

DRAFT



TRINITY PARKWAY

DESIGN CRITERIA MANUAL

July 1, 2009

ACKNOWLEDGEMENTS

Board of Directors

Paul N. Wageman, Chairman
Victor T. Vandergriff, Vice Chairman
Kenneth Barr, Director
Gary Base, Director
Bob Day, Director
David R. Denison, Director
Michael R. Nowels, Director
Robert K. Shepard, Director
Alan E. Sims, Director

System Project & Operations Committee

Paul N. Wageman, Chairman
Robert K. Shepard, Committee Member
Victor T. Vandergriff, Committee Member

And:

Janice Davis, Interim Executive Director / Chief Financial Officer
Rick Herrington, Deputy Executive Director
Susan Buse, Assistant Executive Director of Project Evaluation
Gerry Carrigan, Assistant Executive Director of Project Delivery
Clayton Howe, Assistant Executive Director of Operations
Kimberly Jackson, Director of Communications
Marty Legé, Director of System and Incident Management
Elizabeth Mow, Director of Project Delivery
Dave Pounds, Director of Information Technology
J.C. Wood, Jr., Director of Maintenance

Project Consultant Team

HNTB Corporation
Caye Cook & Associates

Project Partners

City of Dallas
U.S. Army Corps of Engineers
Texas Department of Transportation
Trinity Lakes Team
CH2M HILL
Wallace Roberts and Todd
URS



<p>1</p>	<p>Overview Introduction 08 Project Process 09 Regional Context Map 11 Corridor Zone Identification Map 12-13</p>	<p>07-13</p>	<p>7</p>	<p>Toll Gantry Structures Mainlane Gantries 110-111 Double Lane Ramp Gantry at Grade ... 112-113 Single Lane Ramp Gantry - Bent Cap... 114-115 Double Lane Ramp Gantry - Bent Cap.116-117 Single Lane Ramp Gantry - Columns ... 118-119 Double Lane Ramp Gantry - Columns...120-121</p>	<p>109-121</p>
<p>2</p>	<p>North Trinity Gateway Zone Zone Map 14-15 Inventory & Analysis..... 16-17 Focus Area Plan, Sections, & Elevations.... 18-27</p>	<p>13-27</p>	<p>8</p>	<p>Bridge Structures Mainlane Multi-Column Bridge Bent..... 124 Mainlane Multi-Column Monotube 125-126 Single Column Bridge Bents..... 127-130 Straddle Bents 131-132 Single Column Cantilever Bridge Bent 133 Column Types..... 134 Column Capital Details..... 135 Bridge Rails..... 136 Continental Bridge 137 Downtown Overlook 138 Bellview Pedestrian Bridge..... 139 Houston Street Pedestrian Bridge 140</p>	<p>123-140</p>
<p>3</p>	<p>Meadows/Wetlands Zone Zone Map 30-31 Inventory & Analysis..... 32-33 Focus Area Plan, Sections, & Elevations.... 34-45</p>	<p>29-45</p>	<p>9</p>	<p>Main Lane Elements Wall Types 144-149 Traffic Barriers..... 150 Wall Planter..... 151 Sign Structures 152-155 Lighting..... 156-159 Camera Pole 160</p>	<p>143-160</p>
<p>4</p>	<p>Urban Zone Zone Map 48-49 Inventory & Analysis..... 50-51 Focus Area Plan, Sections, & Elevations.... 52-67</p>	<p>47-67</p>	<p>10</p>	<p>Landscape Site Opportunities & Constraints..... 165 Focus Area Plan 166-167 North Trinity Gateway Landscape 168-171 Meadows/Wetlands Landscape 172-177 Urban Landscape 178-183 Forest Landscape 184-191</p>	<p>162-209</p>
<p>5</p>	<p>Forest Zone Zone Map 70-71 Inventory & Analysis..... 72-73 Focus Area Plan, Sections, & Elevations.... 74-85</p>	<p>69-85</p>	<p>South Trinity Gateway Landscape..... 192-193 Plant Palette..... 194-199 Typical Details 200-201 Irrigation 202-209</p>		
<p>6</p>	<p>South Trinity Gateway Zone Zone Map 88-89 Inventory & Analysis..... 90-91 Focus Area Plan, Sections, & Elevations.. 92-107</p>	<p>87-107</p>			



01 Overview



Introduction	08
Project Process	09
Regional Context Map	11
Corridor Zone Identification Map	12-13



INTRODUCTION

The Trinity Parkway is a proposed limited-access toll facility in the City of Dallas. Envisioned to serve as a critical traffic reliever route around the west and south sides of Dallas' Central Business District, the Parkway will be approximately nine miles in length, connecting the IH-35E/SH-183 interchange at the north end to the US-175/SH-310 interchange at the south end (see Project Location map).

Sponsors of the Trinity Parkway project include the Federal Highway Administration (FHWA, lead agency), North Texas Tollway Authority (NTTA), Texas Department of Transportation (TxDOT), and the City of Dallas. The U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (USACE) serve as cooperating agencies for the project. The NTTA proposes to design, construct, operate and maintain this facility, which has been designated as a toll road for funding purposes. Developing a highway as a toll road can save both time and money, by providing a needed funding mechanism and accelerating the project schedule by an estimated seven years.

The proposed project is consistent with the area's financially constrained long-range Mobility 2030 Metropolitan Transportation Plan (MTP) and the amended 2006-2008 Transportation Improvement Program (TIP) as proposed by the North Central Texas Council of Governments (NCTCOG). Both the MTP and the TIP were found to conform to the State Implementation Plan (SIP) on June 12, 2007. The proposed facility would consist of six mixed-flow tolled lanes, local street interchanges, and freeway-to-freeway interchanges at the northern terminus, southern terminus, Woodall Rodgers Freeway, and IH-45. The proposed project is needed to address current and projected congestion problems and transportation system demands and deficiencies in the area. The primary purpose of the proposed Trinity Parkway is to reduce traffic congestion on IH-35, IH-30, and other major transportation facilities within the Trinity Parkway study area in order to improve mobility and safety, and to increase accessibility to businesses and public facilities.

The Trinity Parkway is proposed to be constructed in stages in some segments, with fewer lanes initially than the ultimate facility. Staging the construction is expected to allow NTTA to reduce initial cost of the roadway and better match the the scope of the facility to the traffic demand expected in the early years of the operation. Additional capacity may be added as traffic demand and conditions warrant, subject to funding availability and other agency considerations.

The Environmental Impact Statement (EIS) for the Trinity Parkway is being prepared pursuant to the National Environmental Policy Act (NEPA), and in compliance with the NEPA regulations issued by the Council on Environmental Quality (CEQ) and the FHWA. The NEPA Regulations are a mandate for Federal agencies to examine the potential environmental consequences of their proposals, consult with other agencies, document the analysis, and make the information available to the public prior to making a decision. An EIS presents detailed socioeconomic, environmental, and engineering information about a project so that general public and federal, state and local agencies can appropriately review and comment.

A Draft Environmental Impact Statement (DEIS) for the proposed Trinity Parkway project was circulated in February 2005 by FHWA and published. FHWA's decision to prepare a Supplemental Draft Environmental Impact Statement (SDEIS) for the Trinity Parkway was made late 2005 in consultation with the sponsoring agencies and the cooperating agencies. The SDEIS represents a collaborative effort with the USACE to develop NEPA documentation that would support the decisions that both FHWA and USACE would be required to make regarding the proposed project. Eight "build" alternatives and a "no-build" alternative are considered in the SDEIS. At this time, the agencies are tentatively scheduled to publish a Final Environmental Impact Statement (FEIS) for the project at the end of 2009. Following the approval of the FEIS and publication of the notice of availability of the FEIS, a Record of Decision (ROD) would be signed. The ROD would describe the selected alternative, explain the reasons for the decision, and summarize any mitigation measures and monitoring that would be incorporated in the project.

During the public comment period set to take place in April 2009, the regulatory agencies, the public, and other interested parties provided comments on the technical analyses presented in the SDEIS. All additional and relevant comments are evaluated and considered prior to recommending a preferred alternative in the FEIS.

For the purposes of this manual, one of the eight "build" parkway alignment alternatives was used in developing design criteria for the proposed Trinity Parkway project. This criteria will be combined in manual form, and will serve to guide section engineers on the application of aesthetic treatments for the various parkway design elements during the production of construction plans, specifications and estimates.



MANUAL DEVELOPMENT

The Trinity Parkway Design Criteria Manual (DCM) balances design recommendations of the NTTA Design Guidelines, the City of Dallas' Trinity Parkway Landscape and Aesthetic Design Guidelines and the requirements of the Environmental Impact Statement (EIS), the history of which has been explained.

The DCM provides a communication tool for corridor and design management.

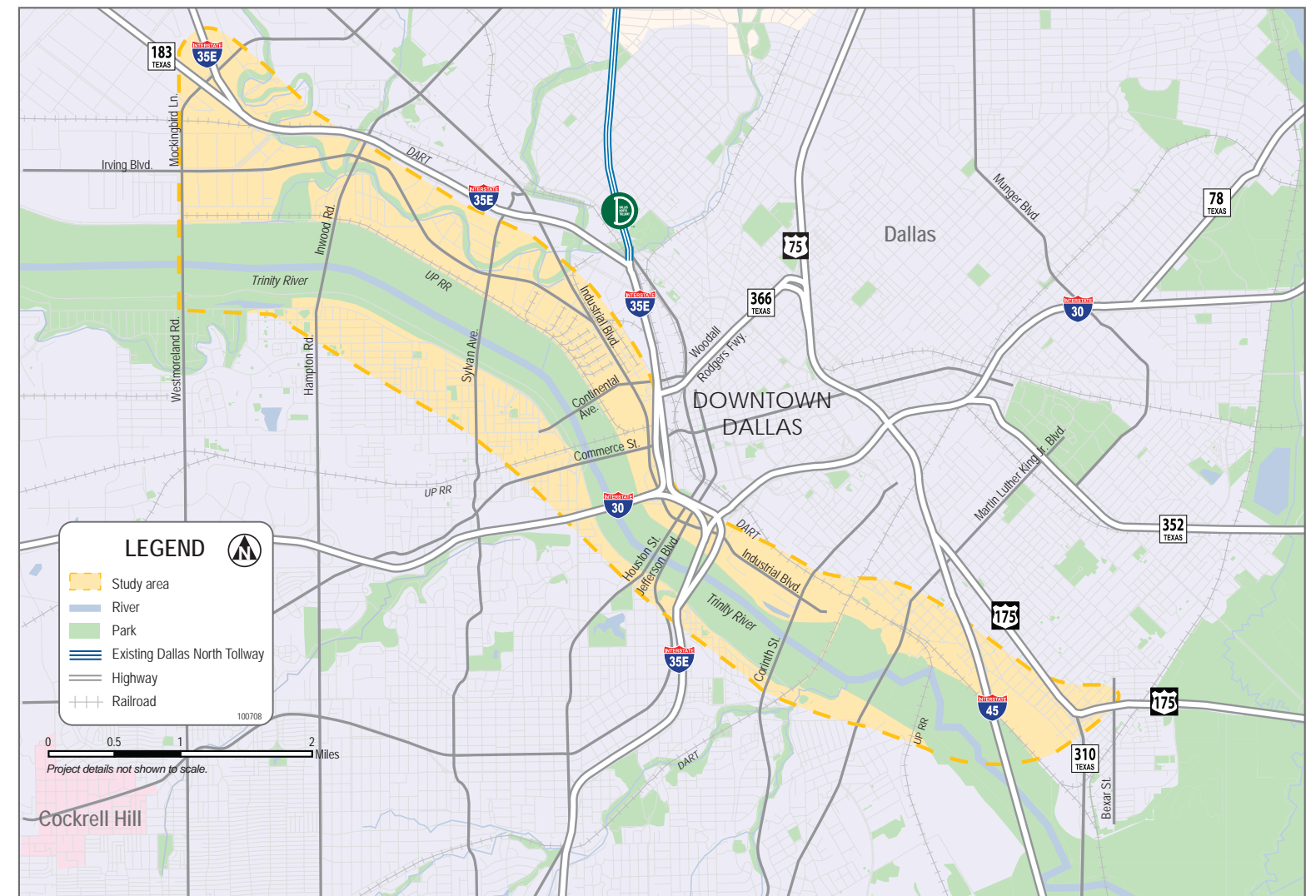
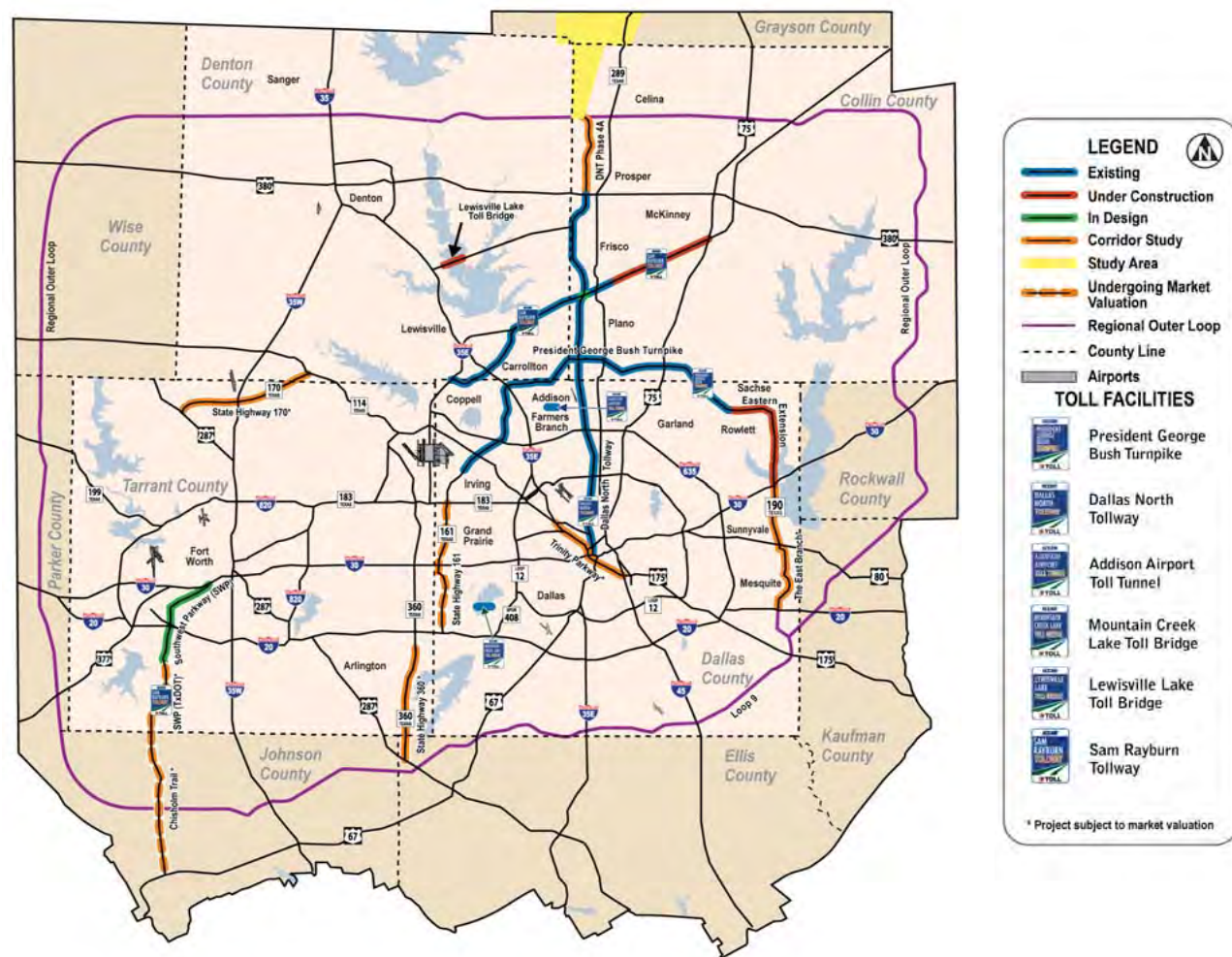
The DCM provides an inventory of elements, communicates NTTA commitments and gives direction for final design teams to make informed decisions regarding the design character of the Parkway.

The DCM incorporates the three character zones - Meadows/Wetlands, Urban, and Forest - as outlined in the City of Dallas' Guidelines, and further defines the two character zones located on the northern and southern ends of the proposed parkway. The DCM also describes Focus Areas and parkway cross-sections, and informs final design parameters for structures, design elements and landscaping.



The current NTTA System includes the Dallas North Tollway (DNT), the Sam Rayburn Tollway (SRT), the President George Bush Turnpike (PGBT), the Addison Airport Toll Tunnel (AATT), the Lewisville Lake Toll Bridge (LLTB), and the Mountain Creek Lake Toll Bridge (MCLB). NTTA continues to consider opportunities for system expansion.

The proposed Trinity Parkway is a limited-access toll facility in the City of Dallas. It will connect Interstate Highway (IH) 35E to U.S. 175, providing a new, approximately nine-mile traffic relief route around the west and south sides of Dallas' central business district. The proposed alignment would travel southwest from the IH 35E / SH 183 interchange, then pass over Commonwealth Boulevard to reach the Dallas Floodway in the area west of Hampton/Inwood Road. The proposed alignment then turns south within the east Dallas Floodway on the east levee and follows the levee south of the Dallas Area Rapid Transit (DART) light rail bridge, crosses to the land side of the levee, turns east to pass over Lamar Street, and ending at the U.S. 175 / SH 310 interchange.



Regional Context Map

Project Location Map





Scale 1:1500

The proposed Trinity Parkway alignment places the Parkway on an earthen embankment within the levee, typically above the 100-year flood elevation. In order to pass under the existing bridges as proposed, portions of the Parkway will be required to dip below the 100-year flood level. A separation wall, situated between the park and the Parkway, is required to protect the Parkway from flooding in these locations. In the case of a major rain event, pump stations will be incorporated in the design to remove water from the low-lying areas of the Parkway.





The proposed Parkway is divided into five character zones: the North Trinity Gateway Zone, the Meadows and Wetlands Zone, the Urban Zone, the Forest Zone and the South Trinity Gateway Zone. Pedestrian connections to be constructed with the Trinity Parkway include: Ramps to the Houston Street Viaduct; a pedestrian bridge over the Parkway located south of IH 35E; and a proposed park access to be constructed under the Parkway in the Forest Zone, south of Riverfront Boulevard.



02 North Trinity Gateway Zone



Zone Map	14-15
Inventory & Analysis	16-17
Focus Area Plan, Sections, & Elevations	18-27

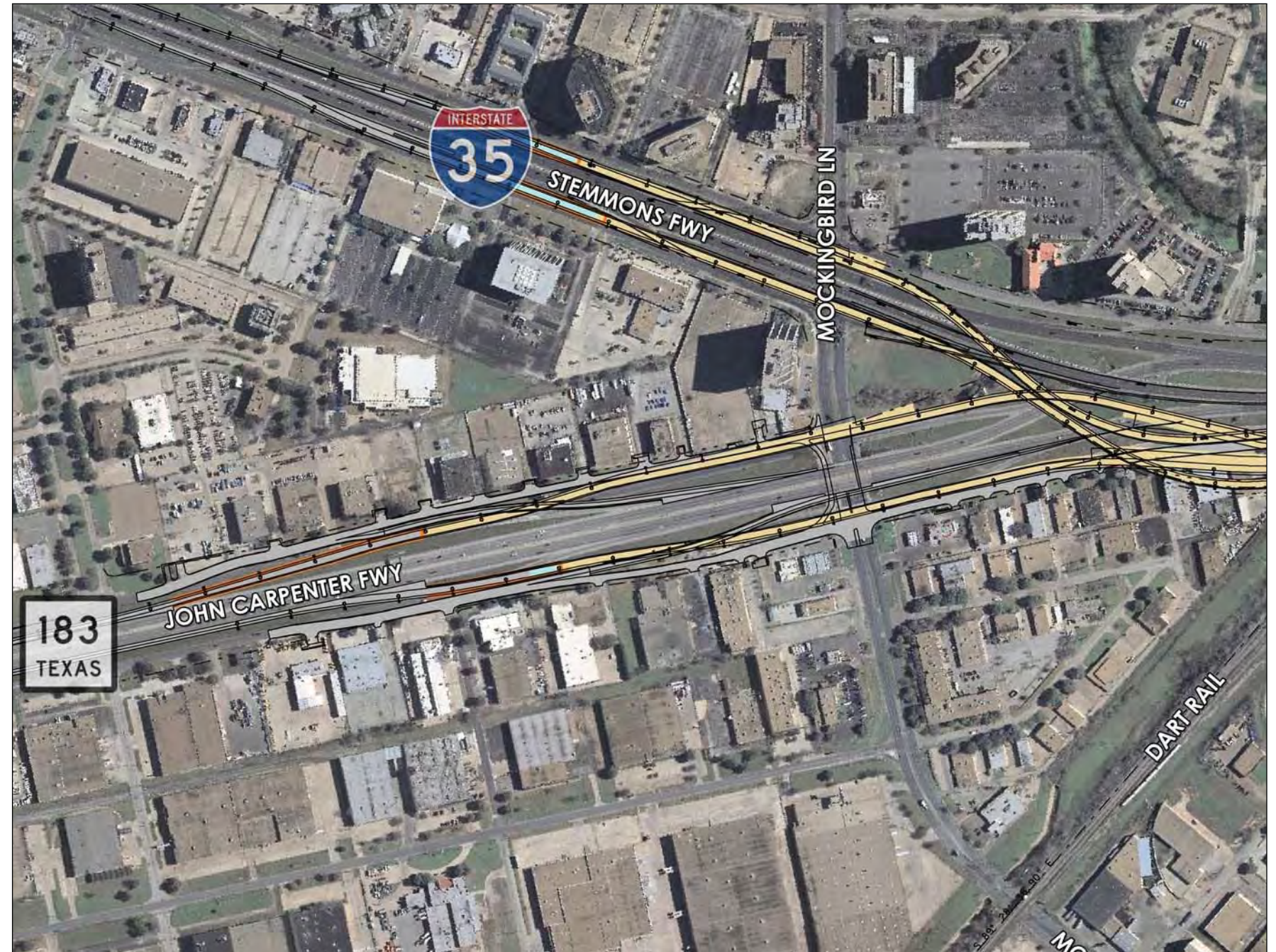




Corridor Zone Key Map









The North Trinity Gateway Zone Map indicates the proposed Parkway alignment within the existing Right of Way (R.O.W.), the Parkway's overall context relative to adjacent land uses, and connections to the existing and proposed roadway and pedestrian networks. The plan, elevation and section drawings depict a keyed inventory location of the overall design intent.

The plan drawings depict locations of various design elements, including: toll gantries, walls, barriers, sign structures and drainage features. The elevations and section drawings illustrate the vertical and horizontal relationships between bridges, mainlanes, and structural elements such as bridge columns, beams and girders, barriers, walls, and railings.



Scale 1:500

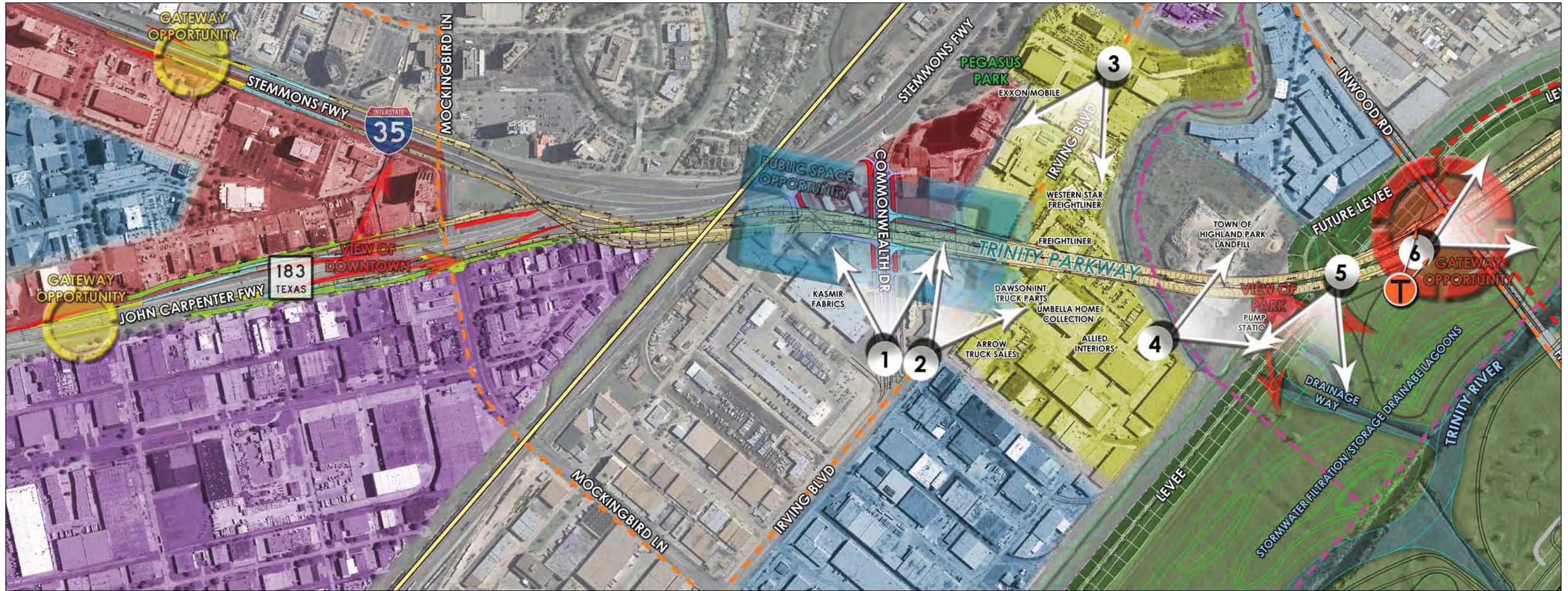
Legend

 Mainlanes (at grade)	 Levee Maintenance Road
 Mainlanes (on structure)	 Pedestrian Bridge
 Ramps (at grade)	 Cross Streets/Roads
 Ramps (on structure)	 Project by Others





*Land use derived from the City of Dallas Trinity River Corridor Comprehensive Land Use Plan (Adopted March 9, 2005)



Legend

	Residential		Office		Mainlanes		DART Rail		Trinity Park
	Retail		Entertainment		Frontage Road		Regional Veloweb (Mobility 2010 Plan)		Levee
	Commercial		Mixed Use		Ramp		On-Street Trail		Toll Gantry
					Cross & Local Streets		Off-Street Trail		
					Bridge				
					Project by Others				

The Parkway in the North Trinity Gateway Zone is primarily “on structure”. This zone serves as the northern entrance into the Trinity Parkway. The driver’s experience will be on an elevated roadway, limiting many views from the Parkway to adjacent, at-grade land uses. By contrast, the adjacent land uses will have significant views of the elevated Parkway. After crossing over the levee, southbound traffic on the Parkway will experience long-distance views to the park, the Parkway, and Downtown Dallas.

Scale 1:800





1: View from Commonwealth and Irving Blvd. looking toward Trinity Parkway and I-635



4: View from Town of Highland Park Landfill looking South toward Trinity Parkway



2: View from Irving Blvd. looking North toward Trinity Parkway (Light industrial land uses)



5: View from 1050+00 looking North - Pump Station at right of photo, Westmoreland Bridge in distance



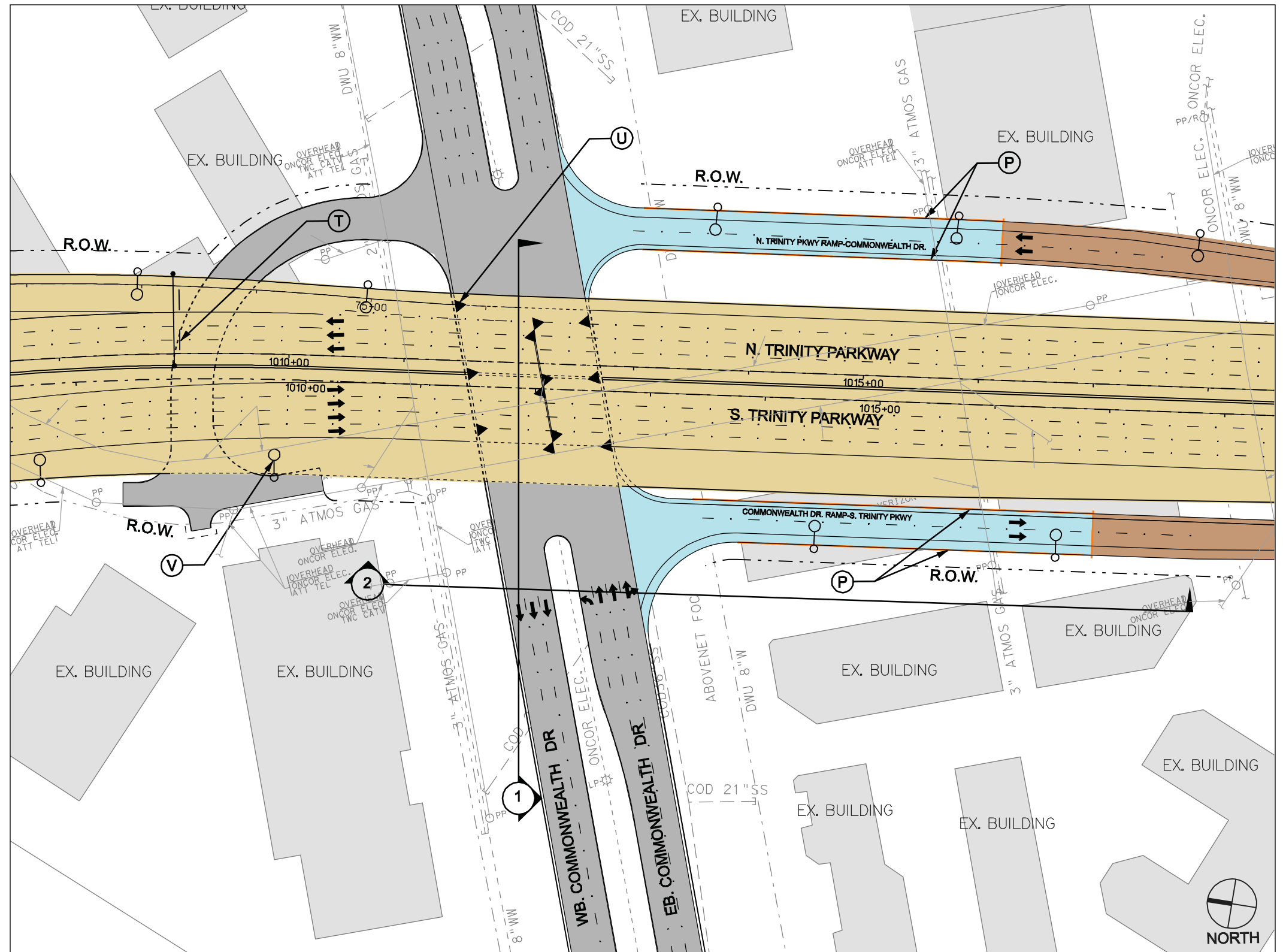
3: View looking South on Irving Blvd. toward Trinity Parkway (Light industrial land uses)



6: View from 1053+00 looking South toward Trinity Parkway-Hampton/ Inwood Bridge in distance



Map of Location



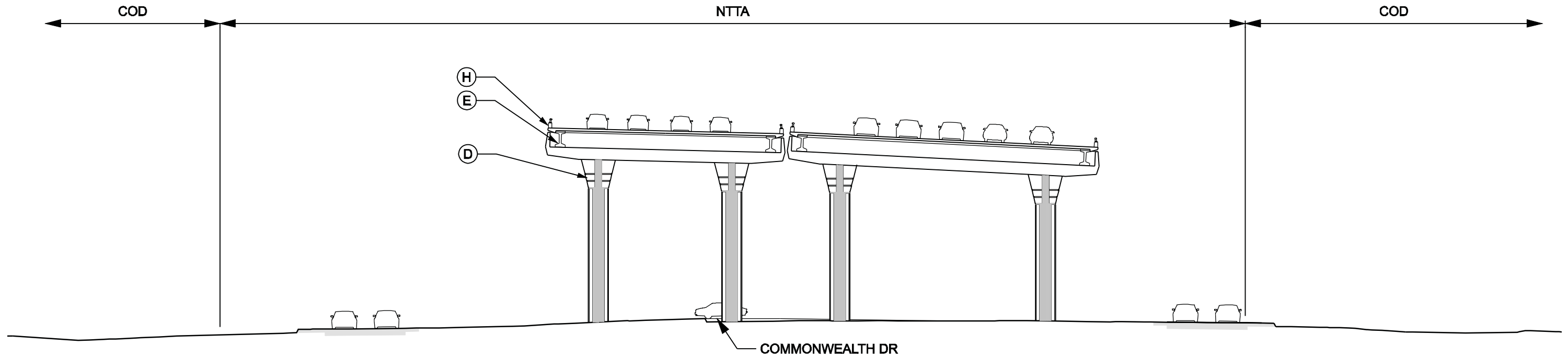
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

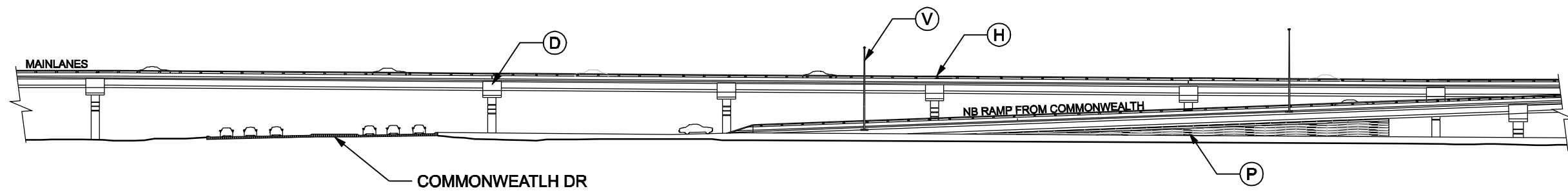
Legend

- Mainlanes (at grade)
- Mainlanes (on structure)
- Ramps (at grade)
- Ramps (on structure)
- Levee Maintenance Road
- Pedestrian Bridge
- Cross Streets/Roads
- Project by Others





1 SECTION : STA. 1012+00 - COMMONWEALTH DRIVE
1:30

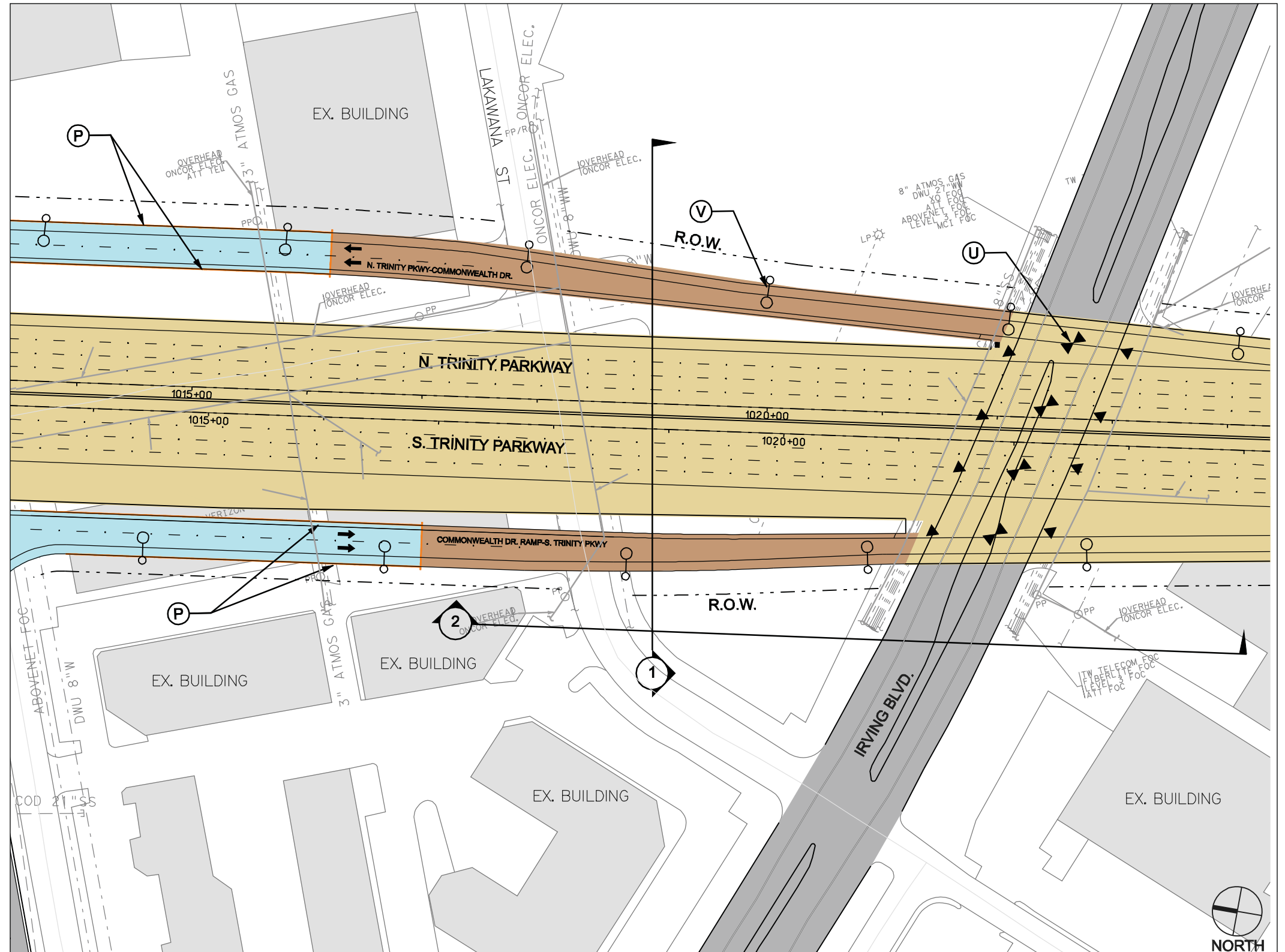


2 ELEVATION : STA. 1011+00 TO 1018+00 - COMMONWEALTH DR
1:80





Map of Location



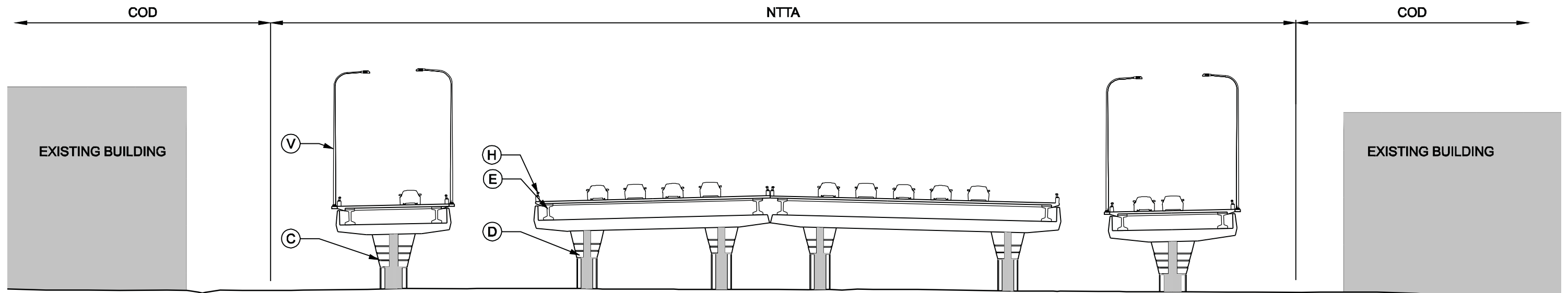
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

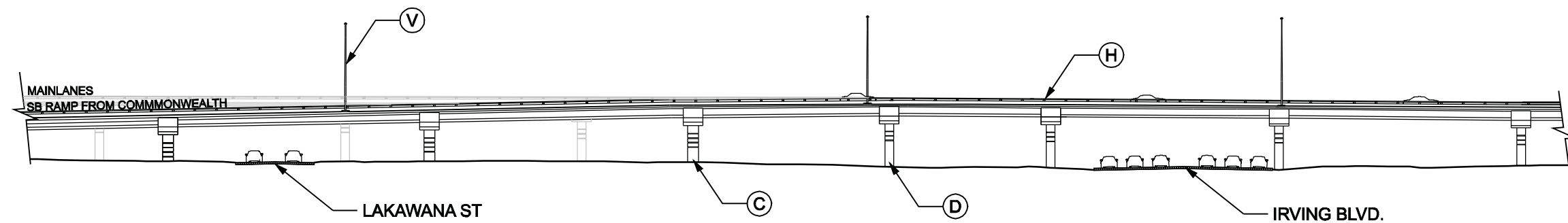
Legend

- | | |
|--------------------------|------------------------|
| Mainlanes (at grade) | Levee Maintenance Road |
| Mainlanes (on structure) | Pedestrian Bridge |
| Ramps (at grade) | Cross Streets/Roads |
| Ramps (on structure) | Project by Others |





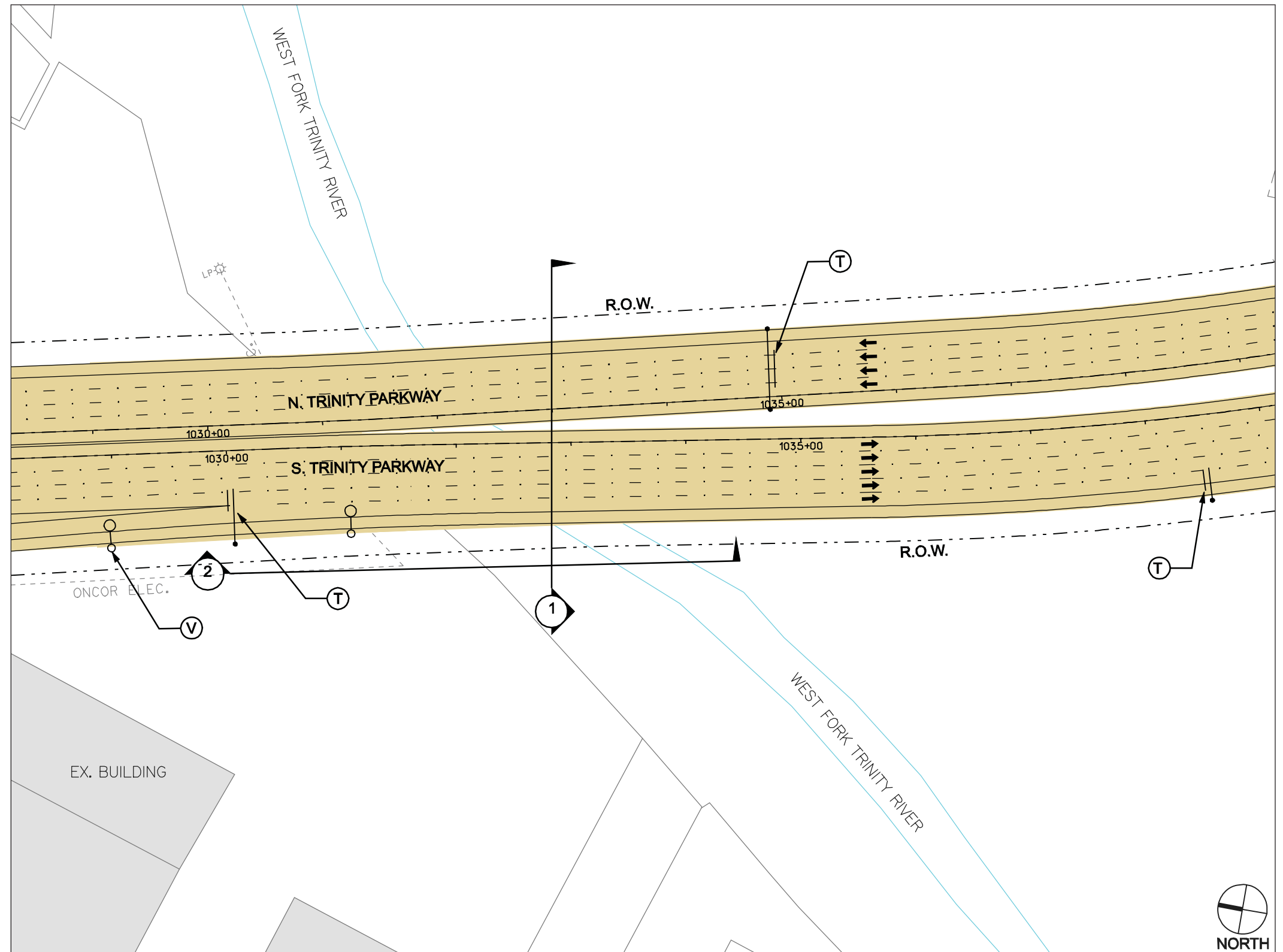
1 SECTION : STA. 1019+00 - IRVING BLVD
1:30



2 ELEVATION : STA. 1017+00 TO 1024+00 - LAKAWANA ST & IRVING BLVD
1:60



Map of Location



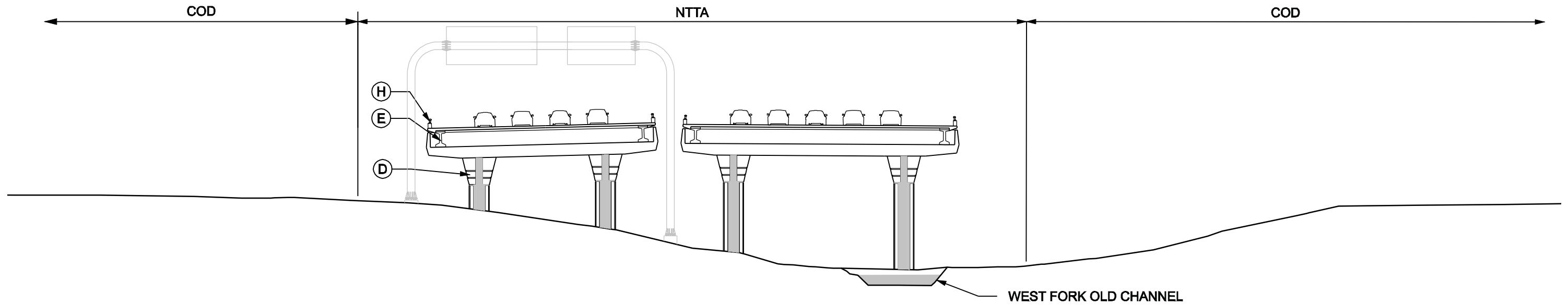
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

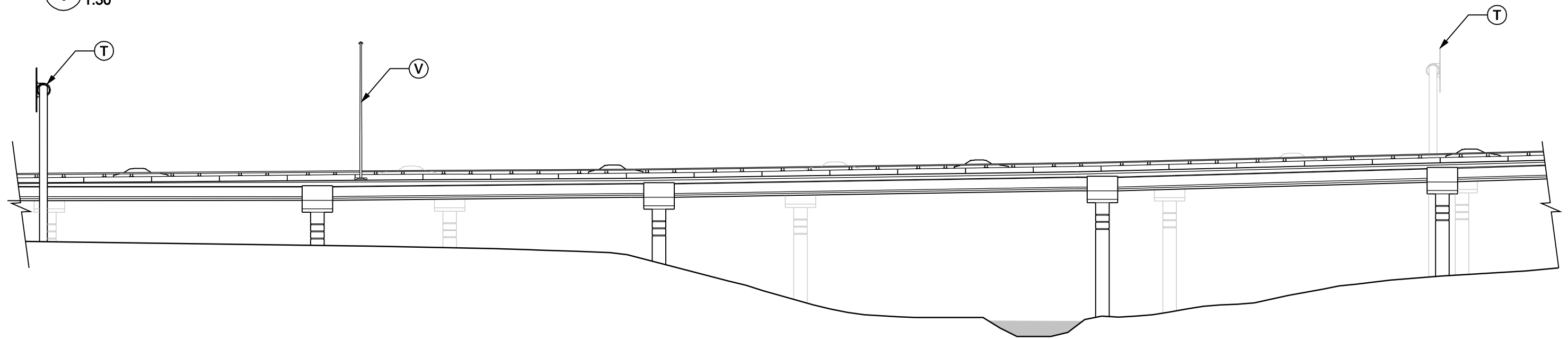
Legend

- | | |
|--------------------------|------------------------|
| Mainlanes (at grade) | Levee Maintenance Road |
| Mainlanes (on structure) | Pedestrian Bridge |
| Ramps (at grade) | Cross Streets/Roads |
| Ramps (on structure) | Project by Others |





1 SECTION : STA. 1033+00 - WEST FORK TRINITY RIVER (OLD CHANNEL)
1:30



2 ELEVATION : STA. 1030+00 TO 1034+50 - MAINLANES OVER WEST FORK TRINITY RIVER
1:30













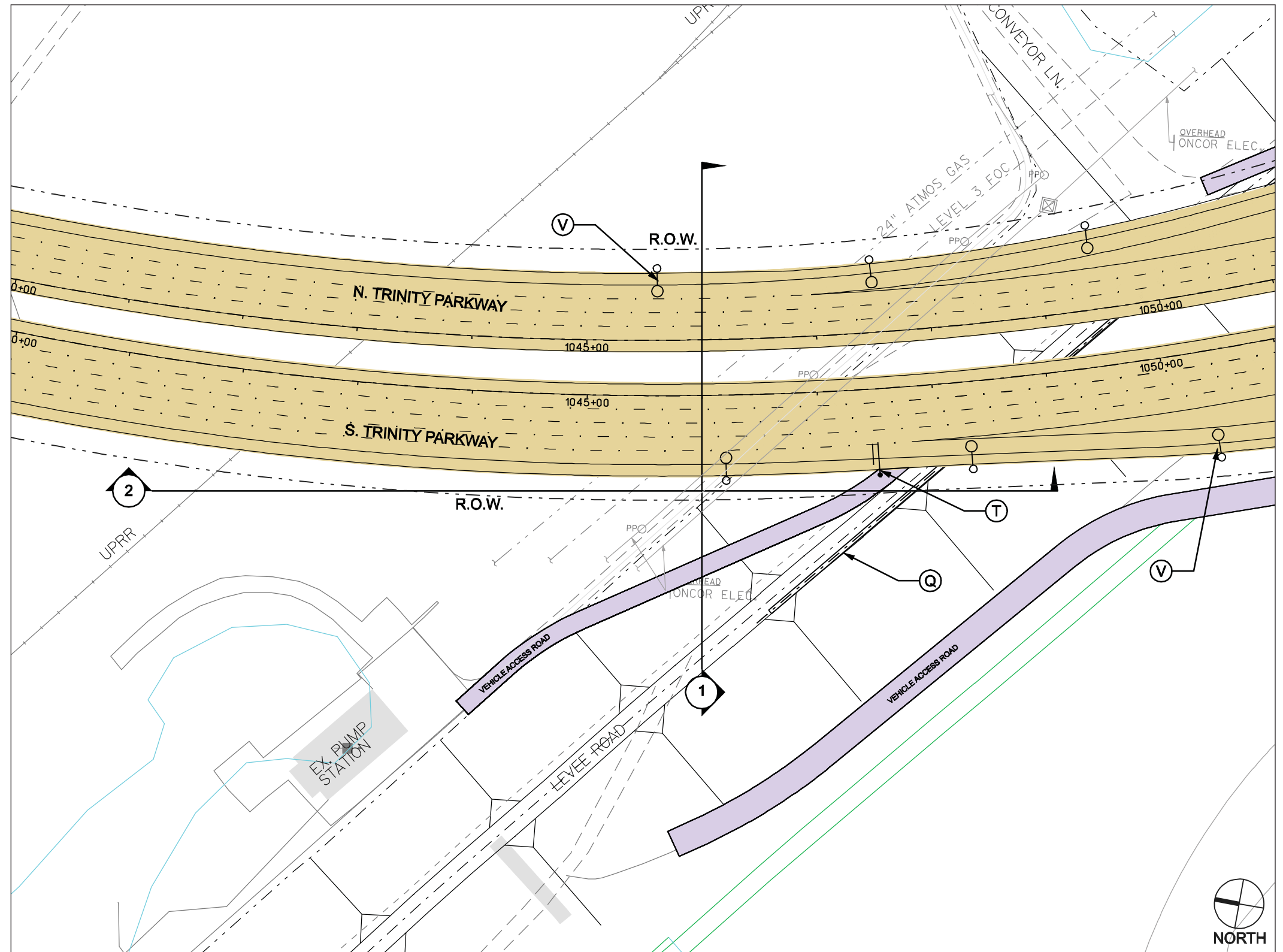
Map of Location

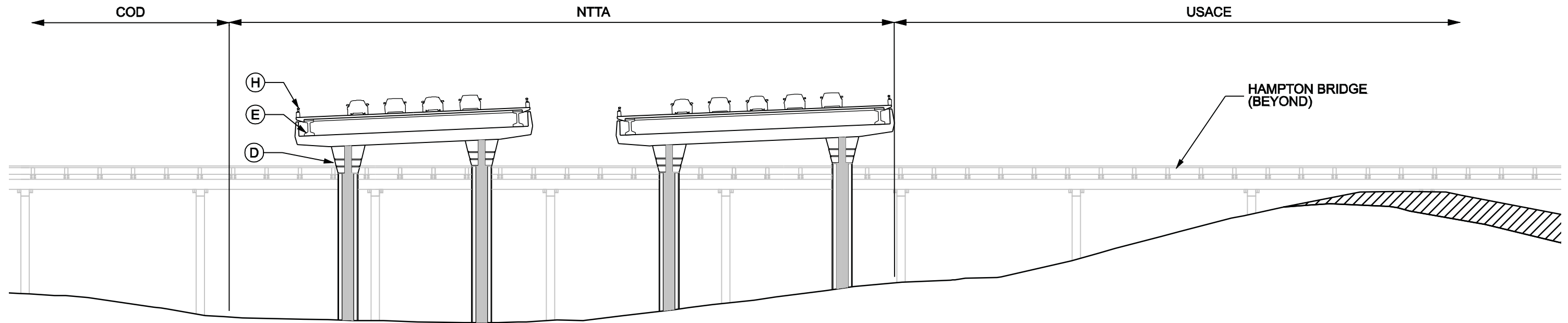
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

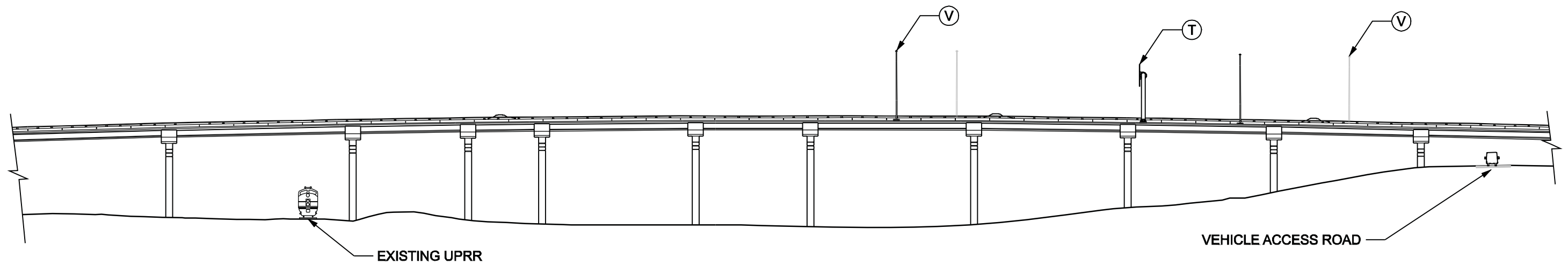
Legend

- | | |
|--|--|
|  Mainlanes (at grade) |  Levee Maintenance Road |
|  Mainlanes (on structure) |  Pedestrian Bridge |
|  Ramps (at grade) |  Cross Streets/Roads |
|  Ramps (on structure) |  Project by Others |





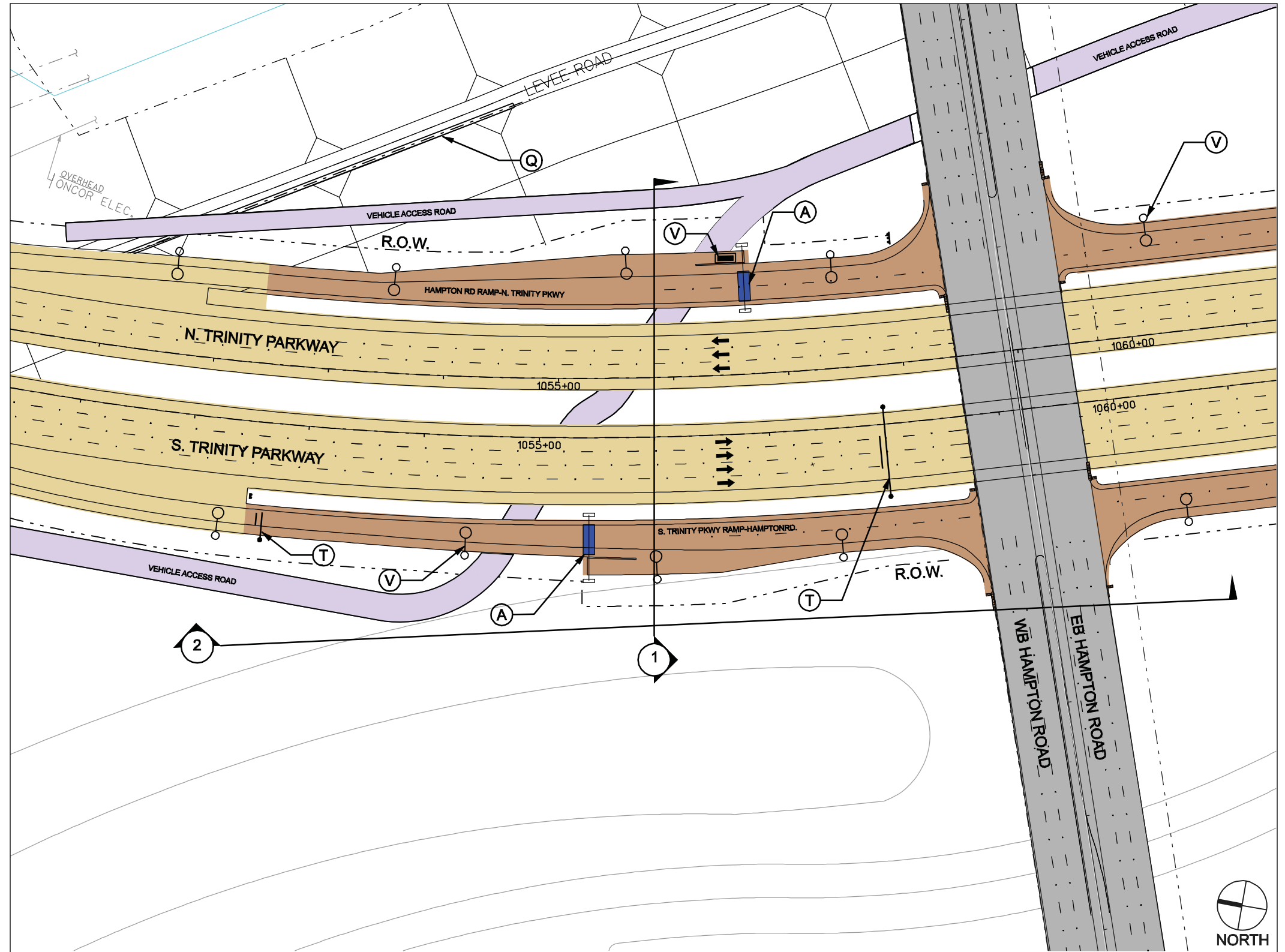
1 SECTION : STA. 1046+00 - PRIOR TO LEVEE
1:30



2 ELEVATION : STA. 1041+00 TO 1050+00 - MAINLANES OVER UPRR & LEVEE
1:60



Map of Location



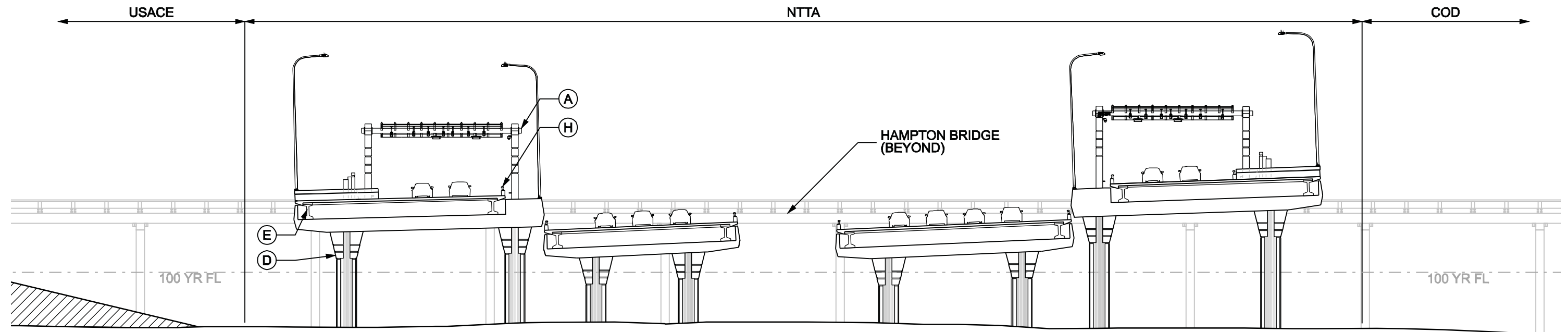
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

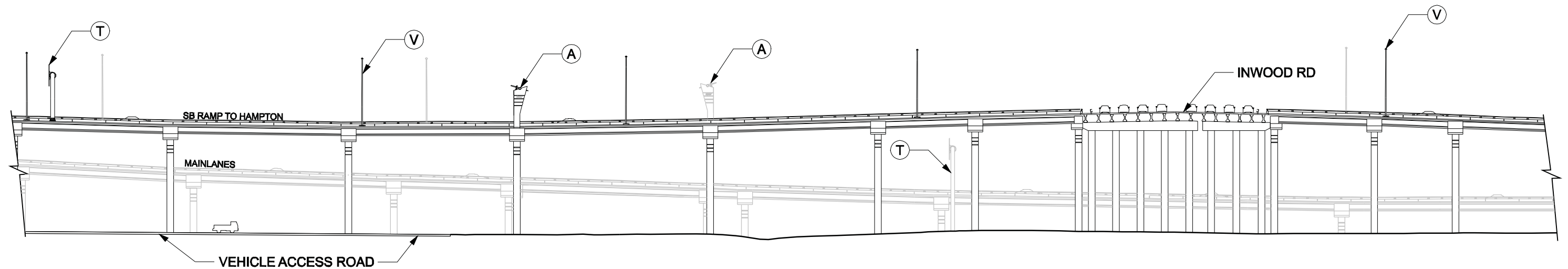
Legend

- Mainlanes (at grade)
- Mainlanes (on structure)
- Ramps (at grade)
- Ramps (on structure)
- Levee Maintenance Road
- Pedestrian Bridge
- Cross Streets/Roads
- Project by Others





1 SECTION - STA. 1056+00 - RAMP GANTRIES AT HAMPTON BRIDGE
1:30



2 SECTION : STA. 1052+00 TO 1061+00 - RAMPS TO AND FROM HAMPTON BRIDGE
1:60



03 Meadows/Wetlands Zone



Zone Map	30-31
Inventory & Analysis	32-33
Focus Area Plan, Sections, & Elevations	34-45

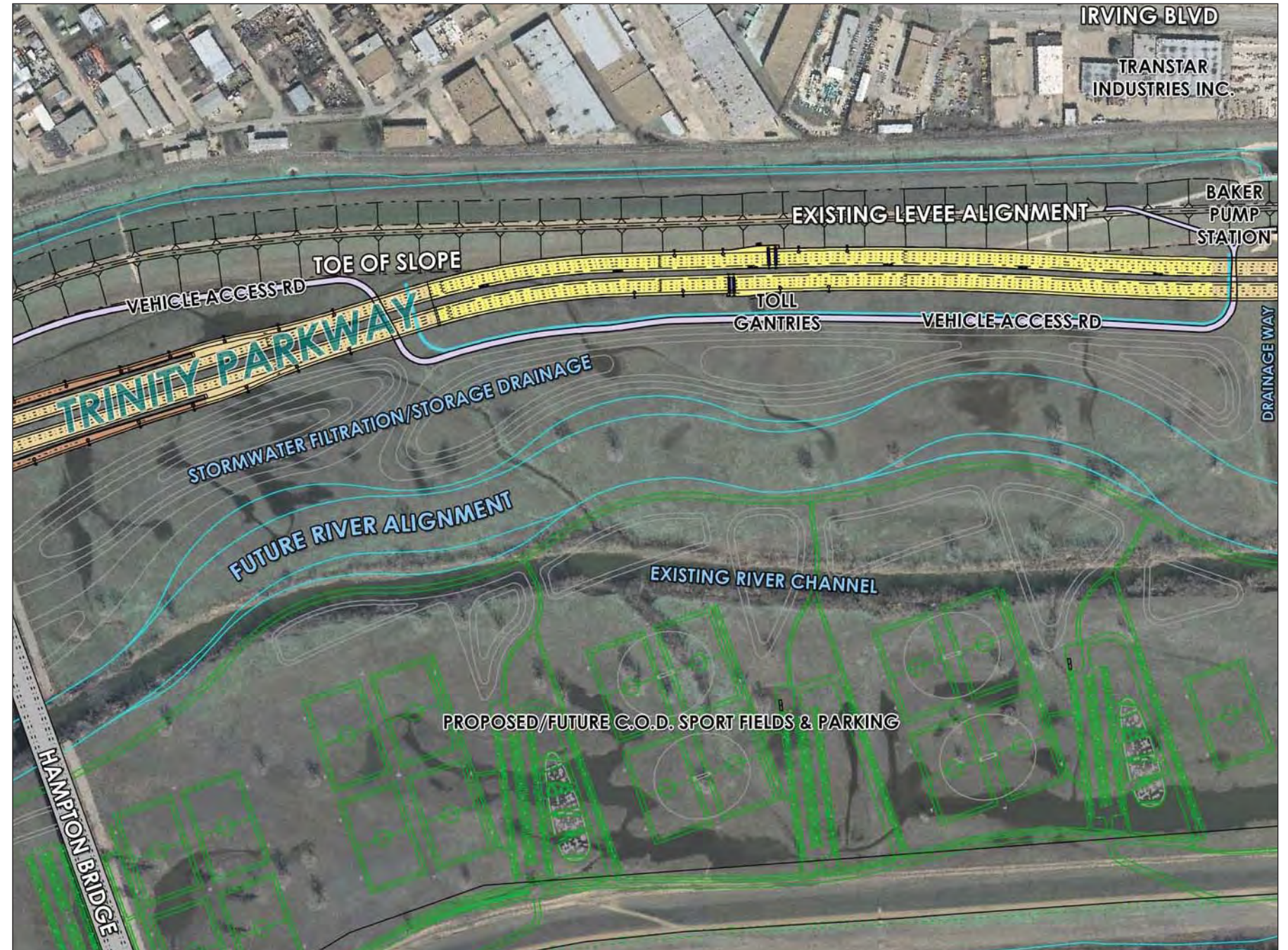




Corridor Zone Key Map









The Meadows/Wetlands Zone Map indicates the proposed Parkway alignment within the existing Right of Way (R.O.W.), the Parkway's overall context relative to adjacent land uses, and connections to the existing and proposed roadway and pedestrian networks. The plan, elevation and section drawings depict a keyed inventory location of the overall design intent.

The plan drawings depict locations of various design elements, including: toll gantries, walls, barriers, sign structures and drainage features. The elevations and section drawings illustrate the vertical and horizontal relationships between bridges, mainlanes, and structural elements such as bridge columns, beams and girders, barriers, walls, and railings.

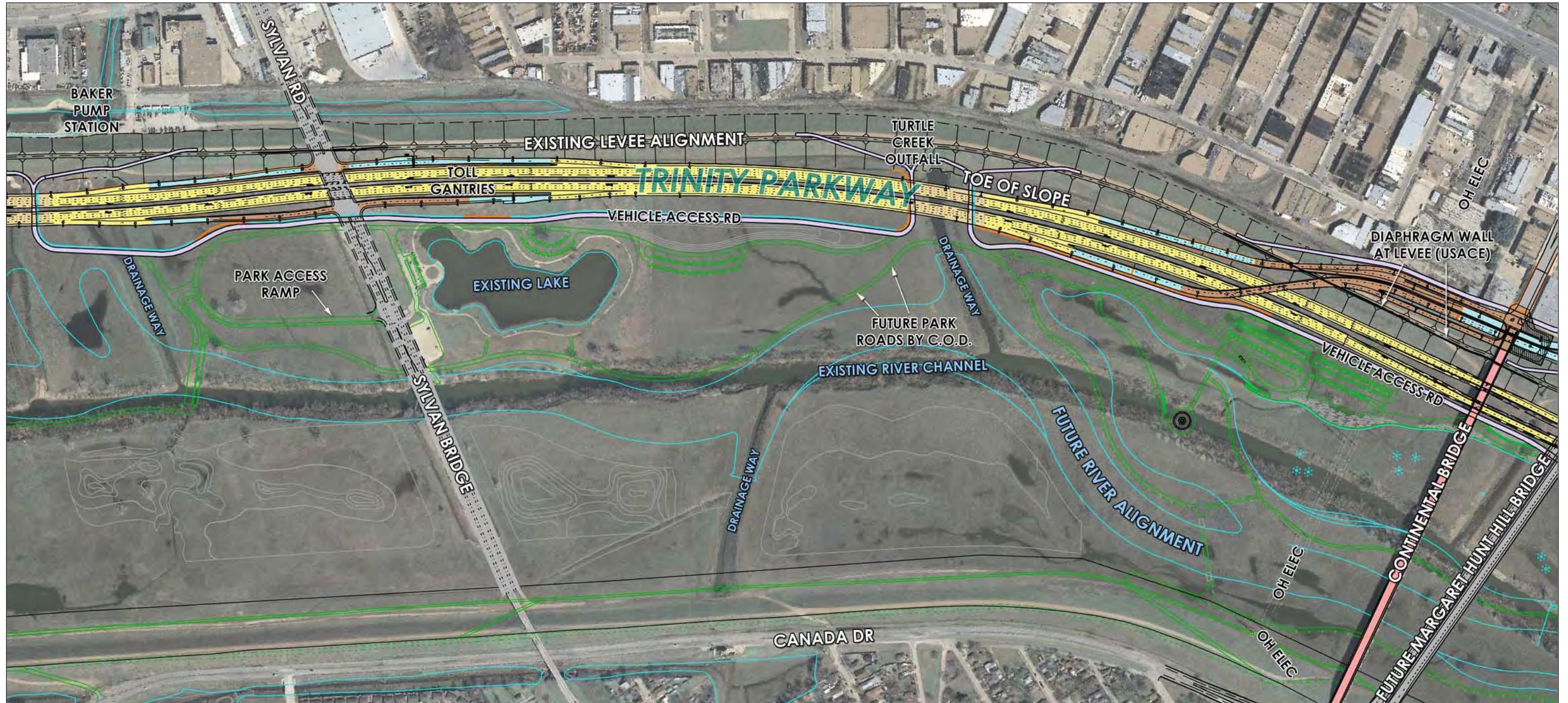


Scale 1:500

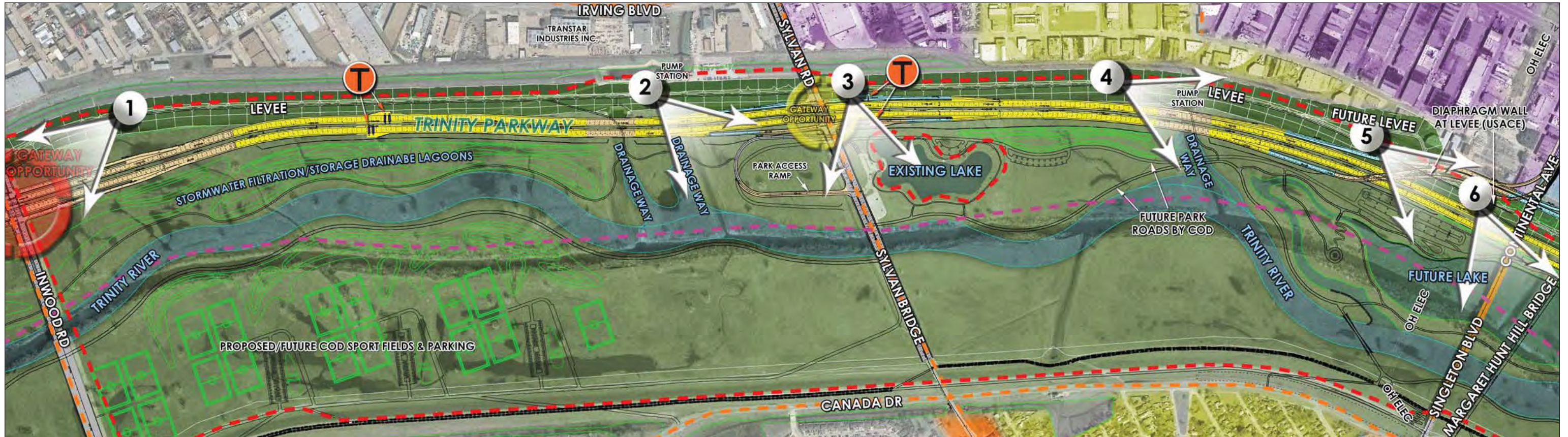
Legend

 Mainlanes (at grade)	 Levee Maintenance Road
 Mainlanes (on structure)	 Pedestrian Bridge
 Ramps (at grade)	 Cross Streets/Roads
 Ramps (on structure)	 Project by Others





*Land use derived from the City of Dallas Trinity River Corridor Comprehensive Land Use Plan (Adopted March 9, 2005)



Legend



The Parkway in the Meadows/Wetlands Zone is primarily "at-grade", with the exception of two bridges. This zone provides the greatest potential opportunities for including landscaping along the Parkway. Landscaping could be located between the southbound traffic barrier/edge of pavement and the proposed security wall. The proposed Trinity Parkway will connect to the Sylvan Avenue Bridge in this Zone. This bridge will provide park access from Sylvan Avenue.

