PSWS 2026 Transportation Design

1. Objective

As a team working for a transportation engineering firm, your objective is to integrate design and analytical approaches to repurpose a cancelled freeway into an active transportation corridor that provides connectivity to non-motorized networks and a major public transit hub.

2. Participant Rules

- Each college/ university may enter only one team.
- Team members must be members of an ASCE Student Chapter in good standing and be Society Student Members of ASCE.
- Everyone on the team must be a registered participant of PSWS 2026.
- Teams must consist of a minimum of four members and a maximum of eight members.
- All team members must be present during the presentations.
- The team must have at least one first- or second-year student.
- The team must have at least one person identifying with pronouns he/ him/ his and one person identifying with pronouns she/ her/ hers.

3. Project Area Status

California State Route 710 was the designation for a proposed freeway segment intended to fill a gap between Interstate 10 in Monterey Park and Interstate 210 in Pasadena. The proposed freeway was defunded in 2017 due to local community opposition. Subsequently, California legislators passed a bill, numbered (appropriately) Senate Bill 710 that created a task force to consider how to reallocate the transportation uses for the corridor extending north from Interstate 10.

Your team's scope shall remain confined to the area as shown in the following map, which is smaller than that specified by Senate Bill 710.

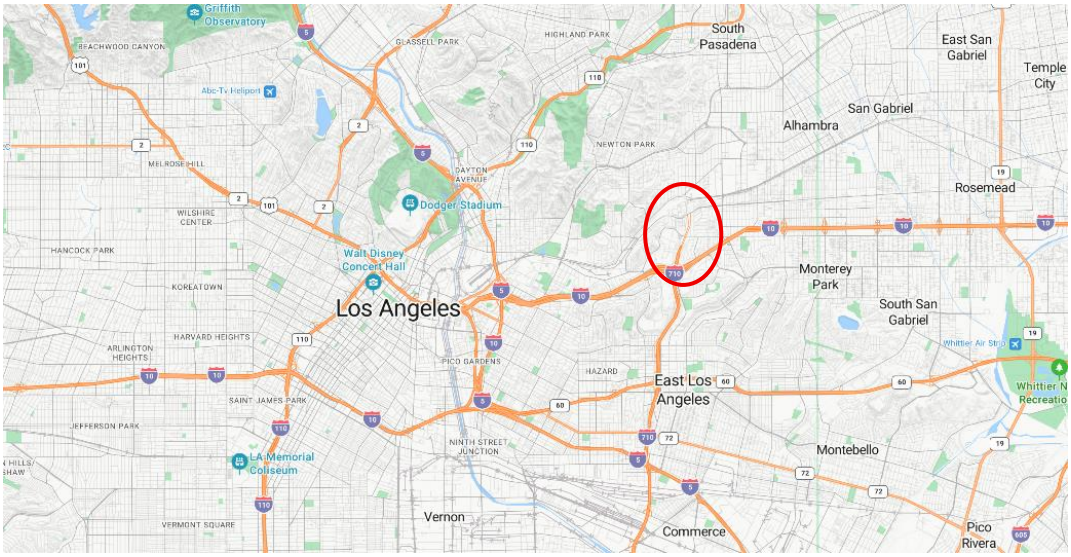

Figure 1 General Location

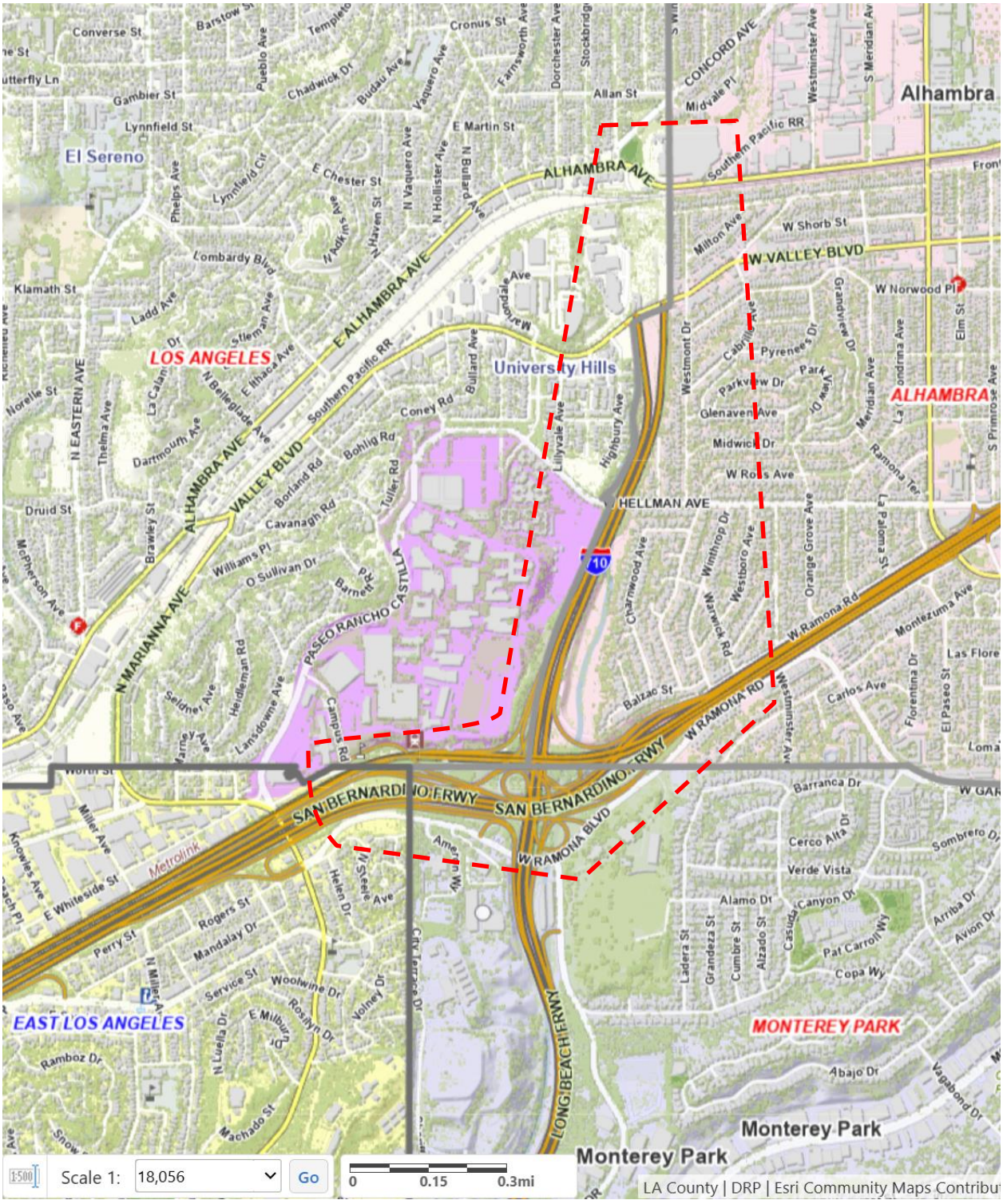

Figure 2 Project Area

Figure 3 Government Ownership Right-of-Way

The California Department of Transportation (Caltrans) is in the process of relinquishing an existing mile-long freeway segment, known colloquially as the 710 South Stub, to the City of Alhambra. This 4- to 6-lane freeway segment, constructed in 1963 when it was known as State Route 167 or the Long Beach Freeway, stretches northward from I-10 (known then as the San Bernardino Freeway) to Valley Boulevard. Alhambra is considering the possibility of reducing the width of the freeway to that of an arterial street and installing a shared pedestrian and bicycle path alongside it through a park-like setting, as shown in the following figure.

