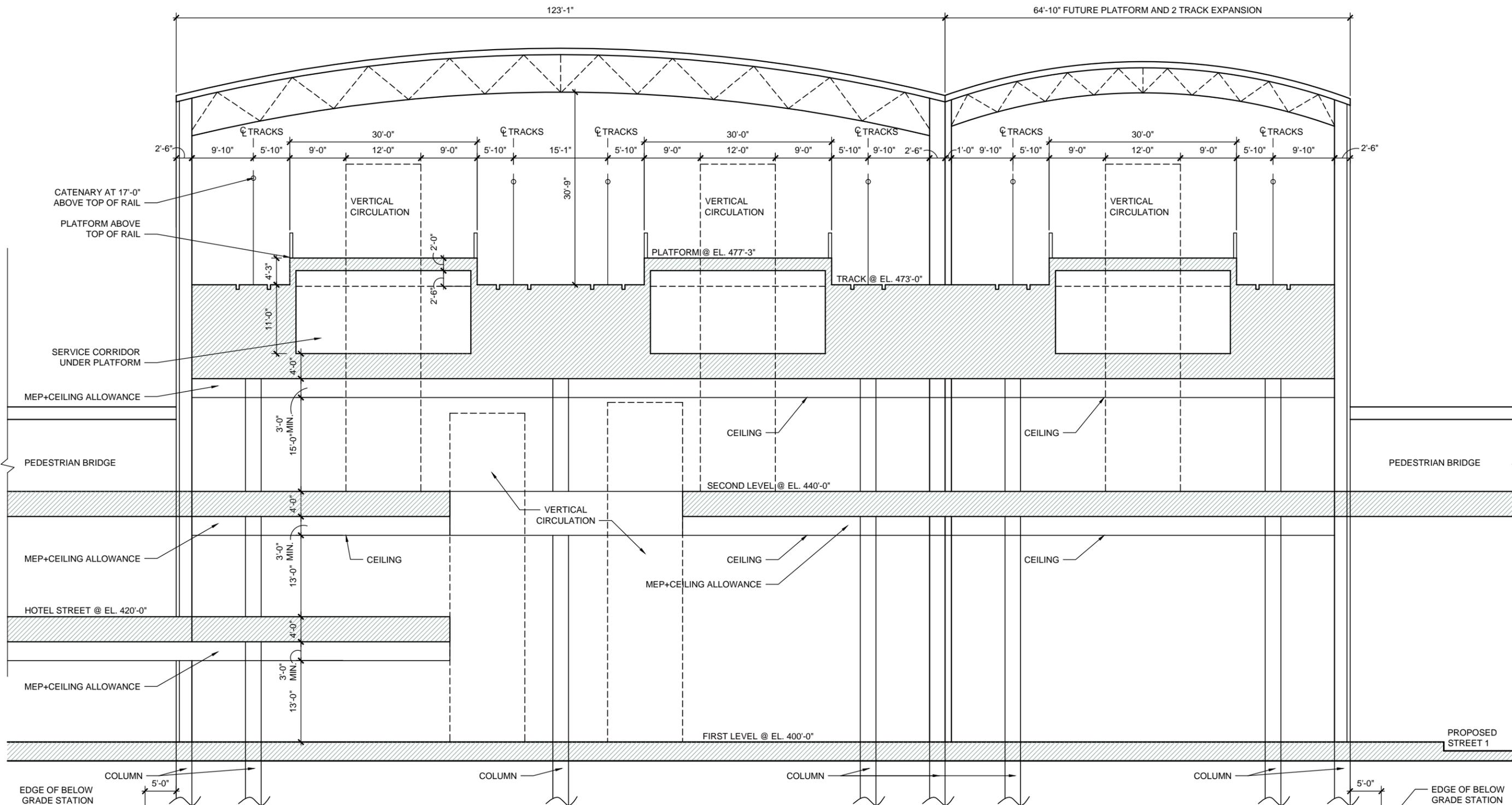
REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. MILLICAN**  
DRAWN BY  
**S. BUNDY**  
CHECKED BY  
**K. MILLICAN**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**09/15/2017**



Drawing Title  
**DALLAS SEGMENT STATIONS  
DALLAS STATION  
STATION SECTIONS  
SHEET 2 OF 3**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No STA-DS-01046	Rev 01



**SECTION @ STATION - FUTURE EXPANSION**  
 1/8" = 1'-0"



REV	DATE	BY	CHK	APP	DESCRIPTION

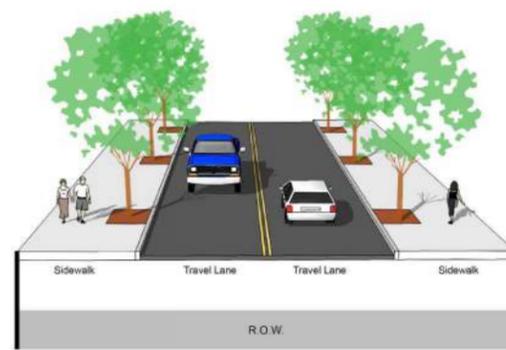
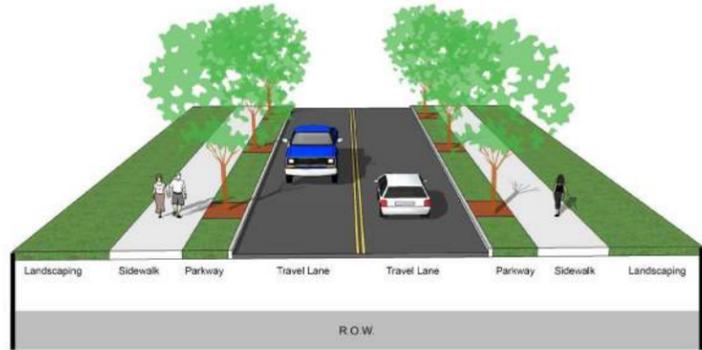
DESIGNED BY  
**K. MILLICAN**  
 DRAWN BY  
**S. BUNDY**  
 CHECKED BY  
**K. MILLICAN**  
 IN CHARGE  
**C. TAYLOR**  
 DATE  
**09/15/2017**