Scale 1:800



NORTH





1: View from 1071+00 looking North



4: View from 1150+00 looking South toward Trinity Parkway



2: View of 1114+00 Pump Station looking West



5: View from 1171+00 looking South toward Continental Viaduct



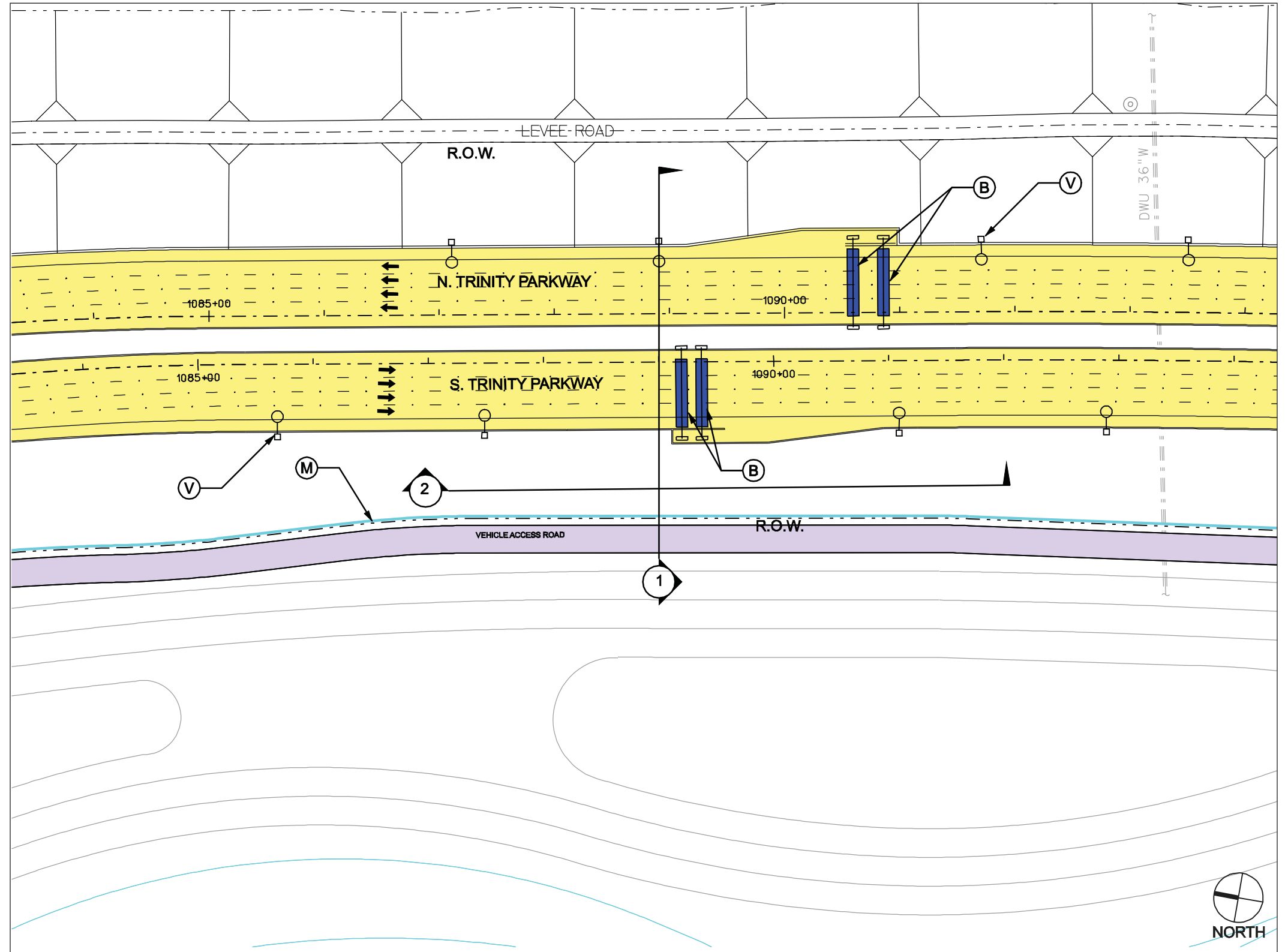
3: View of Sylvan Bridge at 1129+00 looking West



6: View from 1181+00 looking South toward Continental Viaduct



Map of Location



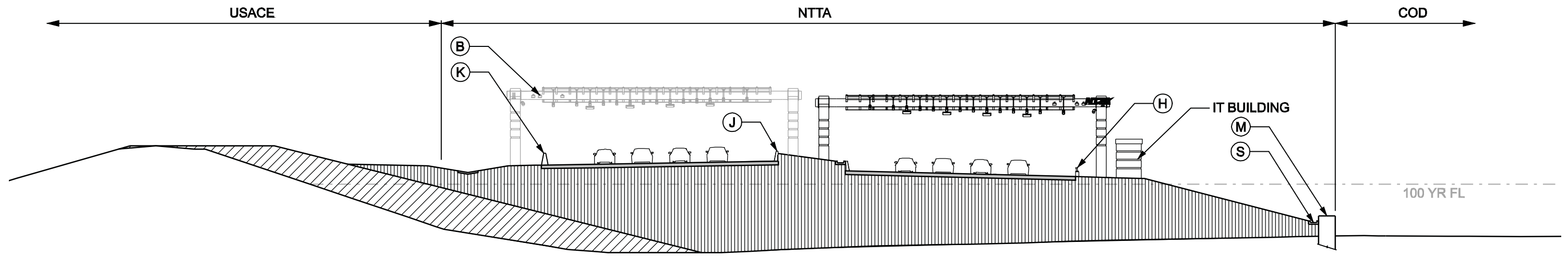
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

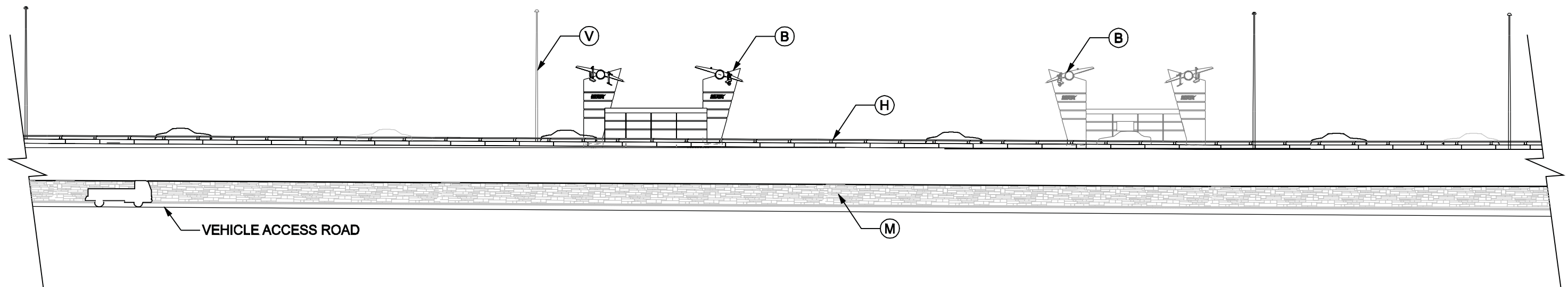
Legend

- | | |
|--------------------------|------------------------|
| Mainlanes (at grade) | Levee Maintenance Road |
| Mainlanes (on structure) | Pedestrian Bridge |
| Ramps (at grade) | Cross Streets/Roads |
| Ramps (on structure) | Project by Others |





1 SECTION : STA. 1089+00 - MAINLANE GANTRIES
1:30

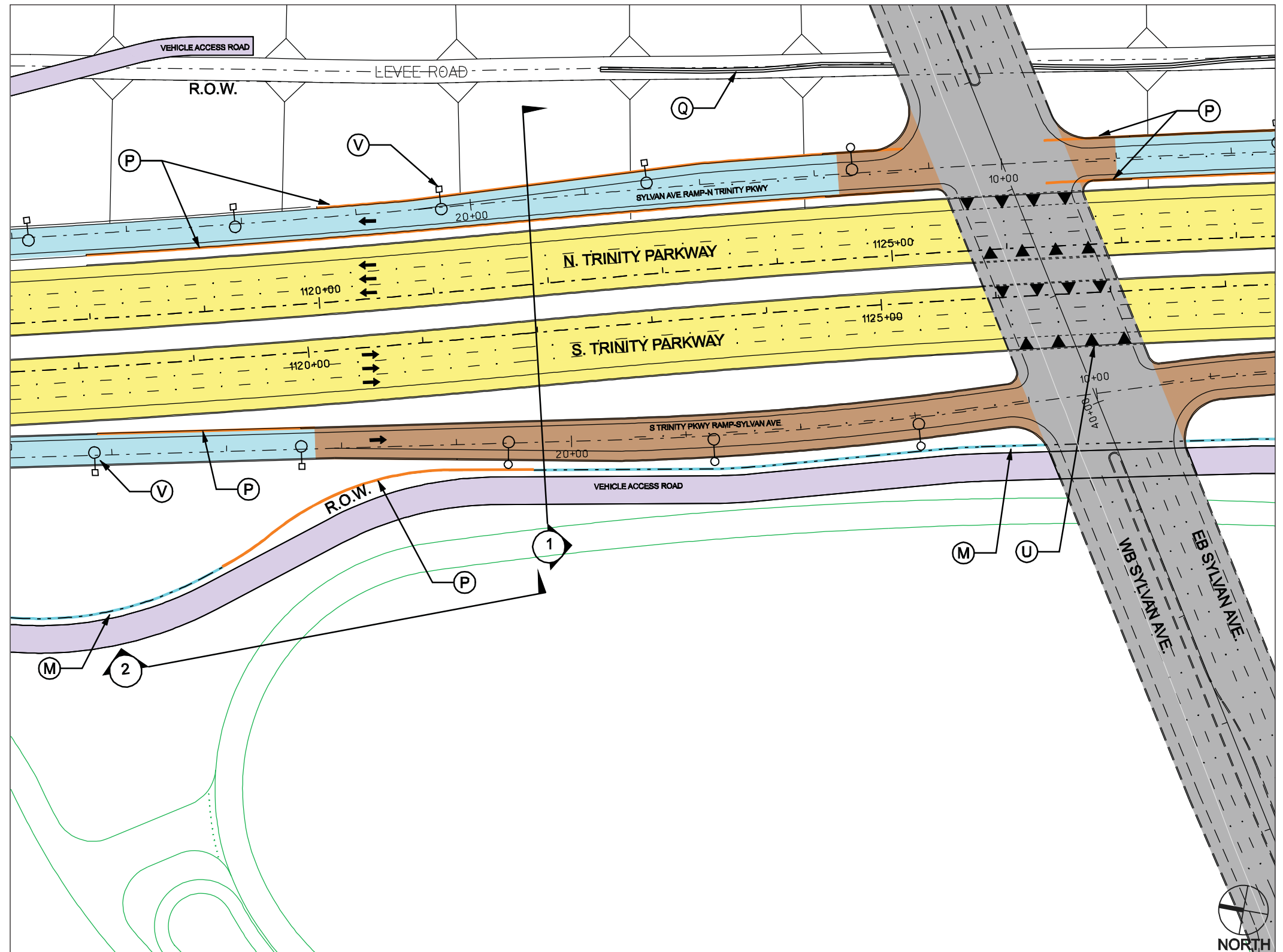


2 ELEVATION : STA. 1087+50 TO 1092+00 - MAINLANE TOLL GANTRIES
1:30





Map of Location



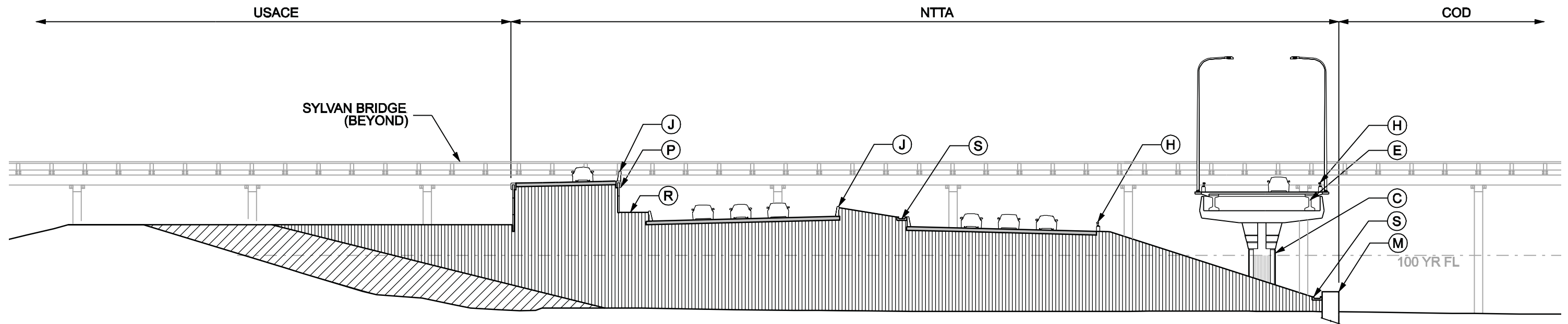
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

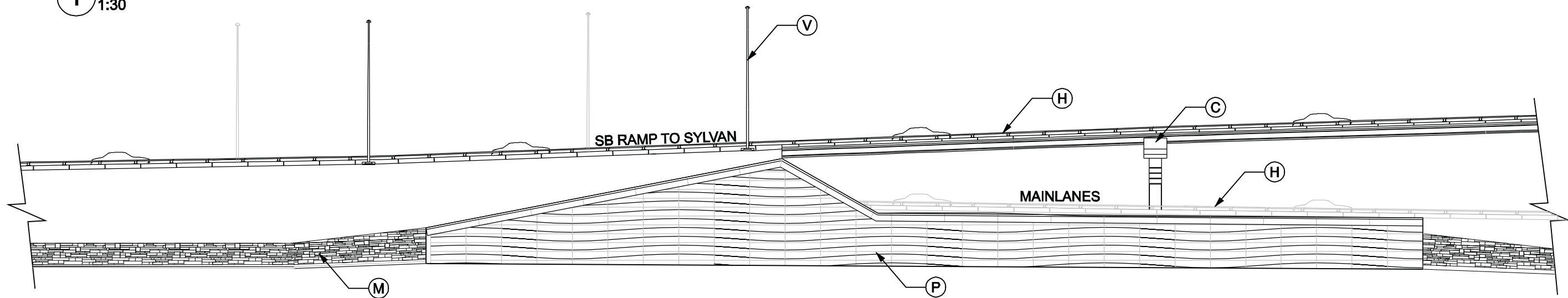
Legend

- Mainlanes (at grade)
- Mainlanes (on structure)
- Ramps (at grade)
- Ramps (on structure)
- Levee Maintenance Road
- Pedestrian Bridge
- Cross Streets/Roads
- Project by Others





1 SECTION : STA. 1122+00 - SYLVAN BRIDGE
1:30

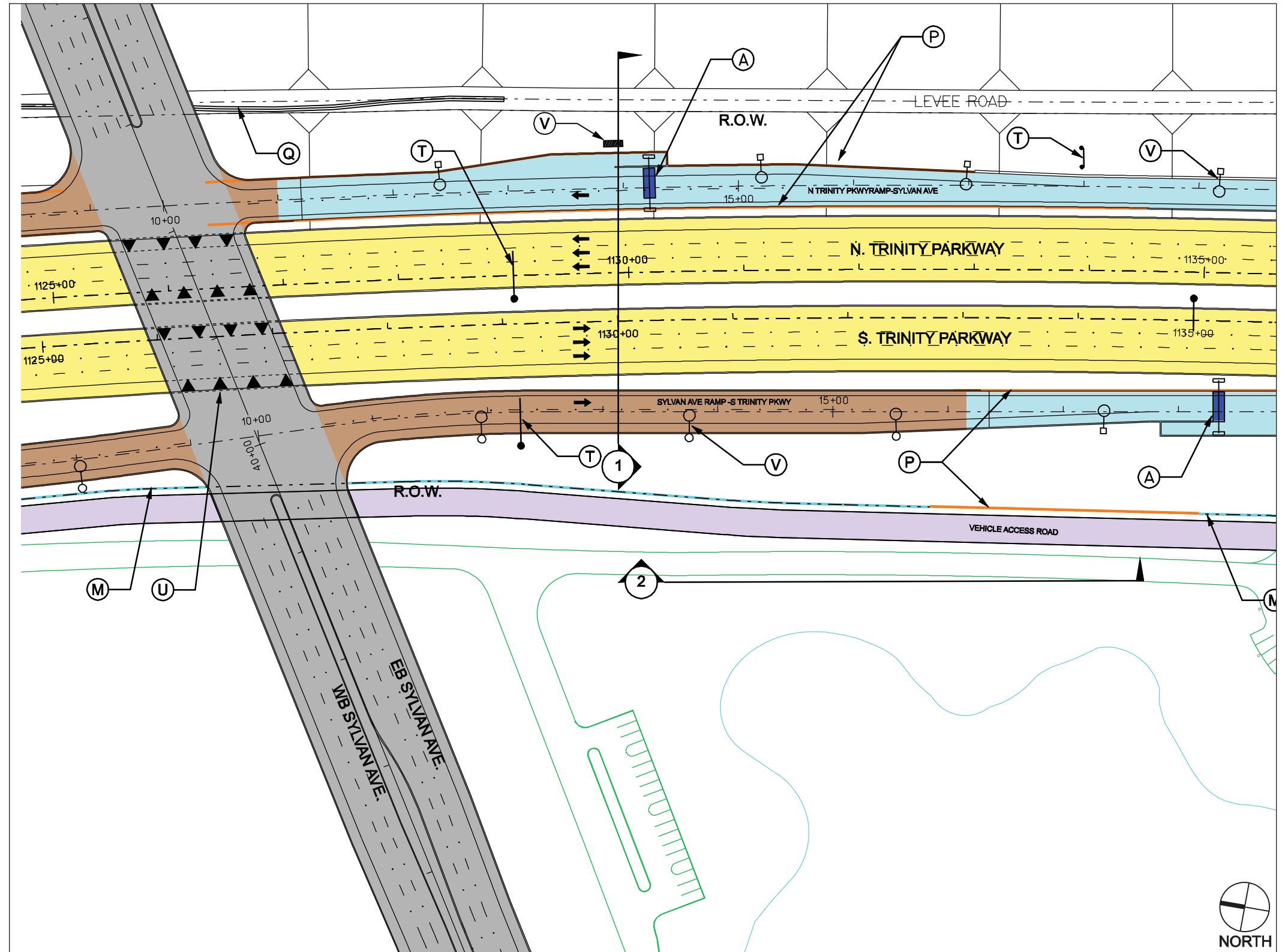


2 ELEVATION : STA. 1119+00 TO 1122+00 - WALL TRANSITION AT RAMP TO SYLVAN BRIDGE
1:30





Map of Location



Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

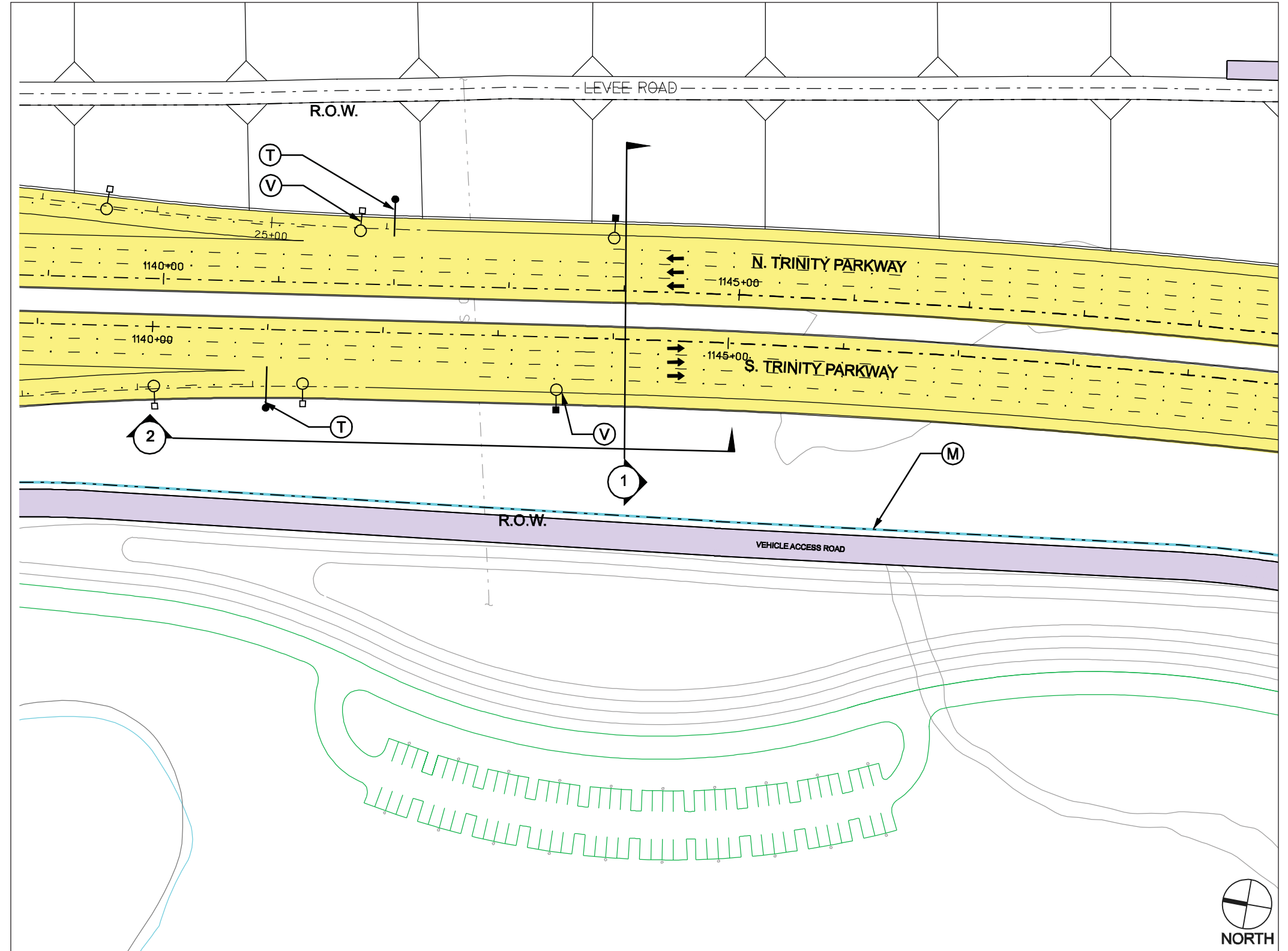
Legend

- | | |
|--------------------------|------------------------|
| Mainlanes (at grade) | Levee Maintenance Road |
| Mainlanes (on structure) | Pedestrian Bridge |
| Ramps (at grade) | Cross Streets/Roads |
| Ramps (on structure) | Project by Others |





Map of Location



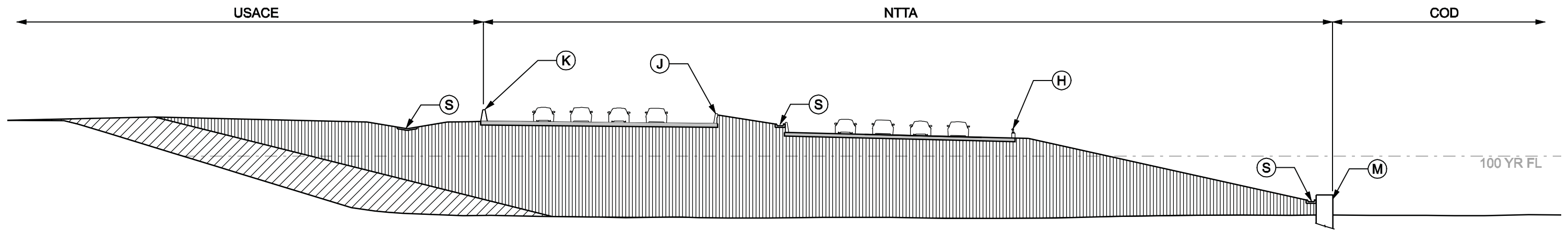
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

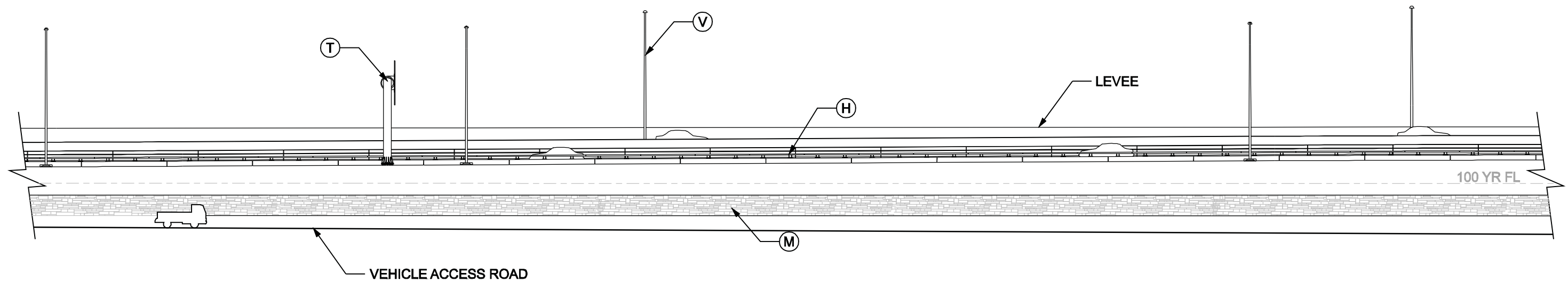
Legend

- Mainlanes (at grade)
- Mainlanes (on structure)
- Ramps (at grade)
- Ramps (on structure)
- Levee Maintenance Road
- Pedestrian Bridge
- Cross Streets/Roads
- Project by Others





1 SECTION : STA. 1144+00 - MAINLANES
1:30

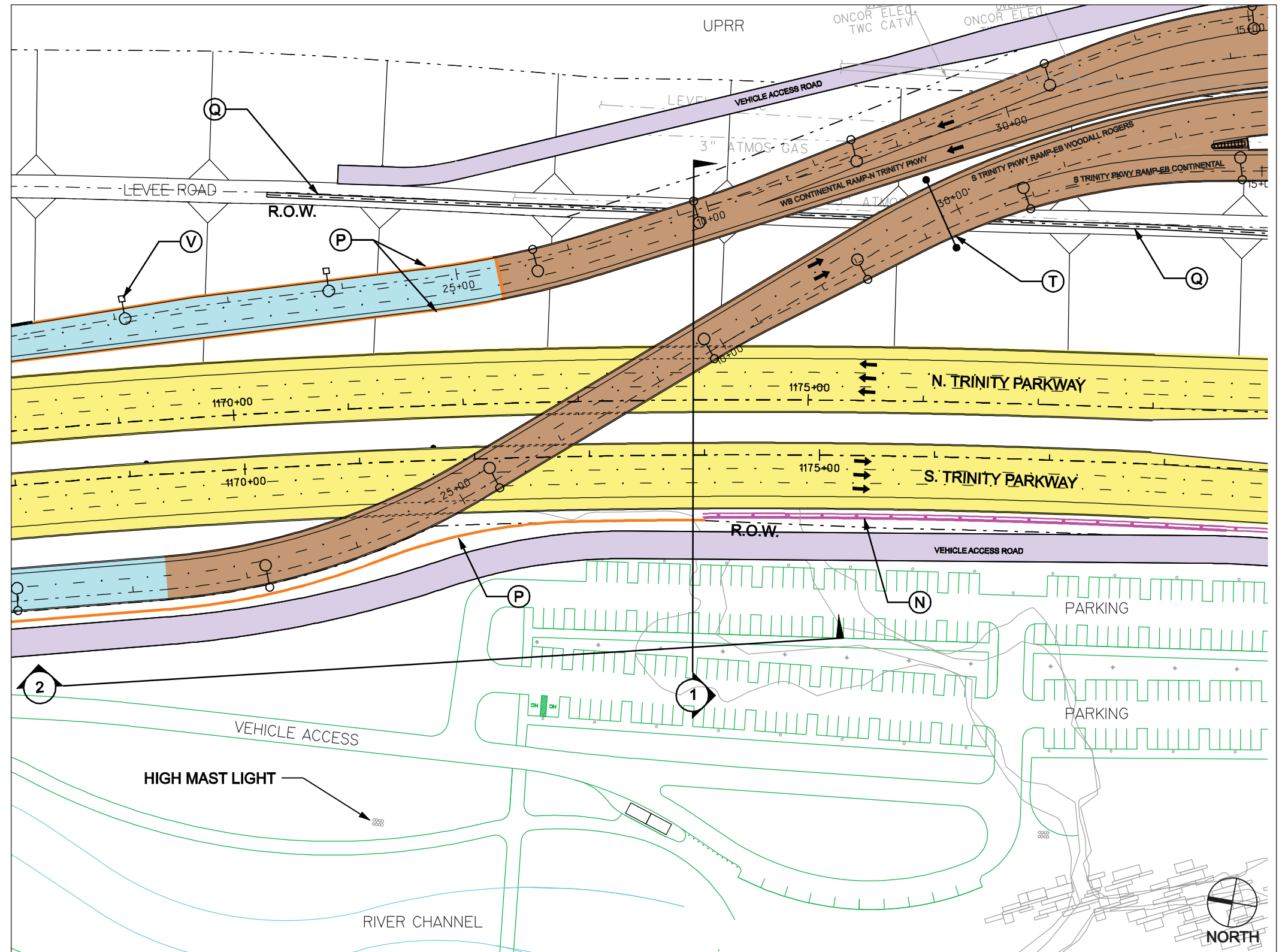


2 ELEVATION : STA. 1140+00 TO 1144+50 - MAINLANES WITH SECURITY WALL
1:30





Map of Location



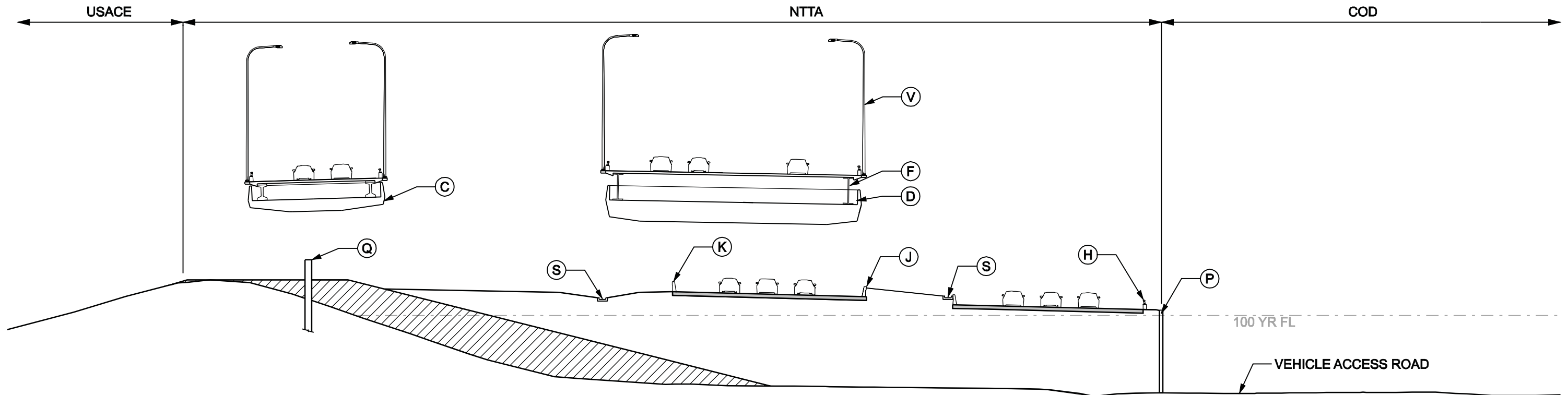
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

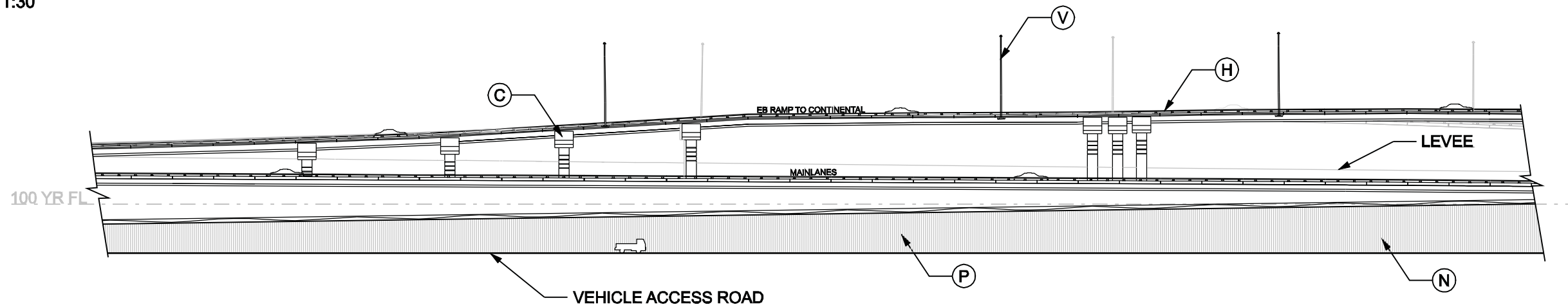
Legend

- Mainlanes (at grade)
- Mainlanes (on structure)
- Ramps (at grade)
- Ramps (on structure)
- Levee Maintenance Road
- Pedestrian Bridge
- Cross Streets/Roads
- Project by Others





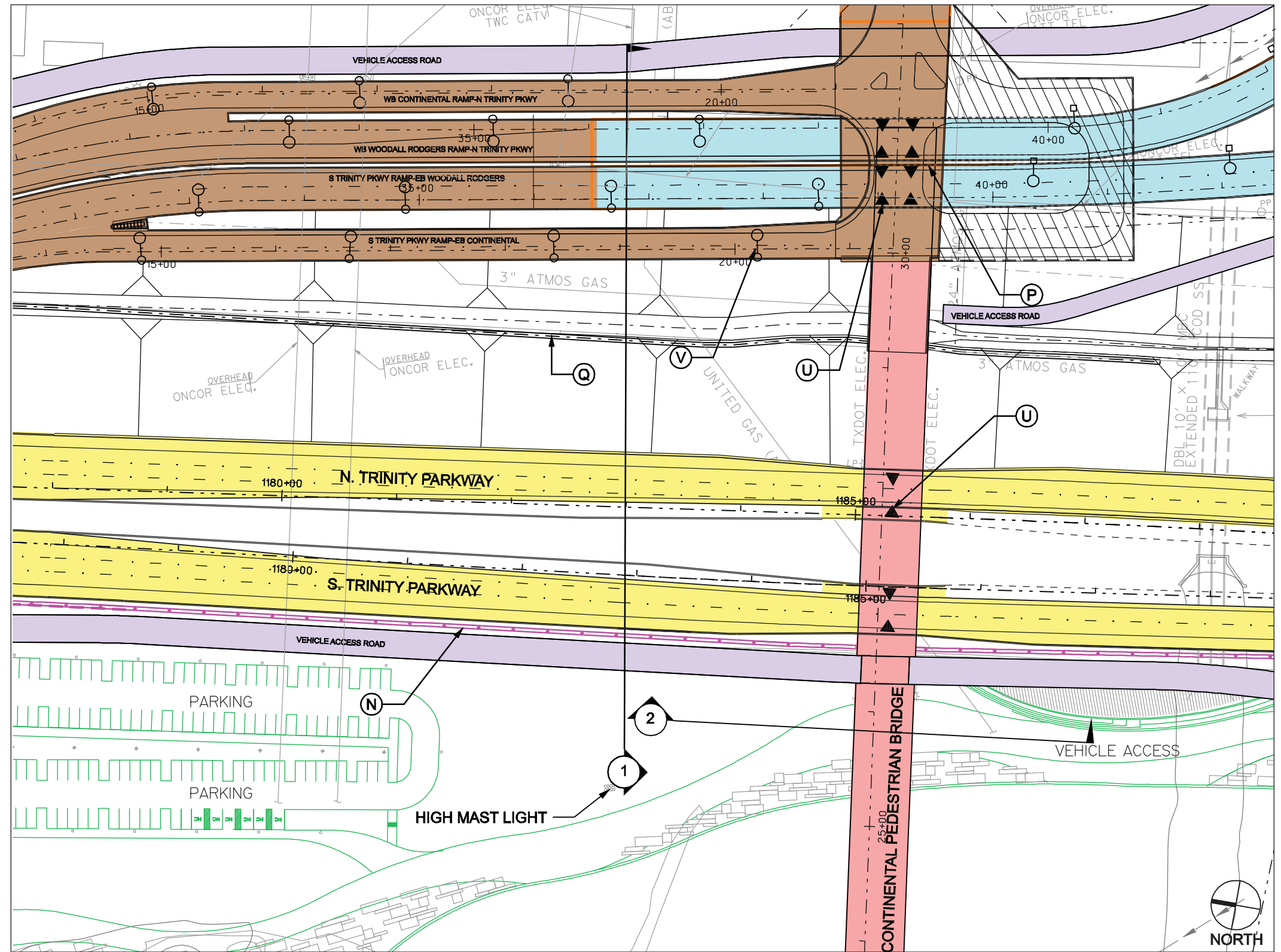
1 SECTION : STA. 1174+00 - BRIDGES TO CONTINENTAL VIADUCT
1:30



2 ELEVATION : STA. 1168+00 TO 1175+00 - WALL TRANSITION AT CONTINENTAL RAMPS
1:60



Map of Location



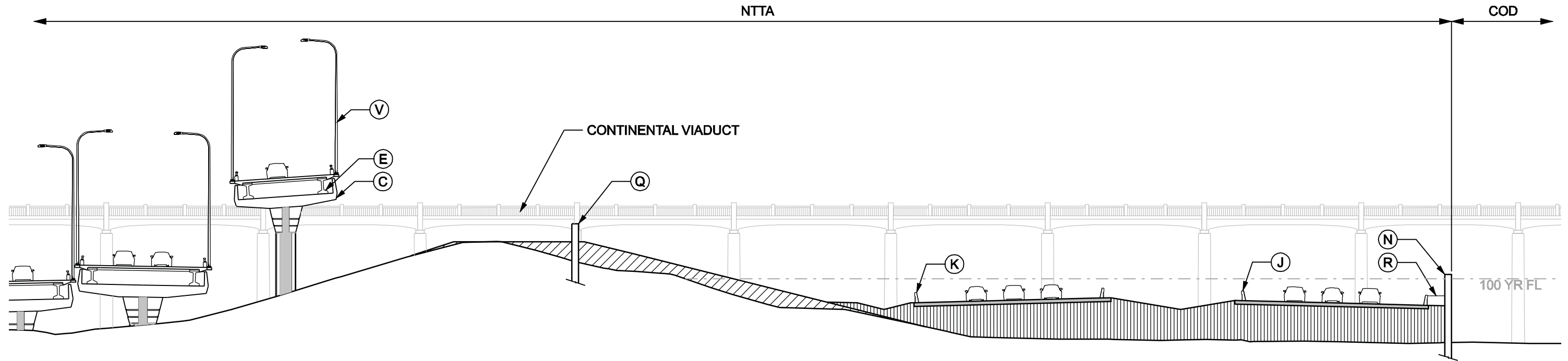
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

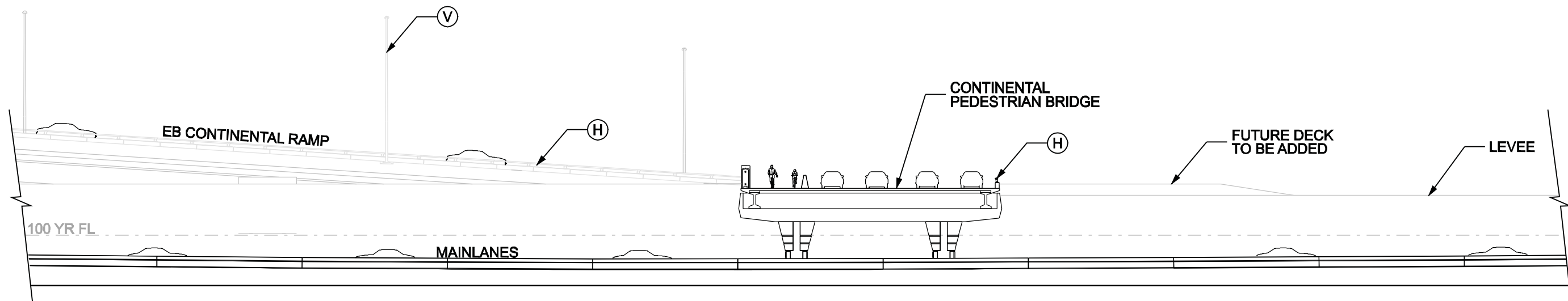
Legend

- Mainlanes (at grade)
- Ramps (at grade)
- Levee Maintenance Road
- Pedestrian Bridge
- Mainlanes (on structure)
- Ramps (on structure)
- Pedestrian Bridge
- Cross Streets/Roads
- Project by Others





1 SECTION : STA. 1183+00 - CONTINENTAL VIADUCT
1:30



2 ELEVATION : STA. 1183+00 TO 1187+50 - RAMPS TO CONTINENTAL VIADUCT
1:30



04 Urban Zone



Zone Map	48-49
Inventory & Analysis	50-51
Focus Area Plan, Sections, & Elevations	52-67

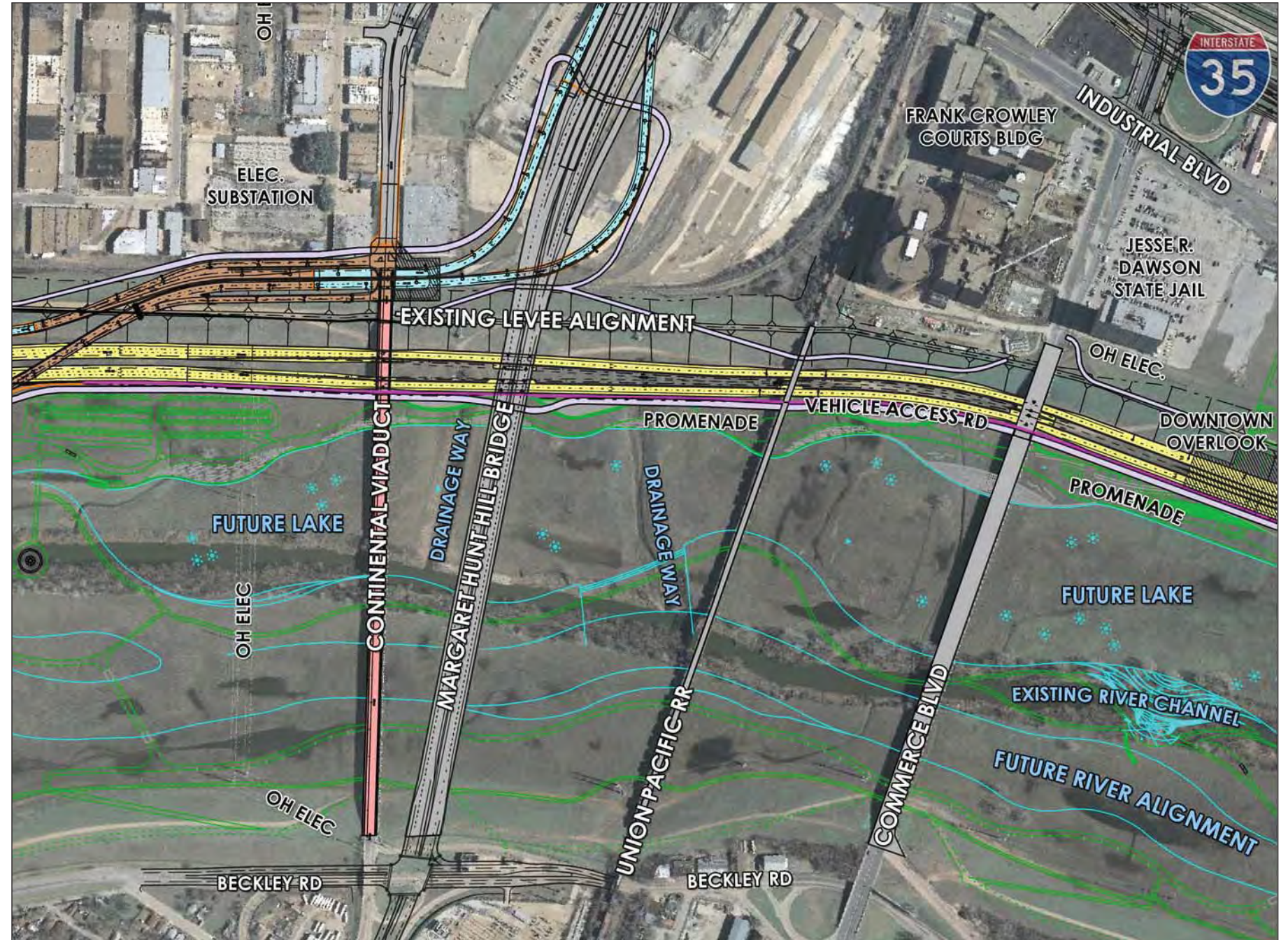




Corridor Zone Key Map









The Urban Zone Map indicates the proposed Parkway alignment within the existing Right of Way (R.O.W.), the Parkway's overall context relative to adjacent land uses, and connections to the existing and proposed roadway and pedestrian networks. The plan, elevation and section drawings depict a keyed inventory location of the overall design intent.

The plan drawings depict locations of various design elements, including: toll gantries, walls, barriers, sign structures and drainage features. The elevations and section drawings illustrate the vertical and horizontal relationships between bridges, mainlanes, and structural elements such as bridge columns, beams and girders, barriers, walls, and railings.



Scale 1:500

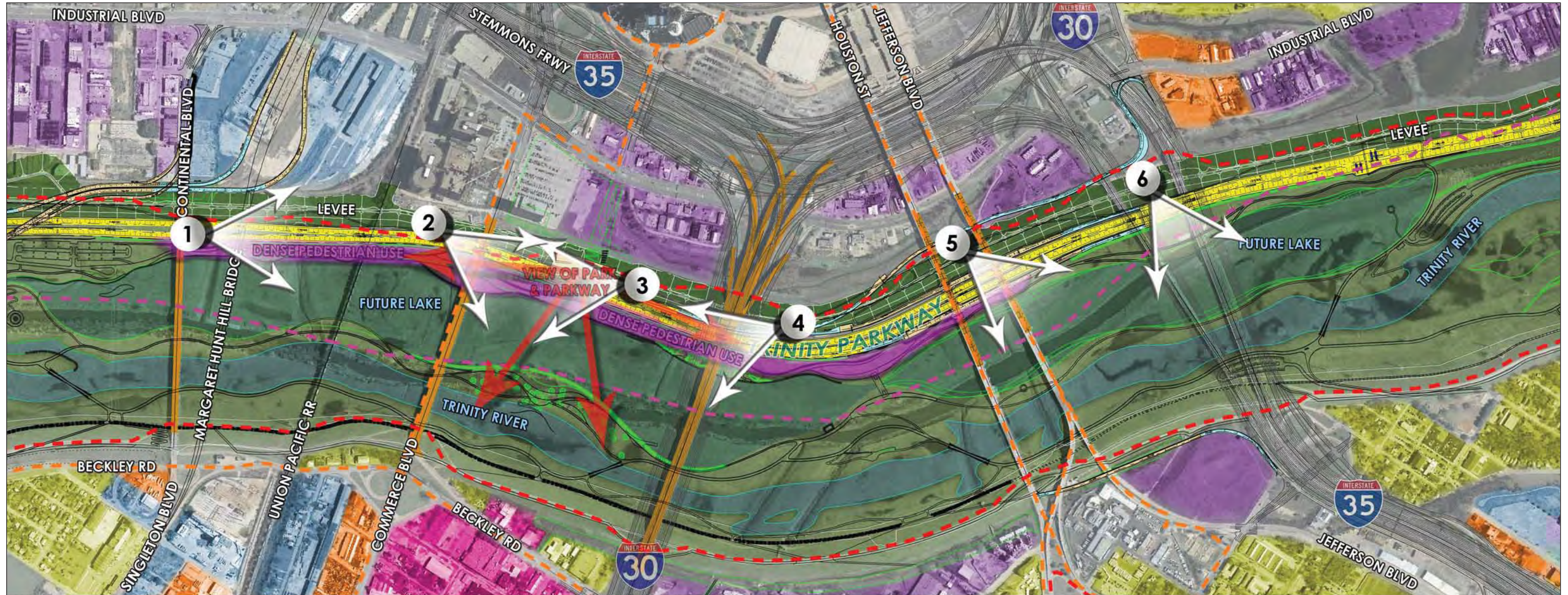
Legend

 Mainlanes (at grade)	 Levee Maintenance Road
 Mainlanes (on structure)	 Pedestrian Bridge
 Ramps (at grade)	 Cross Streets/Roads
 Ramps (on structure)	 Project by Others





*Land use derived from the City of Dallas Trinity River Corridor Comprehensive Land Use Plan (Adopted March 9, 2005)



Legend



The Parkway in the Urban Zone is primarily “at-grade” and travels under a series of existing bridges and proposed structures. The separation wall begins in this zone, and provides a raised planting area between the southbound traffic barrier and the face of the wall. A crowned raised planting area located between the median traffic barriers provides additional landscaping opportunities.

Scale 1:800





1: View from 1185+00 looking South



4: View from 1238+00 looking North toward IH-30



2: View from 1205+00 looking South at Commerce Blvd.



5: View from 1251+00 looking South toward Jefferson Blvd.



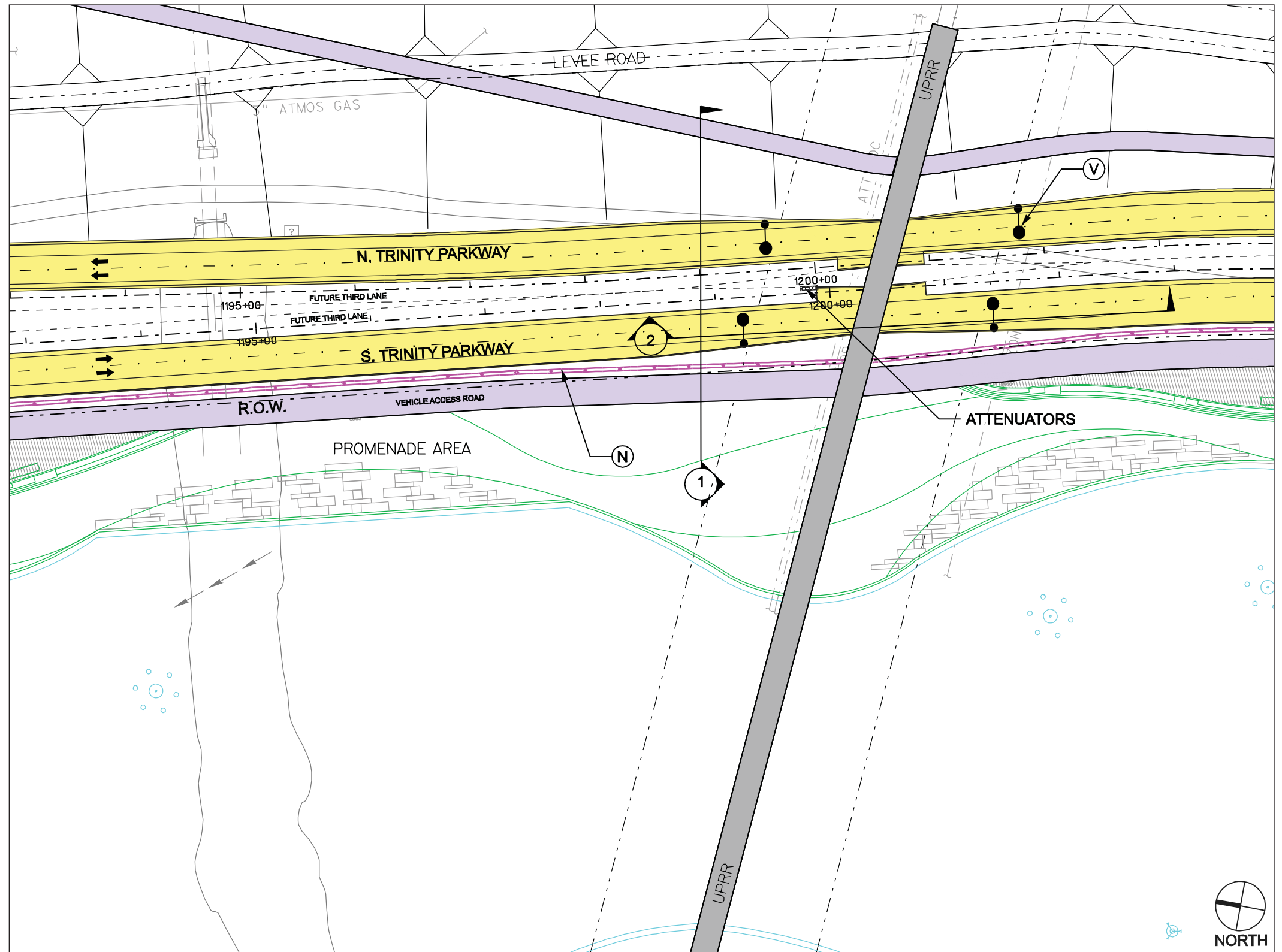
3: View from 1222+00 looking North toward Commerce Blvd.



6: View from 1267+00 looking South toward Northbound IH-35



Map of Location



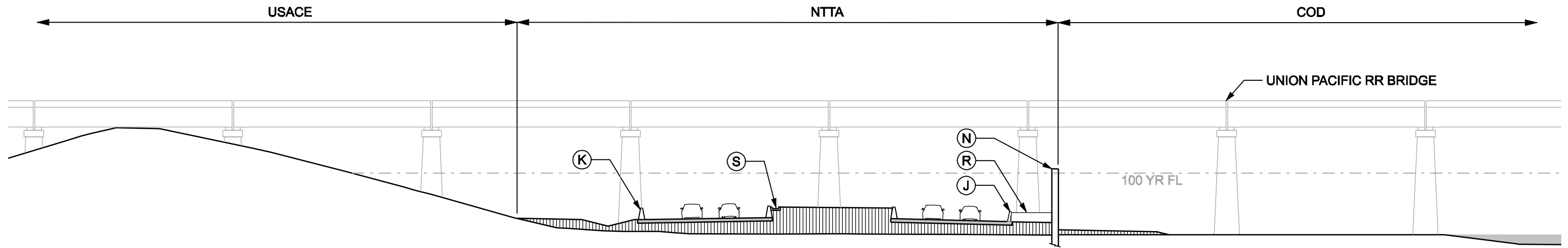
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

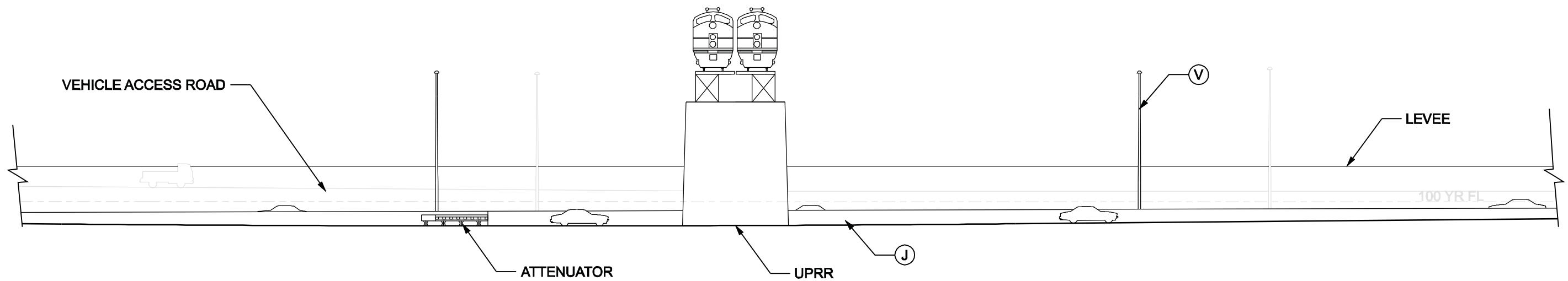
Legend

- Mainlanes (at grade)
- Mainlanes (on structure)
- Ramps (at grade)
- Ramps (on structure)
- Levee Maintenance Road
- Pedestrian Bridge
- Cross Streets/Roads
- Project by Others





1 SECTION : STA. 1199+00 - UNION PACIFIC RR
1:30

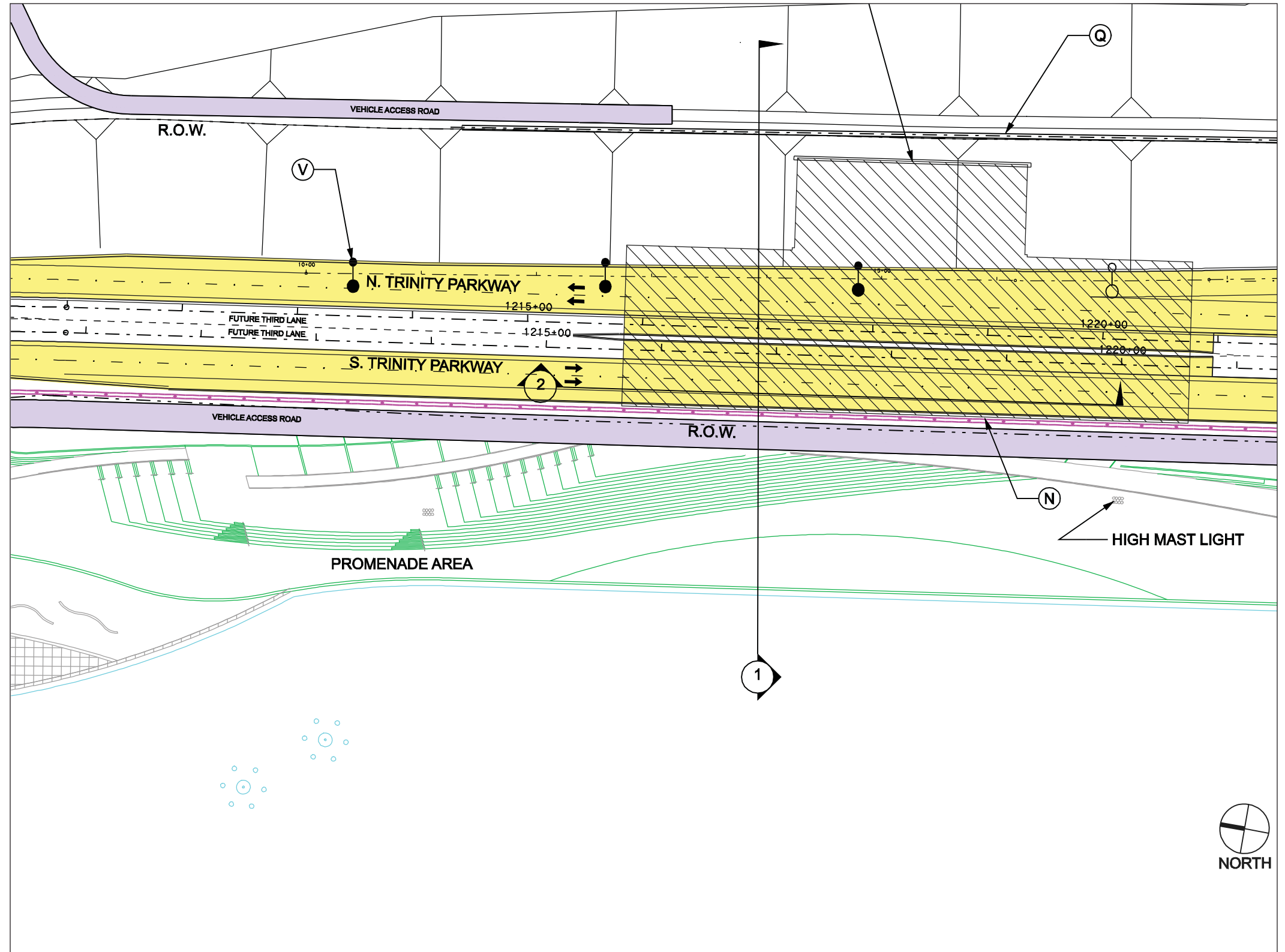


2 ELEVATION : STA. 1199+00 TO 1203+00 - UNION PACIFIC RR
1:30





Map of Location



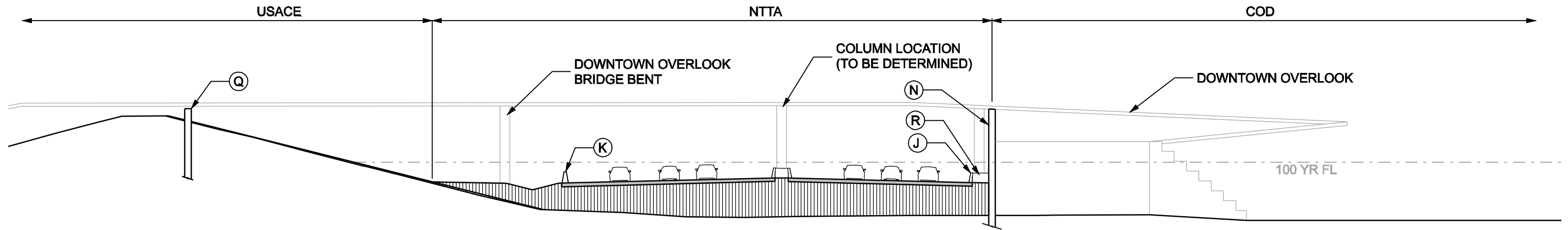
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

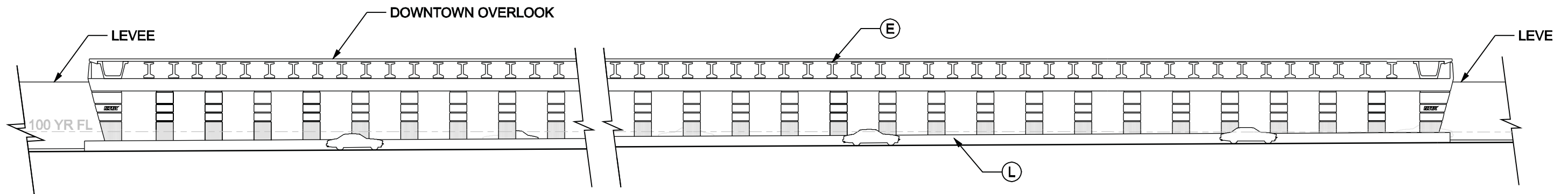
Legend

- Mainlanes (at grade)
- Mainlanes (on structure)
- Ramps (at grade)
- Ramps (on structure)
- Levee Maintenance Road
- Pedestrian Bridge
- Cross Streets/Roads
- Project by Others





1 SECTION : STA. 1217+00 - DOWNTOWN OVERLOOK
1:30

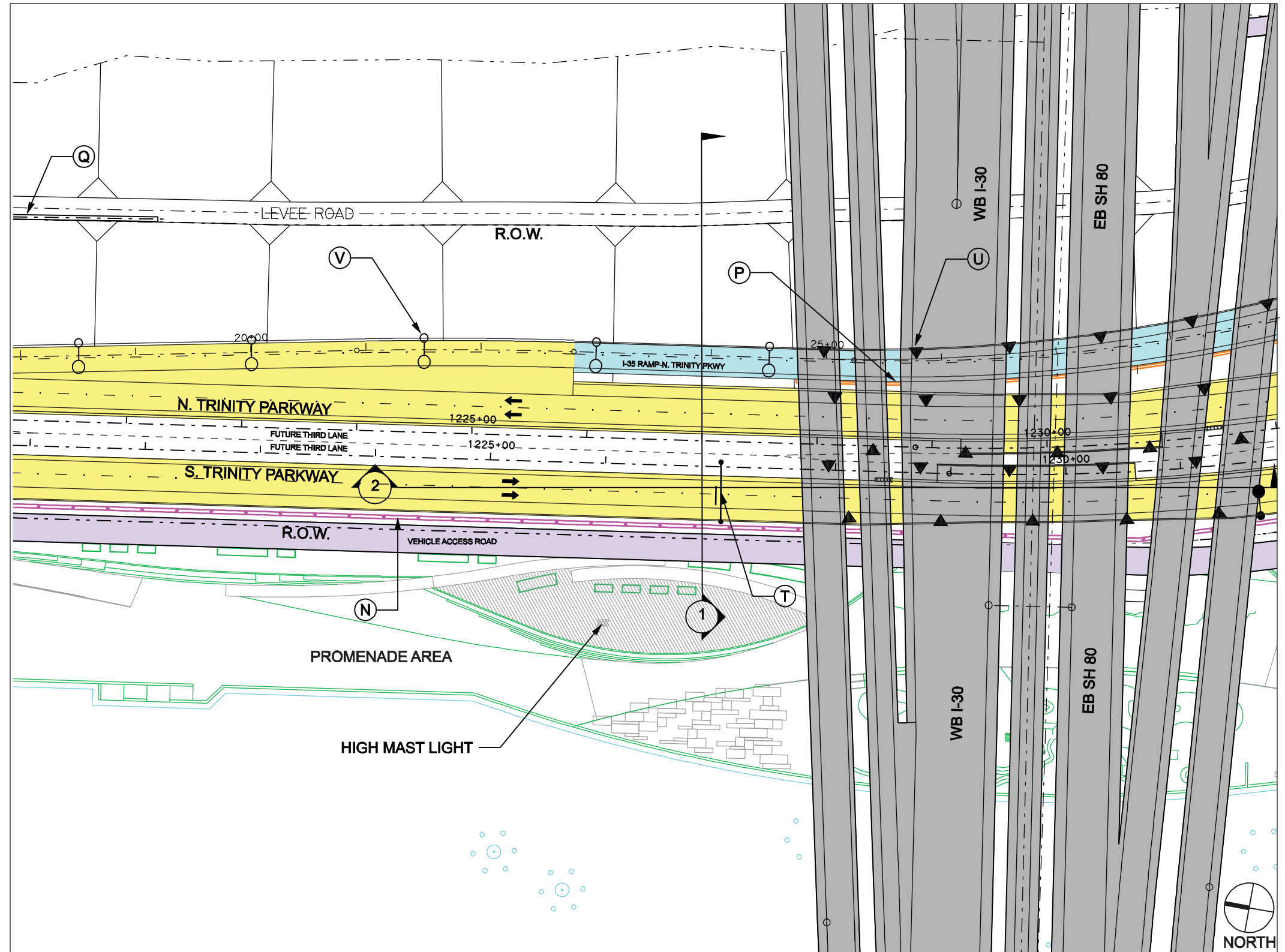


2 ELEVATION : STA. 1215+00 TO 1220+00 - DOWNTOWN OVERLOOK
1:30





Map of Location



Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I-Beam (Texas Girder)
- F I-Girder (Steel)
- G U-Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

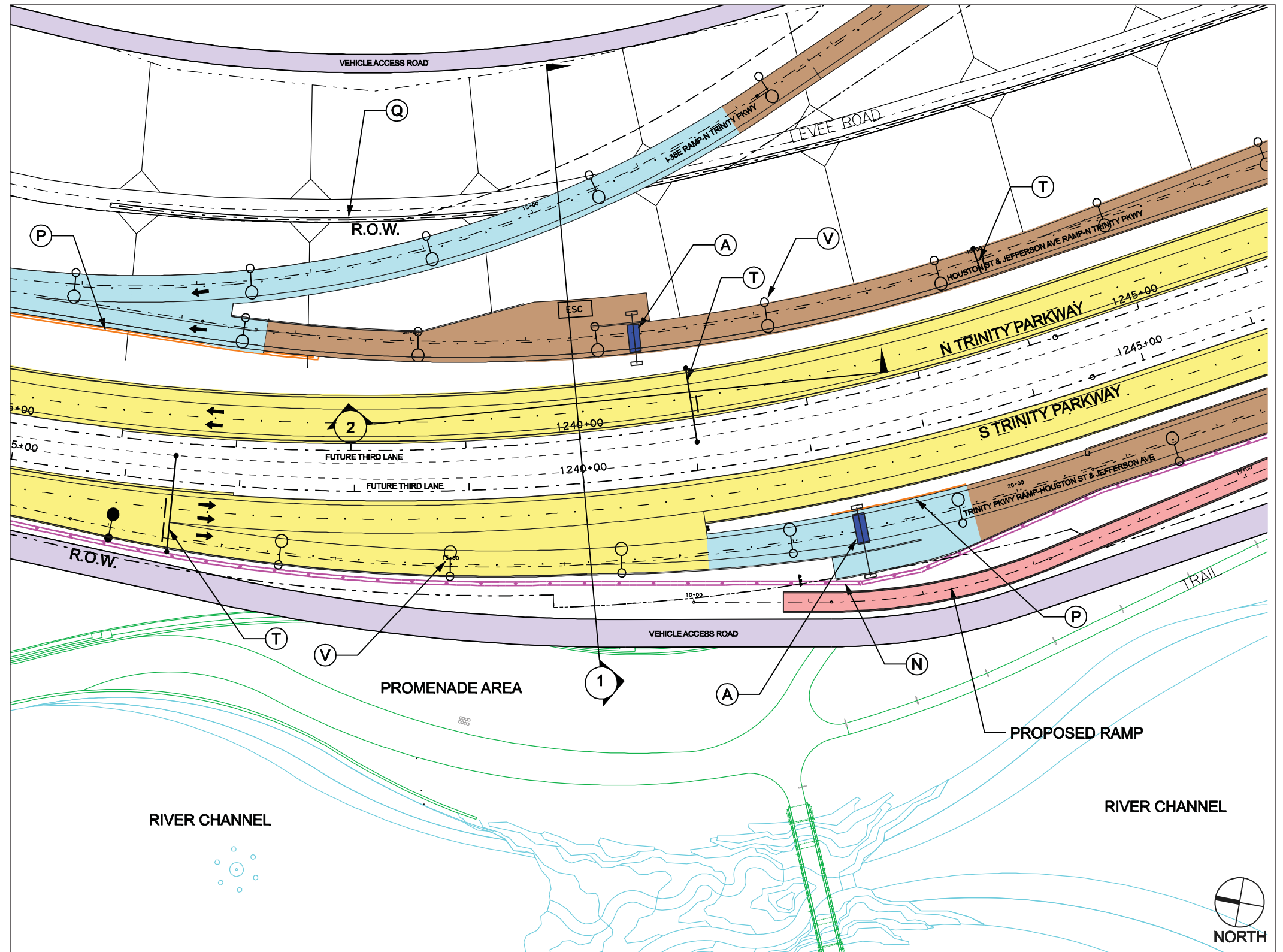
Legend

- Mainlanes (at grade)
- Mainlanes (on structure)
- Ramps (at grade)
- Ramps (on structure)
- Levee Maintenance Road
- Pedestrian Bridge
- Cross Streets/Roads
- Project by Others





Map of Location



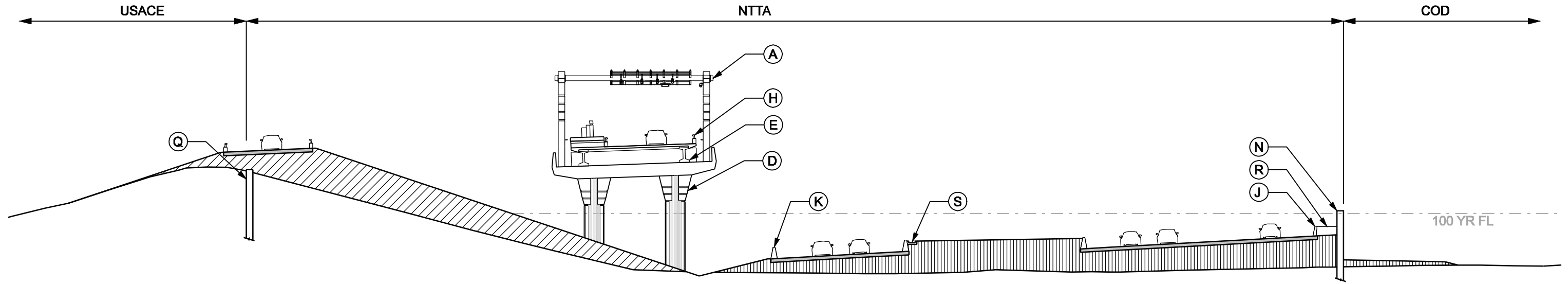
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

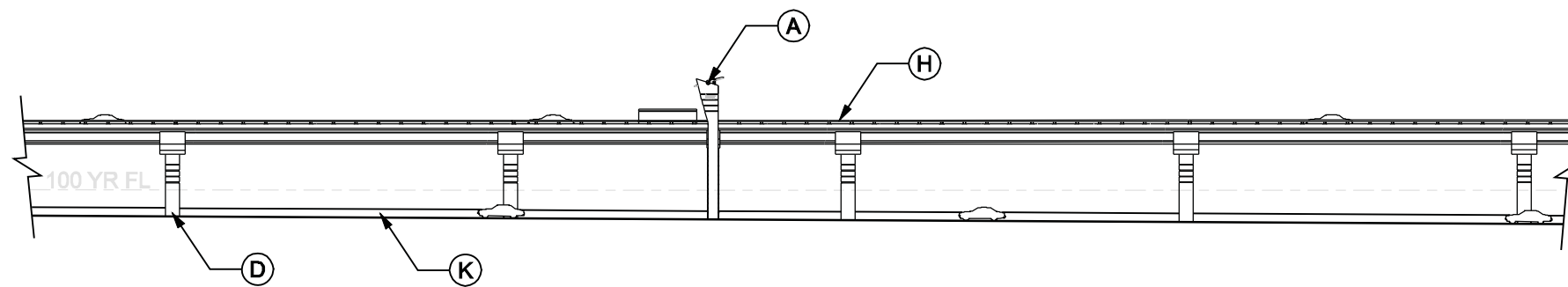
Legend

- | | |
|--------------------------|------------------------|
| Mainlanes (at grade) | Levee Maintenance Road |
| Mainlanes (on structure) | Pedestrian Bridge |
| Ramps (at grade) | Cross Streets/Roads |
| Ramps (on structure) | Project by Others |





1 SECTION : STA. 1240+00 - RAMP GANTRY
1:30



2 ELEVATION : STATION 1238+50 TO 1243+00 - HOUSTON & JEFFERSON ST. RAMPS
1:60





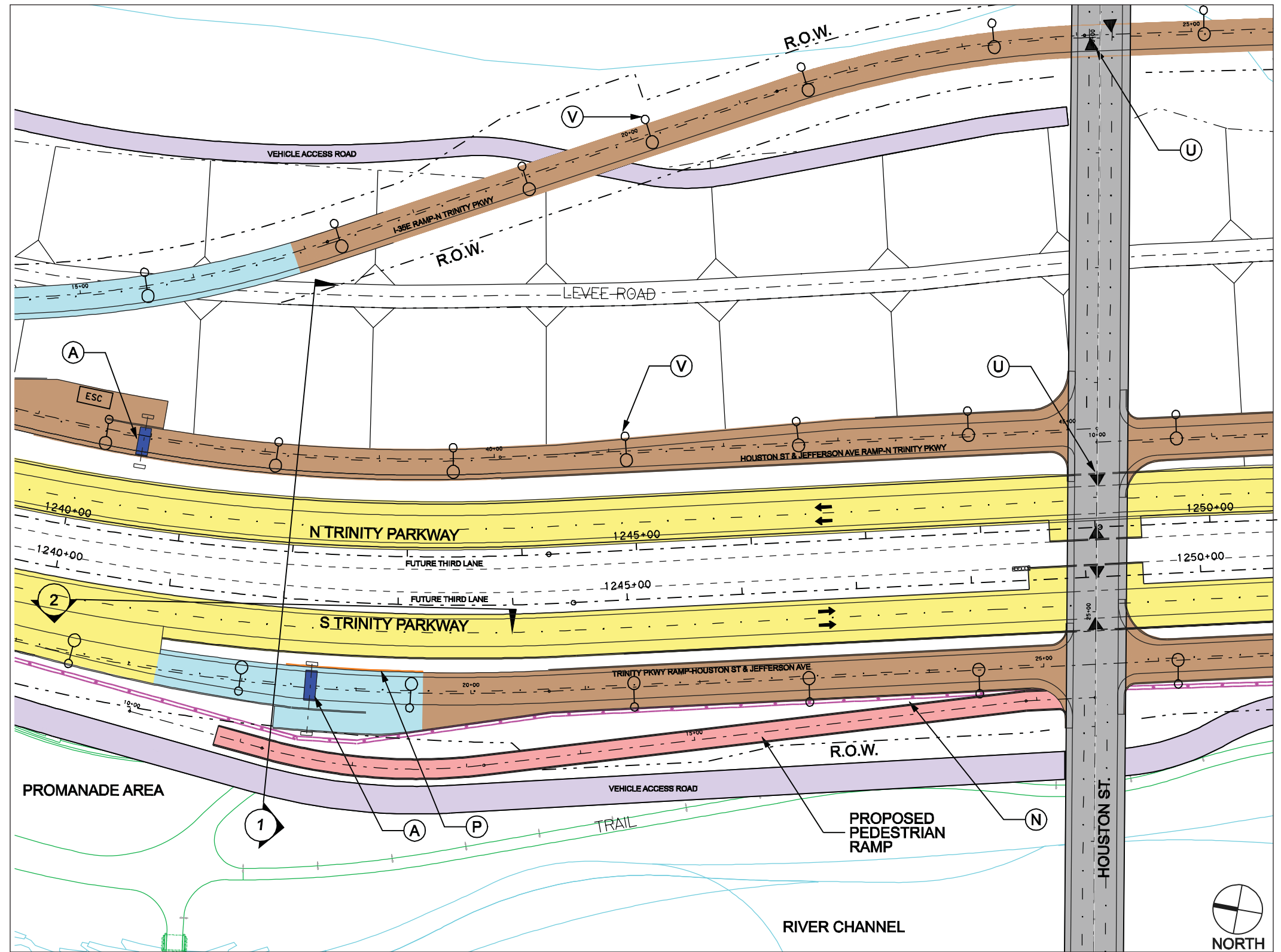
Map of Location

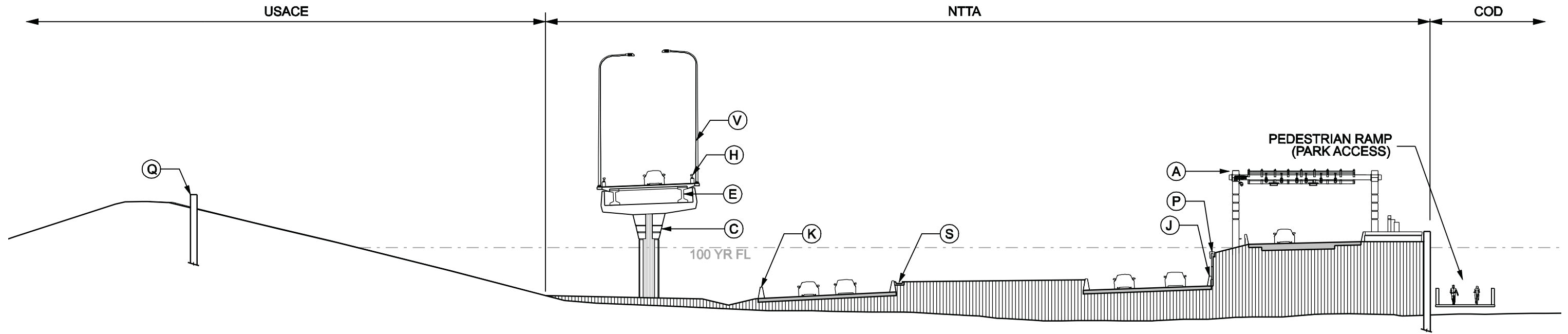
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I-Beam (Texas Girder)
- F I-Girder (Steel)
- G U-Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

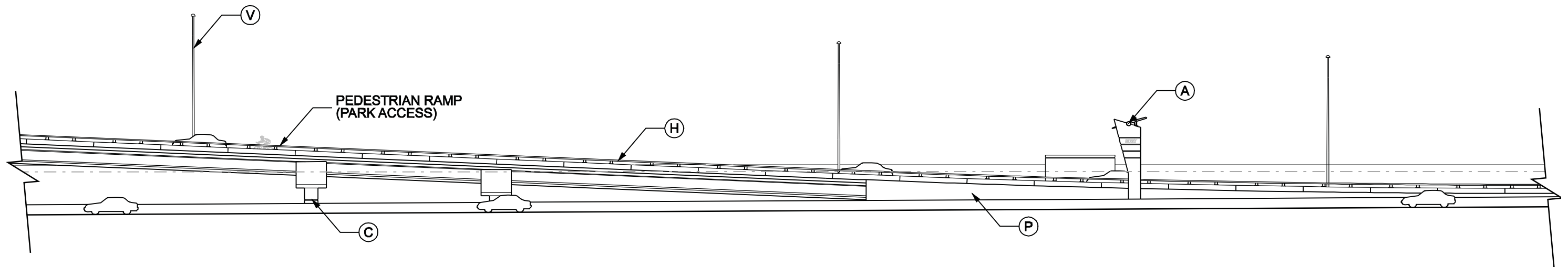
Legend

- | | |
|--------------------------|------------------------|
| Mainlanes (at grade) | Levee Maintenance Road |
| Mainlanes (on structure) | Pedestrian Bridge |
| Ramps (at grade) | Cross Streets/Roads |
| Ramps (on structure) | Project by Others |





1 SECTION : STA. 1242+00 - RAMP GANTRY AT HOUSTON VIADUCT
1:30

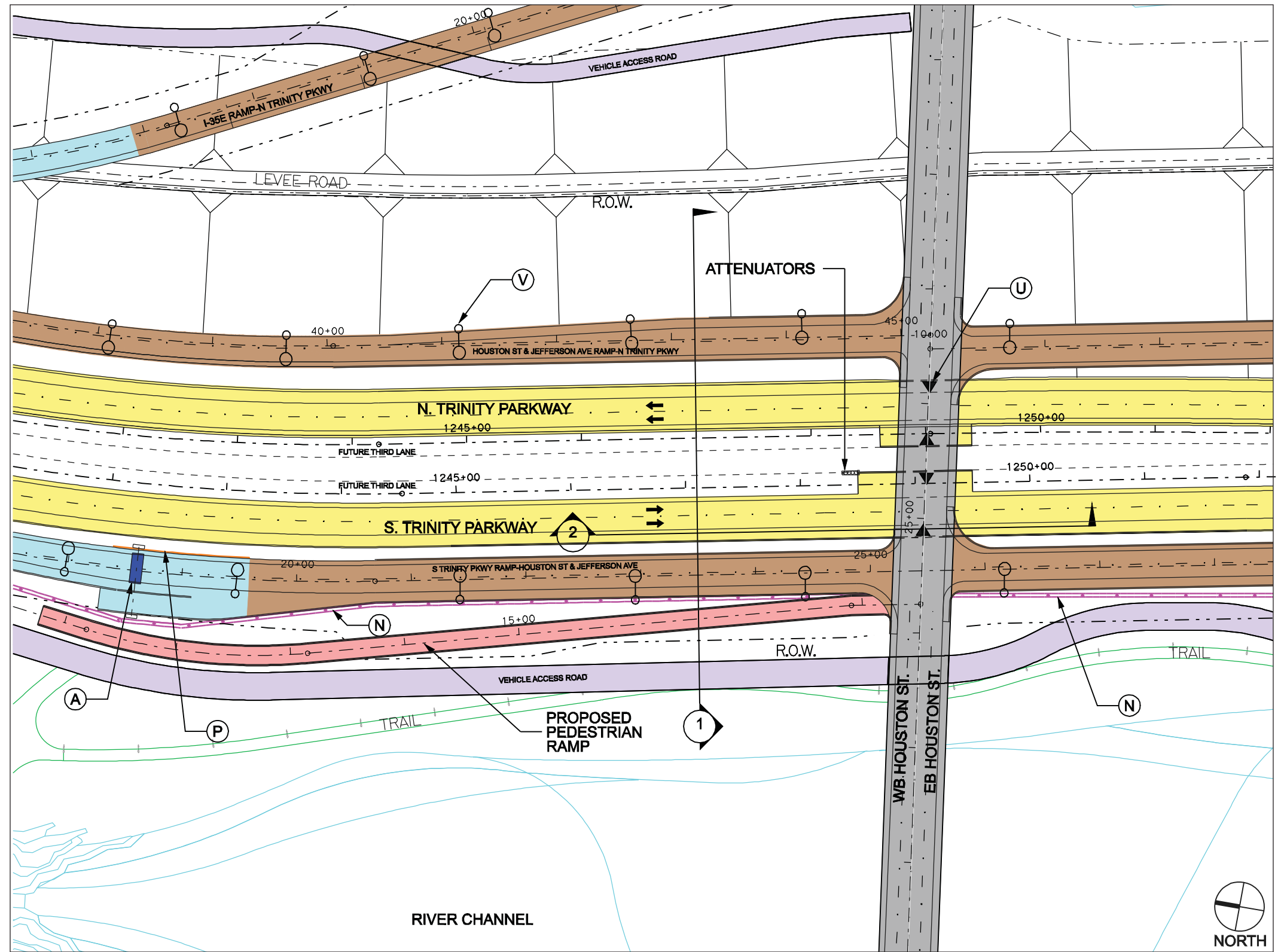


2 ELEVATION : STA. 1240+00 TO 1244+50 - RAMP TO HOUSTON VIADUCT & VIEW OF SEPARATION WALL
1:30





Map of Location



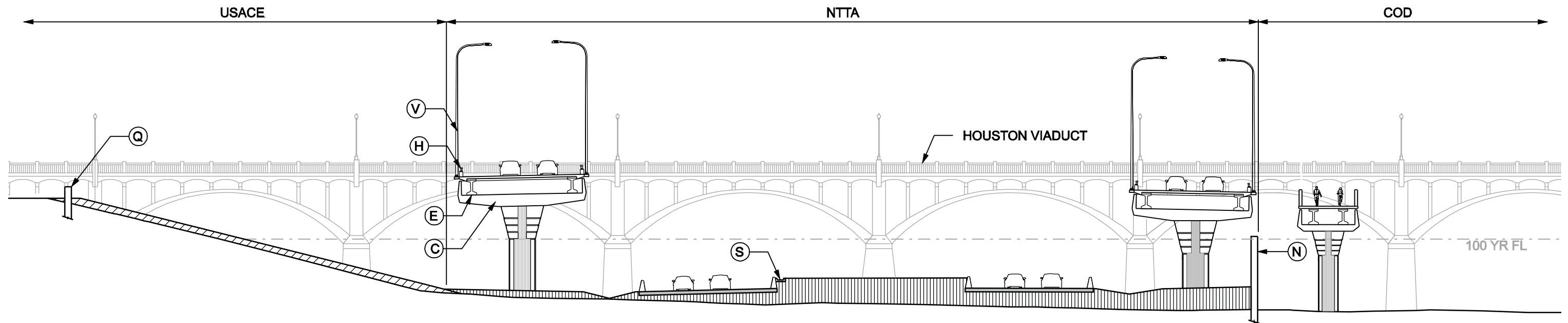
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I-Beam (Texas Girder)
- F I-Girder (Steel)
- G U-Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

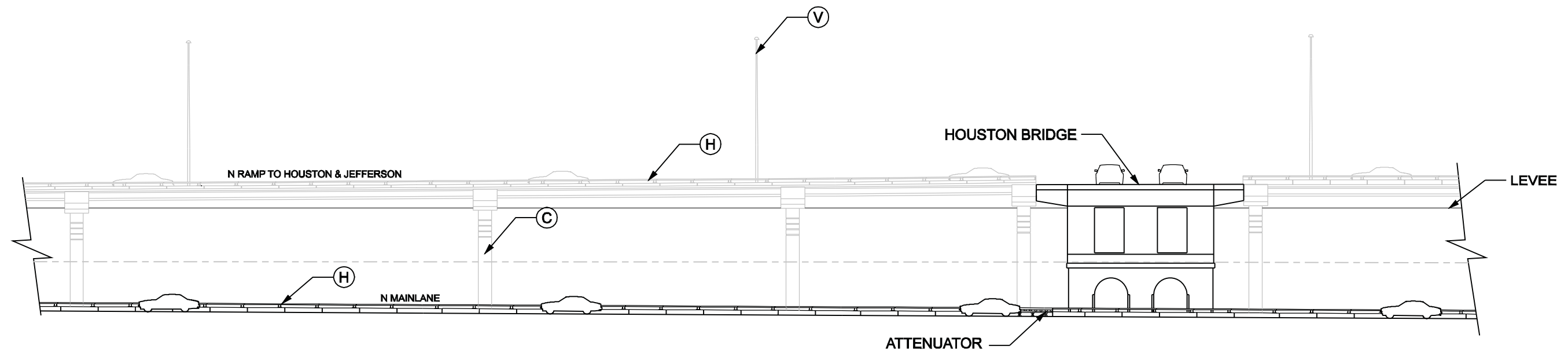
Legend

- Mainlanes (at grade)
- Mainlanes (on structure)
- Ramps (at grade)
- Ramps (on structure)
- Levee Maintenance Road
- Pedestrian Bridge
- Cross Streets/Roads
- Project by Others





1 SECTION : STA. 1247+25 - HOUSTON VIADUCT
1:30

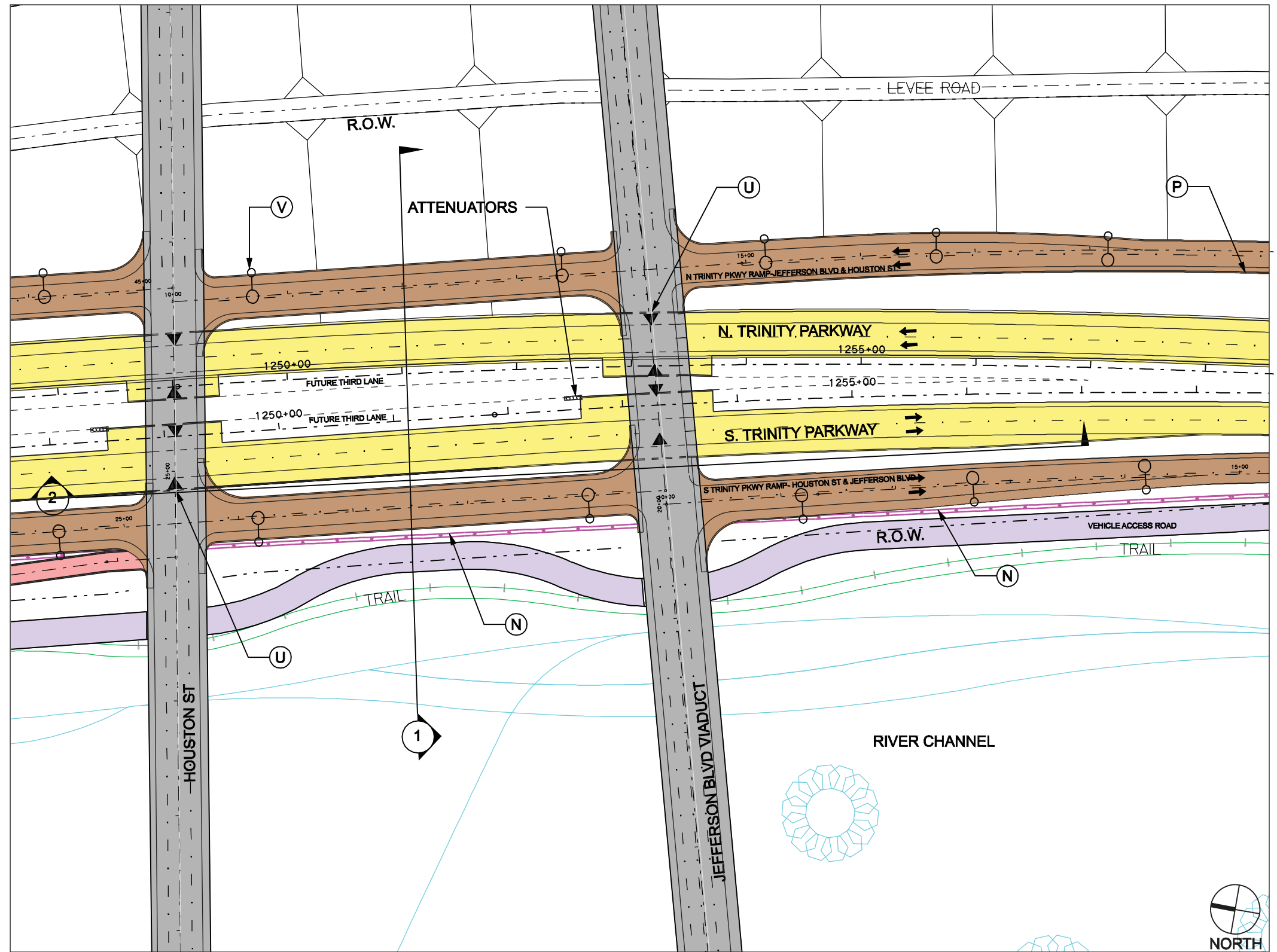


2 ELEVATION : STA. 1246+00 TO 1250+50 - HOUSTON BRIDGE
1:30





Map of Location



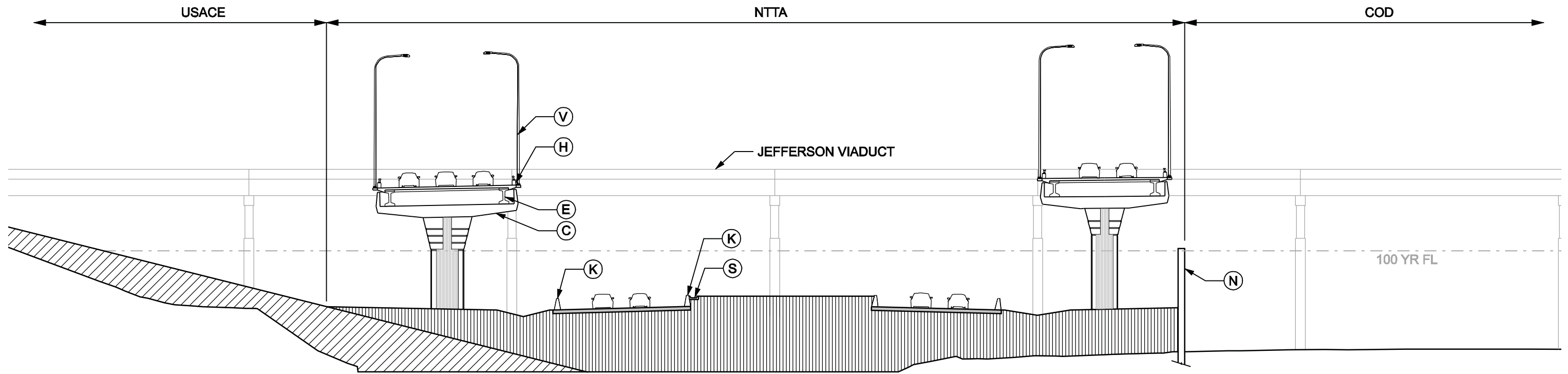
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

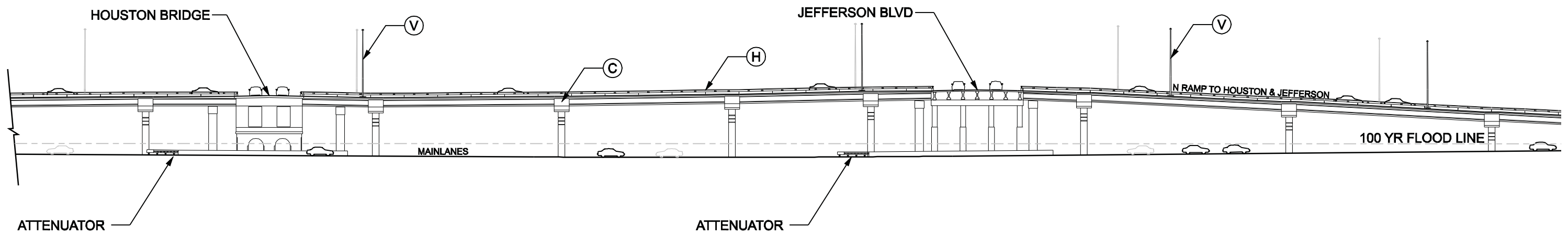
Legend

- Mainlanes (at grade)
- Mainlanes (on structure)
- Ramps (at grade)
- Ramps (on structure)
- Levee Maintenance Road
- Pedestrian Bridge
- Cross Streets/Roads
- Project by Others





1 SECTION : STA. 1251+00 - JEFFERSON VIADUCT
1:30

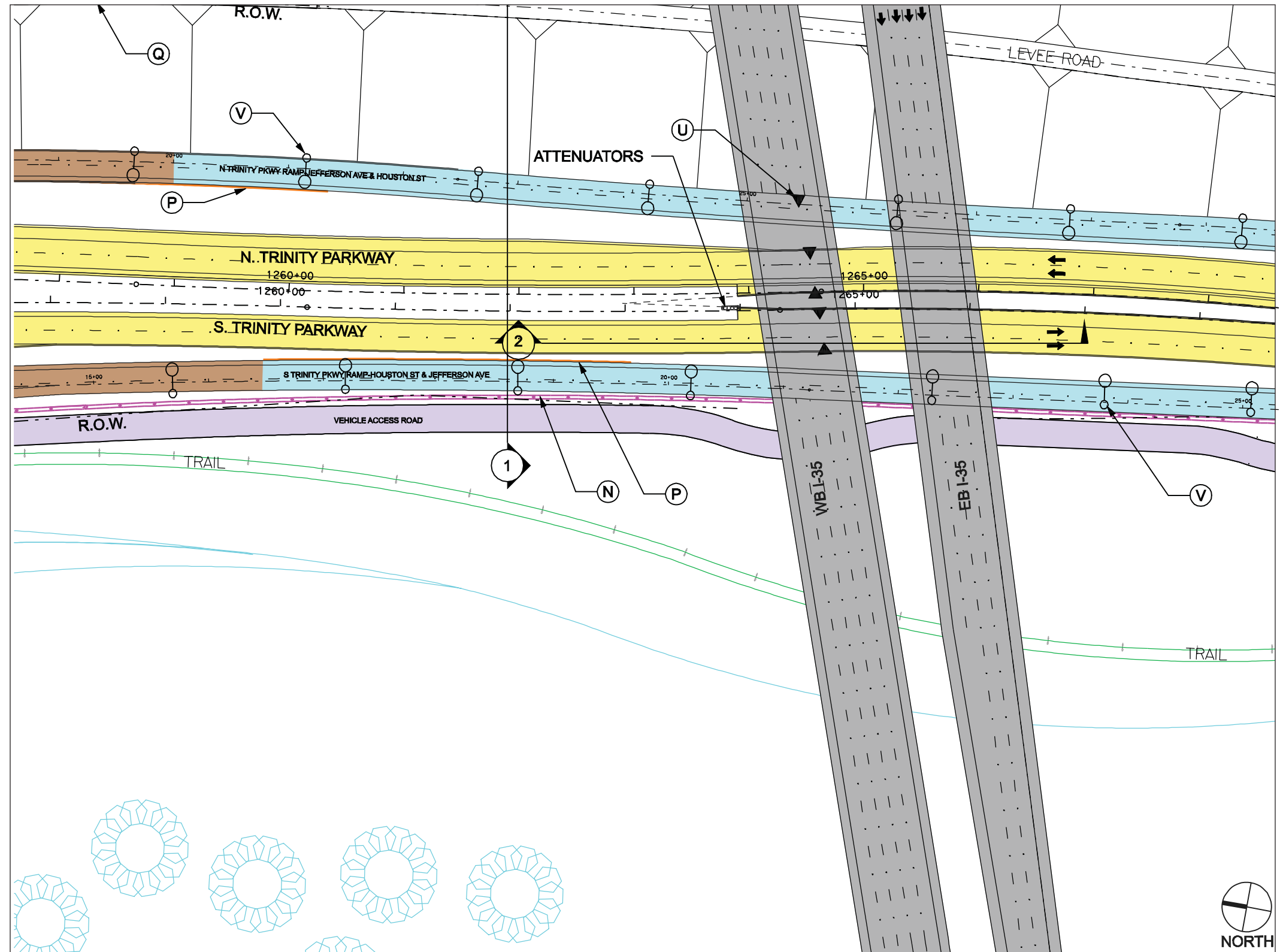


2 ELEVATION : STA. 1248+00 TO 1257+00 - HOUSTON VIADUCT & JEFFERSON BLVD
1:60





Map of Location



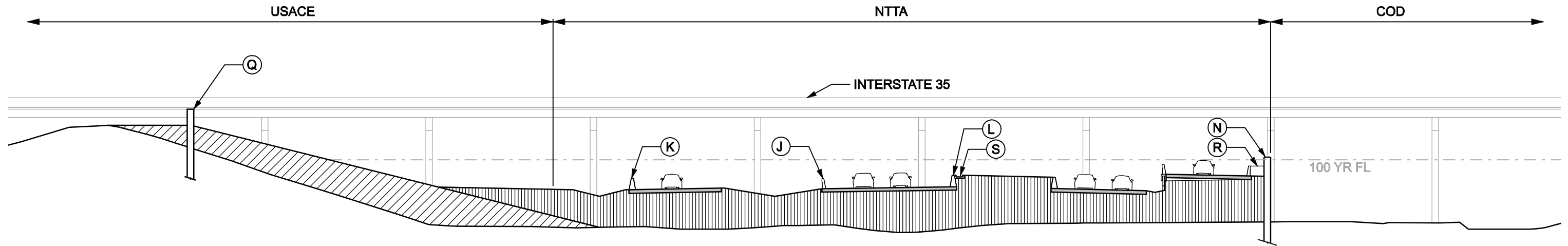
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

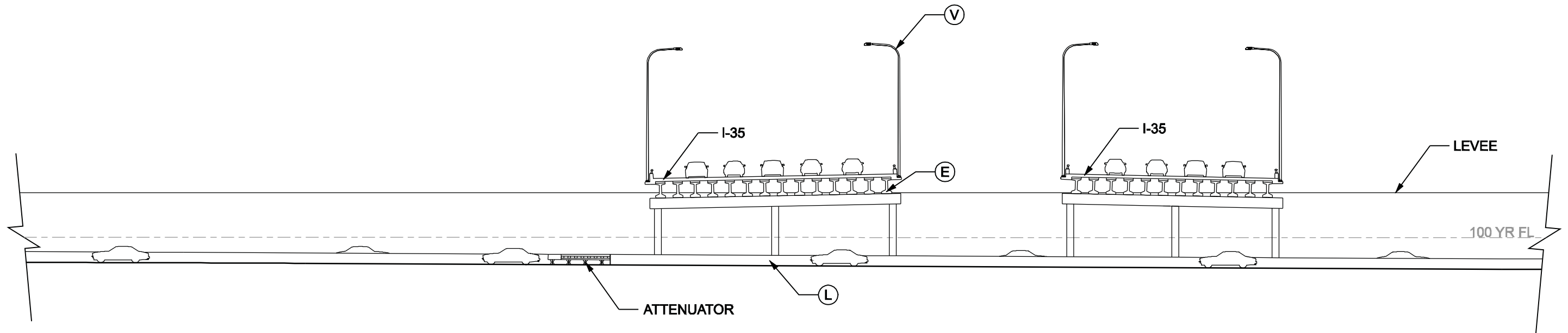
Legend

- Mainlanes (at grade)
- Mainlanes (on structure)
- Ramps (at grade)
- Ramps (on structure)
- Levee Maintenance Road
- Pedestrian Bridge
- Cross Streets/Roads
- Project by Others





1 SECTION : STA. 1262+00 - INTERSTATE 35
1:30



2 ELEVATION : STA. 1262+50 TO 1267+00 - INTERSTATE 35 SB LANES
1:30



05 Forest Zone



Zone Map	70-71
Inventory & Analysis	72-73
Focus Area Plan, Sections, & Elevations	74-85

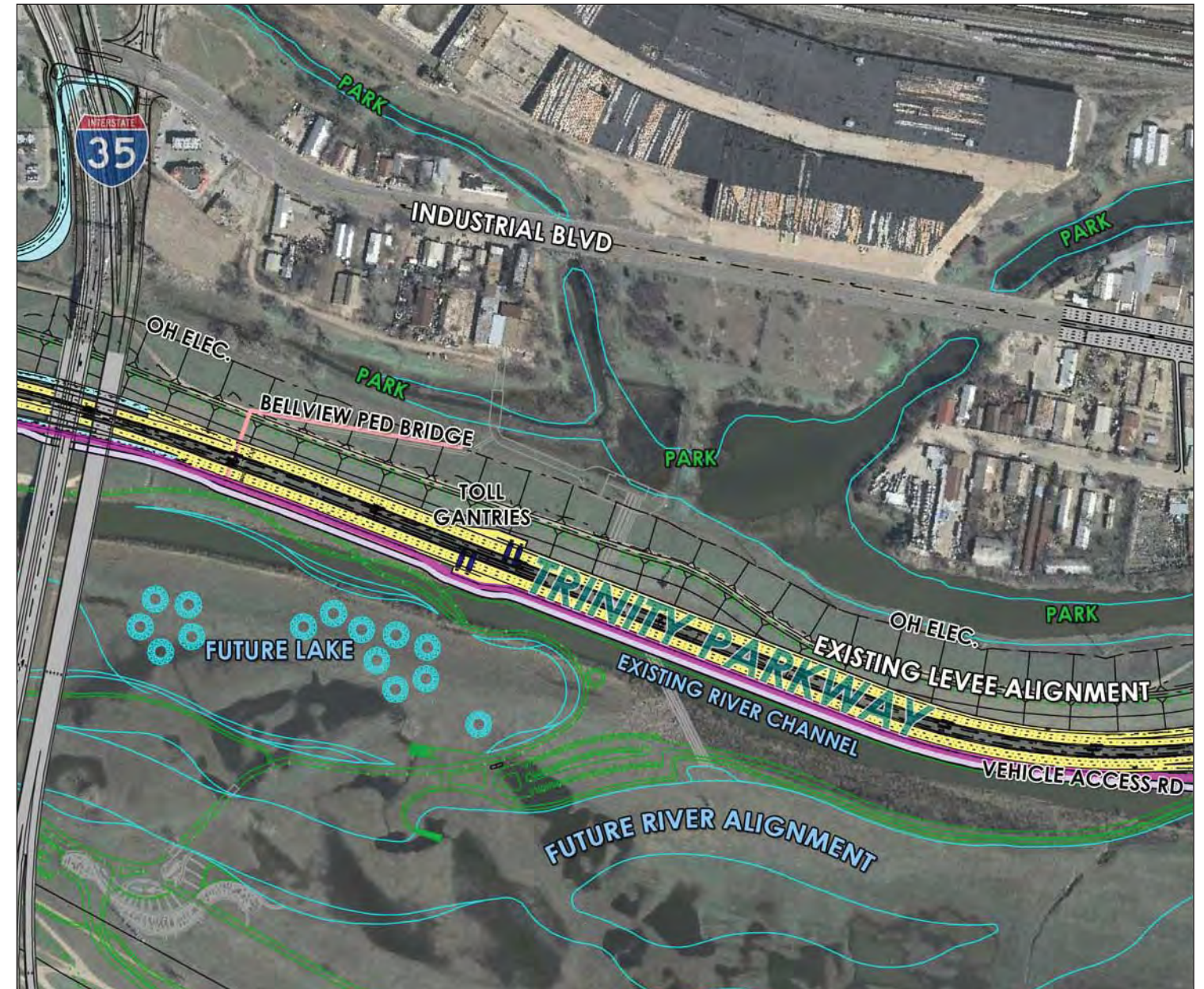




Corridor Zone Key Map









The Forest Zone Map indicates the proposed Parkway alignment within the existing Right of Way (R.O.W.), the Parkway's overall context relative to adjacent land uses, and connections to the existing and proposed roadway and pedestrian networks. The plan, elevation and section drawings depict a keyed inventory location of the overall design intent.

