NOTICE OF WORKSHOP
OF THE WESLACO CITY COMMISSION
TUESDAY, JULY 15, 2025

NOTICE IS HEREBY GIVEN THAT the City Commission of the City of Weslaco, Texas will hold a Workshop in the Legislative Chamber of City Hall, located at 255 South Kansas Avenue, on Tuesday, July 15, 2025 at 4:00 PM for the purpose of discussing the following items:

NOTE: If during the meeting, any discussion of any item on the agenda should be held in executive or closed session, the Weslaco City Commission will convene in such executive or closed session whether such item is posted as an executive session item at any time during the meeting when authorized by the provisions of the Texas Open Meetings Act.

Pursuant to Texas Government Code Section 551.127, on a regular, non-emergency basis, the Weslaco City Commission may attend and participate in the meeting remotely by telephonic conference. Should that occur, a quorum of the members will be physically present at the location noted above on this agenda.

I. CALL TO ORDER

A. Certification of Public Notice.
B. Roll Call.

II. NEW BUSINESS

A. Discussion and presentation on future team building retreat. (Staffed Asst. City Manager.)

B. Discussion and presentation on collection services for weedy lot and EMS. (Staffed by Asst. City Manager.)

C. Discussion and presentation on Vo-tech Dr. & Pike Blvd Intersection preliminary engineering report by Colliers Engineering. (Staffed by Engineering Department.) Attachment.

D. Discussion and presentation on group health insurance for city employees. (Staffed by Human Resources Department.)

III. EXECUTIVE SESSION

Texas Government Code, Section 551 Open Meetings:
§551.145. Closed Meeting Without Certified Agenda or Tape Recording; Offense; Penalty
(a) A member of a government body commits an offense if the member participates in a closed meeting of the governmental body knowing that a certified agenda of the closed meeting is not being kept or that a tape recording of the closed meeting is not being made.
(b) An offense under Subsection (a) is a Class C misdemeanor.
§551.146. Disclosure of Certified Agenda or Tape Recording of Closed Meeting; Offense; Penalty; Civil Liability
(a) An individual, corporation, or partnership that without lawful authority knowingly discloses to a member of the public the certified agenda or tape recording of a meeting that was lawfully closed to the public under this chapter:

(1) commits an offense; and
(2) is liable to a person injured or damaged by the disclosure for:
(A) actual damages, including damages for personal injury or damage, lost wages, defamation, or mental or other emotional distress;
(B) reasonable attorney fees and court costs; and
(C) at the discretion of the trier or fact, exemplary damages.

(b) An offense under Subsection (a)(1) is a Class B misdemeanor.

(c) It is a defense to prosecution under Subsection (a)(1) and an affirmative defense to a civil action under Subsection (a)(2) that:
(1) the defendant had good reason to believe the disclosure was lawful; or
(2) the disclosure was the result of a mistake of fact concerning the nature or content of the certified agenda or tape recording. (Added by Acts 1993, 73rd Leg., ch 268, § 1, eff. Sept. 1, 1993.)

NOTE: Any documentation related to the following items will be maintained as part of the certified agenda.

A. Personnel - Discussion regarding the goals, objectives, and evaluation of the Assistant City Managers for the City of Weslaco as authorized by Section §551.074 of the Texas Government Code.

B. Legal Consultation – Discussion relating to the City's rights, duties, privileges, and obligations in connection to the Collective Bargaining Agreement with the Fire Union (IAFF-WFFA Local 3207) FY October 1, 2022 – September 30, 2025, as authorized by Section §551.071 of the Texas Government Code.

C. Legal Consultation – Consultation with the Attorney on a matter in which the duty of the attorney to the governmental body under the Texas Disciplinary Rules of Professional Conduct of the State Bar of Texas clearly conflicts with this chapter as authorized by Section §551.071(2) of the Texas Government Code.

D. Legal Consultation – Consultation with City Attorney regarding Liquid Environmental as authorized by Section §551.071 of the Texas Government Code.

E. Real Property - Consultation with City Attorney on the sale of real property located at Mid-Valley Airport, 1909 Joe Stephens relating to Hanger W31 from tenant Nelson Clopine, as authorized by Section §551.072 of the Texas Government Code.

IV. ADJOURNMENT

I hereby certify this **Notice of a Workshop of the Weslaco City Commission** was posted in accordance with the Open Meetings Act on the outside bulletin board at City Hall of the City of Weslaco, located at the 255 South Kansas Avenue entrance, visible and accessible to the general public during and after regular working hours. This notice was posted on this 11th day of July 2025 on or before 4:00 pm and will remain so posted continuously for at least 72-hours preceding the scheduled time of this meeting in accordance with Chapter 551 of the Texas Government Code.

/s/ Norma A. Cantu, City Secretary

NOTE: If during the course of the meeting, any discussion of any item on the agenda should be held in executive or closed session, the City Commission will convene in such executive or closed session whether or not such item is posted as an executive session item at any time during the meeting when authorized by the provisions of the Texas Open Meetings Act.

If any accommodation for a disability is required, please notify the City Secretary Office at (956) 968-3181, Ext. 1001 prior to the meeting date.

Removed from Bulletin Board	Date:	Initials:

PURSUANT TO SECTION 30.06, PENAL CODE (TRESPASS BY LICENSE HOLDER WITH A CONCEALED HANDGUN), A PERSON LICENSED UNDER SUBCHAPTER H, CHAPTER 411, GOVERNMENT CODE (HANDGUN LICENSING LAW), MAY NOT ENTER THIS PROPERTY WITH A CONCEALED HANDGUN".

“DE ACUERDO CON LA SECCION 30.06 DEL CODIGO PENAL (INGRESO SIN AUTORIZACION DE UN TITULAR DE UNA LICENCIA CON UNA PISTOLA OCULTA), UNA PERSONA CON LICENCIA SEGUN EL SUBCAPITULO H, CAPITULO 411, CODIGO DEL GOBIERNO (LEY SOBRE LICENCIAS PARA PORTAR PISTOLAS), NO PUEDE INGRESAR A ESTA PROPIEDAD CON UNA PISTOLA OCULTA”.

"PURSUANT TO SECTION 30.07, PENAL CODE (TRESPASS BY LICENSE HOLDER WITH AN OPENLY CARRIEDHANDGUN), A PERSON LICENSED UNDER SUBCHAPTER H, CHAPTER 411, GOVERNMENT CODE (HANDGUN LICENSING LAW), MAY NOT ENTER THIS PROPERTY WITH A HANDGUN THAT IS CARRIED OPENLY".

“DE ACUERDO CON LA SECCION 30.07 DEL CODIGO PENAL (INGRESO SIN AUTORIZACION DE UN TITULAR DE UNA LICENCIA CON UNA PISTOLA A LA VISTA), UNA PERSONA CON LICENCIA SEGUN EL SUBCAPITULO H, CAPITULO 411, CODIGO DEL GOBIERNO (LEY SOBRE LICENCIAS PARA PORTAR PISTOLAS), NO PUEDE INGRESAR A ESTA PROPIEDAD CON UNA PISTOLA A LA VISTA”.

Standardized Agenda Request Form

Date of Meeting: July 15, 2025	**Agenda Item No.** (to be assigned by CSO)**:** 2025-883
From:	
Subject: Discussion and presentation on future team building retreat. (Staffed Asst. City Manager.)	
Background:	
Funding Source (budget code, if applicable)**:**	
Amount: / Term of Impact: / Identified in Current Budget:	
Additional Action Prompted:	
If item previously considered, provide date and action by Commission:	
If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners:	
Advisory Review, if any (name of board/committee, date of action, recommendation)**:**	
ADELAIDA VEGA Xavier Salinas Xavier Salinas	Created
City Manager Comments:	
Staff Recommendation:	
Attachments, if any:	
Responsibilities upon Approval:	

Standardized Agenda Request Form

Date of Meeting: July 15, 2025	**Agenda Item No.** (to be assigned by CSO)**:** 2025-884
From:	
Subject: Discussion and presentation on collection services for weedy lot and EMS. (Staffed by Asst. City Manager.)	
Background:	
Funding Source (budget code, if applicable)**:**	

Amount:	Term of Impact:	Identified in Current Budget:

Additional Action Prompted:	
If item previously considered, provide date and action by Commission:	
If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners:	
Advisory Review, if any (name of board/committee, date of action, recommendation)**:**	
ADELAIDA VEGA Xavier Salinas Xavier Salinas	Created
City Manager Comments:	
Staff Recommendation:	
Attachments, if any:	
Responsibilities upon Approval:	

Standardized Agenda Request Form

Date of Meeting: July 15, 2025	**Agenda Item No.** (to be assigned by CSO)**:** 2025-826	
From:		
Subject: Discussion and presentation on Vo-tech Dr. & Pike Blvd Intersection preliminary engineering report by Colliers Engineering. (Staffed by Engineering Department.)		
Background:		
Funding Source (budget code, if applicable)**:**		
Amount:	Term of Impact:	Identified in Current Budget:
Additional Action Prompted:		
If item previously considered, provide date and action by Commission:		
If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners:		
Advisory Review, if any (name of board/committee, date of action, recommendation)**:**		
ARLENE LARA PETER HERMIDA Xavier Salinas	Created	
City Manager Comments:		
Staff Recommendation:		
Attachments, if any: 250620 CED Preliminary Engineering Report - Improvements at Intersection of Vo-Tech Dr and Pike Blvd		
Responsibilities upon Approval:		

Colliers
Engineering & Design

Preliminary Engineering Report

Traffic Control Improvements at Intersection of Vo-Tech Drive & East Pike Boulevard

June 20, 2025

Prepared for:

City of Weslaco
255 South Kansas Avenue
Weslaco, TX 78596

Prepared by:

STATE OF TEXAS
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Colliers Engineering & Design

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Executive Summary

The intersection of Vo-Tech Drive and East Pike Boulevard in the City of Weslaco serves a rapidly developing area influenced by educational facilities, commercial growth, and its proximity to Mid Valley Airport. Increased traffic volumes, a history of angle crashes, and growing regional demand have highlighted the need for a sustainable and safety-driven infrastructure solution.

This Preliminary Engineering Report (PER) evaluates four build alternatives and a no-build scenario to address long-term needs at the intersection. Each alternative was assessed based on traffic operations, safety performance, constructability, regulatory constraints—including FAA vertical clearance—and lifecycle cost-effectiveness. The analysis also considers community benefit, stakeholder impact, and alignment with Envision principles related to sustainability and resiliency.

Alternatives Evaluated

The Preliminary Engineer Report (PER) considered four build alternatives and one no-build scenario:

Alternative 1: All-Way Stop Control (AWSC) with Right-Turn Lane

A low-cost option that provides minimal operational benefit. It does not address long-term capacity needs and offers limited safety improvement.

Alternative 2: Signalized Intersection

Introduces improved traffic control but increases crash exposure. Vertical clearance concerns may conflict with FAA restrictions, requiring design modifications.

Alternative 3: Signalized Intersection with Right-Turn Lane

Improves capacity and operations relative to Alternative 2 but carries similar FAA compliance challenges and higher long-term maintenance costs.

Alternative 4: Single-Lane Roundabout

Offers the best safety and traffic performance, eliminates FAA vertical clearance issues, supports low-emission operations, and reduces long-term maintenance needs.

Key findings

Traffic Operations: Alternatives 3 and 4 meet long-term Level of Service (LOS) objectives, with the roundabout providing continuous flow and minimal delay.

Safety: The roundabout reduces conflict points from over two dozen to eight and addresses the primary crash pattern at the intersection.

FAA Considerations: The signal alternatives may conflict with protected airspace due to required mast arm heights. The roundabout avoids this issue entirely.

Cost-Benefit Analysis: Alternative 4 achieves the highest Benefit-Cost Ratio (2.01) and Net Present Value over a 20-year lifecycle.

Sustainability and Resiliency: The roundabout minimizes energy dependence, reduces emissions, and eliminates long-term signal maintenance.

Funding and Grant Opportunities: Due to the intersection's proximity to Mid Valley Airport and alignment with safety, mobility, and resiliency goals, certain state and federal funding programs may be applicable. While eligibility is not guaranteed, coordination with FAA, TxDOT Aviation, and grant agencies is recommended to assess potential support.

Recommendations

Based on the technical and policy evaluation, Alternative 4 – a single-lane roundabout is recommended as the preferred alternative. It offers the highest operational, safety, and economic value, supports FAA compliance, and advances the City's long-term vision for sustainable, community-centered infrastructure.

Next steps include FAA coordination, Subsurface Utility Engineering (SUE), right-of-way acquisition, public engagement, and final design. Funding strategies, including pursuit of competitive grants, should be explored in parallel to reduce the City's financial burden and strengthen implementation readiness.

Conclusions

The evaluation confirms that the intersection of Vo-Tech Drive and East Pike Boulevard requires an improvement strategy that is both effective and resilient. Of all options analyzed, the single-lane roundabout stands out as the most balanced solution—addressing critical safety concerns, optimizing traffic operations, and eliminating key risks associated with vertical clearance restrictions.

This recommendation aligns with the City's goals of delivering infrastructure that is sustainable, future-ready, and responsive to public needs. It also introduces the potential to pursue external funding and grant opportunities, which, if successful, could support project implementation and reduce local cost exposure.

Potential external funding sources have been identified that may support the implementation of the preferred alternative, subject to eligibility and agency coordination. These include FAA-administered programs for airport-related safety improvements and TxDOT grants for local infrastructure and mobility. While funding is not guaranteed, preliminary alignment with program objectives indicates the potential for partial cost support through competitive grant opportunities.

Introduction

The intersection of Vo-Tech Drive and East Pike Boulevard plays a pivotal role in Weslaco's growing transportation network. Located near critical regional facilities such as the Mid Valley Industrial Park, Mid Valley Airport, IDEA Weslaco Academy, and Hidalgo County offices, the intersection currently operates under conditions that are increasingly inadequate for the area's mobility and safety needs. This Preliminary Engineering Report (PER) was developed to assess those challenges and present viable alternatives for improvement.

The report includes an evaluation of the purpose and objectives of the study, background context that defines the scope of engineering work, the location's significance to the city's infrastructure, and the intended users and stakeholders whose collaboration will shape the path forward.

Purpose of Report

The purpose of this report is to present a comprehensive engineering evaluation of traffic control alternatives for the intersection of Vo-Tech Drive and East Pike Boulevard. The report identifies and analyzes deficiencies in the current all-way stop configuration and explores four improvement scenarios. These alternatives are assessed based on traffic operations, safety performance, constructability, environmental and utility impacts, FAA regulatory compliance, and life-cycle cost. The findings are intended to inform the City's decision-making process and support future funding, permitting, and design activities.

Background and General Scope of the Project

In recent years, the area surrounding the intersection has experienced significant growth, leading to increased traffic volumes, longer delays, and a rise in crash frequency—particularly severe angle collisions. The scope of this PER includes a thorough review of existing conditions, analysis of traffic operations and safety, identification of right-of-way and utility constraints, and coordination with the FAA regarding height limitations due to the nearby airport. The analysis culminates in a comparison of four alternatives, ranging from minimal improvements to full intersection reconstruction, with the goal of recommending a preferred long-term solution.

Project Location and Relevance to the City

The project is located at the intersection of Vo-Tech Drive (north-south) and East Pike Boulevard (east-west), both city-maintained minor arterials. This location is a key connector within Weslaco's infrastructure, providing access to major employment centers, educational facilities, and government services. Its operational efficiency is essential not only for traffic flow but also for supporting commercial logistics, school circulation, and public safety response. Improvements to this intersection will address current deficiencies while supporting the City's broader goals for economic development and mobility.

Intended Audience and Stakeholders

This report is intended for use by the City of Weslaco's elected officials, Public Works and Engineering staff, and administrative leadership as a technical foundation for capital project planning. In addition, the intersection directly impacts several stakeholders, including educational institutions, manufacturing and distribution facilities, Hidalgo County Precinct offices, and the National Guard. Their input will be instrumental in reviewing and refining the proposed alternatives. A full list of stakeholders and their relative locations is included in Appendix A– Intersection Vicinity Map.

Background and Problem Statement

This section outlines the current operational and safety challenges at the Vo-Tech Drive and Pike Boulevard intersection. It details the existing traffic control, identified deficiencies, and key concerns raised by the community and stakeholders.

Description of Existing Intersection Control

The intersection of Vo-Tech Drive, a north-south minor arterial, and East Pike Boulevard, an east-west minor arterial, is presently controlled by stop signs on all four approaches, functioning as an all-way stop. This form of control requires every approaching vehicle to come to a complete stop before proceeding through the intersection, a condition that becomes highly inefficient under heavy traffic volumes. The approaches feature dedicated left-turn lanes and either dedicated or shared through and right-turn lanes. The intersection currently lacks accommodations for pedestrians, as there are no sidewalks or marked crosswalks.