Drawing Title  
**DALLAS SEGMENT STATIONS  
 STATION SECTIONS  
 FUTURE EXPANSION  
 SHEET 3 OF 3**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No STA-DS-01047	Rev 01

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1

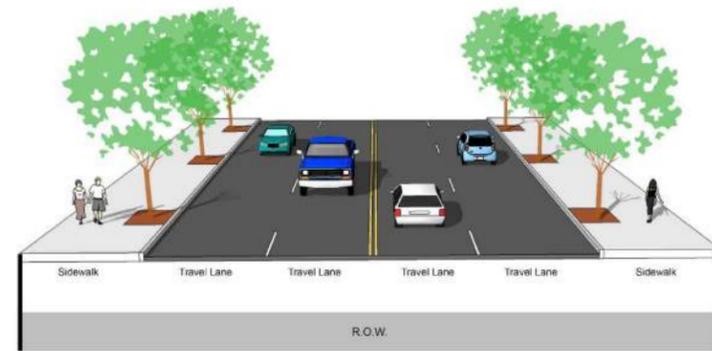
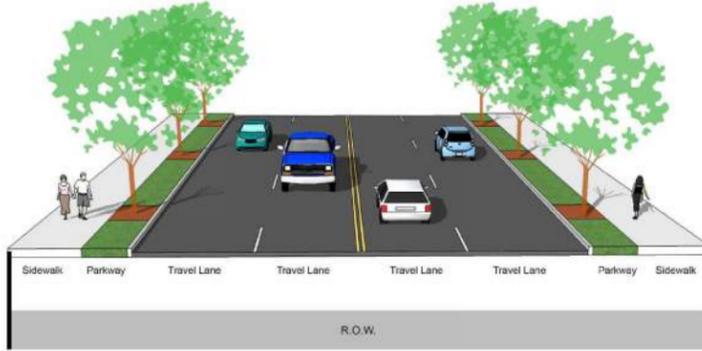
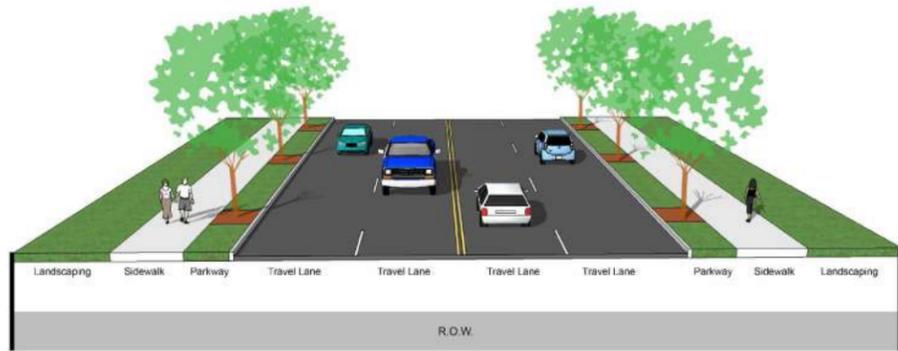
TYPICAL PEDESTRIAN STREETSCAPE WITH GREEN PLANTING AREA, SIDEWALK AND GREENWAY, 2 TRAFFIC LANES

2

TYPICAL PEDESTRIAN STREETSCAPE WITH GREEN PLANTING AREA AND SIDEWALK, 2 TRAFFIC LANES

3

TYPICAL PEDESTRIAN STREETSCAPE WITH SIDEWALK 2 TRAFFIC LANES



4

TYPICAL PEDESTRIAN STREETSCAPE WITH GREEN PLANTING AREA, SIDEWALK AND GREENWAY, 4 TRAFFIC LANES

5

TYPICAL PEDESTRIAN STREETSCAPE WITH GREEN PLANTING AREA AND SIDEWALK, 4 TRAFFIC LANES

6

TYPICAL PEDESTRIAN STREETSCAPE WITH SIDEWALK 4 TRAFFIC LANES

NOTE: STREETSCAPE AND LANDSCAPE DETAILS TO BE DEVELOPED IN CLOSE COORDINATION WITH PROJECT STAKEHOLDERS DURING MORE DETAILED DESIGN.