The plan drawings depict locations of various design elements, including: toll gantries, walls, barriers, sign structures and drainage features. The elevations and section drawings illustrate the vertical and horizontal relationships between bridges, mainlanes, and structural elements such as bridge columns, beams and girders, barriers, walls, and railings.



Scale 1:500

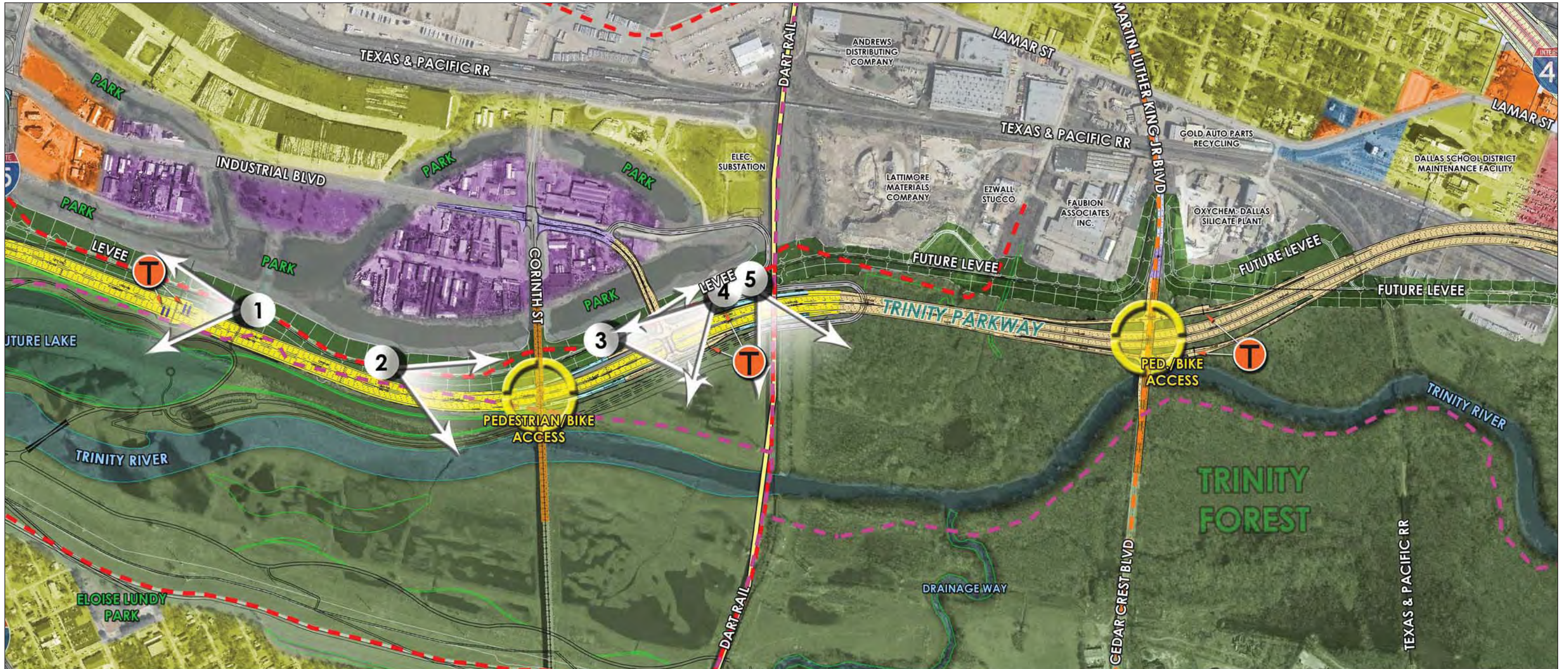
Legend

 Mainlanes (at grade)	 Levee Maintenance Road
 Mainlanes (on structure)	 Pedestrian Bridge
 Ramps (at grade)	 Cross Streets/Roads
 Ramps (on structure)	 Project by Others





*Land use derived from the City of Dallas Trinity River Corridor Comprehensive Land Use Plan (Adopted March 9, 2005)



Legend

	Residential		Office		Mainlanes		DART Rail		Trinity Park
	Retail		Entertainment		Frontage Road		Regional Veloweb (Mobility 2010 Plan)		Levee
	Commercial		Mixed Use		Ramp		On-Street Trail		Toll Gantry
					Cross & Local Streets		Off-Street Trail		
					Bridge				
					Project by Others				

The Parkway in the Forest Zone is primarily “on-structure” and allows views of the native Trinity Forest. As the parkway travels over the levee, northbound traffic will have views of the Trinity Forest, the park and the parkway.

Scale 1:800 NORTH





1: View from 1289+00 looking South



4: View from 1325+00 looking North toward Industrial



2: View from 1300+00 looking South toward Corinth Street



5: View from 1325+00 looking South toward the DART Railway



3: View from 1316+00 looking South











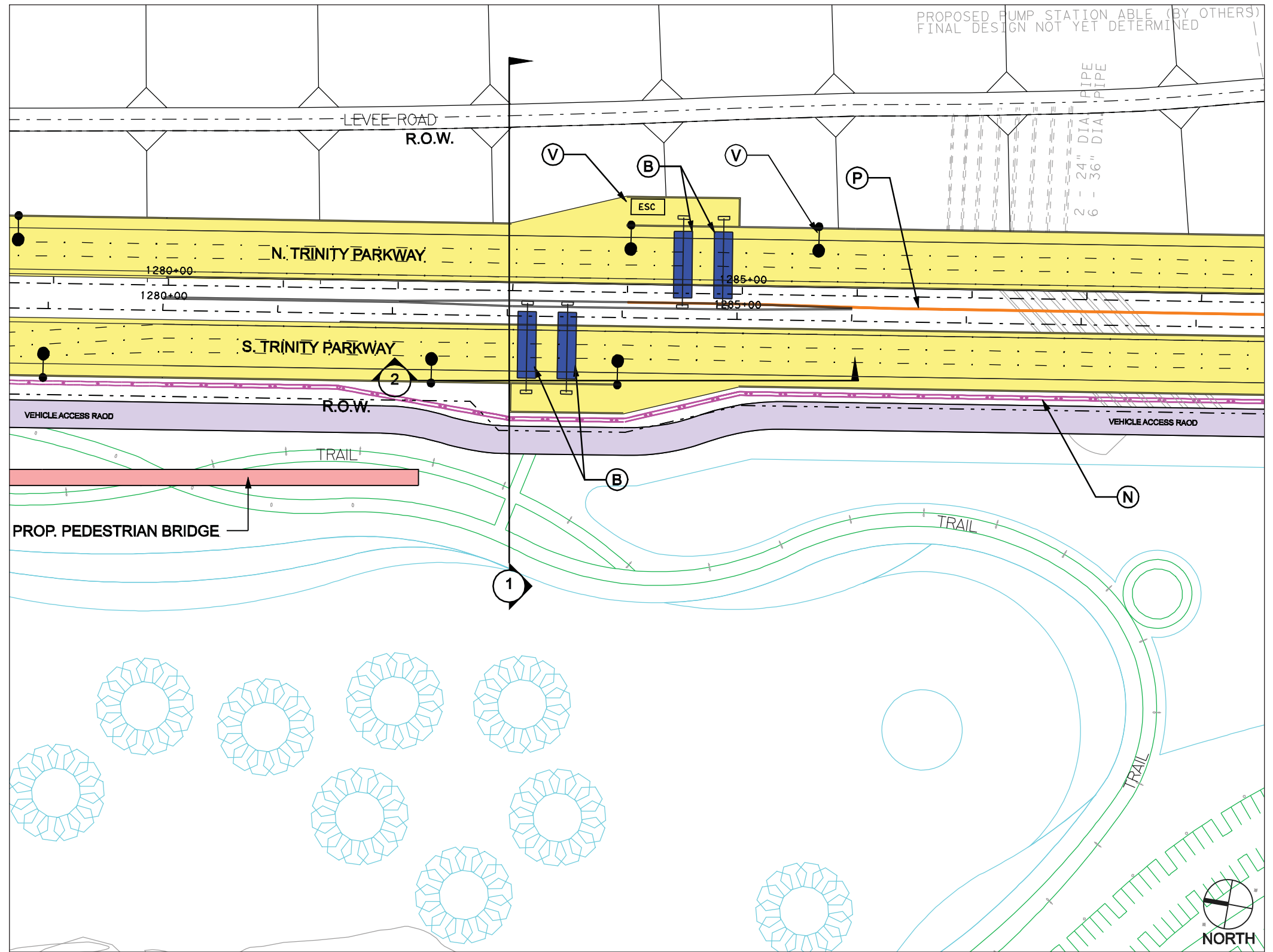
Map of Location

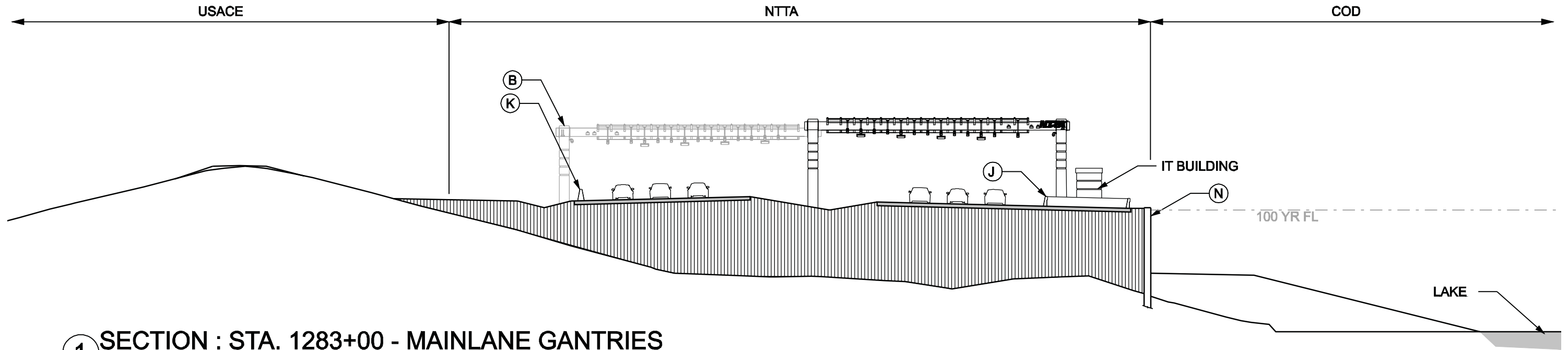
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

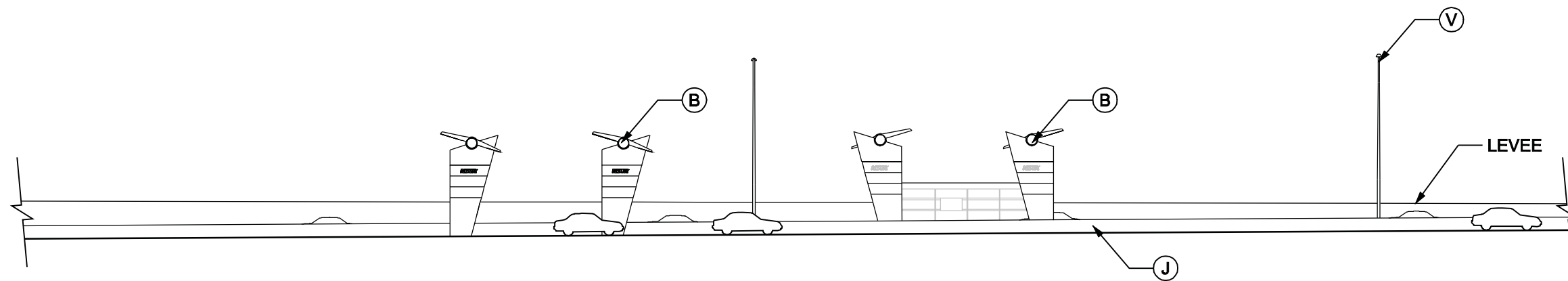
Legend

- | | |
|--|--|
|  Mainlanes (at grade) |  Levee Maintenance Road |
|  Mainlanes (on structure) |  Pedestrian Bridge |
|  Ramps (at grade) |  Cross Streets/Roads |
|  Ramps (on structure) |  Project by Others |





1 SECTION : STA. 1283+00 - MAINLANE GANTRIES
1:30



2 ELEVATION : STA. 1282+00 TO 1286+00 - MAINLANE TOLL GANTRIES
1:30











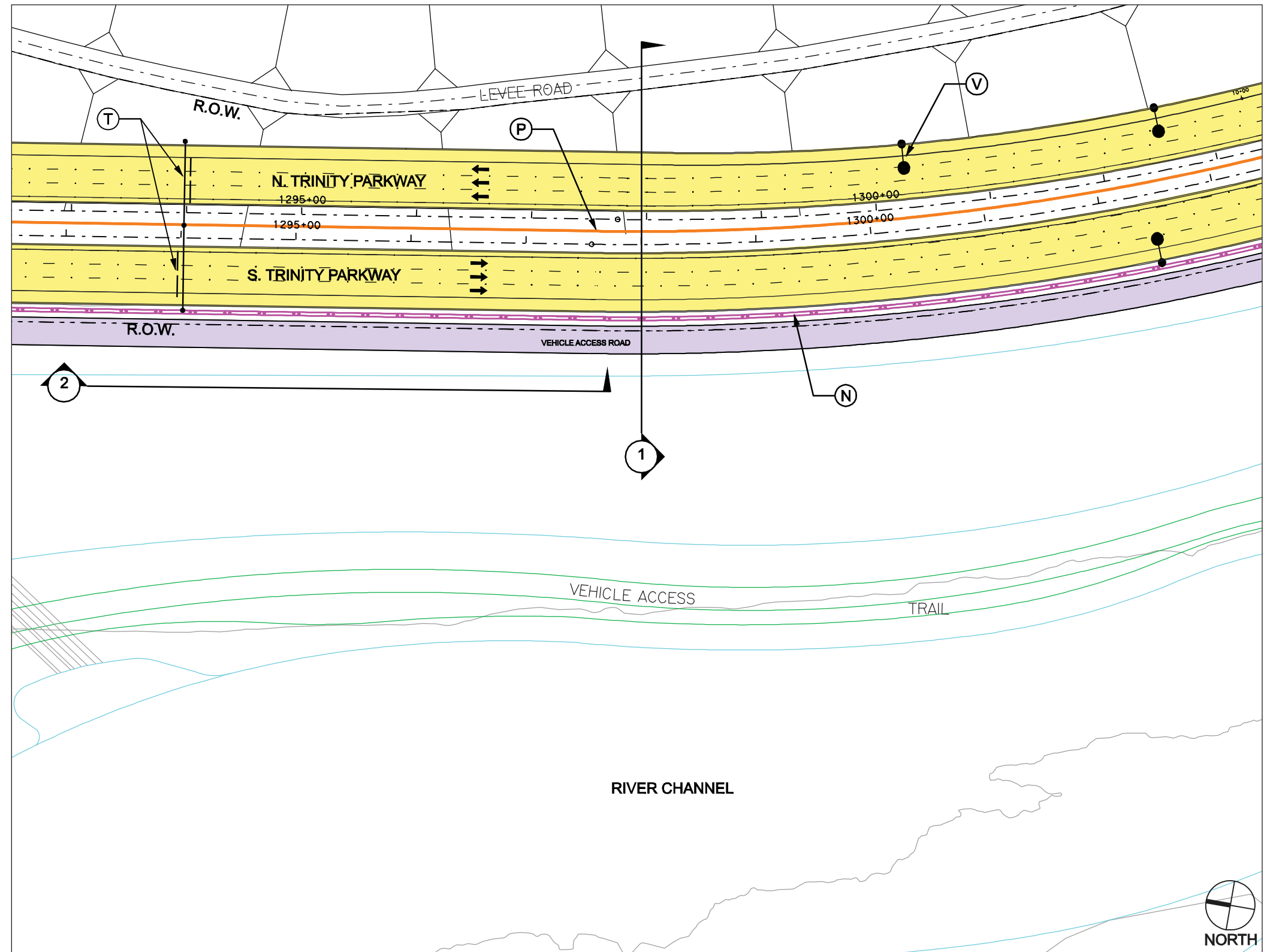
Map of Location

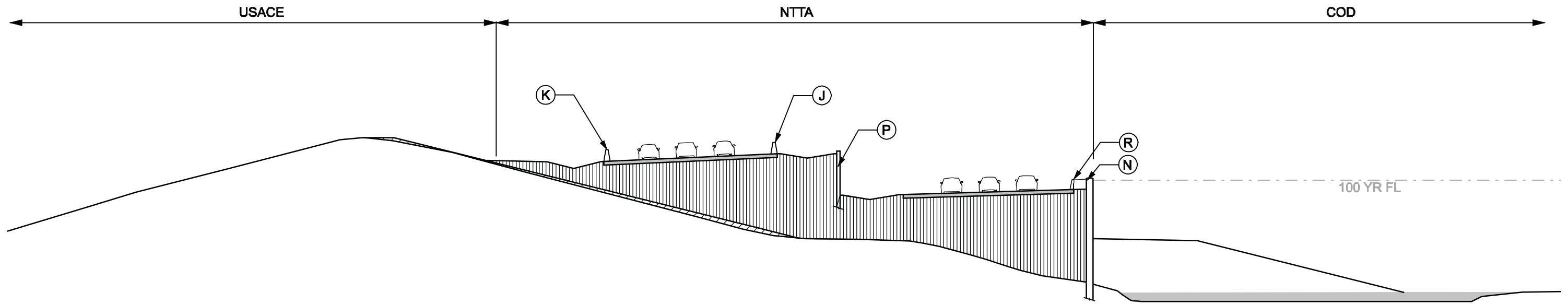
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

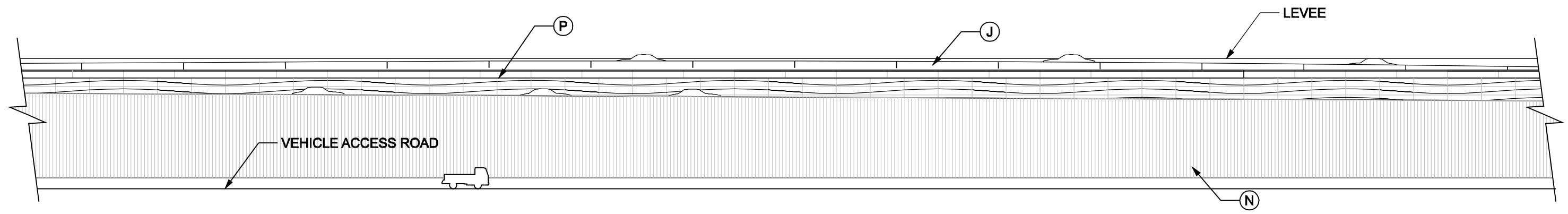
Legend

- | | |
|--|--|
|  Mainlanes (at grade) |  Levee Maintenance Road |
|  Mainlanes (on structure) |  Pedestrian Bridge |
|  Ramps (at grade) |  Cross Streets/Roads |
|  Ramps (on structure) |  Project by Others |





1 SECTION : STA. 1298+00 - FUTURE ALGAE POND
1:30



2 ELEVATION : STA. 1293+00 TO 1297+50 - SEPARATION WALL AND MAINLANES
1:30













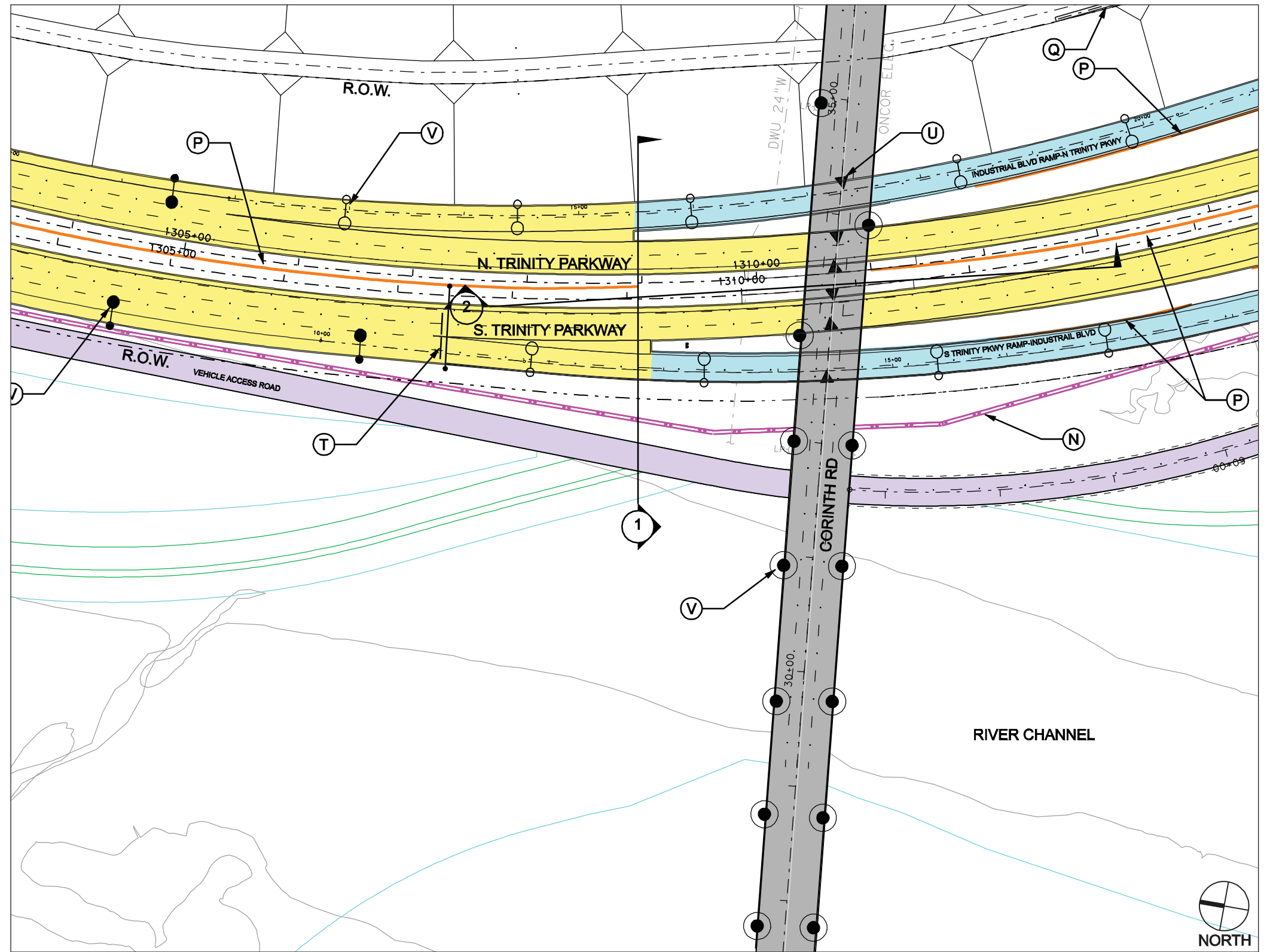
Map of Location

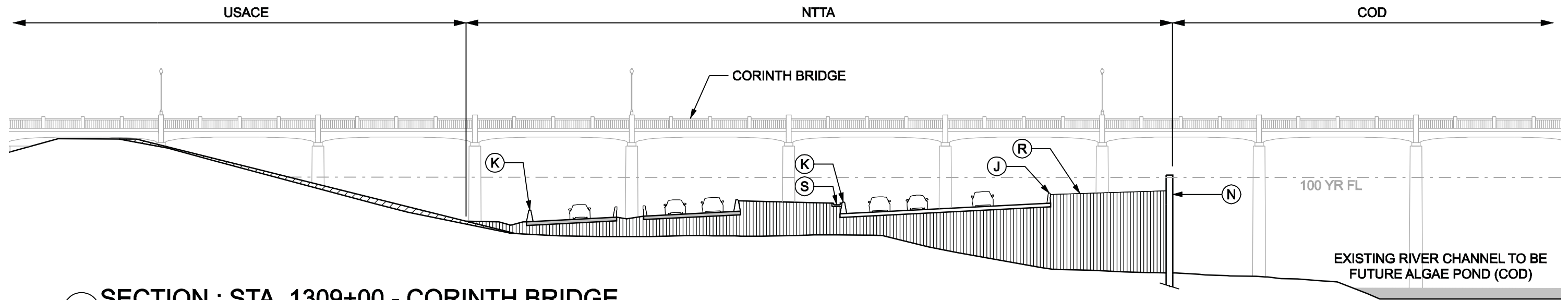
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

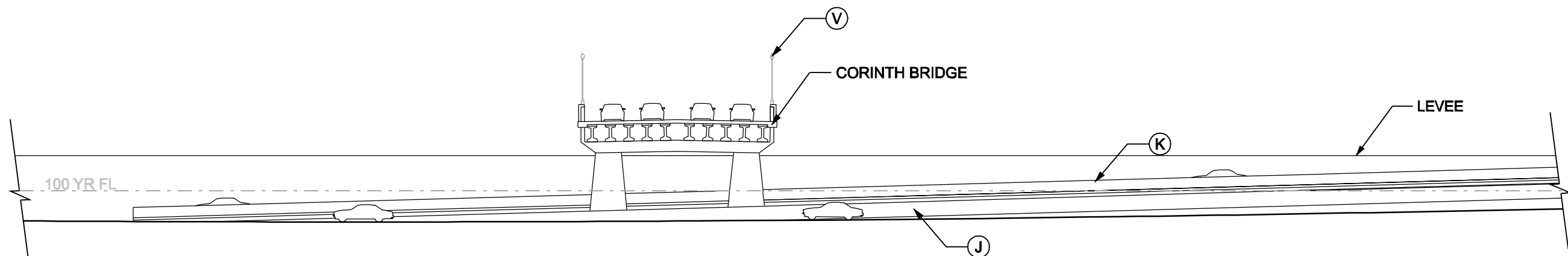
Legend

- | | |
|--|--|
|  Mainlanes (at grade) |  Levee Maintenance Road |
|  Mainlanes (on structure) |  Pedestrian Bridge |
|  Ramps (at grade) |  Cross Streets/Roads |
|  Ramps (on structure) |  Project by Others |





1 SECTION : STA. 1309+00 - CORINTH BRIDGE
1:30

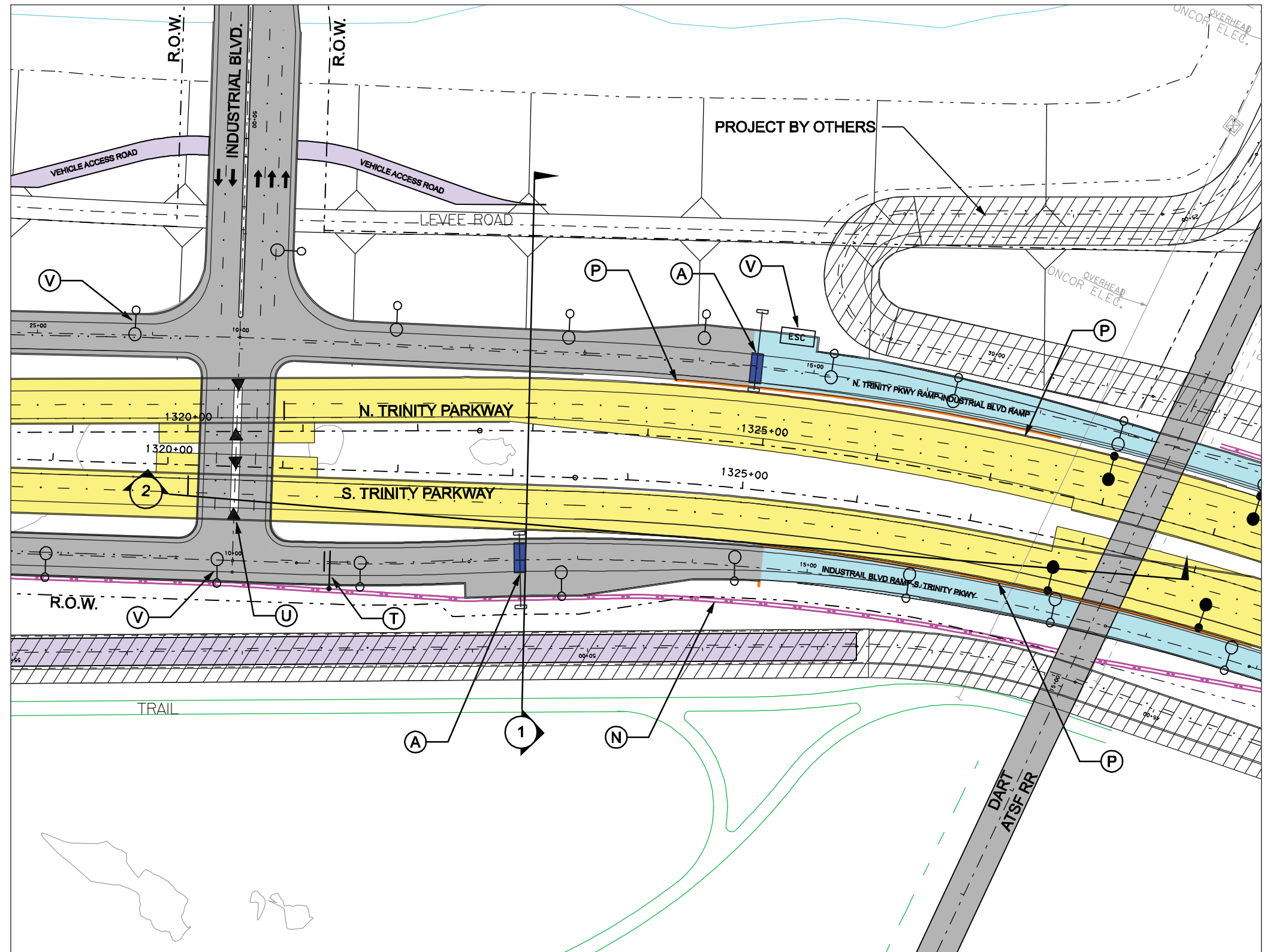


2 ELEVATION : STA. 1308+50 TO 1313+00 - CORINTH BRIDGE & INDUSTRIAL BLVD RAMP
1:30





Map of Location



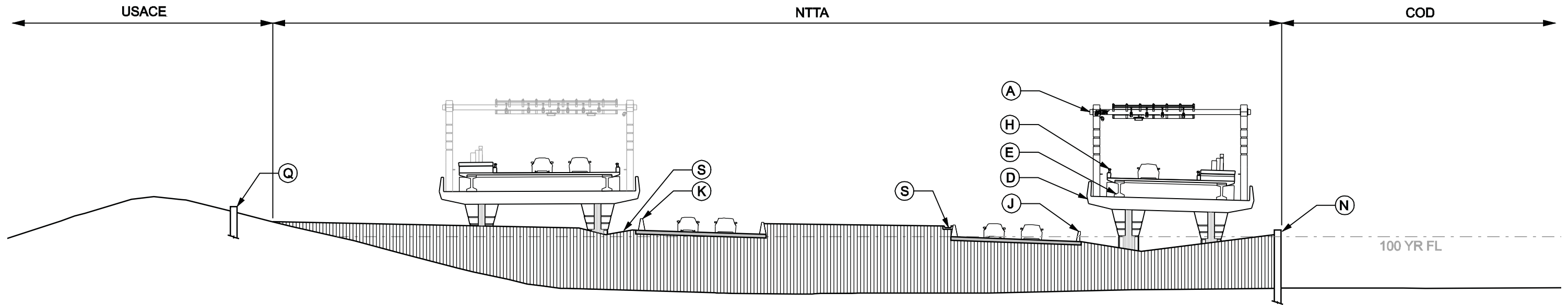
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

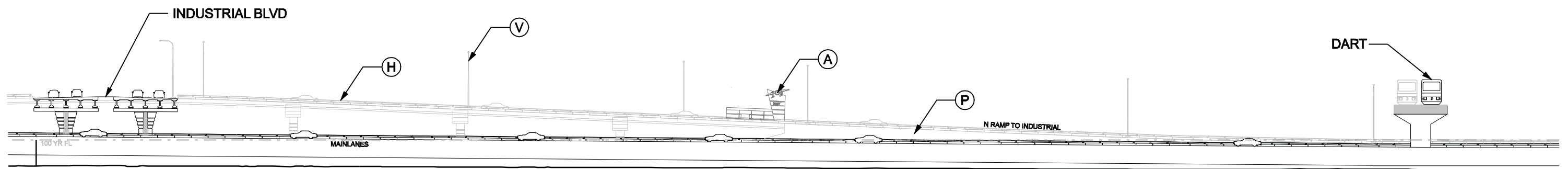
Legend

- Mainlanes (at grade)
- Mainlanes (on structure)
- Ramps (at grade)
- Ramps (on structure)
- Levee Maintenance Road
- Pedestrian Bridge
- Cross Streets/Roads
- Project by Others





1 SECTION : STA. 1323+00 - RAMP GANTRIES
1:30



2 ELEVATION : STA. 1320+00 TO 1329+00 - INDUSTRIAL & DART BRIDGE
1:60













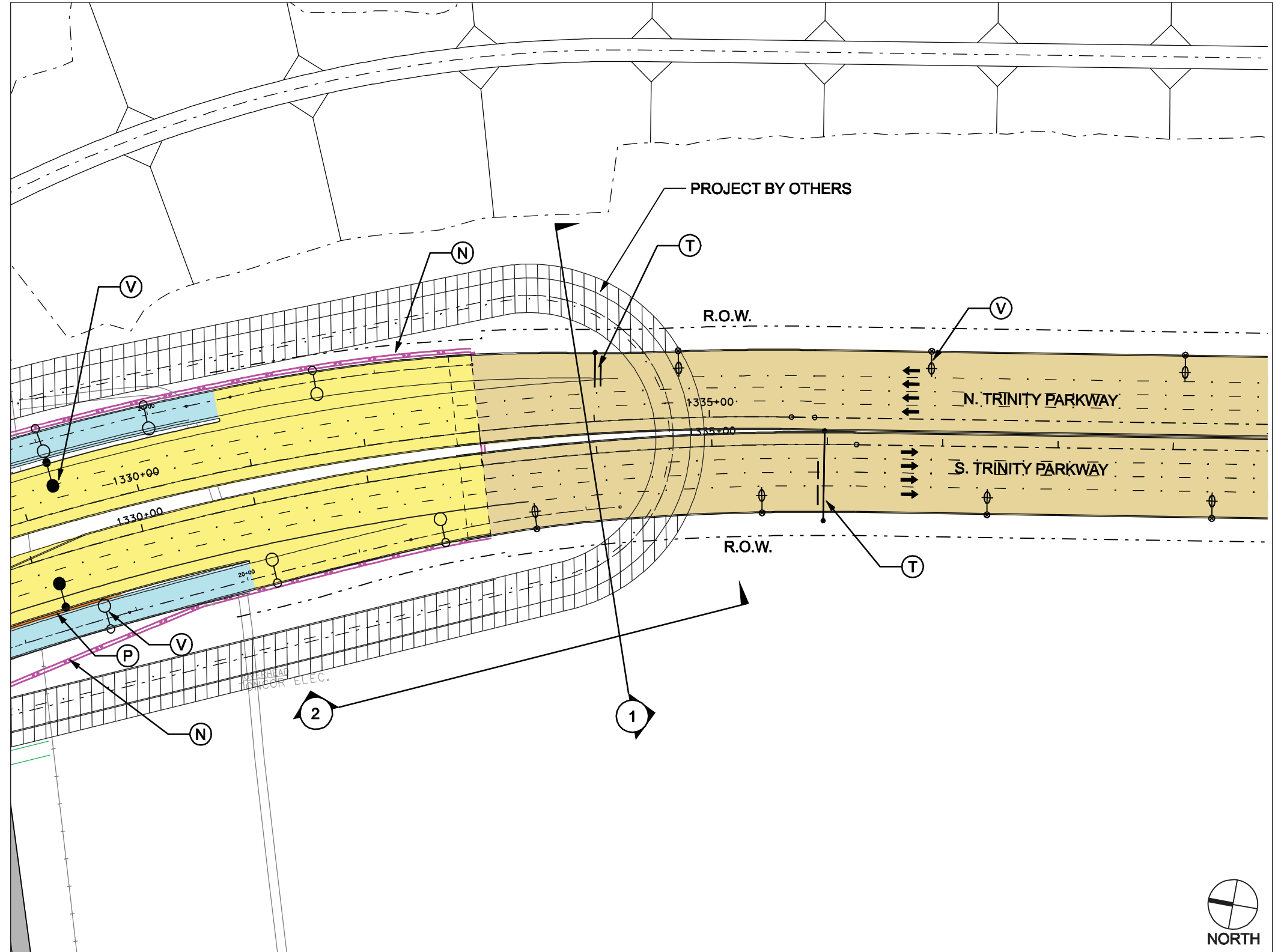
Map of Location

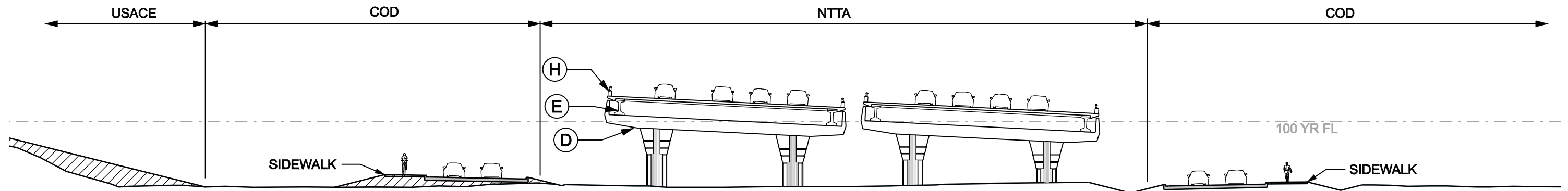
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

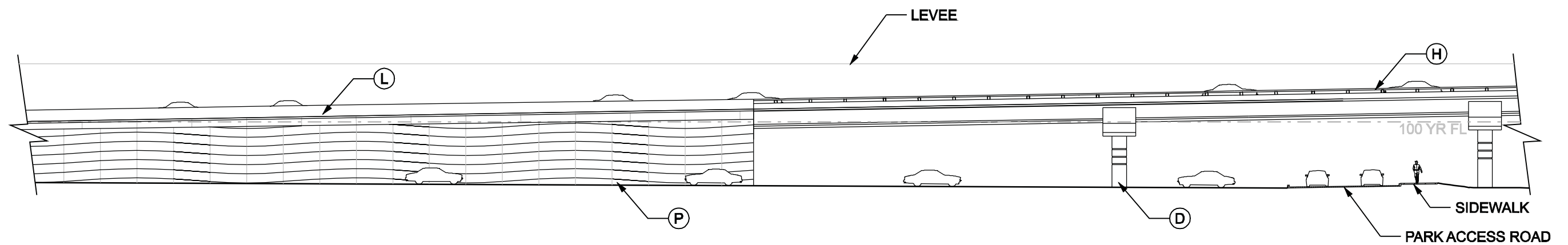
Legend

- | | |
|--|--|
|  Mainlanes (at grade) |  Levee Maintenance Road |
|  Mainlanes (on structure) |  Pedestrian Bridge |
|  Ramps (at grade) |  Cross Streets/Roads |
|  Ramps (on structure) |  Project by Others |





1 SECTION : STA. 1334+00 - PARK ACCESS ROAD & SIDEWALK
1:30



2 ELEVATION : STA. 1331+00 TO 1335+00 - PARK ACCESS ROAD
1:30













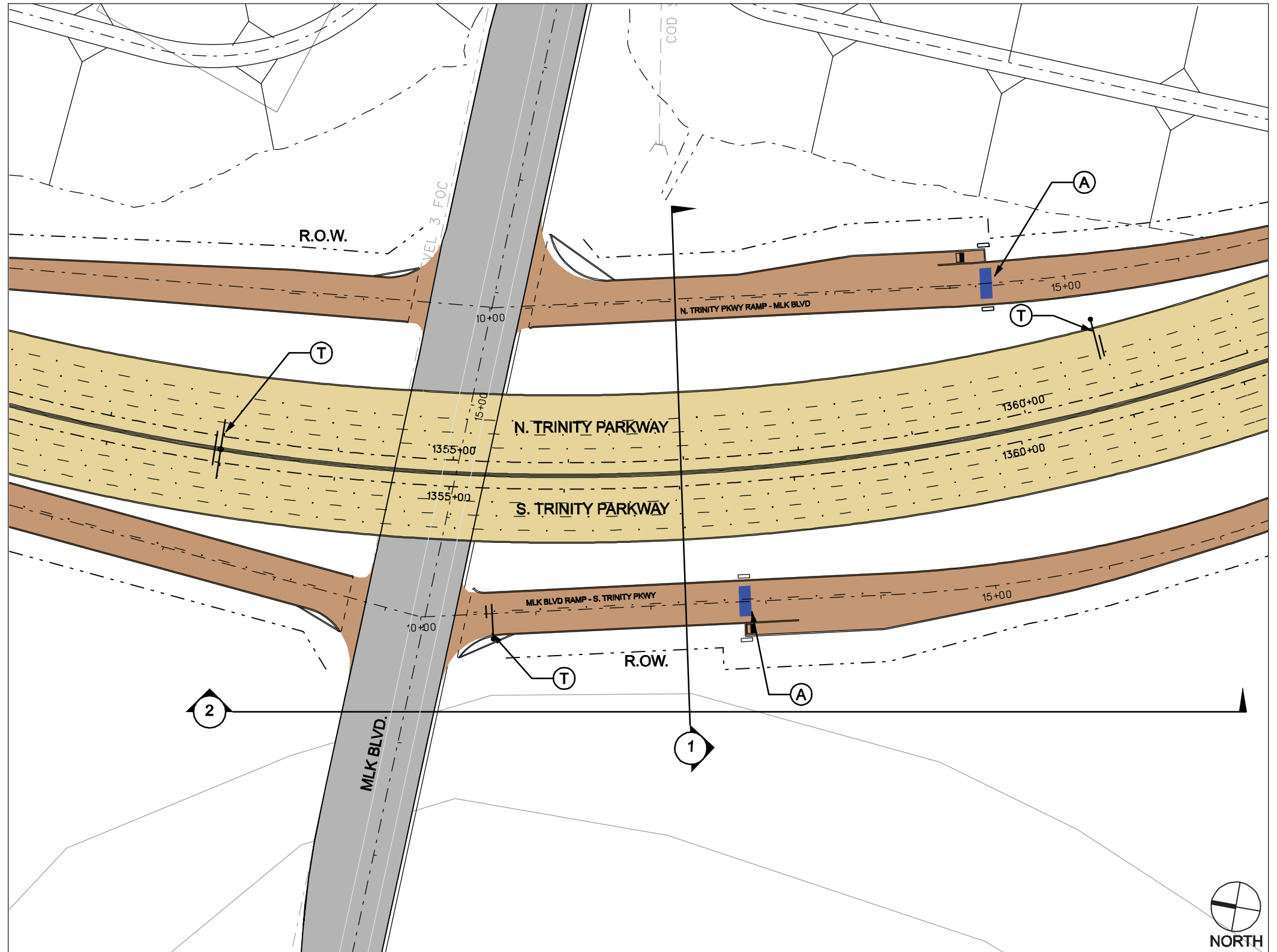
Map of Location

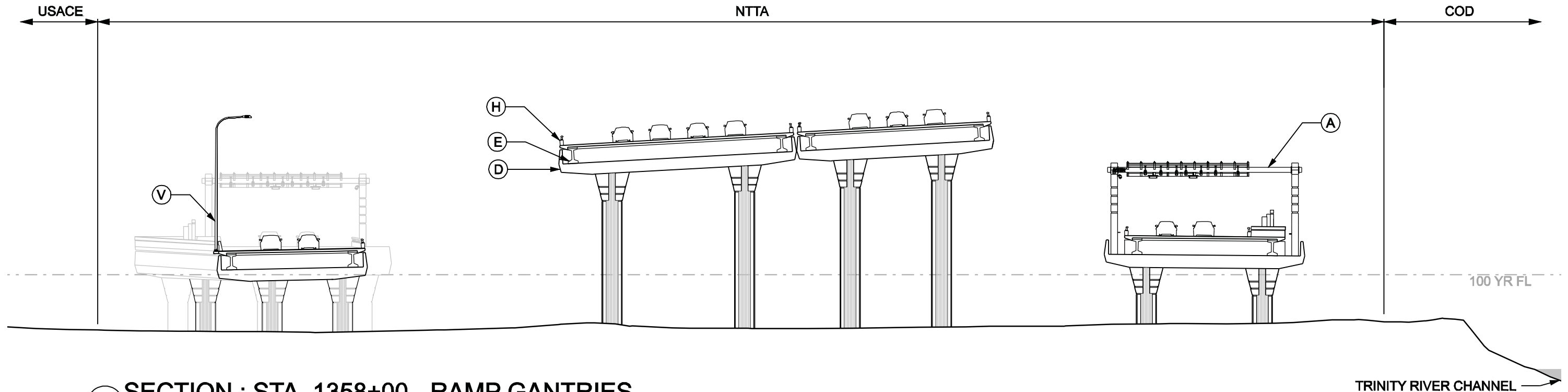
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

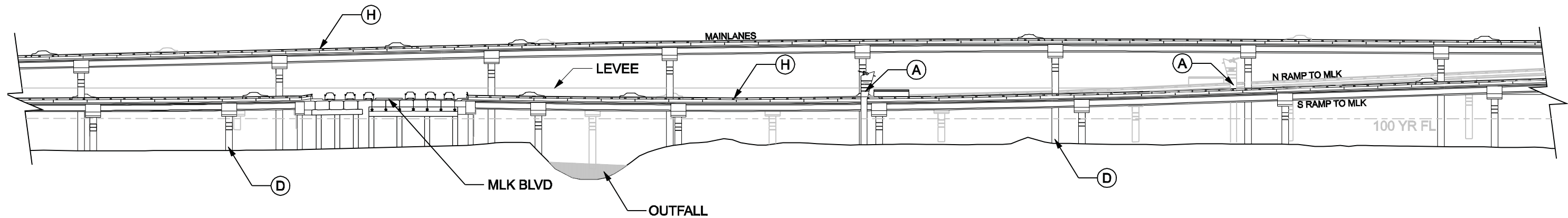
Legend

- | | |
|--|--|
|  Mainlanes (at grade) |  Levee Maintenance Road |
|  Mainlanes (on structure) |  Pedestrian Bridge |
|  Ramps (at grade) |  Cross Streets/Roads |
|  Ramps (on structure) |  Project by Others |





1 SECTION : STA. 1358+00 - RAMP GANTRIES
1:30



2 ELEVATION : STA. 1353+00 TO 1362+00 - RAMPS TO MARTIN LUTHER KING BLVD
1:60



06 South Trinity Gateway Zone



Zone Map	88-89
Inventory & Analysis	90-91
Focus Area Plan, Sections, & Elevations	92-107





Corridor Zone Key Map









The South Trinity Gateway Zone Map indicates the proposed Parkway alignment within the existing Right of Way (R.O.W.), the Parkway's overall context relative to adjacent land uses, and connections to the existing and proposed roadway and pedestrian networks. The plan, elevation and section drawings depict a keyed inventory location of the overall design intent.

The plan drawings depict locations of various design elements, including: toll gantries, walls, barriers, sign structures and drainage features. The elevations and section drawings illustrate the vertical and horizontal relationships between bridges, mainlanes, and structural elements such as bridge columns, beams and girders, barriers, walls, and railings.



Scale 1:400

Legend

 Mainlanes (at grade)	 Levee Maintenance Road
 Mainlanes (on structure)	 Pedestrian Bridge
 Ramps (at grade)	 Cross Streets/Roads
 Ramps (on structure)	 Project by Others





*Land use derived from the City of Dallas Trinity River Corridor Comprehensive Land Use Plan (Adopted March 9, 2005)



Legend



Portions of the Parkway in the South Trinity Gateway Zone are “at-grade” and travel under IH-45. The parkway then transitions to an “on-structure” section that is elevated over Lamar, Colonial and US 175. Views from the parkway to the surrounding area are minimized, while views of the elevated parkway section from adjacent land uses are significant. Noise barrier walls will be included in residential areas to mitigate potential noise impacts from the Parkway.

Scale 1:600



NORTH





1: View from Bexar Street looking South toward US-175



4: View from Lamar Street looking South toward Trinity Parkway



2: View from Bexar Street looking North toward US-175



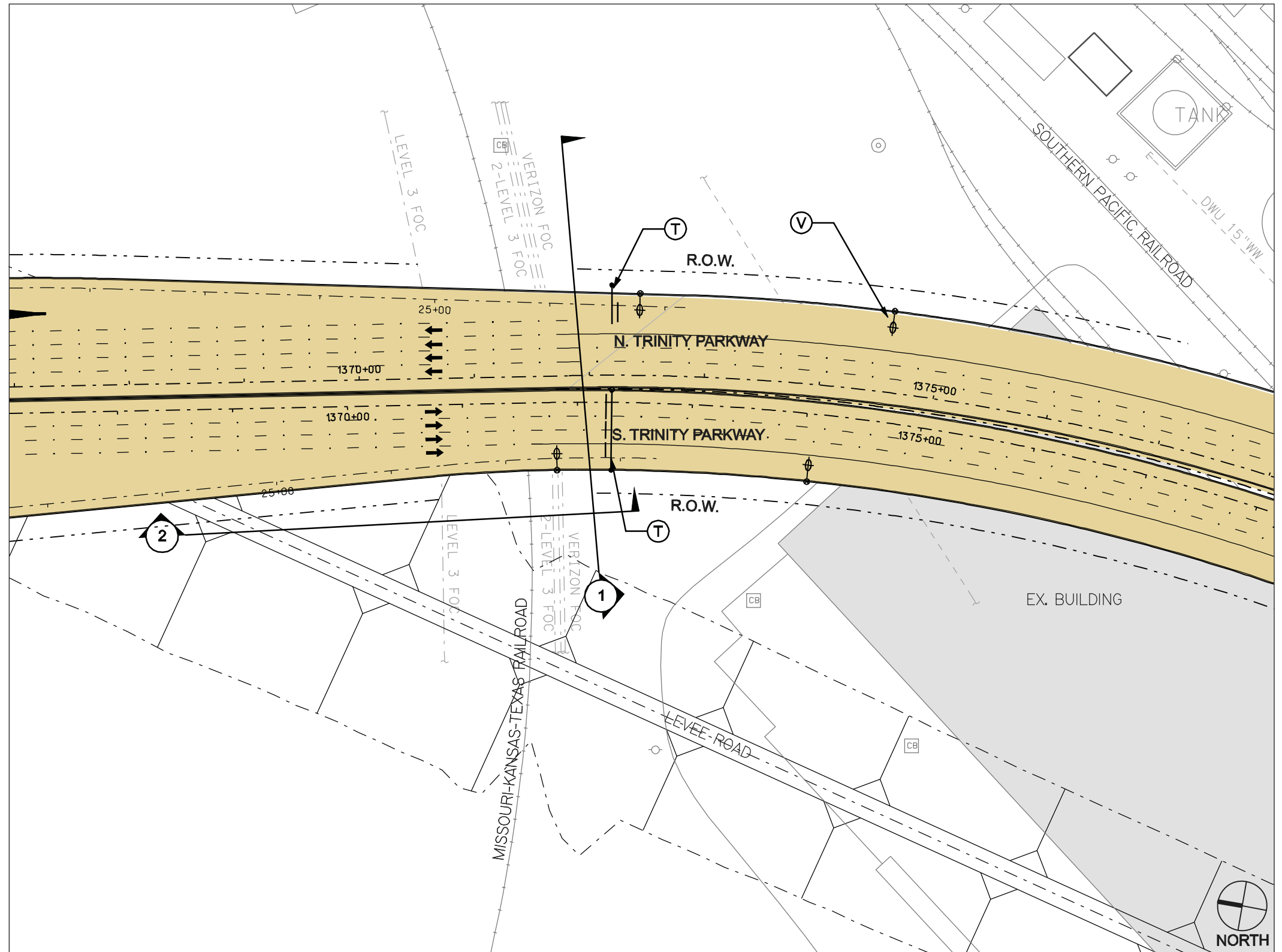
5: View along Union Pacific Railway looking South toward IH-45 and Trinity Parkway



3: View from Lamar Street looking North toward Trinity Parkway



Map of Location



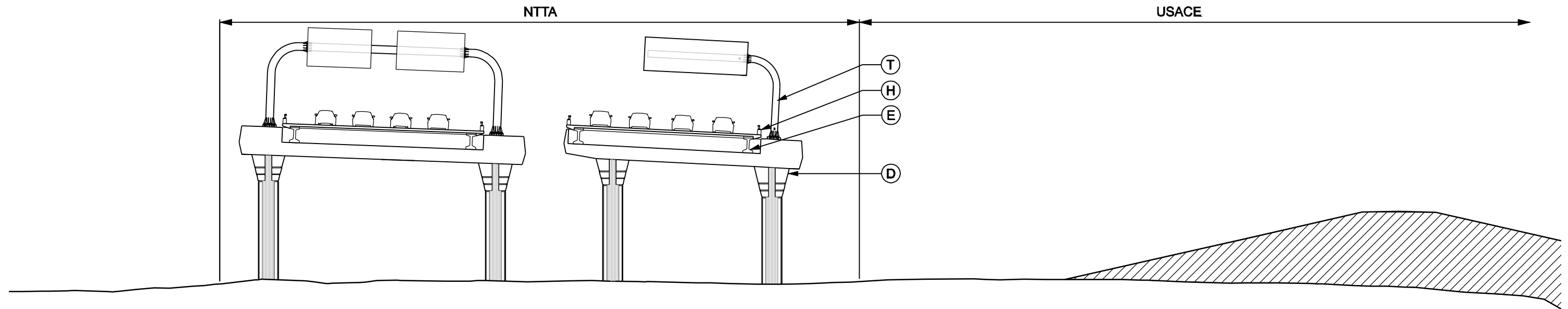
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

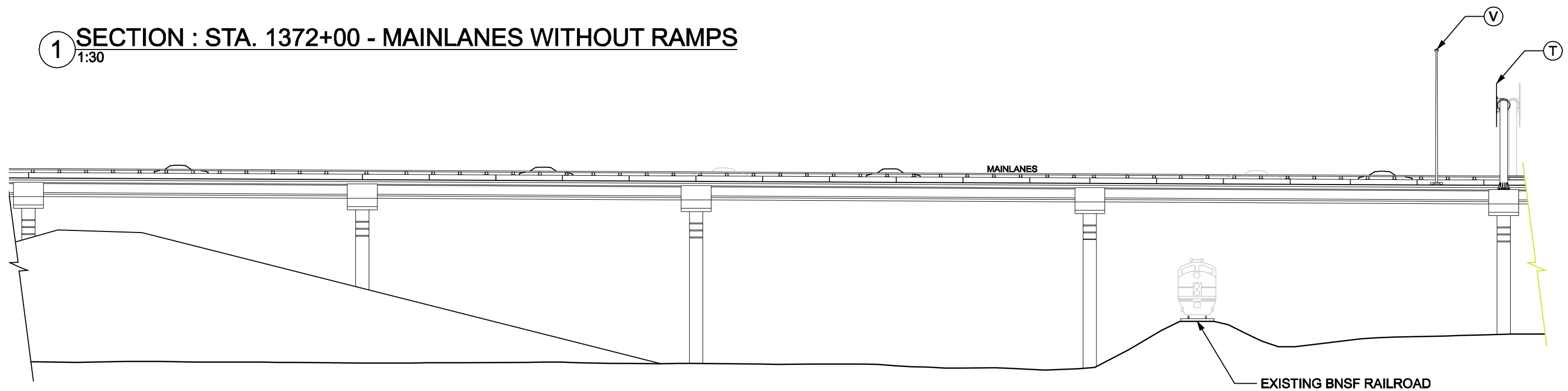
Legend

- Mainlanes (at grade)
- Mainlanes (on structure)
- Ramps (at grade)
- Ramps (on structure)
- Levee Maintenance Road
- Pedestrian Bridge
- Cross Streets/Roads
- Project by Others





1 SECTION : STA. 1372+00 - MAINLANES WITHOUT RAMPS
1:30

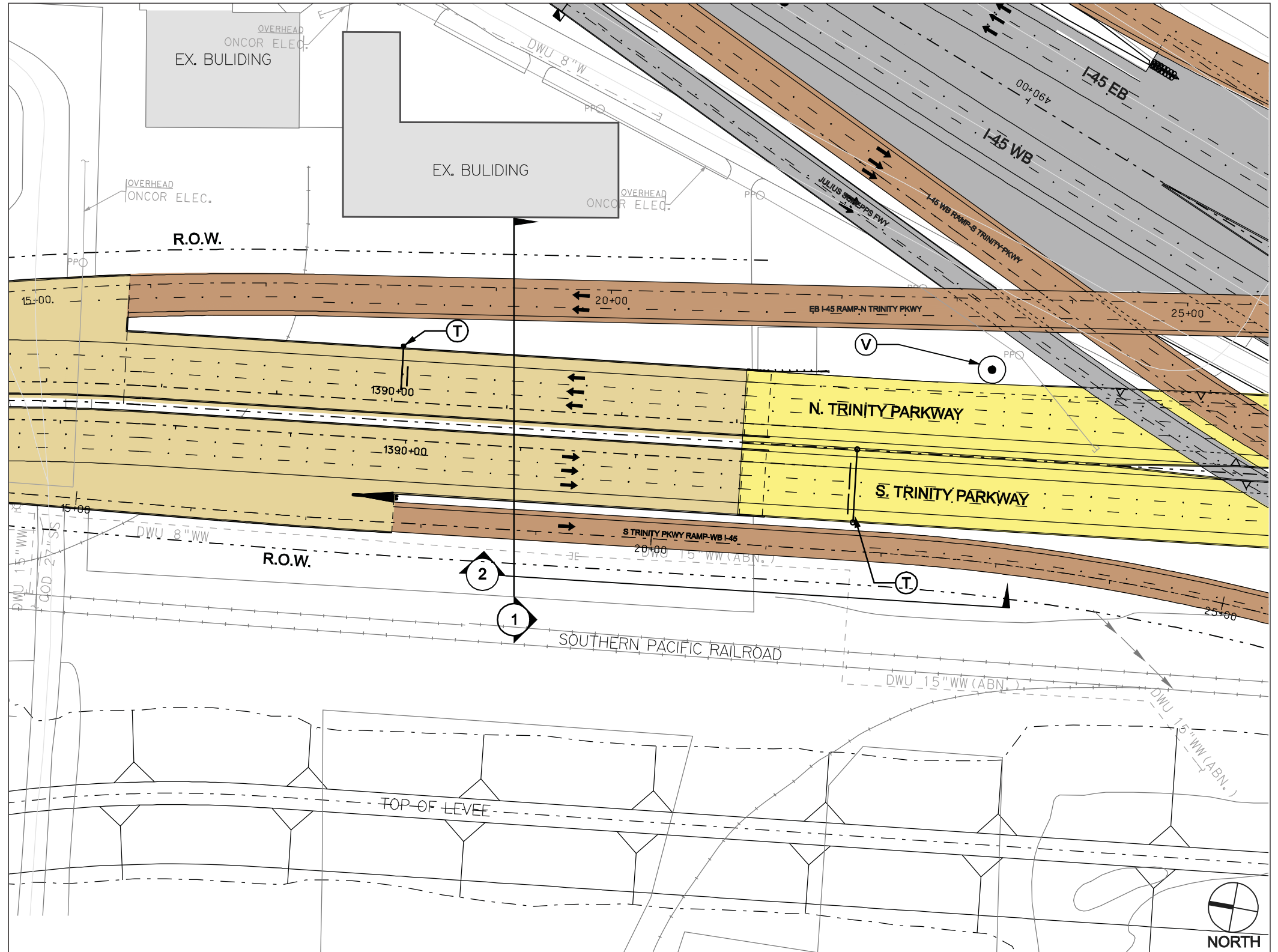


2 ELEVATION : STA. 1368+00 TO 1372+50 - ELEVATED MAINLANES OVER LEVEE
1:30





Map of Location



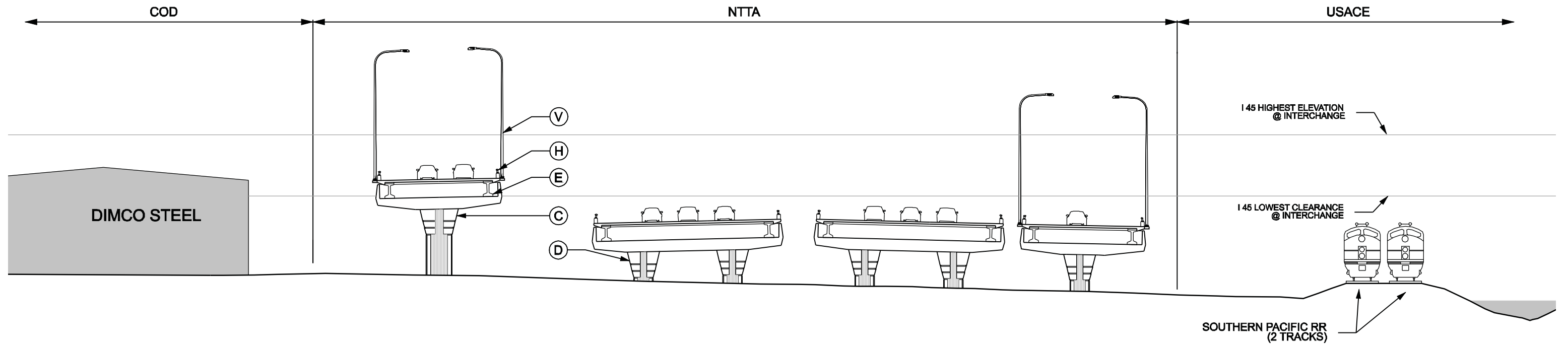
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

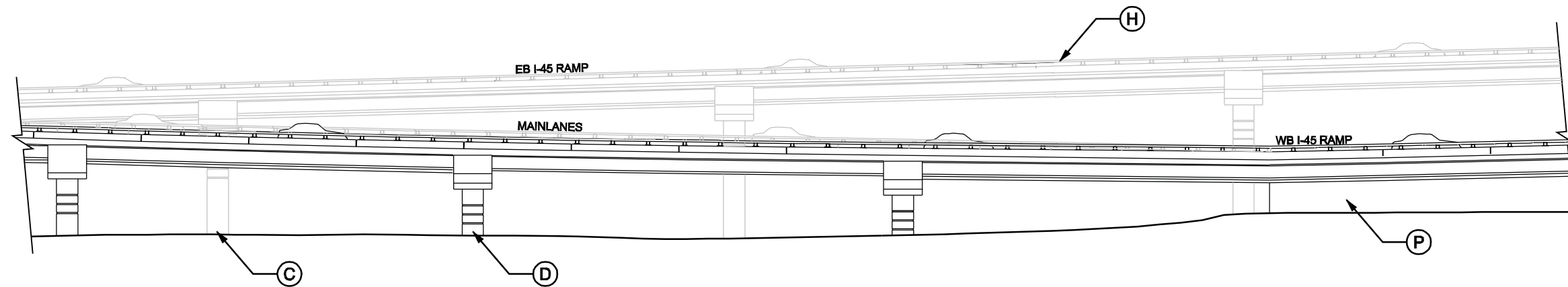
Legend

- | | |
|--------------------------|------------------------|
| Mainlanes (at grade) | Levee Maintenance Road |
| Mainlanes (on structure) | Pedestrian Bridge |
| Ramps (at grade) | Cross Streets/Roads |
| Ramps (on structure) | Project by Others |





1 SECTION : STA. 1391+00 - PRIOR TO INTERSTATE 45
1:30

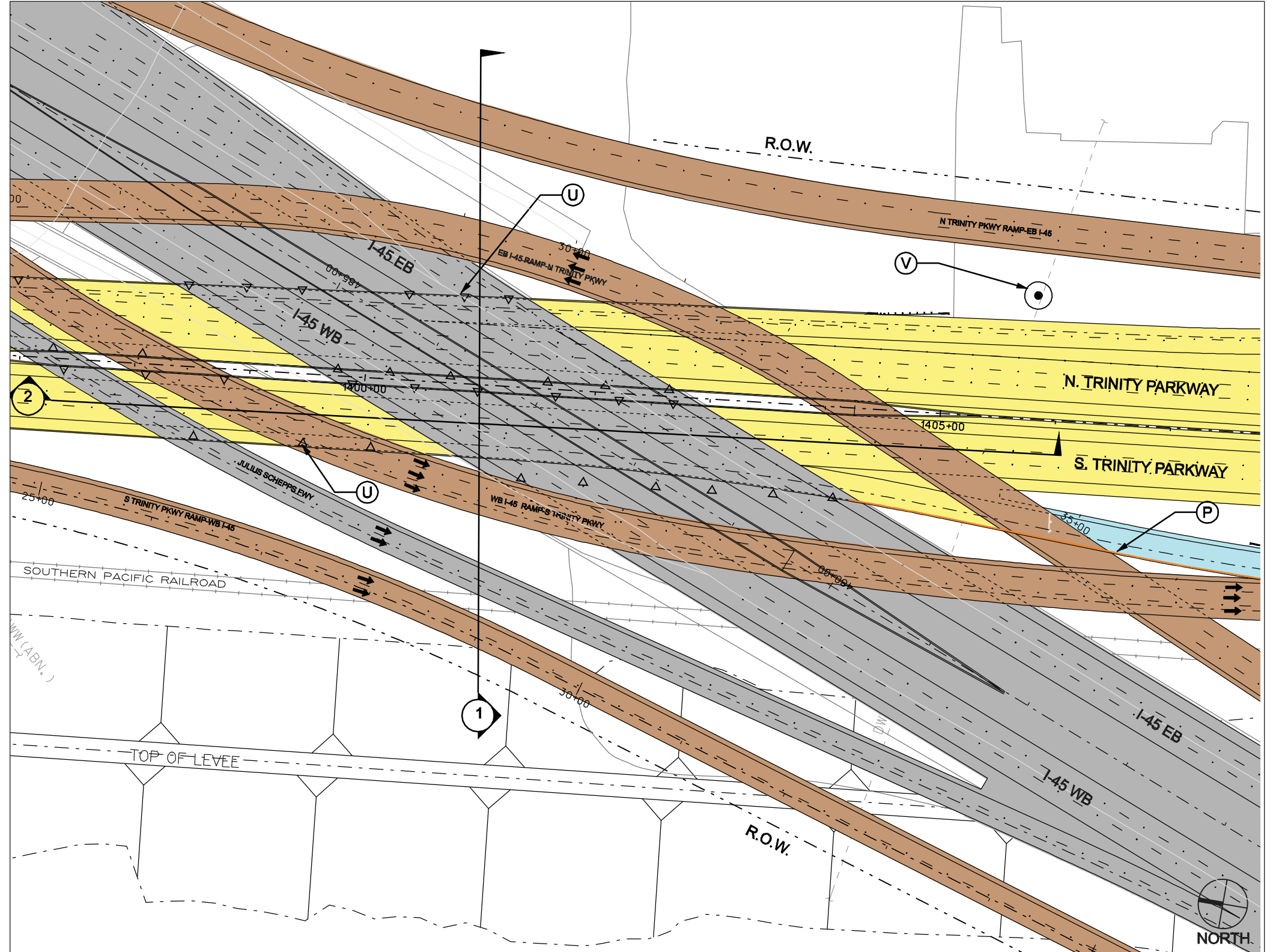


2 ELEVATION: STA. 1391+00 TO 1395+50 - BEFORE I-45 INTERCHANGE
1:30





Map of Location



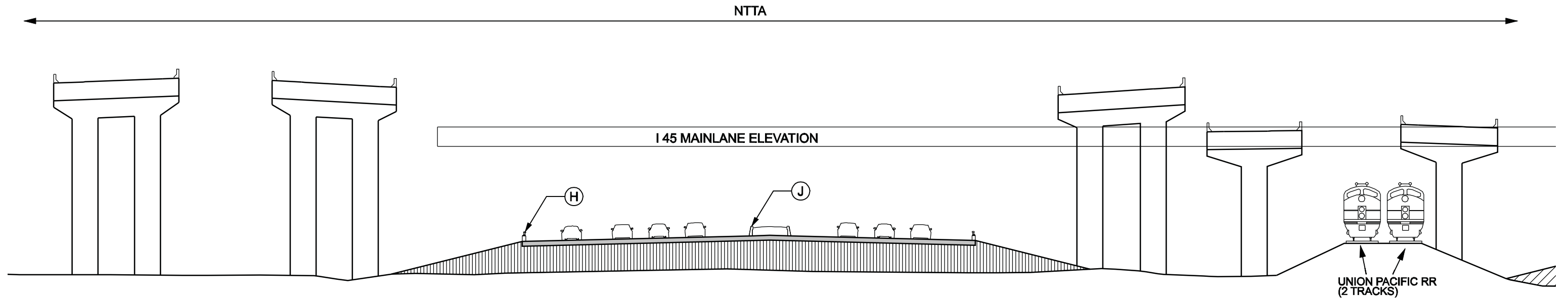
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

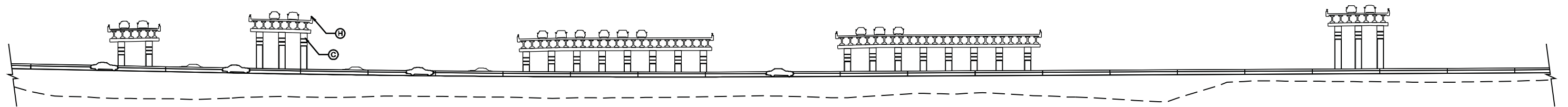
Legend

- Mainlanes (at grade)
- Mainlanes (on structure)
- Ramps (at grade)
- Ramps (on structure)
- Levee Maintenance Road
- Pedestrian Bridge
- Cross Streets/Roads
- Project by Others





1 SECTION : STA. 1401+00 - INTERSTATE 45
1:30



2 ELEVATION : STA. 1397+00 TO 1406+00 - I-45 INTERCHANGE
1:30





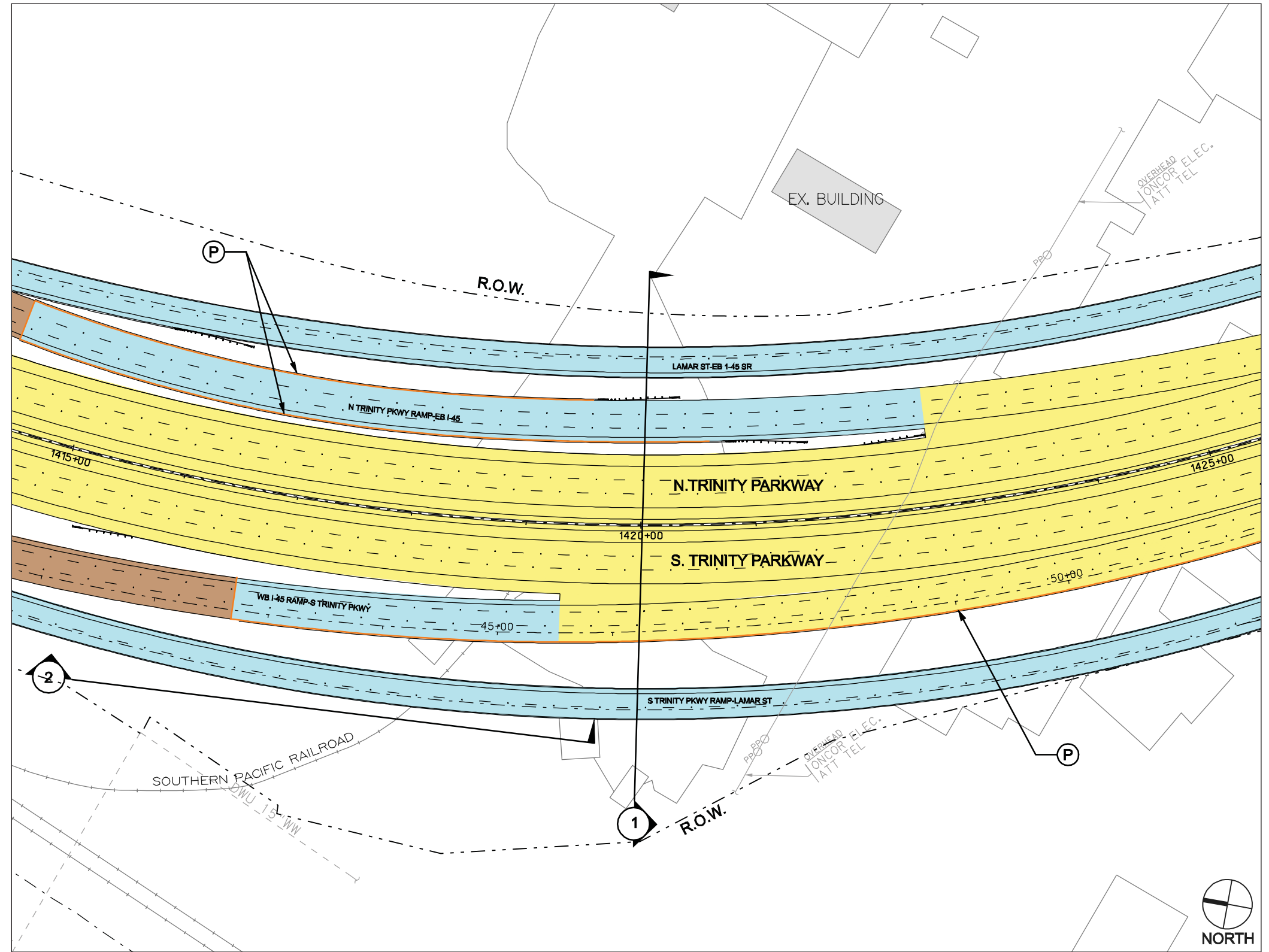
Map of Location

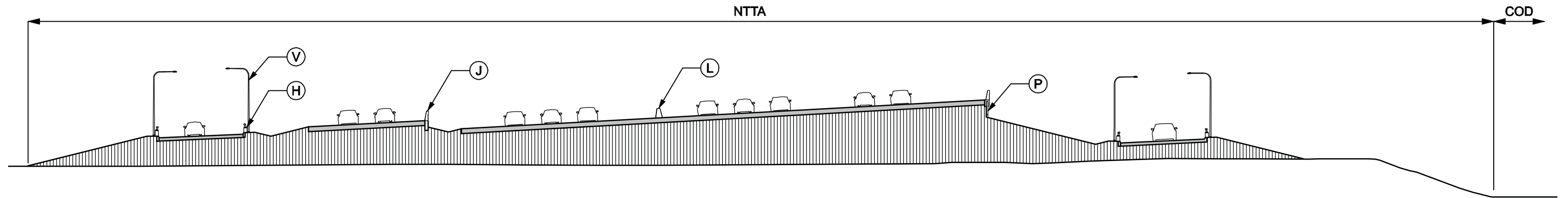
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

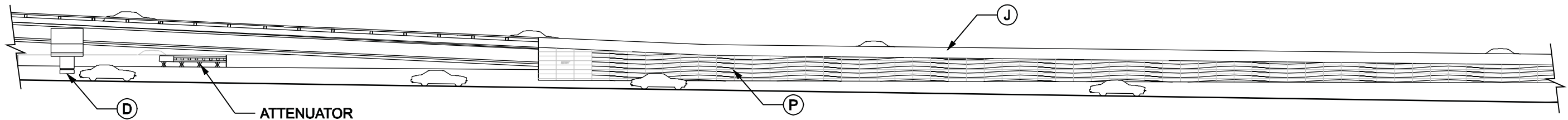
Legend

- | | |
|--------------------------|------------------------|
| Mainlanes (at grade) | Levee Maintenance Road |
| Mainlanes (on structure) | Pedestrian Bridge |
| Ramps (at grade) | Cross Streets/Roads |
| Ramps (on structure) | Project by Others |