Identified Operational, Safety or Geometric Deficiencies

The existing all-way stop control has proven to be operationally deficient for managing the escalating traffic volumes. This inadequacy results in severe operational issues during peak periods, undermining mobility and creating economic friction for commercial operators through lost time and increased fuel consumption. Furthermore, a formal review of crash data reveals a pattern of collisions directly attributable to the intersection's control type. The prevalence of angle collisions—which are among the most severe in terms of injury risk—suggests that drivers are either misjudging gaps in the conflicting traffic streams or failing to comply with the stop control, creating a high-risk environment that requires mitigation. Further complicating potential solutions are geometric and site constraints, including limited right-of-way width and the intersection's location within the Runway Protection Zone of the Mid Valley Airport, which imposes vertical height restrictions governed by the Federal Aviation Administration (FAA).

Summary of Community or Stakeholder Concerns

The City of Weslaco has identified significant traffic congestion and delays as the primary community and stakeholder concerns. These issues are attributed to the cumulative traffic generated by the growth of the Mid Valley Industrial Park, the Mid Valley Airport, the IDEA Academy, and Hidalgo County Precinct #1 offices. For commercial entities, unreliable travel times disrupt logistics, while for parents and students of the academy, the congestion presents daily safety and scheduling challenges.

Summary of Existing Conditions

A comprehensive review of the intersection and its surrounding area was conducted, including a field investigation, traffic data collection, and analysis of historical crash data.

Roadway Layout and Traffic Control Configuration

The posted speed limit on both roadways is 30 mph. The eastbound and westbound approaches of Pike Boulevard each provide one dedicated left-turn lane and one shared through/right-turn lane. The northbound approach of Vo-Tech drive provides dedicated left, through, and right-turn lanes, while the southbound approach has a dedicated left-turn lane and a shared through/right-turn lane. There are no accommodations for pedestrians, such as sidewalks and marked crosswalks, which discourages non-vehicular modes of travel at the intersection. A map of the existing intersection, indicating the existing traffic flow directions, is included in Appendix B – Existing Intersection Layout and Typical Cross Section.

Peak-Hour Traffic Volumes and Movement Distribution

Turning movement counts were conducted on Thursday, April 24, 2025, and Saturday, April 26, 2025. The analysis identified weekday morning (7:30 AM to 8:30 AM), weekday evening (4:00 PM to 5:00 PM), and Saturday midday (12:00 PM to 1:00 PM) as the peak operational periods. During the weekday morning peak hour, several key movements of the intersection operate at a Level of Service F (LOS "F"). This manifests as long, frustrating delays for motorists, most notably impacting the eastbound left-turn and the southbound through/right-turn movements. Complete movement distribution and peak hour traffic volume and Turning Movement data is included in Appendix C of this report.

Historical Crash Data and Safety Concerns

A review of the most recent five years of crash data obtained from the Texas Department of Transportation's Crash Records Information System (CRIS) revealed a total of 15 crashes at the intersection. A significant portion of these incidents, approximately 40%, were angle-type collisions. This high percentage of right-angle crashes is a strong indicator that the all-way stop control is failing to safely manage conflicting movements. The data indicates that these were all attributed to either a failure to yield the right-of-way or a complete disregard of the existing stop signs. The fact that approximately 25% of all reported crashes resulted in an injury underscores the need for safety-focused improvements that can mitigate the risk of these severe crash types. Appendix D – Historical Crash Data includes the complete CRIS data for this intersection.

Existing Utility Conflicts & Right-of-Way (ROW) Constraints

The presence of existing utility infrastructure, including gas, water, sanitary sewer, underground power and telecommunications lines, within the public right-of-way will require careful coordination and potential relocation for any major construction project. Please refer to Appendix E – Existing

Utilities Map for a visual depiction of the existing utilities at the intersection. Please note that this map was drafted without the benefit of a Subsurface Utility Engineering (SUE) investigation, the location of utilities is based on structures and markings visible during field inspection. The complexity and cost of these relocations must be considered in the evaluation of alternatives. This cost may vary widely depending on the depth and condition of the utility's underground appurtenances (structures, valves, pipes, conduits, etc.). SUE investigation at the intersection was included in the original proposal for this PER, however, the City decided to forego the location of utilities at this time. CED recommends a SUE investigation be performed prior to undertaking any improvements at the intersection.

The intersection is subject to physical constraints that impact potential improvement alternatives. The available public right-of-way is limited, which restricts the feasibility of solutions that require significant roadway widening or the addition of multiple lanes without necessitating the acquisition of private property

Environmental and Cultural Resources

A desktop review of environmental and cultural resources was conducted for the project area to identify potential constraints.

Natural Resources: The project is located in the Lower Rio Grande Valley Ecoregion. The site consists of flat plains with non-hydric sandy clay loam and clay loam soils. A review of the U.S. Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI) and the USGS National Hydrology Dataset (NHD) indicates no mapped wetlands or other jurisdictional waters of the U.S. within the project area. A USFWS Information for Planning and Consultation (IPaC) report identified twelve federally listed species potentially occurring in the project vicinity; however, the desktop habitat assessment concluded that no suitable habitat for these species exists within the project's direct impact area. Therefore, a preliminary determination of "No Effect" on federally protected species is made. No designated critical habitat is present within the project area.

Cultural Resources: A review of the Texas Historical Commission's Archeological Sites Atlas (TASA) shows that the immediate project area has not been previously surveyed for cultural resources. However, there are no documented archeological sites, historic properties, or cemeteries located within or directly adjacent to the project boundaries. The nearest resource is a historical marker approximately 0.89 miles away, which will not be affected by any of the proposed alternatives.

The desktop review did not identify any significant environmental or cultural resource constraints that would preclude the construction of any of the proposed alternatives. Formal agency consultation will be required during the design phase to confirm these findings. The full Environmental and Cultural Resources Desktop Review is included as Appendix O of this report.

Field Photos and Site Observations

CED conducted a physical field visit to the project site on June 13, 2025. Appendix F – Photographs of Existing Conditions includes photographs along with a description of the conditions observed. The site photographs visually reinforce the intersection configuration, right-of-way limitations, complexity of existing utilities, and traffic conditions.

FAA Restrictions and Coordination

This section details the critical influence of Federal Aviation Administration (FAA) regulations on the project, specifically addressing Part 77 airspace surfaces, analyzing vertical clearance limitations, confirming the requirement for FAA Form 7460-1, and outlining necessary coordination efforts. It concludes by explaining how these FAA restrictions directly impact the feasibility and design of proposed improvements. A detailed FAA Coordination Report is provided under Appendix G of this report.

Summary of FAA Part 77 Surfaces and Potential Airspace Impacts

The intersection lies within the Runway Protection Zone (RPZ) of the nearby Mid Valley Airport. As such, it is governed by Federal Aviation Administration (FAA) regulations under 14 CFR Part 77, which defines protected airspace to ensure the safety of aircraft operations.

At the time of this report, formal FAA coordination regarding vertical clearance requirements is ongoing. The analysis presented herein assumes a conservative approach based on current FAA regulations for approach surfaces near general aviation airports. The final classification of the controlling approach surface—whether visual or non-precision—remains pending and is a key step before detailed signal design or height-sensitive elements are advanced. Continued communication with the FAA and Mid Valley Airport is recommended to confirm applicable design thresholds.

Analysis of Elevation Limits and Vertical Clearance Constraints

Based on communication with Mid Valley Airport/FAA officials and review of airport approach documentation, there is uncertainty regarding the final runway designation for Runway 32. This analysis therefore considers two potential scenarios for the controlling approach surface: a non-precision instrument runway with a 34:1 slope, and a visual runway with a 20:1 slope. This results in a range for the maximum allowable height of any new structure at the most restrictive point of the intersection (the northwest corner).

Visual Runway Scenario (20:1 slope): The maximum allowable structure height is 32 feet.

Non-Precision Runway Scenario (34:1 slope): The maximum allowable structure height is 19 feet.

Final confirmation of the applicable slope is pending from Mid Valley Airport and the FAA. Please refer to Appendix G of this report for a visual representation of the control approach surface.

FAA Authorization Process for Improvements at Vo-Tech Drive and Pike Boulevard Intersection

The proposed improvements at the intersection of Vo-Tech Drive and Pike Boulevard are located approximately 825 feet southeast of Runway 32 at Mid Valley Airport. Because the project lies along the extended centerline of Runway 32 and in close proximity to the airport, it falls within protected

airspace regulated under Title 14 of the Code of Federal Regulations, Part 77. Accordingly, any elements involving vertical construction, such as signal poles or signage, must be reviewed by the Federal Aviation Administration (FAA) to assess their potential impact on navigable airspace.

Part 77 defines a series of imaginary surfaces intended to safeguard aircraft operations near airports. These include the primary, approach, transitional, horizontal, and conical surfaces. The dimensions and slopes of these surfaces vary depending on the classification and operational use of the runway. For runways serving visual flight operations, the approach surface begins 200 feet beyond the runway end and rises at a slope of 20 feet horizontally for every 1 foot vertically. For runways supporting non-precision instrument approaches, the approach surface rises more gradually, following a 34-to-1 ratio. These classifications determine the height limitations for nearby structures and are a critical factor in design and permitting.

At this time, Runway 32 does not have a published instrument approach procedure on file with the FAA. According to current FAA records, instrument approach capability is established only for Runway 14. However, staff at Mid Valley Airport have confirmed that a study to evaluate approach options for Runway 32 is planned under the airport's upcoming Capital Improvement Program. Although the results of this study are not expected until 2026, they may lead to a reclassification of the runway and could introduce additional constraints on allowable structure heights.

For this project, the design team must verify whether any proposed vertical structures would exceed the limits defined by Part 77 surfaces. To initiate the required FAA review, the project sponsor must submit FAA Form 7460-1, titled Notice of Proposed Construction or Alteration. This form is filed electronically through the FAA's Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) system and must include geospatial coordinates, structure dimensions, elevation data, and proposed construction timelines.

Once submitted, the FAA will conduct an aeronautical study to determine whether the proposed construction poses a hazard to air navigation. This process generally takes between 30 and 45 days. Upon completing the review, the FAA will issue either a Determination of No Hazard, allowing the structure to proceed as proposed, or a Determination of Hazard, which may include conditions such as reducing the height, changing the location, or modifying the design.

Following the FAA's determination, the project team will review the outcome with the City of Weslaco, the Weslaco Economic Development Corporation, Mid Valley Airport representatives, and, if applicable, the Texas Department of Transportation. Any necessary adjustments to the proposed improvements will be incorporated into the design prior to final permitting.

This coordination process with the FAA is a critical step in the successful delivery of the project. It ensures compliance with federal airspace protection standards and supports the continued safety and efficiency of aircraft operations in the vicinity of Mid Valley Airport.

Coordination with FAA and Applicable Documentation

Coordination with the Mid-Valley Airport director has been initiated to ensure a collaborative process. All necessary forms and engineering exhibits will be submitted to the FAA Southwest Regional Office for review and approval prior to the finalization of design plans.

How FAA Restrictions Influence Feasibility of Improvements

The uncertainty of the allowable vertical clearance directly influences the feasibility and cost of any traffic control intersection improvement that includes installation of a traffic light. If the more restrictive 19-foot limit is confirmed, standard traffic signal poles and mast arms would not be permissible. This would require a specialized, low-profile design (such as span-wire signals or custom poles), adding significant cost and complexity to the signalized alternatives. Other traffic control options like addition of dedicated turn lanes or installation of a roundabout, being inherently low-profile, are fully compliant under either scenario and are therefore insulated from this design and cost risk.

Temporary Solutions

At the outset of this study, the City of Weslaco requested consideration of a temporary measure to manage traffic congestion at the intersection of Vo-Tech Drive and Pike Boulevard. In response, Colliers Engineering & Design (CED) chose to withhold any recommendation or design of an interim solution until the Preliminary Engineering Report (PER) could be completed. This approach allowed for a more informed evaluation based on technical findings and regulatory constraints. With the PER now finalized, there is a clear foundation to support discussion of a temporary option while the City moves forward with the selection and implementation of a long-term solution.

Description of Interim Control or Modifications

To address recurring traffic issues during peak periods, the City has been assigning traffic police officers to manually direct traffic. As a more sustainable and cost-effective alternative, the City has expressed interest in deploying a mobile temporary traffic signal system. One such system under consideration is the STS PTS-1000A, which includes four trailer-mounted units equipped with five-section signal heads.

The system operates independently using solar power with battery backup and features a Real-Time Traffic Management System that supports remote monitoring, programming, and control. It includes both radar and video vehicle detection to enable dynamic signal adjustments based on actual traffic flow conditions. This level of responsiveness offers a significant improvement over basic fixed-timing signal systems.

Opinion of Probable Construction Cost (OPCC)

A formal Opinion of Probable Construction Cost (OPCC) has not yet been prepared. The uncertainty surrounding the final selection of a permanent alternative and the need for confirmation of applicable FAA height restrictions have delayed cost estimation. A detailed OPCC will be developed and submitted at the time a proposal is prepared for the design and installation of the selected temporary system.

Timeline for Implementation

If the City elects to proceed, the portable signal system can typically be delivered within 30 days of order placement. Once on-site, setup, testing, and programming can be completed in a few days. The total time from notice to proceed to full operation is expected to be approximately four to five weeks.

Benefits and Limitations of the Temporary Solution

The most immediate benefit of a temporary traffic signal is the reduction in operational costs associated with manual traffic control. By replacing police officers with an automated system, the City can redirect personnel resources while maintaining consistent traffic operations. The proposed

intelligent signal system also provides a higher level of service than standard temporary signals due to its real-time detection and adaptive control capabilities.

The equipment's mast arm height of approximately 17 feet complies with current FAA clearance criteria for both visual and non-precision instrument runways, which are 19 feet and 32 feet respectively. This ensures that the system does not interfere with protected airspace near Mid Valley Airport.

Despite these advantages, the temporary solution does not correct the geometric deficiencies of the intersection. It also lacks the long-term safety improvements that would be achieved through construction of a roundabout or a permanent signal. The number of traffic conflict points remains unchanged, and the presence of trailer-mounted equipment introduces fixed-object hazards along the roadside. Furthermore, the City would be responsible for routine on-site maintenance of the units throughout the period of deployment.

Conclusion and Recommendation

The use of a portable traffic signal system presents a viable short-term measure to address immediate congestion issues at the intersection, particularly while the City completes coordination with the FAA and advances the selection of a long-term alternative. This option offers operational efficiency, reduced labor costs, and compatibility with FAA clearance requirements.

It is recommended that the City consider deploying a temporary signal system if delays are expected in the implementation of a permanent solution. The system would provide short-term relief while preserving flexibility in final design decisions. However, it is also important to emphasize that the temporary system should not be viewed as a substitute for a long-term infrastructure improvement. Investment in a permanent solution will ultimately be required to address the intersection's geometric limitations and deliver lasting safety and mobility benefits.

Future Conditions Without Improvements (No-Build)

This section projects future traffic conditions in the absence of any improvements, analyzing traffic growth assumptions, expected future volumes, and the resulting degradation in Level of Service, delays, and queue lengths. It concludes by outlining the operational and safety consequences of taking no action.

Traffic Growth Assumptions

To assess the long-term viability of the intersection, future traffic volumes for the design year 2035 were projected. These projections were based on a 2.00% annual background growth rate, a figure established in coordination with the City of Weslaco to account for anticipated regional employment and population growth, consistent with historical trends in the Rio Grande Valley.

Expected Future Traffic Volumes and Turning Movement Projections

In a No-Build scenario, the operational performance of the intersection is projected to degrade by 2035. The analysis indicates that several key movements will operate at a Level of Service “F” (LOS “F”) during peak hours. Specifically, the southbound through/right-turn movement is expected to fail during both the AM and PM peak periods, with the eastbound left-turn and northbound through movements also failing in the AM peak. This severe congestion will manifest in extensive vehicle queues that far exceed the available storage capacity. The 95th percentile queue for the southbound approach, for instance, is projected to reach an untenable 613 feet during the AM peak and 573 feet in the PM peak. Refer to Figure 3 in the Intersection Control Evaluation (ICE) report in Appendix N of this report for detailed traffic volume diagrams.

Estimated Level of Service (LOS), Delays, and Queue Lengths

Under the No-Build conditions, the analysis projects that the intersection will continue to experience traffic back-ups operationally. During the weekday morning peak hour, the eastbound left-turn movement, the northbound through movement, and the southbound through/right-turn movements are all expected to experience delays that result in a Level of Service of "F". The southbound through/right-turn movement will also operate at LOS "F" during the weekday evening peak hour. These conditions are characterized by extreme delays and queuing that can cause traffic to spill back into and block upstream intersections and driveways.