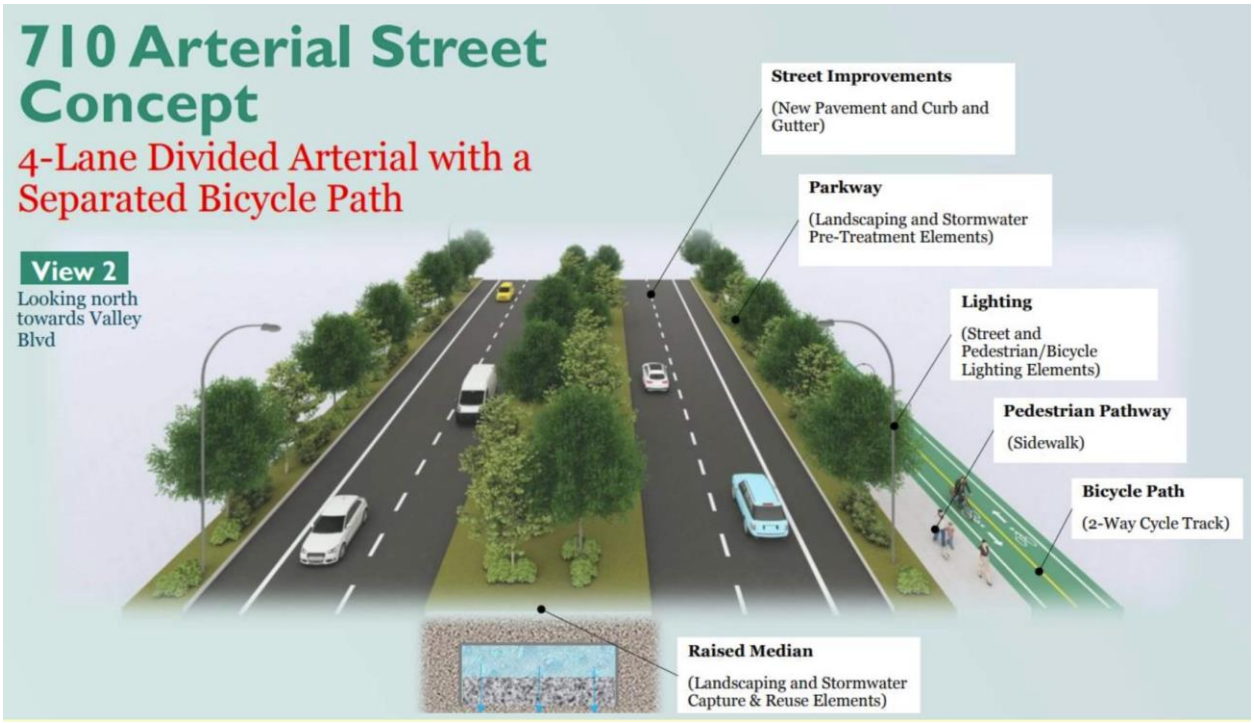

Figure 4 City of Alhambra's 710 Arterial Street Concept

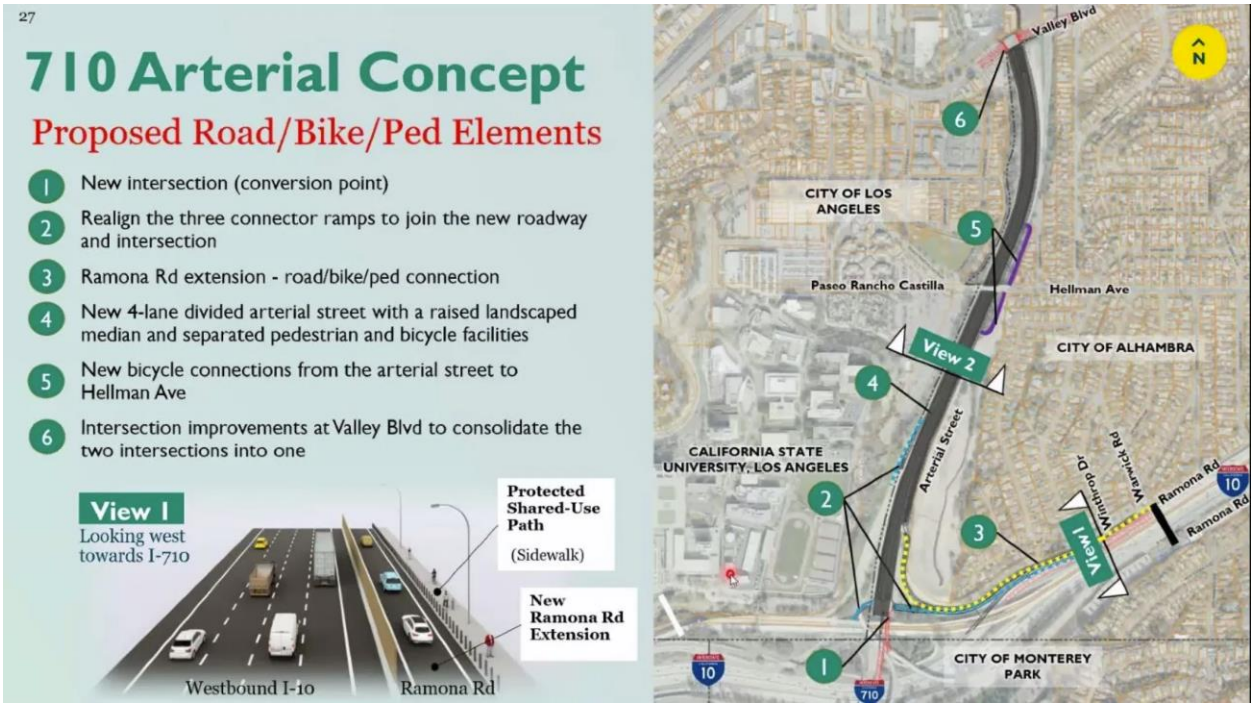

Figure 5 City of Alhambra's Road/Bike/Ped Elements

The vehicular freeway is envisioned to be downgraded to an arterial street with a signalized intersection north of the I-10 interchange and ramp connections to Hellman Avenue. However, as of the present day, Alhambra has not yet determined where the bicycle path or pedestrian pathway terminates at its south end.

A notable constraint is a flood control channel originally known as the Dorchester Drain, now known as the Luguna Channel, that runs along the west edge of the 710 South Stub freeway southward from Valley Boulevard to a point about 440 feet south of Paseo Rancho Castilla, then passes through a culvert beneath the I-710 freeway lanes to reach a drainage facility called Laguna Regulating Basin near the intersection of the I-710 and I-10 freeways.

Within the Cal State LA campus is a major transit hub that allows students to access a Metrolink commuter train station, a bus rapid transit system that runs in high-occupancy vehicle (HOV) lanes along I-10, and local buses. The entrance to the transit hub is at 450 feet elevation, elevated 80 feet above the 710 freeway lanes where it passes beneath the I-10 HOV lane. (The elevation difference was measured using https://pw.lacounty.gov/mpm/gis/fcd/.) No connection between the transit hub and Alhambra's bike and pedestrian path has been developed. To date, a bike/pedestrian path connection stretching south across I-10 to reach Ramona Boulevard has not been developed, either.

North of Valley Boulevard, Caltrans currently owns a wide swath of land, in some places over 500 feet wide. Caltrans could sell its surplus land, although some land could be retained for public use for a future path or road, presumably owned and maintained by the City of Los Angeles. Caltrans currently leases to businesses such as a bus leasing company and a recycling plant. The largest lessees are the Grifols biopharmaceutical company, occupying the 3220 W. Front Street parcel, and Cal State LA, occupying two parcels labeled 5675 Valley Boulevard. Cal State LA is unlikely to renew its lease when it expires, but Grifols has indicated an interest in purchasing its parcel.