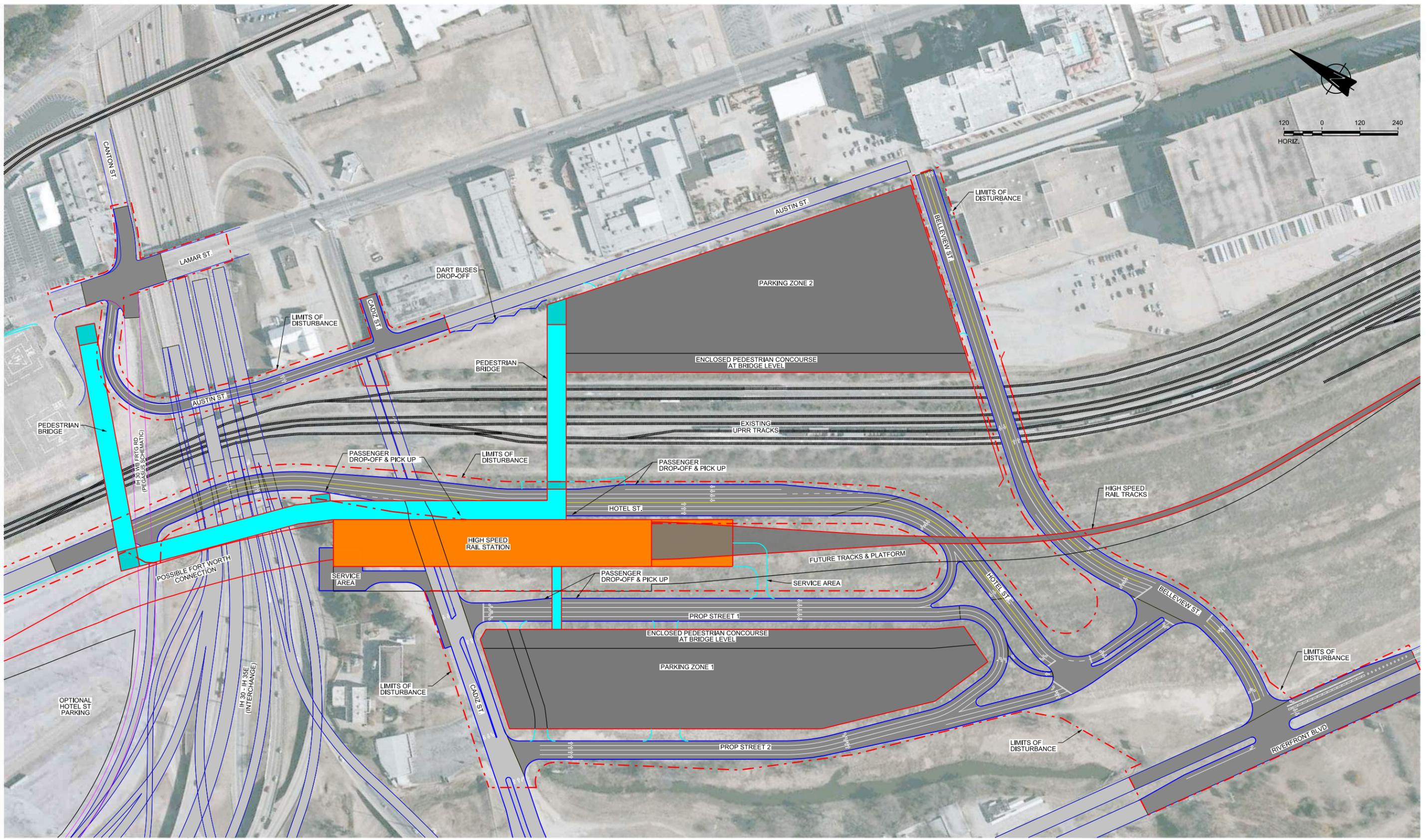
REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**K. DRESDNER**  
DRAWN BY  
**M. QUEEN**  
CHECKED BY  
**K. MILLICAN**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**09/15/2017**



Client  
Drawing Title  
**STATIONS  
TYPICAL PEDESTRIAN STREETSCAPE**

Scale  
**NOT TO SCALE**  
Drawing Status  
**FINAL DRAFT**  
Job No  
**234180**  
Drawing No  
**STA-DS-01048**  
Rev  
**01**



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. PATERSON**  
DRAWN BY  
**R. PATERSON**  
CHECKED BY  
**T. SANSONE**  
IN CHARGE  
**C. TAYLOR**  
DATE  
**09/15/2017**