Operational and Safety Consequences if No Improvements Are Made

Based on a review of crash data obtained from TxDOT’s Crash Records Information System (C.R.I.S.) Query Tool, many of the crashes occurred due to a failure to yield the right of way or a complete disregard of the stop signs. These incidents will most likely continue and could potentially become more frequent as traffic volumes increase in the future.

Alternatives

Four build alternatives were developed and analyzed to address the traffic control challenges identified at the intersection. Each alternative was evaluated individually, and the findings are summarized in the following section.

All-Ways Stop Control with Dedicated Right-Turn Lane

Description of the Proposed Intersection Improvement

The first alternative enhances the existing conditions by adding a dedicated 235-foot right-turn lane to the southbound approach of Vo-Tech Drive, a modification warranted by 2035 traffic projections. This configuration yields a greater operational benefit. The addition of the turn lane would necessitate right-of-way acquisition on the west side of Vo-Tech Drive. The FAA clearance is not an issue for this alternative as the traffic control will continue to be via stop sign. Please refer to Appendix H of this report for a visual representation of the proposed intersection layout and cross section.

Level of Service Impacts & Projected Crash Data

This solution offers only a marginal operational improvement for one approach and does not fundamentally address the intersection-wide capacity or safety issues. Level of Service Calculations are summarized in Appendix I of this report.

Timeline for Implementation

The anticipated duration for this build scenario is 60 days for design and permitting and an additional 30 days for construction totaling 90 days for complete implementation. A schedule detailing the anticipated durations for implementation of this alternative is included in Appendix J of this report

Engineering and Construction Cost Estimate

Preliminary analysis estimates the total construction cost to be $163,078.50. Appendix K of this report contains a detailed Opinion of Probable Construction Cost (OPCC) for this proposed alternative. Additional total cost to implement this build scenario include engineering design, utility coordination, right-of-way acquisition, and permitting.

Right-of-way and Utility Impacts

A preliminary utility conflict analysis indicates that even this minimal build scenario would create conflicts with existing water, sanitary sewer, telecom, gas, and electrical infrastructure. Appendix L includes a chart summarizing the utility conflicts associated with this proposed alternative. This solution requires right-of-way acquisition at all four corners of the intersection. The build scenario layouts included in Appendix H include a summary of the Right-of-Way Impact for this alternative.

Permitting Requirements

As both Vo-Tech Drive and Pike Boulevard are city-maintained streets, requests to add a dedicated right-turn lane at the intersection will need to be directed to the City of Weslaco's Public Works and Engineering Departments. The City of Weslaco Ordinance directs that any work conducted within the City right-of-way will require an Engineering Utility Permit Application. A Notice of Proposed Construction or Alteration (Form 7460-1) must be submitted to the FAA prior to undertaking the proposed improvement at the intersection.

Constructability Review and Proposed Phasing

The primary constructability considerations for this alternative are the significant pre-construction activities that must be completed. The entire project schedule is contingent upon the City of Weslaco successfully acquiring the required right-of-way impact area. Equally critical is the need for a comprehensive utility investigation, as the layout lacks information on existing underground infrastructure. Identifying and planning for potential utility relocations is essential to prevent costly delays.

Once construction begins, the main challenges will revolve around site logistics and traffic management. The project involves installing new asphalt pavement with curb and gutter on what is currently undeveloped land, requiring clearing, earthwork, and careful subgrade preparation. A detailed Maintenance of Traffic plan will be required to manage vehicle flow through the four-way stop intersection, likely utilizing shoulder closures and temporary lane shifts during paving operations. Key construction details will include ensuring a durable pavement tie-in with the existing Pike Boulevard and properly managing site drainage affected by the new curb and gutter system.

The proposed construction may be undertaken through a single phase, as the improvements only affect a single direction of travel.

Cost-Benefit Considerations

This solution offers a slight operational improvement for the southbound approach but fails to address the fundamental capacity and safety issues. It retains a high number of conflict points (26) and would still result in significant delays and idling emissions under future traffic volumes. As a low-cost, minimal improvement, this option serves primarily as a temporary measure that would likely need to be replaced by a more substantial solution in the near future, representing a sunk cost. A complete list of Cost-Benefit related items is included in Appendix M of this report.

Signal-Only Control

The second alternative considers the installation of a traffic signal while retaining the intersection's existing lane geometry. A traffic signal warrant analysis confirms that signalization is justified under the projected 2035 traffic volumes per the Texas Manual on Uniform Traffic Control Devices

(TMUTCD). Operationally, this alternative would improve the LOS of all movements to "D" or better, but it would not sufficiently mitigate vehicle queueing, which would remain problematic. A Safety Performance for Intersection Control Evaluation (SPICE) analysis predicts that signalization would result in a higher rate of both total and fatal/injury crashes compared to the existing configuration. This alternative would require minimal right-of-way acquisition. Recent coordination with the FAA has confirmed a vertical clearance of 34.6 feet, which is sufficient to accommodate standard traffic signal infrastructure without specialized design. Please refer to Appendix H of this report for a visual representation of the proposed intersection layout and cross section.

Level of Service Impacts & Projected Crash Data

Operationally, this improves the intersection to an overall LOS of "D" or better, but long queues on the eastbound approach would continue to exceed available storage. A safety analysis predicts that a traffic signal would increase total and fatal/injury crash rates compared to a roundabout. Level of Service Calculations are summarized in Appendix I of this report.

Timeline for Implementation

The anticipated duration for this building scenario is 150 days for design and permitting and an additional 90 days for construction totaling 240 days for complete implementation. A schedule detailing the anticipated durations for implementation of this alternative is included in Appendix J of this report.

Engineering and Construction Cost Estimate

Preliminary analysis estimates the total construction cost to be $716,625.00. Appendix K of this report contains a detailed Opinion of Probable Construction Cost (OPCC) for this proposed alternative. Additional total cost to implement this building scenario includes engineering design, utility coordination/relocation, right-of-way acquisition, power consumption, maintenance, and permitting.

Right-of-way and Utility Impacts

While requiring minimal right-of-way acquisition, the installation of signal poles and foundations would conflict with existing water, sanitary sewer, telecom, gas, and electrical lines. Appendix L includes a chart summarizing the utility conflicts associated with this proposed alternative. This solution requires minimal right-of-way acquisition. The build scenario layouts included in Appendix H include a summary of the Right-of-Way Impact for this alternative.

Permitting Requirements

As both Vo-Tech Drive and Pike Boulevard are city-maintained streets, requests to alter the intersection and subsequent documentation will need to be directed to the City of Weslaco's Public Works and Engineering Departments. Should the proposed traffic light deviate (i.e. lower profile traffic lights to meet FAA restrictions) from the standard set forth in the Texas Manual on Uniform Traffic

Control Devices (TMUTCD), a permit from TxDOT for deviation from the standard will be required. A Notice of Proposed Construction or Alteration (Form 7460-1) must be submitted to the FAA prior to undertaking the proposed improvement at the intersection.

Constructability Review and Proposed Phasing

The primary constructability hurdles for installing traffic lights are centered on pre-construction planning and procurement. The proposed alternative requires acquiring additional right-of-way areas on multiple corners, a process that must be completed before any work can begin. A major risk is the high potential for conflict between new underground signal conduits and existing utilities, which necessitates thorough investigation. Critical components like the traffic light pole and signal controllers are long-leading items that must be ordered months in advance.

Once on site, the main challenges will be managing traffic and executing the specialized construction. A complex, phased Maintenance of Traffic plan will be essential to manage vehicle flow through the active intersection during the installation of foundations, poles, and underground conduit. The project's final phase will involve replacing the proposed striping for stop bars and lanes before a carefully coordinated "turn-on" event to activate the new traffic signals.

Cost-Benefit Considerations

This alternative has 27 conflict points and is predicted to have a higher crash rate than the existing AWSC or a roundabout. It is also subject to power outages and does not address idling emissions. A complete list of Cost-Benefit related items is included in Appendix M of this report.

Signal with Dedicated Right-Turn Lane

The third alternative enhances the first by adding a dedicated 235-foot right-turn lane to the southbound approach of Vo-Tech Drive, a modification warranted by 2035 traffic projections. This configuration yields a greater operational benefit, improving the overall intersection to LOS "C" or better during all peak hours and effectively reducing the problematic queue on the southbound approach. However, this alternative carries the same predicted increase in crash risk as the signal-only option. The addition of the turn lane would necessitate right-of-way acquisition on the west side of Vo-Tech Drive. The 34.6-foot FAA clearance is sufficient for standard signal poles. Please refer to Appendix H of this report for a visual representation of the proposed intersection layout and cross section.

Level of Service Impacts & Projected Crash Data

This configuration improves the overall intersection to LOS "C" or better and reduces queues on the southbound approach. It is predicted to have a higher crash rate than a roundabout. Level of Service Calculations are summarized in Appendix I of this report.

Timeline for Implementation

The anticipated duration for this build scenario is 150 days for design and permitting and an additional 120 days for construction totaling 270 days for complete implementation. A schedule detailing the anticipated durations for implementation of this alternative is included in Appendix J of this report.

Engineering and Construction Cost Estimate

Preliminary analysis estimates the total construction cost to be $793,078.50. Appendix K of this report contains a detailed Opinion of Probable Construction Cost (OPCC) for this proposed alternative. Additional total cost to implement this building scenario includes engineering design, utility coordination/relocation, right-of-way acquisition, power consumption, maintenance, and permitting.

Right-of-way and Utility Impacts

This alternative impacts the same broad range of utilities as the signal-only option. Appendix L includes a chart summarizing the utility conflicts associated with this proposed alternative. The addition of the turn lane would necessitate right-of-way acquisition along the west side of Vo Tech Drive. The build scenario layouts included in Appendix H include a summary of the Right-of-Way Impact for this alternative.

Permitting Requirements

As both Vo-Tech Drive and Pike Boulevard are city-maintained streets, requests to alter the intersection and subsequent documentation will need to be directed to the City of Weslaco's Public Works and Engineering Departments. The installation of a dedicated right turn lane and traffic signals will require an Engineering Utility Permit Application. Should the proposed traffic light deviate (i.e. lower profile traffic lights to meet FAA restrictions) from the standard set forth in the Texas Manual on Uniform Traffic Control Devices (TMUTCD), a permit from TxDOT for deviation from the standard will be required. A Notice of Proposed Construction or Alteration (Form 7460-1) must be submitted to the FAA prior to undertaking the proposed improvement at the intersection.

Constructability Review and Proposed Phasing

This alternative's constructability is defined by the significant upfront planning required to integrate a new turn lane with a full traffic signal system. The primary hurdles are administrative and logistical, beginning with the acquisition of additional right-of-way as shown on the Layout. A comprehensive investigation of underground utilities is critical to ensure no conflicts with the new signal conduits. The project's timeline is dependent on the procurement of long-lead items like the proposed traffic pole and signal controllers.

Once construction is underway, the main challenge will be the complex phasing required to execute two overlapping scopes of work. The contractor must coordinate the construction of the proposed asphalt pavement and concrete curb and gutter for the turn lane with the simultaneous installation of pole foundations and electrical systems across the entire intersection. This will demand a highly

detailed Maintenance of Traffic (MOT) plan to safely manage lane closures for both work types. The final success of the project hinges on a coordinated effort to complete all paving, install proposed pavement striping, and activate the new signals in the correct sequence.

Cost-Benefit Considerations

This alternative has 26 conflict points and is predicted to have a higher crash rate than the existing AWSC or a roundabout. It is also subject to power outages and does not address idling emissions. A complete list of Cost-Benefit related items is included in Appendix M of this report.

Single-Lane Roundabout

The fourth alternative is a full reconstruction of the intersection as a modern single-lane roundabout. This configuration provides the most significant operational and safety benefits. Operationally, the roundabout is projected to achieve LOS "C" or better for all movements in the 2035 design year, offering the greatest reduction in delay and queuing. From a safety standpoint, the SPICE analysis identifies the roundabout as the superior alternative, predicting the lowest rates for both total and fatal/injury crashes and eliminating the potential for severe angle collisions. While this alternative has the largest physical footprint, requiring right-of-way acquisition from all four corners, its low-profile design is inherently compliant with the FAA's vertical clearance requirements. Please refer to Appendix H of this report for a visual representation of the proposed intersection layout and cross section.

Level of Service Impacts & Projected Crash Data

Operationally, the roundabout provides the best performance, achieving LOS "C" or better for all movements in the 2035 design year. A safety analysis shows it significantly improves safety by reducing conflict points. Level of Service Calculations are summarized in Appendix I of this report.

Timeline for Implementation

The anticipated duration for this build scenario is 180 days for design and permitting and an additional 180 days for construction totaling 360 days for complete implementation. A schedule detailing the anticipated durations for implementation of this alternative is included in Appendix J of this report.

Engineering and Construction Cost Estimate

Preliminary analysis estimates the total construction cost to be $1,002,190.50. Appendix K of this report contains a detailed Opinion of Probable Construction Cost (OPCC) for this proposed alternative. Additional total cost to implement this building scenario includes engineering design, utility coordination/relocation, right-of-way acquisition, maintenance, and permitting.

Right-of-way and Utility Impacts

This alternative has the largest physical footprint and, consequently, the most extensive utility impacts, requiring significant relocation efforts for all identified utility types. Appendix L includes a chart summarizing the utility conflicts associated with this proposed alternative. Similarly, this solution requires extensive right-of-way acquisition. The build scenario layouts included in Appendix H include a summary of the Right-of-Way Impact for this alternative.

Permitting Requirements

As both Vo-Tech Drive and Pike Boulevard are city-maintained streets, requests to alter the intersection to install a roundabout will need to be directed to the City of Weslaco's Public Works and Engineering Departments. An Engineering Utility Permit will be required to construct improvements associated with a single lane roundabout. A Notice of Proposed Construction or Alteration (Form 7460-1) must be submitted to the FAA prior to undertaking the proposed improvement at the intersection.

Constructability Review and Proposed Phasing

A primary consideration for this project is the massive scale of reconstruction and the associated traffic management. The alternative requires an estimated disturbance of pavement area extending approximately 300 feet along each approach, requiring a complete rebuild of the intersection. This will necessitate a complex, multi-stage traffic control plan, which may involve temporary bypass roads or significant detours to manage traffic while the central island and circular roadway are constructed. This extensive work is entirely dependent on the acquisition of the additional right-of-way shown on all four corners of the intersection. The complete excavation of the intersection creates a high probability of conflicts with major utilities (water, sewer, gas, and communications), which require extensive and coordinated relocation efforts.

Before this alternative can proceed, a detailed phasing plan must be developed, all utility conflicts must be identified and resolved, and all necessary permits from the City of Weslaco and potentially the FAA must be secured.

Cost-Benefit Considerations

This alternative significantly improves safety by reducing conflict points to just 8. It is not dependent on power and reduces fuel consumption and emissions due to smoother traffic flow. A complete list of Cost-Benefit related items is included in Appendix M of this report.

Cost-Benefit Analysis (CBA)

The Cost-Benefit Analysis (CBA) provides a comprehensive evaluation of the proposed intersection improvements alternatives at Vo Tech Drive and East Pike Boulevard, located in the City of Weslaco, Texas. As part of long-term planning to enhance mobility, reduce vehicular delay, and improve safety, four build alternatives were considered, ranging from low-cost enhancements to complete reconstruction as a roundabout. This report outlines each scenario's potential impacts through a 20-year life-cycle economic analysis that incorporates capital investment, user experience, and public safety outcomes.

The roundabout alternative requires significant infrastructure changes, including utility relocations and land acquisition efforts. It necessitates coordination with local departments and federal agencies to secure necessary permits. A detailed phasing strategy is also essential to manage the reconstruction and associated traffic impacts effectively. This alternative aims to provide safety improvements and environmental benefits by reducing conflict points and promoting smoother traffic flow.

The objective is to assist the City of Weslaco in making an informed decision based on fiscal responsibility and community benefit. Although the roundabout has the highest initial project cost ($1,731,000), primarily due to its larger construction footprint, it has the lowest estimated 10-year life-cycle cost. Its projected maintenance cost is $3,000 per year, compared to the signalized alternatives at $10,000 per year each, which require more frequent and costly servicing due to their complex electrical components.

User Cost Savings

User cost savings were calculated by comparing vehicle delay reductions for each improvement scenario against existing conditions. The decrease in average delay per vehicle was multiplied by traffic volumes and a standard value of time, following TxDOT and FHWA guidelines. These savings show reduced travel time benefits for users. Annual time savings were converted into a 20-year Net Present Value (NPV) using a 3% discount rate to compare long-term benefits across alternatives.