1 SECTION : STA. 1420+00 - PARKWAY AT GRADE WITHOUT ELEVATED RAMPS
1:30

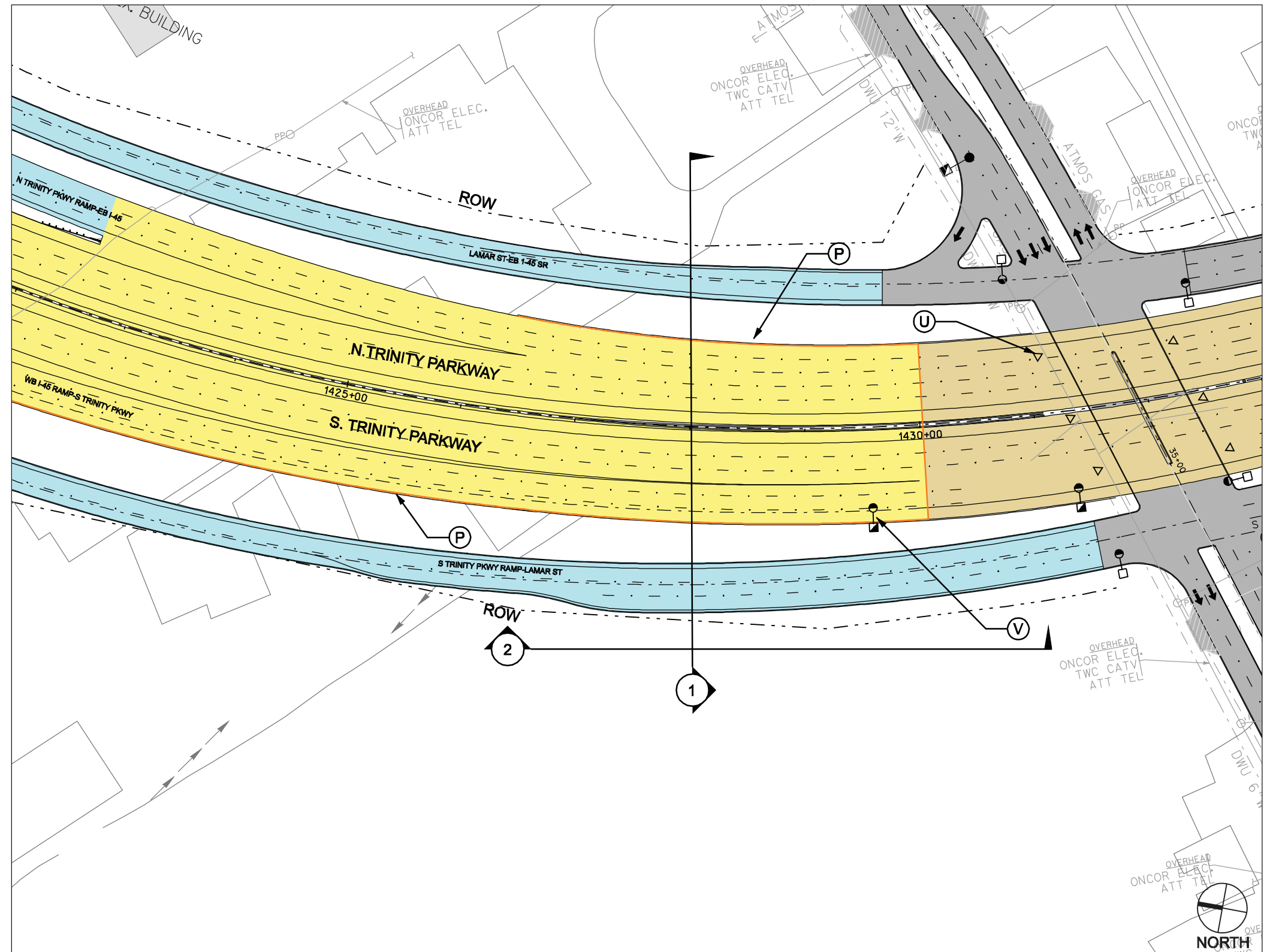


2 ELEVATION : STA. 1415+00 TO 1419+50 - FRONTAGE ROAD TO LAMAR & RAMP FROM INTERSTATE 45
1:30





Map of Location



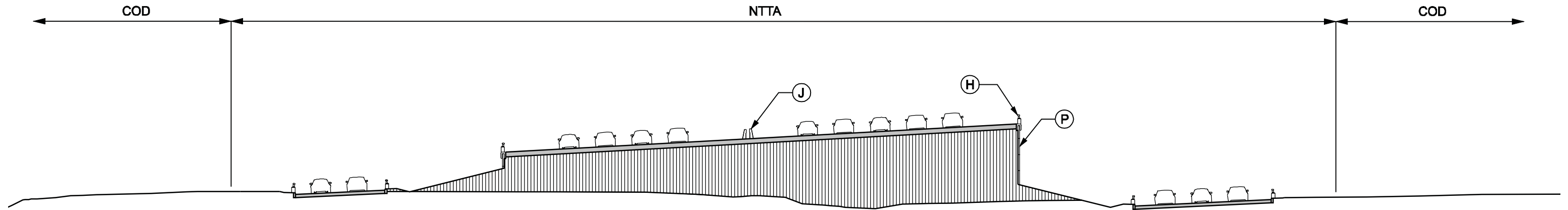
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

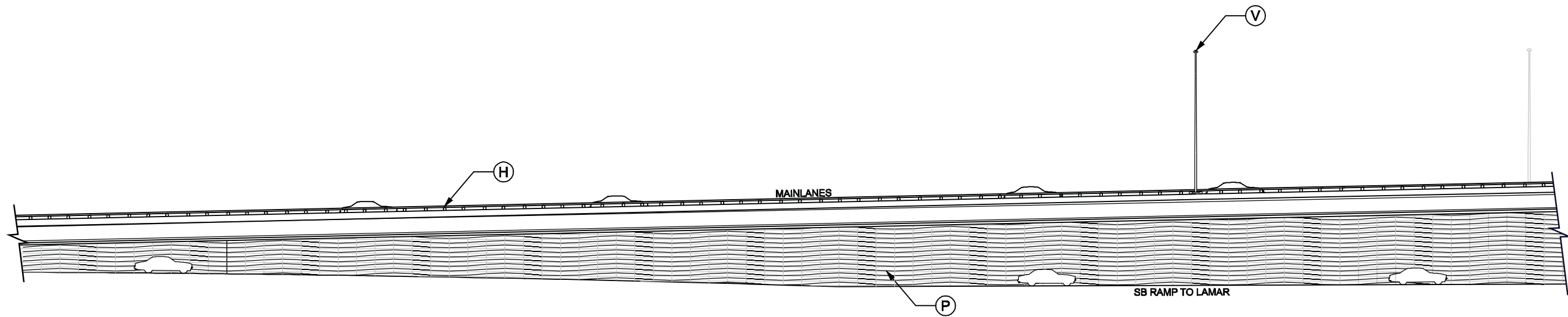
Legend

- | | |
|--------------------------|------------------------|
| Mainlanes (at grade) | Levee Maintenance Road |
| Mainlanes (on structure) | Pedestrian Bridge |
| Ramps (at grade) | Cross Streets/Roads |
| Ramps (on structure) | Project by Others |





1 SECTION : STA. 1428+00 - AT GRADE BEFORE LAMAR ST.
1:30

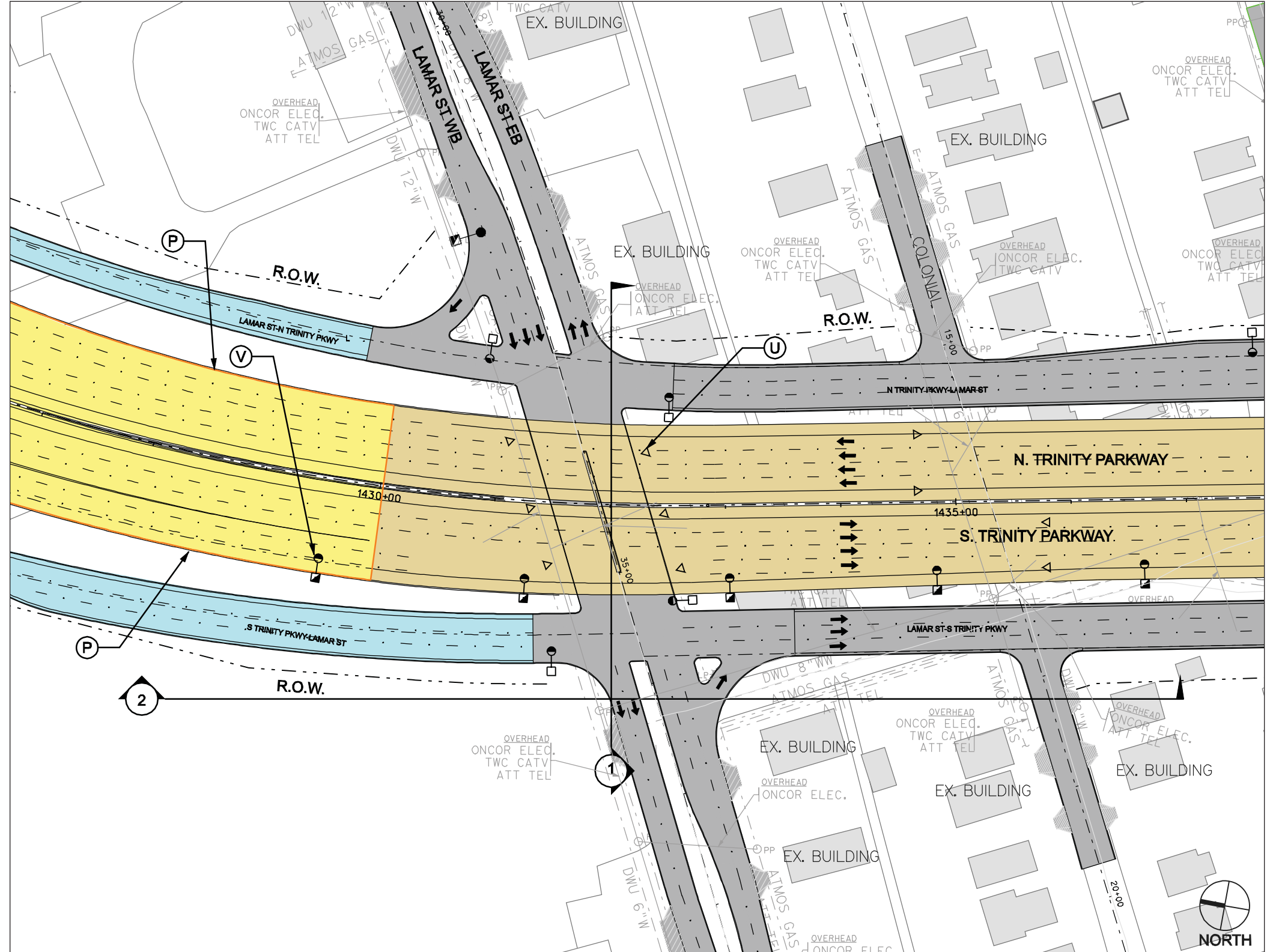


2 ELEVATION : STA. 1426+50 TO 1431+00 - SB RAMP TO LAMAR FROM MAINLANES
1:30





Map of Location



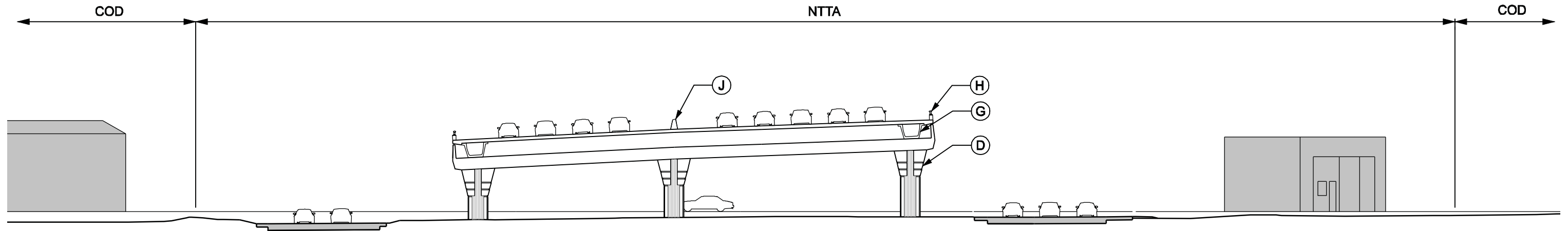
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I-Beam (Texas Girder)
- F I-Girder (Steel)
- G U-Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

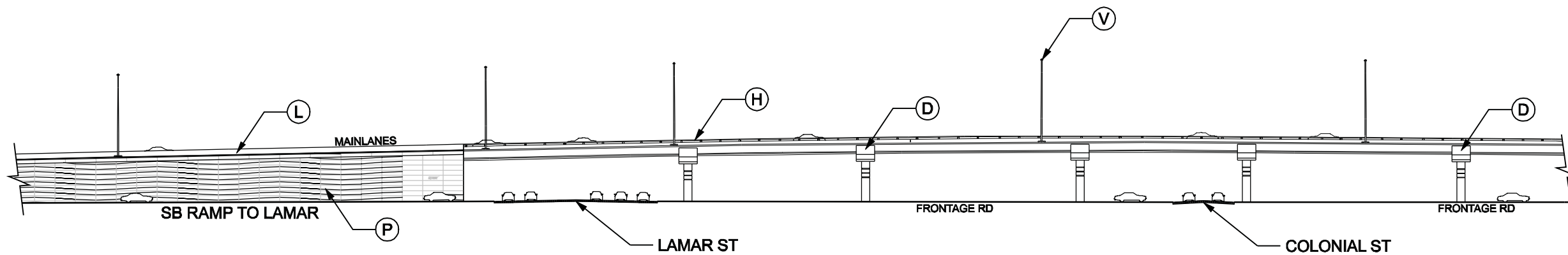
Legend

- Mainlanes (at grade)
- Mainlanes (on structure)
- Ramps (at grade)
- Ramps (on structure)
- Levee Maintenance Road
- Pedestrian Bridge
- Cross Streets/Roads
- Project by Others





1 SECTION : STA. 1432+00 - LAMAR STREET
1:30

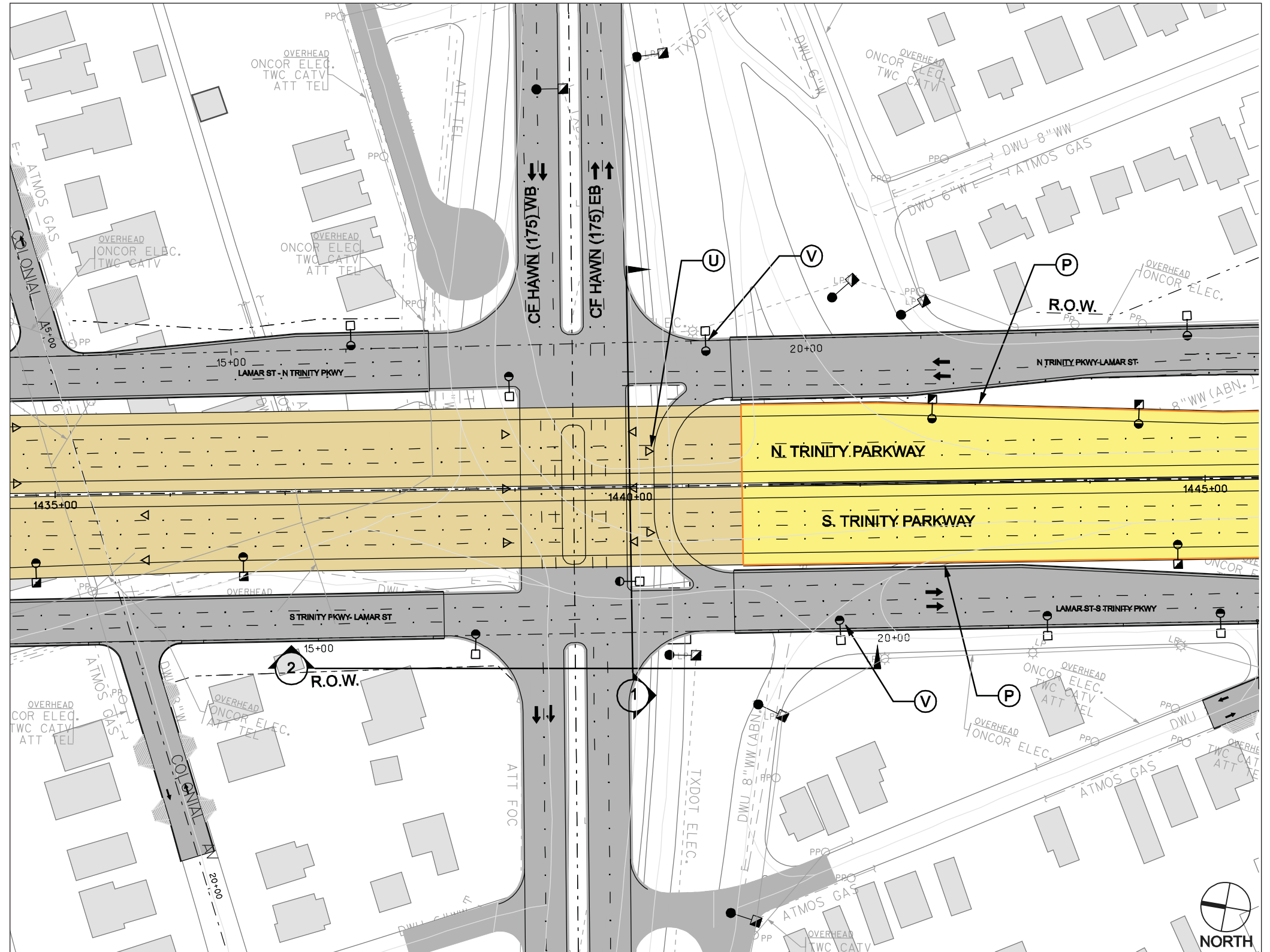


2 ELEVATION : STA. 1429+00 TO 1437+00 - LAMAR & COLONIAL
1:60





Map of Location



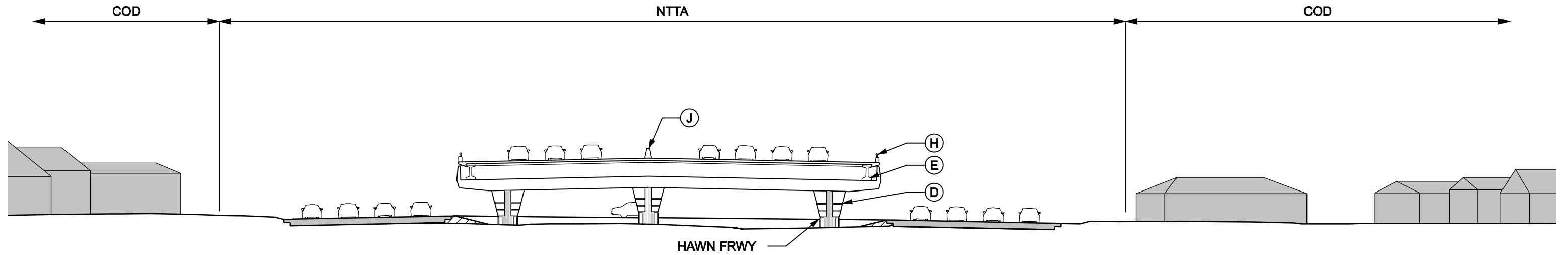
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

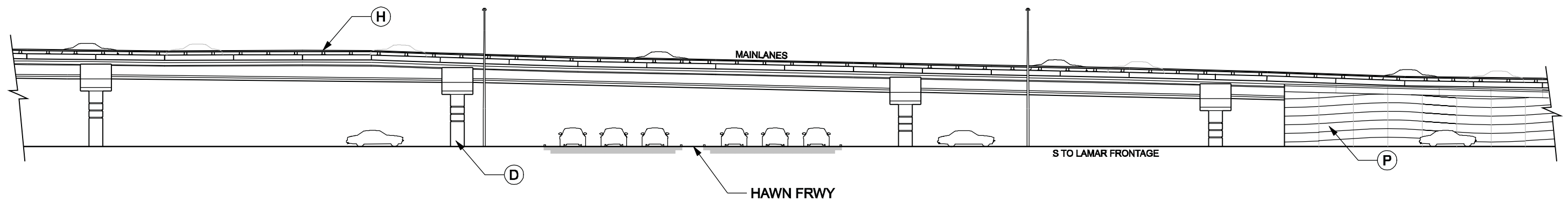
Legend

- | | |
|--------------------------|------------------------|
| Mainlanes (at grade) | Levee Maintenance Road |
| Mainlanes (on structure) | Pedestrian Bridge |
| Ramps (at grade) | Cross Streets/Roads |
| Ramps (on structure) | Project by Others |





1 SECTION : STA. 1440+00 - HAWN FRWY
1:30



2 ELEVATION : STA. 1437+50 TO 1442+00 - HAWN FRWY
1:30



Map of Location



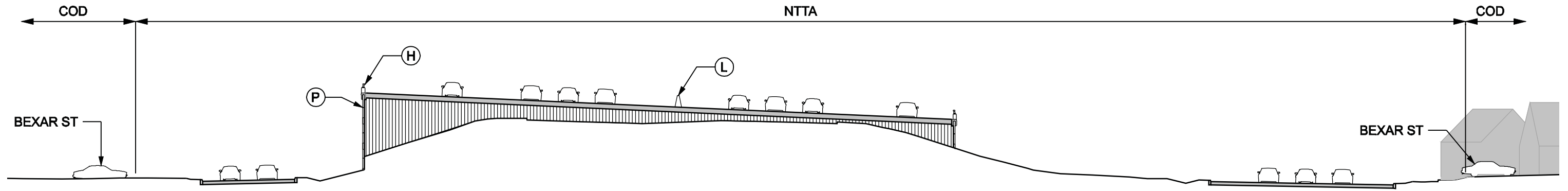
Key

- A Ramp Gantry
- B Mainlane Gantry
- C Bridge Bent (Single-Column)
- D Bridge Bent (Multi-Column)
- E I - Beam (Texas Girder)
- F I - Girder (Steel)
- G U - Beam
- H Barrier (T-401)
- J Barrier (TRS)
- K Barrier (SSCB-Moveable)
- L Barrier (SSCB)
- M Security Wall
- N Separation Wall
- P Retaining Wall
- Q Diaphragm Wall
- R Wall Planter
- S Drainage Swale/Flume
- T Sign Structure
- U Underbridge Light
- V Roadway Light

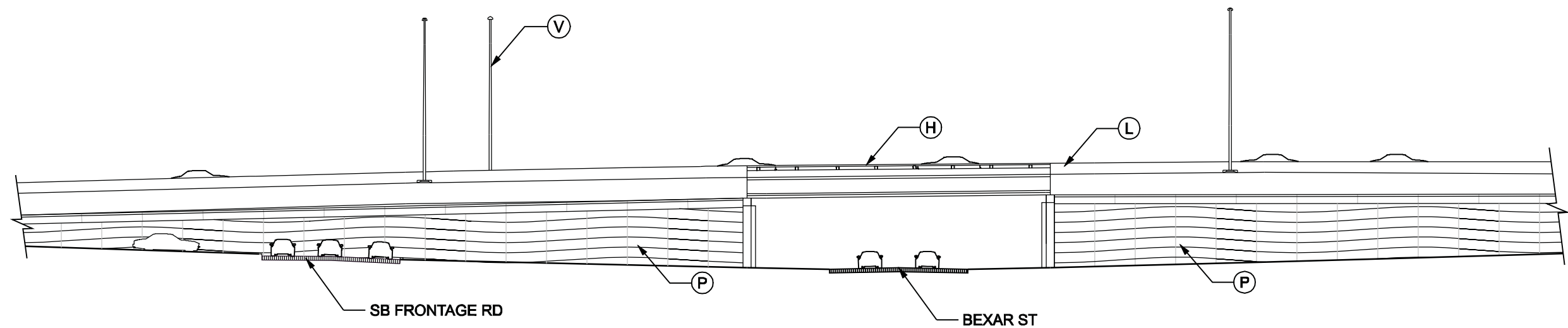
Legend

- Mainlanes (at grade)
- Mainlanes (on structure)
- Ramps (at grade)
- Ramps (on structure)
- Levee Maintenance Road
- Pedestrian Bridge
- Cross Streets/Roads
- Project by Others





1 SECTION : STA. 1455+00 - BEXAR ST
1:30



2 ELEVATION : STA. 1454 TO 1458+00 - BEXAR STREET
1:30



07 Toll Gantry Structures



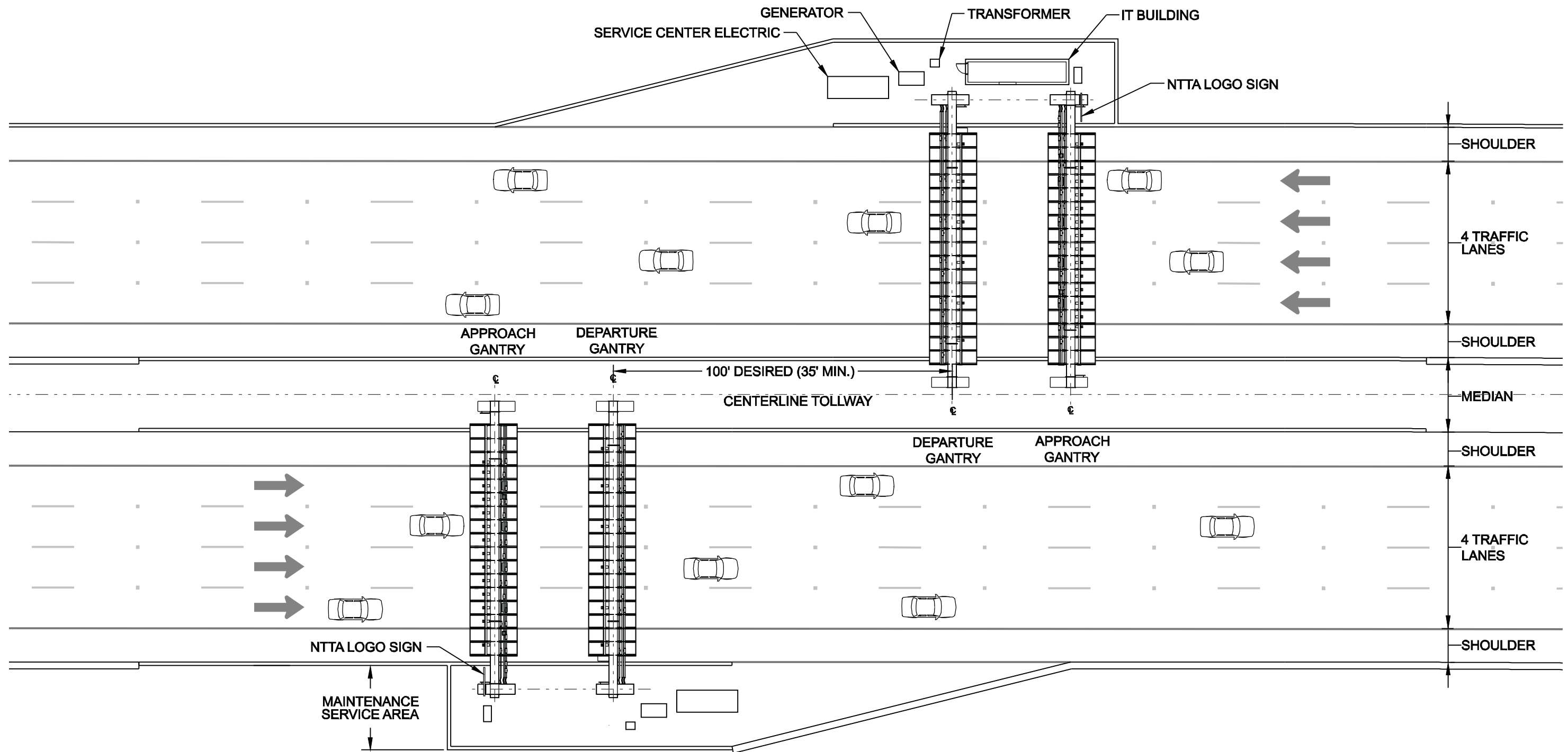
Mainlane Gantries	110-111
Double Lane Ramp Gantry at Grade	112-113
Single Lane Ramp Gantry On Structure (Bent Cap Option)	114-115
Double Lane Ramp Gantry On Structure (Bent Cap Option)	116-117
Single Lane Ramp Gantry On Structure (Gantry Columns Option)	118-119
Double Lane Ramp Gantry On Structure (Gantry Columns Option)	120-121

*Surface treatments for gantry structures and elements will be in accordance with the NTTA Design Guidelines for surface finish treatments.



Notes:

- Prototypical main lane gantry guideline represents layout with typical roadway configuration. (Site specific adaptation required)
- Align gantry armatures with respective traffic lanes, unless future lane configuration prohibits it.

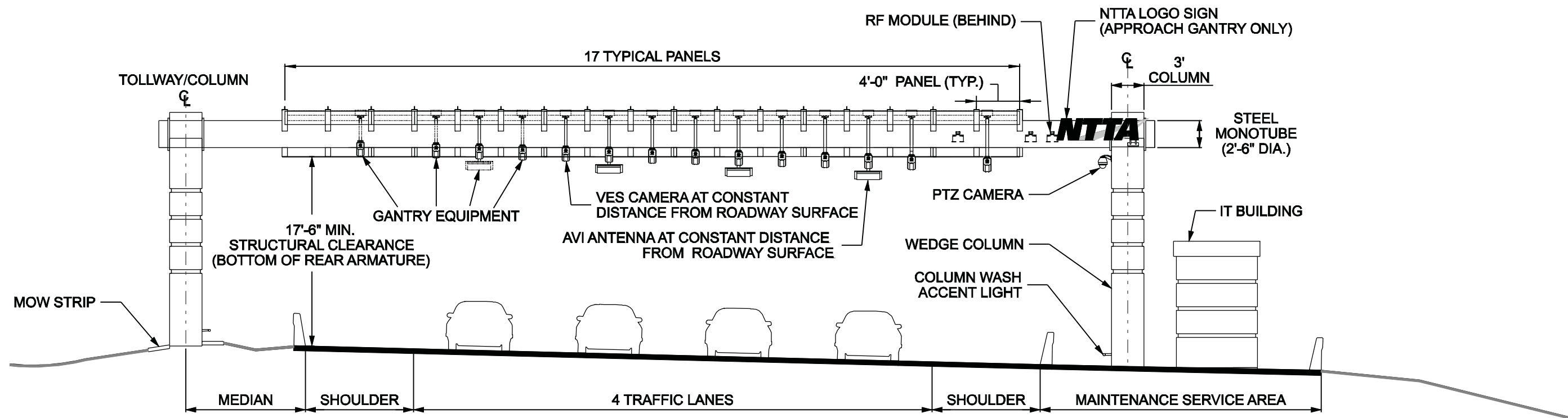


PLAN VIEW

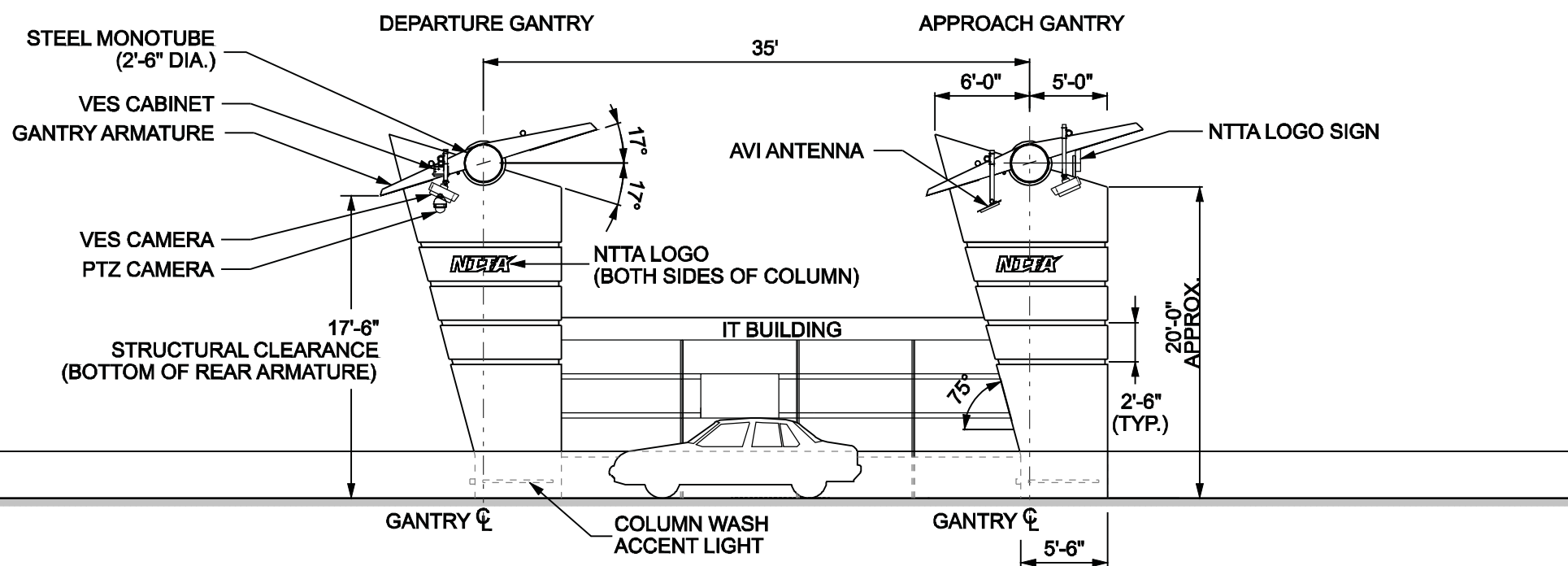


Notes:

- Median condition may vary.
- Wedge column height established from highest point of future pavement cross section relationship to the 17'-6" minimum structural clearance.
- Monotube is level across roadway.
- Gantry equipment height to follow constant cross slope of pavement.
- The approach and departure gantries may differ in height elevation due to profile grade.
- The IT building's horizontal reveals are not intended to align with the gantry reveals.

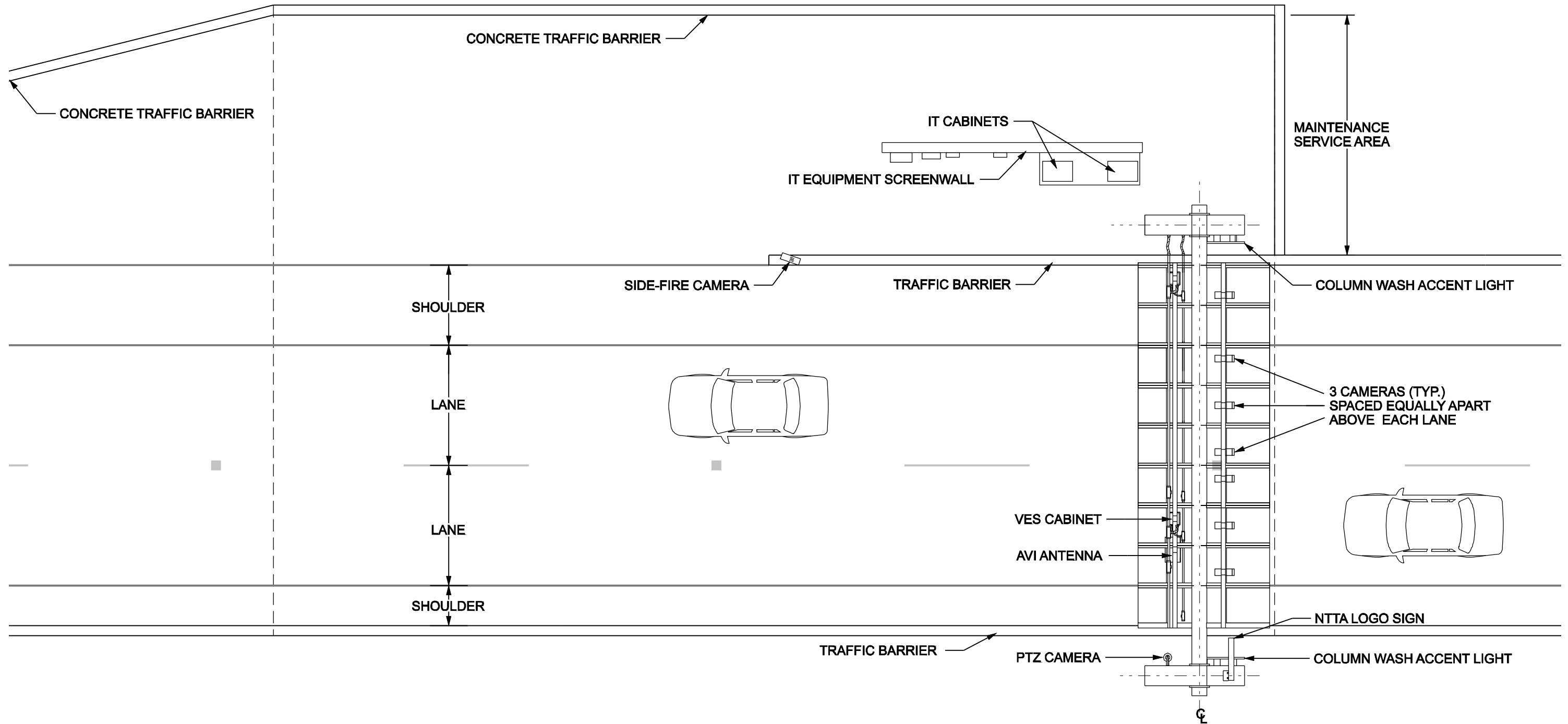


ELEVATION



SIDE ELEVATION



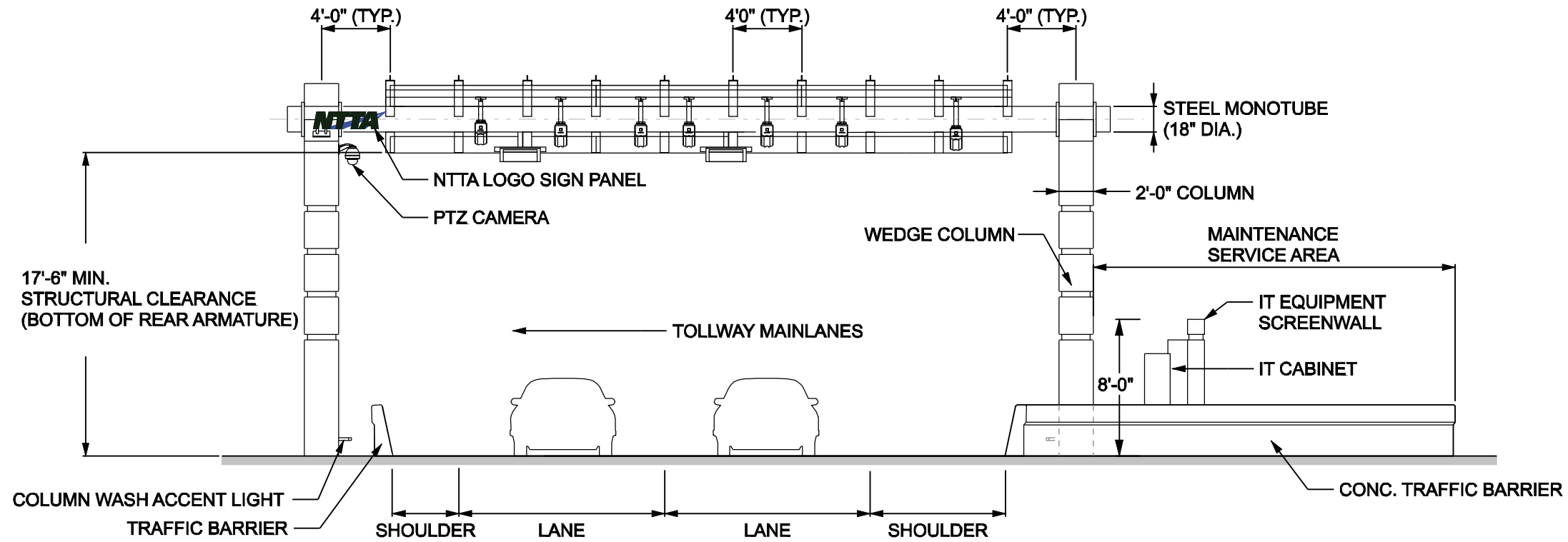


PLAN VIEW

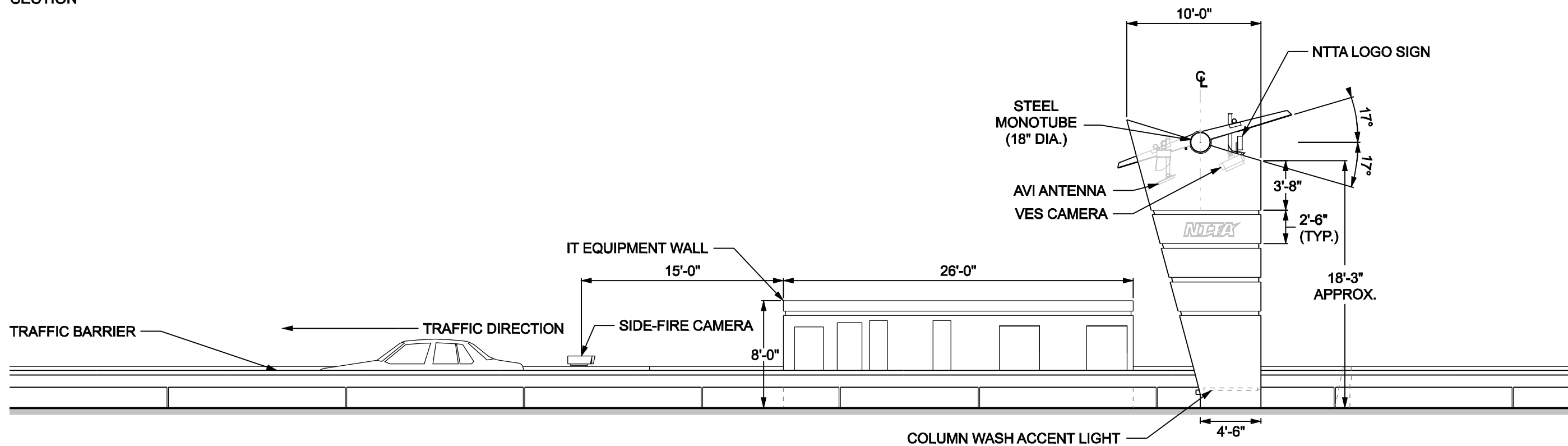


Notes:

- Monotube is level across roadway.
- Gantry equipment height to follow constant cross slope of pavement.



SECTION

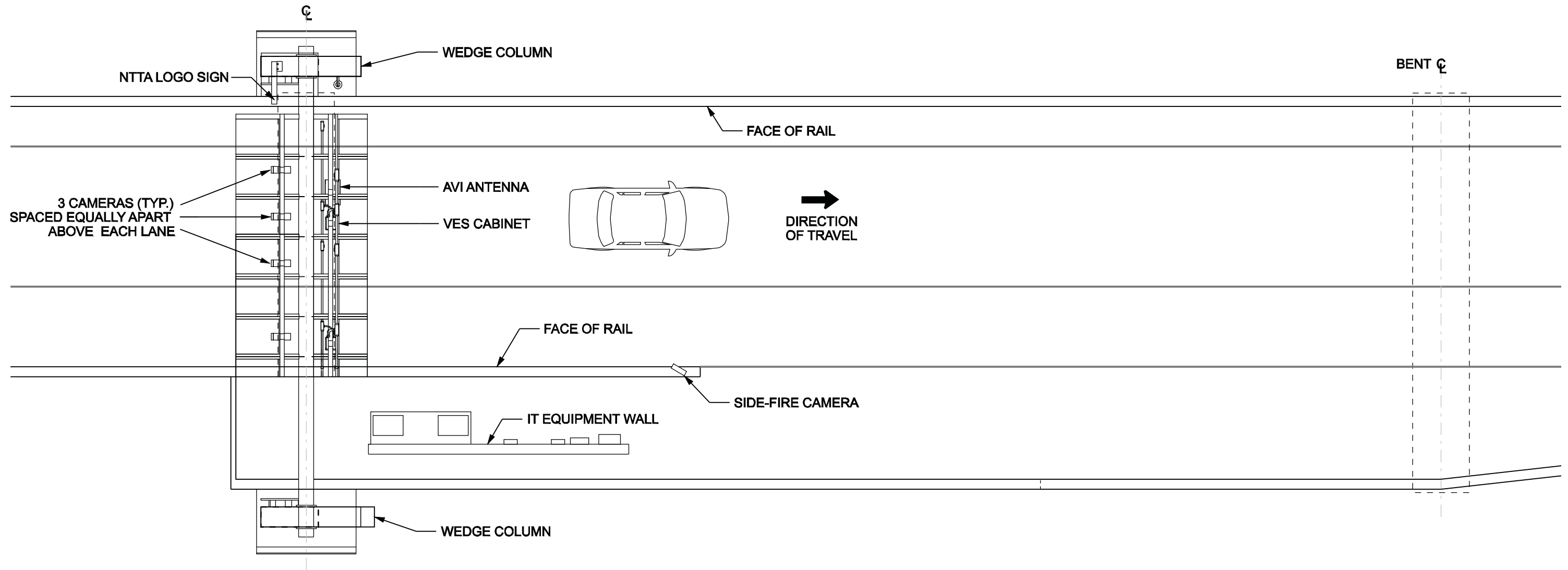


SIDE ELEVATION



Notes:

- The prototypical Bent Cap gantry guideline represents a design option for integrating the gantry structure into the bridge bent design for site conditions with particular vertical, horizontal, levee and flood way constraints. (Site specific adaptation required)

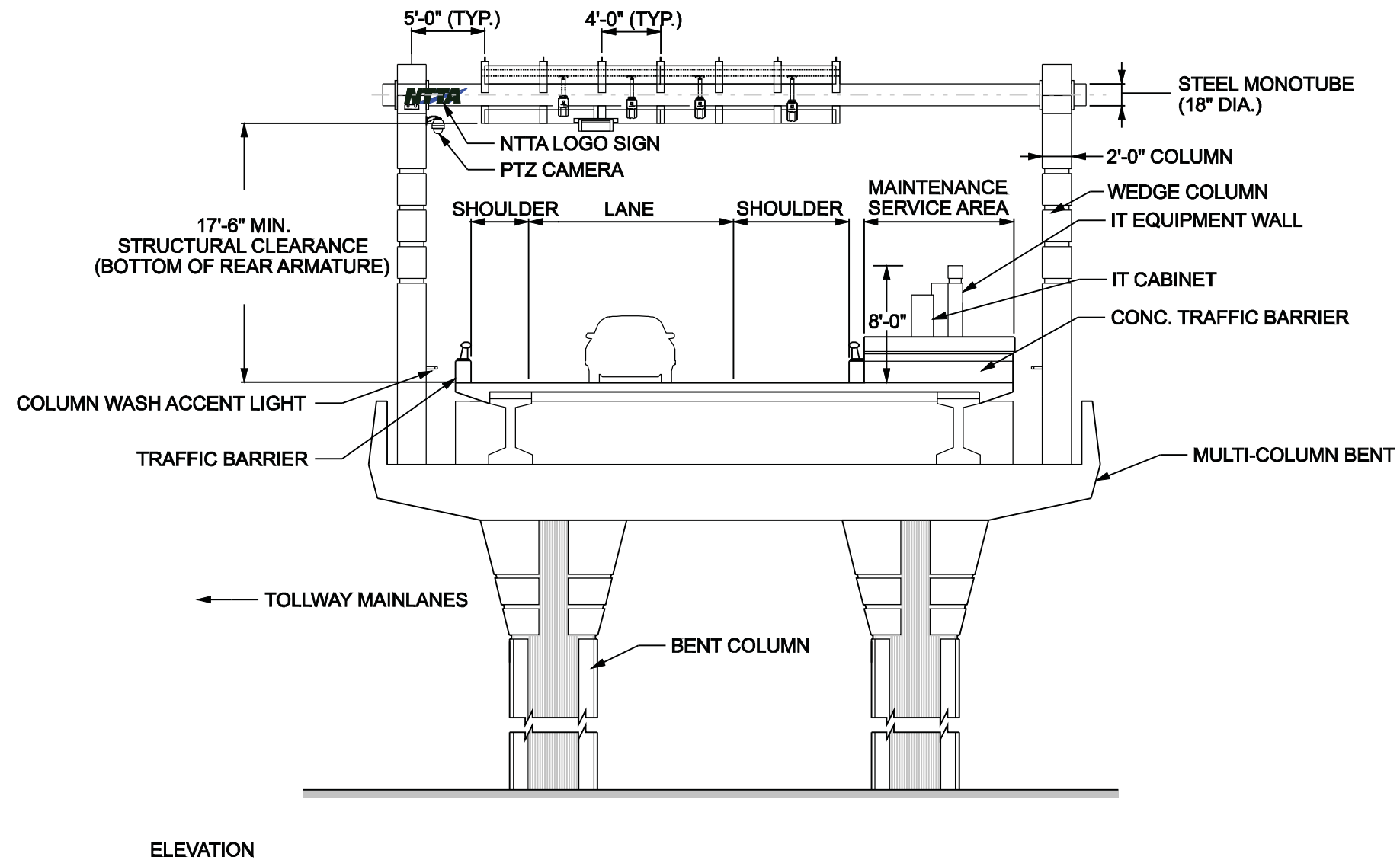


PLAN VIEW



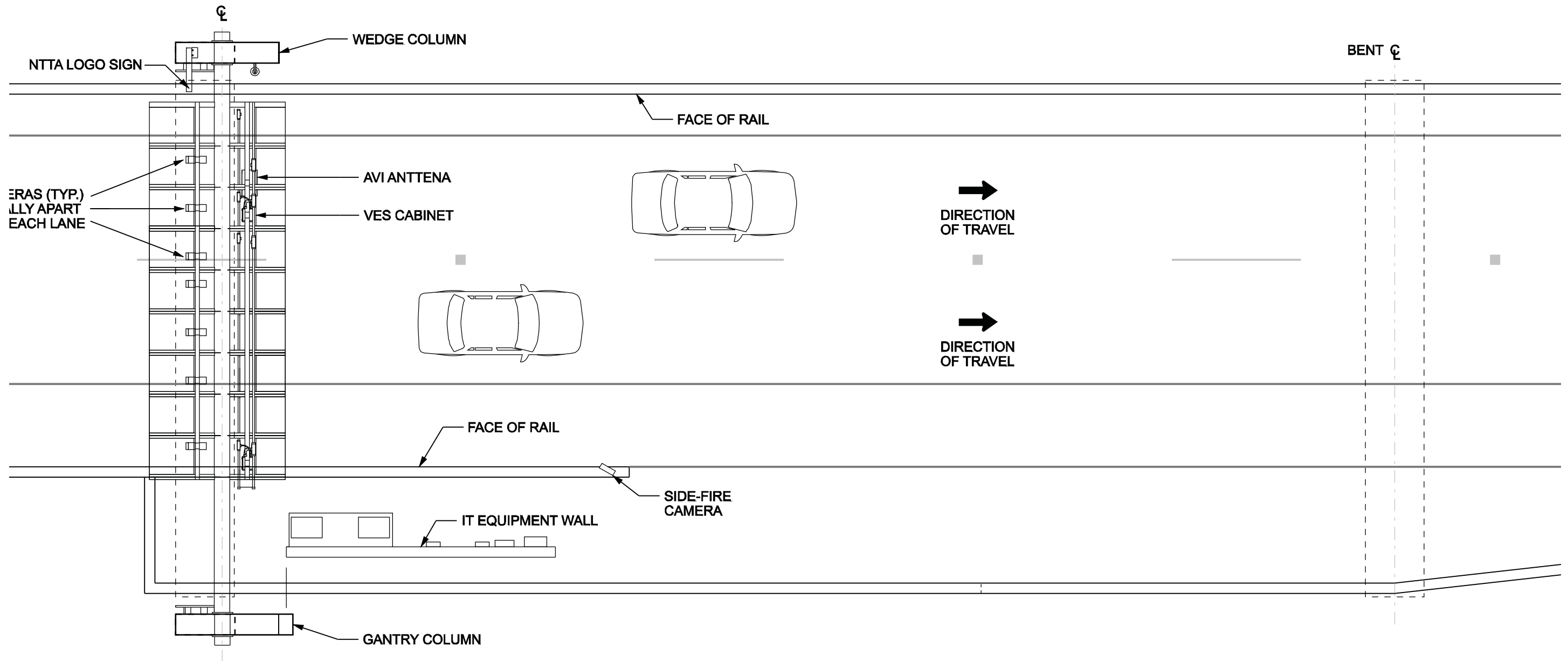
Notes:

- Monotube is level across roadway.
- Gantry equipment height to follow constant cross slope of pavement.



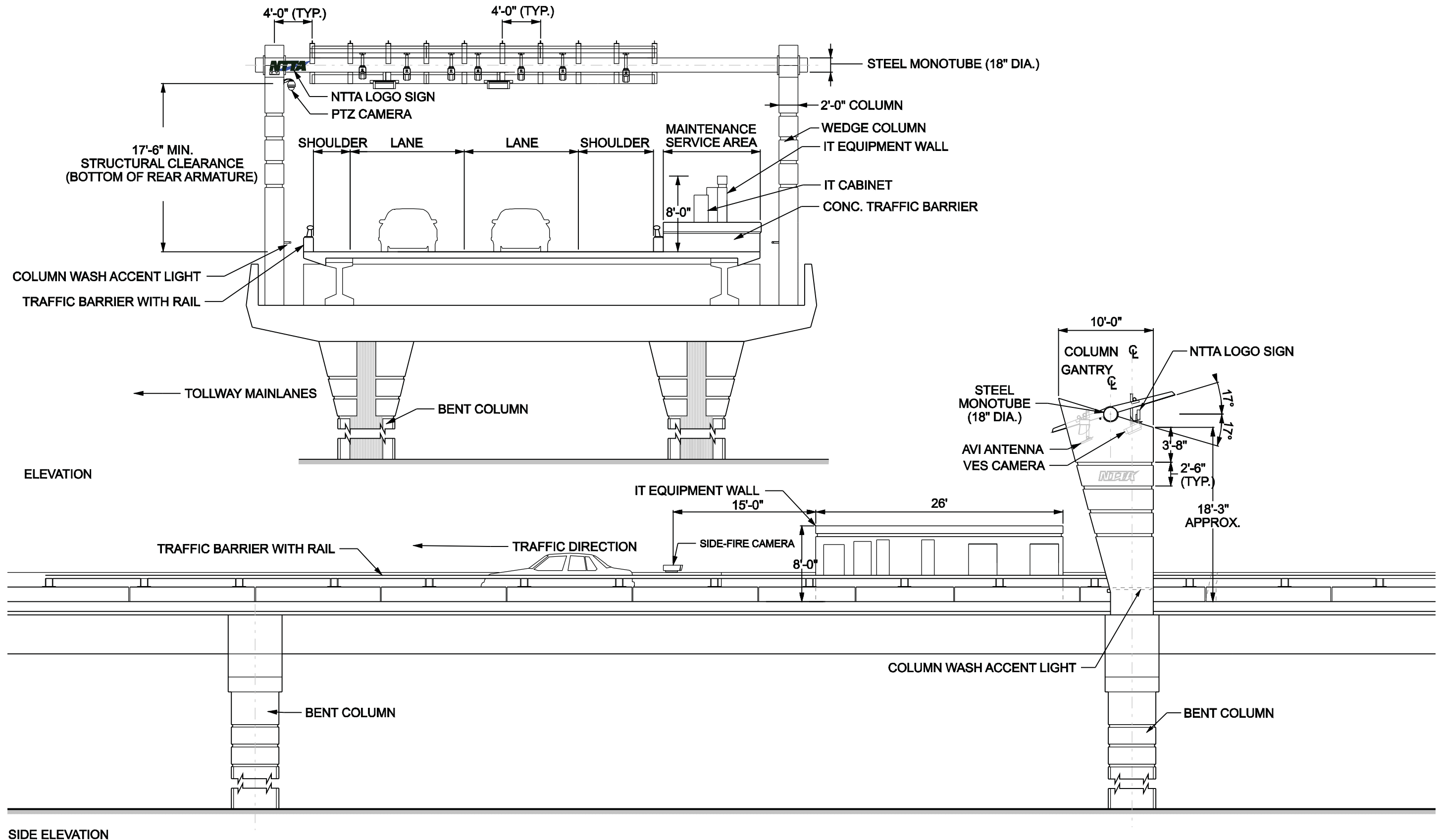
Notes:

- The prototypical Bent Cap gantry guideline represents a design option for integrating the gantry structure into the bridge bent design for site conditions with particular vertical, horizontal, levee and flood way constraints. (Site specific adaptation required)



Notes:

- Monotube is level across roadway.
- Gantry equipment height to follow constant cross slope of pavement.

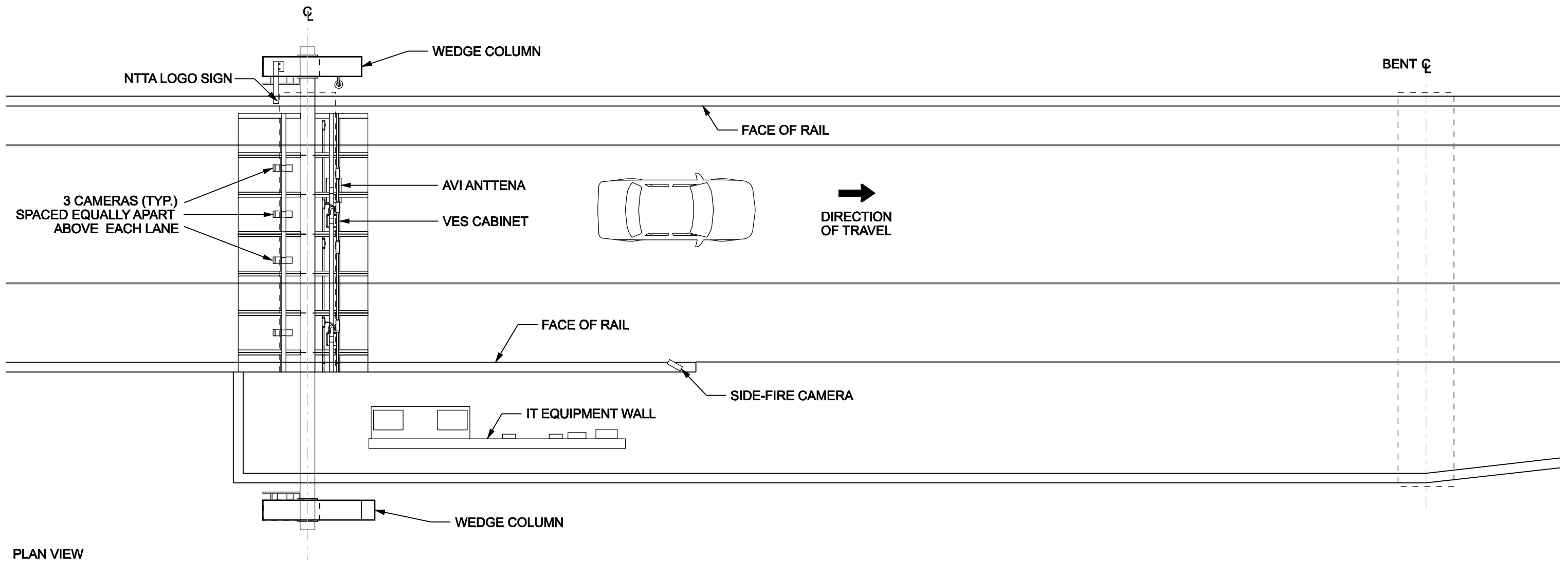


SIDE ELEVATION



Notes:

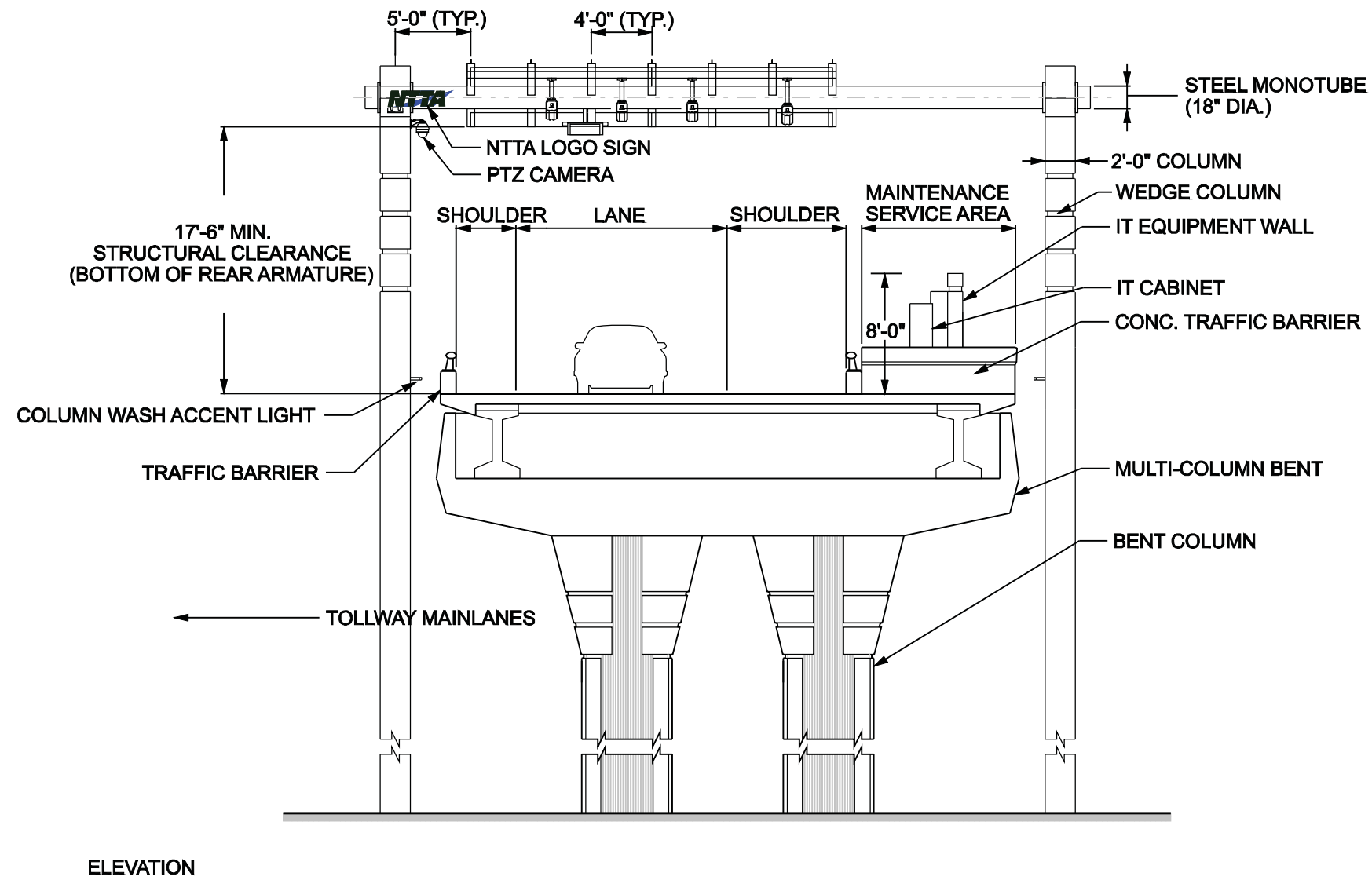
- The prototypical Column gantry guideline represents a design option for extending the vertical gantry column structure independent of the bridge structure for site conditions with particular vertical and horizontal constraints. (Site specific adaptation required)



Single Lane Ramp Gantry On Structure (Gantry Columns Option)

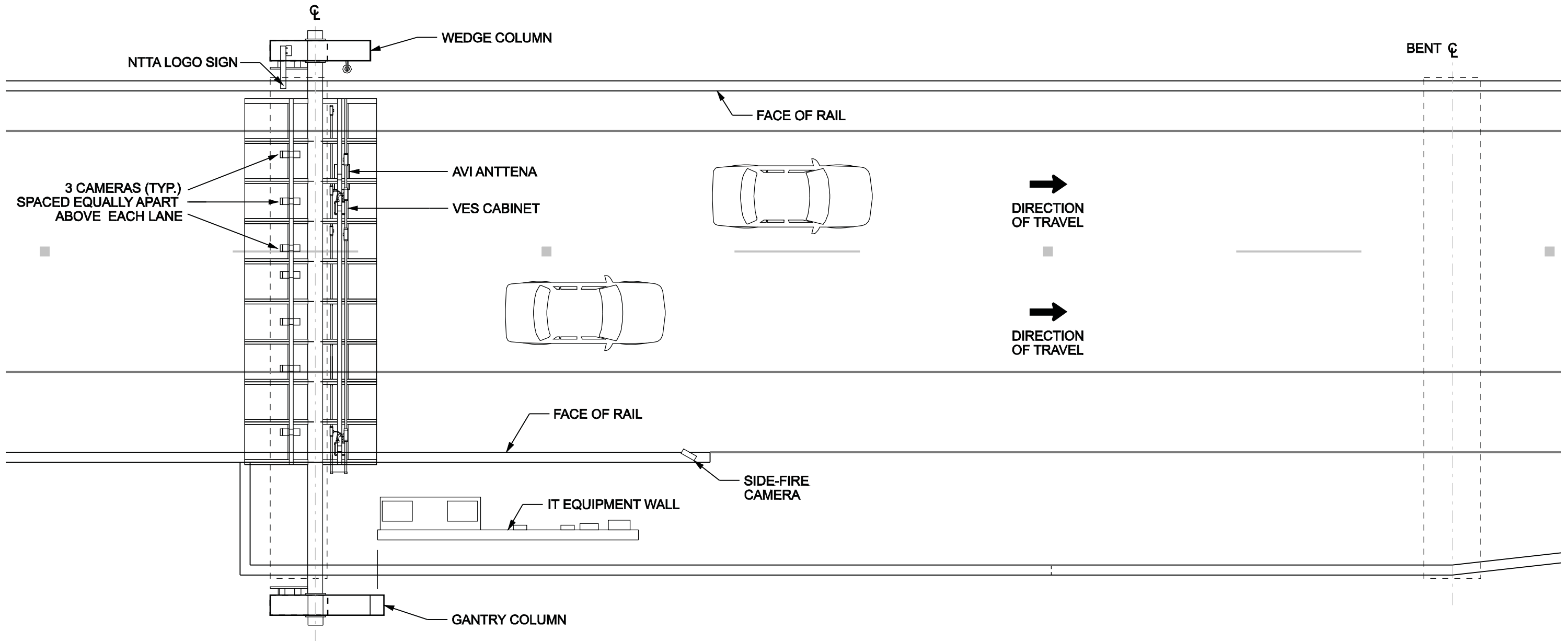
Notes:

- Monotube is level across roadway.
- Gantry equipment height to follow constant cross slope of pavement.



Notes:

- The prototypical Column gantry guideline represents a design option for extending the vertical gantry column structure independent of the bridge structure for site conditions with particular vertical and horizontal constraints. (Site specific adaptation required)

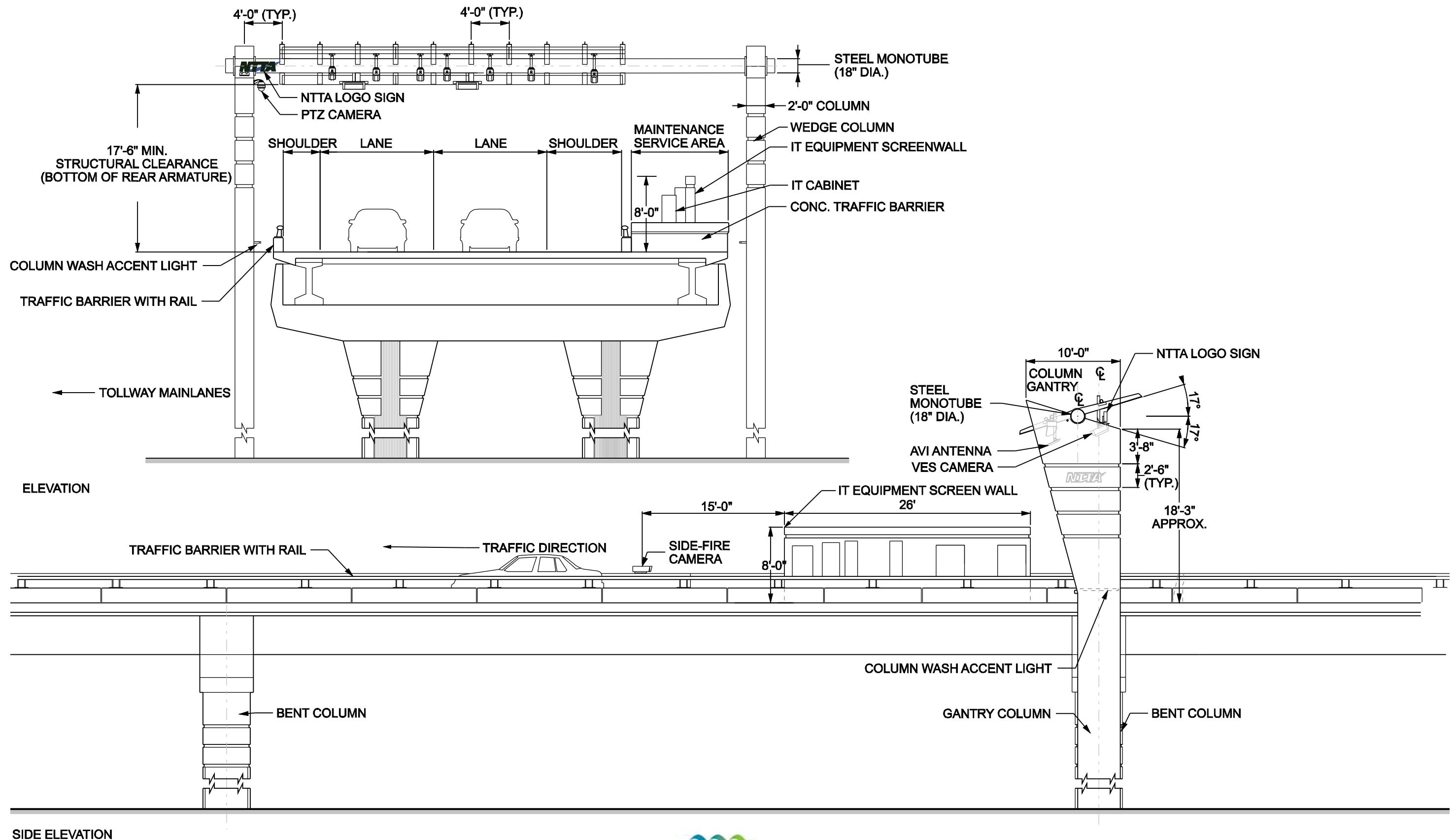


PLAN VIEW



Notes:

- Monotube is level across roadway.
- Gantry equipment height to follow constant cross slope of pavement.



SIDE ELEVATION



08 Bridge Structures



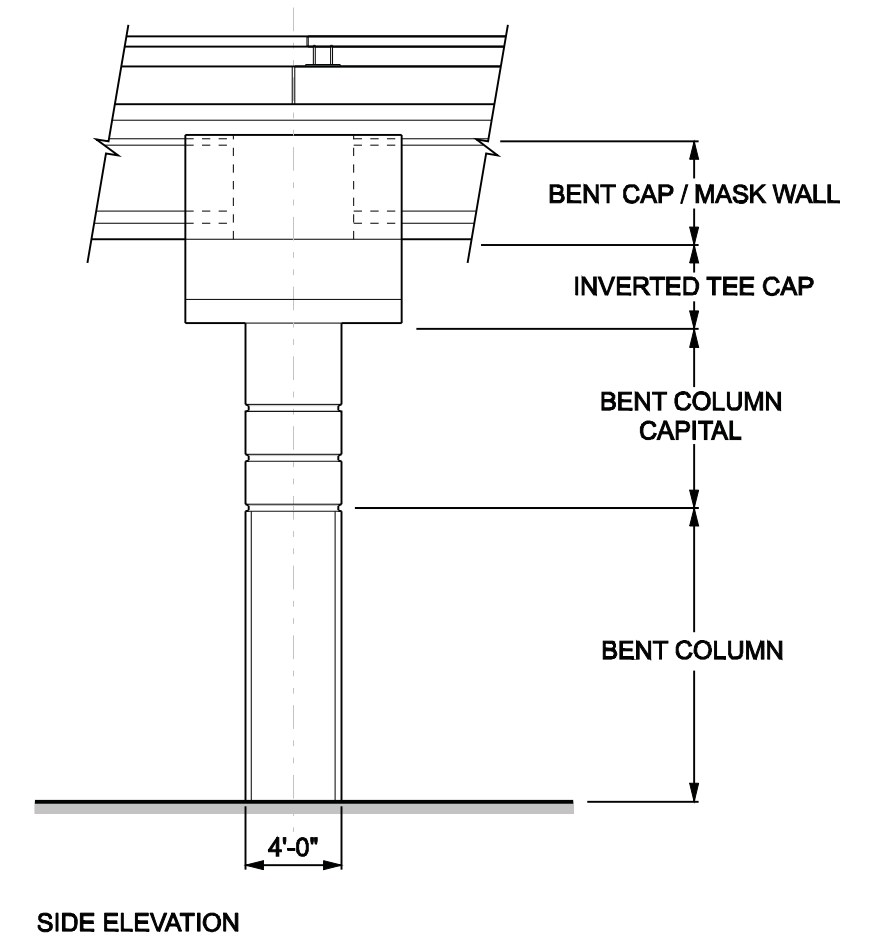
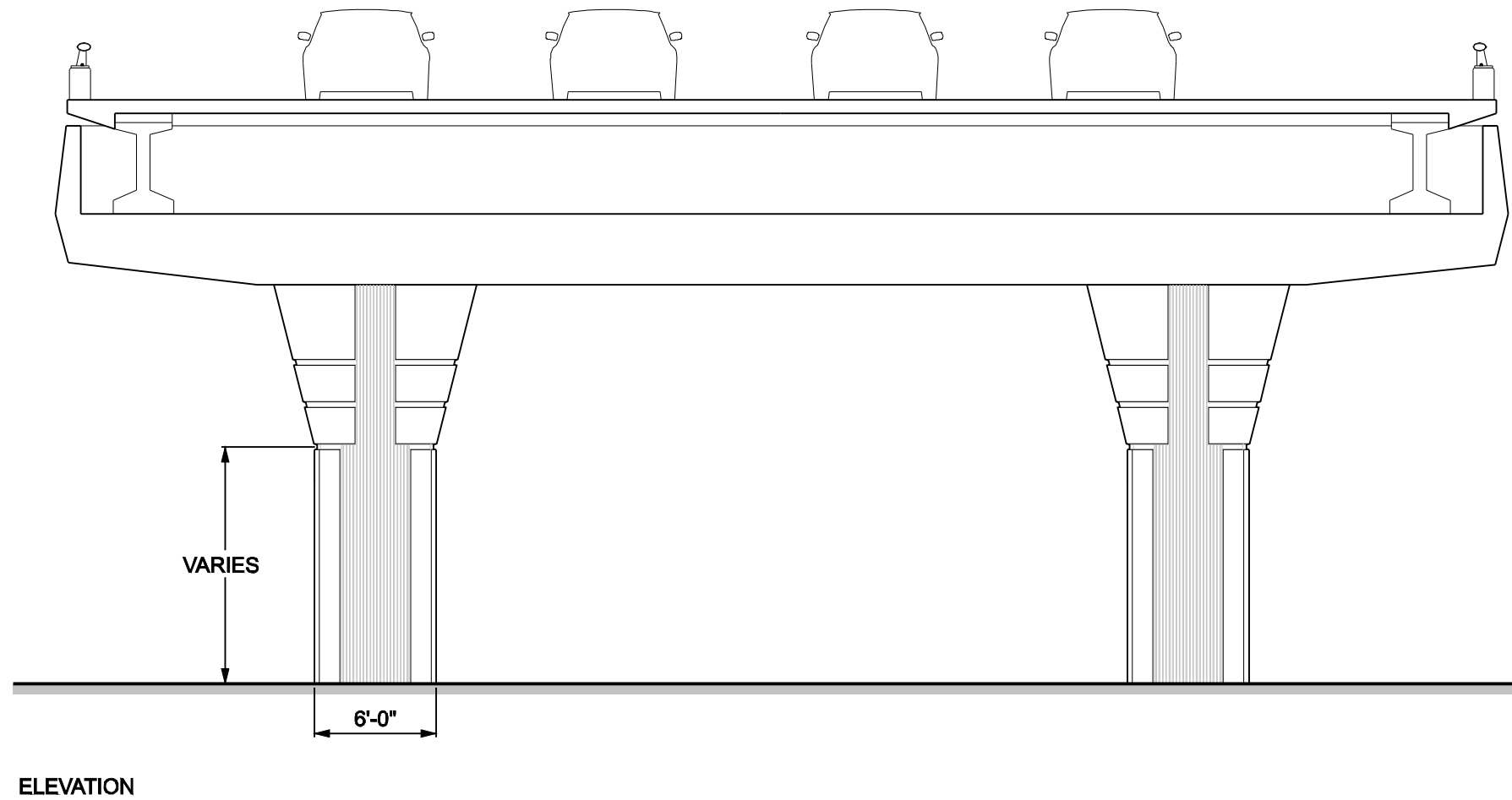
Mainlane Multi-Column Bridge Bent	124
Mainlane Multi-Column Bridge Bent (Monotube)	125-126
Single Column Bridge Bents	127-130
Straddle Bents	131-132
Single Column Cantilever Bridge Bent	133
Column Types	134
Column Capital Details	135
Bridge Rails	136
<hr/>	
Special Conditions	
Continental Bridge Pedestrian Rail	137
Downtown Overlook Bridge Bent	138
Bellview Pedestrian Bridge	139
Houston Street Pedestrian Bridge	140

*Surface treatments for bridge structures and elements will be in accordance with the NTTA Design Guidelines for surface finish treatments.



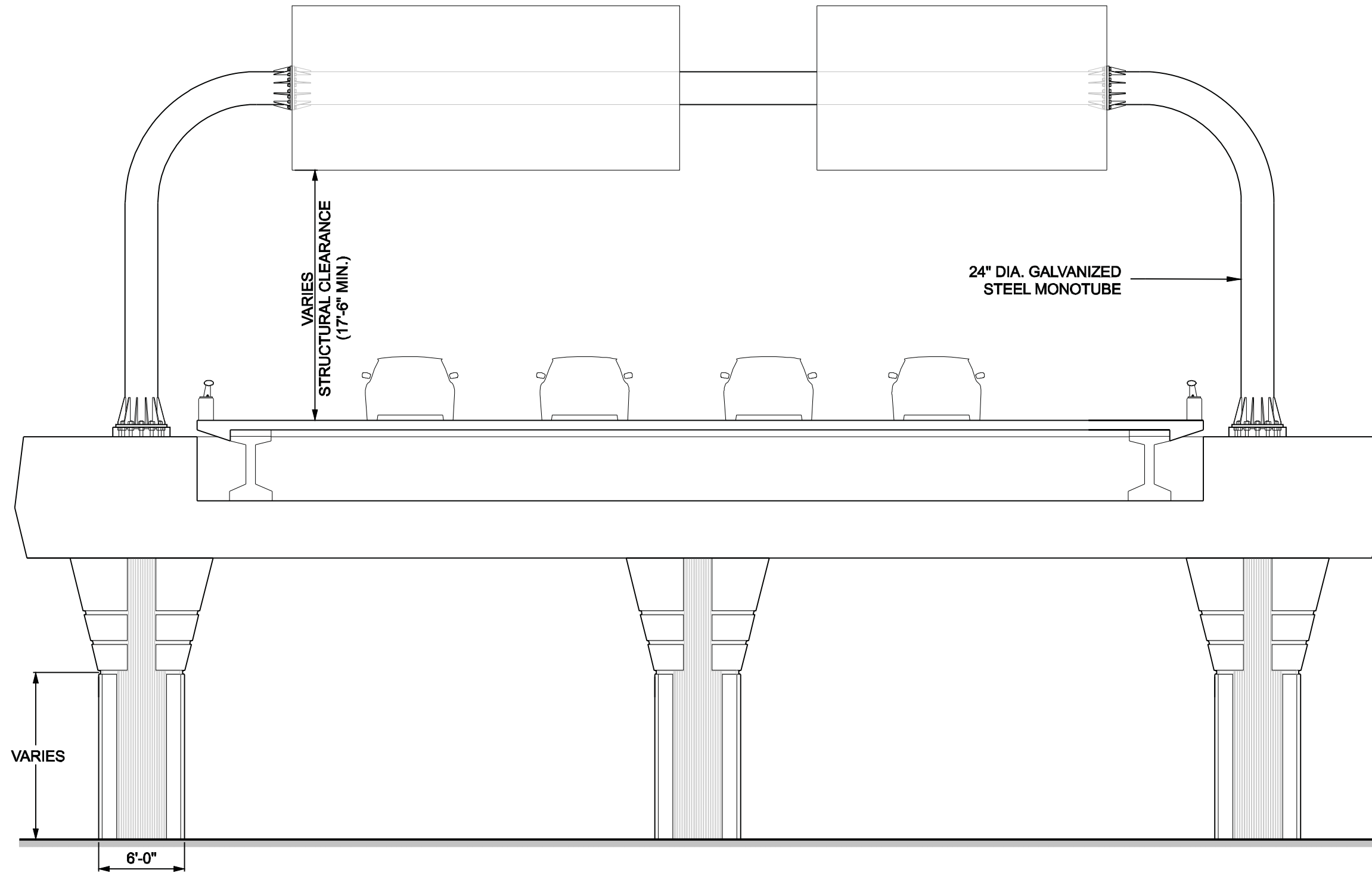
Notes:

- Pitched bent cap may require vertical variation between column. (Horizontal reveals do not necessarily align from one column to another)
- Drainage and electrical conduits to be internal to the bent and column structure.
- Beam Type: Tx 54 I-Girders (Predominant corridor standard; other sizes as needed)
 Steel I-Girders (As needed)
 U-Beams (Trinity Parkway over Lamar, and S.M. Wright)



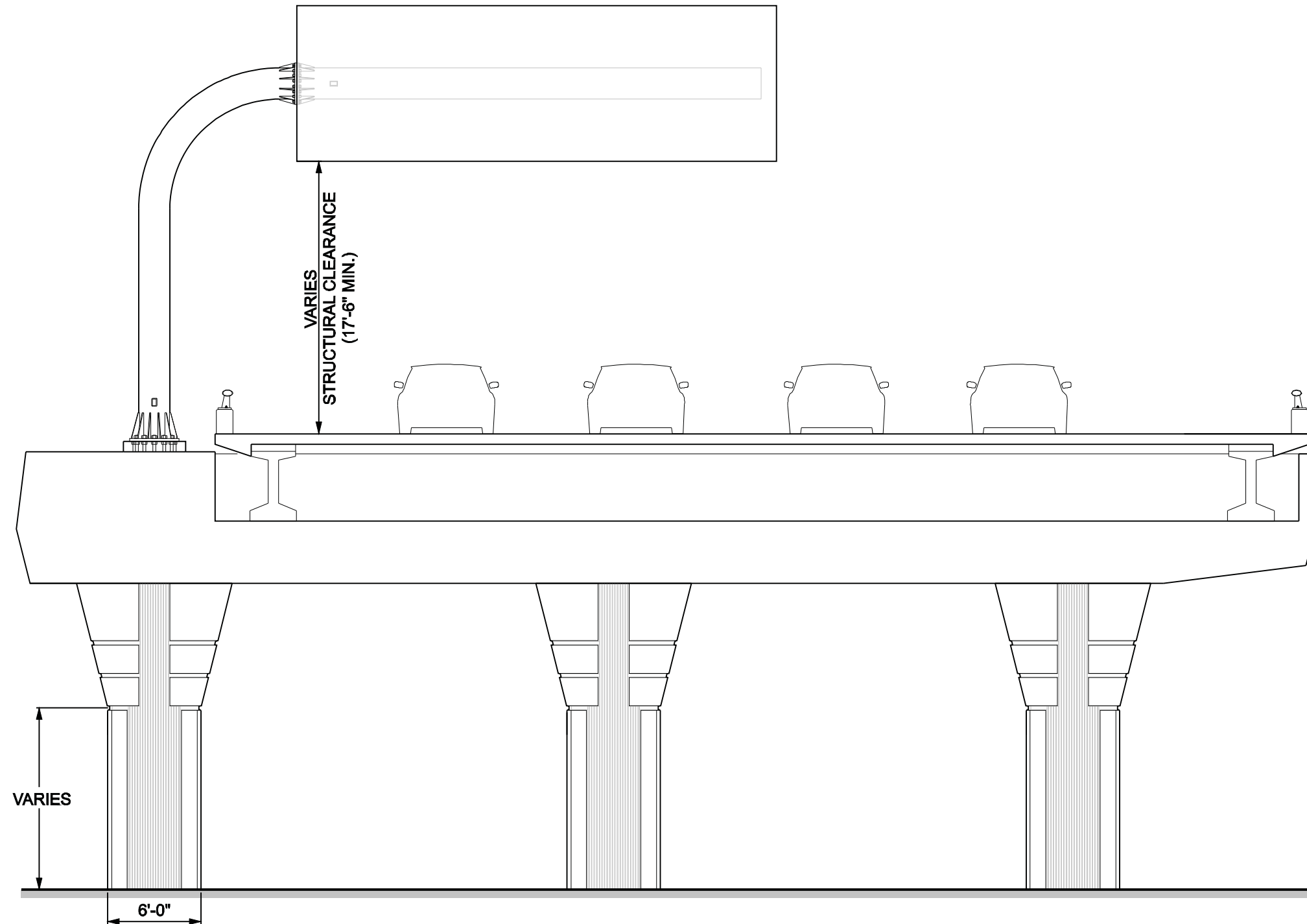
Notes:

- Ground mounting preferred, use bent mounted option only in horizontal and levee constrained conditions.