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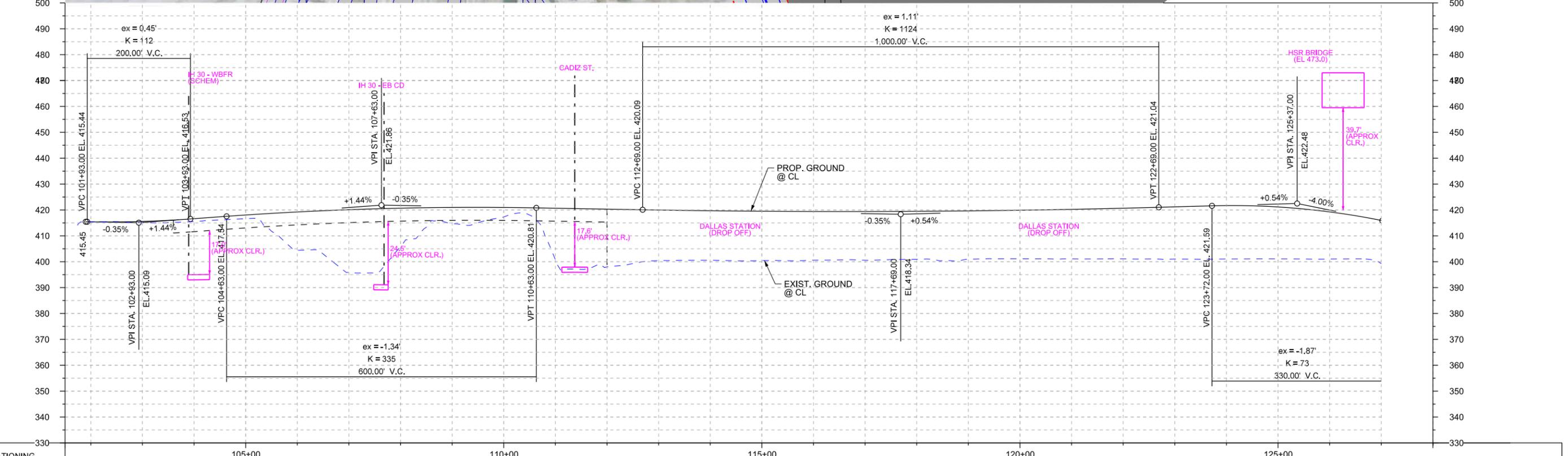
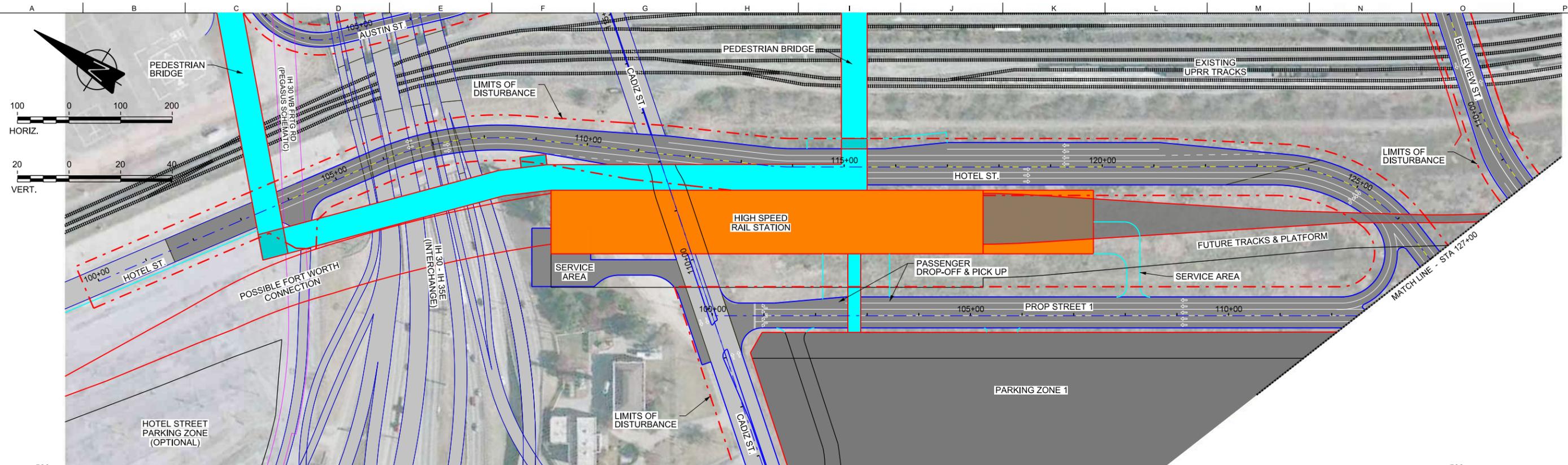
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Tel (214) 217 2200 Fax (214) 217 2201  
www.freese.com  
Texas Registered Engineering Firm: F-2144



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

Drawing Title  
**DALLAS SEGMENT STATIONS  
DALLAS STATION  
CIVIL SITE PLAN**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No STA-DS-01049	Rev 01



STATIONING	105+00	110+00	115+00	120+00	125+00
HOR. ALIGNMENT					
VER. ALIGNMENT					

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. PATERSON**

DRAWN BY  
**R. PATERSON**

CHECKED BY  
**T. SANSONE**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**