Scenario	Annual Value of Time Saved	20-Year Total (NPV)
Scenario 1 – AWSC + RT Lane	$73,000	$1,193,600
Scenario 2 – Signal Only	$182,500	$2,983,300
Scenario 3 – Signal + RT	$255,500	$4,176,400
Scenario 4 – Roundabout	$365,000	$5,968,300

The roundabout offers significant safety benefits. Using the FHWA's SPICE tool, it is expected to greatly reduce crash frequency and severity. Its design simplifies vehicle interactions and reduces conflict points from over 26 in signalized intersections to just 8. This helps eliminate high-impact collisions like right-angle and head-on left-turn crashes, which often cause severe injuries or fatalities. Thus, the roundabout improves both operational efficiency and safety for all roadway users.

Construction and Maintenance Costs

The construction and maintenance cost analysis was undertaken by evaluating both the initial capital investment and the projected long-term upkeep required for each proposed intersection improvement. Capital costs were derived from engineering estimates that included expenses for construction, materials, labor, and right-of-way acquisition where applicable. These estimates were specifically tailored to reflect the scope and complexity of each scenario.

In addition to construction, we assessed the anticipated operations and maintenance (O&M) needs over a 20-year period. Rather than applying a uniform value, O&M estimates were customized for each alternative based on its infrastructure type. Simpler configurations, such as stop-controlled intersections, were estimated to require minimal upkeep, whereas signalized options and roundabouts were assigned higher maintenance costs due to equipment, landscaping, and periodic inspections.

To accurately represent the long-term financial impact, these annual maintenance costs were adjusted to present-day values using standard economic discounting. The resulting net present value of O&M was then added to each scenario's construction cost to ascertain the total 20-year cost. This methodology facilitated a consistent and fair comparison of the full lifecycle costs associated with each alternative.

Scenario	Capital Cost	O&M (20-Year NPV)	Total 20-Year Cost
Scenario 1 – AWSC + RT Lane	$220,000	$32,700	$252,700
Scenario 2 – Signal Only	$1,285,000	$147,200	$1,432,200
Scenario 3 – Signal + RT	$1,405,000	$155,300	$1,560,300
Scenario 4 – Roundabout	$1,731,000	$81,800	$1,812,800

Environmental or Community Impacts

The project, as outlined in the Environmental and Natural Resources section, will not significantly impact natural or cultural resources. The roundabout reduces vehicle idling time, resulting in less fuel consumption and fewer emissions compared to signalized intersections. This improves local air quality and reduces the transportation network's carbon footprint.

Selection of 20-Year Analysis Period

The cost-benefit analysis presented in this report is based on a 20-year planning horizon, consistent with standard industry practices and guidance from the Federal Highway Administration (FHWA), the Texas Department of Transportation (TxDOT), and the American Association of State Highway and Transportation Officials (AASHTO). These organizations commonly recommend a 20-year design life for major transportation infrastructure improvements, including intersections, traffic signals, and roundabouts.

This timeframe reflects the expected functional lifespan of key infrastructure components such as pavement, curb and gutter, signal equipment, and roundabout geometry. It also ensures that the full range of long-term project benefits—such as travel time savings, crash cost reductions, and emissions improvements—are accurately measured and evaluated in relation to capital and maintenance costs.

Shorter analysis periods are generally reserved for interim or temporary solutions where long-term benefits are uncertain. However, the alternatives considered in this report, particularly the proposed roundabout, are intended to provide lasting improvements. Therefore, a 20-year analysis period offers a sound and meaningful basis for economic comparison.

Safety Improvement Benefits

Safety benefits were estimated by comparing the anticipated reduction in crash frequency and severity for each build scenario relative to current conditions. This assessment used FHWA's SPICE tool and crash modification factors to model expected outcomes based on changes in traffic control and intersection geometry.

Annual crash cost reductions were calculated by applying standardized monetary values to expected crash reductions. These values reflect both direct costs—such as property damage and medical expenses—and broader societal costs, including lost productivity and quality of life impacts. The roundabout alternative produced the most substantial safety gains, largely due to its ability to reduce conflict points and eliminate severe crash types like right-angle and head-on collisions.

To allow consistent comparison with other benefits and costs, the annual crash savings were converted to a 20-year Net Present Value (NPV) using a 3% discount rate.

Scenario	Annual Crash Cost Reduction	20-Year Total (NPV)
Scenario 1 – AWSC + RT Lane	$12,500	$204,400
Scenario 2 – Signal Only	$0	$0
Scenario 3 – Signal + RT	$9,000	$147,200
Scenario 4 – Roundabout	$25,000	$398,800

Scenario 2 does not produce a measurable crash reduction and may worsen safety outcomes according to SPICE modeling and the ICE report.

Net Present Value (NPV) and Benefit-Cost Ratio (BCR)

To evaluate the economic efficiency of each proposed intersection improvement, the Net Present Value (NPV) and Benefit-Cost Ratio (BCR) were calculated over the 20-year analysis period, applying a 3% real discount rate in accordance with FHWA and TxDOT guidelines.

Total benefits included the present value of user time savings and crash cost reductions. Corresponding costs included capital construction, right-of-way acquisition, utility relocation, and the discounted value of long-term maintenance.

NPV was determined by subtracting total costs from total benefits. A positive NPV indicates the investment delivers more value than it costs. The BCR was calculated by dividing the total benefits by total costs. A BCR above 1.0 indicates that a project is economically viable, with higher values representing more favorable returns.

Scenario	Total Benefits (NPV)	Total Costs (NPV)	NPV	BCR
Scenario 1 – AWSC + RT Lane	$1,398,000	$252,700	$1,145,300	5.53
Scenario 2 – Signal Only	$2,983,000	$1,432,200	$1,550,800	2.08
Scenario 3 – Signal + RT	$4,324,000	$1,560,300	$2,763,700	2.77
Scenario 4 – Roundabout	$6,367,000	$1,812,800	$4,554,200	3.51

All figures shown in 2025 dollars, using inflation-adjusted projections for benefits and costs over the 20-year life cycle.

This analysis confirms that the roundabout delivers the highest overall benefit, while Scenario 1 yields the highest BCR due to its low implementation cost. However, long-term safety and operational advantages strongly support investment in Scenario 4.

Sensitivity Analysis

To evaluate how resilient each proposed improvement is to changes in economic and operational assumptions, a sensitivity analysis was conducted using three hypothetical scenarios. These scenarios test the impact of key uncertainties—such as economic shifts, variations in safety outcomes, and slower-than-anticipated traffic growth—on the Benefit-Cost Ratio (BCR) of each alternative.

Each analysis maintains the 20-year evaluation period while adjusting individual input values to simulate more conservative or adverse conditions. The goal is to determine whether each investment remains economically justified even when assumptions are less favorable than expected.

Scenario 1 – Increased Discount Rate (5%)

This scenario simulates a tighter financial environment by increasing the discount rate from 3% to 5%. The higher rate decreases the present value of future benefits across all alternatives.

Under these conditions, Scenario 4 – Roundabout and Scenario 3 – Signal + RT continue to show BCRs greater than 1.0, indicating cost-effectiveness. In contrast, Scenario 1 – AWSC + RT Lane and Scenario 2 – Signal Only fall below the viability threshold, making them less favorable under conservative economic assumptions.

Scenario 2 – Reduced Crash Cost Savings (−30%)

To account for potential overestimation in safety benefits—due to factors such as crash data variability or changes in crash severity—this scenario reduces projected crash-related savings by 30%.

Even with diminished safety gains, Scenario 4 – Roundabout maintains a strong BCR and remains the most economically advantageous option. While Scenarios 2 and 3 remain marginally viable, their economic performance weakens significantly. Scenario 1 becomes less justifiable from a benefit-cost perspective.

Scenario 3 – Lower Traffic Growth Rate (1.25% annually)

This scenario considers slower regional development or travel demand by reducing the assumed annual traffic growth rate from 2.00% to 1.25%. The result is lower cumulative time savings and user benefits over time.

Despite this adjustment, the Roundabout (Scenario 4) continues to demonstrate a strong economic case, affirming its robustness even in low-growth scenarios. Other alternatives show reduced cost-efficiency but remain above or near acceptable thresholds, depending on the degree of user delay relief they provide.

Sensitivity Analysis –BCR Results

Scenario	Base BCR	Increased Discount Rate (5%)	Reduced Crash Cost Savings (-30%)	Lower Traffic Growth Rate (1.25%)
AWSC + RT Lane	5.53	3.92	4.58	4.72
Signal Only	2.08	1.71	1.61	1.89
Signal + RT	2.77	2.41	2.26	2.54
Roundabout	3.51	3.06	2.93	3.34

Sensitivity Summary and Recommendations

Across all evaluated conditions, Scenario 4 – Roundabout consistently delivers the highest BCR and remains well above the economic feasibility threshold of 1.0. Its performance remains stable even under the assumptions that reduce benefit projections or delay their realization, confirming its suitability as a resilient, long-term infrastructure investment for the City.

In contrast, Scenario 1 – AWSC + RT Lane and Scenario 2 – Signal Only display greater sensitivity to economic and traffic uncertainties, with BCRs that often fall below 1.0 under conservative conditions. While Scenario 3 – Signal + RT performs reasonably well, it does not match the roundabout's combination of safety, user benefit, and long-term value.

Based on this analysis, the roundabout is recommended as the most robust and economically justified improvement option

Engineering Recommendation

Following a comprehensive evaluation of all improvement alternatives for the intersection of Vo-Tech Drive and East Pike Boulevard, the analysis leads to a clear and well-supported engineering recommendation. Each option was assessed in terms of operational performance, safety outcomes, constructability, cost-efficiency, and long-term feasibility. Throughout the process, particular emphasis was placed on delivering benefits to the broader community and directly impacted stakeholders, ensuring that the recommended solution not only satisfies technical and regulatory requirements but also enhances daily mobility, safety, and overall quality of life. The final recommendation reflects sound engineering judgment and a strong commitment to long-term public value.

Summary Comparison of Alternatives

The evaluation of the four proposed alternatives highlights distinct differences in their ability to address the intersection's current and projected challenges.

Alternative 1, which adds a southbound right-turn lane to the existing all-way stop, offers only limited relief. It fails to resolve the underlying capacity and safety issues and would likely be outpaced by future traffic growth.

Alternatives 2 and 3, involving traffic signal installation (with and without a right-turn lane), improve operational efficiency but introduce higher long-term maintenance costs and an increased risk of crashes. Moreover, both carry potential complications related to FAA vertical clearance requirements, particularly if signal mast arms must be customized or lowered.

In contrast, Alternative 4, a single-lane roundabout, clearly emerges as the most effective and resilient solution. It provides superior safety, the best overall traffic performance, and remains feasible under all FAA height restriction scenarios.

Selection of Preferred Alternative

Based on the technical findings and benefit-cost analysis presented in this report, the recommended alternative is the construction of a single-lane roundabout (Alternative 4). This option best satisfies the City's goals of improving safety, reducing delay, and ensuring long-term operational reliability. Its performance remains strong across all evaluated conditions, including future traffic projections, FAA constraints, and varying cost-benefit assumptions.

Justification Based on Performance, Cost, Constructability, and Public Benefit

To support the City's long-term goals for a safe, efficient, and future-ready transportation network, the recommended alternative has been selected with a focus on sustainability, resiliency, and public benefit. The roundabout configuration not only addresses current traffic and safety concerns but also

provides a durable solution that minimizes maintenance demands, withstands operational uncertainties, and aligns with evolving community needs. The following implementation steps are recommended to advance the project toward final design and construction.

Safety Benefits: The roundabout reduces the number of vehicular conflict points from over 26 to just 8, virtually eliminating the risk of severe angle collisions. Given that 40% of recent crashes at this intersection were of that type, this change is expected to significantly reduce injury-related incidents. National data supports reductions in injury crashes of up to 75% at roundabout conversions.

Operational Efficiency: By minimizing full stops and reducing delays, the roundabout is projected to maintain Level of Service (LOS) "C" or better through the 2035 design year, even under peak traffic conditions. This translates to improved travel times, fewer vehicle emissions, and a smoother experience for all users.

Cost and Design Certainty: Unlike signalized options, the roundabout's low profile ensures full compliance with FAA height restrictions, regardless of whether the controlling approach is designated as visual or non-precision. This eliminates costly design adjustments and reduces permitting uncertainty. The roundabout also offers the lowest life-cycle cost, with minimal maintenance needs and no reliance on electrical systems.

Next Steps and Implementation Recommendations

To advance the roundabout alternative toward final design and construction, the following actions are recommended:

- FAA Coordination: Confirm the applicable approach surface classification (visual or non-precision) and complete FAA Form 7460-1 for clearance documentation.
- Utility Coordination: Conduct a Subsurface Utility Engineering (SUE) investigation to identify all existing underground utilities and mitigate potential conflicts during design and construction.
- Right-of-Way Acquisition: Initiate the process for acquiring the necessary right-of-way at all four corners of the intersection to accommodate the roundabout footprint.
- Final Design and Permitting: Proceed with detailed engineering design, and coordinate with the City's Public Works and Engineering departments for review and permitting approvals.
- Stakeholder Engagement: Maintain communication with key stakeholders, including area businesses, IDEA Academy, Hidalgo County offices, and the Mid Valley Airport, to ensure alignment and support for the project.
- Funding and Phasing: Explore funding opportunities through local, state, or federal programs and consider phased implementation strategies if needed to align with available resources.

By pursuing this recommendation, the City of Weslaco can implement a long-term solution that meaningfully improves safety, enhances mobility, reduces operating costs, and supports continued economic growth in the area. The roundabout alternative represents not only the most effective design but also the most responsible investment for the City and its residents.

Conclusion

This final section consolidates the key findings from the earlier analyses, providing a conclusive engineering assessment of the optimal solution for the intersection. It details the necessary immediate actions to implement the preferred alternative and recognizes the underlying assumptions and the need for further adjustments as the project moves forward.

Recap of Findings and Engineering Judgment

The existing all-way stop-controlled intersection at Vo-Tech Drive and Pike Boulevard is operating beyond its capacity and presents a growing and unacceptable safety concern for the City of Weslaco. A detailed analysis of improvement strategies demonstrates conclusively that a single-lane roundabout is the most effective solution to address both the operational and safety deficiencies documented in this report. While more costly upfront, its long-term benefits in safety, efficiency, and lower maintenance costs make it the superior engineering choice and a wiser long-term investment of public funds.

Overview of Next Steps

The selection of the roundabout represents a proactive investment in a safer and more efficient transportation network for the citizens and businesses of Weslaco. The next steps for the City will be to obtain a final determination on the FAA approach surface to close out that risk item, secure the necessary local and state approvals, and allocate funding for final design and right-of-way acquisition to advance the recommended alternative toward construction.

Acknowledgement of Assumptions and Future Refinement Needs

This report is based on the best available data and standard engineering practices. The cost, schedule, and final design details presented herein are preliminary and will require further refinement as the project progresses through the final design and bidding phases. All cost estimates are based on current market conditions and are subject to change.

Funding and Grant Opportunities

The proposed improvements at the intersection of Vo-Tech Drive and East Pike Boulevard may qualify for external funding under certain federal and state grant programs, particularly where the project scope aligns with broader goals related to transportation safety, airport compatibility, and infrastructure resiliency. Given the intersection's location near Mid Valley Airport and its proximity to FAA-regulated airspace, select funding sources could potentially support aspects of the project, especially those related to safety or airspace compliance. However, grant eligibility is subject to specific program requirements and competitive selection processes, and no funding is guaranteed at this stage.

Federal Aviation Administration (FAA) – Airport Improvement Program (AIP)

The FAA's Airport Improvement Program (AIP) provides funding to public-use airports for infrastructure and safety-related improvements. While the Vo-Tech and Pike intersection is located outside the formal airport boundary, its proximity to the approach surfaces may justify coordination with airport representatives to determine if any portion of the project could support airspace safety or be integrated into a larger, airport-eligible improvement. Eligibility would depend on the extent to which the project addresses FAA priorities such as obstruction mitigation or protection of the runway approach.

U.S. Department of Transportation's (USDOT) Better Utilizing Investments to Leverage Development (BUILD)

The BUILD program, previously known as the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) and Transportation Investment Generating Economic Recovery (TIGER) discretionary grants, was established under the American Recovery and Reinvestment Act of 2009 to create jobs and spur economic recovery through transportation infrastructure investments. The goal of the BUILD program is to fund eligible surface transportation projects that will have a significant local or regional impact and improve transportation infrastructure. It is recommended to have significant state-level support for the project before pursuing.

USDOT Safe Streets and Roads for All (SS4A)

Funds for the SS4A grant program are to be awarded on a competitive basis to support planning, infrastructure, and behavioral and operational initiatives to prevent fatalities and serious injuries on roads and streets involving all roadway users, including pedestrians, bicyclists, public transportation, motorists, and commercial vehicle operators. Implementation projects like the proposed intersection improvements must be supported by a qualifying Safety Action Plan that meets program requirements.