Figure 6 Caltrans Surplus Property

The Union Pacific Railroad operates on east-west freight rail tracks running parallel to and just south of Alhambra Avenue within the City of Los Angeles, which transitions to Mission Road within the City of Alhambra. The Los Angeles/Alhambra city limit lies along the eastern edge of the Caltrans surplus property. There is currently no way for pedestrians or cyclists to travel in a north-south direction across the Union Pacific railroad other than through lengthy diversions, either via Fremont Avenue to the east or via the Valley Boulevard/Marianna Avenue overpass to the west. To eliminate these diversions, bicycle advocates have suggested that a new bicycle path be built at Lowell Avenue beneath the railroad tracks through an underpass that would allow cyclists and pedestrians to travel between Alhambra Avenue and Valley Boulevard.

4. Project

Your team has been hired by the 710 South Stub Task Force to develop conceptual plans to improve pedestrian and cyclist connectivity to the broader transportation network. The 710 South Stub study area stretches from Ramona Boulevard within the City of Monterey Park north to Alhambra Avenue in the El Sereno community of the City of Los Angeles. South of Valley Boulevard, the City of Alhambra envisions downgrading the freeway within its city limits to an arterial street and providing a pedestrian and bicycle path along the east edge. Beyond that, connectivity to major destinations or to the other bike and pedestrian networks has not yet been developed. North of Valley Boulevard, Caltrans owns a wide swath of land that could potentially be sold, but some of which could be retained for non-vehicular transportation.

Major stakeholders will be Caltrans and the Cities of Alhambra, Los Angeles, and Monterey Park. Other parties of concern will be the County of Los Angeles Flood Control District and Cal State LA, as well as local residents who live in Los Angeles, Alhambra, and Monterey Park.

Potential connections could include, but are not limited to, the following:

- A path across the UP railroad reaching Alhambra Avenue and Mission Road in the cities of Los Angeles and Alhambra.
- A path to West Front Street in the City of Alhambra.
- A bike and pedestrian street crossing or overcrossing of Valley Boulevard.
- Ramp or ramps from Alhambra’s proposed bike/ped path to Hellman Avenue and Paseo Rancho Castilla.
- A connection to W. Ramona Road at Winthrop Drive, or to the Warwick Road pedestrian overcrossing of I-10.
- An east-west pedestrian and bike route across the 710 stub north of the I-10 FastTrak Express Lanes.
- A pedestrian and bike path to the Cal State LA Metrolink and busway station.
- A path extending south across I-10 to Ramona Boulevard in Monterey Park.

Your team is not expected to prepare design concepts for all or even most of the above, but to select those that you consider to be the most feasible and beneficial towards the goal of promoting bicycle and pedestrian connectivity.

Assumptions:

- Your team's recommendations should stay within the public rights-of-way, which includes land owned by the California Department of Transportation. Your recommendations may include land owned by California State University Los Angeles, the County of Los Angeles Flood Control District, or the cities of Los Angeles, Alhambra, or Monterey Park.
- All bicycle path widths must conform to the minimum standards in the latest Caltrans Highway Design Manual, Chapter 1000. All pedestrian access routes must conform to Chapter 4 of the 2010 Americans with Disabilities Act (ADA) Standards. Where pedestrians share a path with bicyclists, the path's grade shall conform to the 2010 ADA Standards. More recent ADA guidelines may be used if they are stricter than those of the 2010 ADA Standards.
- Caltrans as-built plans for the existing freeway segment between Valley Boulevard and points south of I-10 are provided to your team. For other features, use publicly available sources such as USGS topo maps, Los Angeles County GIS maps, or Google Earth Pro.
- Calculation of traffic vehicular level-of-service in terms of delay or volume/capacity is beyond the scope of this project.
- Environmental Analysis and Impacts are not part of this project.

5. Design Report

All teams must submit a report providing the following information. The report is to complement the presentation, providing detailed descriptions of the planning process. Teams should explain in detail how they address the project and its challenges, and describe the different design elements that were considered with respect to circulation and accessibility.

Cover Page

Include the name of the institution, the names of all team members, the title of the report, and the date submitted.

Table of Contents / List of Figures & Tables

The Table of Contents must be neat and legible. Each team must include the page numbers of major sections of their report. It must also have a section for all tables and/or figures.

Project Understanding & Approach

Introduce the objectives of the report and provide a brief description of the project. Be sure to mention any major parameters that affected your planning process.