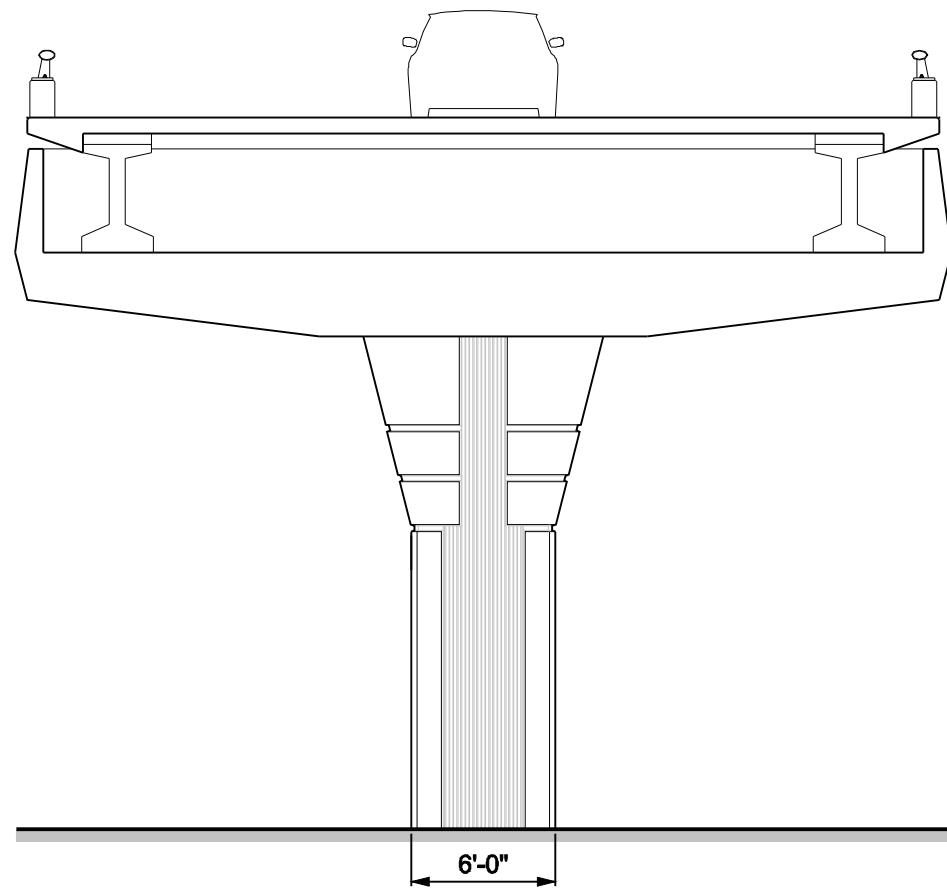
Notes:

- Ground mounting preferred, use bent mounted option only in horizontal and levee constrained conditions.

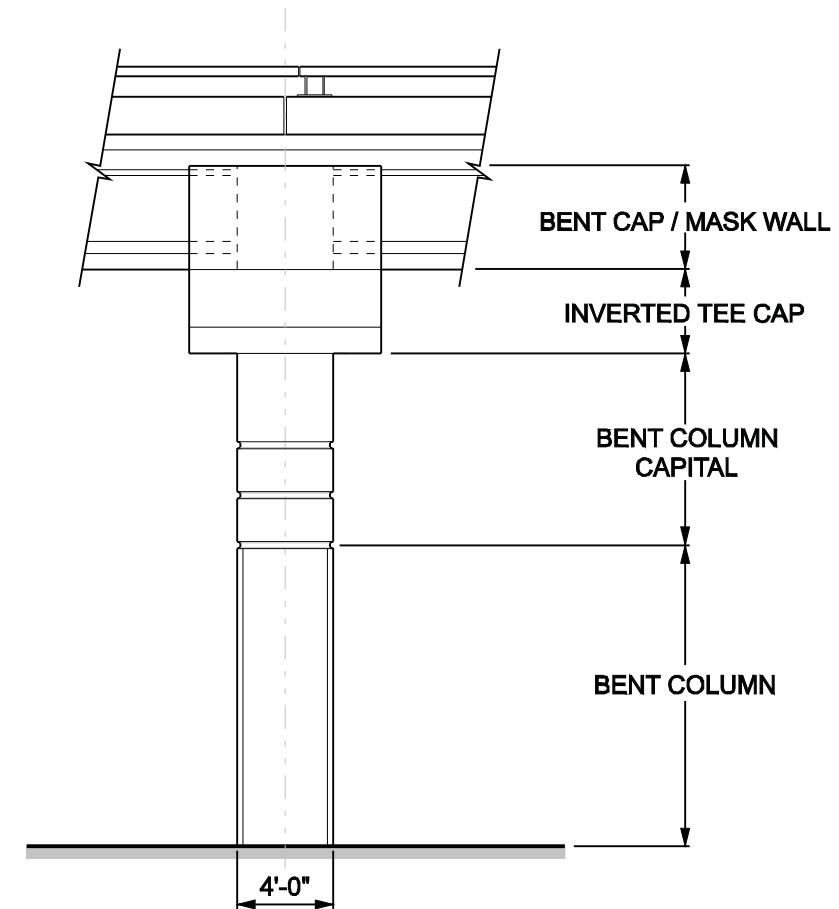


Notes:

- Drainage and electrical conduits to be internal to the bent and column structure.



ELEVATION

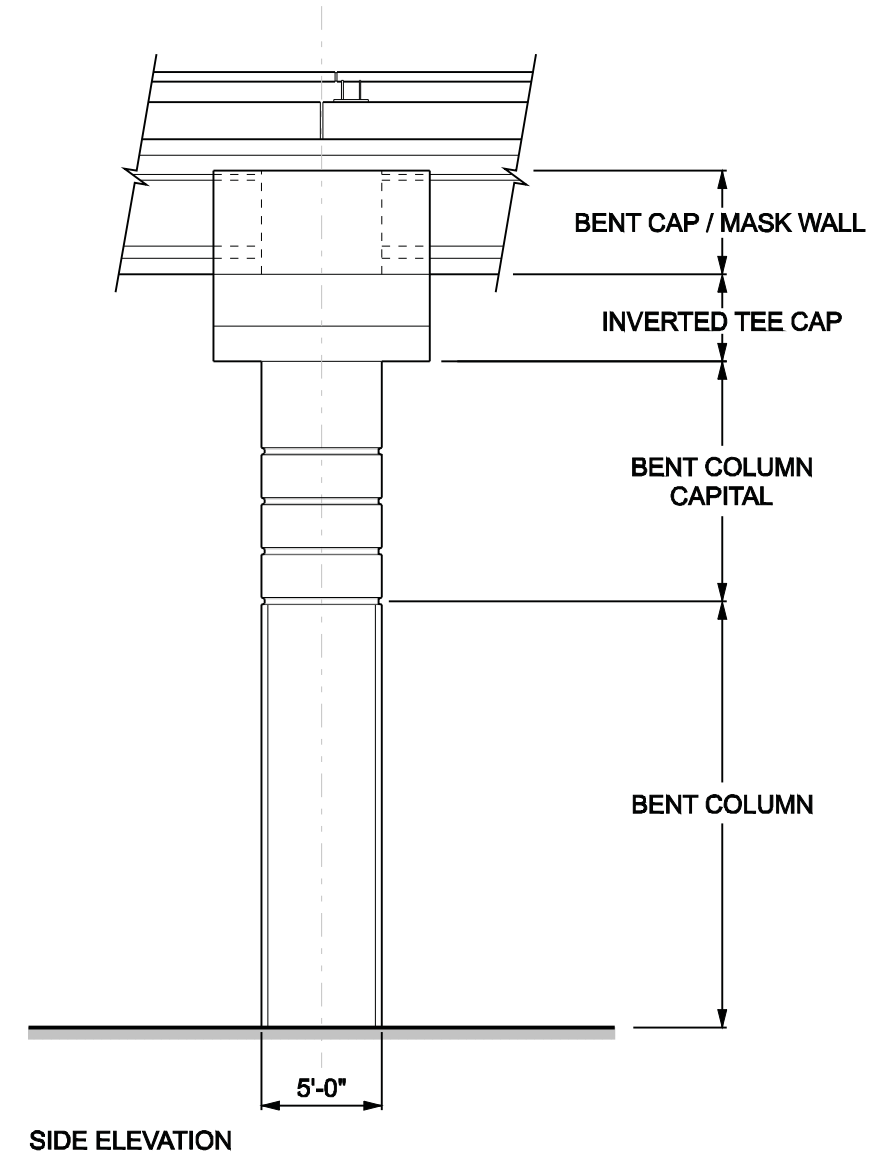
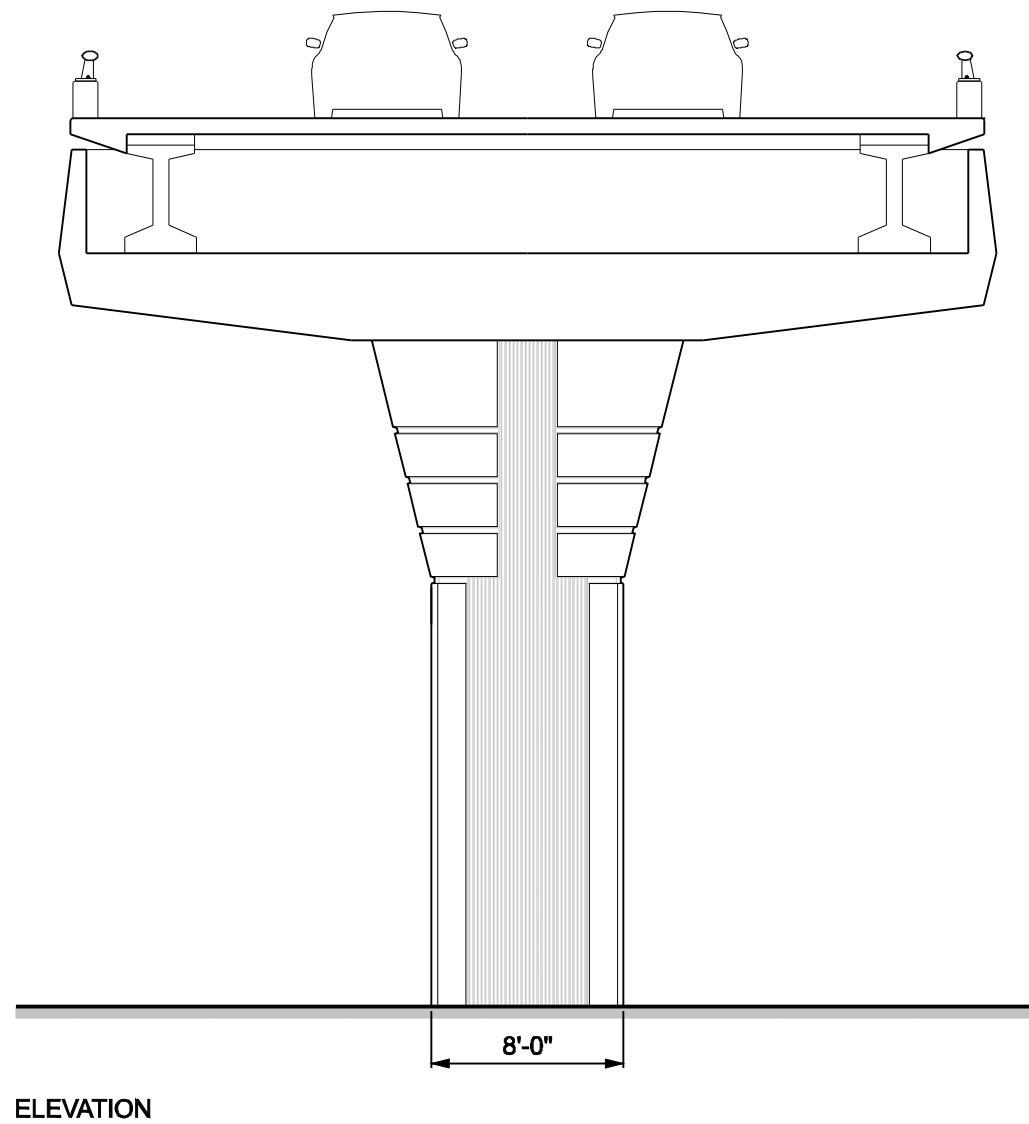


SIDE ELEVATION



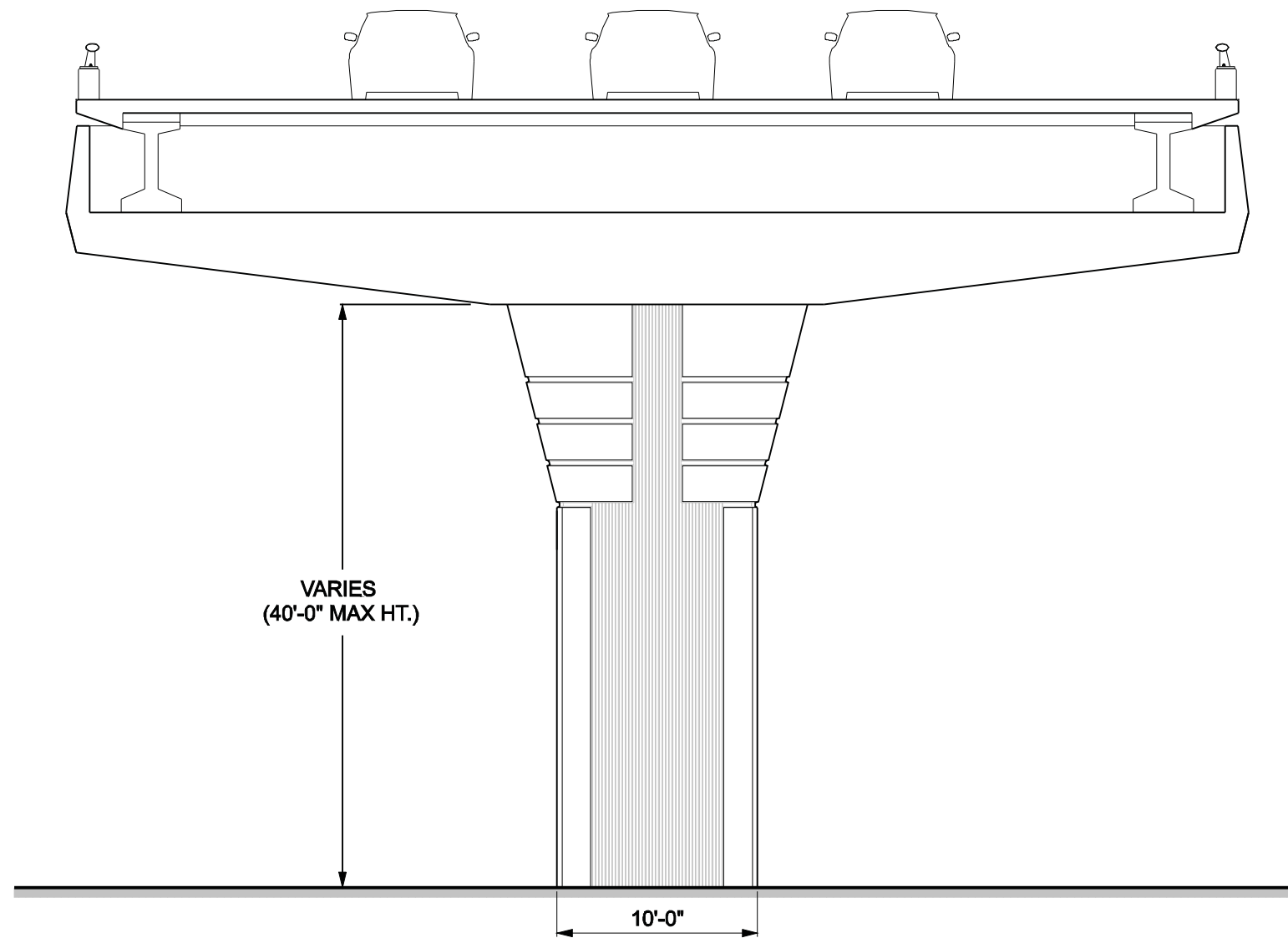
Notes:

- Drainage and electrical conduits to be internal to the bent and column structure.

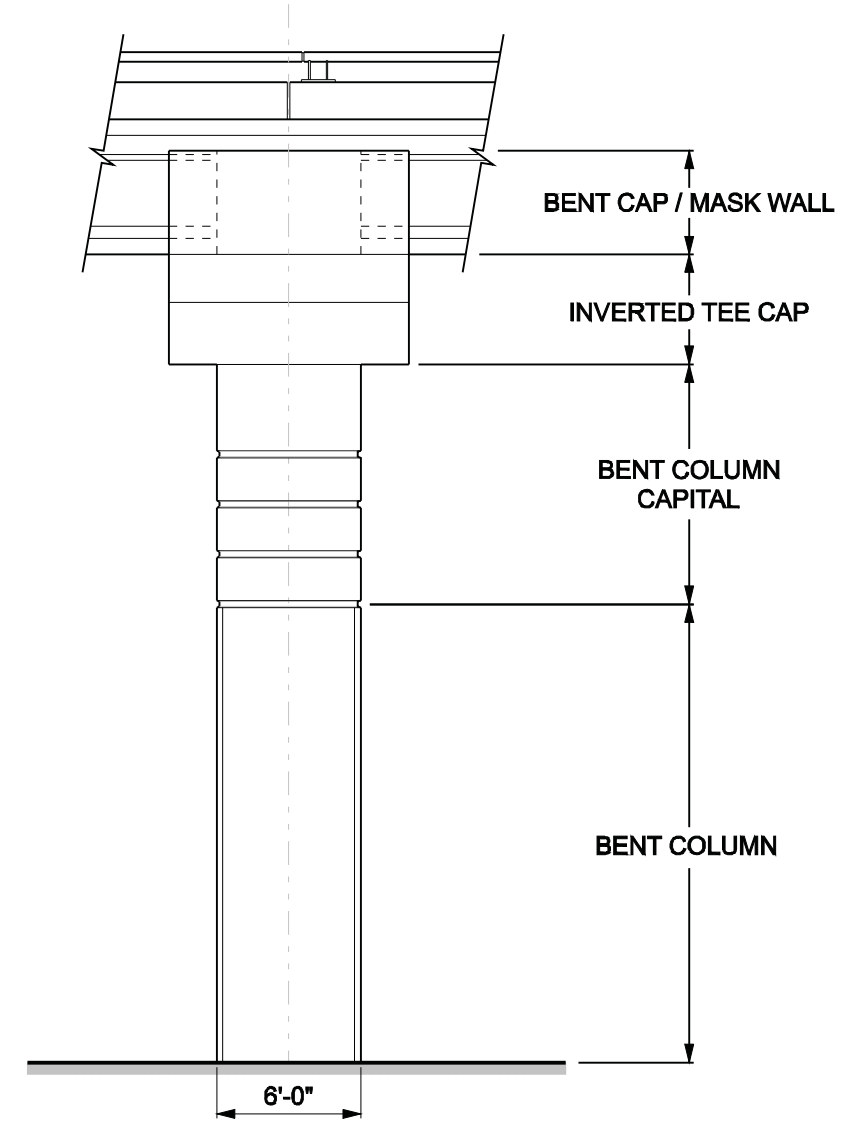


Notes:

- Drainage and electrical conduits to be internal to the bent and column structure.



ELEVATION

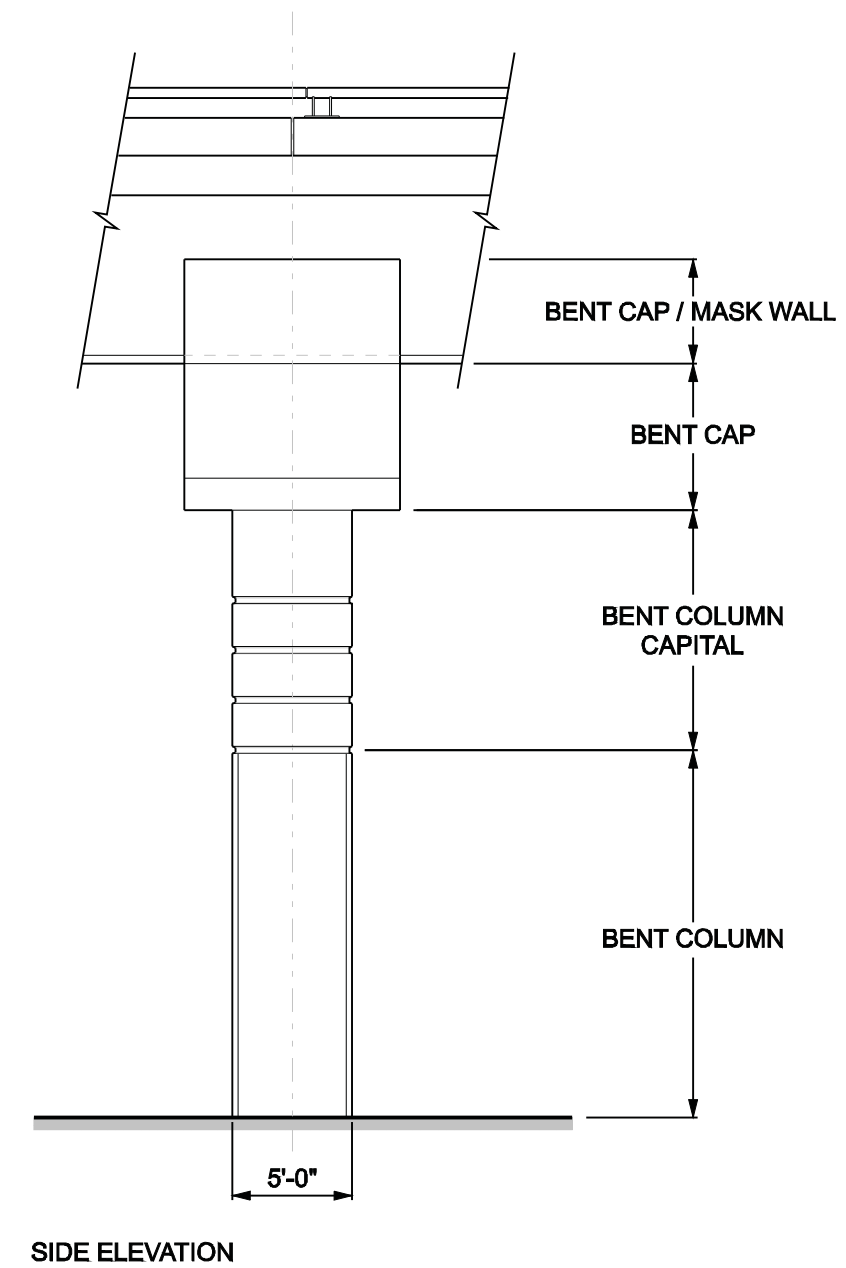
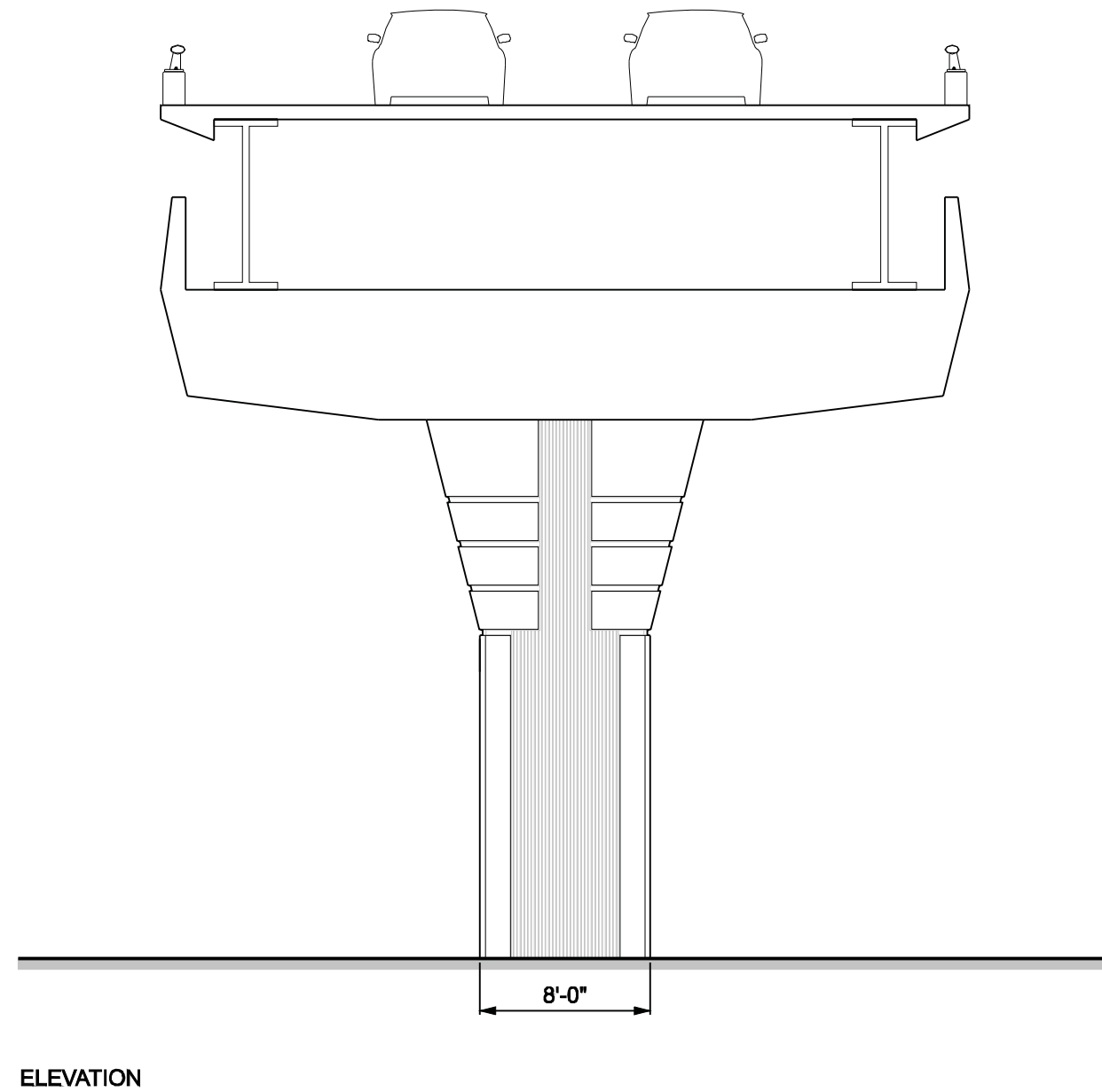


SIDE ELEVATION



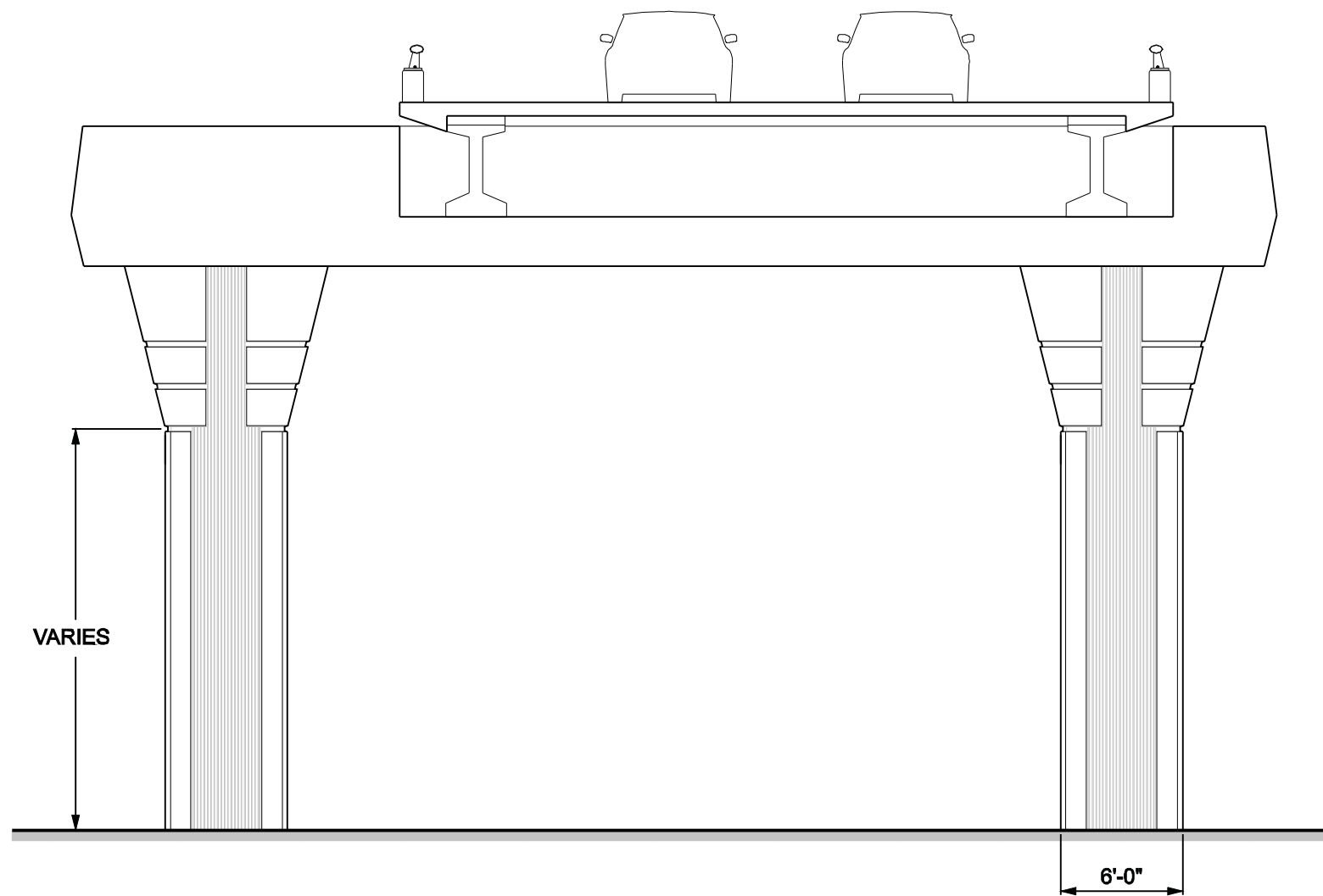
Notes:

- Refer to Column Fluting details for fluting application. (Full fluting shown)

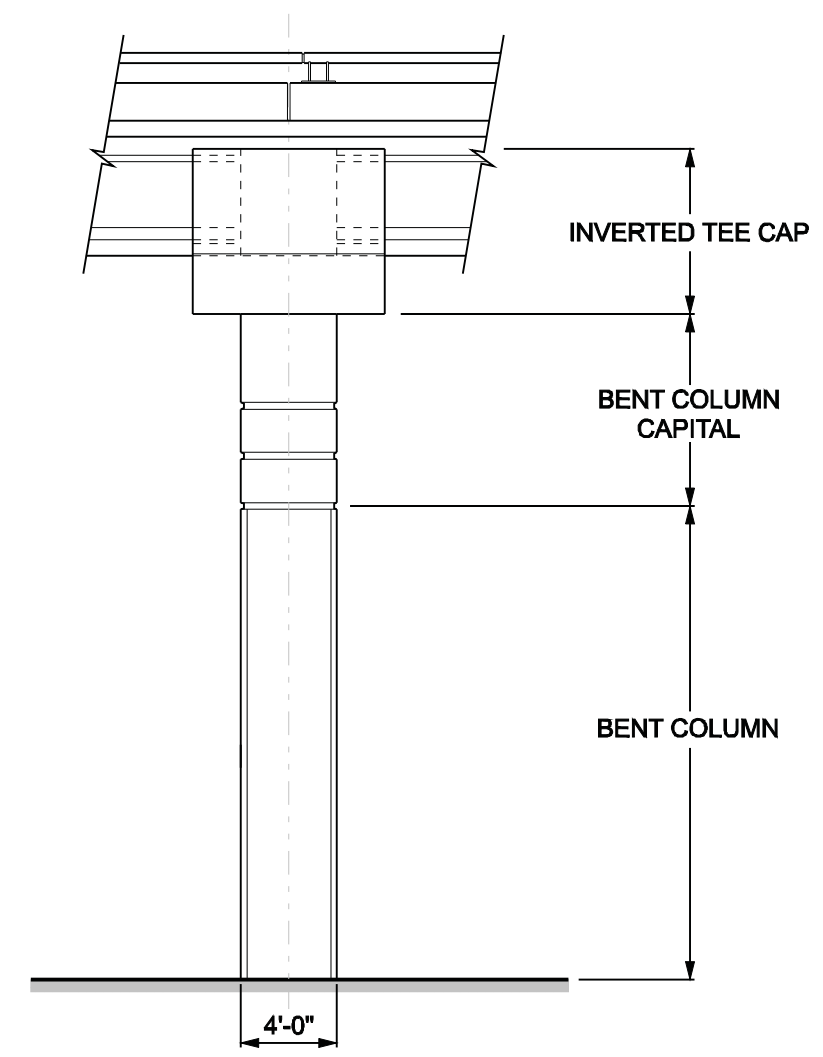


Notes:

- Straddle bent cap may require vertical variation between capital and column.
- Drainage and electrical conduits will be internal to the bent and column structure.



ELEVATION

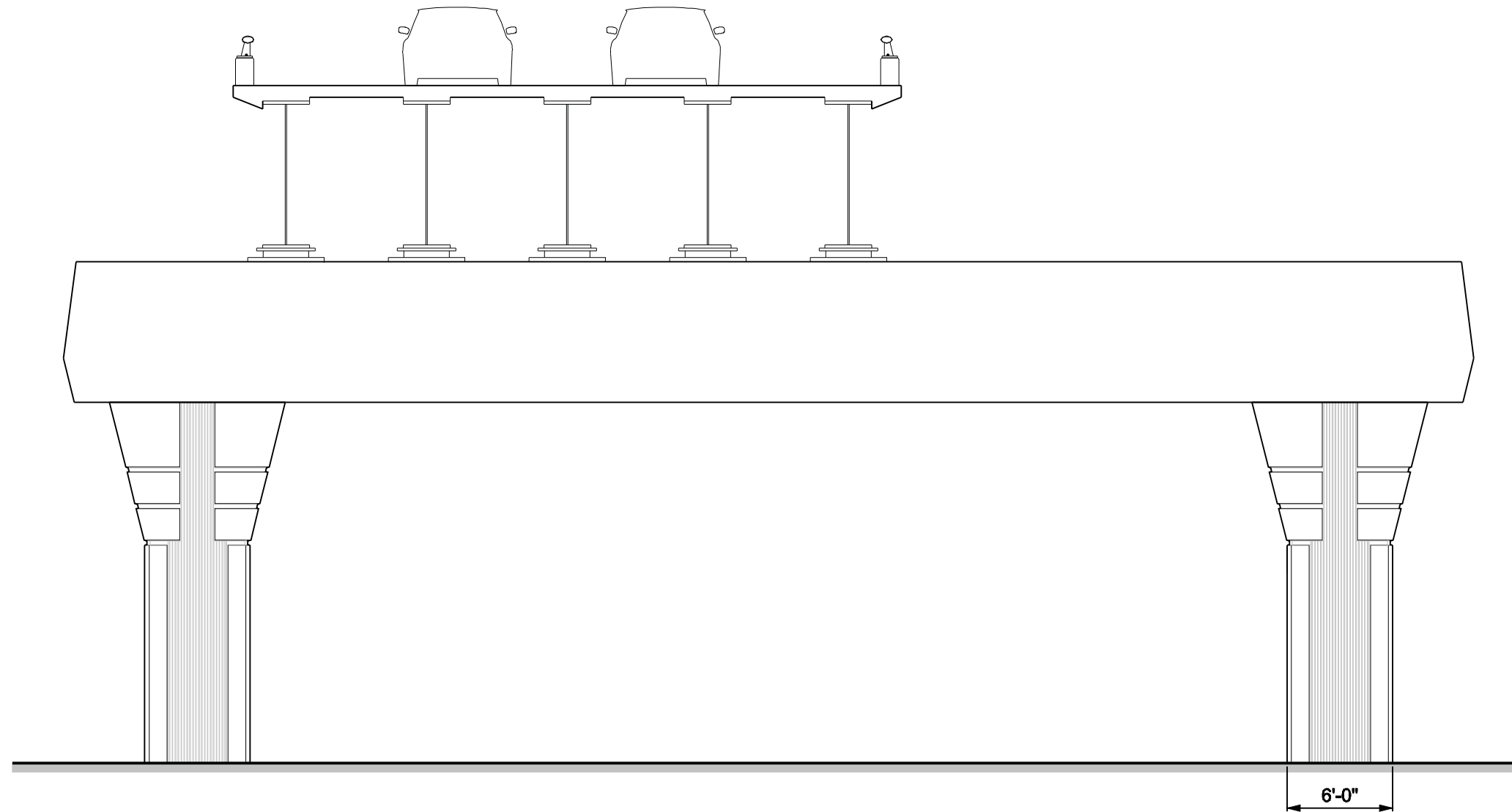


SIDE ELEVATION

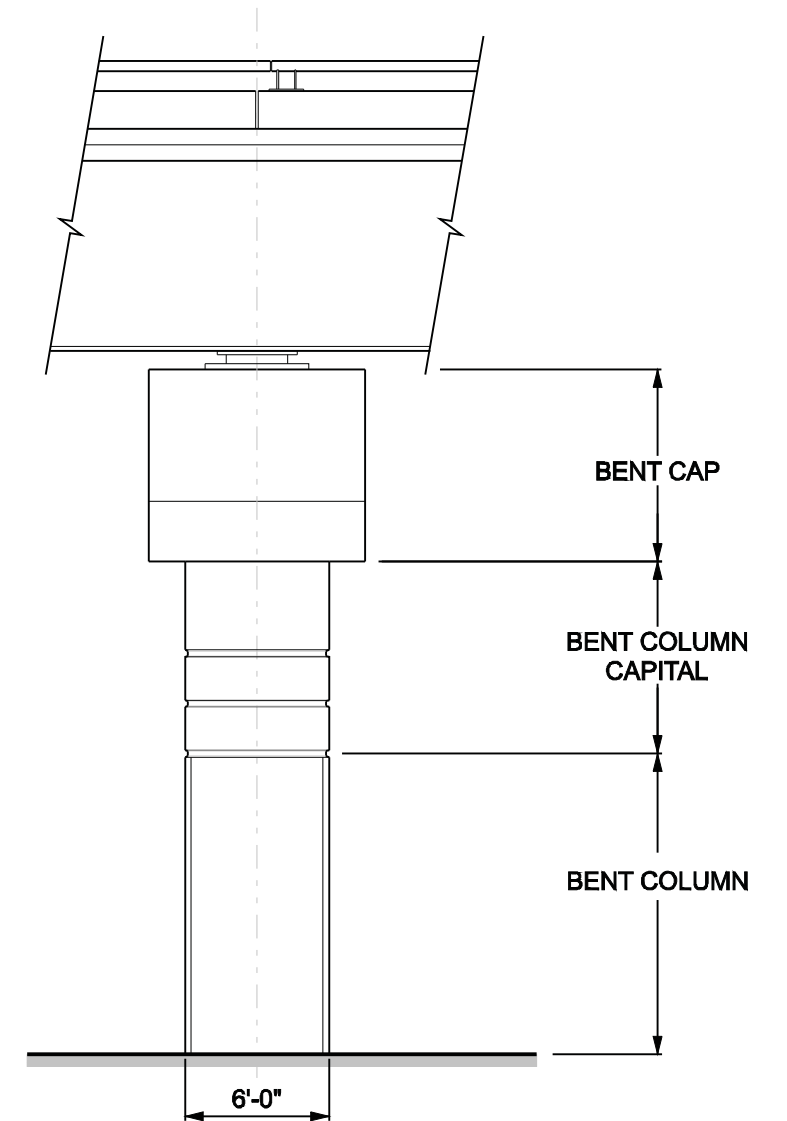


Notes:

- Straddle bent cap may require vertical variation between capital and column.
- Drainage and electrical conduits will be internal to the bent and column structure.



ELEVATION

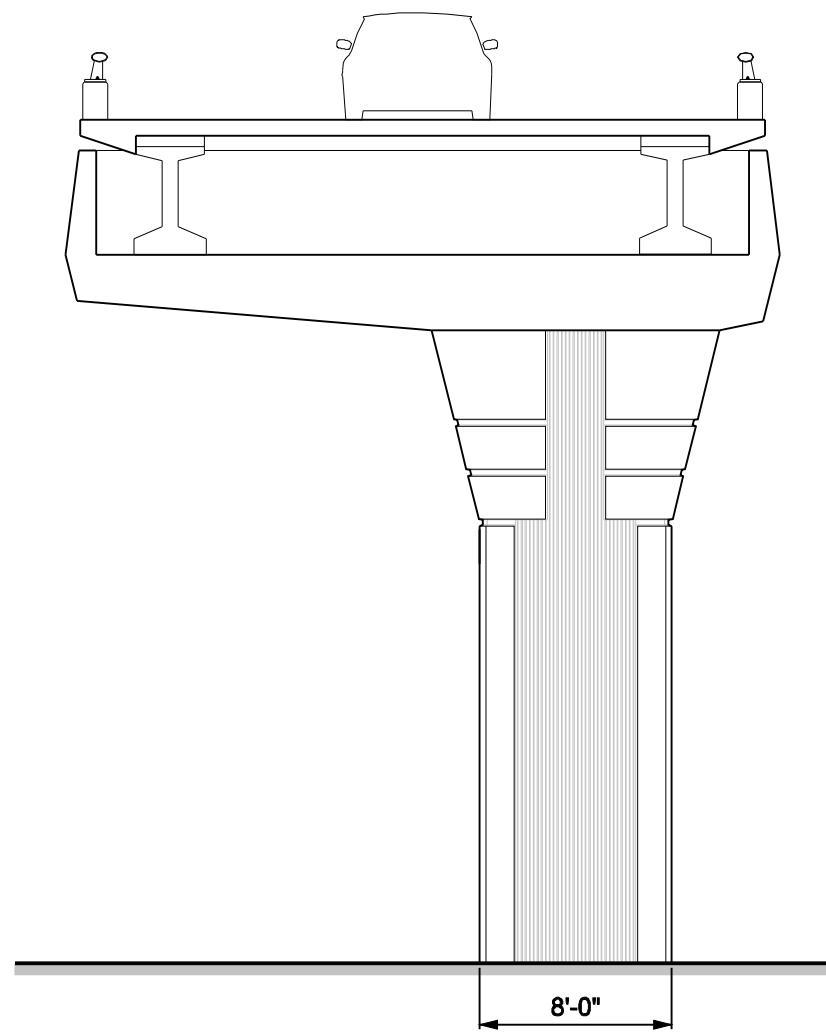


SIDE ELEVATION

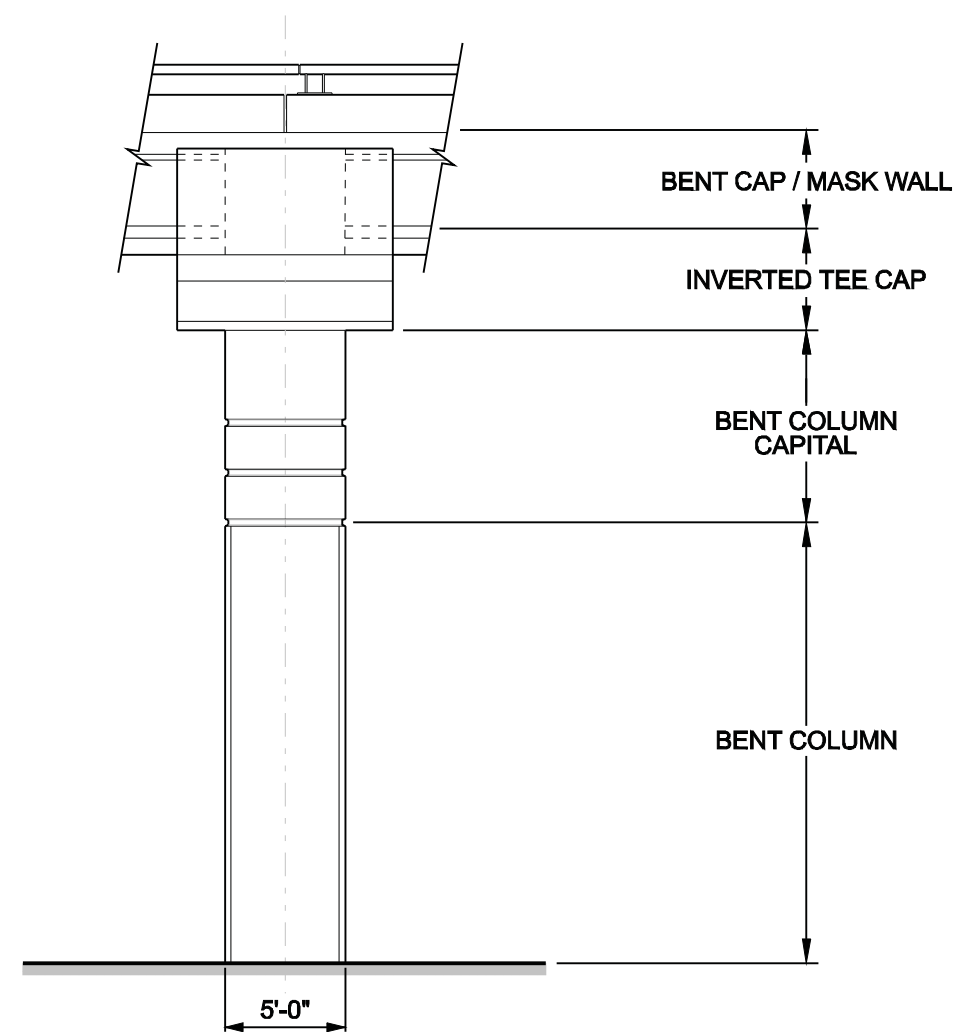


Notes:

- Cross slope of the deck and cap shall match.
- Drainage and electrical conduits to be internal to the bent and column structure.



ELEVATION

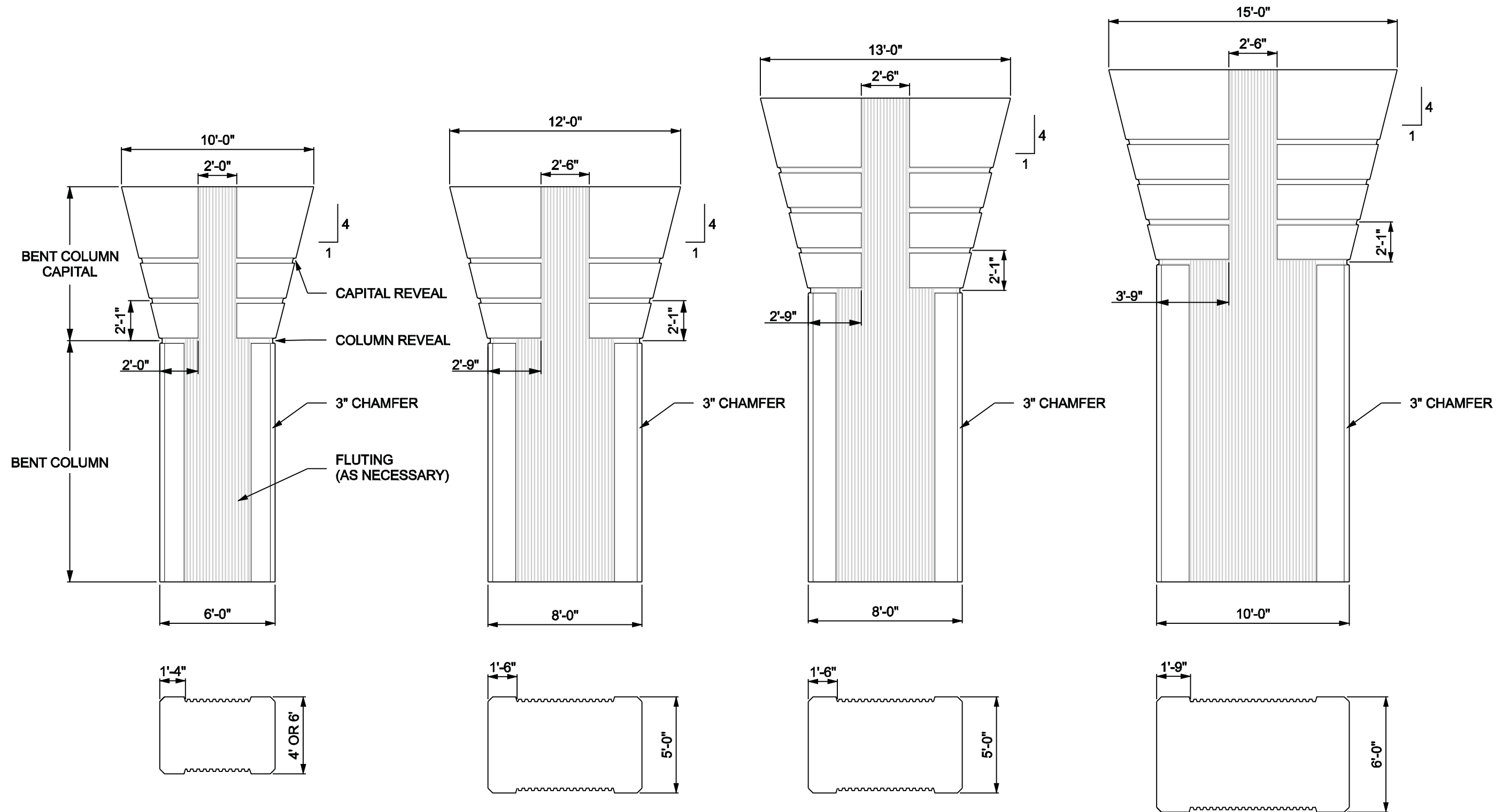


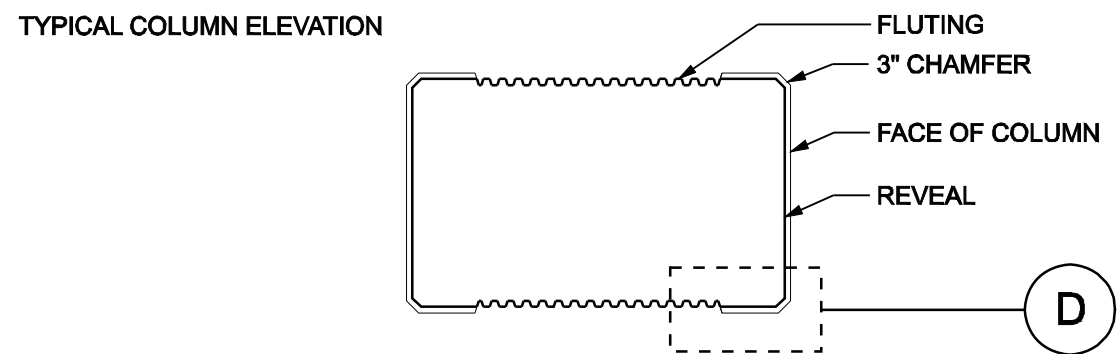
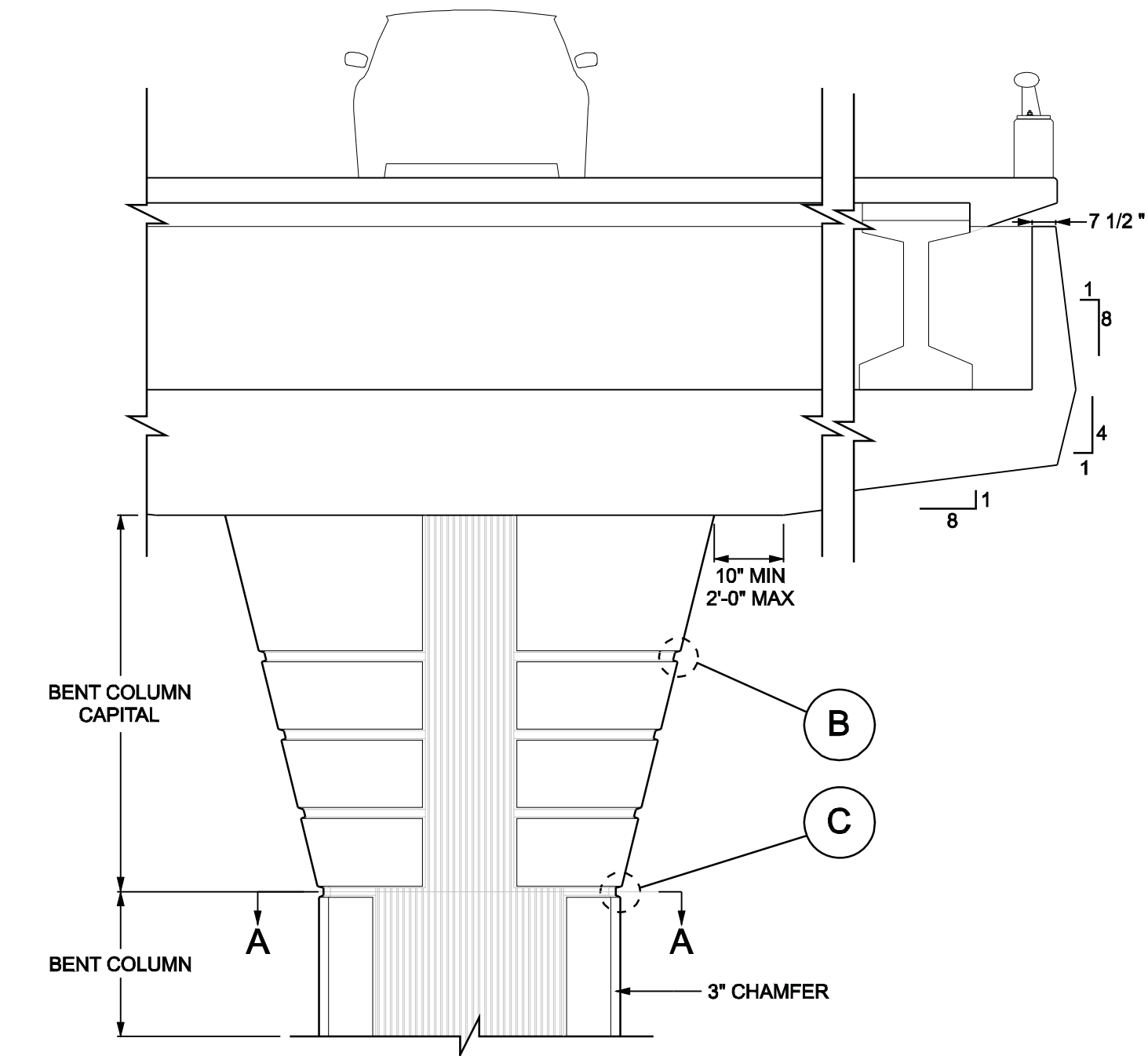
SIDE ELEVATION



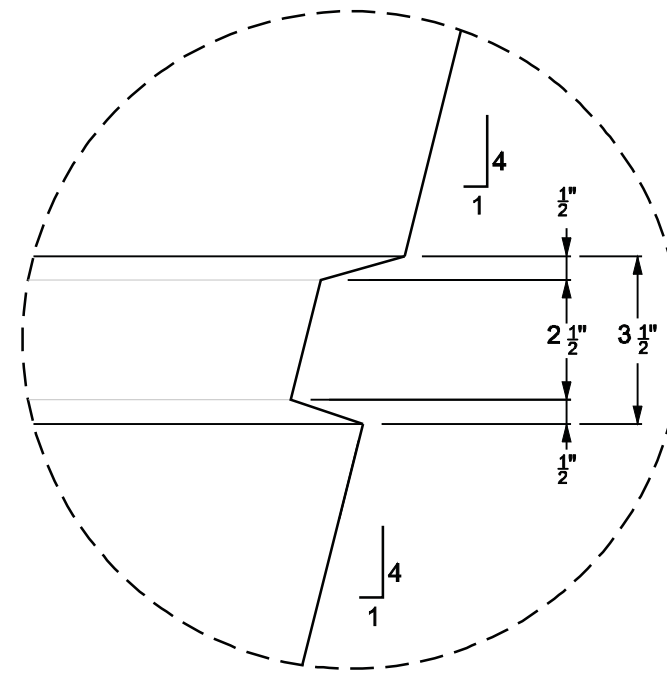
Notes:

- Column type variations are based upon structural needs and shall be in proportion to the following prototypes.

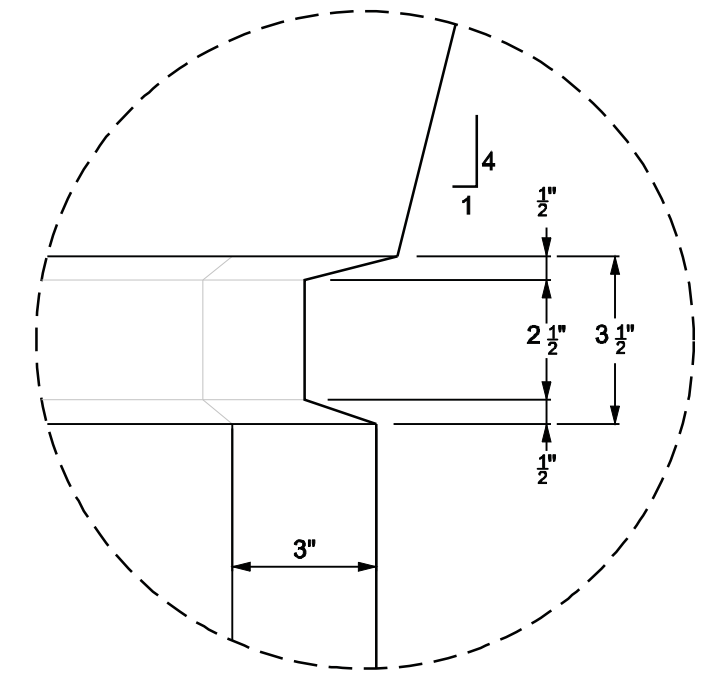




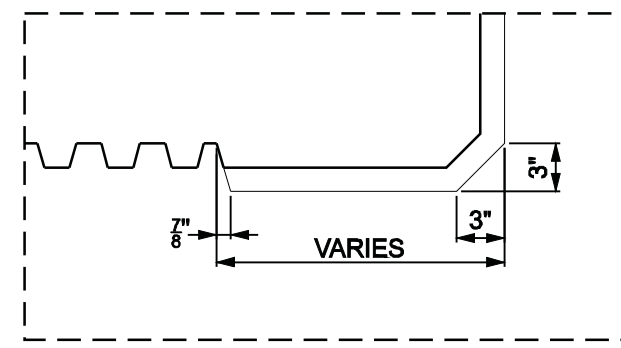
A SECTION A - A
SCALE: 1" = 4'-0"



B CAPITAL REVEAL (ON ANGLE)
SCALE: 3" = 1'-0"



C COLUMN REVEAL
SCALE: 3" = 1'-0"

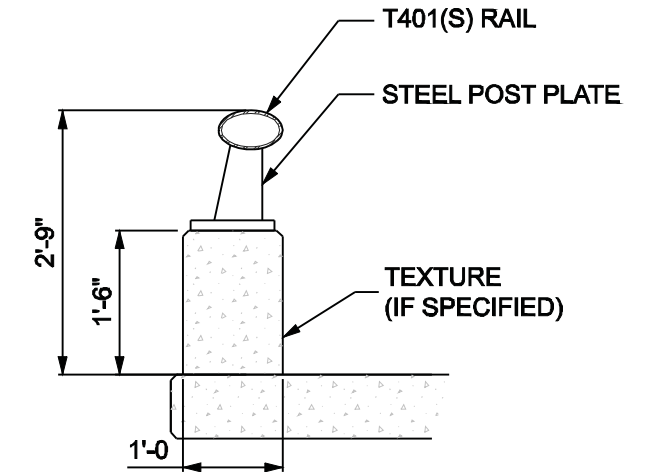
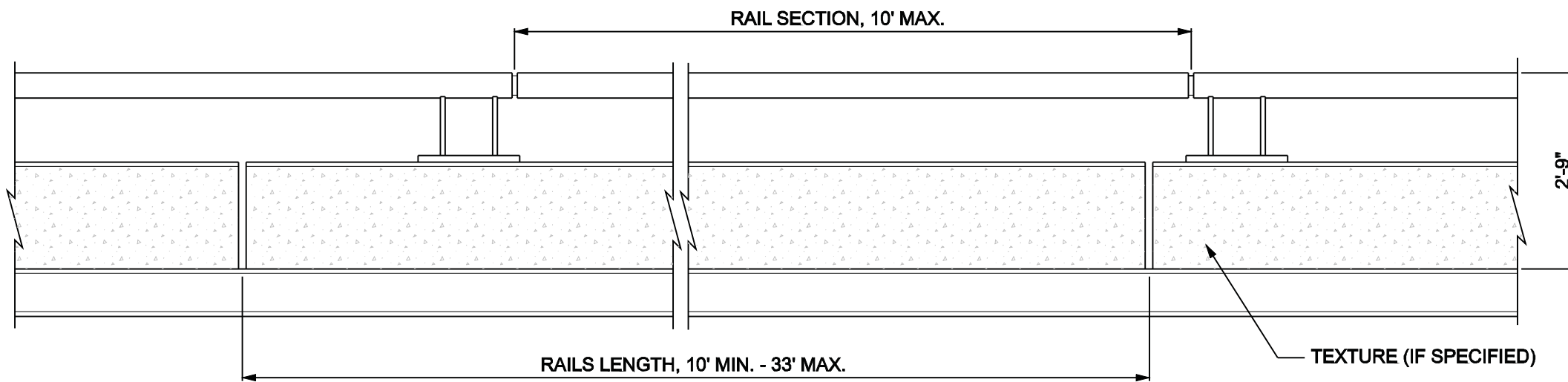


D SECTION: BENT COLUMN CHAMFERS
SCALE: 1" = 1'-0"

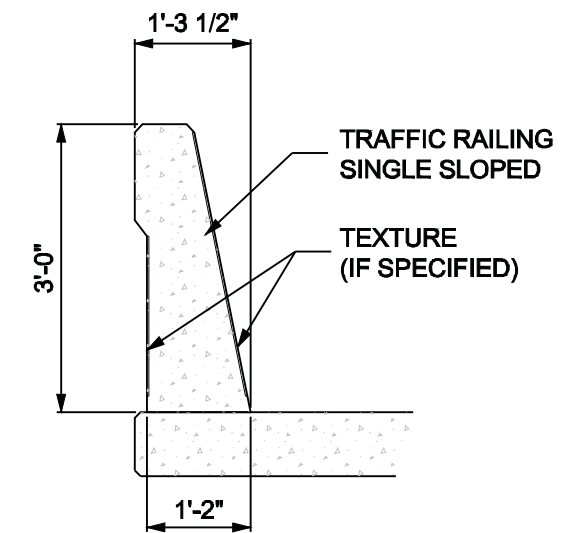
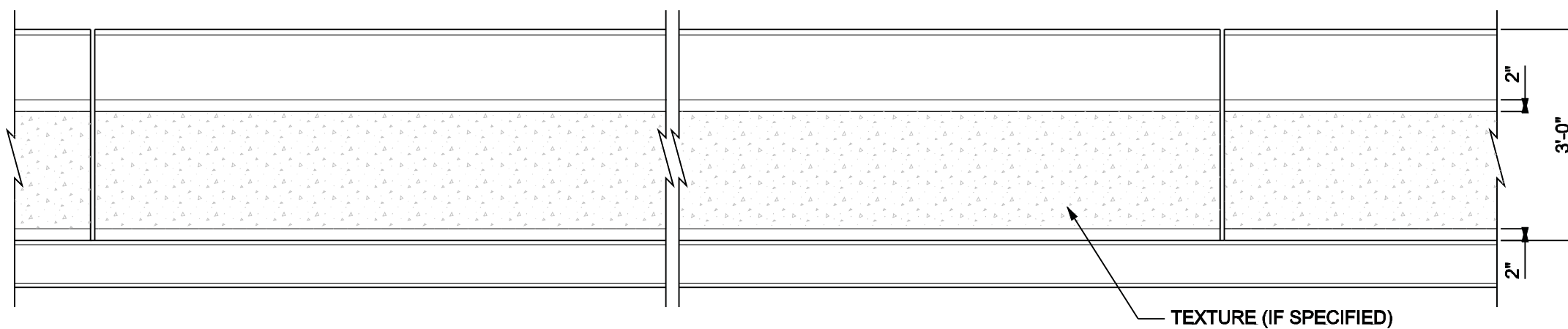


Notes:

- Traffic sloped rail to match NTTA standard for TRS
- Align rail and bridge joints.
- A consistent matching texture type is required on each barrier and barrier face where texture is specified.



T-401 TRAFFIC RAIL

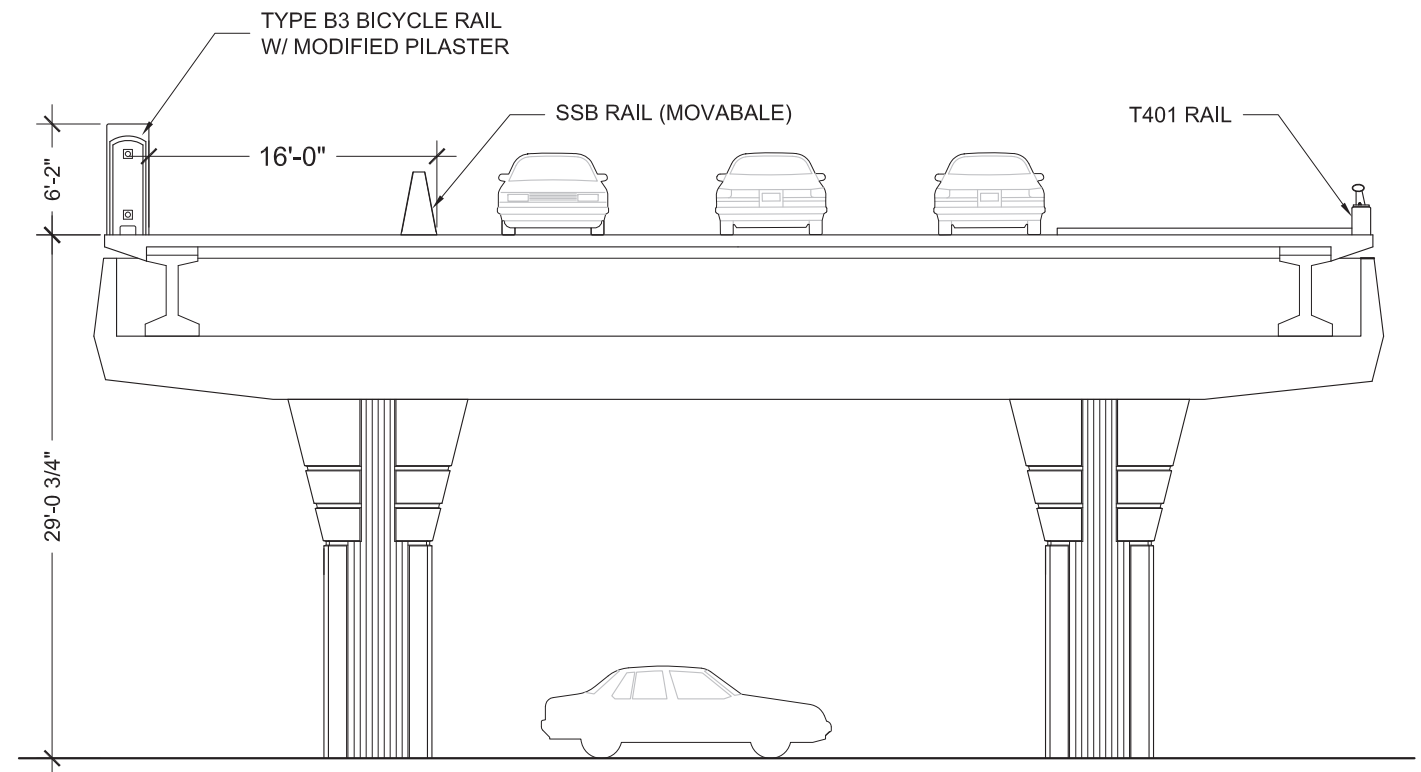
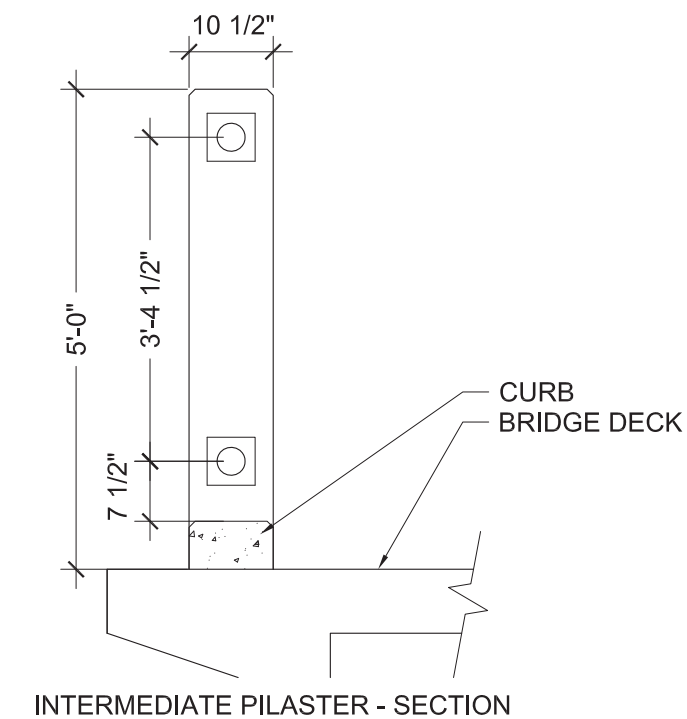
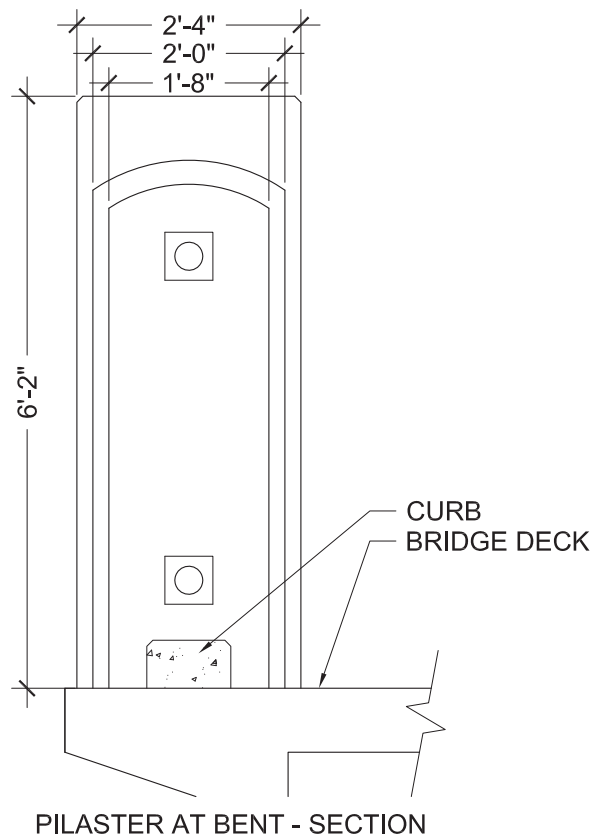
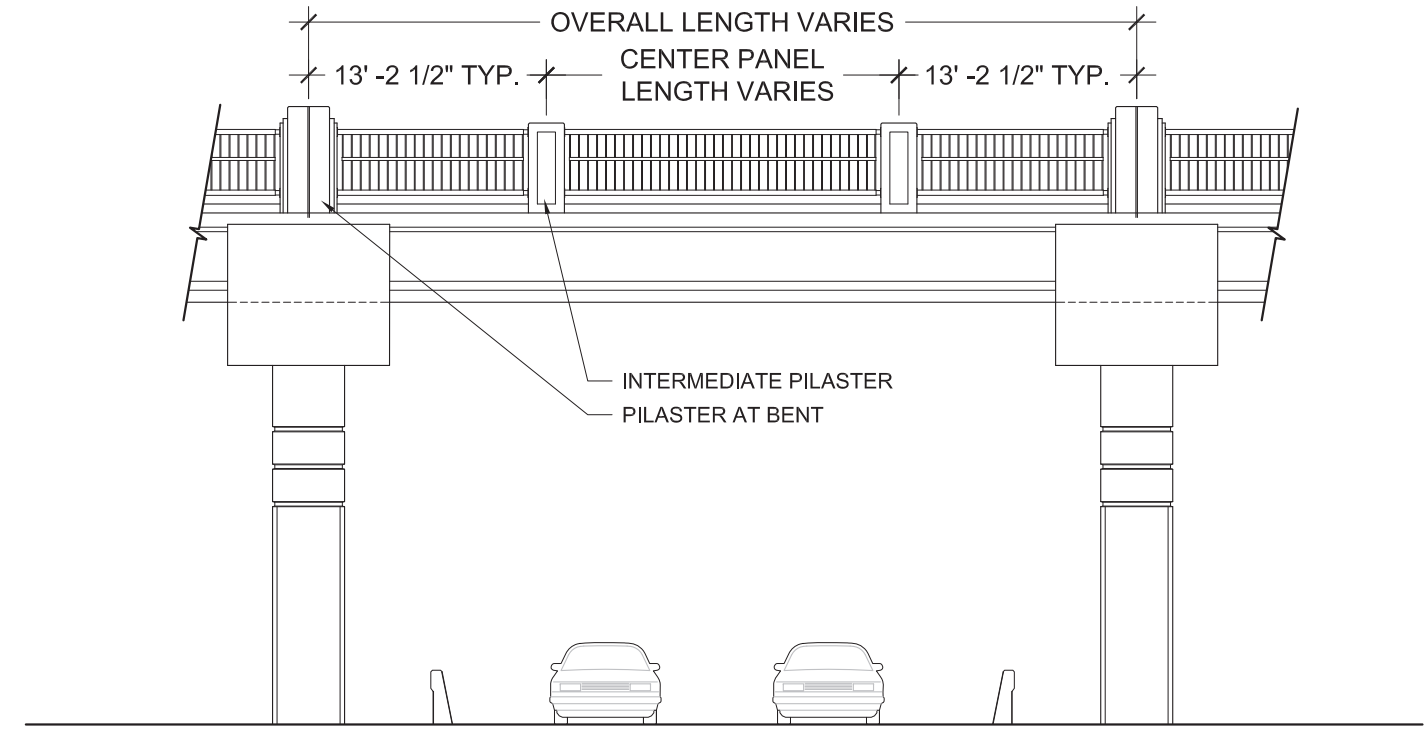
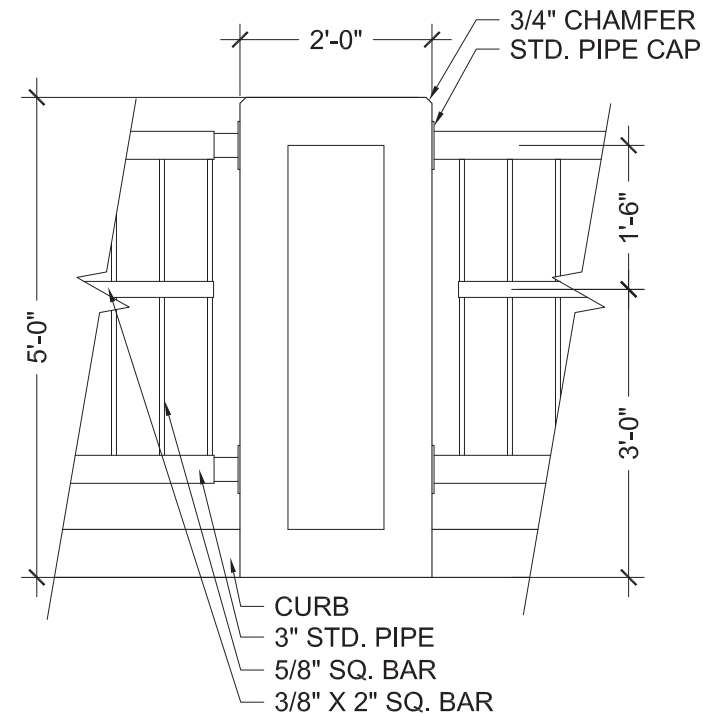
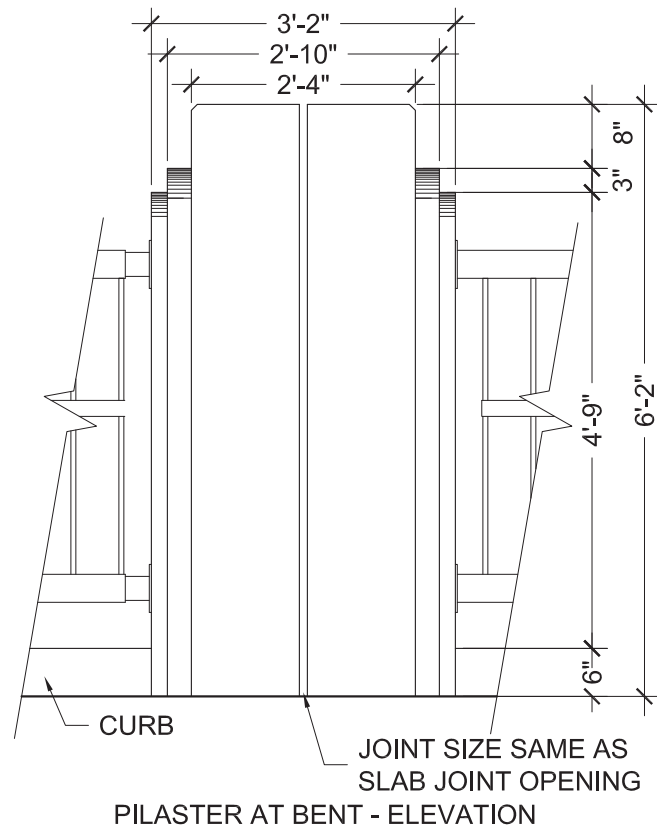


TRAFFIC SLOPED RAIL - TRS



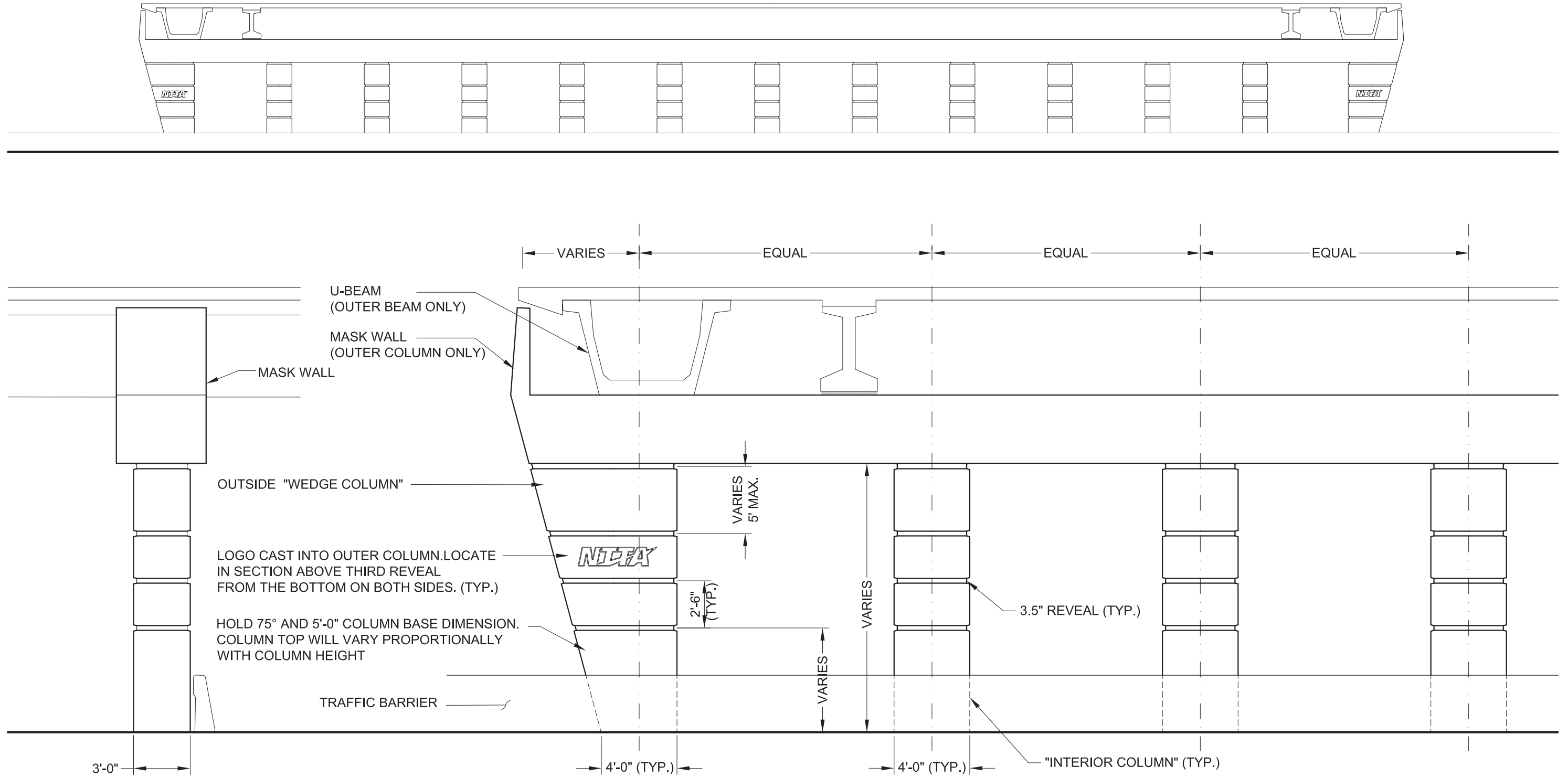
Notes:

- Applies to rebuilt bridge deck outside of the levee
- Bicycle / Pedestrian rail to conform the TxDOT Type B3 Bicycle rail (with modified pilaster)



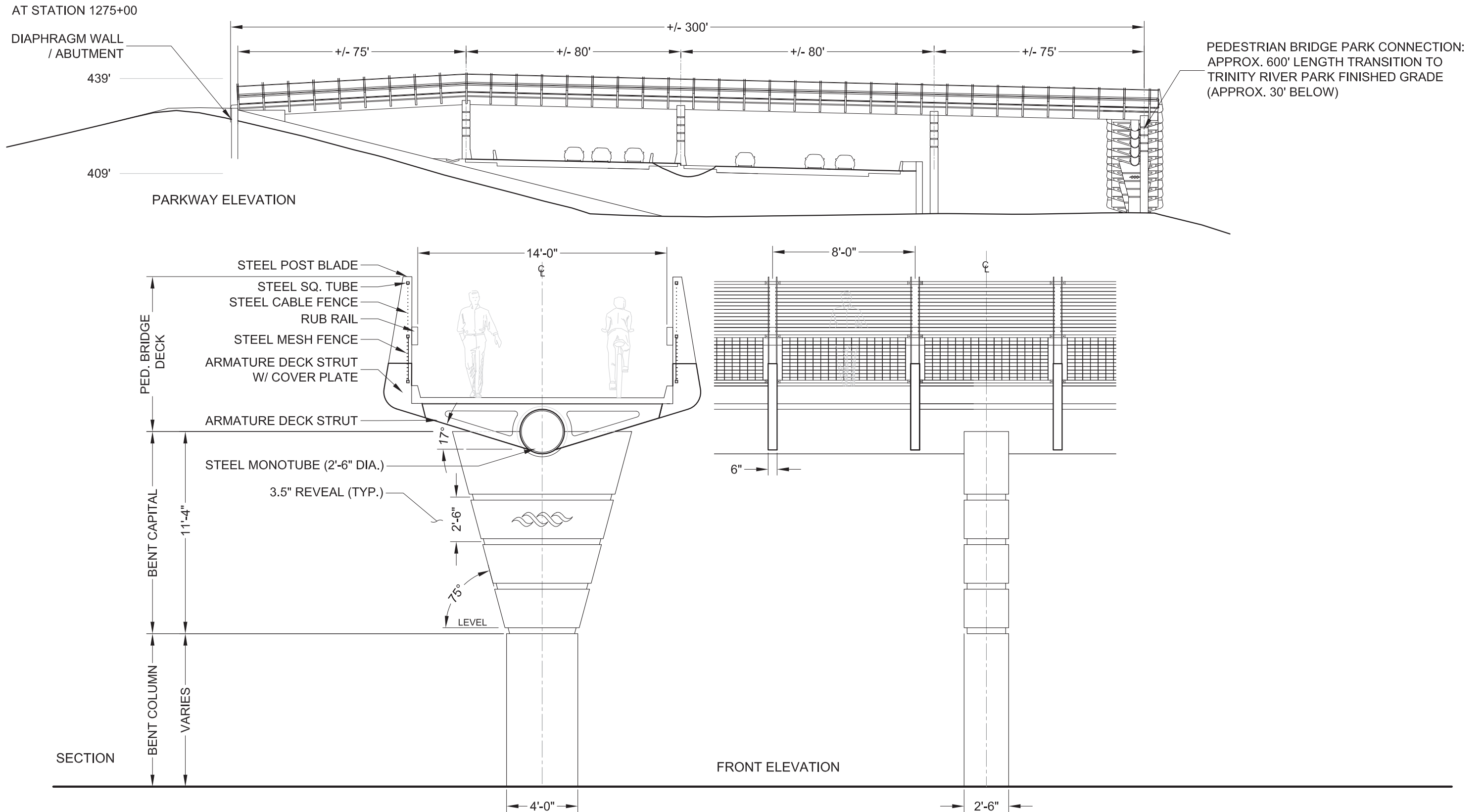
Notes:

- NTTA Design Guidelines typical bridge design to provide super structure support for the downtown overlook deck (by COD).