Federal Budget Appropriations through Congressionally Directed Spending (CDS)/ Community Project Funding (CPF)

U.S. Senators and members of the House of Representatives solicit requests for projects, typically annually. Such projects can promote economic development, infrastructure, public safety, education, health care initiatives, and other worthy investments in communities across the country.

TxDOT Aviation Capital Improvement Program (ACIP)

TxDOT administers the State Block Grant Program and funds general aviation improvements through the Aviation Capital Improvement Program (ACIP). If the intersection improvements are deemed to contribute to the operational safety or access of Mid Valley Airport, partial funding may be considered as part of a broader airport development initiative. Early coordination with TxDOT Aviation will be necessary to assess any potential linkage.

Other Transportation and Safety Funding Sources

TxDOT also offers competitive funding programs that may support local safety and mobility improvements. These include the Transportation Alternatives Set-Aside (TASA) program and other infrastructure-focused grants that prioritize multimodal access, traffic safety, and connectivity. Although not directly targeted to airport-adjacent intersections, these programs may be considered if the project demonstrates regional benefit or aligns with broader transportation planning goals.

Considerations and Next Steps

To responsibly evaluate grant opportunities, the City may consider the following actions:

- Initiate discussions with Mid Valley Airport and TxDOT Aviation to clarify whether any components of the project may support airport-related safety or access improvements.
- Coordinate with FAA representatives to document airspace clearance requirements and determine any applicable compliance needs.
- Identify portions of the project that could align with regional or state funding criteria related to safety, resiliency, or mobility.
- Monitor funding cycles and requirements to determine the most appropriate time for application, if opportunities arise.

Conclusion

While the project may not meet all eligibility criteria for airport-specific or transportation grants, certain aspects—particularly those addressing safety and airspace constraints—could position the City to pursue limited external funding support. Continued coordination with FAA, TxDOT, and local stakeholders will be important to identify any viable funding paths and to ensure compliance with applicable regulatory requirements.

Colliers Engineering & Design is prepared to support the City of Weslaco in identifying and pursuing grant opportunities. Our dedicated Grant Services Department has experience assisting municipalities in securing competitive funding for infrastructure, safety, and mobility projects. We are available to help develop application materials, coordinate with agencies, and align project components with applicable program goals to strengthen the City's competitiveness for potential fundings.

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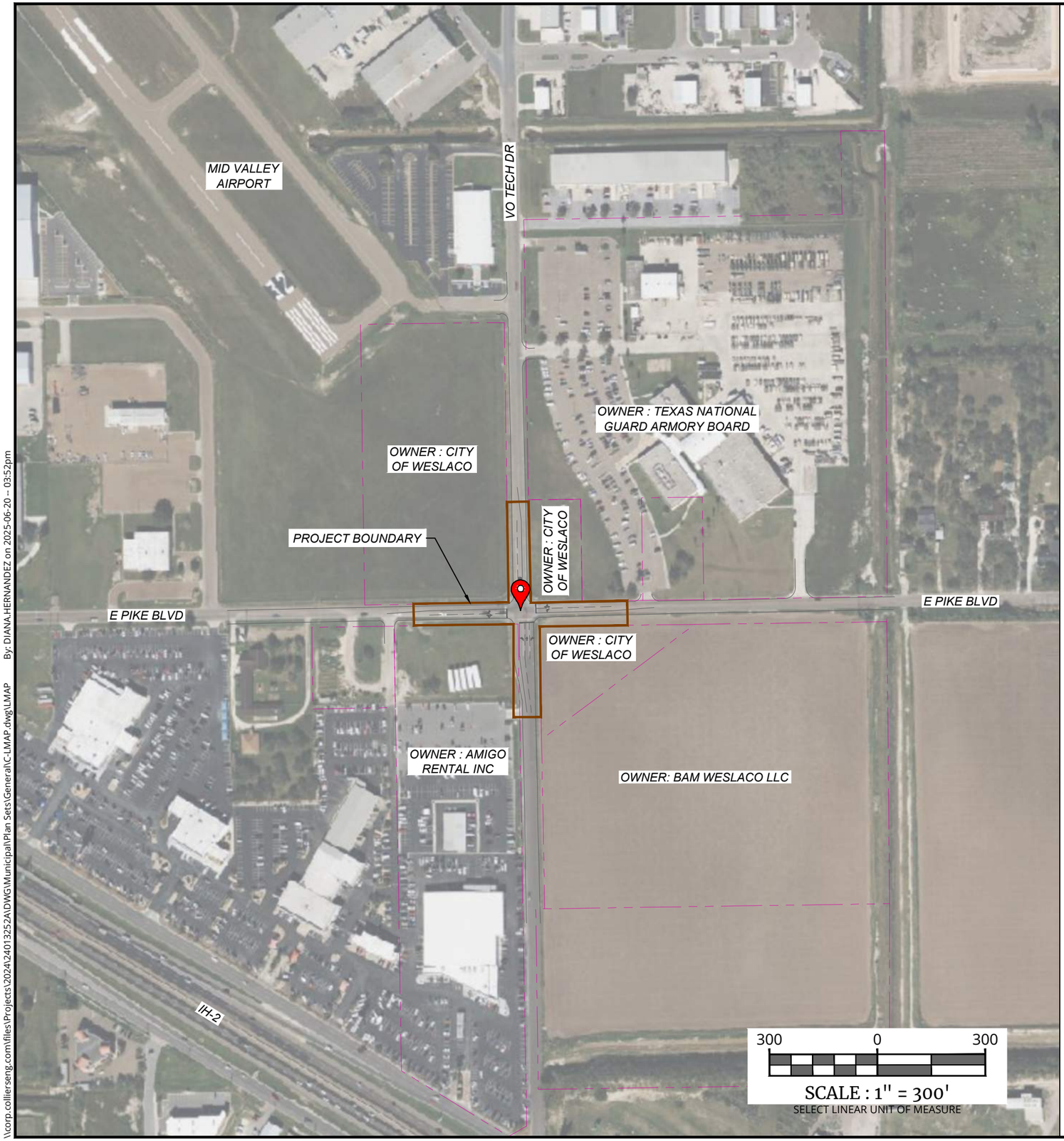
Appendix

Appendix A | Intersection Vicinity Map



N
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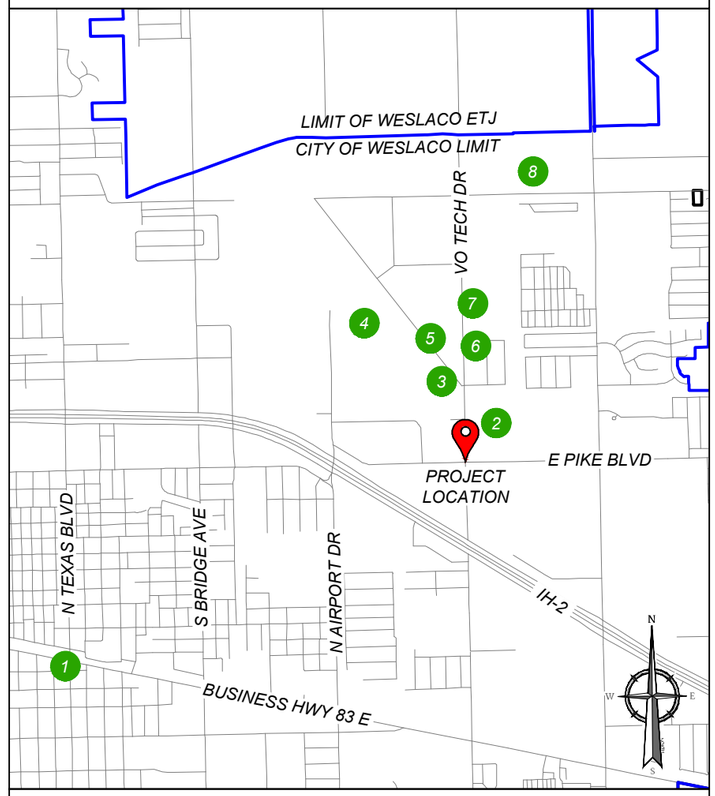
LEGEND

- APPARENT EXISTING R.O.W
- CITY LIMITS
- PROJECT BOUNDARY

VICINITY MAP



1. WISD TRANSPORTATION
2. NATIONAL GUARD
3. IMAGE FIRST
4. MID VALLEY AIRPORT
5. HIDALGO COUNTY PRECINCT 1 OFFICE
6. CLEVER FOODS (DISTRIBUTION CENTER)
7. SOUTHEASTERN FREIGHT LINES
8. IDEA WESLACO CHARTER SCHOOL

Colliers Engineering & Design

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REV	DATE	DESCRIPTION

CITY ON THE GROW — CITY OF WESLACO

CITY OF WESLACO

PER EXHIBITS

IMPROVEMENTS AT INTERSECTION OF VO-TECH DR AND PIKE BLVD

CITY OF WESLACO
HIDALGO COUNTY
TEXAS

THIS DOCUMENT IS FOR INTERIM REVIEW AND NOT FOR BIDDING, CONSTRUCTION, OR PERMIT PURPOSES.

DIANA G. HERNANDEZ VIDEA, P.E.
TEXAS LICENSE # 155475

COLLIERS ENGINEERING & DESIGN
TBPE FIRM # 14909

06/20/2025

HOUSTON
13501 Katy Freeway,
Suite 1350
Houston, TX 77079
Phone: 281.674.7560
COLLIERS ENGINEERING & DESIGN, INC.

SCALE:	DRAWN BY:
AS SHOWN	XXX
DESIGNED BY:	REVIEWED BY:
XXX	XXX
DATE ISSUED:	PROJECT NUMBER:
6/20/25	24013252A

SHEET NAME:

INTERSECTION VICINITY MAP

DRAWING NUMBER:

EXHIBIT A1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

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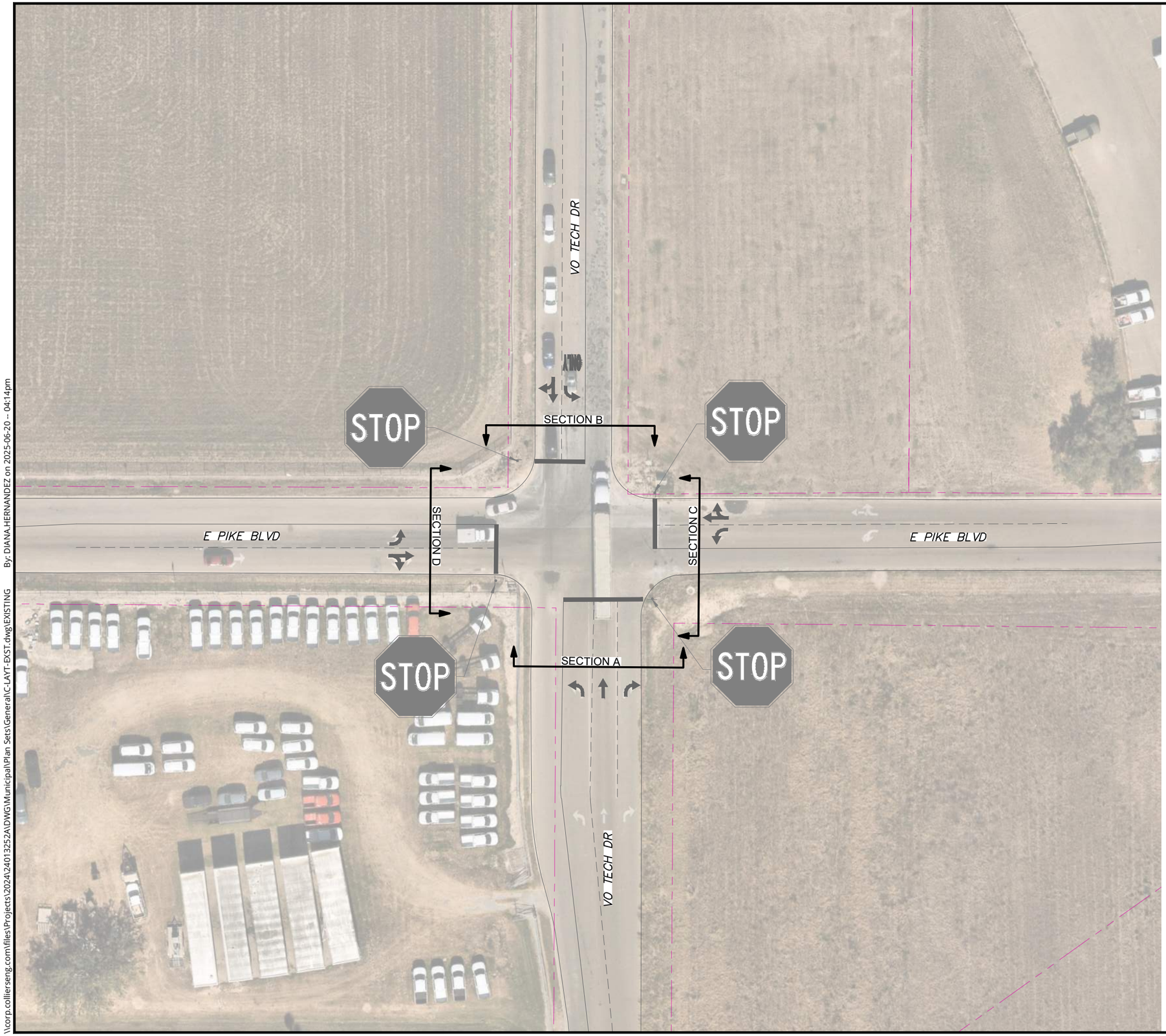
Appendix B | Existing Intersection Layout and Typical Cross Section



N
W E
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LEGEND

- APPARENT EXISTING R.O.W.
- EXISTING PAVEMENT
- EXISTING STRIPING

50 0 50

SCALE : 1" = 50'
SELECT LINEAR UNIT OF MEASURE

Colliers Engineering & Design

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REV	DATE	DESCRIPTION

CITY ON THE GROW
CITY OF WESLACO

CITY OF WESLACO

PER EXHIBITS

IMPROVEMENTS AT INTERSECTION OF VO-TECH DR AND PIKE BLVD

CITY OF WESLACO
HIDALGO COUNTY
TEXAS

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TBPE FIRM # 14909

06/20/2025

HOUSTON
13501 Katy Freeway,
Suite 1350
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Phone: 281.674.7560
COLLIERS ENGINEERING & DESIGN, INC.