Addressing Challenges and Issues

Clearly state your recommended solution(s) and why they are most desirable. Describe any problems that arose during the design process and how your team overcame them.

Design Layout and Recommendations

Provide a layout of the site, considering all of the elements listed above. This is not intended to be a final design-level layout, but rather a preliminary plan view with necessary details that help

describe the design. Designs should accommodate bicycles, pedestrians, and vehicle traffic. Where relevant, provide cross-sections and profiles. Super-elevations or cross-slopes for roadways, bike paths, or pedestrian access routes are not necessary.

This written portion of the report should describe decisions made, challenges addressed, and challenges that still remain beyond preliminary design (as part of a subsequent design phase of the project).

Cost-Benefit Analysis

At a high level, determine the cost of the various elements of the project vs. the benefits that they bring to the project. For example: "We added bike path X, which cost approximately Y, and has a Z quantifiable benefit to the project." Research various local/regional guidelines to quantify the type of features you use for this project.

References

All sources used as references to complete this report must be cited within this section. Please follow the ASCE citation style.

Page Count Limit (excluding title page and references) = 20 Pages

Deadlines:

The Design Report must be submitted digitally by **11:59 PM PST on Saturday, March 7, 2026**. All submissions must be sent to csula.asce@gmail.com. A hard copy of the report is not required. Teams must also submit their digital presentation (refer to the Presentation section below) to the same email address by **11:59 PM PST on Friday, March 27, 2026**.

All Requests for Information (RFIs) must also be submitted to csula.asce@gmail.com by **11:59 PM PST on Friday, January 23, 2026**.

Please adhere to the required email subject line formats:

- **RFIs:** ["University Name" RFI]
- **Design Report:** ["University Name" Transportation Design Report]

6. Presentation

Teams will present their project proposal during a digital presentation session at the conference.

Presentations will be limited to 15 minutes for each team to describe their project highlights. Each presentation will be followed by a 5-minute Q&A session with the judges.

Presentations should include at least the following elements:

- University name and names of all team members
- Project summary
- Challenges and solutions
- Benefit-Cost Analysis

7. Scoring

- Written Report: **75**
  - Project Understanding & Approach: 10
  - Challenge/Issues Considered: 10
  - Addressing Challenges/Issues: 20
  - Recommendations: 15
  - Cost-Benefit/Analysis: 10
  - Quality (QA/QC) of report: 10
- Project Presentation: **25**

Total: **100**

8. References:

SR 710 Terminus Regional Task Force website: https://www.710southstub.com/

California Senate Bill 710: https://legiscan.com/CA/text/SB710/id/2840954

County of Los Angeles GIS: https://rpgis.isd.lacounty.gov/Html5Viewer/index.html?viewer=GISNET_Public.GIS-NET_Public

Proposed Union Pacific bicycle underpass: https://www.youtube.com/watch?v=telACe-Gffk&t=46s

Caltrans Highway Design Manual, latest (in particular, Chapter 1003.1 Class I Bikeways (Bike Paths): https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm

Caltrans Design Information Bulletin (DIB) 89-02 (if your project includes a California Class IV Bikeway, also known as a Separated Bikeway or Cycle Track): https://dot.ca.gov/-/media/dot-media/programs/design/documents/dib-89-02-final-a11y.pdf

Americans with Disabilities Act 2010 Standards, Chapter 4 Accessible Routes, in particular, Sections 403.3 Slope, 403.5 Clearances, 405.2 Ramp Slope (for this project, none steeper than 1:12), 405.6 Ramp Rise, and 405.7 Ramp Landings: https://www.ada.gov/law-and-regs/design-standards/2010-stds/#401-general

FHWA Manual on Uniform Traffic Control Devices (MUTCD) 11th Edition (for traffic control devices): https://mutcd.fhwa.dot.gov/kno_11th_Edition.htm

As-Built Plans for State Route 710 (formerly SR 167 and SR 7), with some I-10 plans: 710 South Stub As-Built Plans