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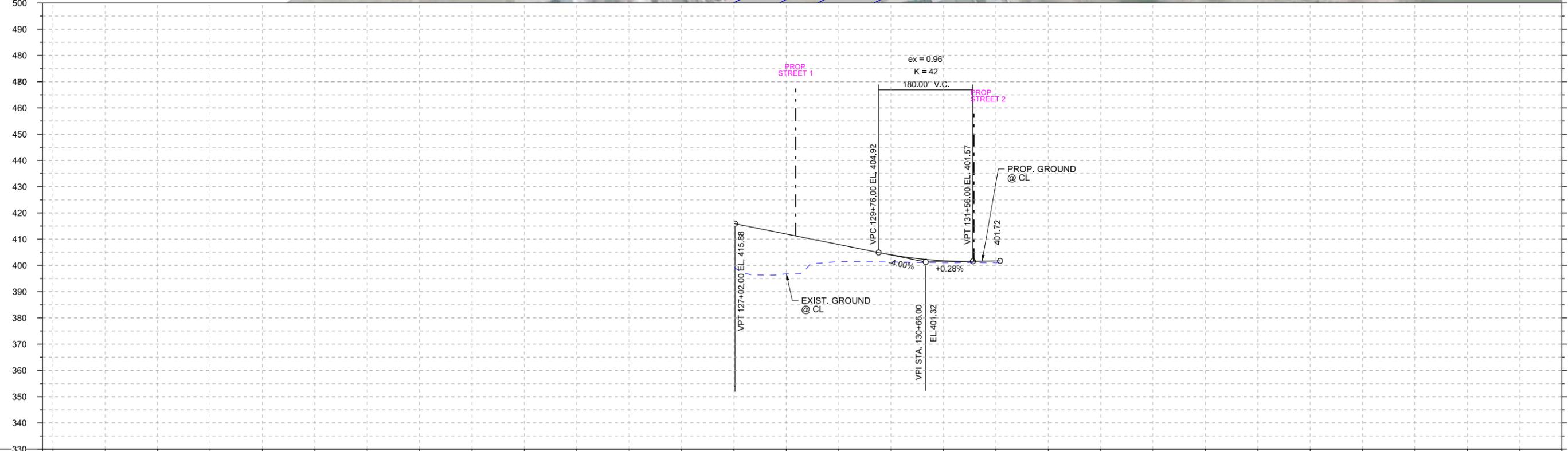
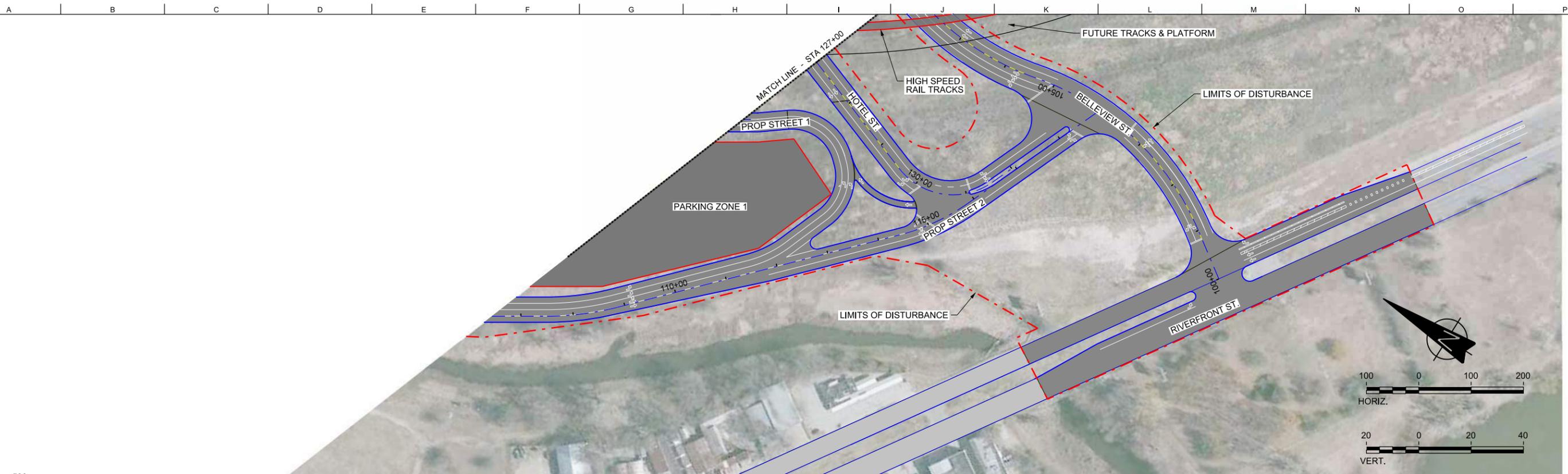
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Client

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

Drawing Title  
**DALLAS SEGMENT STATIONS  
 DALLAS STATION  
 HOTEL ST. REALIGNMENT  
 SHEET 1 OF 2**

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	STA-DS-01050	01	



STATIONING	115+00	120+00	125+00	130+00	135+00	140+00
HOR. ALIGNMENT						
VER. ALIGNMENT						

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. PATERSON**

DRAWN BY  
**R. PATERSON**

CHECKED BY  
**T. SANSONE**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**