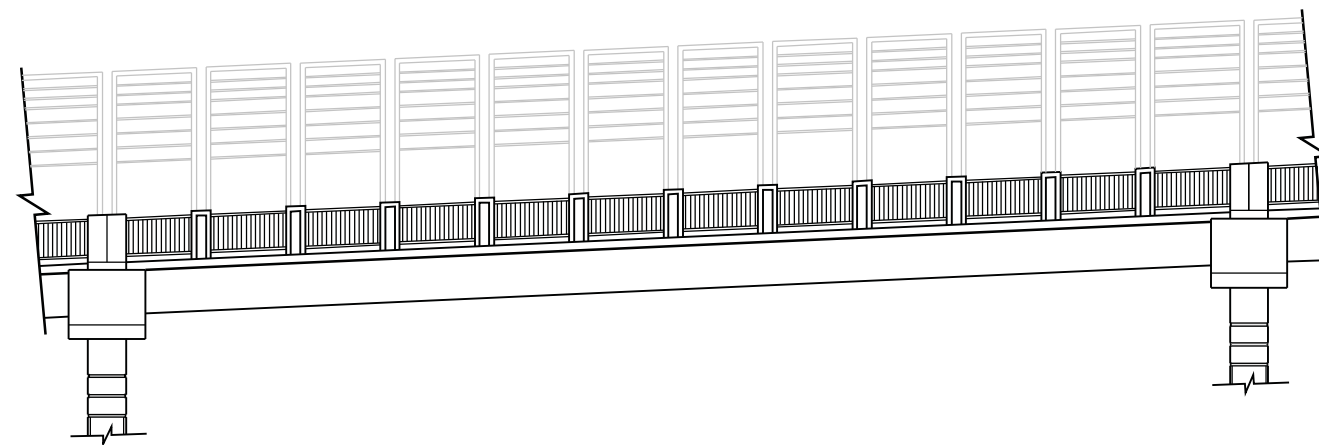
Notes:

- Pedestrian bridge to provide access to Trinity River Park near sta. 1275

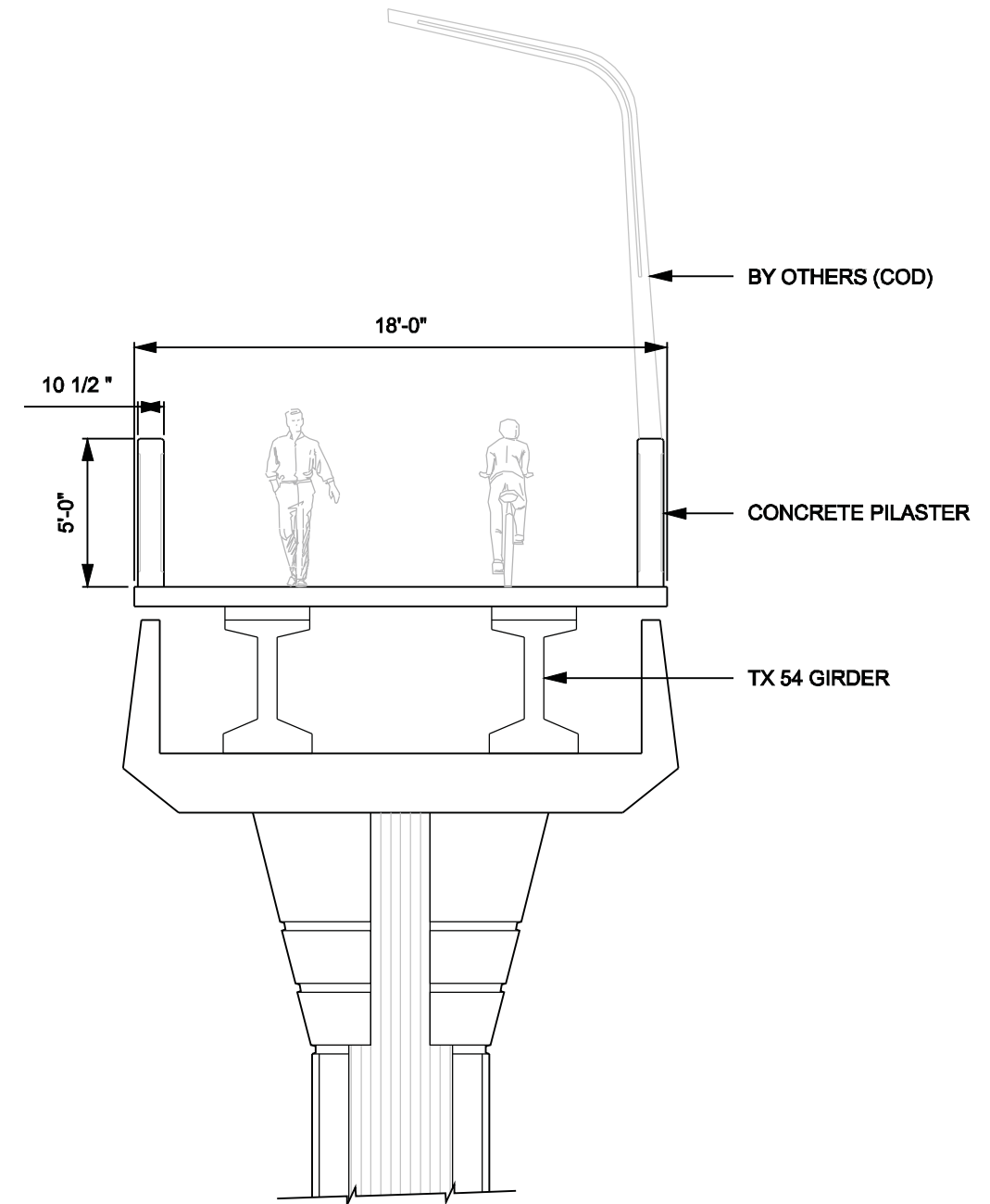


Notes:

- Houston street pedestrian bridge to provide pedestrian and emergency vehicle access from Houston street to the Trinity River Park promenade area.



RAMP ELEVATION



RAMP SECTION



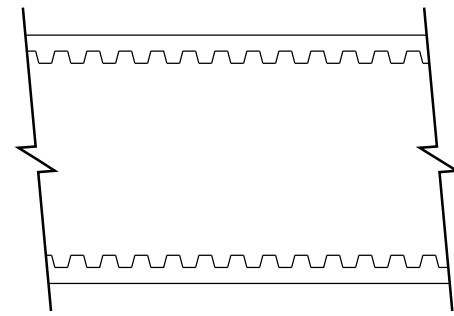
09 Main Lane Elements



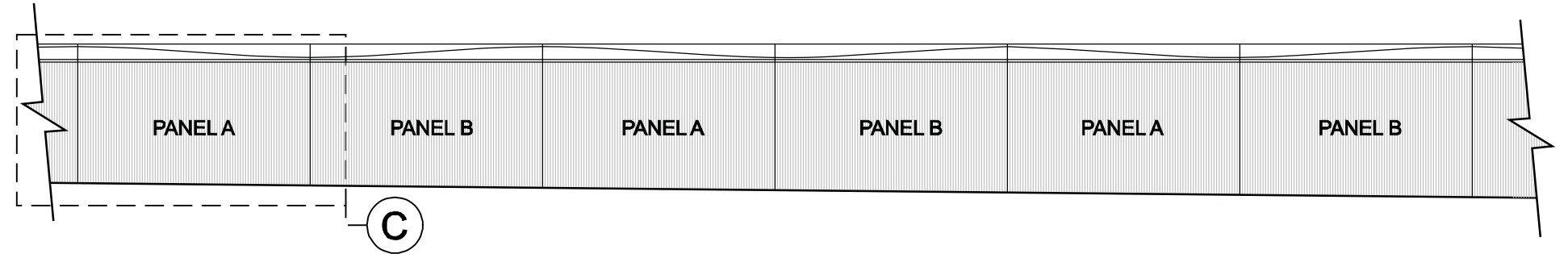
Wall Types	144-149
Traffic Barriers	150
Wall Planter	151
Sign Structures	152-155
Lighting	156-159
Camera Pole	160

*Surface treatments for mainlane structures and elements will be in accordance with the NTTA Design Guidelines for surface finish treatments.

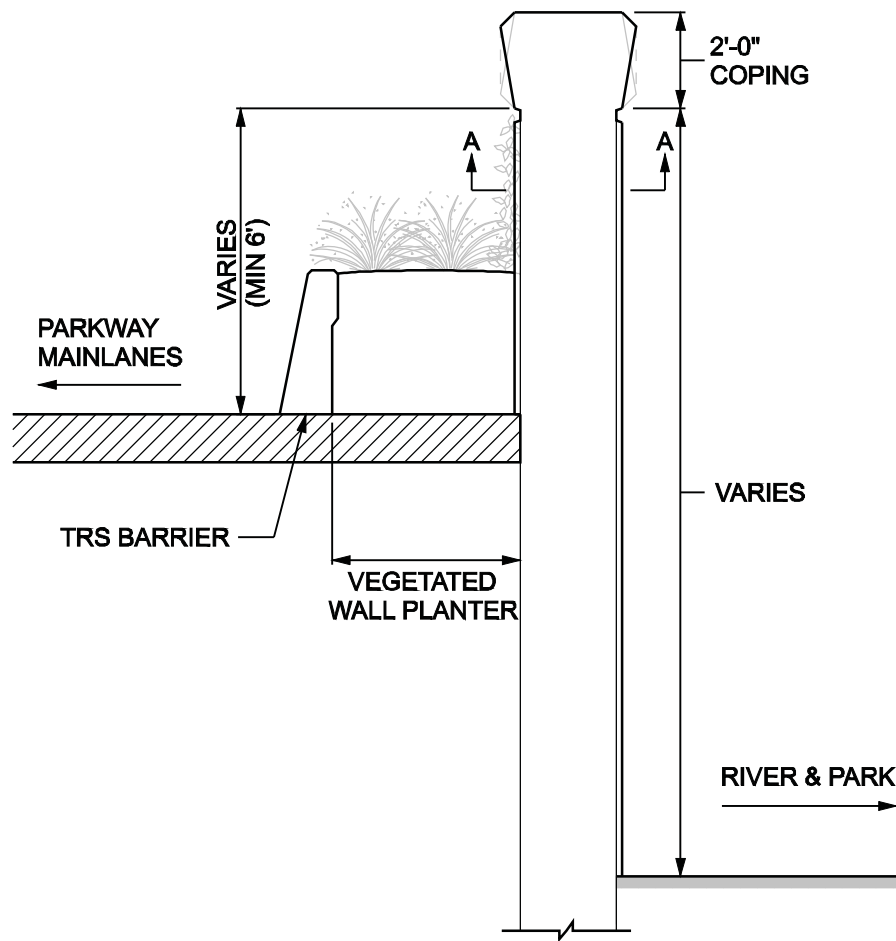




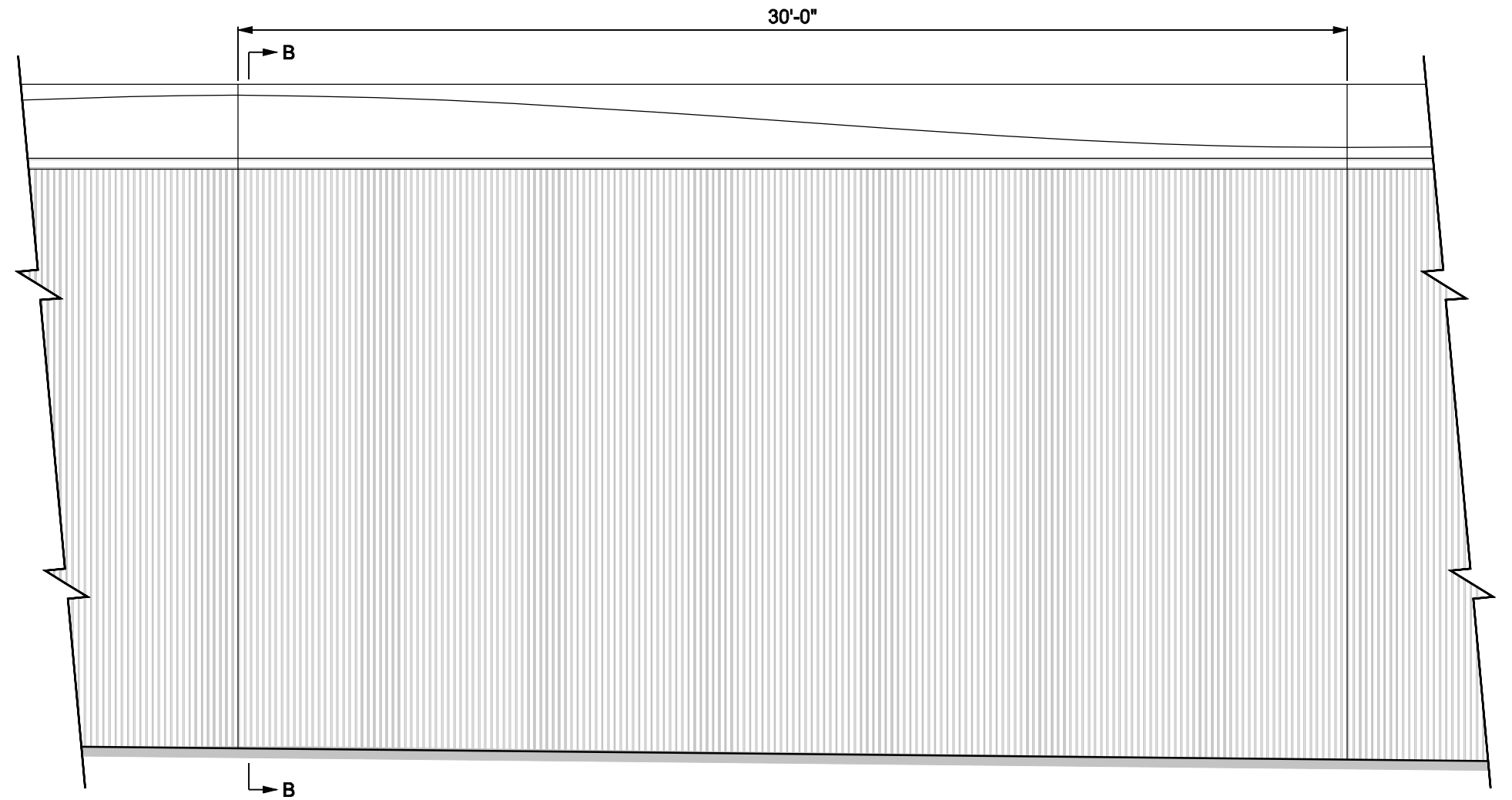
A SECTION: FLUTING
SCALE: 1/2" = 1'-0"



ELEVATION: VIEW FROM PARK & RIVER
SCALE 1:20

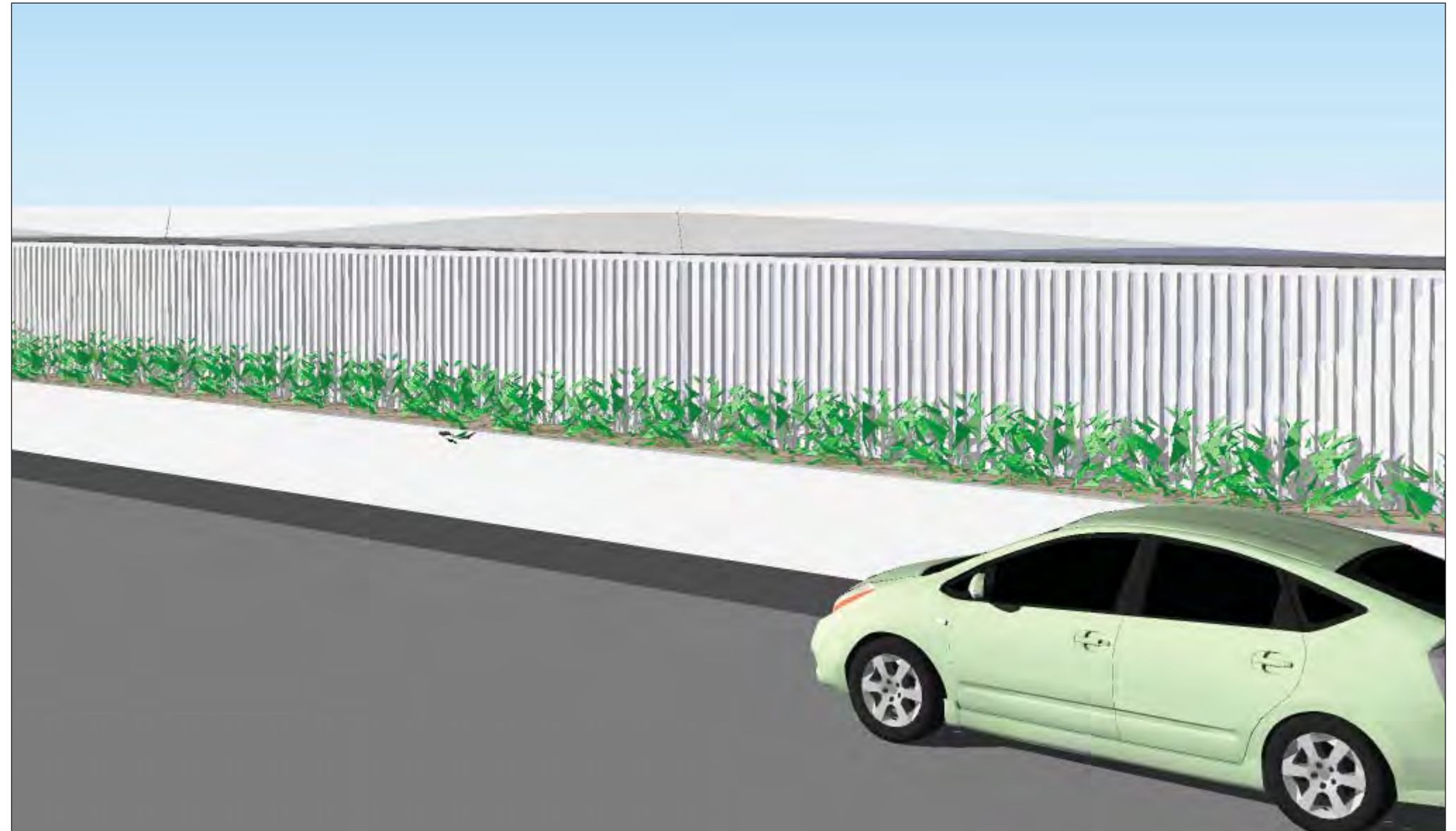
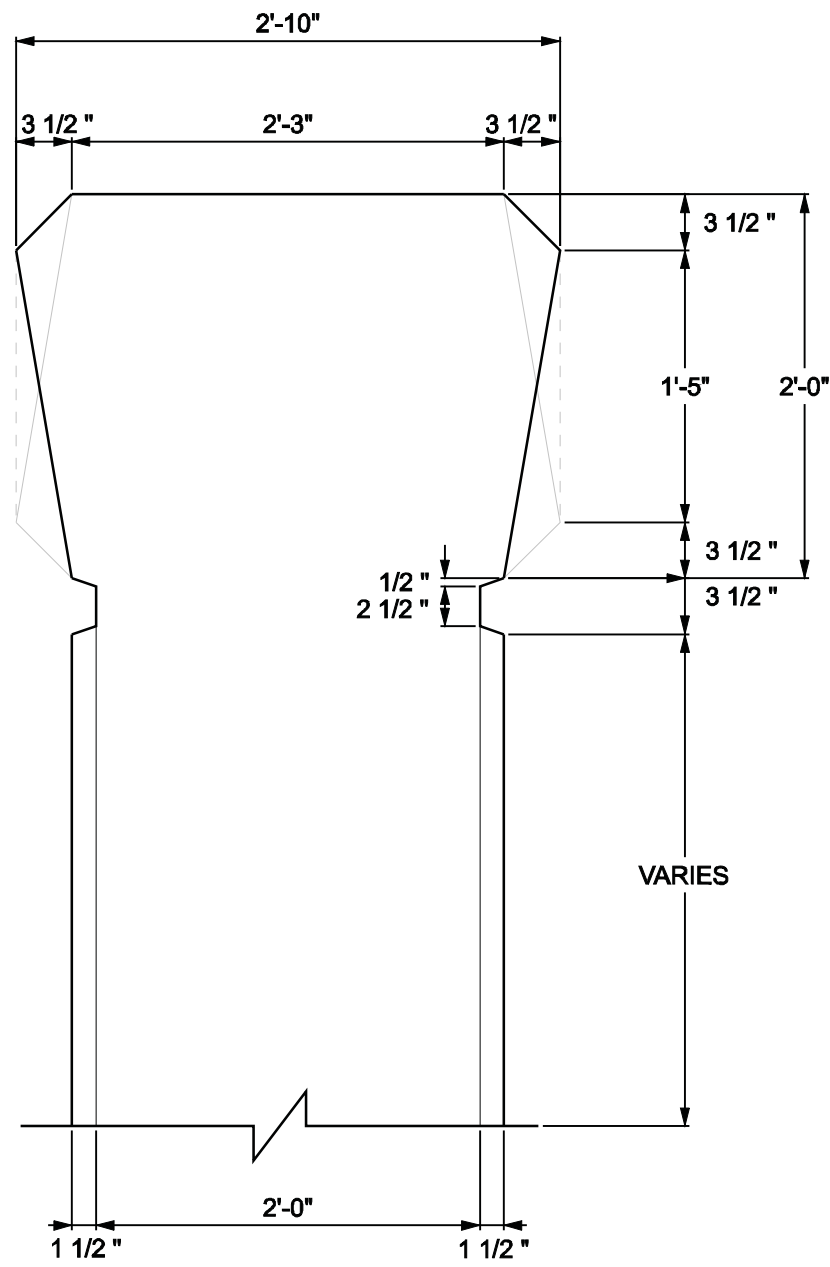


B SECTION: PLANTER & PKWY
SCALE: 1/4" = 1'-0"



C ELEVATION: VIEW FROM PARK & RIVER
SCALE: 1/4" = 1'-0"

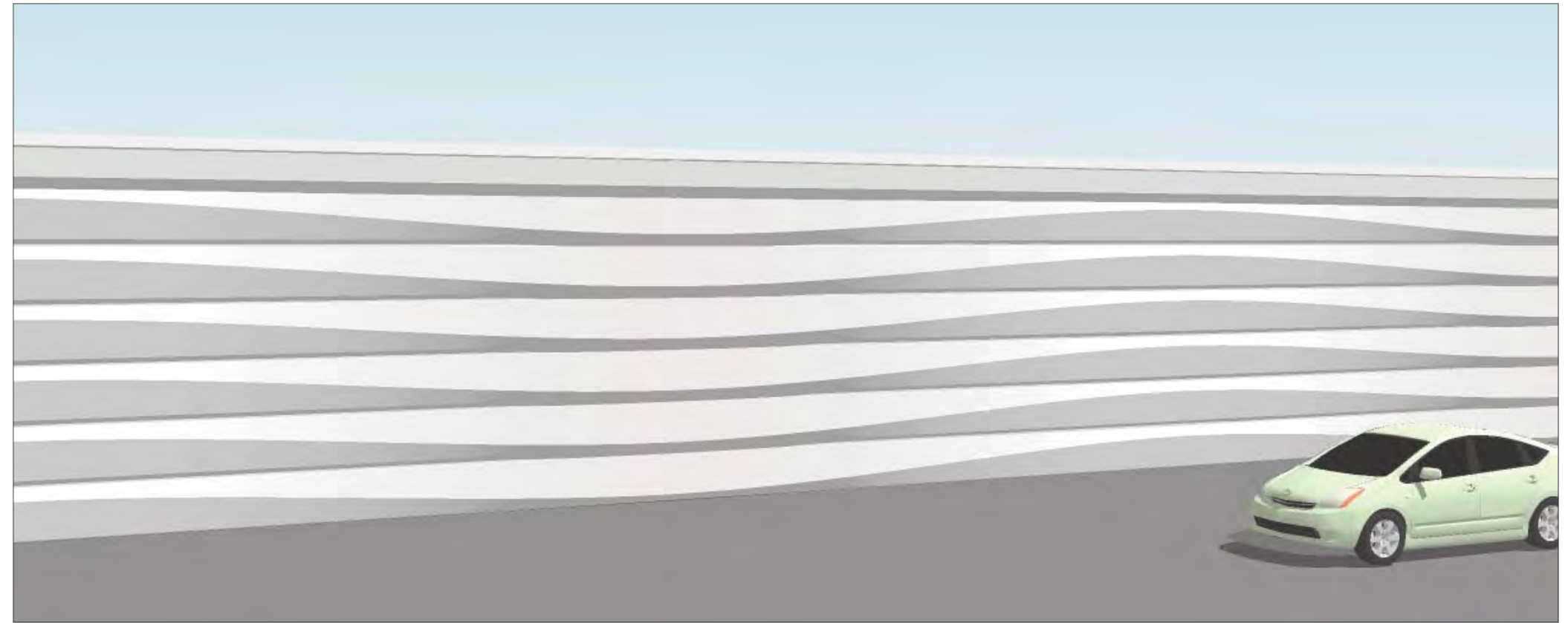
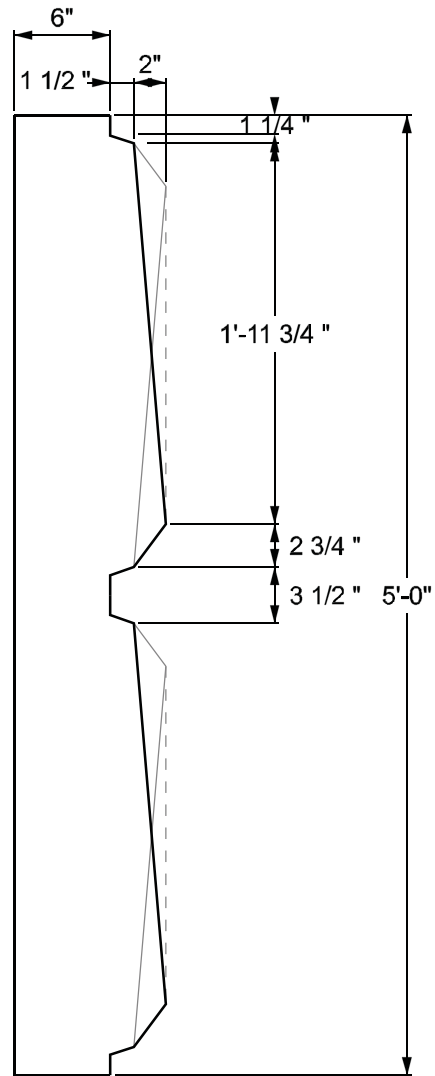




SECTION

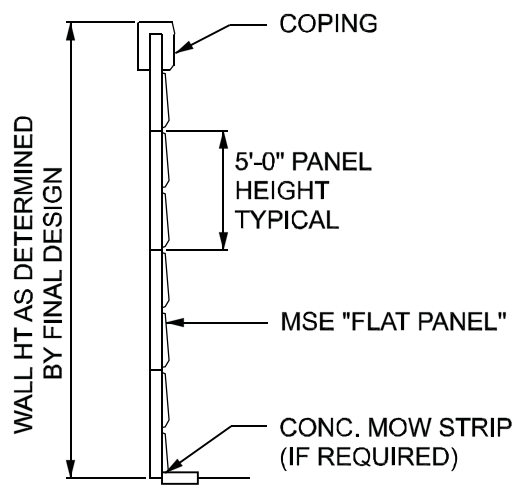
PROTOTYPE RENDERING



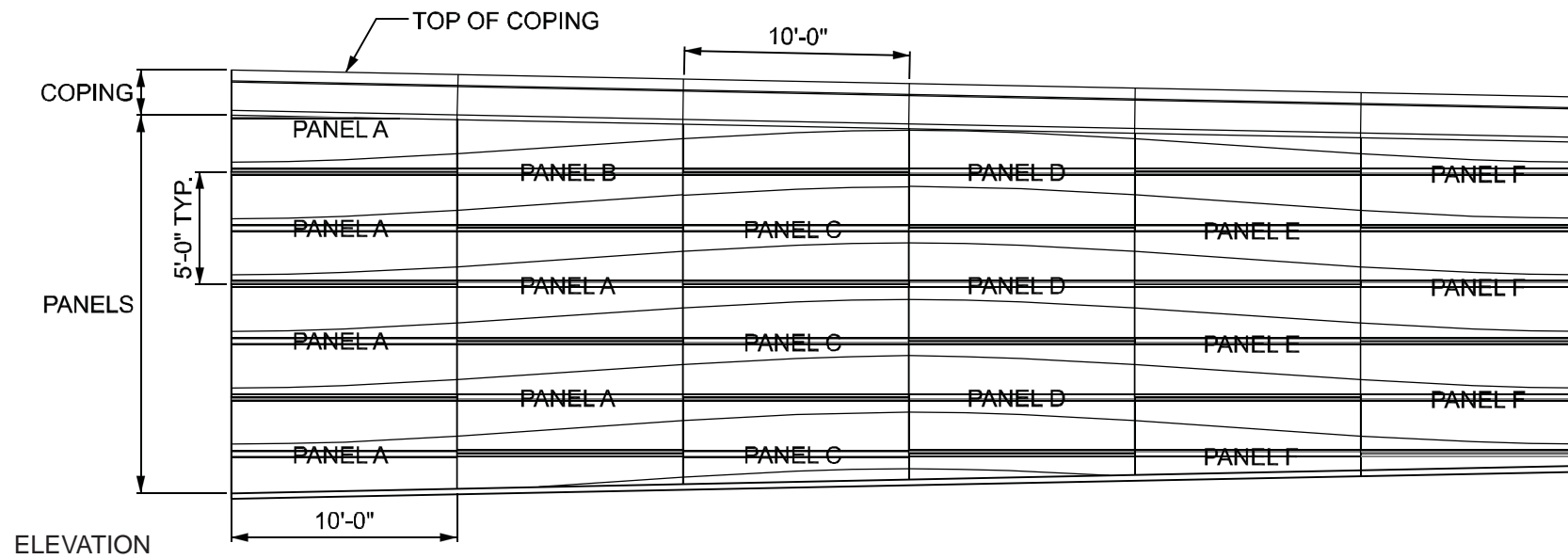


PROTOTYPE RENDERING

PANEL SECTION



WALL SECTION

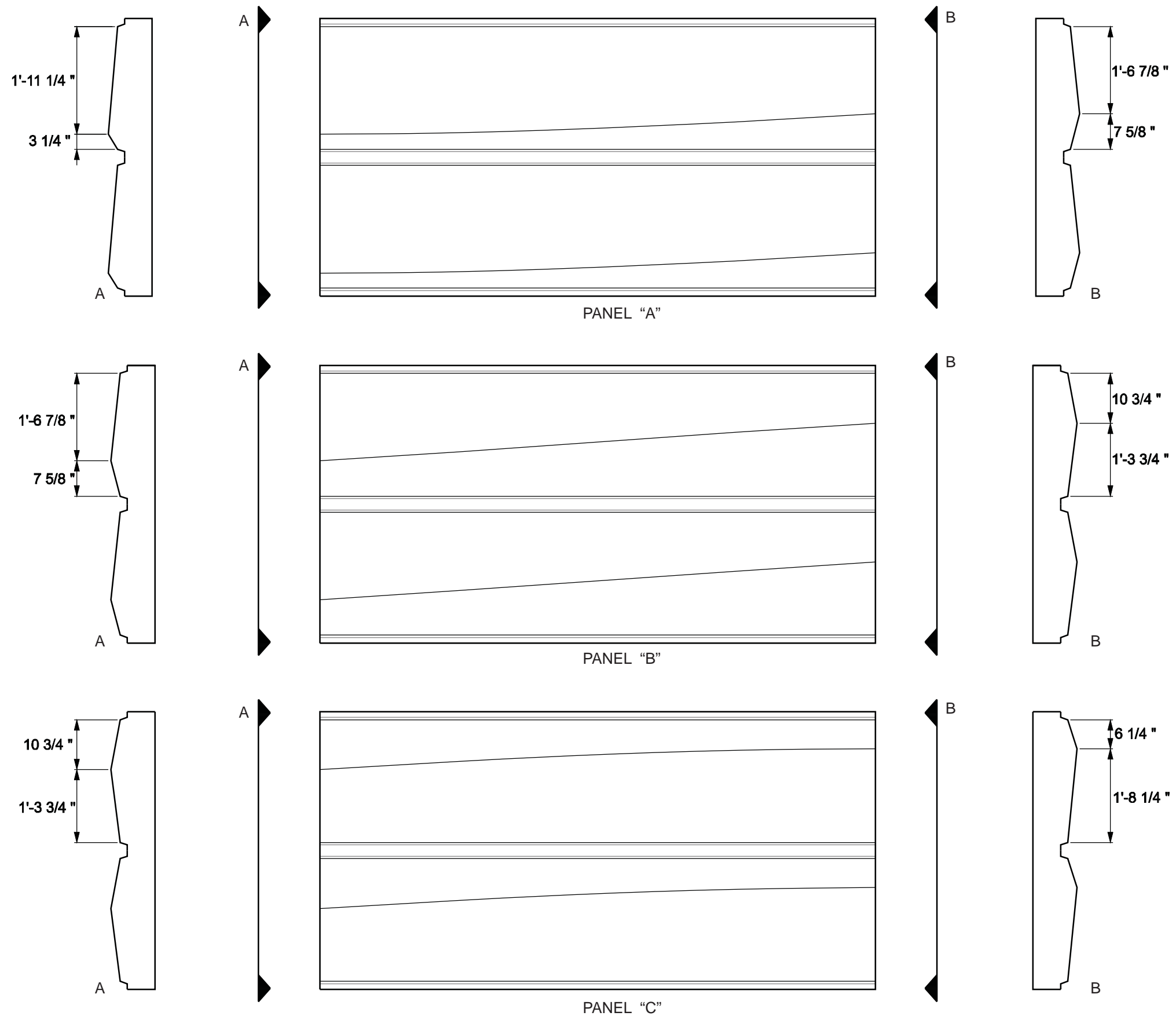


ELEVATION



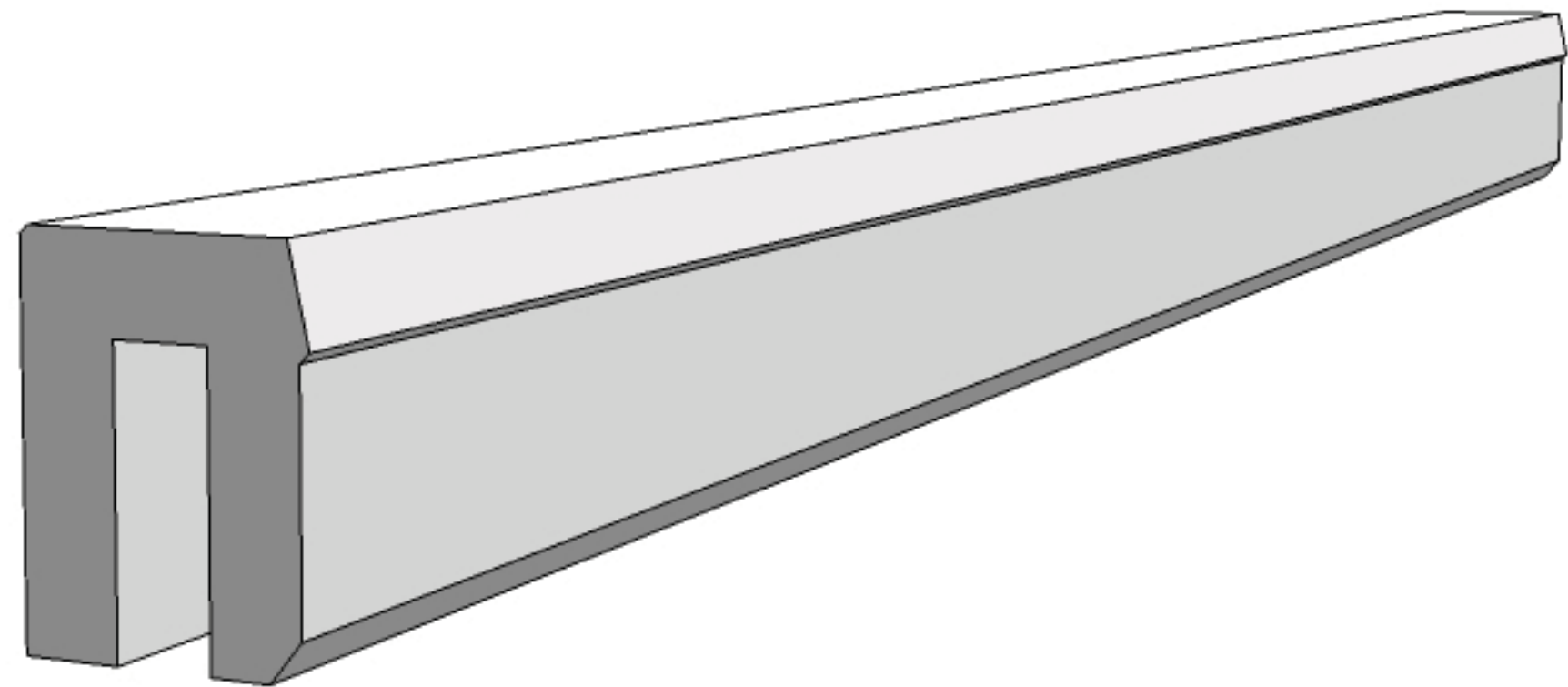
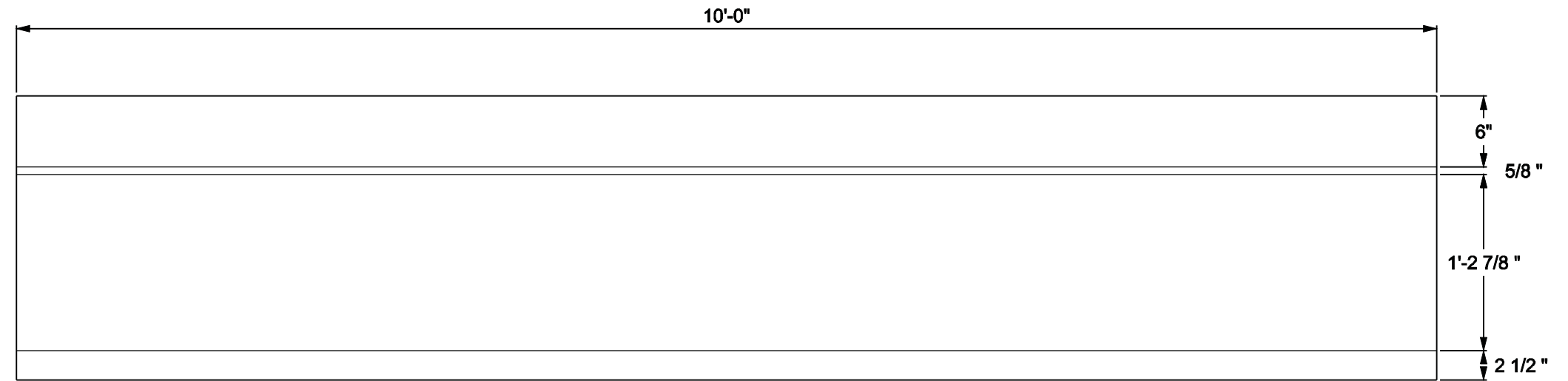
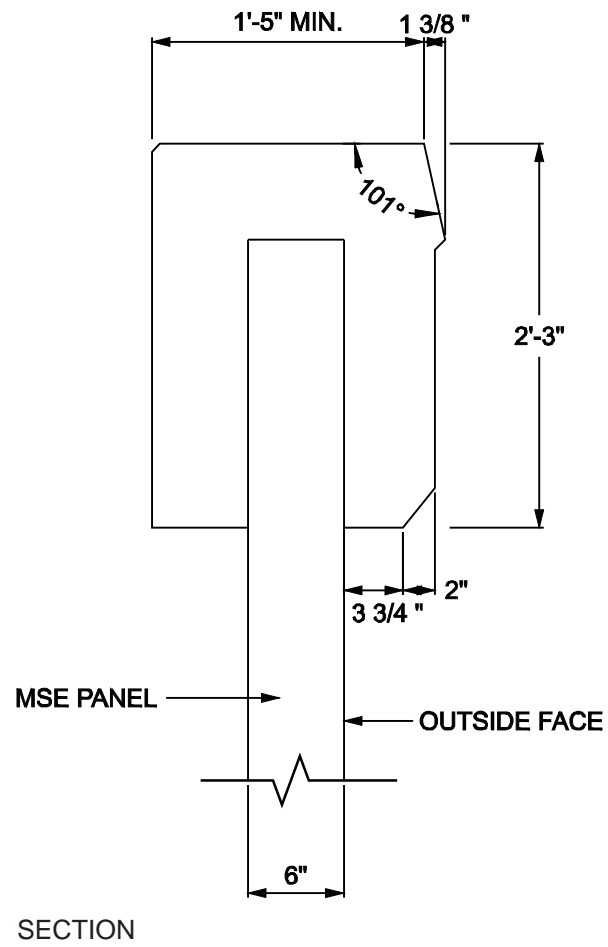
Notes:

- Design for panel D, E, and F shall be the mirror image of panel A, B, and C respectively.



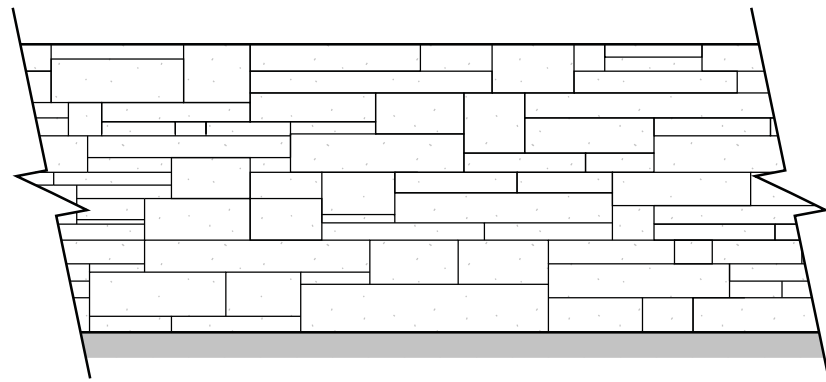
Notes:

- Retaining wall coping to match NTTA design guideline standard coping.

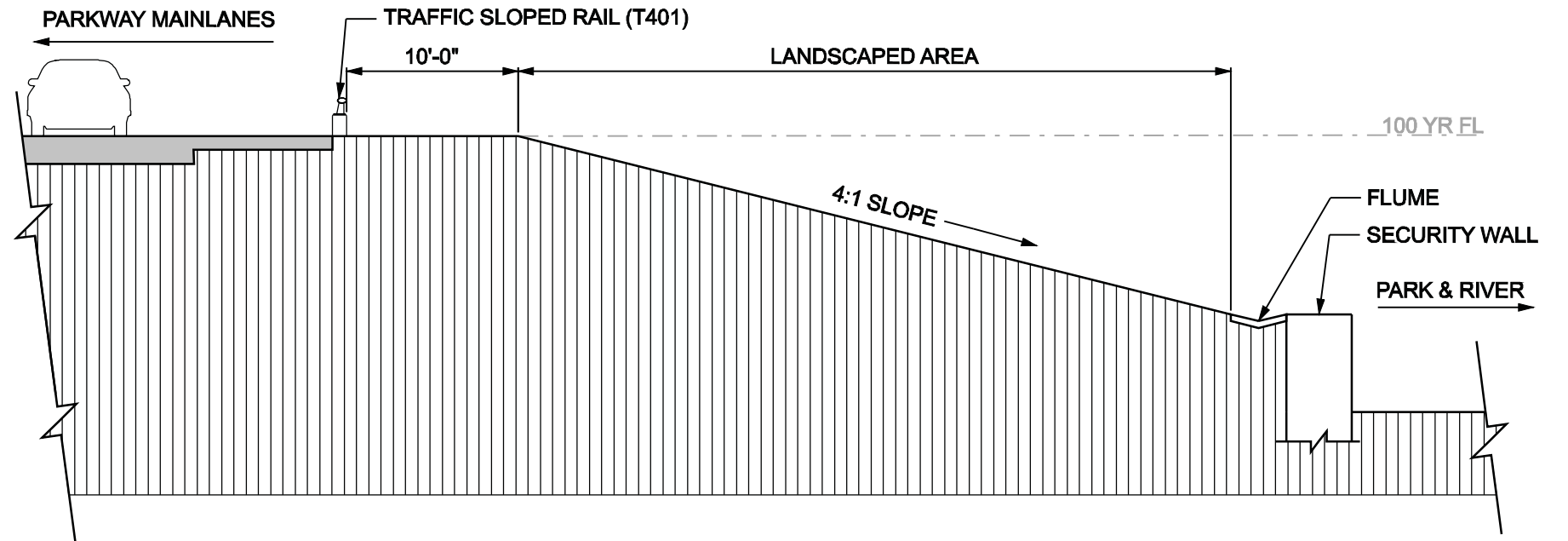


Notes:

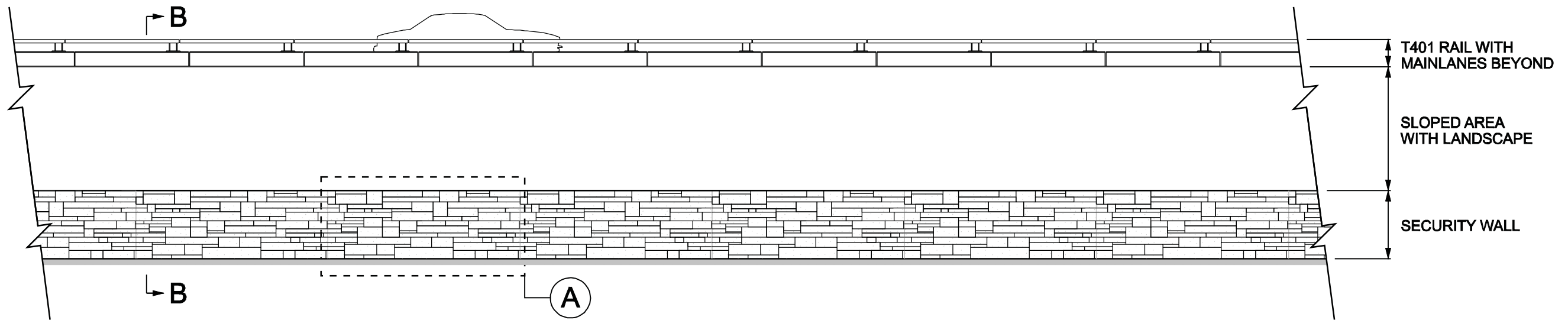
- Security wall design may be cast in place or modular block system with ashlar stone face finish.



A ELEVATION: WALL FACADE
SCALE: 1" = 4'-0"



B SECTION B - B
SCALE 1:10

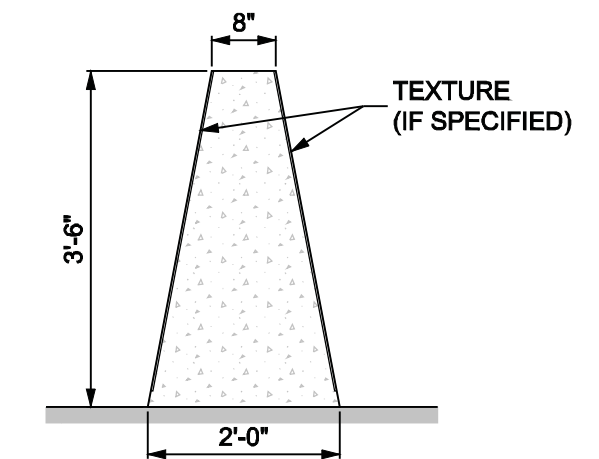
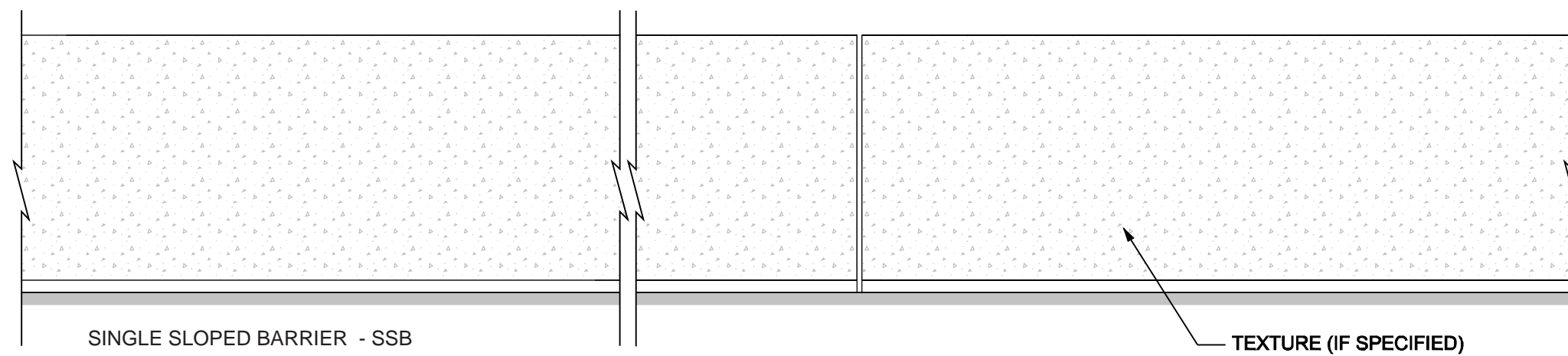
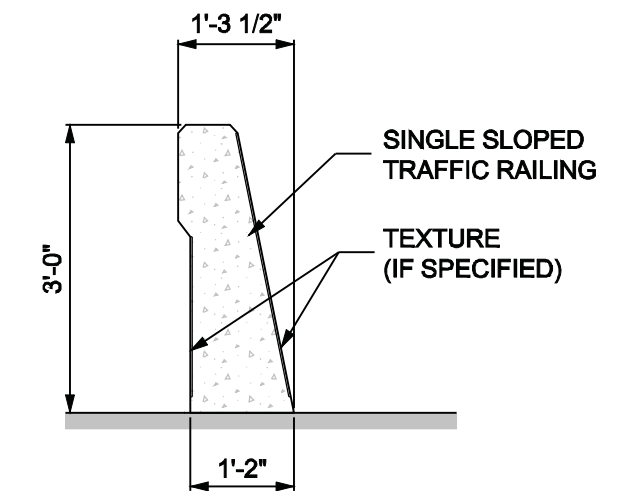
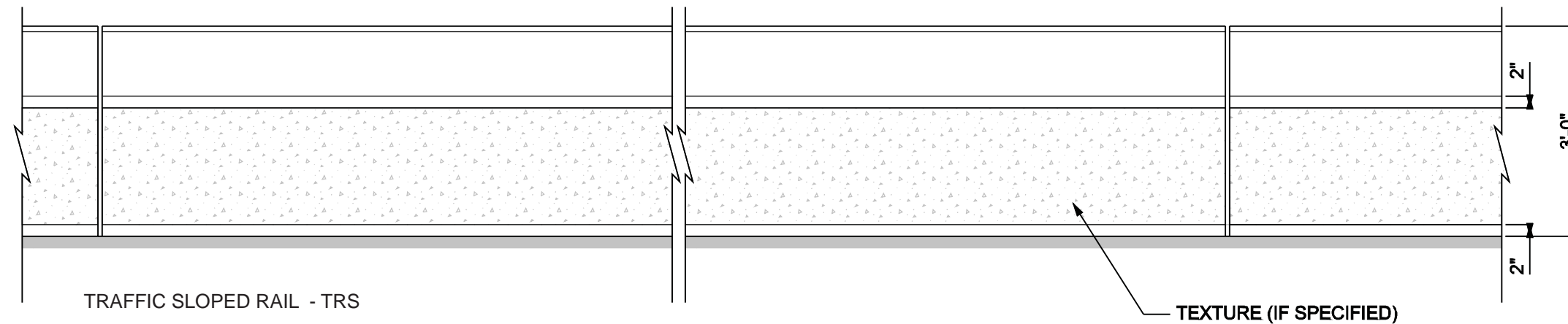
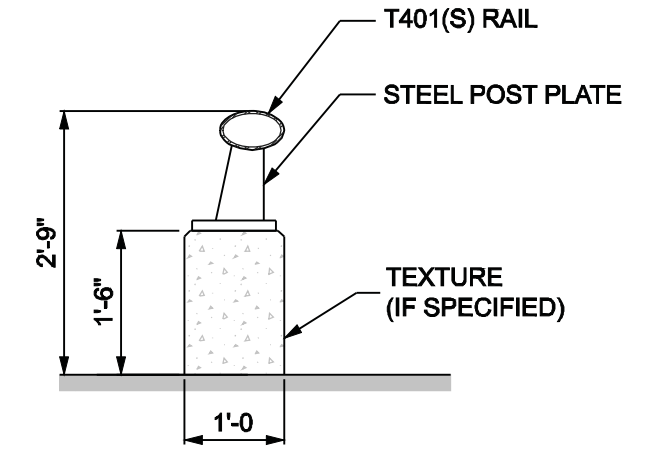
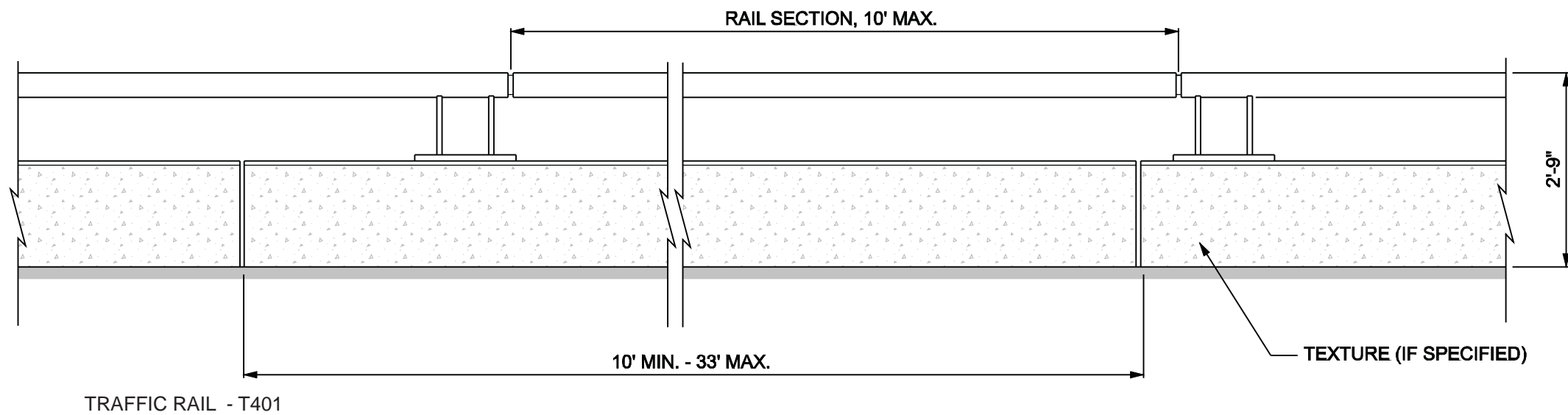


C ELEVATION: VIEW FROM PARK & RIVER
SCALE 1:10



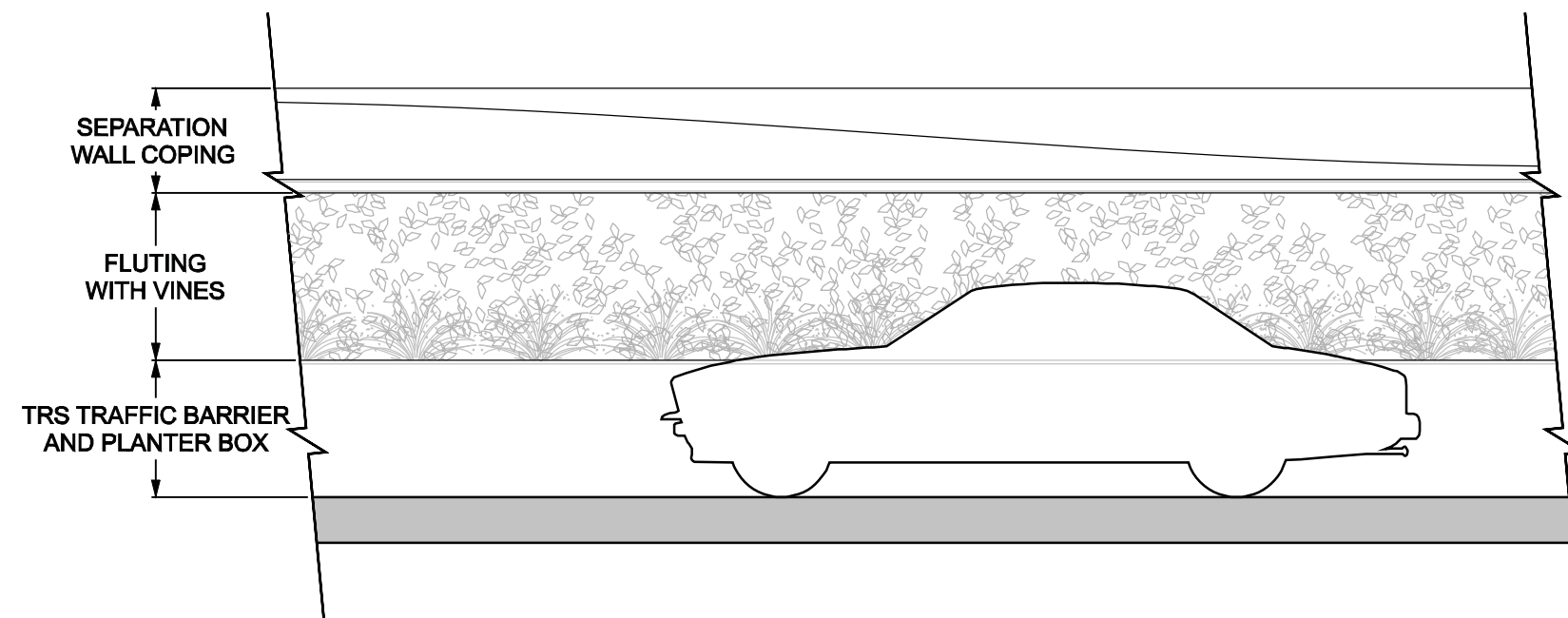
Notes:

- Traffic sloped rail to match NTTA standard for TRS
- Single slope barrier to match TxDOT standard for SSCB
- When traffic barrier is attached to coping, the joint spacings shall match.
- A consistent matching texture type is required on each barrier and barrier face where texture is specified.

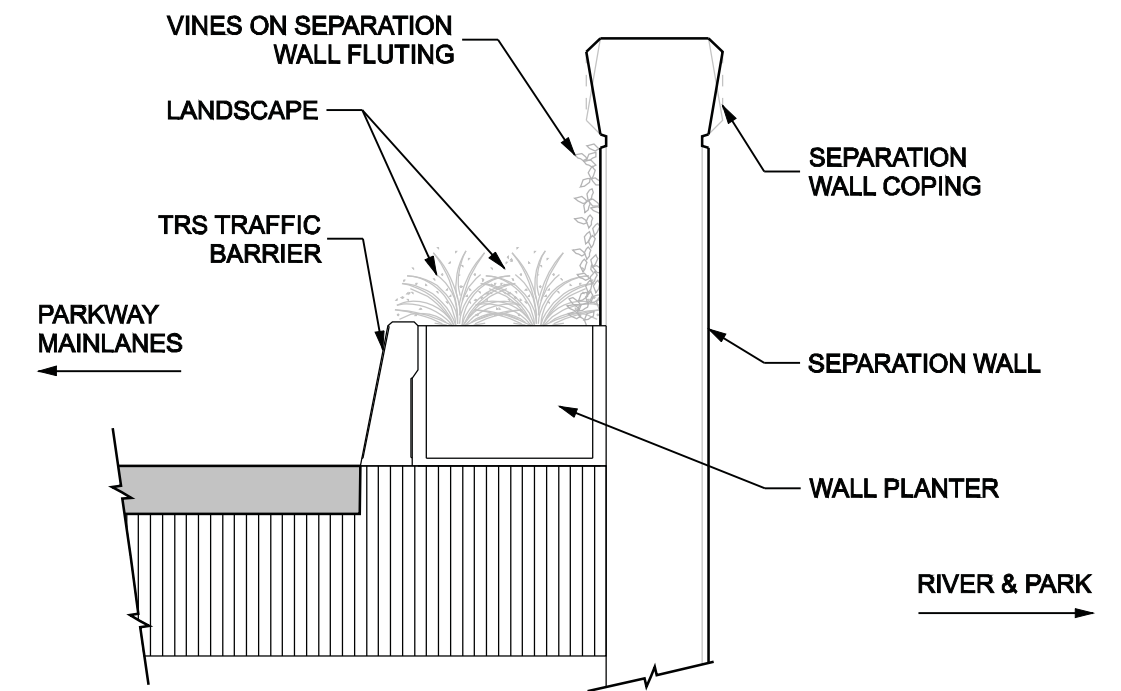


Notes:

- Wall planter shall provide internal, continuous irrigation and drainage.
- TRS traffic barrier shall incorporate waterproofing and water stops at rail joints.



ELEVATION

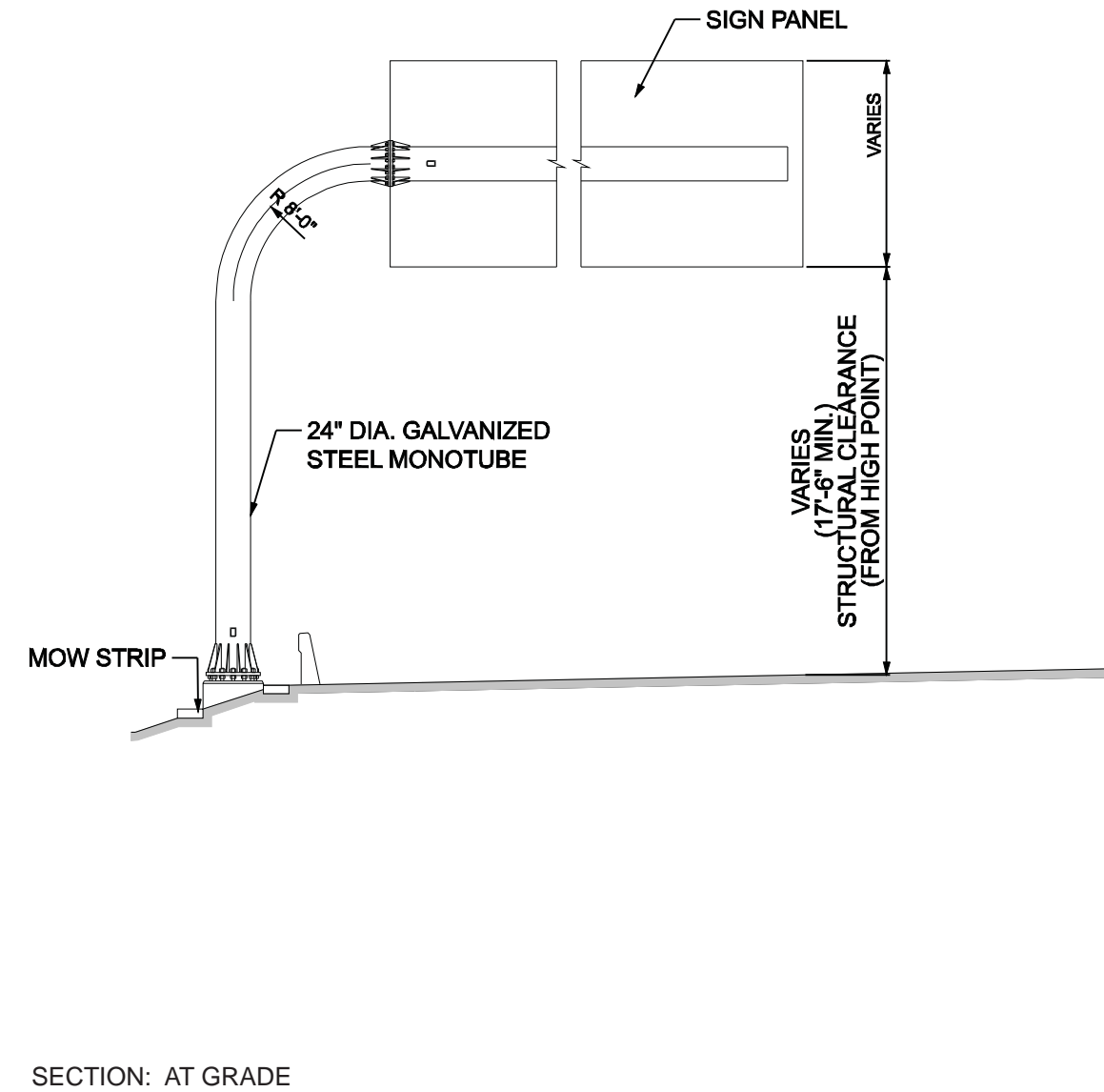
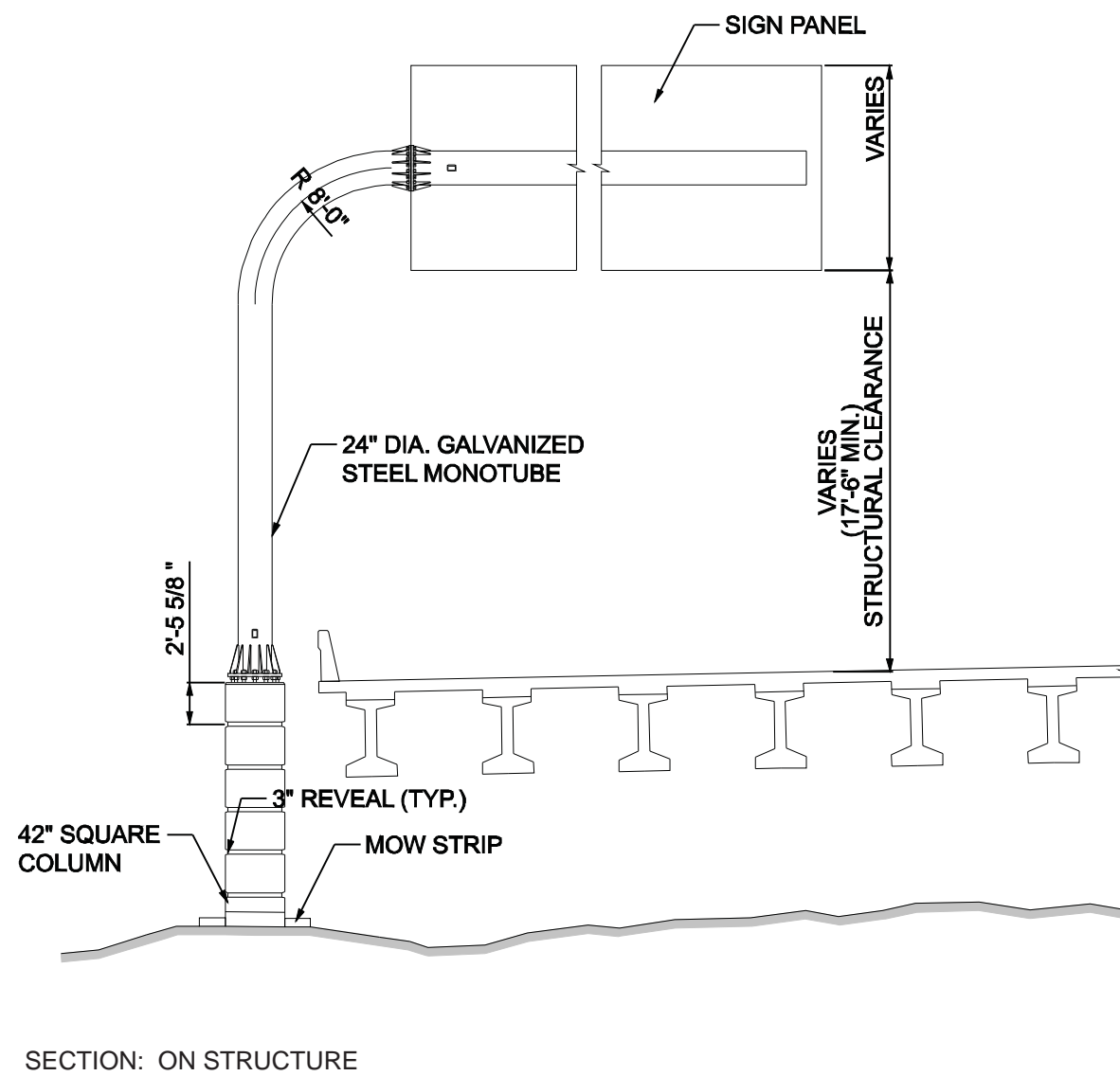


SECTION



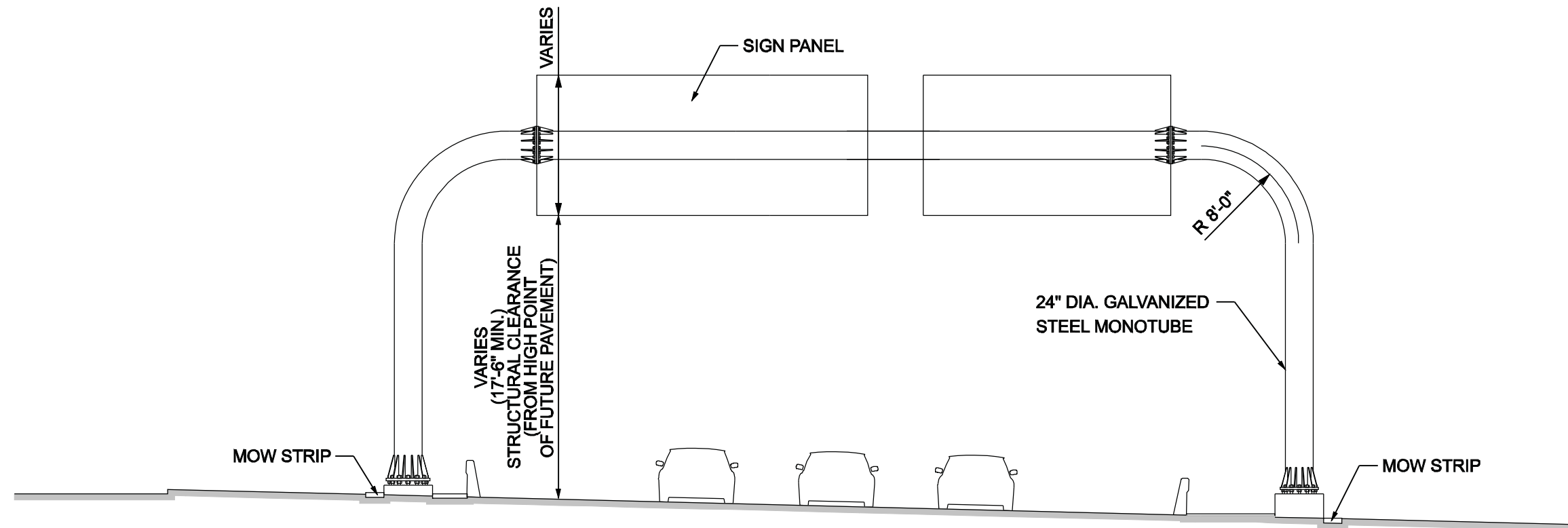
Notes:

- Sign height shown is for standard sign panel mounting only. Parent sign if mounted with any other parent signs on the same structure, shall match the tallest sign on that structure and align equally.
- Maximum cantilever is 40'.



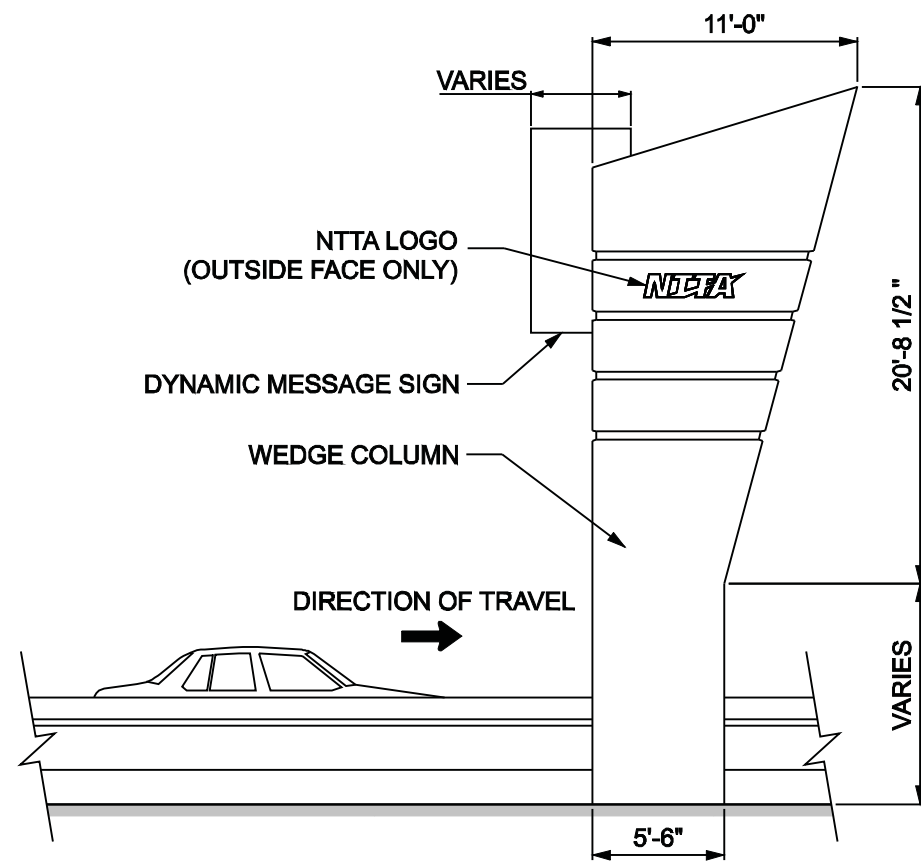
Notes:

- Sign height shown is for standard sign panel mounting only. Parent sign if mounted with any other parent signs on the same structure, shall match the tallest sign on that structure and align equally.

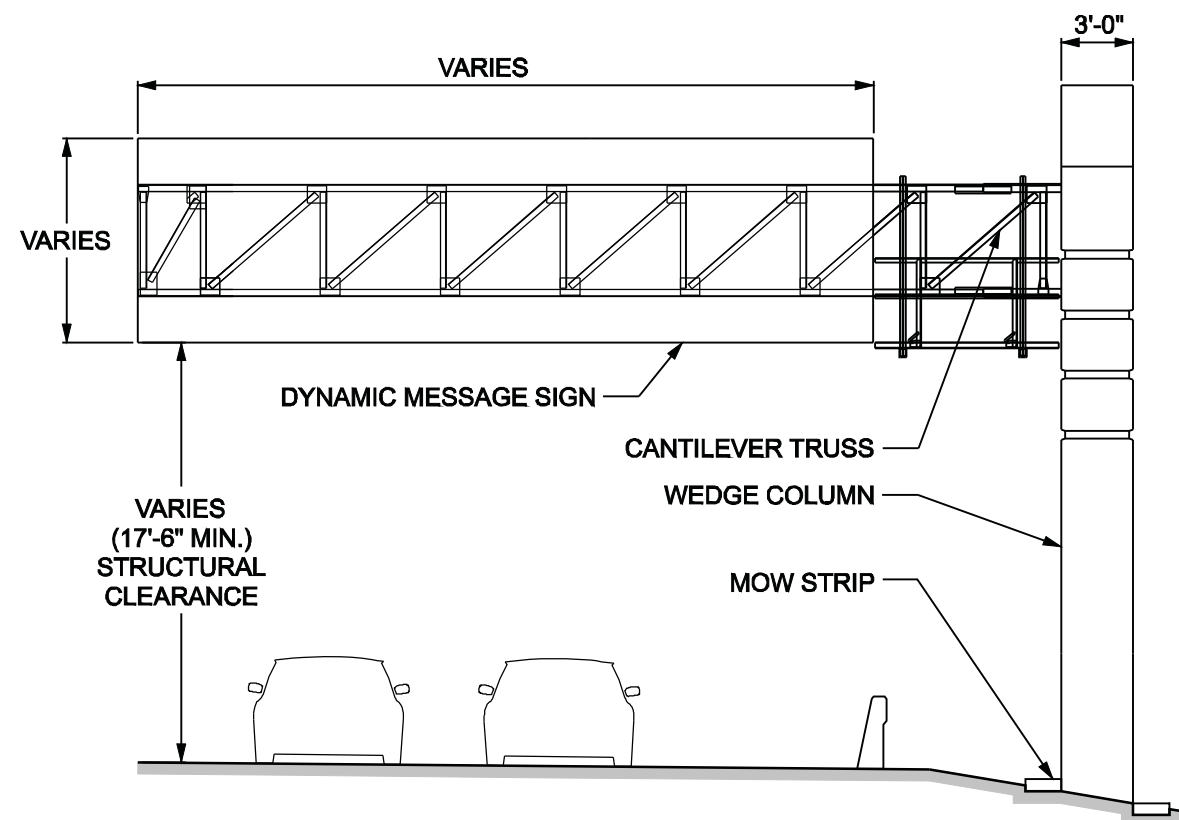


SECTION





ELEVATION



SECTION



Notes:

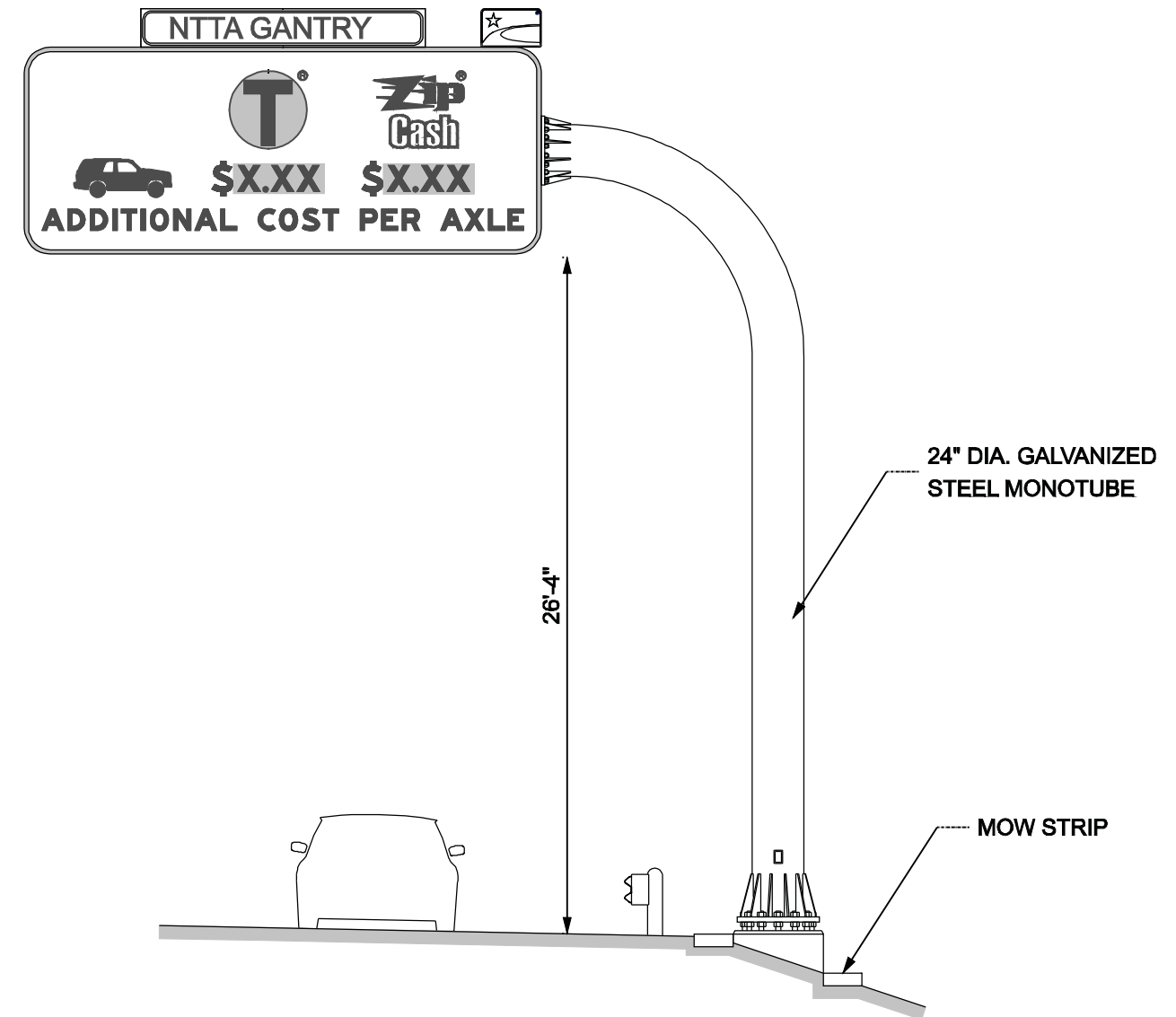
- Cantilever monotube mounted sign located approximately 1000 feet upstream from gantry.
- Ground mounted sign located at a minimum and typical 200 feet from the gantry to allow for the design flexibility and effective separation from main lane exit sign structures.
- Dynamic pricing insets are LED mounted on face of sign or through extruded panels..
- Top sign to be designed by DSE per NTTA policy.



ELEVATION: TOLL RATE SIGN



ELEVATION: TOLL RATE SIGN (TOLL ROAD)

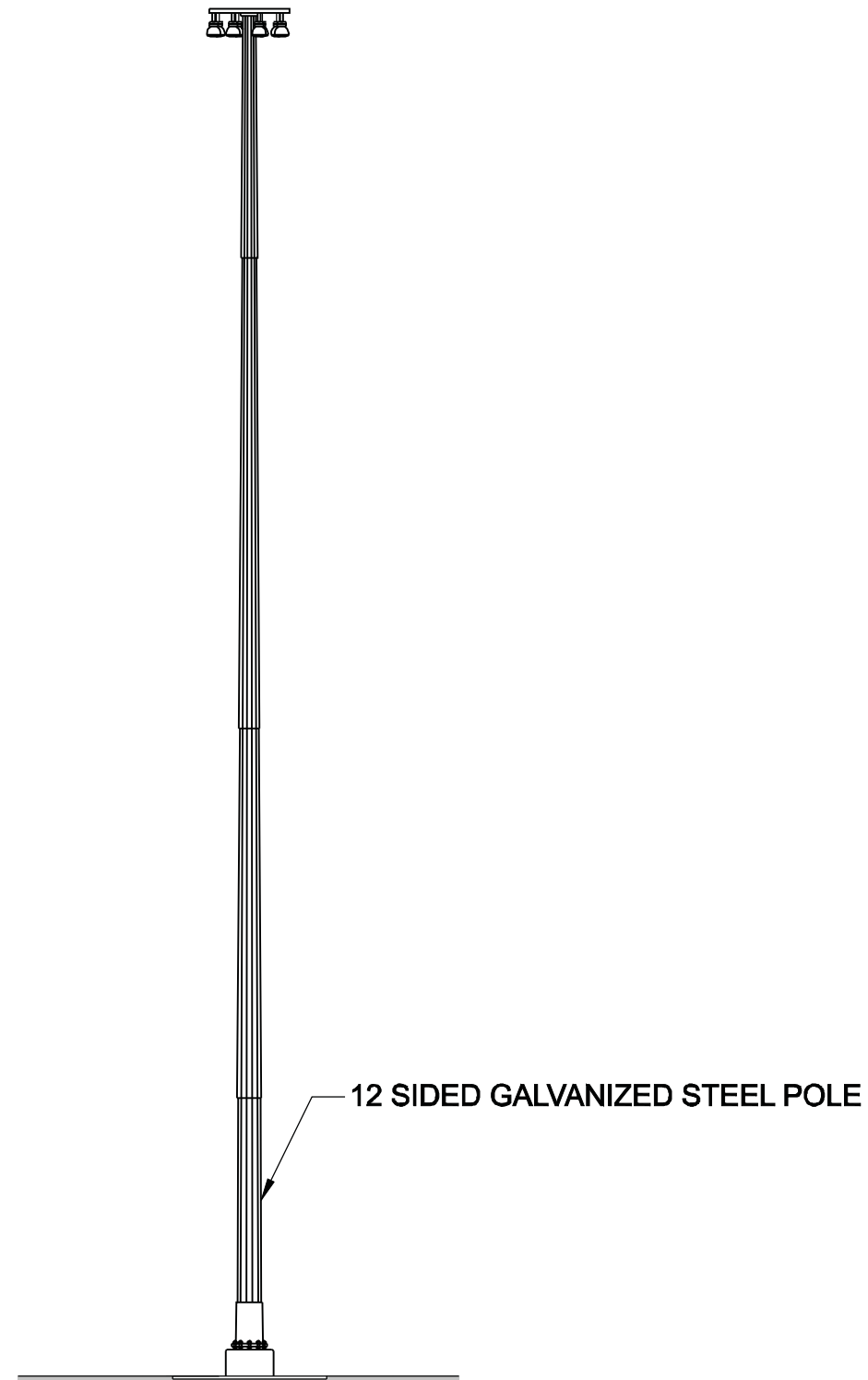


ELEVATION: TOLL RATE SIGN ON MONOTUBE



Notes:

- High mast illumination poles located primarily in interchange conditions.
(Other corridor lighting conditions may apply)
- Coordinate with adjacent municipality on ordinance compliance.
- Pole height to be 125', 150', or 175' height.
- Refer to TxDot HMIP standards.
- Pole height and detection to comply with FAA Regulations. (If applicable)

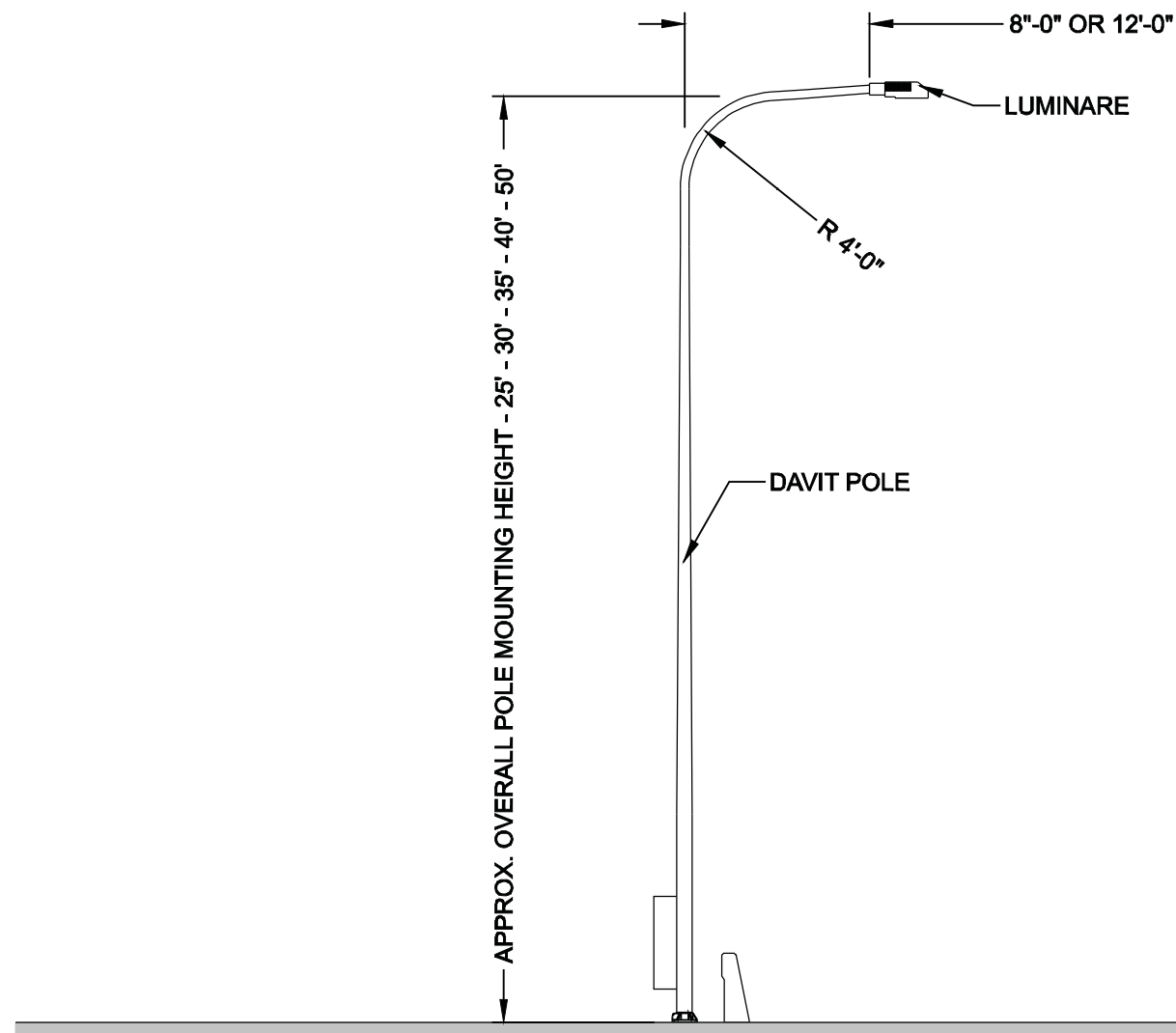


ELEVATION

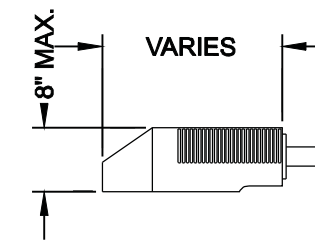


Notes:

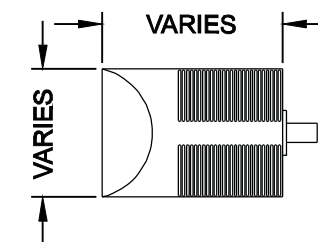
- Roadway lighting to be provided on outside edge of mainlane only.
(No center mounted roadway lighting)
- House-side shield hardware to be installed on fixture where applicable.