SCALE:	DRAWN BY:
AS SHOWN	XXX
DESIGNED BY:	REVIEWED BY:
XXX	XXX
DATE ISSUED:	PROJECT NUMBER:
6/20/25	24013252A

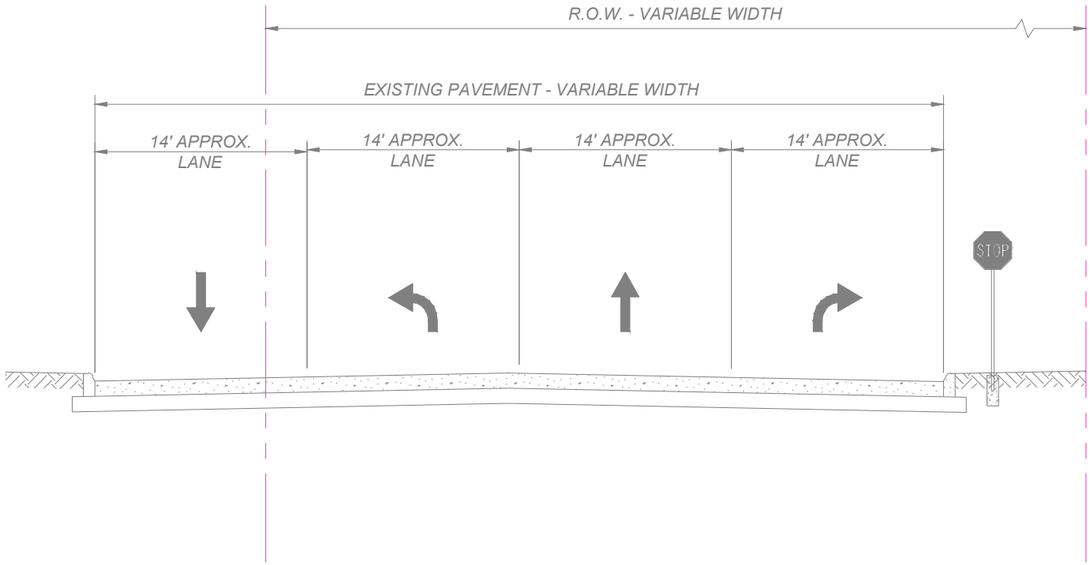
SHEET NAME:

EXISTING CONDITIONS LAYOUT

DRAWING NUMBER:

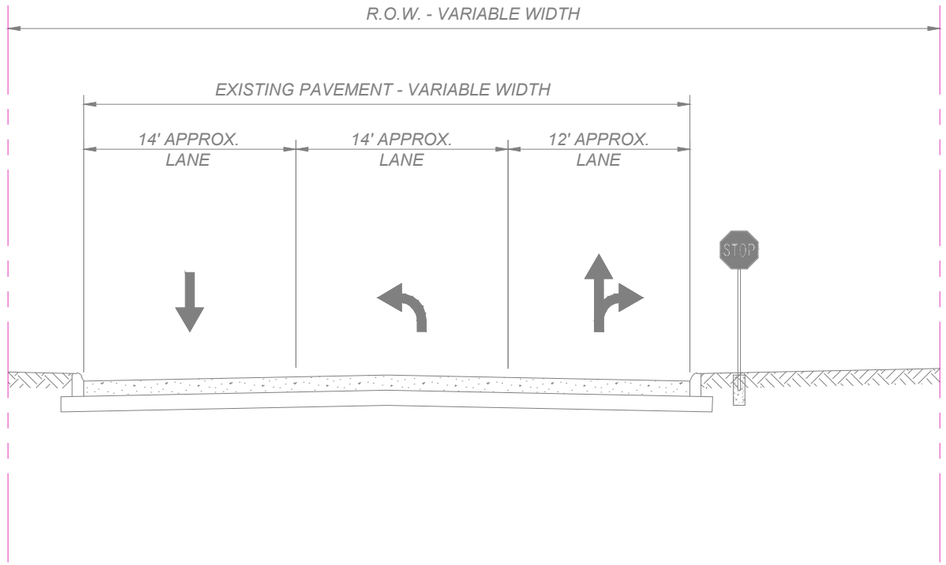
EXHIBIT B1.1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



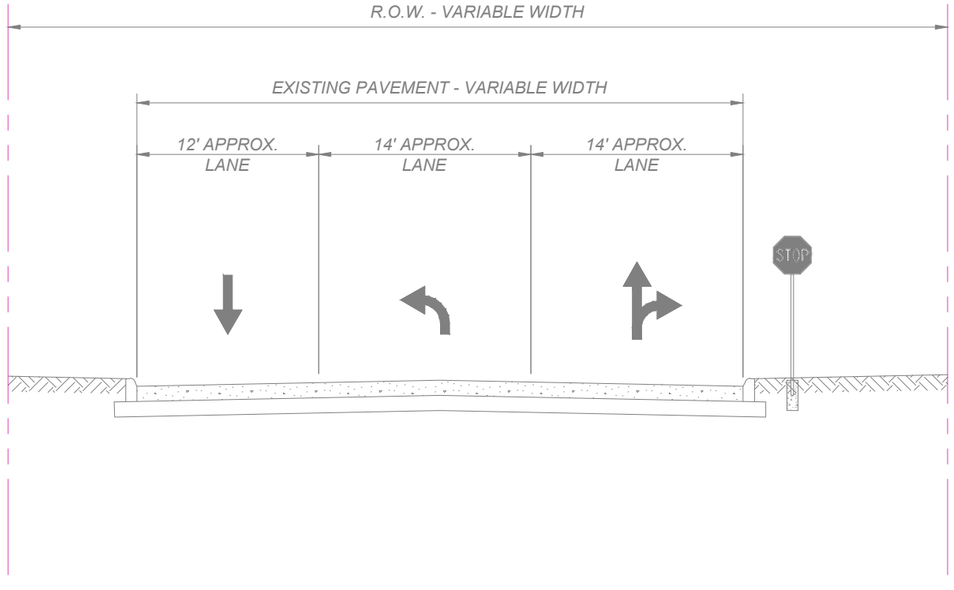
SECTION A

(VO TECH DR NORTHBOUND)



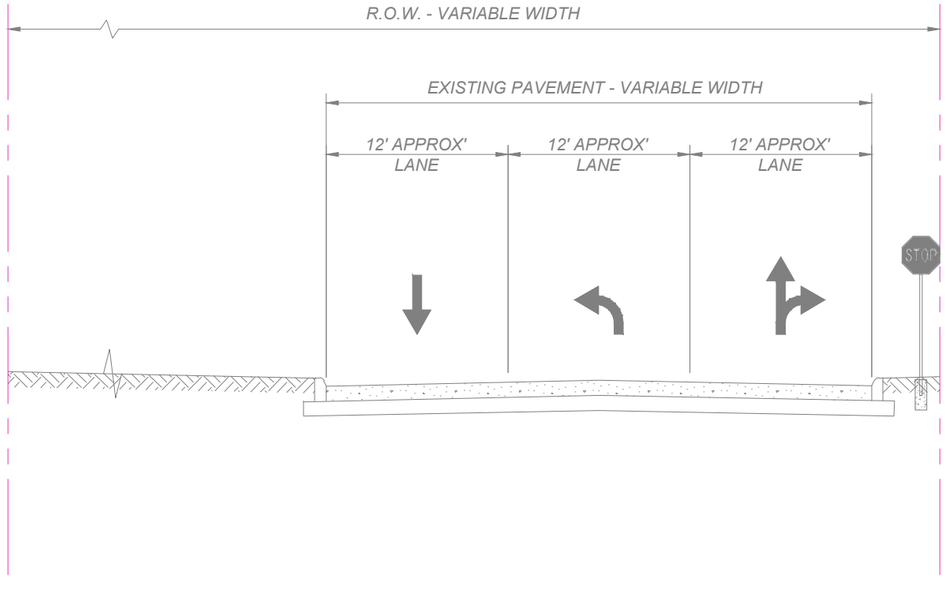
SECTION C

(E PIKE BLVD DR EASTBOUND)



SECTION B

(VO TECH DR SOUTHBOUND)



SECTION D

(E PIKE BLVD WESTBOUND)

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REV	DATE	DESCRIPTION

CITY OF WESLACO

PER EXHIBITS

IMPROVEMENTS AT INTERSECTION OF VO-TECH DR AND PIKE BLVD

CITY OF WESLACO
HIDALGO COUNTY
TEXAS

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DIANA G. HERNANDEZ VIDEA, P.E.
TEXAS LICENSE # 155475

COLLIERS ENGINEERING & DESIGN
TBPE FIRM # 14909

06/20/2025

HOUSTON
13501 Katy Freeway,
Suite 1350
Houston, TX 77079
Phone: 281.674.7560
COLLIERS ENGINEERING & DESIGN, INC.

SCALE:	DRAWN BY:
AS SHOWN	XXX
DESIGNED BY:	REVIEWED BY:
XXX	XXX
DATE ISSUED:	PROJECT NUMBER:
6/20/25	24013252A

SHEET NAME:

EXISTING CONDITIONS TYPICAL SECTION

DRAWING NUMBER:

EXHIBIT B1.2

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

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Appendix C | Peak Hour Traffic Volume and Turning Movement Data

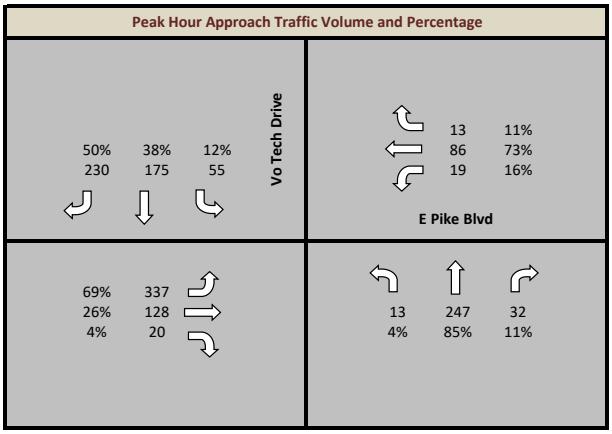
VO Tech Drive and E Pike Boulevard

Intersection	**North/South Street :**	**Vo Tech Drive**	
	East/West Street :	**E Pike Blvd**	
City / State	**Weslaco, Texas**		
Project No.	**2025003200**	**Peak Period :**	**1** 7:00 AM - 9:00 AM
Date Recorded:	**Thursday, April 24, 2025**	**Peak Hour:**	7:30 AM to 8:30 AM

AC GROUP LLC — TRAFFIC ENGINEERING AND DATA COLLECTION

Start Time	Intersection Approaches																Traffic Control	
	Vo Tech Drive				Vo Tech Drive				E Pike Blvd				E Pike Blvd				STOP	
	Northbound				Southbound				Eastbound				Westbound				Total	Hourly Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	40	1		3	25	28		85	13	0		2	16	0		216	
7:15 AM	2	45	2		6	44	50		90	18	5		3	34	4		303	
7:30 AM	5	49	6		14	40	62		90	22	5		8	26	4		331	
7:45 AM	5	84	10		14	42	55		85	29	7		2	26	2		361	1211
8:00 AM	1	69	4		9	48	47		60	32	2		3	19	4		298	
8:15 AM	0	36	12		13	36	53		74	43	6		6	15	3		297	
8:30 AM	2	25	11		14	34	41		49	57	3		4	19	5		264	
8:45 AM	2	17	17		11	29	36		58	33	12		6	18	1		240	1099
	Northbound				Southbound				Eastbound				Westbound				Total	Hourly Total
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right			
7:00 AM	0	1	0		1	2	3		1	0	0		0	0	0		8	
7:15 AM	0	1	0		3	2	3		3	0	0		0	0	0		12	
7:30 AM	0	0	0		0	0	5		3	0	0		0	0	0		8	
7:45 AM	0	3	0		0	3	2		6	1	0		0	0	0		15	43
8:00 AM	0	2	0		2	2	3		8	1	0		0	0	0		18	
8:15 AM	2	4	0		3	4	3		11	0	0		0	0	0		27	
8:30 AM	0	3	0		1	5	4		10	0	0		0	0	0		23	
8:45 AM	0	3	0		0	3	5		4	0	0		0	0	0		15	83
	Northbound				Southbound				Eastbound				Westbound				Total	Hourly Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	41	1		4	27	31		86	13	0		2	16	0		224	
7:15 AM	2	46	2		9	46	53		93	18	5		3	34	4		315	
7:30 AM	5	49	6		14	40	67		93	22	5		8	26	4		339	
7:45 AM	5	87	10		14	45	57		91	30	7		2	26	2		376	1254
8:00 AM	1	71	4		11	50	50		68	33	2		3	19	4		316	
8:15 AM	2	40	12		16	40	56		85	43	6		6	15	3		324	
8:30 AM	2	28	11		15	39	45		59	57	3		4	19	5		287	
8:45 AM	2	20	17		11	32	41		62	33	12		6	18	1		255	1182
Total	22	382	63	0	94	319	400	0	637	249	40	0	34	173	23	0		
Peak Total	13	247	32	0	55	175	230	0	337	128	20	0	19	86	13	0		
Peak Turn Percent	4%	85%	11%	0%	12%	38%	50%	0%	69%	26%	4%	0%	16%	73%	11%	0%		
Peak Approach Total	292				460				485				118					
FORMULA	20	348	48		64	200	268		372	172	28		32	104	16			
PHF	0.65	0.7098	0.6667		0.8594	0.875	0.8582		0.9059	0.7442	0.7143		0.5938	0.8269	0.8125			
Comments																		

Peak Hour Approach Traffic Volume and Percentage



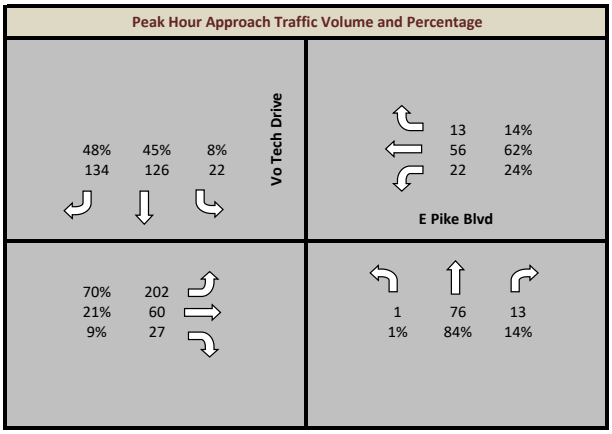
VO Tech Drive and E Pike Boulevard

Intersection	**North/South Street :**	**Vo Tech Drive**	
	East/West Street :	**E Pike Blvd**	
City / State	**Weslaco, Texas**		
Project No.	**2025003200**	**Peak Period :**	**2** **9:00 AM - 11:00 AM**
Date Recorded:	**Thursday, April 24, 2025**	**Peak Hour:**	**9:00 AM to 10:00 AM**

AC GROUP LLC — TRAFFIC ENGINEERING AND DATA COLLECTION

Start Time	Intersection Approaches																Traffic Control	
	Vo Tech Drive				Vo Tech Drive				E Pike Blvd				E Pike Blvd				STOP	
	Northbound				Southbound				Eastbound				Westbound					
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Total	Hourly Total
9:00 AM	0	17	3		5	22	46		47	14	8		7	11	2		182	
9:15 AM	0	14	5		5	27	28		38	9	8		5	13	1		153	
9:30 AM	0	17	3		1	29	20		50	17	4		4	17	2		164	
9:45 AM	0	19	1		8	32	29		53	20	5		6	13	6		192	691
10:00 AM	0	9	2		3	30	22		68	11	4		3	21	2		175	
10:15 AM	0	14	2		6	28	24		38	12	2		4	10	2		142	
10:30 AM	0	4	1		6	30	31		37	10	5		1	8	6		139	
10:45 AM	0	15	0		5	31	27		34	18	5		2	22	4		163	619
	Northbound				Southbound				Eastbound				Westbound					
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Total	Hourly Total
9:00 AM	0	2	0		2	7	7		3	0	0		0	0	0		21	
9:15 AM	0	3	1		1	2	1		2	0	1		0	0	0		11	
9:30 AM	1	3	0		0	6	1		5	0	0		0	0	1		17	
9:45 AM	0	1	0		0	1	2		4	0	1		0	2	1		12	61
10:00 AM	1	1	0		5	2	3		3	0	0		0	0	0		15	
10:15 AM	0	3	0		2	2	2		4	0	0		0	0	0		13	
10:30 AM	0	3	0		0	4	6		4	0	0		0	0	0		17	
10:45 AM	0	3	0		0	3	5		7	1	0		0	0	0		19	64
	Northbound				Southbound				Eastbound				Westbound					
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Total	Hourly Total
9:00 AM	0	19	3		7	29	53		50	14	8		7	11	2		203	
9:15 AM	0	17	6		6	29	29		40	9	9		5	13	1		164	
9:30 AM	1	20	3		1	35	21		55	17	4		4	17	3		181	
9:45 AM	0	20	1		8	33	31		57	20	6		6	15	7		204	752
10:00 AM	1	10	2		8	32	25		71	11	4		3	21	2		190	
10:15 AM	0	17	2		8	30	26		42	12	2		4	10	2		155	
10:30 AM	0	7	1		6	34	37		41	10	5		1	8	6		156	
10:45 AM	0	18	0		5	34	32		41	19	5		2	22	4		182	683
Total	2	128	18	0	49	256	254	0	397	112	43	0	32	117	27	0		
Peak Total	1	76	13	0	22	126	134	0	202	60	27	0	22	56	13	0		
Peak Turn Percent	1%	84%	14%	0%	8%	45%	48%	0%	70%	21%	9%	0%	24%	62%	14%	0%		
Peak Approach Total	90				282				289				91					
FORMULA	4	80	24		32	140	212		228	80	36		28	68	28			
PHF	0.25	0.95	0.5417		0.6875	0.9	0.6321		0.886	0.75	0.75		0.7857	0.8235	0.4643			
Comments																		

Peak Hour Approach Traffic Volume and Percentage



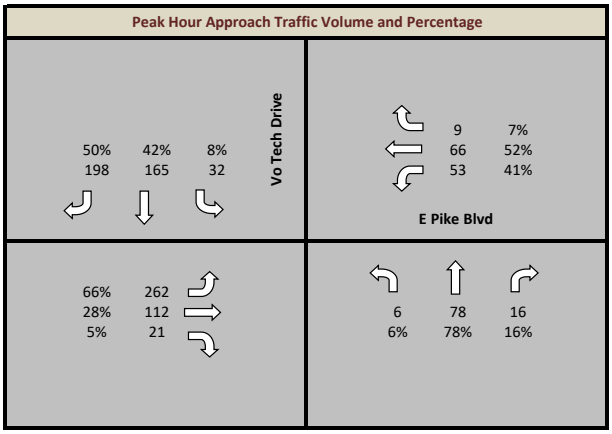
VO Tech Drive and E Pike Boulevard

Intersection	**North/South Street :**	**Vo Tech Drive**	
	East/West Street :	**E Pike Blvd**	
City / State	**Weslaco, Texas**		
Project No.	**2025003200**	**Peak Period :**	**3** — **11:00 AM - 1:00 PM**
Date Recorded:	**Thursday, April 24, 2025**	**Peak Hour:**	**11:30 AM to 12:30 PM**