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Client

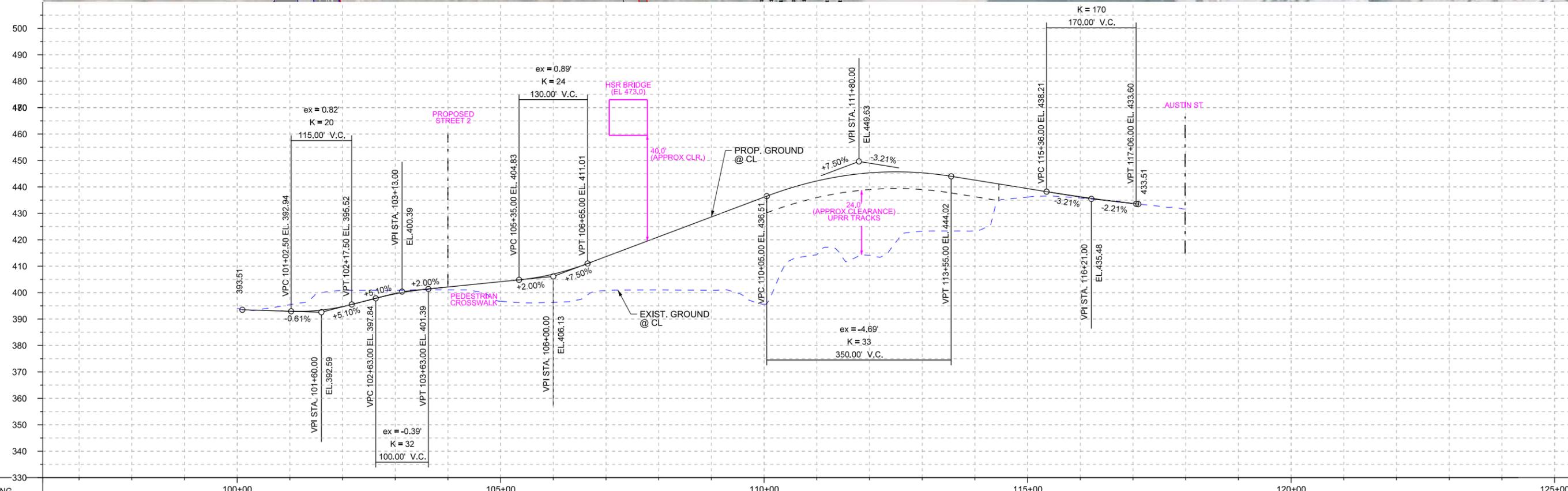
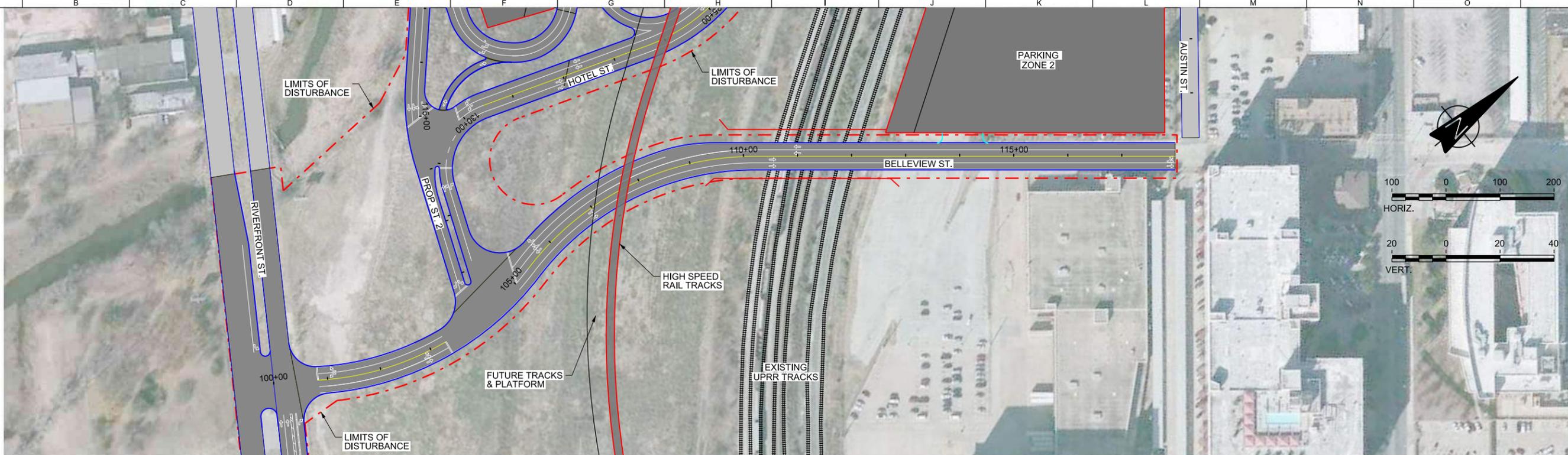
**TEXAS CENTRAL**

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

Drawing Title

**DALLAS SEGMENT STATIONS  
DALLAS STATIONS  
HOTEL ST. REALIGNMENT  
SHEET 2 OF 2**

Scale AS SHOWN		
Drawing Status FINAL DRAFT		
Job No 234180	Drawing No STA-DS-01051	Rev 01



STATIONING	100+00	105+00	110+00	115+00	120+00	125+00
HOR. ALIGNMENT						
VER. ALIGNMENT						

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. PATERSON**

DRAWN BY  
**R. PATERSON**

CHECKED BY  
**T. SANSONE**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**

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Texas Registered Engineering Firm: F-2144