LUMINAIRE
TYPE: LOW PROFILE (NO GREATER THAN 8")
FIXTURE: FLAT LENS WITH FULL CUTOFF
FINISH: PLATINUM SILVER COLOR
OR APPROVED EQUAL



SIDE VIEW



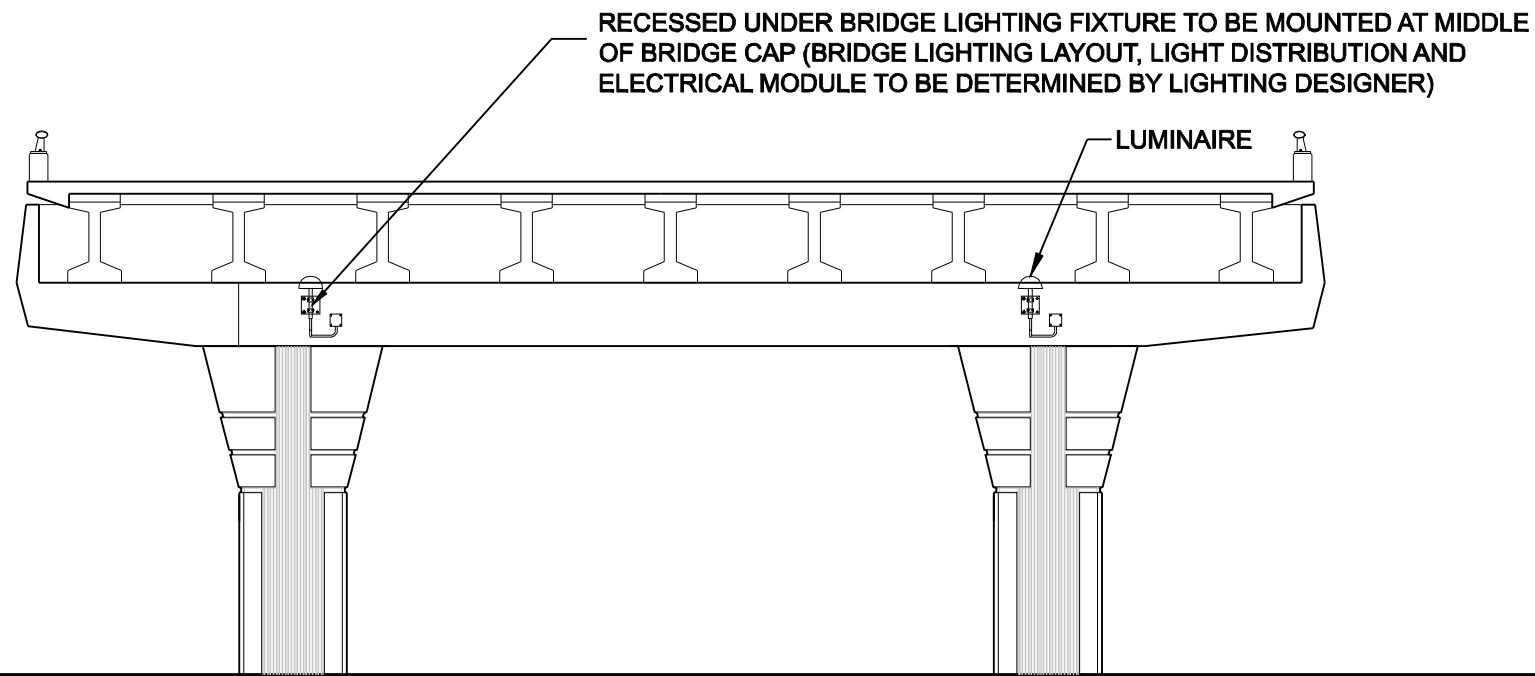
TOP VIEW

ELEVATION

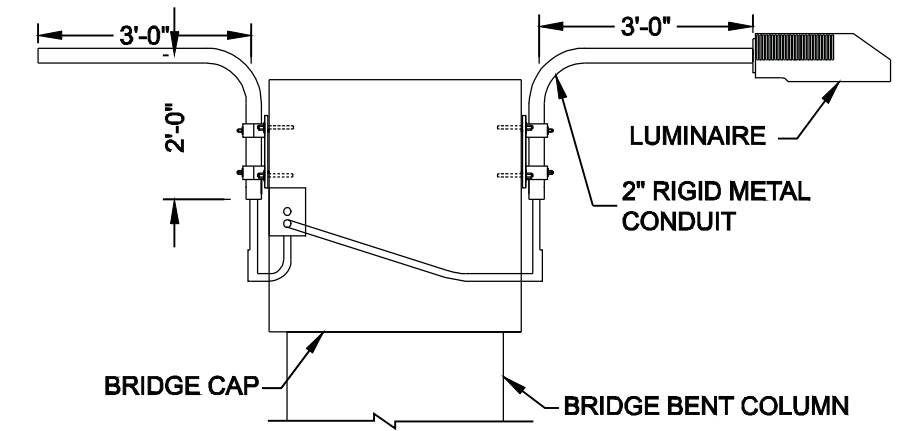


Notes:

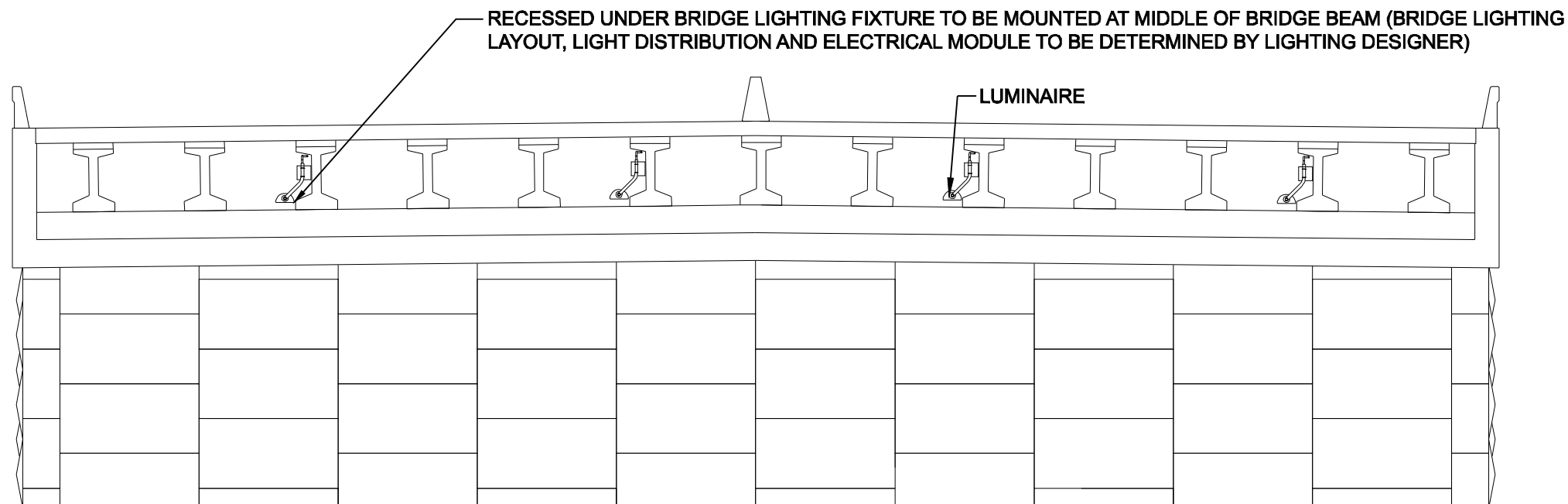
- Bridge bent mounting is the preferred attachment location. Bridge abutment mounting should only be used when span lengths are too great to allow for adequate illumination.



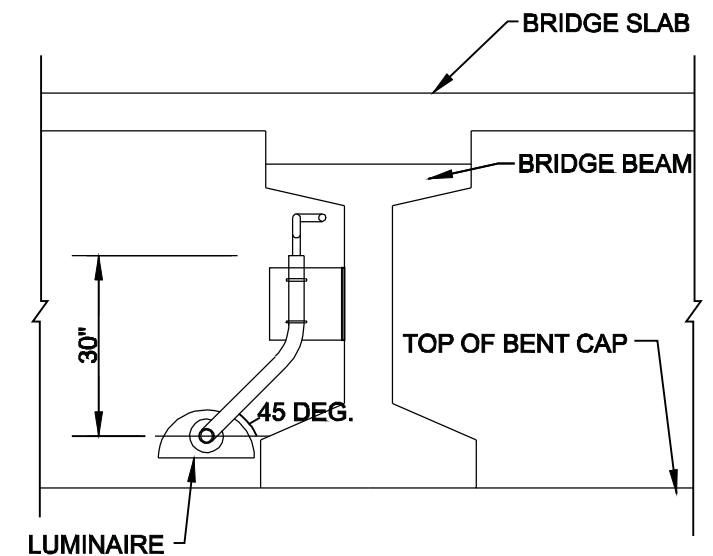
ELEVATION AT BRIDGE BENT



BRIDGE BENT LIGHTING



ELEVATION AT BRIDGE ABUTMENT

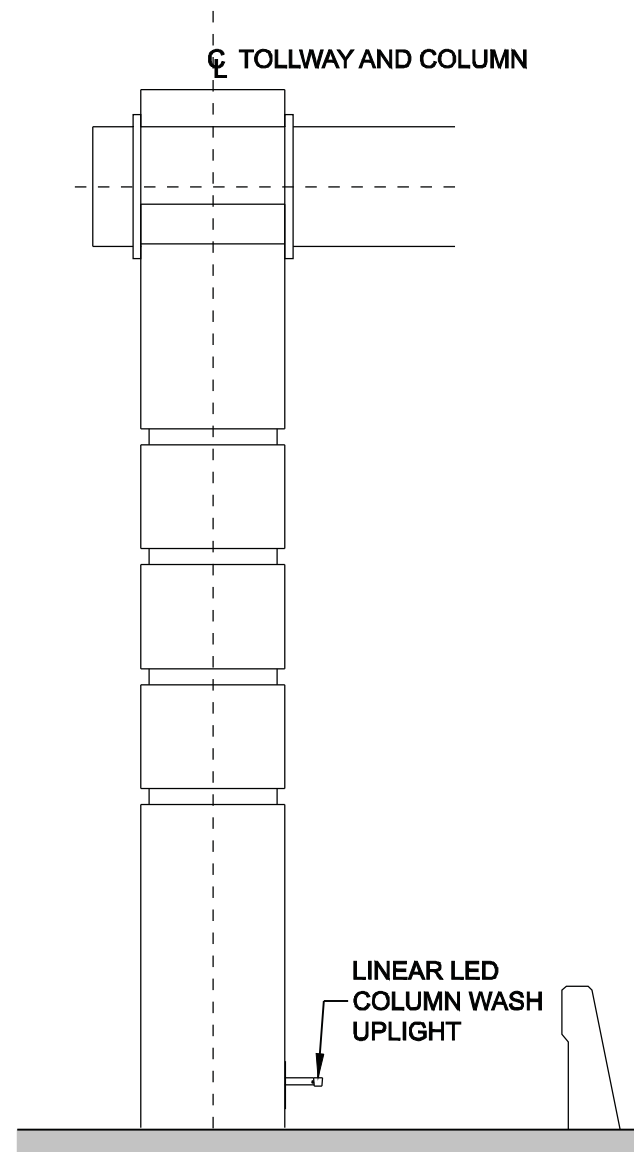


ABUTMENT LIGHTING

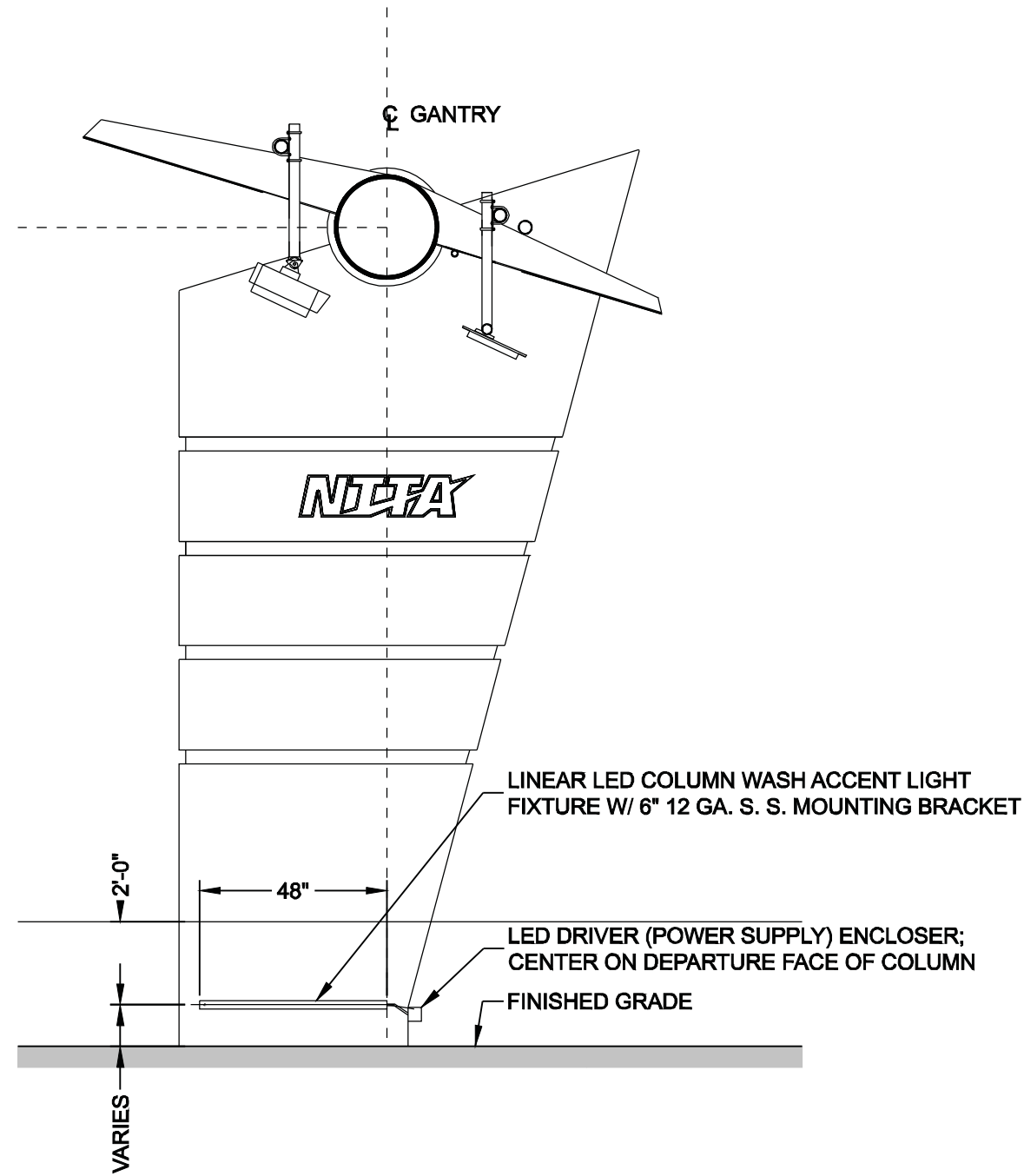


Notes:

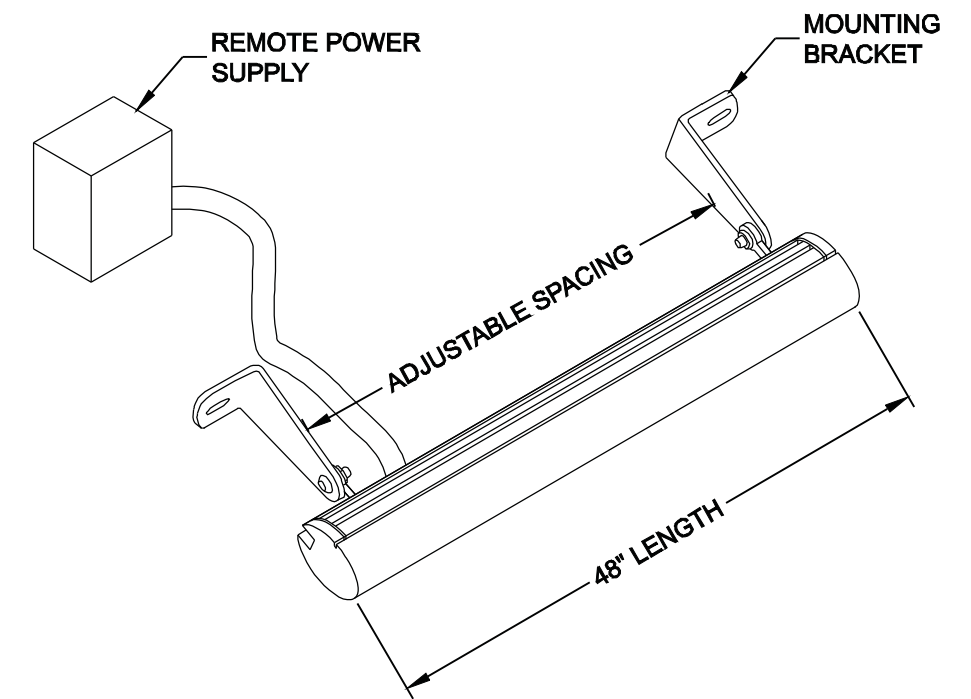
- LED column was accent light intended for decorative accent light to gantry column.
- Mounting height varies upon site conditions and gantry column base height.
- Coordinate with adjacent municipality on adherence to dark sky policy.
- 48" linear LED column wash uplight applied to both mainlane and ramp gantry columns.



ELEVATION: COLUMN UPLIGHT

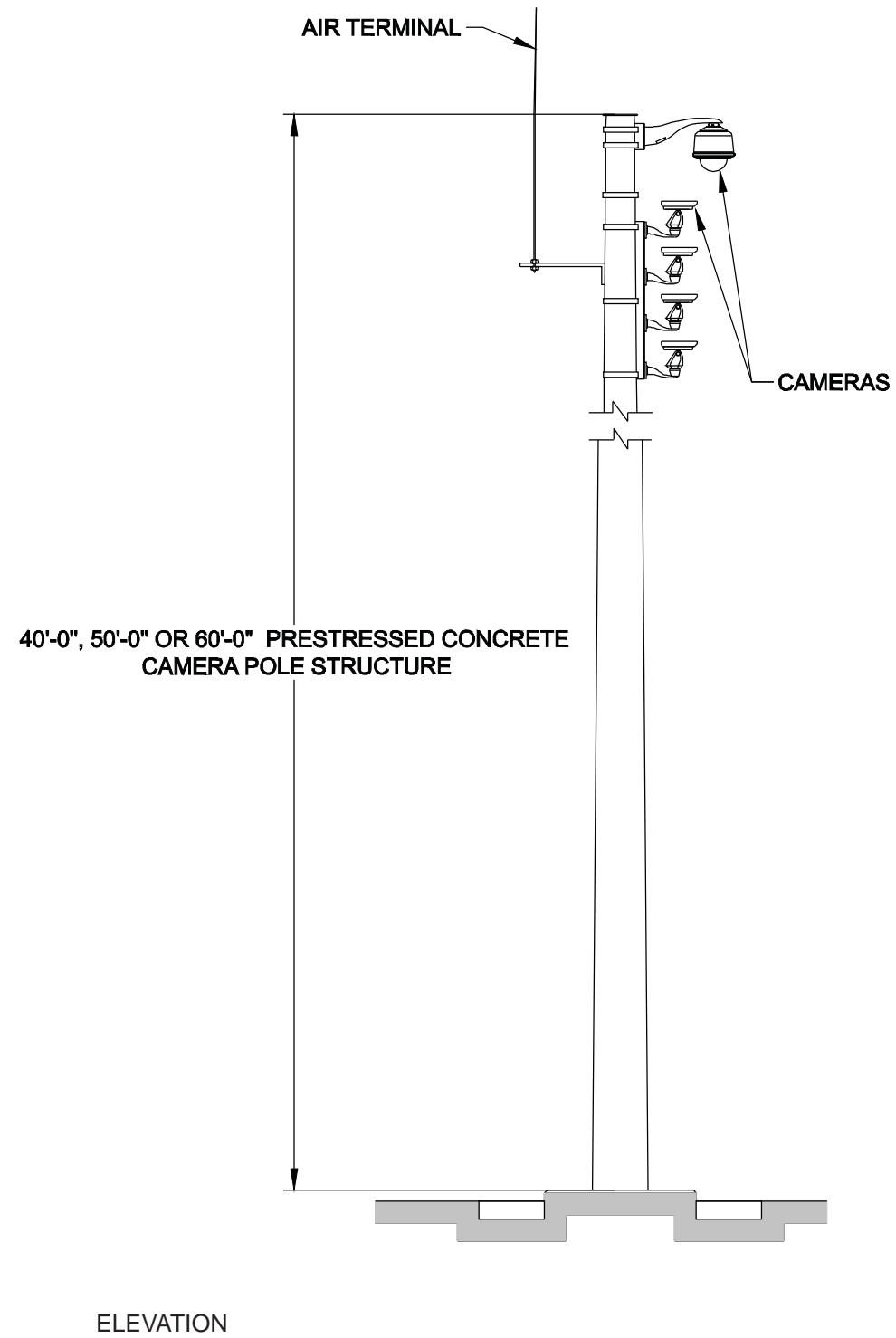


SIDE ELEVATION: COLUMN UPLIGHT



ISOMETRIC: ACCENT LIGHT





10 Landscape



Site Opportunities & Constraints	165
Focus Area Plan	166-167
North Trinity Gateway Zone Landscape Plan & Sections	168-171
Meadows / Wetlands Zone Landscape Plan & Sections	172-177
Urban Zone Landscape Plan & Sections	178-183
Forest Zone Landscape Plan & Sections	184-191
South Trinity Gateway Zone Landscape Plan & Sections	192-193
Plant Palette	194-199
Typical Details	200-201
Irrigation	202-203
Irrigation - Drip Line Details and Diagram	204-205
Irrigation - Sleeving for Irrigation System	206-207
Irrigation - Prototypical Underpass / Overpass Sleeving Diagram	208-209





The following criteria shall guide the development of landscaping plans, specifications, and estimates (PS&E) for the Trinity Parkway Project.

Landscape Design Concept / Intent

The following landscape design concept balances design recommendations of the NTTA's Design Guidelines, the City of Dallas' Trinity Parkway Landscape and Aesthetic Design Guidelines, and the requirements of the Environmental Impact Statement (EIS).

The NTTA typically concentrates landscape improvements in landscape Focus Areas. These Focus Areas are typically located at high visibility locations along the corridor or at important interfaces with the surrounding communities, including bridge underpasses, overpasses, gantry areas, and interchanges. Landscaping shall only be incorporated in locations where NTTA controls maintenance of the area.

“View from” and “View to” - The NTTA Design Guidelines emphasize the “view from” scenario - where the main focus of the landscape design is the view from the main travel lanes for NTTA patrons. The “view to” the landscape from neighboring properties, the park, or other roadways is considered a secondary priority.

The plant materials selected for the Parkway have been selected for their hardiness to the North Texas climatic extremes and their ability to tolerate drought conditions. This native and adapted plant palette will require soil preparation and irrigation to ensure initial establishment of plant materials.

Opportunities and Constraints

Landscape plant materials will be selected according to the site specific opportunities and constraints encountered along the Parkway.

Underpasses

The slopes at underpasses are typically steepest along the frontage roads or entrance ramps and less severe near the main lanes. Intense plantings of large ornamental grasses and ornamental trees shall enhance these high visibility areas. Vines shall be planted at retaining walls to take advantage of the high visibility of the walls at cut conditions.

Overpasses

At overpass conditions, landscape treatments should be focused along the top of the slopes nearest the main lanes for maximum visibility from the toll facility. Taller plant materials shall be used directly adjacent to required concrete barriers to allow visibility from the main lanes.

Main Lane Gantries

Per NTTA's Design Guidelines, main lane gantries are considered to be foreground elements, and will be emphasized with landscape Focus Areas. Trees and plant materials shall not obstruct the function and view shed of closed circuit television cameras (CCTV) and/or gantry cameras.

Elevated Roadways

The views from elevated or “on-structure” roadways to landscape areas typically differs from “at-grade”

roadways in that the elevated position of the travel lanes results in poor visibility of the potential planting areas below. Landscaping in these areas is generally discouraged due to lack of visibility from the main lanes. Exceptions may be made in the South Trinity Gateway Zone, where historic neighborhoods adjacent to the Parkway may benefit from additional landscaping.

Raised Median Landscaping

The size and configuration of the roadway median varies throughout the Parkway. Therefore, in order to provide vehicular cross-over protection, concrete barriers will be installed along the inside shoulders of both the northbound and southbound travel lanes. This configuration creates the opportunity for raised median planting areas to be incorporated throughout the Parkway. Because landscaping in raised median planting areas has high visibility from the main lanes, the medians will be emphasized in Focus Area landscaping treatments. Additionally, trees will be included in raised medians where they do not interfere with highway safety standards and/or Corps of Engineers requirements.

Raised median planting areas shall include drainage inlets spaced at regular intervals. Coordination with the drainage engineers regarding drainage flows and inlet placements will be required to ensure proper surface runoff control and to minimize impacts on plant materials.

Landscape Planter at Separation Wall

The raised planter condition between the traffic barrier and the Separation Wall provides another opportunity for landscape improvements. Plant material selection for these areas will be influenced by whether or not the area has been designated as a Focus Area, the available space for landscaping, and the visibility of the planting area. The size and configuration of these planting areas varies throughout the Parkway. A minimum planting area width of 18 inches is required for vine planting.

Other Design Considerations

Site Drainage

Mulched landscape planting beds must be offset from drainage swales. Swales will either be sodded with turf, or lined with rock rip-rap to prevent erosion. In all cases, swales must be designed to minimize the occurrence of suspended solids or particulate matter from entering storm drainage inlets.

Irrigation

A drip irrigation system will be installed to aid the establishment of plant materials. The system will be designed such that it may be abandoned once plants establishment is achieved and regular irrigation is no longer required. Because some native and adapted plant species benefit from periodic irrigation, it may not be possible to completely abandon the entire irrigation system. For this reason, careful attention shall be focused on grouping plant materials with similar water use requirements, so that portions of the irrigation system could be abandoned, and other areas be maintained in a logical fashion. Refer to the irrigation section for more detail.

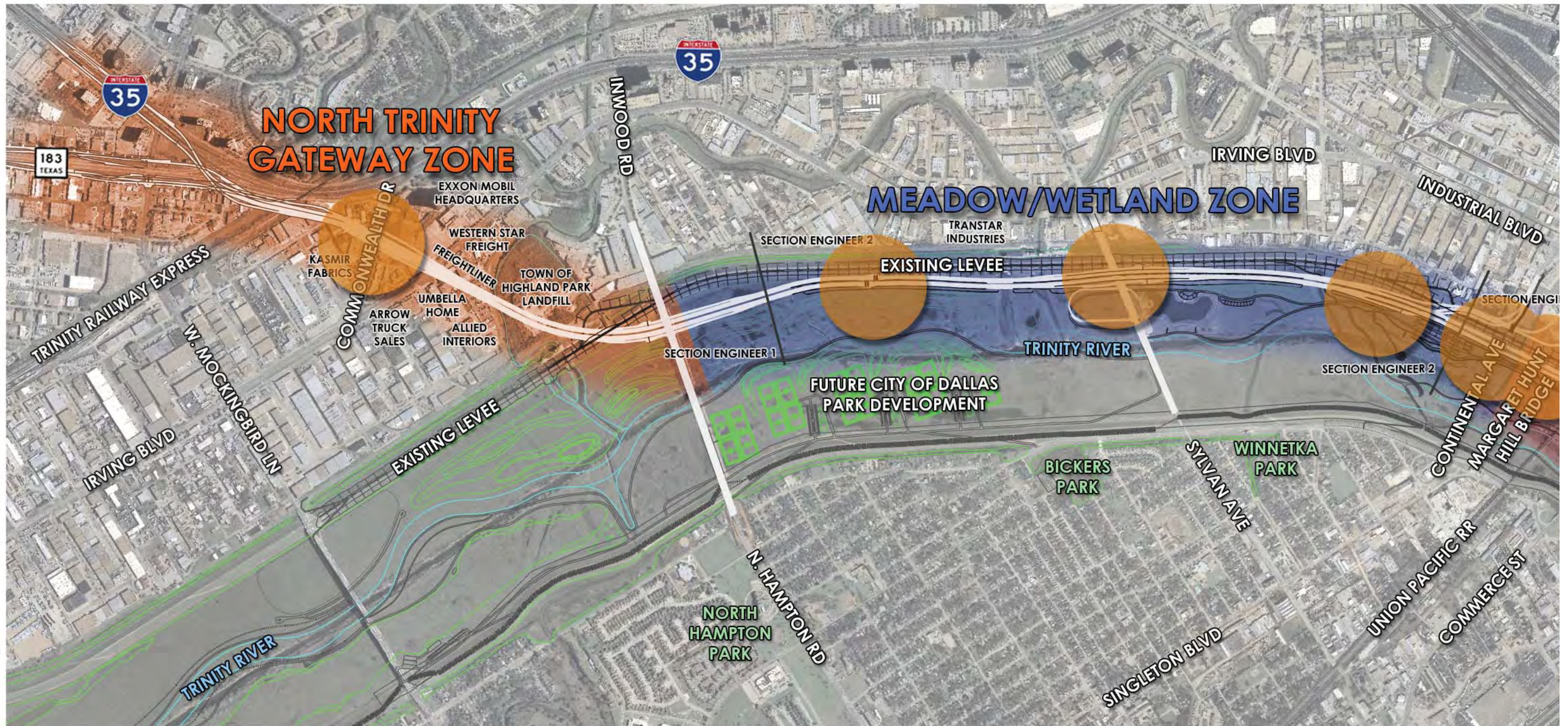
Safety

The designer will ensure that plant material selection and placement maintains sight distances and clear zone recovery areas. Trees may be planted in the clear zone setback only where they will not constitute a fixed object; for example, above a retaining wall or in protected areas behind concrete barriers.



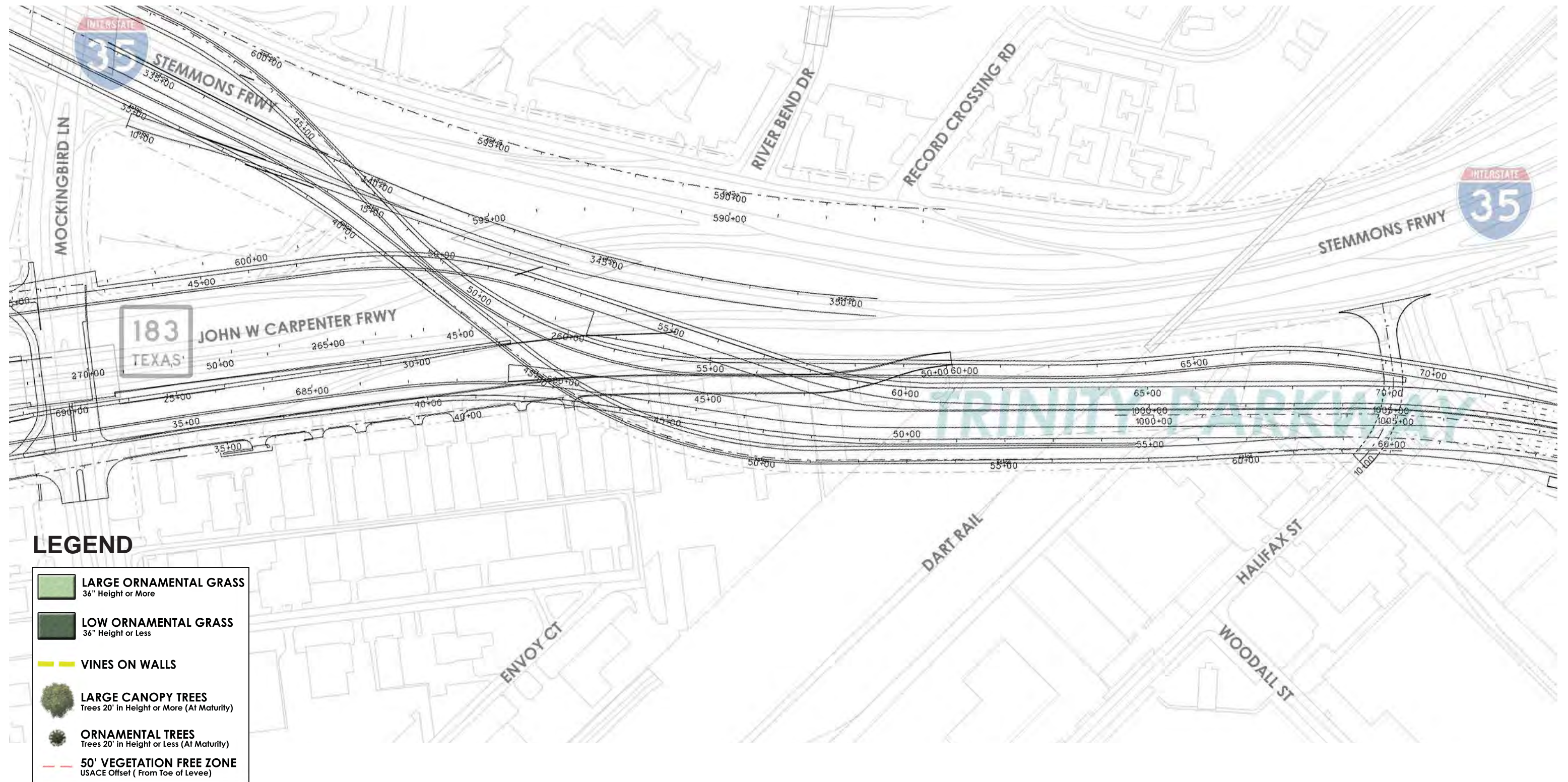
Focus Areas - NTTA typically concentrates landscape improvements in landscape Focus Areas. These focus areas are typically located at high visibility locations along the corridor or at important interfaces with the surrounding communities, including bridge underpasses, overpasses, gantry areas, and interchanges. The graphic below highlights the Focus Areas anticipated for the Trinity Parkway. Landscaping shall only be incorporated in areas where NTTA controls maintenance of the area.

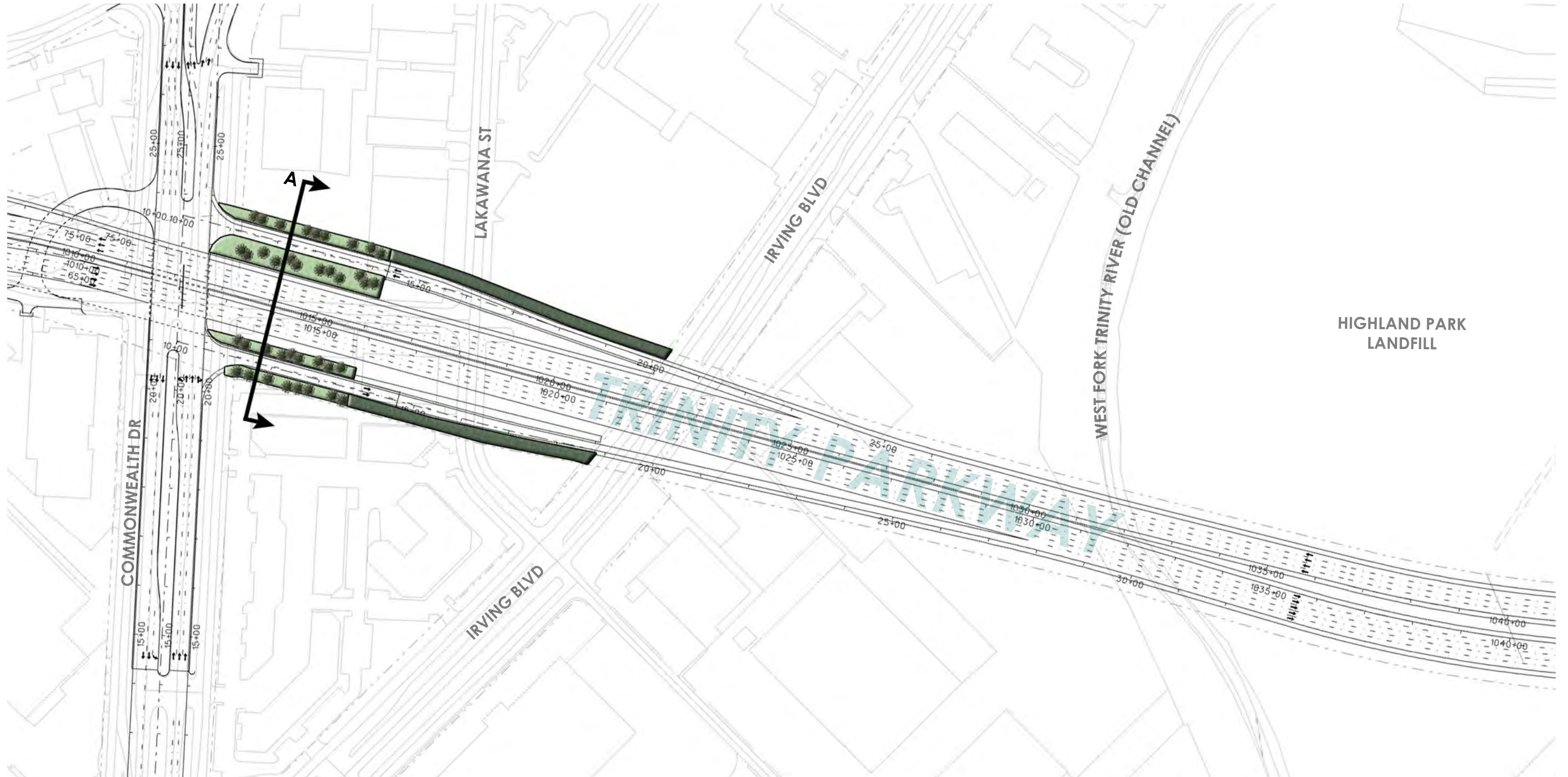
The Trinity Parkway is unique in that many portions of the corridor will be contained inside an elevated Separation Wall. In order to soften the appearance of the Separation Wall, a raised barrier-height planter will be installed along the length of the wall. In these areas, the landscape treatment may vary from a typical focus area oriented design, allowing the walls to receive landscaping outside of the typical focus area dimensions.



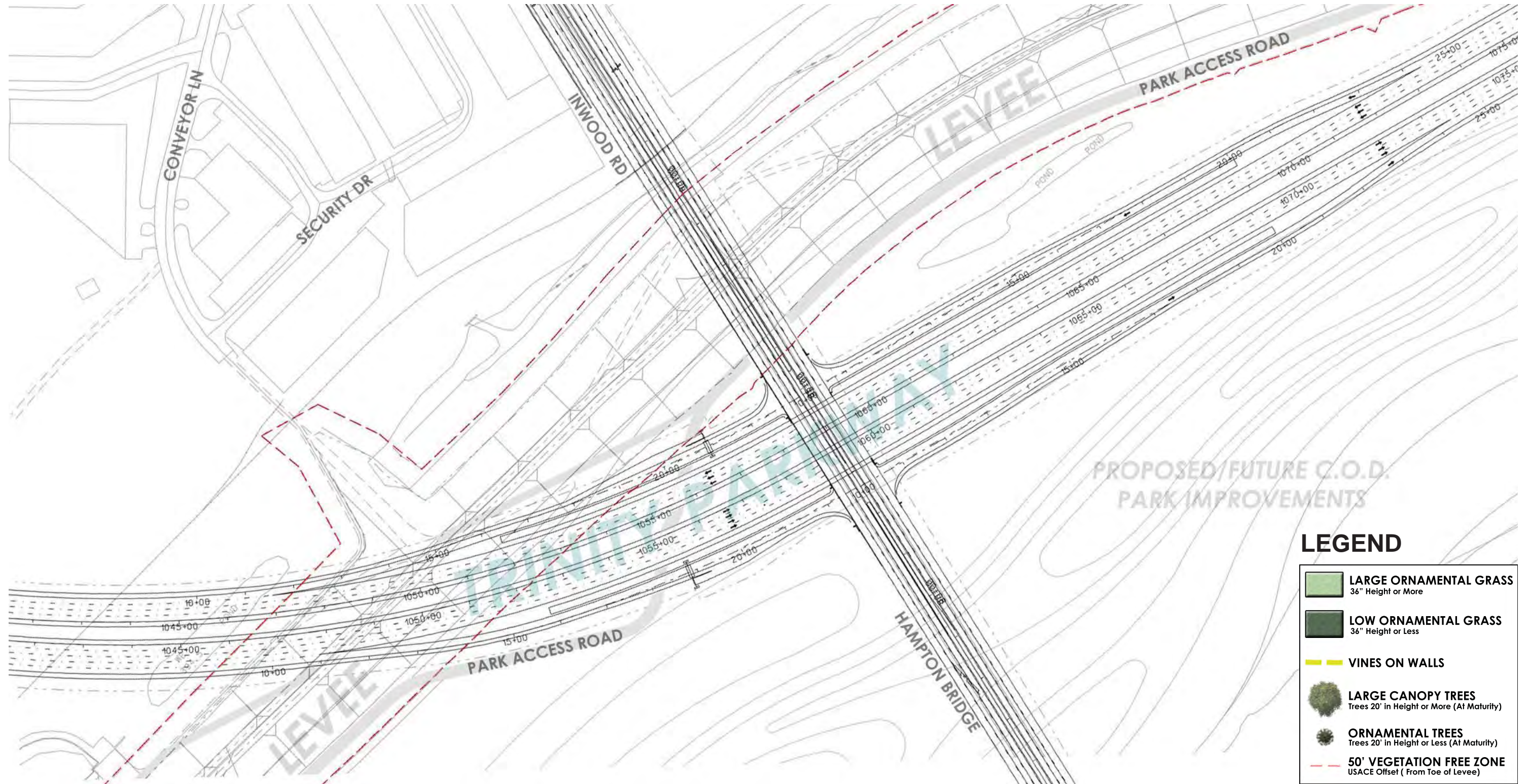


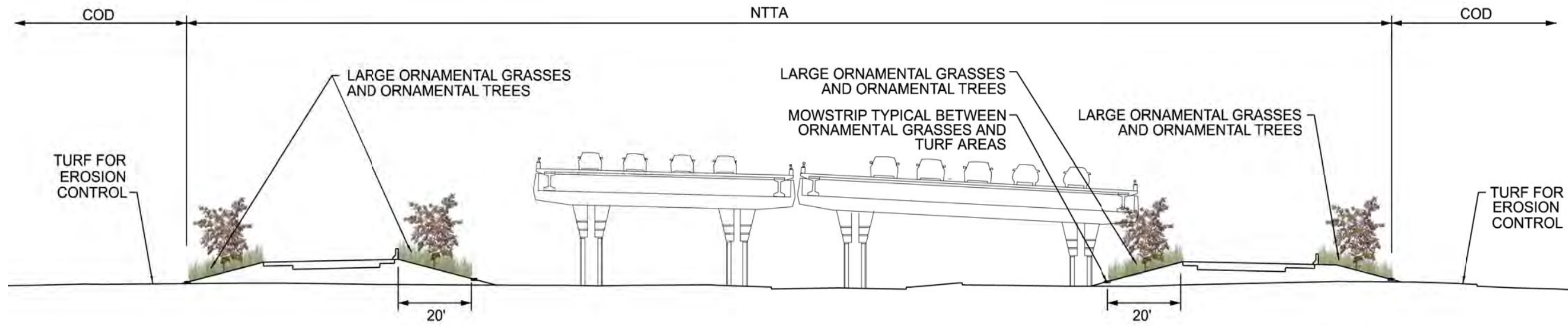
The graphic below highlights the landscape concept for the North Trinity Gateway Zone within the Trinity Parkway. Landscape areas are concentrated at the selected Focus Areas. Plant selection includes low and large ornamental grasses, ornamental and large trees and vines located at walls. Turf planting and/or rock riprap will be used at slopes, under bridges, and other areas for slope stabilization and erosion control. Landscaping shall only occur in areas where NTTA controls maintenance of the area. Landscape concept is shown at full build-out.





The graphic below highlights the landscape concept for the North Trinity Gateway Zone within the Trinity Parkway. Landscape areas are concentrated at the selected Focus Areas. Plant selection include low and large ornamental grasses, ornamental and large trees and vines located at walls. Turf planting and/or rock riprap will be used at slopes, under bridges, and other areas for slope stabilization and erosion control. Landscaping shall only occur in areas where NTTA controls maintenance of the area. Landscape concept is shown at full build-out.











SECTION A: STA. 1014+00

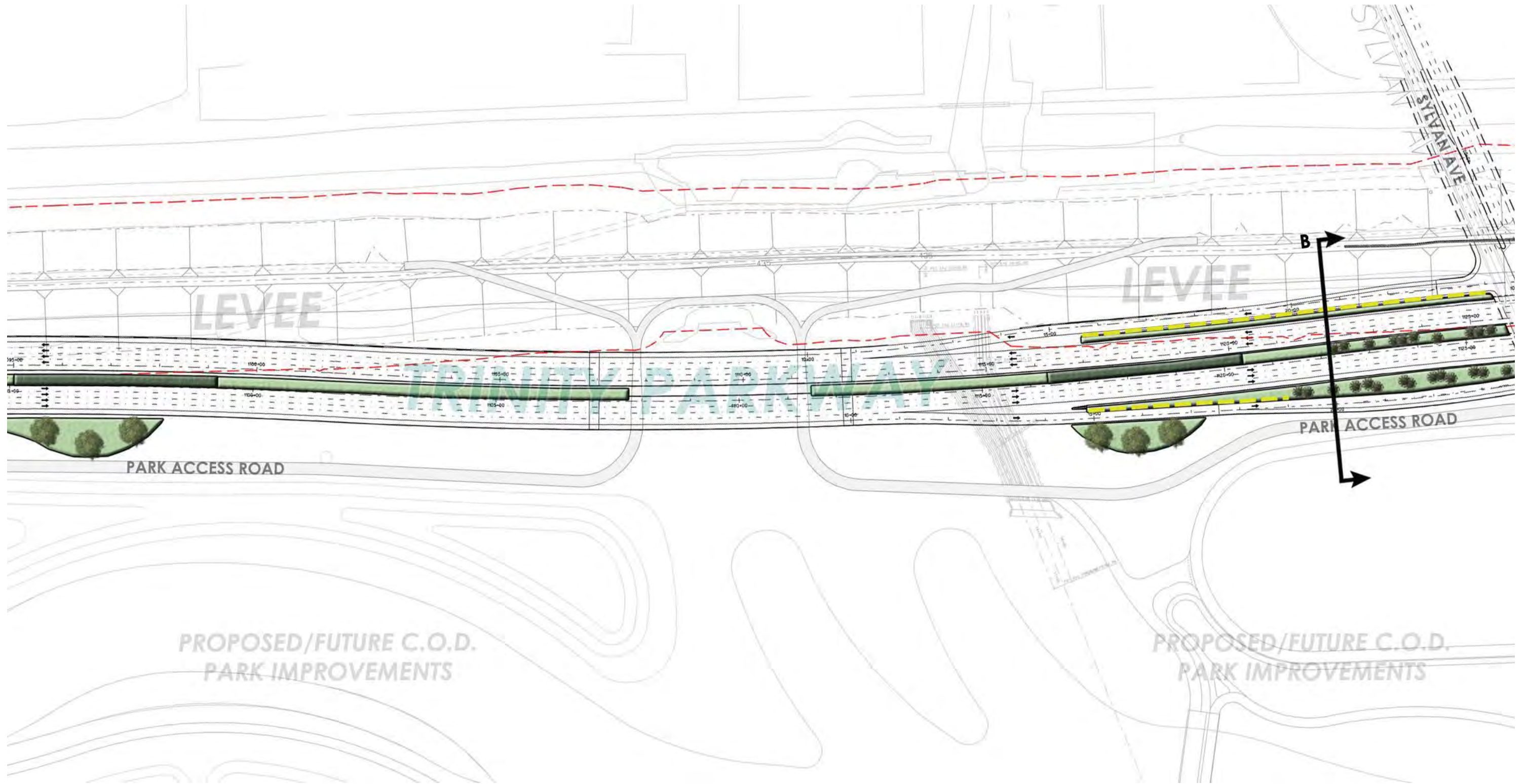


The graphic below highlights the landscape concept for the Meadow Zone within the Trinity Parkway. Landscape areas are concentrated at the selected Focus Areas. Plant selection include low and large ornamental grasses, ornamental and large trees and vines located at walls. Turf planting and/or rock riprap will be used at slopes, under bridges, and other areas for slope stabilization and erosion control. Landscaping shall only occur in areas where NTTA controls maintenance of the area. Landscape concept is shown at full build-out.

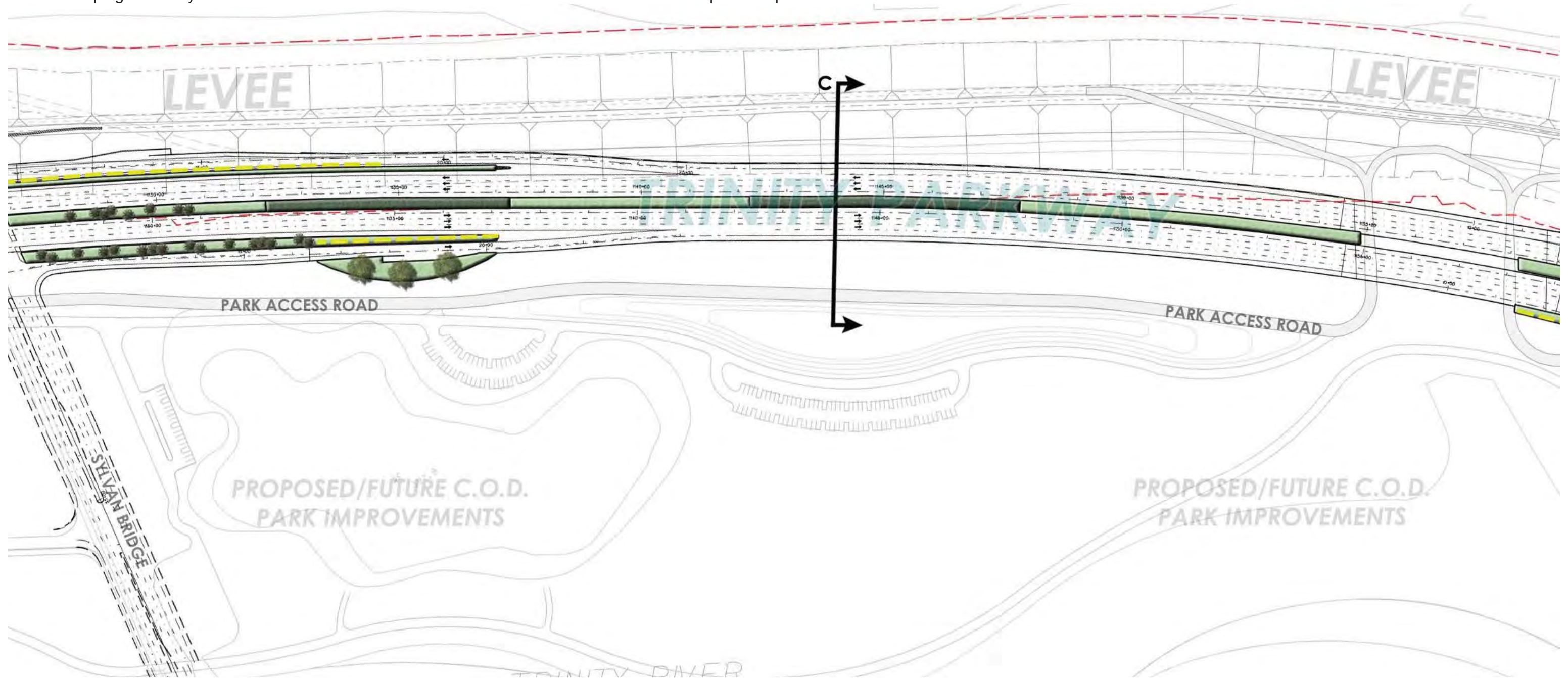
LEGEND

-  **LARGE ORNAMENTAL GRASS**
36" Height or More
-  **LOW ORNAMENTAL GRASS**
36" Height or Less
-  **VINES ON WALLS**
-  **LARGE CANOPY TREES**
Trees 20' in Height or More (At Maturity)
-  **ORNAMENTAL TREES**
Trees 20' in Height or Less (At Maturity)
-  **50' VEGETATION FREE ZONE**
USACE Offset (From Toe of Levee)











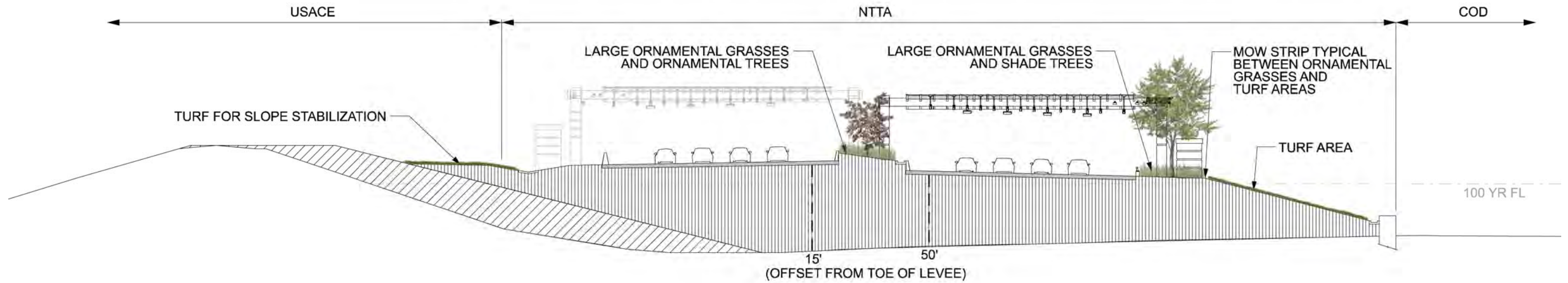
The graphic below highlights the landscape concept for the Meadow Zone within the Trinity Parkway. Landscape areas are concentrated at the selected Focus Areas. Plant selection include low and large ornamental grasses, ornamental and large trees and vines located at walls. Turf planting and/or rock riprap will be used at slopes, under bridges, and other areas for slope stabilization and erosion control. Landscaping shall only occur in areas where NTTA controls maintenance of the area. Landscape concept is shown at full build-out.



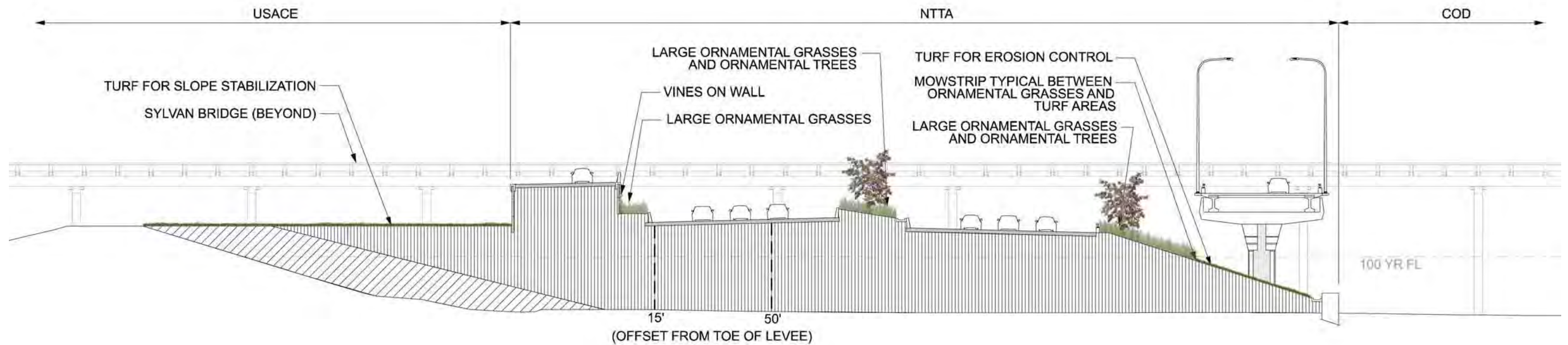
LEGEND

	LARGE ORNAMENTAL GRASS 36" Height or More
	LOW ORNAMENTAL GRASS 36" Height or Less
	VINES ON WALLS
	LARGE CANOPY TREES Trees 20' in Height or More (At Maturity)
	ORNAMENTAL TREES Trees 20' in Height or Less (At Maturity)
	50' VEGETATION FREE ZONE USACE Offset (From Toe of Levee)



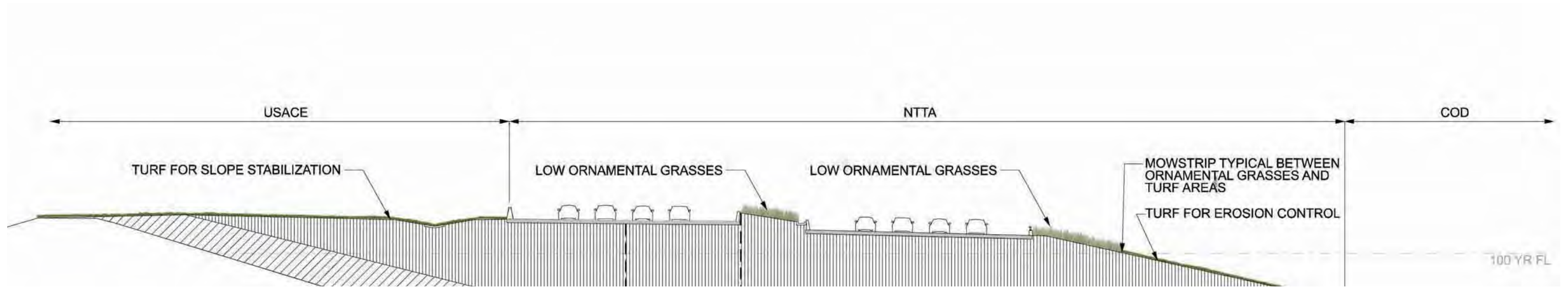


SECTION A: STA. 1088

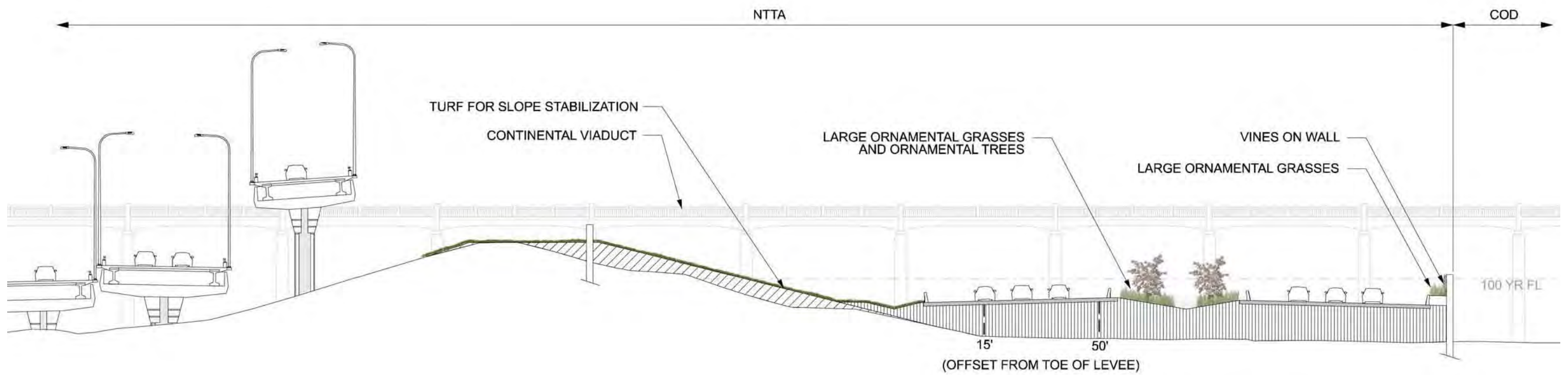


SECTION B: STA. 1122





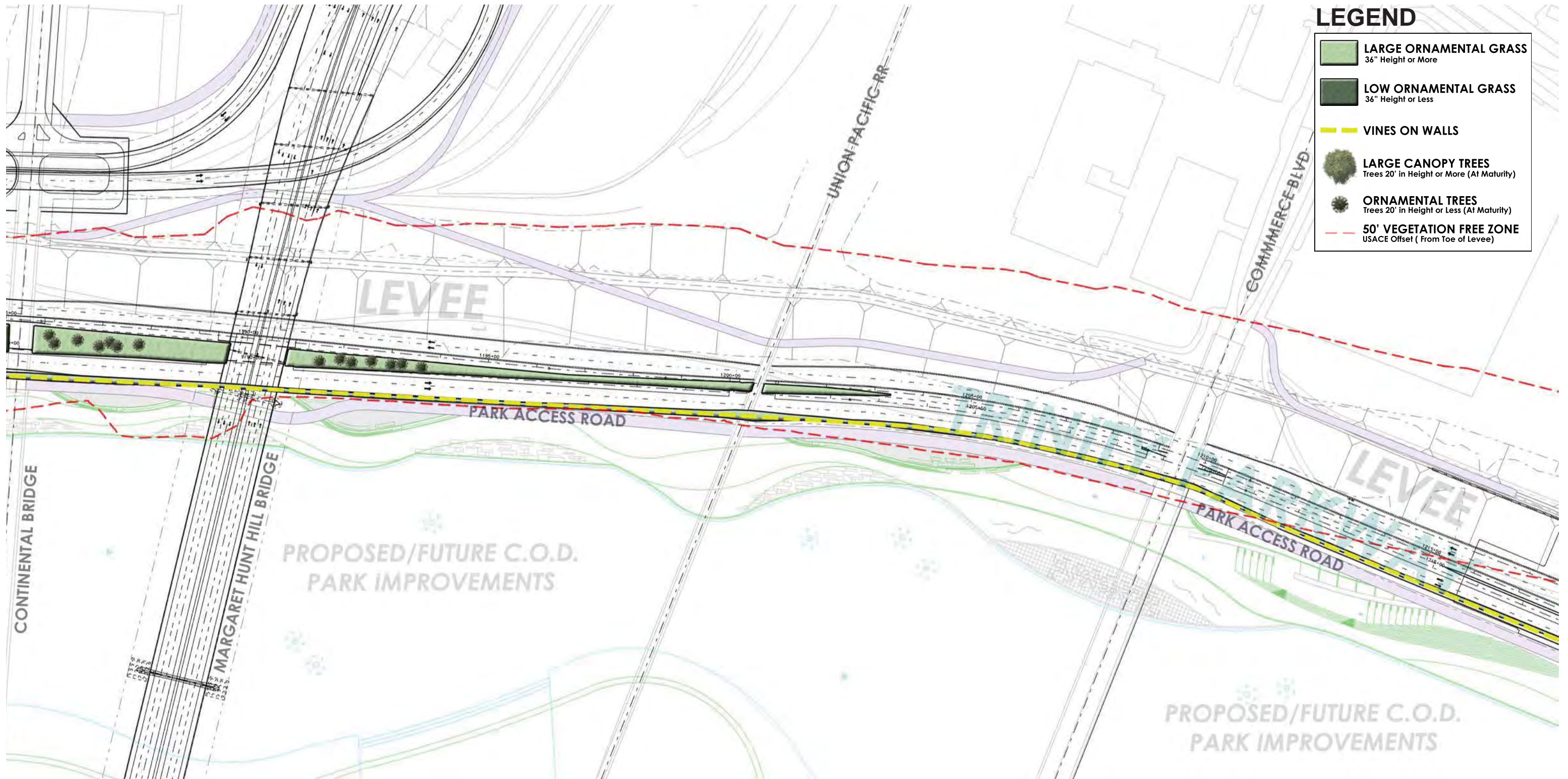
SECTION C: STA. 1144



SECTION D: STA. 1183



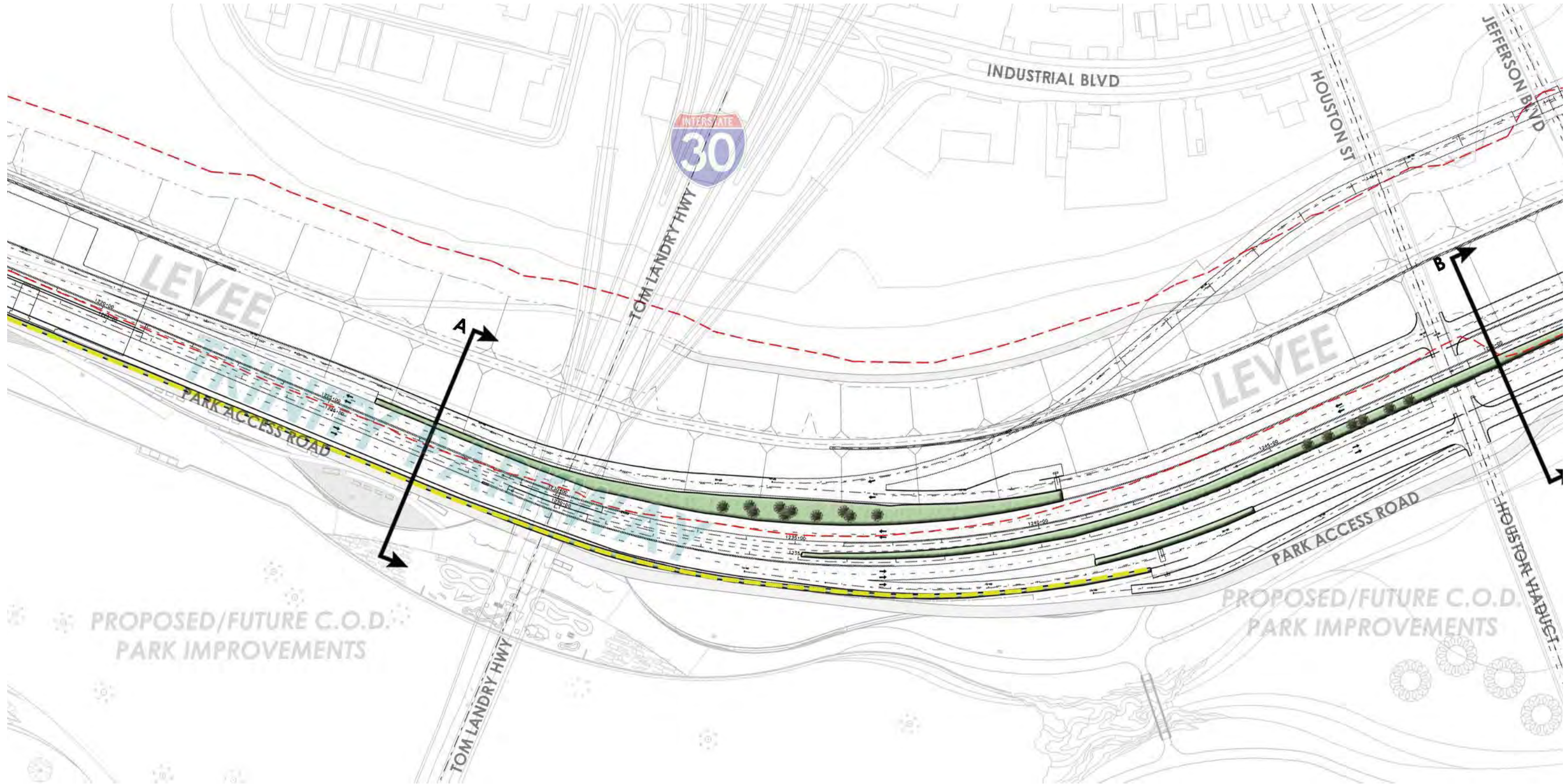
The graphic below highlights the landscape concept for the Urban Zone within the Trinity Parkway. Landscape areas are concentrated at the selected Focus Areas. Plant selection include low and large ornamental grasses, ornamental and large trees and vines located at walls. Turf planting and/or rock riprap will be used at slopes, under bridges, and other areas for slope stabilization and erosion control. Landscaping shall only occur in areas where NTTA controls maintenance of the area. Landscape concept is shown at full build-out.









LEGEND

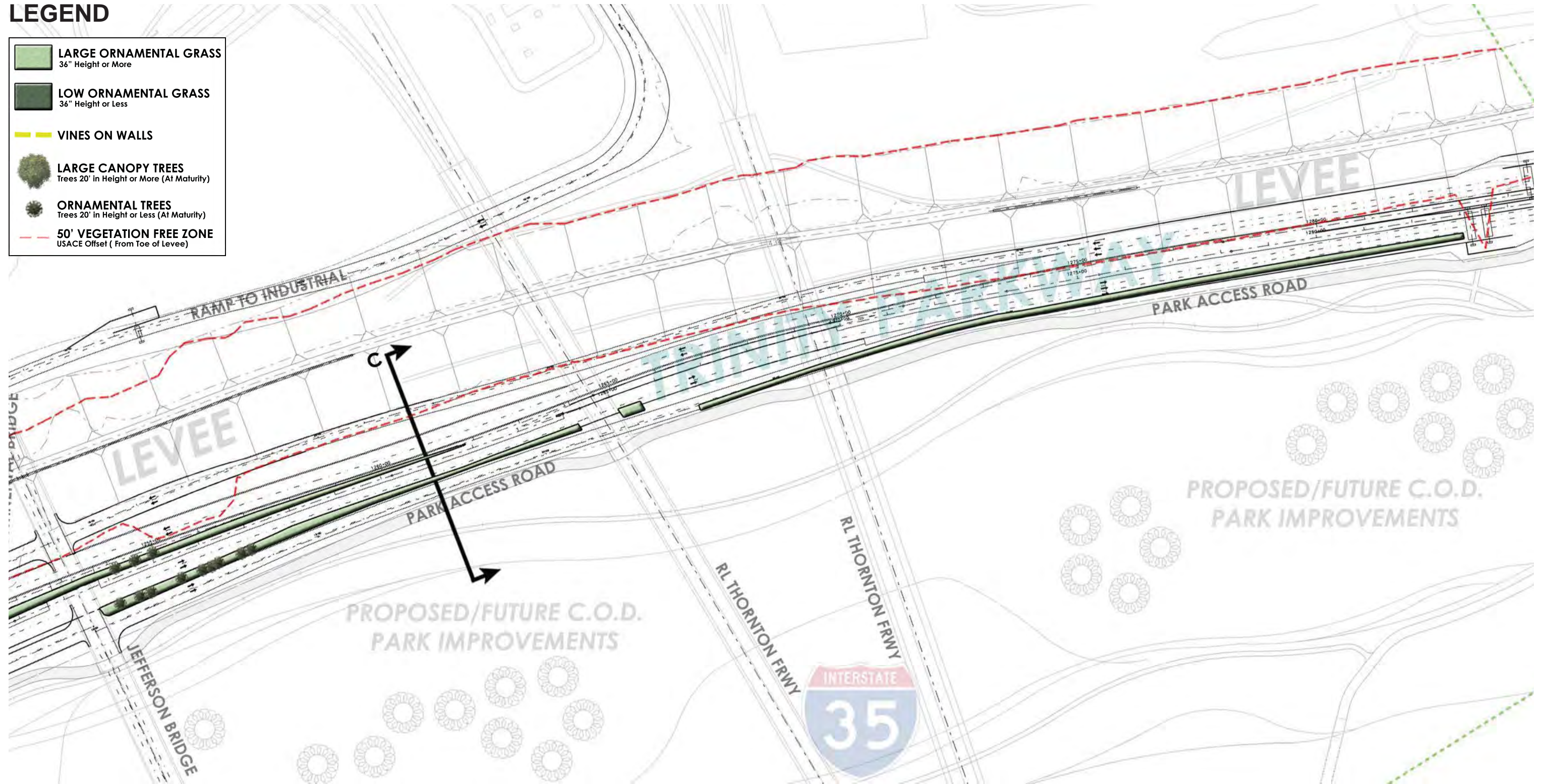
- LARGE ORNAMENTAL GRASS**
36" Height or More
- LOW ORNAMENTAL GRASS**
36" Height or Less
- VINES ON WALLS**
- LARGE CANOPY TREES**
Trees 20' in Height or More (At Maturity)
- ORNAMENTAL TREES**
Trees 20' in Height or Less (At Maturity)
- 50' VEGETATION FREE ZONE**
USACE Offset (From Toe of Levee)

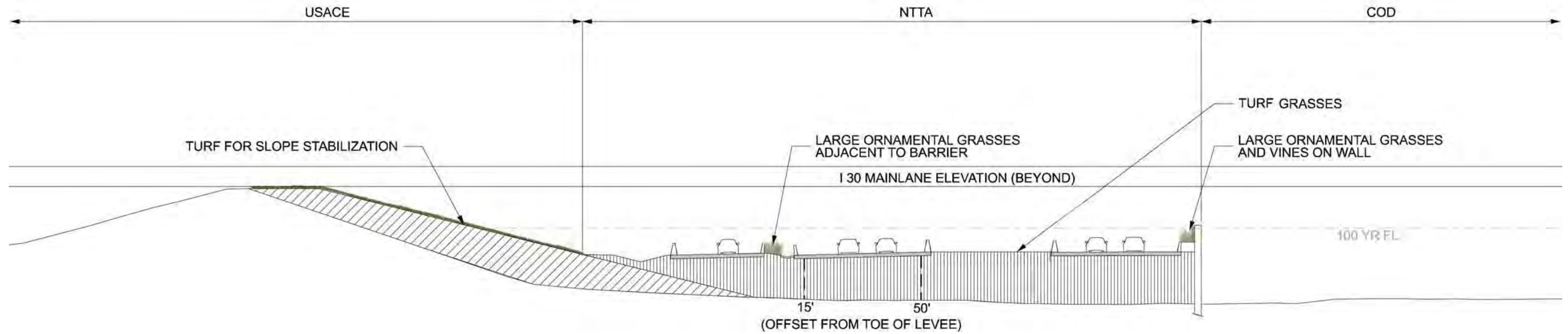




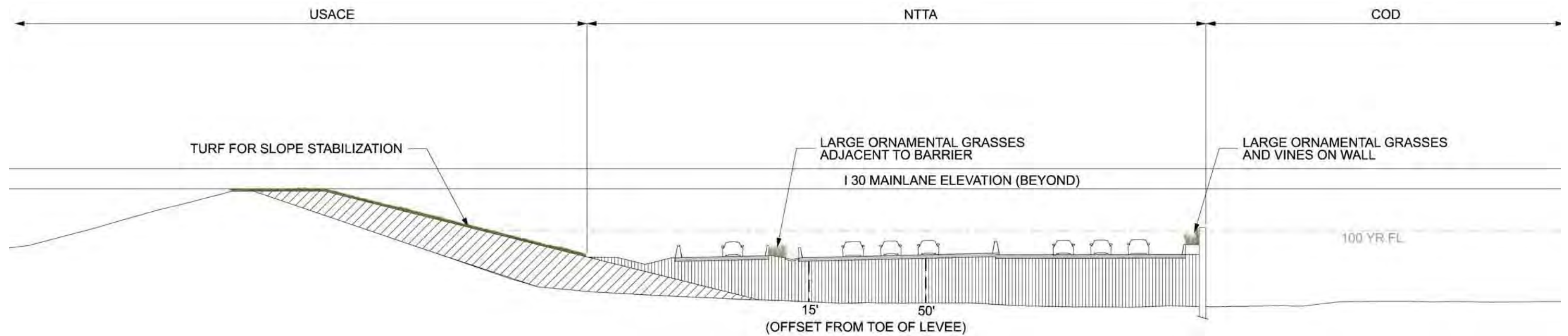
LEGEND

-  **LARGE ORNAMENTAL GRASS**
36" Height or More
-  **LOW ORNAMENTAL GRASS**
36" Height or Less
-  **VINES ON WALLS**
-  **LARGE CANOPY TREES**
Trees 20' in Height or More (At Maturity)
-  **ORNAMENTAL TREES**
Trees 20' in Height or Less (At Maturity)
-  **50' VEGETATION FREE ZONE**
USACE Offset (From Toe of Levee)