AC GROUP LLC — TRAFFIC ENGINEERING AND DATA COLLECTION

Start Time	Intersection Approaches																Traffic Control	
	Vo Tech Drive				Vo Tech Drive				E Pike Blvd				E Pike Blvd				STOP	
	Northbound				Southbound				Eastbound				Westbound				Total	Hourly Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
11:00 AM	1	15	1		7	42	42		47	17	3		30	37	5		247	
11:15 AM	1	16	3		4	26	34		58	34	4		6	21	2		209	
11:30 AM	1	9	4		4	46	35		66	37	6		15	13	2		238	
11:45 AM	1	20	6		9	38	39		61	24	2		12	22	3		237	931
12:00 PM	1	16	4		11	39	66		59	25	4		20	11	1		257	
12:15 PM	1	21	2		6	38	44		48	25	9		6	20	3		223	
12:30 PM	0	19	6		5	37	41		61	25	9		2	15	3		223	
12:45 PM	2	23	6		6	38	26		82	21	9		6	13	6		238	941
	Northbound				Southbound				Eastbound				Westbound				Total	Hourly Total
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right			
11:00 AM	0	2	0		0	2	3		6	0	0		0	0	0		13	
11:15 AM	0	2	0		0	1	2		7	0	0		0	0	0		12	
11:30 AM	1	1	0		1	0	2		9	0	0		0	0	0		14	
11:45 AM	0	4	0		0	0	1		8	0	0		0	0	0		13	52
12:00 PM	0	2	0		1	3	7		8	1	0		0	0	0		22	
12:15 PM	1	5	0		0	1	4		3	0	0		0	0	0		14	
12:30 PM	1	2	0		1	3	1		1	0	0		0	0	0		9	
12:45 PM	0	5	0		0	4	3		4	0	0		0	0	0		16	61
	Northbound				Southbound				Eastbound				Westbound				Total	Hourly Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
11:00 AM	1	17	1		7	44	45		53	17	3		30	37	5		260	
11:15 AM	1	18	3		4	27	36		65	34	4		6	21	2		221	
11:30 AM	2	10	4		5	46	37		75	37	6		15	13	2		252	
11:45 AM	1	24	6		9	38	40		69	24	2		12	22	3		250	983
12:00 PM	1	18	4		12	42	73		67	26	4		20	11	1		279	
12:15 PM	2	26	2		6	39	48		51	25	9		6	20	3		237	
12:30 PM	1	21	6		6	40	42		62	25	9		2	15	3		232	
12:45 PM	2	28	6		6	42	29		86	21	9		6	13	6		254	1002
Total	11	162	32	0	55	318	350	0	528	209	46	0	97	152	25	0		
Peak Total	6	78	16	0	32	165	198	0	262	112	21	0	53	66	9	0		
Peak Turn Percent	6%	78%	16%	0%	8%	42%	50%	0%	66%	28%	5%	0%	41%	52%	7%	0%		
Peak Approach Total	100				395				395				128					
FORMULA	8	104	24		48	184	292		300	148	36		80	88	12			
PHF	0.75	0.75	0.6667		0.6667	0.8967	0.6781		0.8733	0.7568	0.5833		0.6625	0.75	0.75			
Comments																		

Peak Hour Approach Traffic Volume and Percentage



VO Tech Drive and E Pike Boulevard

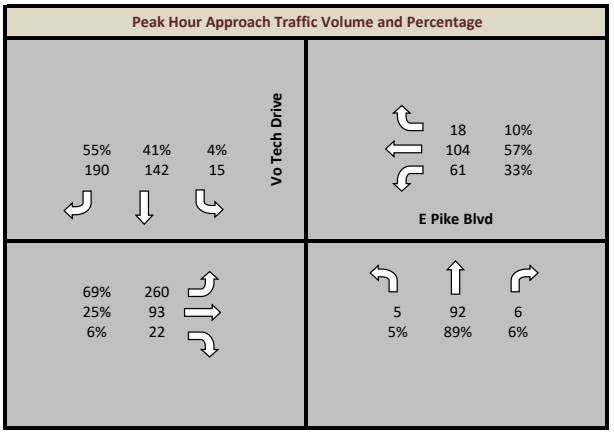
Intersection	**North/South Street :**	**Vo Tech Drive**	
	East/West Street :	**E Pike Blvd**	
City / State	**Weslaco, Texas**		
Project No.	**2025003200**	**Peak Period :**	**4** — **1:00 PM - 3:00 PM**
Date Recorded:	**Thursday, April 24, 2025**	**Peak Hour:**	**1:00 PM to 2:00 PM**

AC GROUP LLC — TRAFFIC ENGINEERING AND DATA COLLECTION

Intersection Approaches — **Traffic Control: STOP**

Start Time	Vo Tech Drive				Vo Tech Drive				E Pike Blvd				E Pike Blvd				Total	Hourly Total
	Northbound				Southbound				Eastbound				Westbound					
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
1:00 PM	2	23	3		4	29	47		67	23	4		6	14	6		228	
1:15 PM	0	17	1		2	41	50		56	25	5		5	23	5		230	
1:30 PM	0	19	0		3	26	37		60	26	6		4	17	5		203	
1:45 PM	2	27	2		4	36	38		61	18	6		46	49	1		290	951
2:00 PM	1	19	0		6	37	31		56	26	6		14	22	3		221	
2:15 PM	0	18	3		7	24	24		62	21	3		4	13	1		180	
2:30 PM	1	24	0		8	39	22		47	16	4		3	25	3		192	
2:45 PM	0	22	1		3	33	29		51	26	7		2	17	4		195	788
	Northbound				Southbound				Eastbound				Westbound					
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right			
1:00 PM	0	0	0		0	1	8		5	0	0		0	0	0		14	
1:15 PM	0	3	0		1	1	3		3	0	0		0	1	0		12	
1:30 PM	0	3	0		0	7	4		5	1	1		0	0	0		21	
1:45 PM	1	0	0		1	1	3		3	0	0		0	0	1		10	57
2:00 PM	0	2	1		0	1	4		6	0	0		0	1	0		15	
2:15 PM	0	1	0		0	3	2		0	0	0		0	0	0		6	
2:30 PM	0	1	0		0	3	2		5	0	0		0	0	0		11	
2:45 PM	0	1	0		1	2	11		8	0	0		0	0	0		23	55
	Northbound				Southbound				Eastbound				Westbound					
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
1:00 PM	2	23	3		4	30	55		72	23	4		6	14	6		242	
1:15 PM	0	20	1		3	42	53		59	25	5		5	24	5		242	
1:30 PM	0	22	0		3	33	41		65	27	7		4	17	5		224	
1:45 PM	3	27	2		5	37	41		64	18	6		46	49	2		300	1008
2:00 PM	1	21	1		6	38	35		62	26	6		14	23	3		236	
2:15 PM	0	19	3		7	27	26		62	21	3		4	13	1		186	
2:30 PM	1	25	0		8	42	24		52	16	4		3	25	3		203	
2:45 PM	0	23	1		4	35	40		59	26	7		2	17	4		218	843
Total	7	180	11	0	40	284	315	0	495	182	42	0	84	182	29	0		
Peak Total	5	92	6	0	15	142	190	0	260	93	22	0	61	104	18	0		
Peak Turn Percent	5%	89%	6%	0%	4%	41%	55%	0%	69%	25%	6%	0%	33%	57%	10%	0%		
Peak Approach Total	103				347				375				183					
FORMULA	12	108	12		20	168	220		288	108	28		184	196	24			
PHF	0.4167	0.8519	0.5		0.75	0.8452	0.8636		0.9028	0.8611	0.7857		0.3315	0.5306	0.75			
Comments																		

Peak Hour Approach Traffic Volume and Percentage



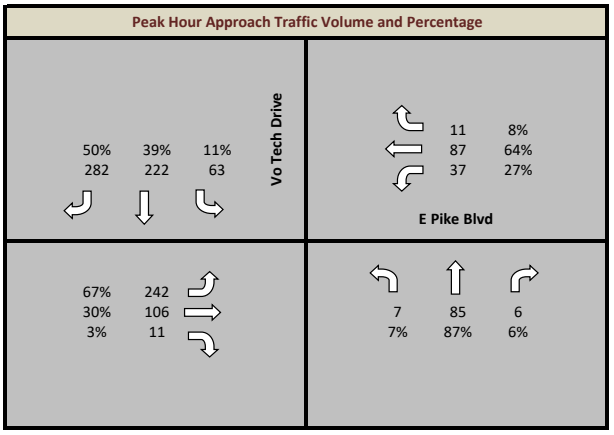
VO Tech Drive and E Pike Boulevard

Intersection	**North/South Street :**	**Vo Tech Drive**	
	East/West Street :	**E Pike Blvd**	
City / State	**Weslaco, Texas**		
Project No.	**2025003200**	**Peak Period :**	**5** **3:00 PM - 5:00 PM**
Date Recorded:	**Thursday, April 24, 2025**	**Peak Hour:**	**3:45 PM to 4:45 PM**

AC GROUP LLC — TRAFFIC ENGINEERING AND DATA COLLECTION

Start Time	Intersection Approaches																Traffic Control: STOP	
	Vo Tech Drive				Vo Tech Drive				E Pike Blvd				E Pike Blvd					
	Northbound				Southbound				Eastbound				Westbound					
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Total	Hourly Total
3:00 PM	0	20	1		11	46	41		52	15	5		2	20	1		214	
3:15 PM	0	11	1		12	33	31		64	24	2		5	17	3		203	
3:30 PM	1	22	2		9	23	41		69	27	5		5	16	5		225	
3:45 PM	0	19	2		9	49	62		56	26	2		7	16	1		249	891
4:00 PM	1	15	1		21	46	73		57	32	2		13	19	4		284	
4:15 PM	2	17	1		16	55	74		59	24	4		11	17	2		282	
4:30 PM	3	20	2		14	56	67		57	24	3		6	32	3		287	
4:45 PM	0	19	2		9	41	49		40	24	2		2	16	1		205	1058
	Northbound				Southbound				Eastbound				Westbound					
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Total	Hourly Total
3:00 PM	0	5	0		0	2	6		6	0	0		0	0	0		19	
3:15 PM	0	2	0		0	3	6		5	0	0		0	0	0		16	
3:30 PM	1	3	0		0	3	5		6	0	0		0	0	0		18	
3:45 PM	0	1	0		0	5	3		4	0	0		0	0	0		13	66
4:00 PM	1	4	0		1	4	1		3	0	0		0	0	0		14	
4:15 PM	0	4	0		1	5	1		4	0	0		0	1	0		16	
4:30 PM	0	5	0		1	2	1		2	0	0		0	2	1		14	
4:45 PM	0	2	0		0	2	0		6	2	0		0	0	1		13	57
	Northbound				Southbound				Eastbound				Westbound					
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Total	Hourly Total
3:00 PM	0	25	1		11	48	47		58	15	5		2	20	1		233	
3:15 PM	0	13	1		12	36	37		69	24	2		5	17	3		219	
3:30 PM	2	25	2		9	26	46		75	27	5		5	16	5		243	
3:45 PM	0	20	2		9	54	65		60	26	2		7	16	1		262	957
4:00 PM	2	19	1		22	50	74		60	32	2		13	19	4		298	
4:15 PM	2	21	1		17	60	75		63	24	4		11	18	2		298	
4:30 PM	3	25	2		15	58	68		59	24	3		6	34	4		301	
4:45 PM	0	21	2		9	43	49		46	26	2		2	16	2		218	1115
Total	9	169	12	0	104	375	461	0	490	198	25	0	51	156	22	0		
Peak Total	7	85	6	0	63	222	282	0	242	106	11	0	37	87	11	0		
Peak Turn Percent	7%	87%	6%	0%	11%	39%	50%	0%	67%	30%	3%	0%	27%	64%	8%	0%		
Peak Approach Total	98				567				359				135					
FORMULA	12	100	8		88	240	300		252	128	16		52	136	16			
PHF	0.5833	0.85	0.75		0.7159	0.925	0.94		0.9603	0.8281	0.6875		0.7115	0.6397	0.6875			
Comments																		

Peak Hour Approach Traffic Volume and Percentage



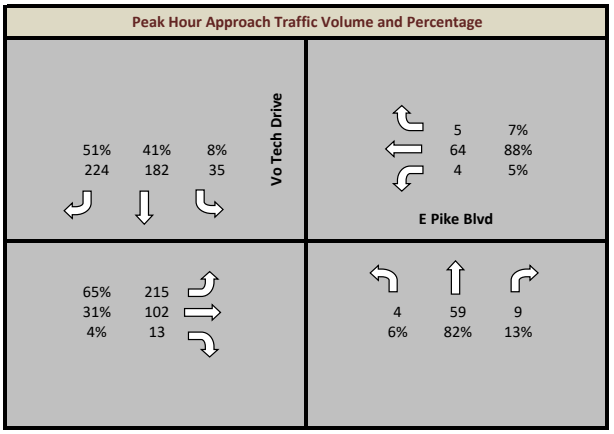
VO Tech Drive and E Pike Boulevard

Intersection	**North/South Street :**	**Vo Tech Drive**	
	East/West Street :	**E Pike Blvd**	
City / State	**Weslaco, Texas**		
Project No.	**2025003200**	**Peak Period :**	**6** 5:00 PM - 7:00 PM
Date Recorded:	**Thursday, April 24, 2025**	**Peak Hour:**	5:00 PM to 6:00 PM

AC GROUP LLC — TRAFFIC ENGINEERING AND DATA COLLECTION

Start Time	Intersection Approaches																Traffic Control	
	Vo Tech Drive				Vo Tech Drive				E Pike Blvd				E Pike Blvd				STOP	
	Northbound				Southbound				Eastbound				Westbound				Total	Hourly Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
5:00 PM	4	16	0		15	70	87		54	16	2		0	17	2		283	
5:15 PM	0	12	4		12	50	53		44	30	4		0	18	0		227	
5:30 PM	0	11	3		3	32	46		44	34	5		3	11	1		193	
5:45 PM	0	14	2		4	22	32		55	21	2		1	16	1		170	873
6:00 PM	0	9	0		6	41	42		41	27	1		5	15	2		189	
6:15 PM	0	7	3		3	28	30		32	22	3		3	11	1		143	
6:30 PM	0	8	1		2	17	40		29	18	3		0	13	0		131	
6:45 PM	1	3	0		3	19	20		31	20	4		4	9	1		115	578
	Northbound				Southbound				Eastbound				Westbound				Total	Hourly Total
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right			
5:00 PM	0	2	0		0	0	0		7	0	0		0	1	0		10	
5:15 PM	0	2	0		0	2	2		5	0	0		0	1	1		13	
5:30 PM	0	0	0		0	3	1		2	1	0		0	0	0		7	
5:45 PM	0	2	0		1	3	3		4	0	0		0	0	0		13	43
6:00 PM	0	0	0		0	0	2		8	0	0		0	0	0		10	
6:15 PM	0	0	0		0	1	3		8	0	0		0	1	0		13	
6:30 PM	0	6	0		0	2	2		4	1	0		0	0	0		15	
6:45 PM	0	2	0		1	0	1		3	0	0		0	0	0		7	45
	Northbound				Southbound				Eastbound				Westbound				Total	Hourly Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
5:00 PM	4	18	0		15	70	87		61	16	2		0	18	2		293	
5:15 PM	0	14	4		12	52	55		49	30	4		0	19	1		240	
5:30 PM	0	11	3		3	35	47		46	35	5		3	11	1		200	
5:45 PM	0	16	2		5	25	35		59	21	2		1	16	1		183	916
6:00 PM	0	9	0		6	41	44		49	27	1		5	15	2		199	
6:15 PM	0	7	3		3	29	33		40	22	3		3	12	1		156	
6:30 PM	0	14	1		2	19	42		33	19	3		0	13	0		146	
6:45 PM	1	5	0		4	19	21		34	20	4		4	9	1		122	623
Total	5	94	13	0	50	290	364	0	371	190	24	0	16	113	9	0		
Peak Total	4	59	9	0	35	182	224	0	215	102	13	0	4	64	5	0		
Peak Turn Percent	6%	82%	13%	0%	8%	41%	51%	0%	65%	31%	4%	0%	5%	88%	7%	0%		
Peak Approach Total	72				441				330				73					
FORMULA	16	72	16		60	280	348		244	140	20		12	76	8			
PHF	0.25	0.8194	0.5625		0.5833	0.65	0.6437		0.8811	0.7286	0.65		0.3333	0.8421	0.625			
Comments																		