Client

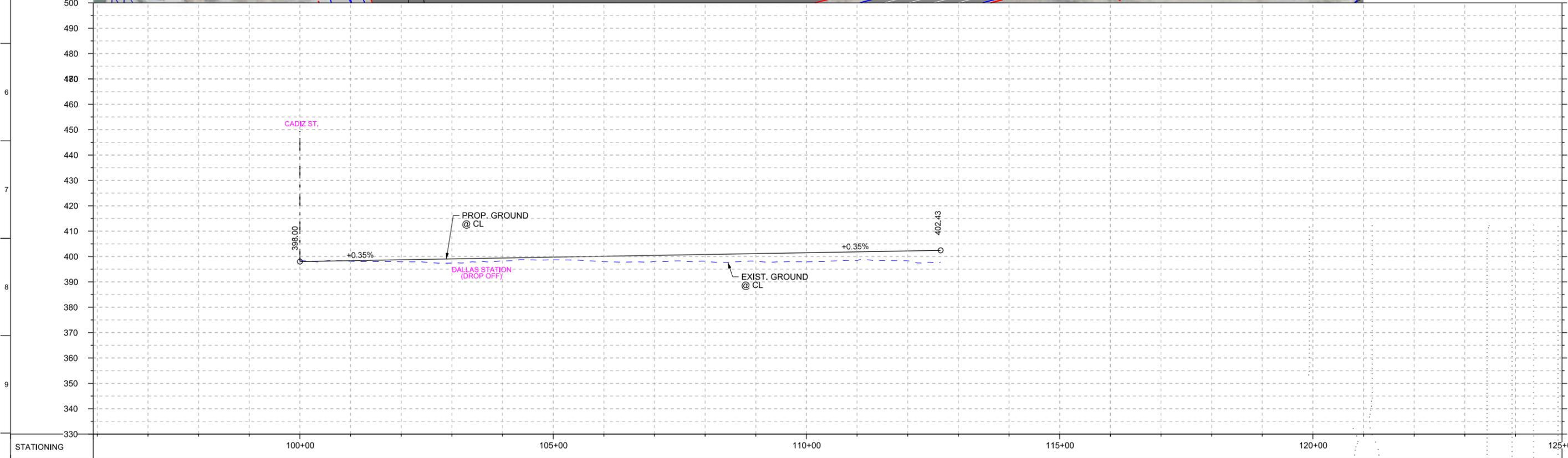
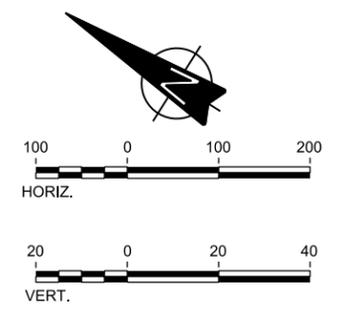
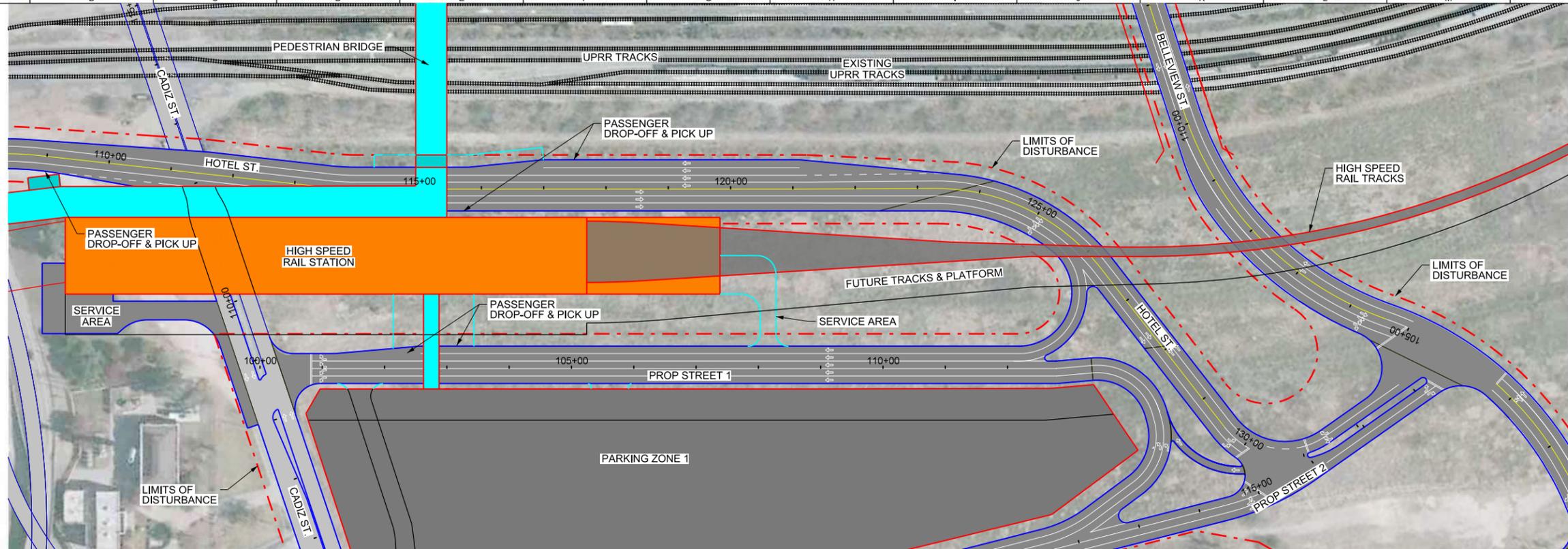
**TEXAS CENTRAL**

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

Drawing Title

**DALLAS SEGMENT STATIONS  
DALLAS STATION  
BELLEVUE ST REALIGNMENT**

Scale	AS SHOWN
Drawing Status	FINAL DRAFT
Job No	234180
Drawing No	STA-DS-01052
Rev	01



STATIONING	100+00	105+00	110+00	115+00	120+00	125+00
HOR. ALIGNMENT						
VER. ALIGNMENT						

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. PATERSON**

DRAWN BY  
**R. PATERSON**

CHECKED BY  
**T. SANSONE**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**

**ARUP**

Arup Texas, Inc.  
10370 Richmond Ave., Suite 475  
Houston, Texas 77042 USA  
Tel (713) 783 2787 Fax (713) 343 1467  
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**FRESE & NICHOLS**