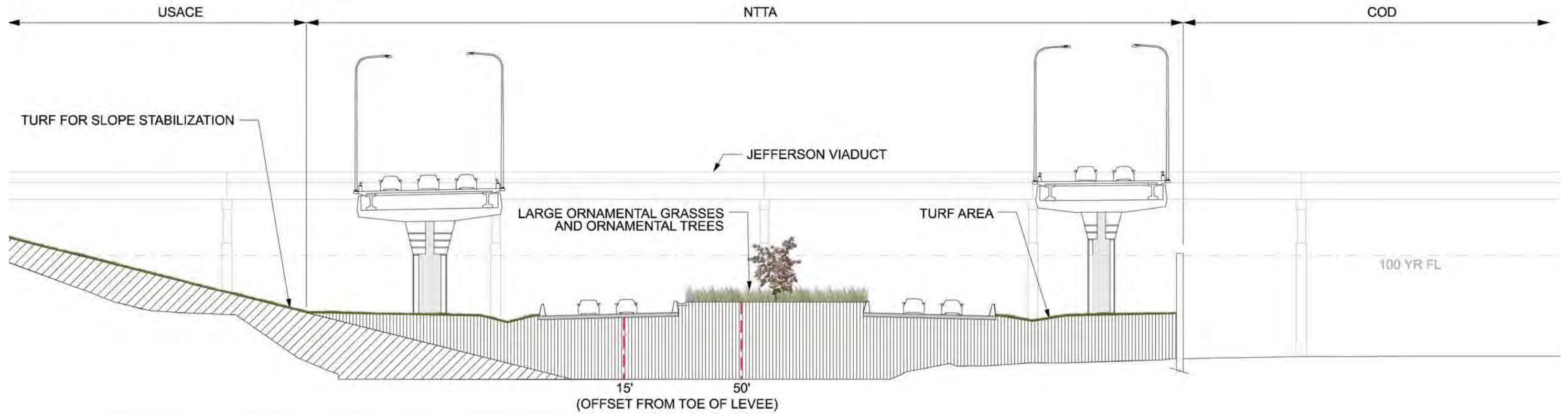


SECTION A: STA. 1227 Interim

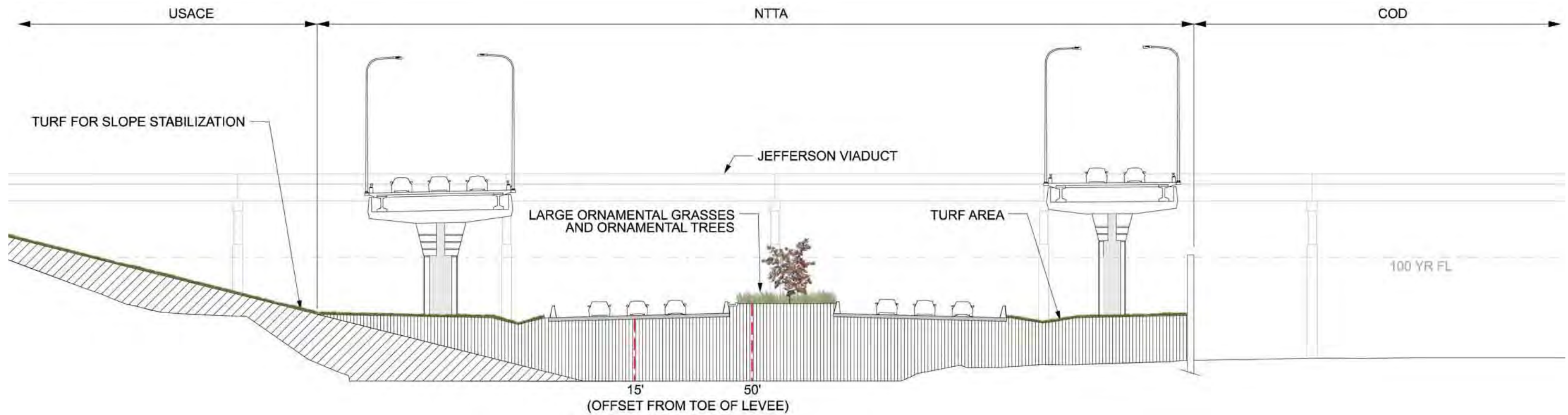


SECTION A: STA. 1227 Ultimate



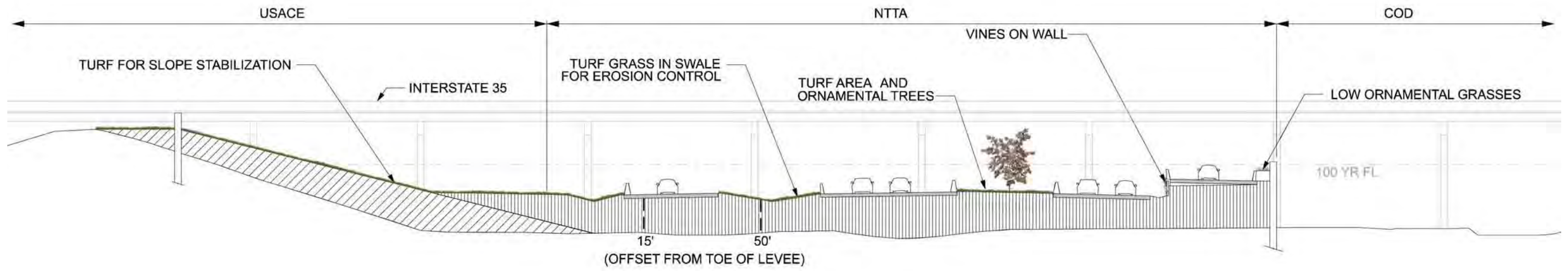


SECTION B: STA. 1251 Interim

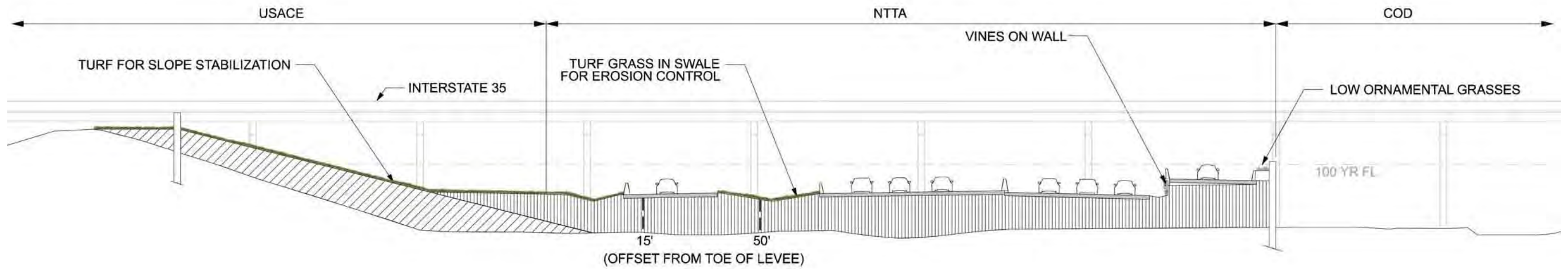


SECTION C: STA. 1251 Ultimate



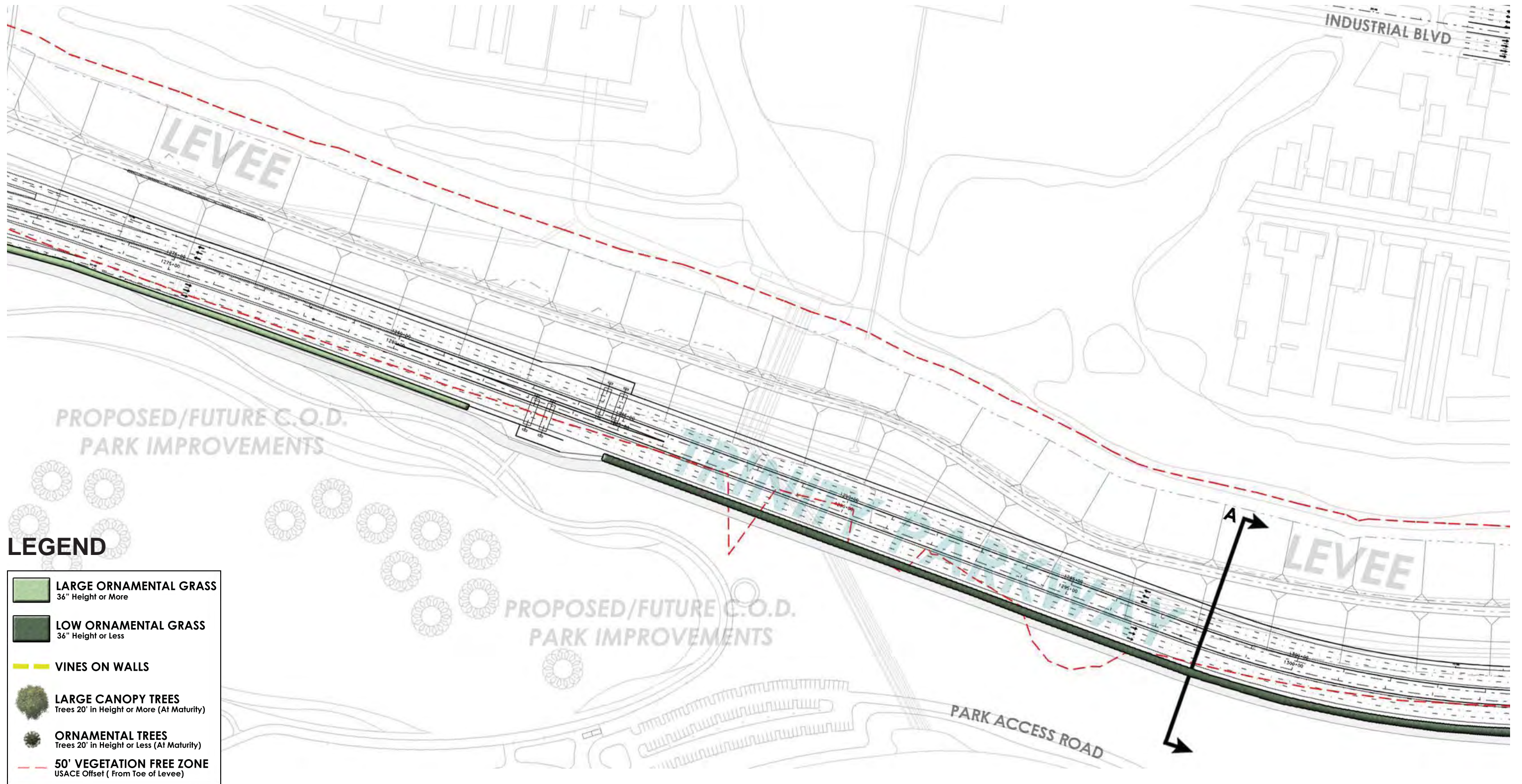


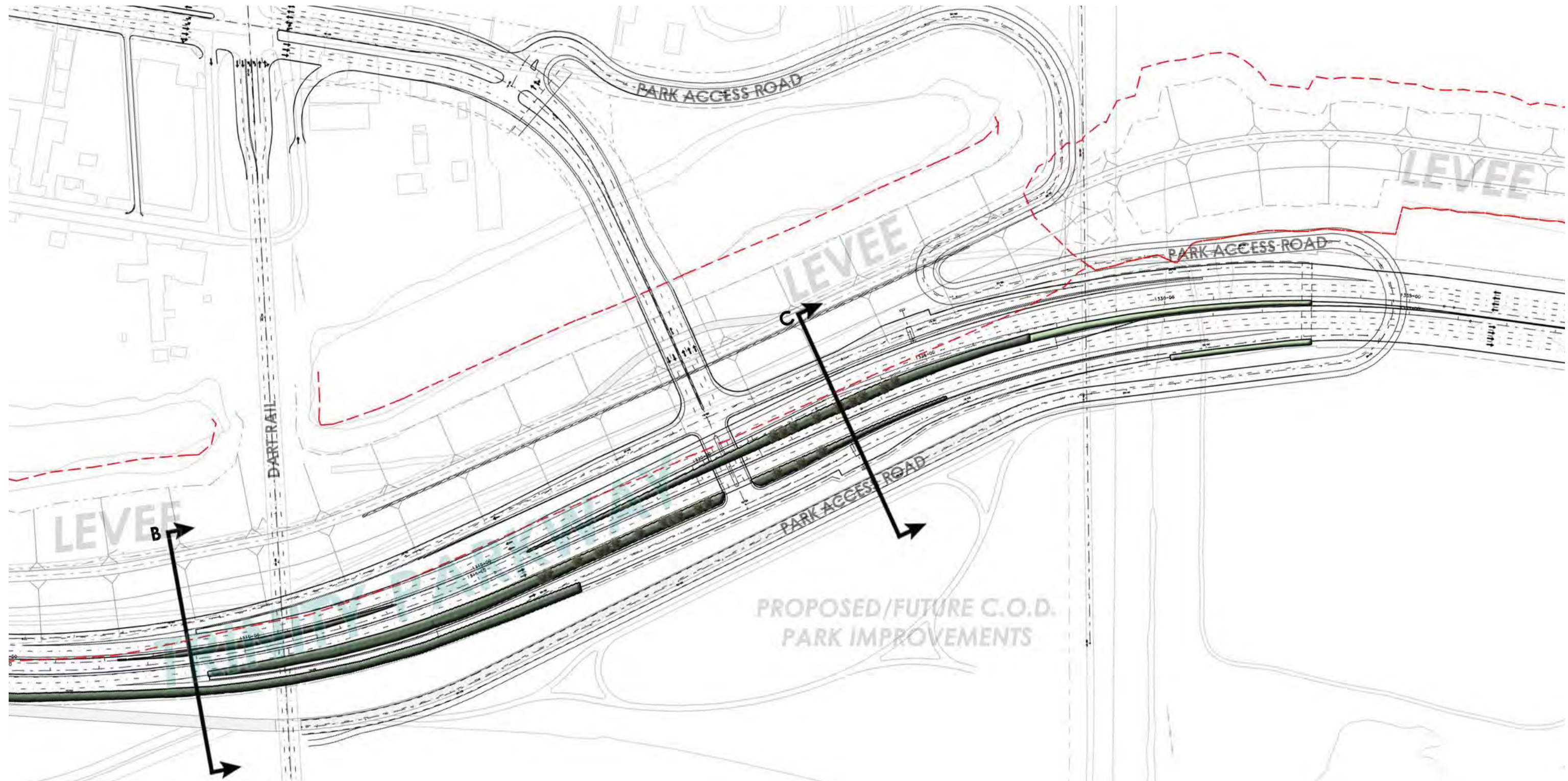
SECTION C: STA 1262 Interim

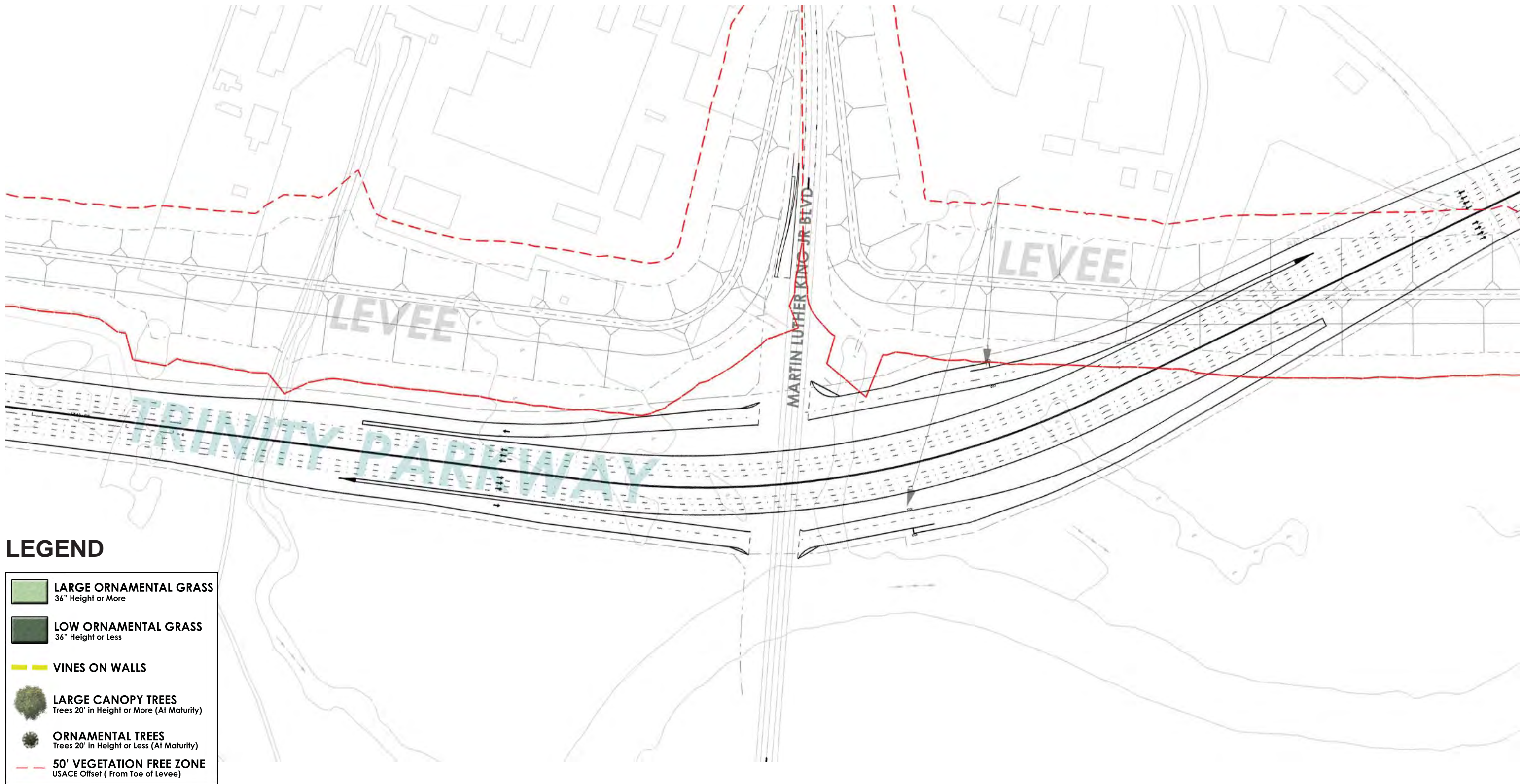


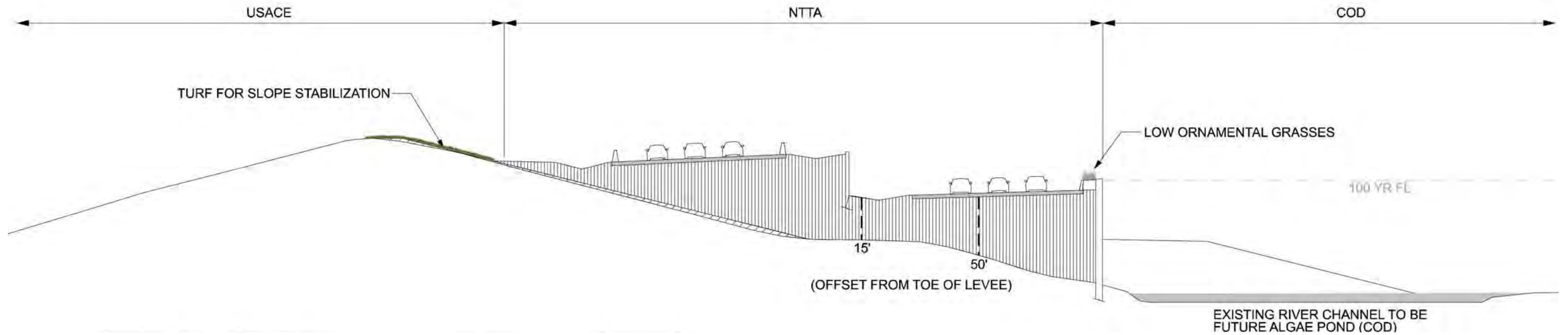
SECTION C: STA 1262 Ultimate



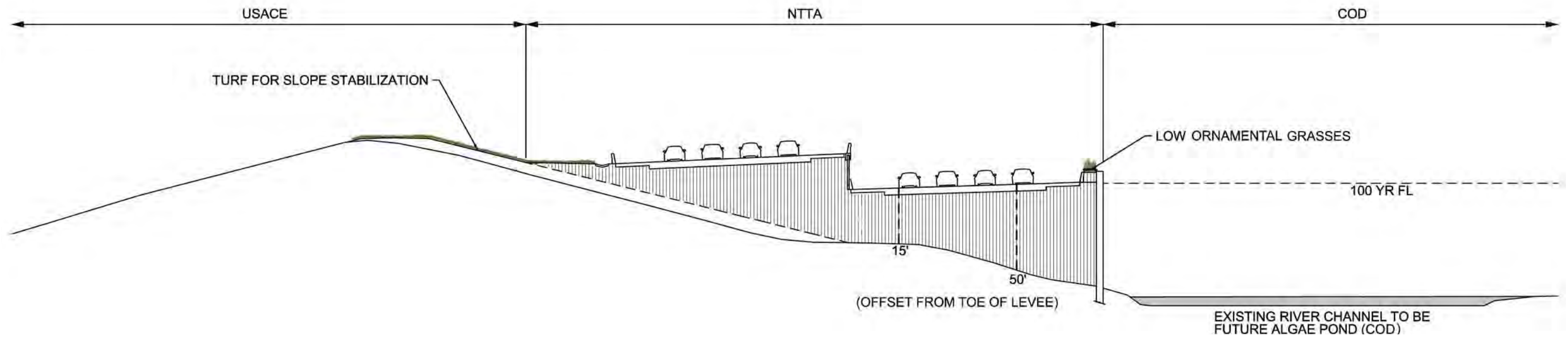






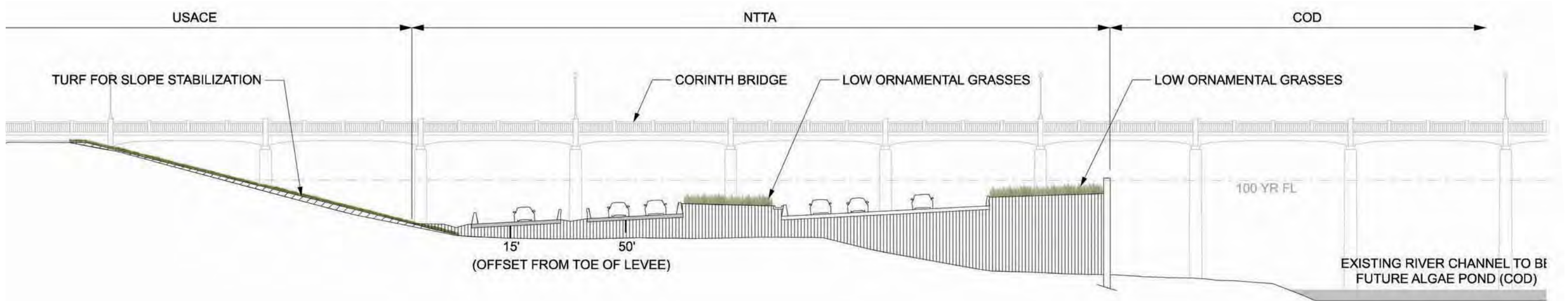


SECTION A: STA. 1298 Interim

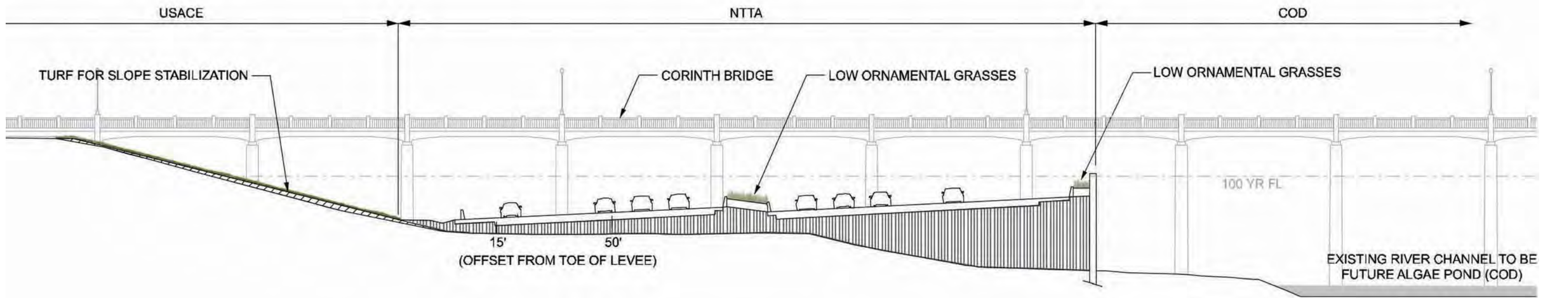


SECTION A: STA. 1298 Ultimate



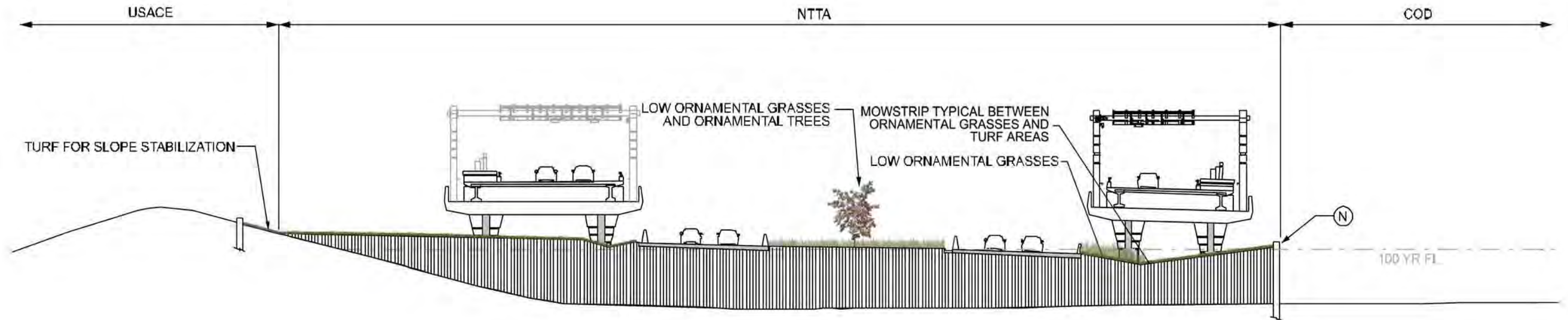


SECTION B: STA. 1309 Interim

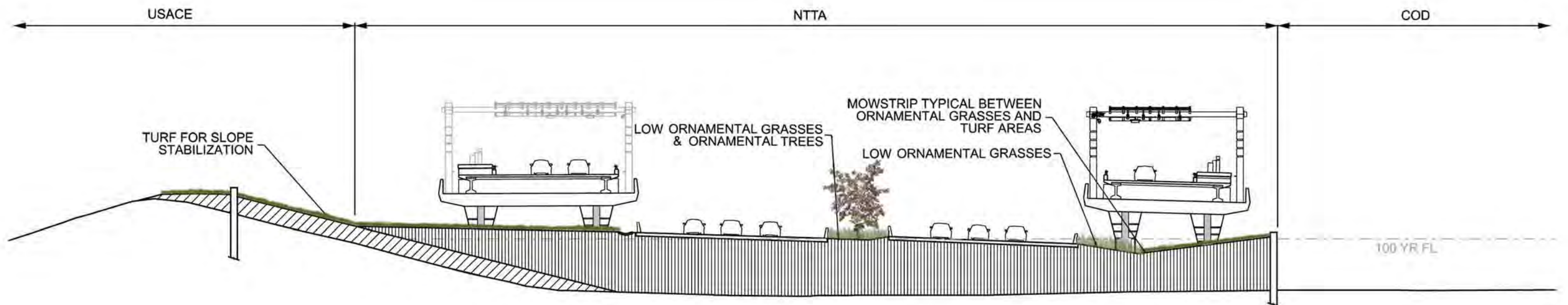


SECTION B: STA. 1309 Ultimate





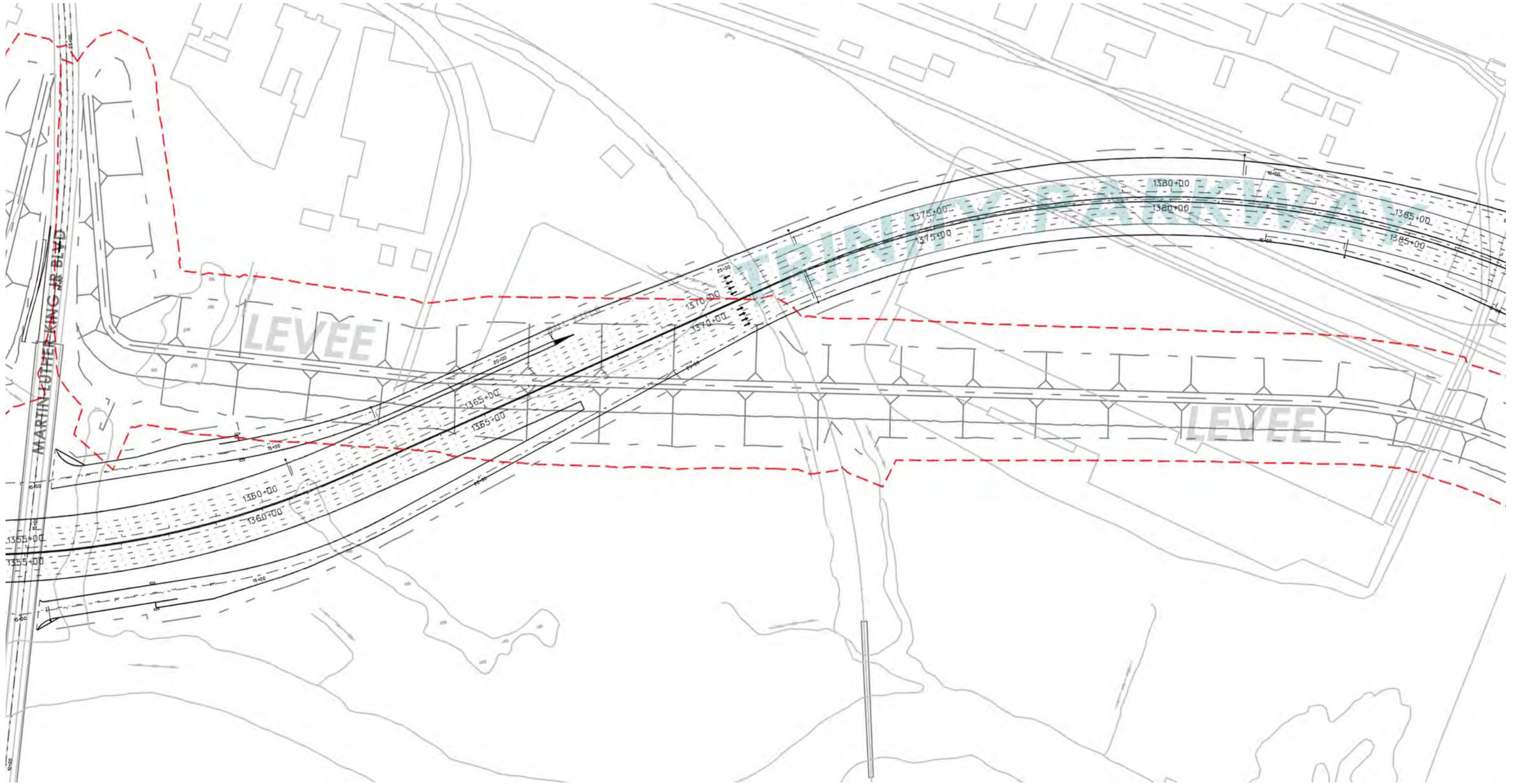
SECTION C: STA. 1323 Interim









SECTION C: STA. 1323 Ultimate

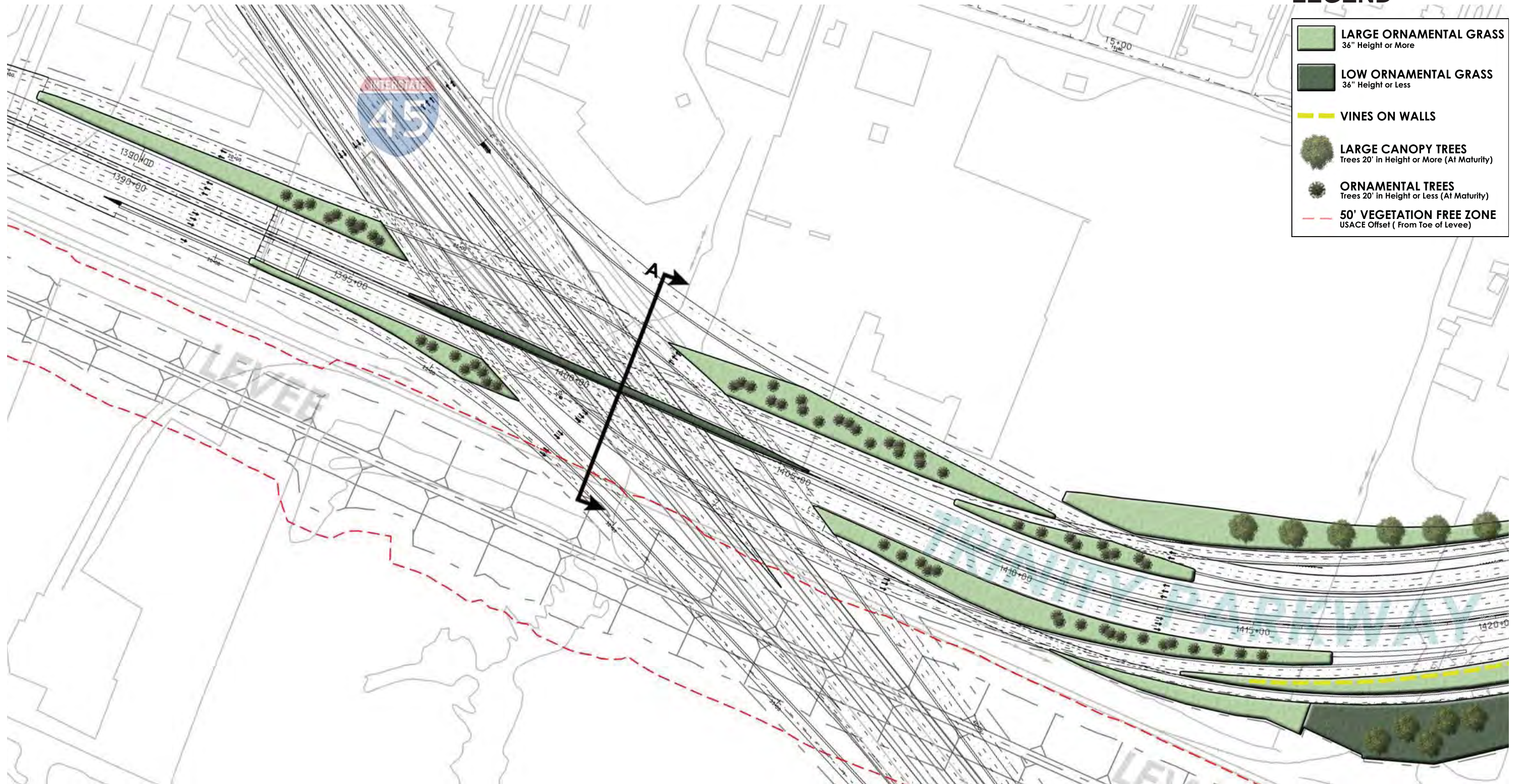


The graphic below highlights the landscape concept for the Forest Zone within the Trinity Parkway. Landscape areas are concentrated at the selected Focus Areas. Plant selection include low and large ornamental grasses, ornamental and large trees and vines located at walls. Turf planting and/or rock riprap will be used at slopes, under bridges, and other areas for slope stabilization and erosion control. Landscaping shall only occur in areas where NTTA controls maintenance of the area. Landscape concept is shown at full build-out.









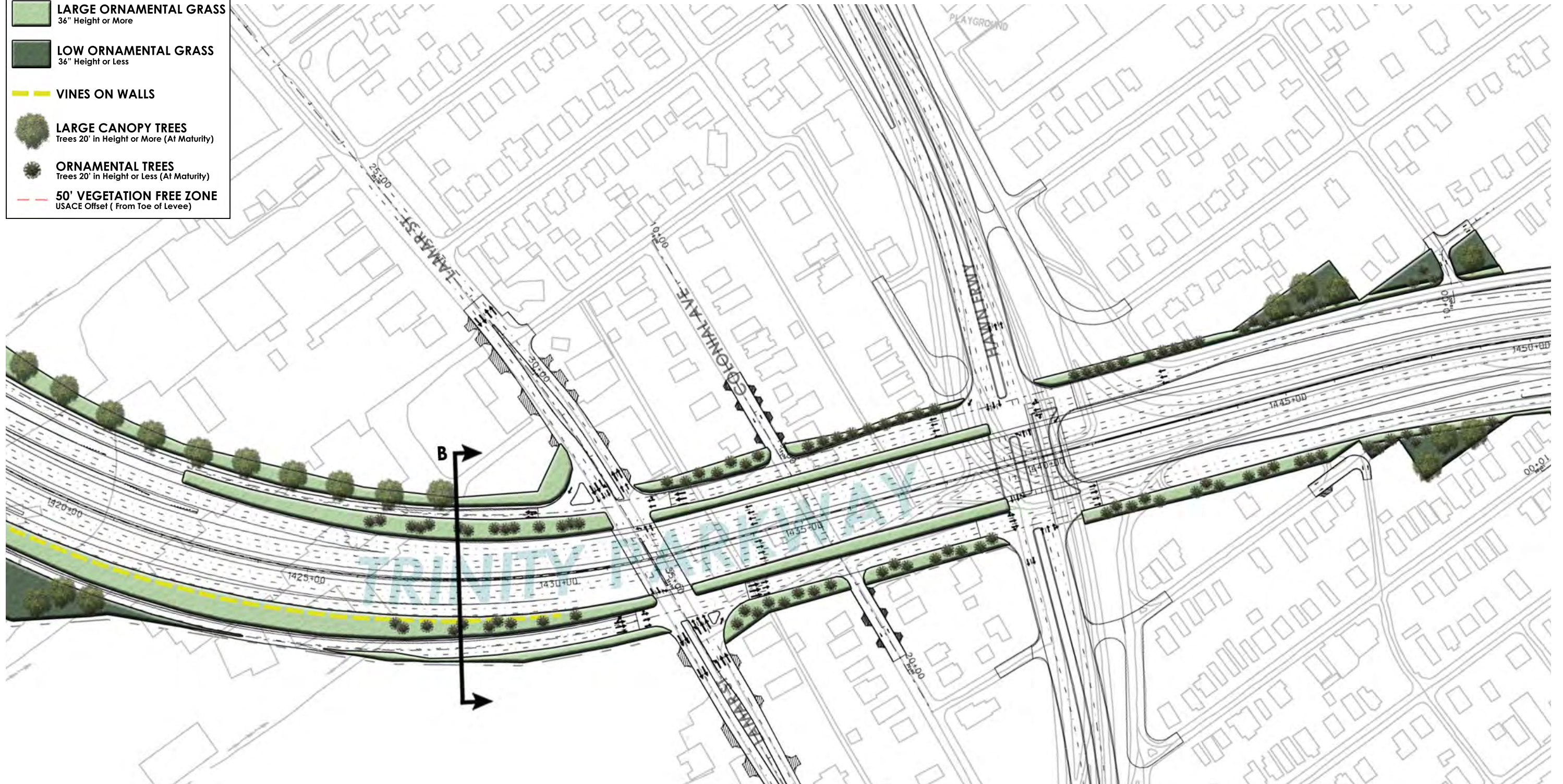
LEGEND

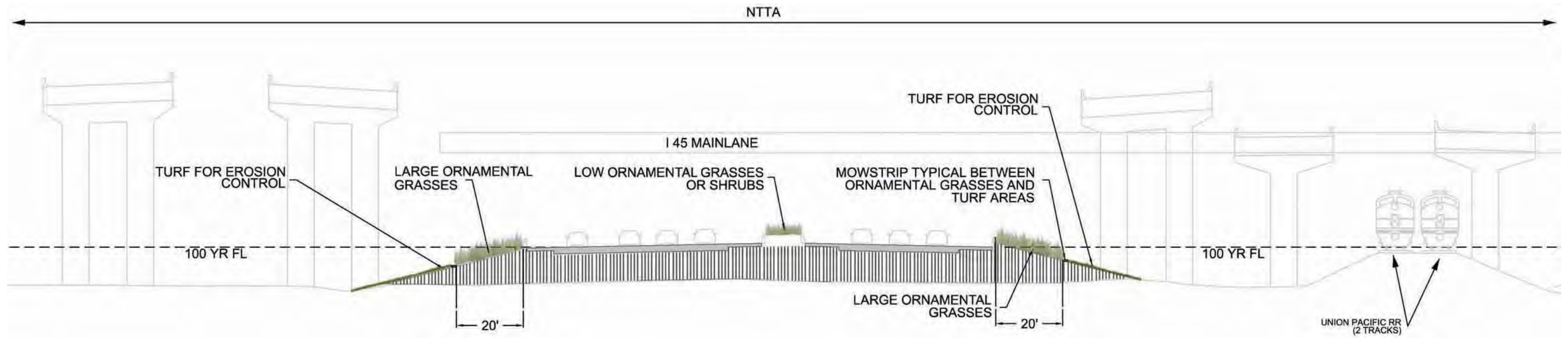
-  **LARGE ORNAMENTAL GRASS**
36" Height or More
-  **LOW ORNAMENTAL GRASS**
36" Height or Less
-  **VINES ON WALLS**
-  **LARGE CANOPY TREES**
Trees 20' in Height or More (At Maturity)
-  **ORNAMENTAL TREES**
Trees 20' in Height or Less (At Maturity)
-  **50' VEGETATION FREE ZONE**
USACE Offset (From Toe of Levee)



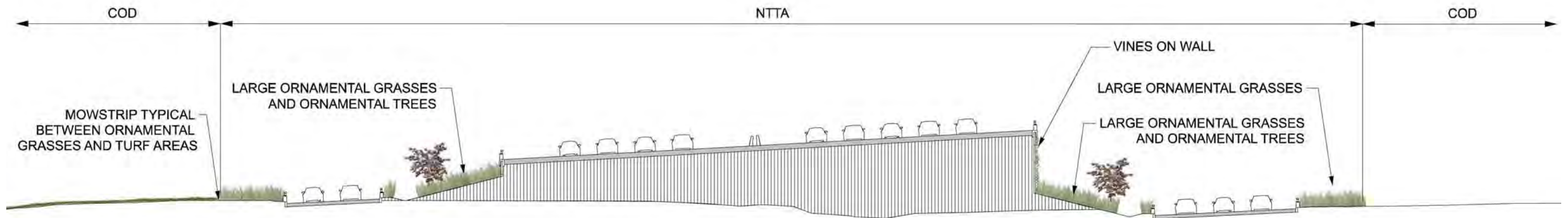
LEGEND

-  **LARGE ORNAMENTAL GRASS**
36" Height or More
-  **LOW ORNAMENTAL GRASS**
36" Height or Less
-  **VINES ON WALLS**
-  **LARGE CANOPY TREES**
Trees 20' in Height or More (At Maturity)
-  **ORNAMENTAL TREES**
Trees 20' in Height or Less (At Maturity)
-  **50' VEGETATION FREE ZONE**
USACE Offset (From Toe of Levee)





SECTION A: STA. 1401



SECTION B: STA. 1428











The following plant palette will be the basic means of unifying the Trinity Parkway. The plant materials have been selected for low water requirements, native or adapted qualities, and seasonal interest. A wide range of plants are utilized within these palettes for flexibility in the different zones or site constraints.

These plant materials are grouped according to size and/or function. Seasonal characteristics are noted as well. Some native and plant adapted species require moist soils, therefore, may not survive extended periods of drought without periodic irrigation.






Refer to the following pages for specific plant palettes. Minimum sizes and spacing shown are recommendations. Based on specific site conditions and requirements, sizing and spacing may vary.

LARGE TREES (20' H OR HIGHER)

Plant Image	Common / Botanical Names	Install Size	Minimum Spacing	Remarks
	SHUMARD RED OAK <i>Quercus shumardii</i>	65 Gallon 6' - 8' Spread 12' - 14' Height	30' on center	Deciduous tree - Full Sun Does well in heavy clay soils and limestone; Fast growing; Easy to maintain and drought tolerant tree once established; Ensure selection of true species to avoid crossbreeding and disease.
	BUR OAK <i>Quercus macrocarpa</i>	65 Gallon 6' - 8' Spread 12' - 14' Height	30' on center	Deciduous tree - Full Sun Drought tolerant; Does well in many different soil types from sand to heavy clays.
	CHINQUAPIN OAK <i>Quercus muhlenbergii</i>	65 Gallon 6' - 8' Spread 12' - 14' Height	20' on center	Deciduous tree - Full Sun Drought tolerant; Needs deep sandy acid soil and well-drained sites.
	LIVE OAK <i>Quercus virginiana</i>	65 Gallon 6' - 8' Spread 12' - 14' Height	25' on center	Evergreen tree - Full Sun Tolerant of poor conditions; Moderate growth rate; Prefers well-drained soils with medium moisture.
	CEDAR ELM <i>Ulmus crassifolia</i>	65 Gallon 6' - 8' Spread 12' - 14' Height	20' on center	Evergreen tree - Full Sun Drought tolerant; Handles reflected heat from pavement; Easy to grow in a wide range of soils.
	BIG TOOTH MAPLE <i>Acer grandidentatum</i>	65 Gallon 6' - 8' Spread 12' - 14' Height	20' on center	Deciduous tree - Full Sun or Part Shade Drought tolerant; high heat tolerance; Grows in a variety of well-drained soils from sand to clays and also white limestone rock areas.
	BALD CYPRESS <i>Taxodium Distichum</i>	65 Gallon 6' - 8' Spread 12' - 14' Height	25' on center	Deciduous tree - Full Sun Drought tolerant; Moderately fast growth rate; Can also do well in moist conditions but root 'knees' will appear; Likes well-drained soils best.
	CHINESE PISTACHE <i>Pistacia chinensis</i>	65 Gallon 6' - 8' Spread 12' - 14' Height	20' on center	Deciduous tree - Full Sun Drought tolerant; Easy to grow in any well-drained soil.














ORNAMENTAL TREES (20' H OR LESS)

Plant Image	Common / Botanical Names	Install Size	Minimum Spacing	Remarks
	DESERT WILLOW <i>Chilopsis linearis</i>	6' - 8' Spread 8' - 10' Height	15' on center	Deciduous Tree - Full Sun Drought tolerant; No known pests of major concern; Does not do well in moist conditions; Color: Summer pink flowers; yellow fall color.
	MESQUITE <i>Prosopis glandulosa</i>	6' - 8' Spread 8' - 10' Height	20' on center	Deciduous tree - Full Sun Drought tolerant; Does well in many different soil types from sand to heavy clays.
	MEXICAN PLUM <i>Prunus mexicana</i>	6' - 8' Spread 8' - 10' Height	15' on center	Deciduous Tree - Full Sun or Shade Drought resistant; Color: White spring flowers; orange fall color.
	POSSUMHAW HOLLY <i>Ilex decidua</i>	6' - 8' Spread 8' - 10' Height	12' on center	Deciduous Tree - Full Sun or Shade Drought tolerant; Easy to grow in any soil; Color: Red berries in winter.
	REDBUD <i>Cercis canadensis</i>	6' - 8' Spread 8' - 10' Height	15' on center	Deciduous Tree - Full Sun or Part Shade Drought resistant; Color: Spring pink/purple flowers.
	FLAMELEAF SUMAC <i>Rhus lanceolata</i>	6' - 8' Spread 8' - 10' Height	5' on center	Deciduous Tree - Full Sun or Part Shade Drought tolerant; Locate on open; sunny well-drained sites for best growth; Color: Red/Orange fall foliage.
	WAX MYRTLE <i>Myrica cerifera</i>	6' - 8' Spread 8' - 10' Height	8' on center	Evergreen Tree - Full Sun or Part Shade Drought Tolerant; Moderately fast growing; Grows in most soils; Color: small blue berries.
	VITEX <i>Vitex agnus-castus</i>	6' - 8' Spread 8' - 10' Height	15' on center	Deciduous Tree - Full Sun Drought tolerant; Easy to grow in most well-drained soils; Color: Summer light-purple flowers.
	YAUPON HOLLY <i>Ilex vomitoria</i>	6' - 8' Spread 8' - 10' Height	10' on center	Evergreen Tree - Full Sun or Part Shade Drought tolerant; Easy to grow in most any soils; Can grow in quite moist soil as well; Color: Red berries.



WOODY SHRUBS

Plant Image	Common / Botanical Names	Install Size	Minimum Spacing	Remarks
	CORAL BERRY <i>Symphoricarpos orbiculatus</i>	24" Spread 24" Height	24" on center	Full Sun to shade. Drought tolerant; Grows in most soils; Withstands neglect. Color: Winter berry.
	RED YUCCA <i>Hesperaloe parviflora</i>	18' - 24' Spread 18' - 24' Height	36" on center	Deciduous tree - Full Sun Drought tolerant; Does well in many different soil types from sand to heavy clays.
	SOFTLEAF YUCCA <i>Yucca glorioso</i>	18' - 24' Spread 18' - 24' Height	36" on center	Full Sun Tough plant; Will grow almost anywhere; Prefers well-drained soils; Color: Large white flowers in summers.
	TEXAS SAGE <i>Leucophyllum frutescens</i>	18' - 24' Spread 18' - 24' Height	36" on center	Full Sun Drought tolerant; Takes intense heat and reflected light; Grows in any soil with good drainage; Color: Summer pink/purple flowers.
	DWARF CHINESE HOLLY <i>Ilex cornuta rotunda</i>	18' - 24' Spread 18' - 24' Height	24" on center	Full Sun - Shade Drought tolerant; Grows in most soils.
	DWARF WAX MYRTLE <i>Myrica pusilla</i>	18' - 24' Spread 18' - 24' Height	36" on center	Full Sun or Part Shade Drought Tolerant; Moderately fast growing; Grows in most soils; Color: small blue berries.
	TAM JUNIPER <i>Juniperus sabina 'Tamariscifolia'</i>	18' - 24' Spread 18' - 24' Height	24" on center	Full Sun Tall groundcover juniper; Requires well-drained soils.
	DWARF YAUPON HOLLY <i>Ilex vomitoria 'nana'</i>	18' - 24' Spread 18' - 24' Height	18" on center	Deciduous tree - Full Sun Drought tolerant; Does well in many different soil types from sand to heavy clays.
	CARISSA HOLLY <i>Ilex cornuta 'Carissa'</i>	12' - 18' Spread 18' - 24' Height	18" on center	Full Sun or Shade Drought resistant; Grows in most soils.
	CHERRY SAGE <i>Salvia greggii</i>	24" Spread 24" Height	24" on center	Full Sun. Drought tolerant; Grows in most soils; Withstands neglect. Color: Blooms from frost to frost.
	LANTANA <i>Lantana horrida</i>	24" Spread 24" Height	24" on center	Full Sun. Drought tolerant; Grows in most soils; Withstands neglect. Color: summer flowers.











TALL GRASSES (36" H OR HIGHER)

Plant Image	Common / Botanical Names	Install Size	Minimum Spacing	Remarks
	MISCANTHUS 'ADAGIO' Miscanthus sinensis 'Adagio'	seed or 1 or 3 gallon	36" on center	Full Sun Prefers well-drained, moist soils in hot conditions; Mow in winter; Foliage: silvery
	BIG BLUESTEM Andropogon gerardii	seed or 1 or 3 gallon	5' on center	Deciduous tree - Full Sun Drought tolerant; Does well in many different soil types from sand to heavy clays. 'New Wave' and 'Roundtree' varieties offer shorter grass options.
	MISCANTHUS 'GRAZIELLA' Miscanthus sinensis 'Graziella'	seed or 1 or 3 gallon	5' on center	Full Sun Prefers well-drained, moist soils in hot conditions; Mow in winter; Foliage: green with large white blooms in summer.
	INDIAN GRASS Sorghastrum nutans	seed or 1 or 3 gallon	5' on center	Full Sun - Light Shade Drought tolerant; Prefers well-drained soils; Mow in winter; Foliage: blue-green
	MISCANTHUS 'MORNING LIGHT' Miscanthus sinensis 'Morning Light'	seed or 1 or 3 gallon	48" on center	Full Sun Prefers well-drained, moist soils in hot conditions; Mow in winter; Foliage: green/white
	GULF MUHLY Muhlenbergia capillaris	seed or 1 or 3 gallon	36" on center	Full Sun Drought tolerant; Foliage: blue-green, purple fall color
	LINDHEIMER MUHLY Muhlenbergia lindheimeri	seed or 1 or 3 gallon	5' on center	Full Sun Drought tolerant; Prefers well-drained soils; Foliage: grey-silver
	SWITCH GRASS Panicum virgatum	seed or 1 or 3 gallon	36" on center	Full Sun Prefers moist fertile soils; Foliage: blue-green
	HANSE HERMS SWITCH GRASS Panicum virgatum 'Hanse Herms'	seed or 1 or 3 gallon	36" on center	Full Sun Prefers moist fertile soils; Foliage: tinged red
	RED SWITCH GRASS Panicum virgatum 'Rotstrahlbusch'	seed or 1 or 3 gallon	36" on center	Full Sun Prefers moist fertile soils; Foliage: tinged red





LOW GRASSES (36" H OR LESS)








Plant Image	Common / Botanical Names	Install Size	Minimum Spacing	Remarks
	BROOMSEGE BLUESTEM <i>Andropogon virginicus</i>	4" pot or 1 gallon container	36" on center	Full Sun - Part Shade Prefers well-drained, moist soils in hot conditions; Mow in winter; Foliage: green.
	WHITE TOPPED SEDGE <i>Dichromena colorata</i>	4" pot or 1 gallon container	12" on center	Full Sun - Part Shade Prefers well-drained, moist soils in hot conditions; Mow in winter; Foliage: green.
	MEXICAN FEATHER GRASS <i>Stipa tenuissima</i>	4" pot or 1 gallon container	36" on center	Full Sun Prefers well-drained soils; Mow in fall; Foliage: green.
	GULF MUHLY <i>Muhlenbergia capillaris</i>	4" pot or 1 gallon container	24" on center	Full Sun to part shade Drought tolerant; Prefers well-drained soils; Mow in late winter; Foliage: Stiff green bunch grass, pincushion effect.
	INLAND SEA OATS <i>Chasmanthium latifolium</i>	4" pot or 1 gallon container	24" on center	Full Sun - Part Shade Drought tolerant once established; Prefers well-drained soils; Foliage: light-green.
	SIDE OATS GRAMA <i>Bouteloua curtipendula</i>	4" pot or 1 gallon container	24" on center	Full Sun Drought tolerant once established; Adapts to most soils; Foliage: light-green.
	WEeping LOVEGRASS <i>Eragrostis curvula</i>	4" pot or 1 gallon container	12" on center	Deciduous tree - Full Sun Drought tolerant; Does well in many different soil types from sand to heavy clays.
	BLUE SEDGE <i>Carex flacca</i>	4" pot or 1 gallon container	12" on center	Full Sun - Light Shade Drought tolerant once established; Does well in moist to dry soils; Foliage: blue-grey.
	SPIKE RUSH <i>Elyocharis spp.</i>	4" pot or 1 gallon container	24" on center	Full Sun - Light Shade Drought tolerant once established; Does well in moist to dry soils; Foliage: dark green..



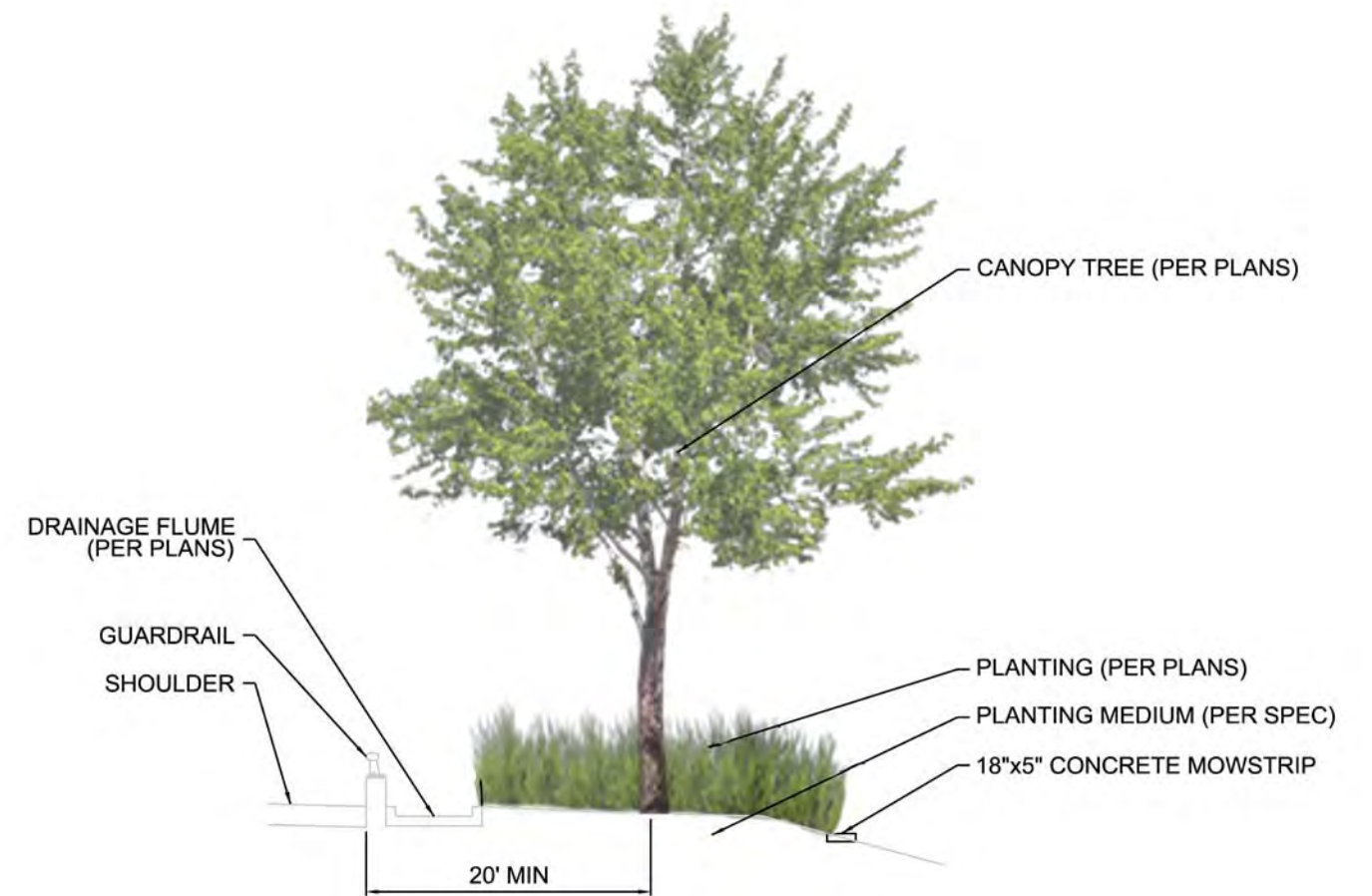
TURF GRASSES (12" H OR LESS)

Plant Image	Common / Botanical Names	Install Size	Minimum Spacing	Remarks
	BUFFALOGRASS <i>Buchloe dactyloides</i>	seed or sod	n/a	Full Sun Extreme drought and heat tolerance; Well-drained soils; Mow as needed for weed control; Foliage: grey-green.
	BERMUDAGRASS CV. <i>Cynodon dactylon</i>	seed or sod	n/a	Full Sun Drought and heat tolerance; Well drained soils; Frequent mowing needed; Foliage: green. Drought tolerant varieties available.
	WINTER RYE <i>Secale cereale</i>	seed or sod	n/a	Full Sun Overseed turf areas in fall for winter green accents. Foliage: green.
	BLUE GRAMA <i>Bouteloua gracilis</i>	seed	n/a	Full Sun Drought tolerant once established; Can be combined with buffalograss; Mow as needed for weed control. Foliage: grey-green.

VINES

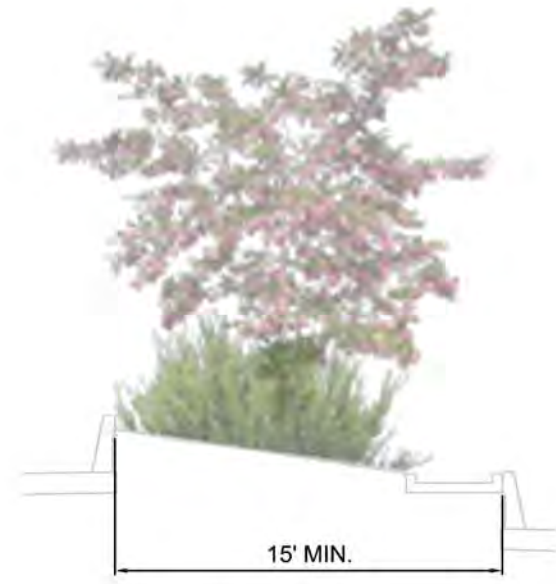
Plant Image	Common / Botanical Names	Install Size	Minimum Spacing	Remarks
	BOSTON IVY <i>Parthenocissus tricuspidata</i>	4" pots or 1 gallon	36" on center	Full Sun Offers erosion control; Extremely Hardy; Fast grower; Foliage: green.
	CORAL HONEYSUCKLE <i>Lonicera sempervirens</i>	4" pots or 1 gallon	12" on center	Full Sun Easy Care Plant; Extremely Hardy; Foliage: green, showy flowers in summer. Needs trellis for support.
	VIRGINIA CREEPER <i>Parthenocissus quinquefolia</i>	4" pots or 1 gallon	36" on center	Full Sun - Part Shade Drought tolerant; Prolific climbing vine which thrives in most soils; Foliage: green
	PURPLELEAF WINTERCREEPER <i>Euonymus fortunei 'Coloratus'</i>	4" pots or 1 gallon	24" on center	Full Sun Cold hardy and durable; Offers great erosion control on slopes and banks; Foliage: Deep green, plum in cool seasons.
	ASIAN JASMINE <i>Trachelosperum asiaticum</i>	4" pots or 1 gallon	24" on center	Sun to shade Cold hardy and durable; Foliage: Deep green, thorough coverage when used with Wintercreeper. Evergreen.
	CLIMBING FIG IVY <i>Ficus pumila</i>	4" pots or 1 gallon	24" on center	Sun to shade Cold hardy and durable; Foliage: Deep green, thorough coverage. Evergreen.
	CROSSVINE <i>Bignonia capreolata</i>	4" pots or 1 gallon	12" on center	Sun to shade Cold hardy and durable; Foliage: Deep green, Evergreen. Showy flowers in spring.



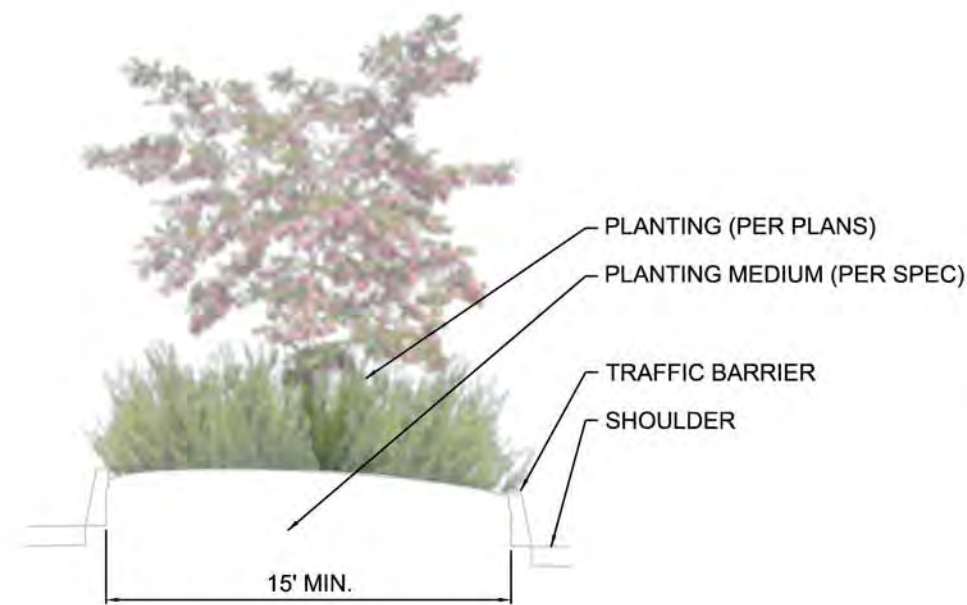


Section: Tree Planting at Frontage - Typical

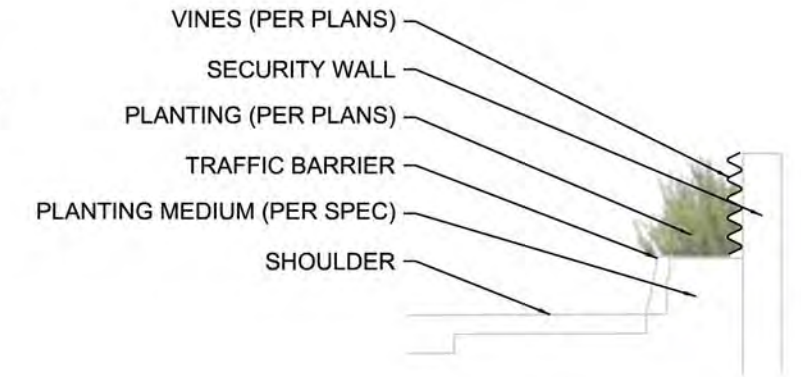




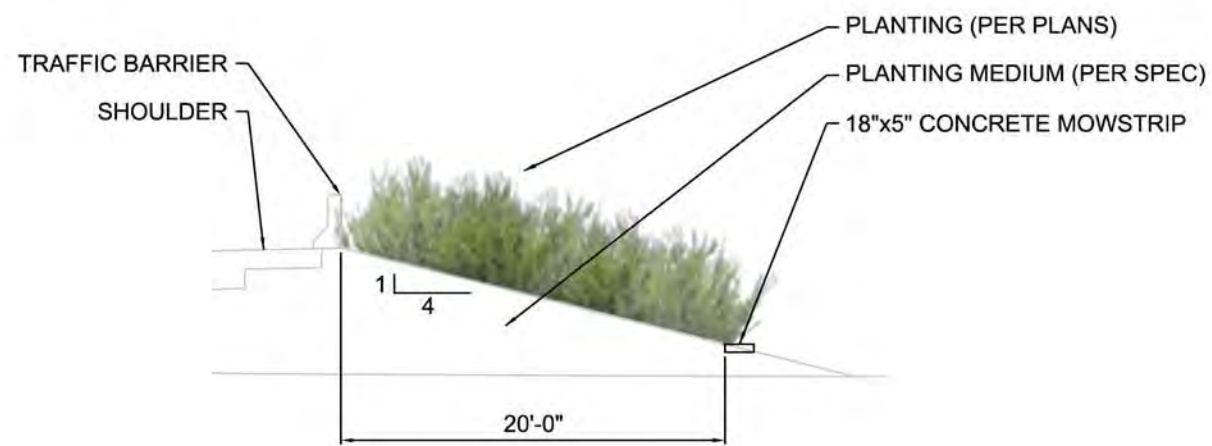
Section: Landscape at Raised Median at Superelevation - Typical



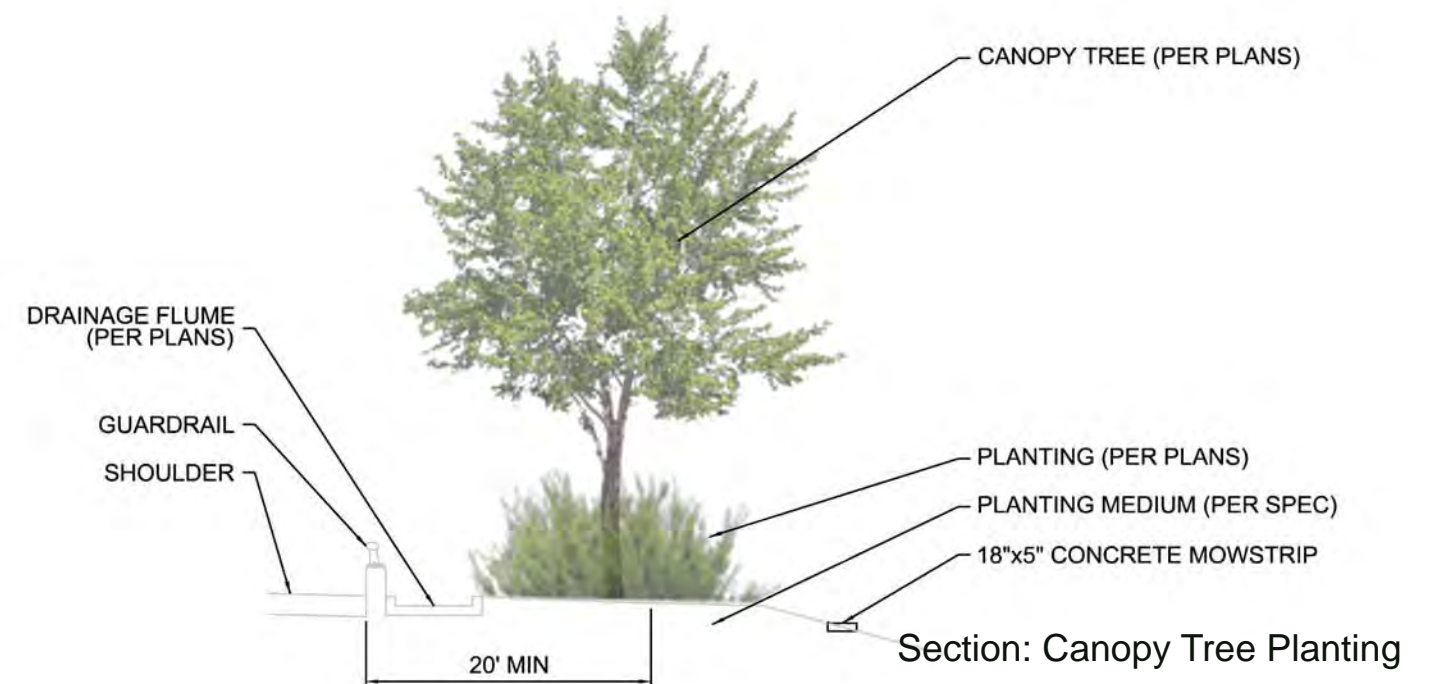
Section: Landscape at Raised Median - Typical



Section: Planting at Frontage



Section: 20' Planting Zone



Section: Canopy Tree Planting



Irrigation System Description

Because of the unique nature of the Trinity Parkway project being located within a flood control levee, the irrigation system proposed for the Trinity Parkway will vary from the systems typically installed on NTTA corridors.

The U.S. Army Corps of Engineers will not allow for permanent, below grade, irrigation systems to be installed on the levee. This will necessitate either the installation of a temporary irrigation system above grade, or watering with spray trucks from the top of the levee to establish the vegetation. Other raised planting areas either in the median or along the separation wall at planted locations will be irrigated with a drip irrigation system. This system will be operable as needed for establishment of plant materials, and may be discontinued following plant establishment. Alternative means of irrigation may become an option as the adjacent Trinity Park project begins construction. All irrigation systems shall be centrally controlled. Each focus or treatment area will have an automatic field controller connected to the central control system. Daily irrigation schedules can be adjusted by a weather station also connected to the central controller.

Irrigation System Components

Central Controller System: The central control system will be connected via fiber optic cable or ethernet to each field controller throughout the system. The central system shall also be connected to a weather station that will compute run times based on daily evapotranspiration data.

Field Controller: Each site controller shall include a rain and freeze sensor programmed to interrupt a cycle during a rain event or cold temperatures that are strong enough to disrupt the intended spray pattern or carry water to the main lanes of the facility. Locate sensors adjacent to the central controller system mounted on a galvanized pole or mounted on an elevated structure (ie. fence) to keep away from ground moisture.

Freeze Sensor: The field controller shall contain a temperature sensor that interrupts cycles when the temperature dips below 38 degrees Fahrenheit (38°F).

Water Meters: Provided by the city as described in 'Water Source.' (on following page)

Backflow Prevention Devices: All backflow prevention devices shall be double-check valve assemblies unless city codes require a more stringent device. The device shall be equipped with a brass y-strainer if it is a double check assembly. The y-strainer shall be located on the upstream side. The y-strainer and backflow device shall be of the same size as the meter provided.

Pressure Regulators: Provide regulators to limit outflow pressure at each watering device to within 25 percent of the optimum working pressure. This may be an integral part of the remote control valve.

Filters: All drip zones shall have a 200 mesh filter installed prior to the lateral distribution lines.

Remote Control Valves: Valves shall be sized to prevent a pressure loss exceeding five PSI during projected flow. Each valve should have a flow control stem.

Pipe: Class 200 PVC may be used for pressure piping. Fittings that account for thermal expansion shall be used in connections between HDPE and PVC piping. HDPE piping shall be used at all sweeps and riser sections.

Spray Sprinklers: Spray sprinklers shall be pressure regulating and contain seals to contain up to 10 vertical feet of water in the lateral lines when not operating. Pop up height should be determined by the mature height of proposed plant materials. Spray heads will only be used on temporary, above grade installations on the top of the levee - if applicable.

Rotor Sprinklers: Rotor sprinklers shall contain nozzles with a minimum flow of three (3) gallons per minute to limit the effects of wind and evaporation. All nozzles shall be installed to assure matched precipitation rates. Pop up height shall be determined by the ultimate height of the proposed plant materials. Rotor sprinklers will only be used on temporary, above grade installations on the top of the levee - if applicable.

Drip Tubing: All drip tubing shall contain in-line emitters with integral spacing equal or smaller than the tube layout spacing. Emitters shall be pressure compensating. Tubing shall be UV and clog resistant, installed 4 inches below grade and staked to remain beneath the mulch layer. An indicator will be installed in each loop to provide maintenance staff with visual confirmation of a working zone.

Flow Meters: Install flow meters that automatically shut down the irrigation system if an overflow condition occurs due to damage to the system. Flow meters will be programmed to help identify line breaks before any damage can occur.

Quick Coupling Valves: Install quick coupling valves for on-site water access. Specify products that maintain operational durability, in-ground durability and vandal resistance.

Meter Isolation Valve: All irrigation meters shall have an isolation valve located a maximum of three feet downstream from the meter. The isolation valve shall be located between the meter and backflow device. The isolation valve shall be brass and be equipped with a tee handle. The valve should be of the same size as the meter provided.

Master Valves: If a master valve is used on an irrigation system connected to a potable water supply through a double check valve, pressure vacuum breaker, or reduced pressure principle backflow assembly, the master valve must be installed on the discharge side of the backflow prevention device.



Design Standards

Irrigation Zones: The irrigation system shall be zoned to afford appropriate control of the water application to plants. Typically this is achieved by zoning by plant species or by water usage needs. Zoning of irrigation shall also consider position on slopes. Separate tree rings or bubblers shall be provided for trees installed at large sizes (2" cal. or greater).

Areas for Treatment: Turf grasses will not typically be irrigated. The intent of the irrigation system is to protect the investment of nursery stock materials during establishment and during severe periods of drought. Irrigation treatment of specific plant types shall be as follows:

Trees, Shrubs, and Ornamental Grasses: To conserve water, a grid of in-line drip tubing shall be installed at each planted row and fed by sub-surface PVC lateral lines. The tubing shall be installed at a depth of four inches below finished grade. See "Drip Line Diagram" on the following page for a graphic representation of the anticipated layout.

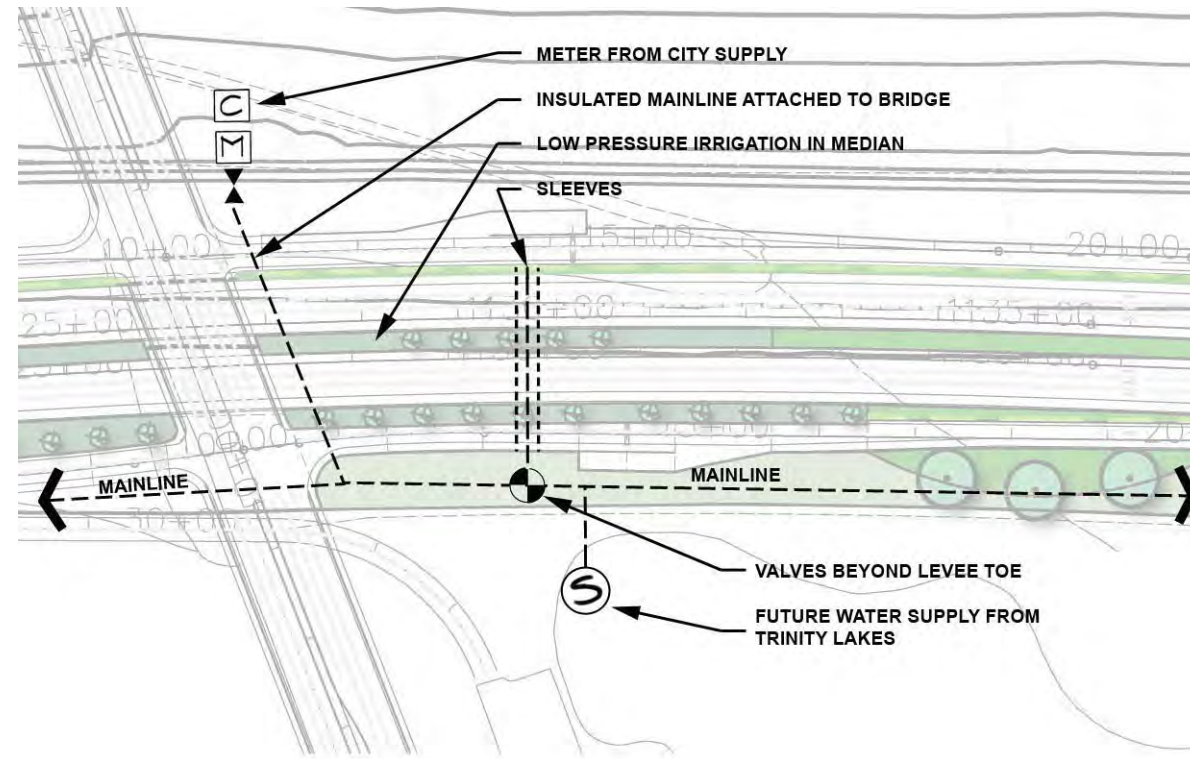
Water Source: It is anticipated that water used throughout the system will be potable water purchased from the City or Dallas. During conceptual design, the irrigation consultant shall contact the city water department to determine availability of water and pressure limitations.

In other similar projects, meter locations and city code requirements will be coordinated with the water department and the local building department, cities have provided water taps and meters. This process will require coordination between the NTTA and the city to resolve any issues involving installation costs.

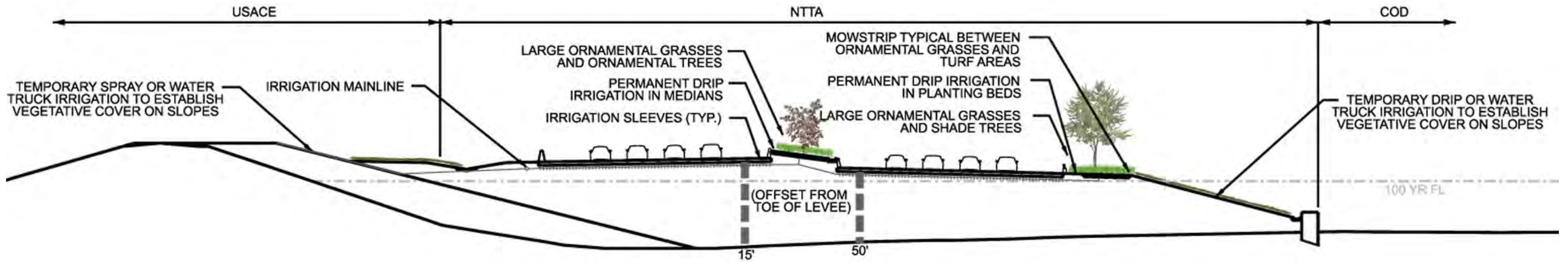
Design considerations shall include the possibility that the irrigation system could convert to a lake fed system from lakes created within the Trinity Park. Because it is difficult to determine completion of the park project, immediate water source will need to be potable water from the City of Dallas with the option to redirect supply if it becomes available.

Power Source: Power service connections to the irrigation controller shall utilize existing NTTA power sources. New metered services for irrigation shall be avoided. Coordinate power requirements with ITS CCTV needs.



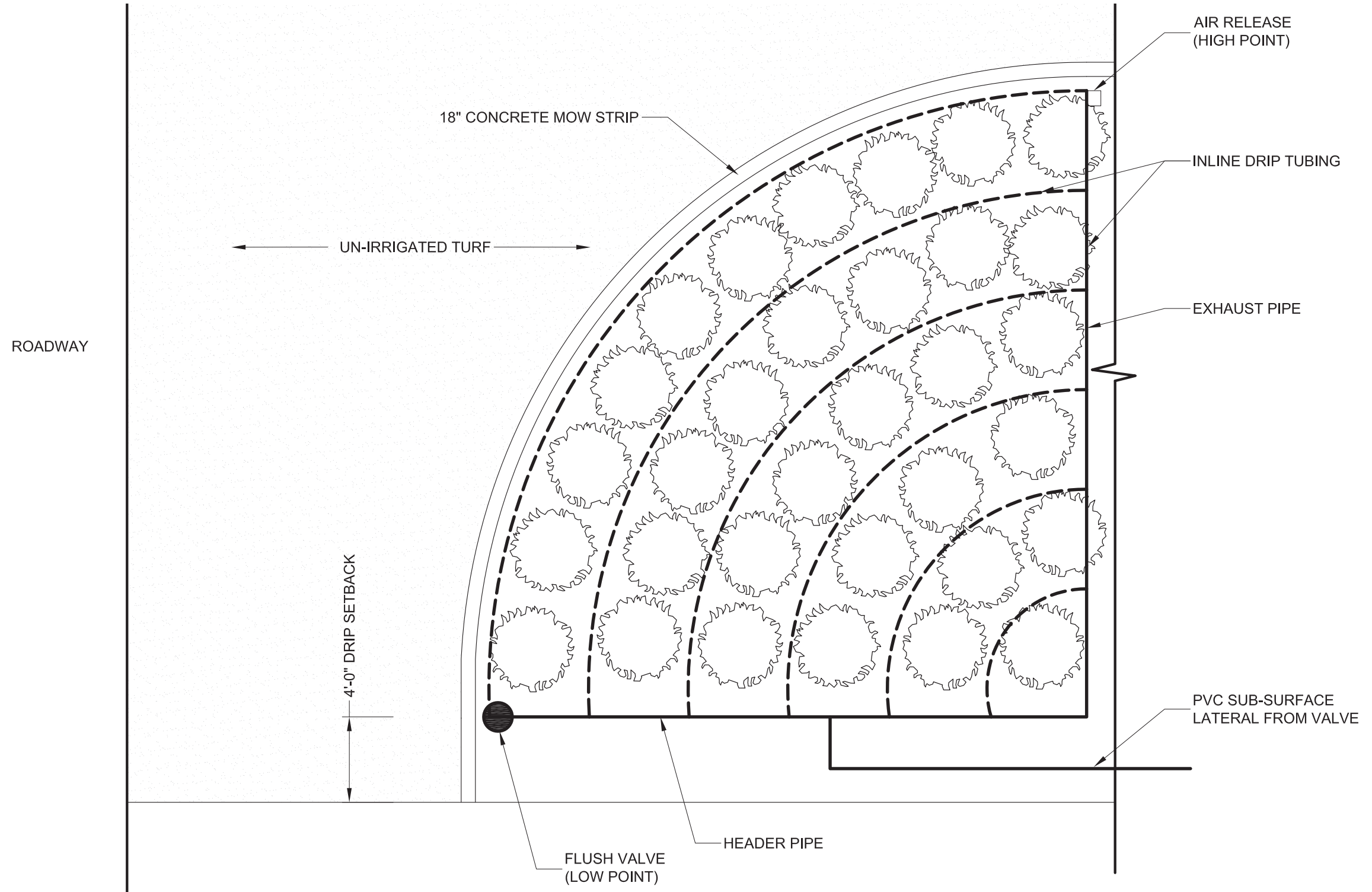


Plan: Typical Irrigation



Section: Typical Irrigation





Sleeving for Irrigation System (Included in Roadway Plans)

Overview

Sleeving is needed to allow installation of irrigation piping and control wiring under pavements. Roadway plans should indicate the locations of sleeving for future irrigation use. By including these sleeves on the roadway plans, the installation can be made by the open trench method which should reduce costs compared to horizontal drilling. Sleeving that can not be installed by the open trench method will normally be installed by horizontal drilling at the time of the irrigation system installation.

Materials

Sleeving installed by the open trench method shall be Schedule 80 PVC pipe. Each crossing shall include a six-inch sleeve for irrigation piping and a four-inch sleeve for control wiring. Different sleeve types may be required at crossings under frontage roads or cross streets not under NTTA control. Standard ground boxes and delineators shall be located at the ends of each crossing to mark the locations of the sleeves. In addition, trace wire shall be provided along the length of each sleeve, with coiled ends of the wire terminated in ground boxes.

Locations

Provisions for sleeves shall be made at planned landscape focus areas. The section engineer may need to determine approximate locations of these sleeves if the landscape and irrigation consultants are not under contract. While general guidance for the sleeve locations can be provided, procedures for each focus area will vary. Sleeve locations should follow the likely route of irrigation mains from the most likely source of public water to each of the intersection quadrants and the center median. This routing should avoid crossing under retaining walls and should not depend on hanging irrigation piping from under bridges.

Special Conditions

It may be determined that sleeving must cross under or through the base of a retaining wall. To minimize excavation behind the wall by the irrigation contractor, these sleeves should include a large radius sweep to allow for future irrigation pipe placement behind the wall with a vertical riser extending up to a ground box. It is very important that any vertical sleeves be installed at the time that the wall is constructed. (Refer to NTTA standard sheet IRS-001(1)-2008)

Depth and Length

The depth of final sleeve installation shall be determined by the section engineer, but shall allow no less than four feet of cover from the paving surface to the top of sleeve. Sleeving must extend beyond the paving structure a distance of at least five feet. At locations that will have a moisture barrier extending beyond the roadway paving the section engineer shall provide additional sleeve length to clear the moisture barrier. Additional sleeve length shall also be provided to clear future roadway widening by at least five feet.



Sleeving for Irrigation System (Included in Irrigation Plans)

Overview

Sleeving is needed to allow installation of irrigation piping and control wiring under pavements. Irrigation plans shall indicate the locations of existing sleeving and other sleeving needed for the irrigation system. Roadway pavements are typically built before the irrigation construction begins. This requires the use of horizontal drilling techniques to install irrigation sleeving under the existing pavement.

Materials

Sleeving installed by horizontal drilling methods can be either Schedule 80 PVC pipe or thick walled HDPE piping. HDPE sleeving is the preferred material when placing sleeving by horizontal drilling. Each crossing typically includes a 6 inch sleeve for irrigation piping and a 4" sleeve for control wiring. Different sleeve types may be required at crossings under frontage roads or cross streets not under NTTA control.

Locations

Provisions for sleeves shall be made at planned landscape focus areas. While general guidance for the sleeve locations can be provided, the procedure for each focus area will vary. Sleeve locations shall follow the likely route of irrigation mains from the most likely source of public water to each of the intersection quadrants and the center median. This routing should avoid crossing under retaining walls and should not depend on hanging irrigation piping from under bridges.

Depth and Length

The depth of sleeves installed by horizontal drilling shall be deeper than sleeving placed by open trench to ensure that the procedures involved in the drilling do not cause deflection (heaving or settling) of the paving structure above.

The depths of sleeving installed by boring shall allow for a minimum of six feet of cover at ramps and at the outside edge of mainlane shoulders, a minimum of ten feet of cover at mainlane roadways and a minimum of four feet of cover at frontage roads. These depths are subject to change by the NTTA.

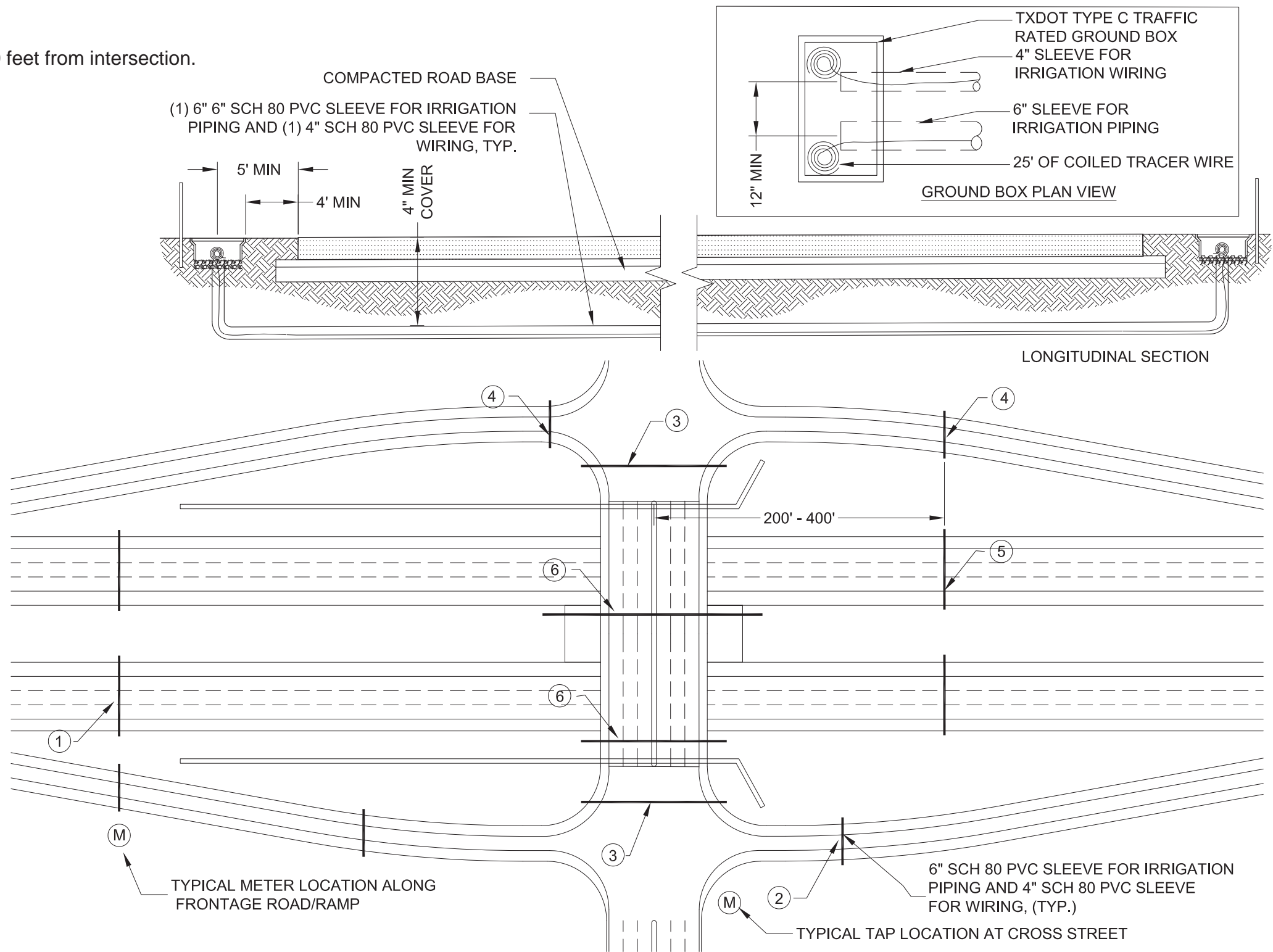
Sleeving must extend beyond the paving structure a distance of at least five feet. At locations that have a moisture barrier extending beyond the roadway paving, additional sleeve length shall be provided to clear the moisture barrier. Consideration should also be given to providing additional sleeve length to clear future roadway widening. This additional length for widening may be installed by open trench methods after boring is completed.



Irrigation - Prototypical Underpass Sleeving Diagram

Notes:

1. Locate sleeves beyond retaining wall limits
 2. Locate sleeve near taps and as space allows between frontage road and walls.
 3. Provide sleeves at cross streets where possible.
 4. Provide alternative sleeves to allow tap location option
 5. Sleeve locations away from walls generally 200 feet - 400 feet from intersection.
 6. Provide sleeve under bridge. (typically has riprap paving)
- Ground boxes to have NTTA irrigation labels.



Irrigation - Prototypical Overpass Sleeving Diagram

Notes:

1. Locate sleeves beyond retaining wall limits
 2. Locate sleeve near taps and as space allows between frontage road and walls.
 3. Provide sleeves at cross streets where possible.
 4. Provide alternative sleeves to allow tap location option
 5. Sleeve locations away from walls generally 200 feet - 400 feet from intersection.
 6. Provide sleeve with sweeps and risers for control wiring. (where cross street sleeves cannot be provided)
- Ground boxes to have NTTA irrigation labels.