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

Client

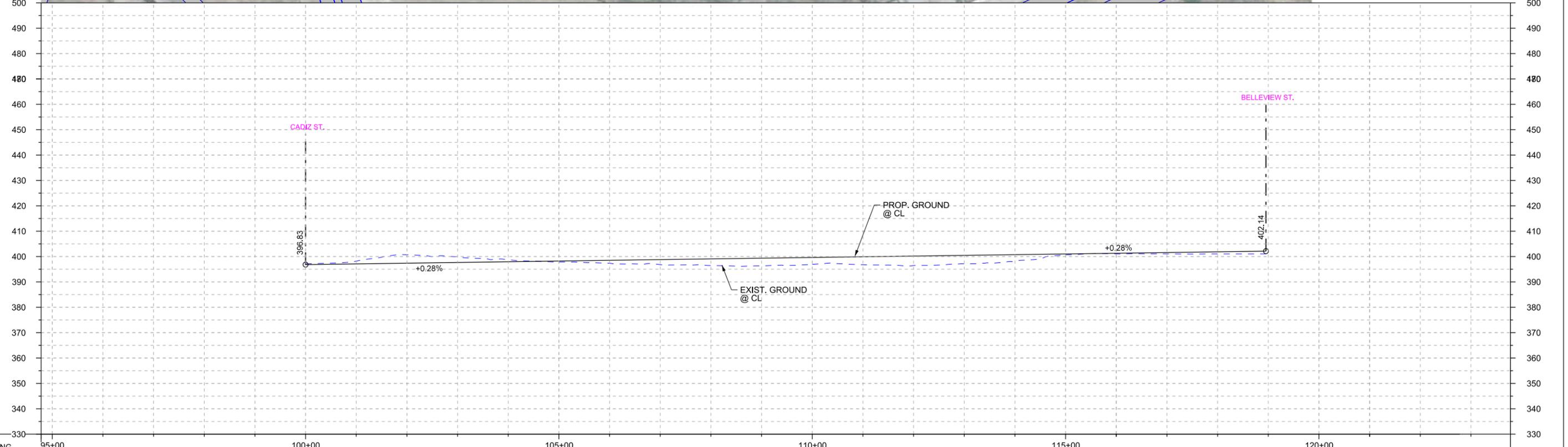
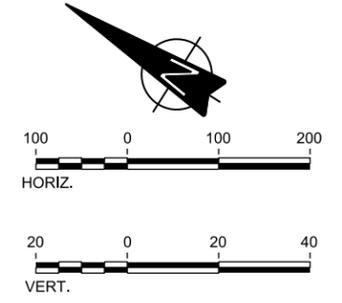
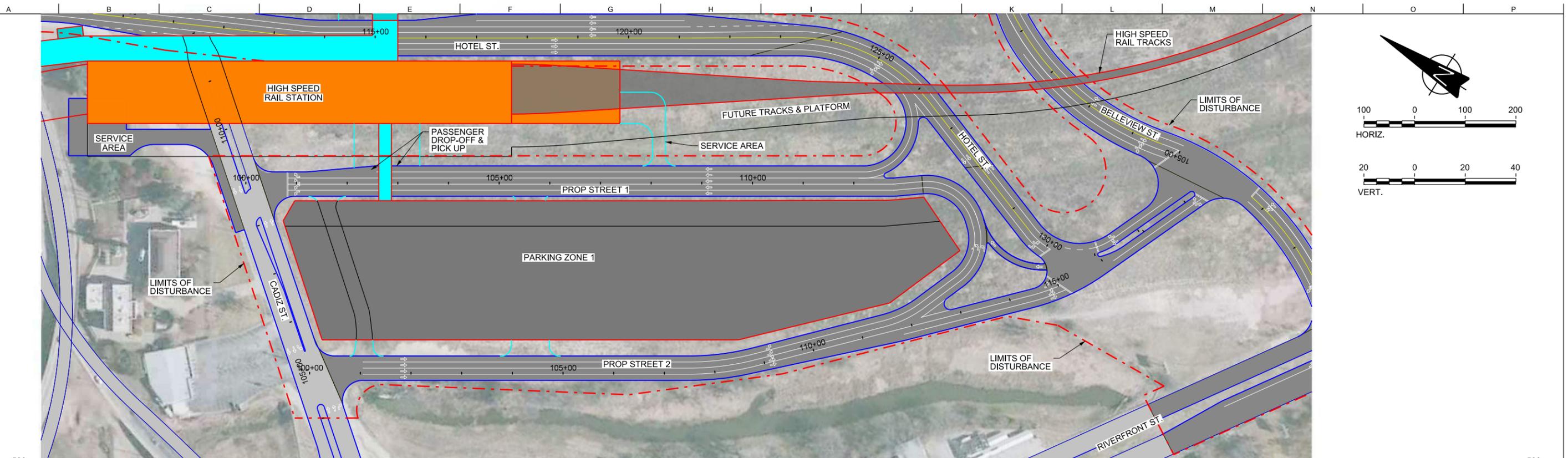
**TEXAS CENTRAL**

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

Drawing Title

**DALLAS SEGMENT STATIONS DALLAS STATION PROPOSED STREET 1 REALIGNMENT**

Scale	AS SHOWN		
Drawing Status	FINAL DRAFT		
Job No	Drawing No	Rev	
234180	STA-DS-01053	01	



STATIONING	95+00	100+00	105+00	110+00	115+00	120+00
HOR. ALIGNMENT						
VER. ALIGNMENT						

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. PATERSON**

DRAWN BY  
**R. PATERSON**

CHECKED BY  
**T. SANSONE**

IN CHARGE  
**C. TAYLOR**

DATE  
**09/15/2017**

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Client

**TEXAS CENTRAL**

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

Drawing Title

**DALLAS SEGMENT STATIONS DALLAS STATION PROPOSED STREET 2 REALIGNMENT**

Scale  
AS SHOWN

Drawing Status  
**FINAL DRAFT**

Job No	Drawing No	Rev
234180	STA-DS-01054	01