Peak Hour Approach Traffic Volume and Percentage



Vo Tech Drive and E Pike Boulevard

Intersection	**North/South Street :**	**Vo Tech Drive**	
	East/West Street :	**E Pike Blvd**	
City / State	**Weslaco, Texas**		
Project No.	**2025003200**	**Peak Period :**	**3** 4:00 PM - 6:00 PM
Date Recorded:	**Thursday, April 24, 2025**	**Peak Hour:**	4:00 PM to 5:00 PM

AC GROUP LLC — TRAFFIC ENGINEERING AND DATA COLLECTION

Intersection Approaches — Traffic Control: STOP

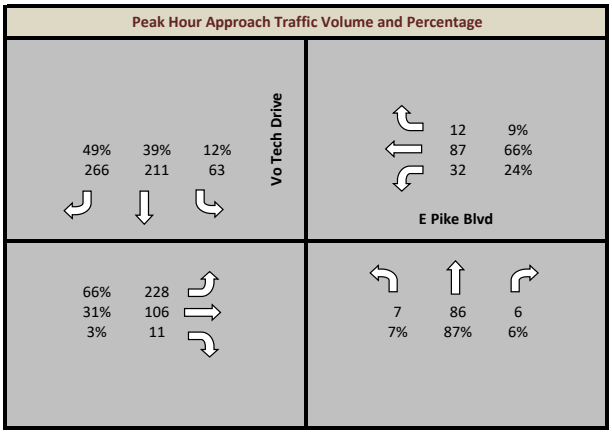
Start Time	Vo Tech Drive (Northbound)				Vo Tech Drive (Southbound)				E Pike Blvd (Eastbound)				E Pike Blvd (Westbound)				Total	Hourly Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	15	1		21	46	73		57	32	2		13	19	4		284	
4:15 PM	2	17	1		16	55	74		59	24	4		11	17	2		282	
4:30 PM	3	20	2		14	56	67		57	24	3		6	32	3		287	
4:45 PM	0	19	2		9	41	49		40	24	2		2	16	1		205	1058
5:00 PM	4	16	0		15	70	87		54	16	2		0	17	2		283	
5:15 PM	0	12	4		12	50	53		44	30	4		0	18	0		227	
5:30 PM	0	11	3		3	32	46		44	34	5		3	11	1		193	
5:45 PM	0	14	2		4	22	32		55	21	2		1	16	1		170	873

Start Time	Northbound			Southbound			Eastbound			Westbound			Total	Hourly Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
4:00 PM	1	4	0	1	4	1	3	0	0	0	0	0	14	
4:15 PM	0	4	0	1	5	1	4	0	0	0	1	0	16	
4:30 PM	0	5	0	1	2	1	2	0	0	0	2	1	14	
4:45 PM	0	2	0	0	2	0	6	2	0	0	0	1	13	57
5:00 PM	0	2	0	0	0	0	7	0	0	0	1	0	10	
5:15 PM	0	2	0	0	2	2	5	0	0	0	1	1	13	
5:30 PM	0	0	0	0	3	1	2	1	0	0	0	0	7	
5:45 PM	0	2	0	1	3	3	4	0	0	0	0	0	13	43

Start Time	Northbound				Southbound				Eastbound				Westbound				Total	Hourly Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	19	1		22	50	74		60	32	2		13	19	4		298	
4:15 PM	2	21	1		17	60	75		63	24	4		11	18	2		298	
4:30 PM	3	25	2		15	58	68		59	24	3		6	34	4		301	
4:45 PM	0	21	2		9	43	49		46	26	2		2	16	2		218	1115
5:00 PM	4	18	0		15	70	87		61	16	2		0	18	2		293	
5:15 PM	0	14	4		12	52	55		49	30	4		0	19	1		240	
5:30 PM	0	11	3		3	35	47		46	35	5		3	11	1		200	
5:45 PM	0	16	2		5	25	35		59	21	2		1	16	1		183	916
Total	11	145	15	0	98	393	490	0	443	208	24	0	36	151	17	0		
Peak Total	7	86	6	0	63	211	266	0	228	106	11	0	32	87	12	0		
Peak Turn Percent	7%	87%	6%	0%	12%	39%	49%	0%	66%	31%	3%	0%	24%	66%	9%	0%		
Peak Approach Total	99				540				345				131					
FORMULA	12	100	8		88	240	300		252	128	16		52	136	16			
PHF	0.5833	0.86	0.75		0.7159	0.8792	0.8867		0.9048	0.8281	0.6875		0.6154	0.6397	0.75			

Comments

Peak Hour Approach Traffic Volume and Percentage



VO Tech Drive and E Pike Boulevard

Intersection	**North/South Street :**	**Vo Tech Drive**	
	East/West Street :	**E Pike Blvd**	
City / State	**Weslaco, Texas**		
Project No.	**2025003200**	**Peak Period :**	**3** — **11:00 AM - 1:00 PM**
Date Recorded:	**Saturday, April 26, 2025**	**Peak Hour:**	**12:00 PM to 1:00 PM**

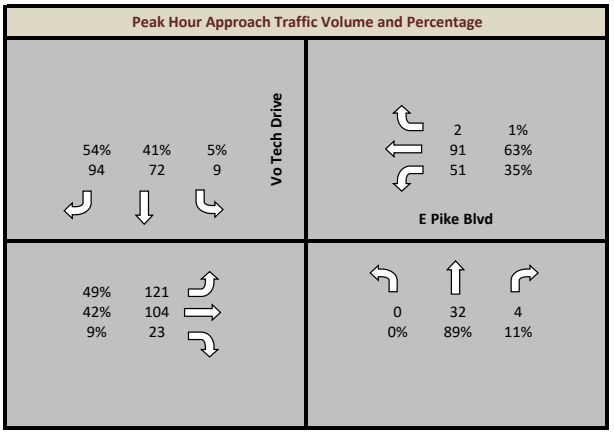
AC GROUP LLC — TRAFFIC ENGINEERING AND DATA COLLECTION

Intersection Approaches — **Traffic Control: STOP**

Start Time	Vo Tech Drive				Vo Tech Drive				E Pike Blvd				E Pike Blvd				Total	Hourly Total
	Northbound				Southbound				Eastbound				Westbound					
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
11:00 AM	0	3	0		2	14	23		20	16	2		4	11	0		95	
11:15 AM	0	5	0		0	14	23		24	19	2		6	16	0		109	
11:30 AM	0	4	0		5	19	23		22	14	6		8	16	1		118	
11:45 AM	0	8	3		6	16	20		32	14	4		2	16	1		122	444
12:00 PM	0	8	0		2	15	26		31	21	4		1	21	1		130	
12:15 PM	0	7	0		3	19	20		23	21	7		4	22	1		127	
12:30 PM	0	5	3		2	14	18		29	33	6		3	16	0		129	
12:45 PM	0	8	1		1	19	30		33	28	6		43	32	0		201	587
	Northbound				Southbound				Eastbound				Westbound					
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right			
11:00 AM	0	0	0		0	2	0		0	0	1		0	0	0		3	
11:15 AM	0	3	0		0	0	0		1	0	0		0	0	1		5	
11:30 AM	0	1	0		0	2	0		0	0	0		0	0	0		3	
11:45 AM	1	0	0		1	0	0		3	2	1		0	0	0		8	19
12:00 PM	0	0	0		0	1	0		2	1	0		0	0	0		4	
12:15 PM	0	2	0		0	2	0		0	0	0		0	0	0		4	
12:30 PM	0	0	0		0	2	0		1	0	0		0	0	0		3	
12:45 PM	0	2	0		1	0	0		2	0	0		0	0	0		5	16
	Northbound				Southbound				Eastbound				Westbound					
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
11:00 AM	0	3	0		2	16	23		20	16	3		4	11	0		98	
11:15 AM	0	8	0		0	14	23		25	19	2		6	16	1		114	
11:30 AM	0	5	0		5	21	23		22	14	6		8	16	1		121	
11:45 AM	1	8	3		7	16	20		35	16	5		2	16	1		130	463
12:00 PM	0	8	0		2	16	26		33	22	4		1	21	1		134	
12:15 PM	0	9	0		3	21	20		23	21	7		4	22	1		131	
12:30 PM	0	5	3		2	16	18		30	33	6		3	16	0		132	
12:45 PM	0	10	1		2	19	30		35	28	6		43	32	0		206	603
Total	1	56	7	0	23	139	183	0	223	169	39	0	71	150	5	0		
Peak Total	0	32	4	0	9	72	94	0	121	104	23	0	51	91	2	0		
Peak Turn Percent	0%	89%	11%	0%	5%	41%	54%	0%	49%	42%	9%	0%	35%	63%	1%	0%		
Peak Approach Total	36				175				248				144					
FORMULA	0	40	12		12	84	120		140	132	28		172	128	4			
PHF	#DIV/0!	0.8	0.3333		0.75	0.8571	0.7833		0.8643	0.7879	0.8214		0.2965	0.7109	0.5			

Comments

Peak Hour Approach Traffic Volume and Percentage



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Appendix D | Historical Crash Data

Crash Analysis

Roadway crash statistics provide quantitative data that provide engineers a tool to objectively assess and evaluate the existing roadway conditions and traffic operations. Crash frequency and crash trends at the subject intersection were reviewed. The most recent five (5) years of crash data at the study intersection was obtained from the TxDOT's Crash Records Information System (C.R.I.S.) using the Query Tool. The number of crashes per year are summarized by type and severity in **Tables 2** and **3**. The C.R.I.S. Query Tool results are provided in **Appendix D**.

Table 2 – Crash Statistics – Crash Type

Crash Type	Year					Total
	2021	2022	2023	2024	2025	
Angle	1	1	3	1	0	**6**
Right Turn	1	0	0	2	0	**3**
Left Turn	0	0	0	0	1	**1**
Sideswipe	0	1	0	0	0	**1**
Opposite	0	1	1	0	1	**3**
Other/Unknown	0	0	0	1	0	**1**
Total	**2**	**3**	**4**	**4**	**2**	**15**

Table 3 – Crash Statistics – Crash Severity

Crash Severity	Year					Total
	2021	2022	2023	2024	2025	
Fatal	0	0	0	0	0	**0**
Injury	0	1	1	2	0	**4**
Property Damage	0	1	0	1	0	**2**
Total	**0**	**2**	**1**	**3**	**0**	**6**

Based on a review of the data, approximately 40% of the crashes occurred at an angle. All of the angle collisions were due to either a failure to yield the right of way or a complete disregard of the stop signs. Approximately 25% of all crashes resulted in injury. None of the injuries were fatal.

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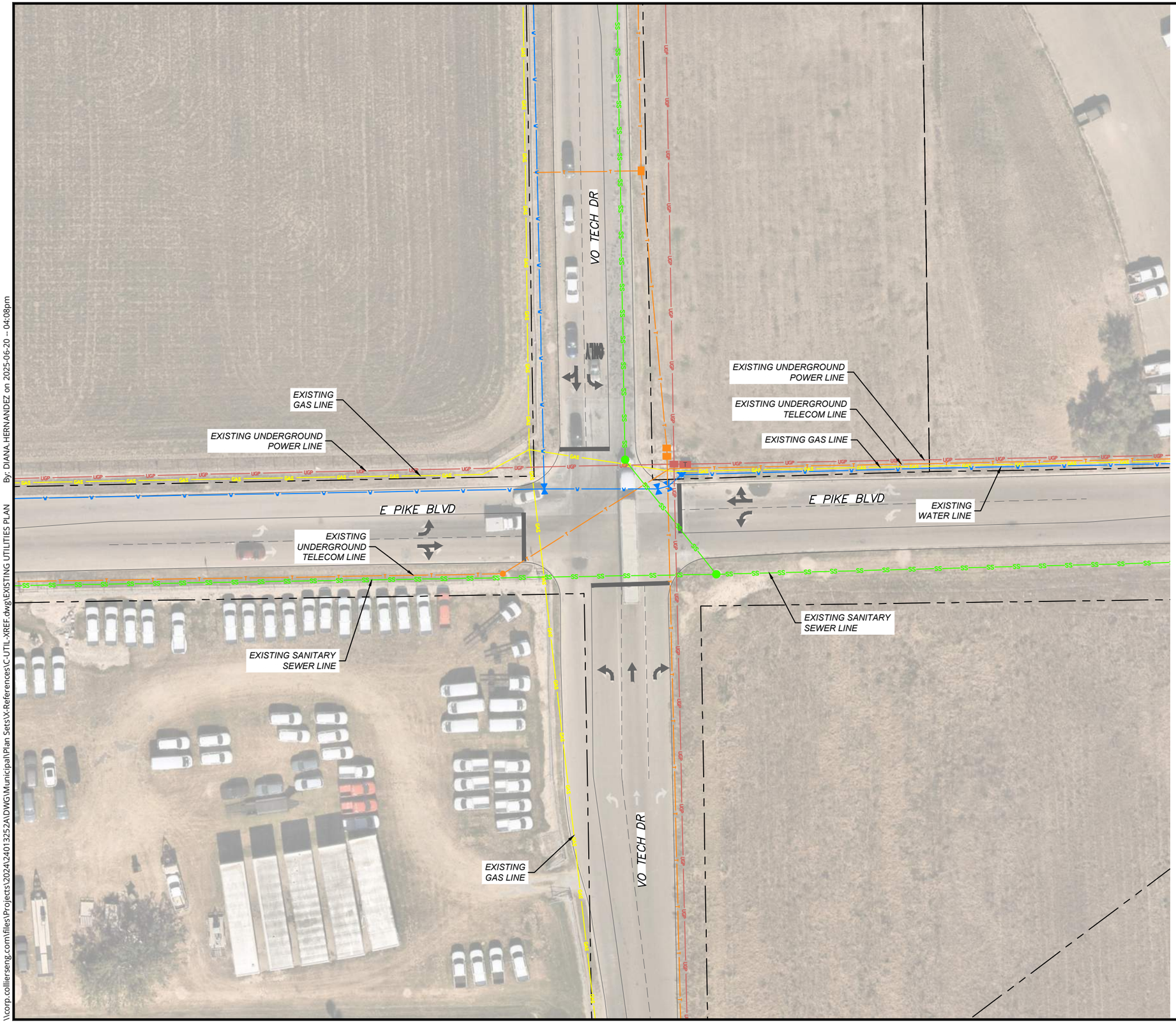
Appendix E | Existing Utilities Map



N
W E
S

LEGEND

- EXISTING RIGHT-OF-WAY
- EXISTING WATER LINE
- EXISTING NATURAL GAS LINE
- EXISTING SANITARY SEWER LINE
- EXISTING TELECOM LINE
- EXISTING UNDERGROUND POWER
- EXISTING POWER HANDHOLE
- EXISTING POWER TRANSFORMER
- EXISTING SANITARY MANHOLE
- EXISTING TELECOM MANHOLE
- EXISTING TELECOM HANDHOLE
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT

NOTES:

1. THIS MAP WAS DRAFTED WITHOUT THE BENEFIT OF A SUBSURFACE UTILITY ENGINEERING (SUE) INVESTIGATION. THE LOCATION OF UTILITIES IS BASED ON STRUCTURES AND MARKINGS VISIBLE DURING FIELD INSPECTION.
2. ALL UTILITIES DEPICTED ON THIS MAP ARE UNDERGROUND.
3. TRANSFORMER TO BE CONFIRMED BY A SUE INVESTIGATION OR SURVEY.
4. UTILITIES DIMENSIONS ARE UNKNOWN UNTIL A SUE INVESTIGATION IS EXECUTED.

50 0 50

SCALE : 1" = 50'
SELECT LINEAR UNIT OF MEASURE

Colliers Engineering & Design

www.colliersengineering.com

REV	DATE	DESCRIPTION

CITY ON THE GROW — CITY OF WESLACO

CITY OF WESLACO

PER EXHIBITS

IMPROVEMENTS AT INTERSECTION OF VO-TECH DR AND PIKE BLVD

CITY OF WESLACO
HIDALGO COUNTY
TEXAS

THIS DOCUMENT IS FOR INTERIM REVIEW AND NOT FOR BIDDING, CONSTRUCTION, OR PERMIT PURPOSES.

DIANA G. HERNANDEZ VIDEA, P.E.
TEXAS LICENSE # 155475

COLLIERS ENGINEERING & DESIGN
TBPE FIRM # 14909

06/20/2025

HOUSTON
13501 Katy Freeway,
Suite 1350
Houston, TX 77079
Phone: 281.674.7560
COLLIERS ENGINEERING & DESIGN, INC.

SCALE:	DRAWN BY:
AS SHOWN	XXX
DESIGNED BY:	REVIEWED BY:
XXX	XXX
DATE ISSUED:	PROJECT NUMBER:
6/20/25	24013252A

SHEET NAME:

DESKTOP EXISTING UTILITIES MAP

DRAWING NUMBER:

EXHIBIT E1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

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Appendix F | Site Visit Photographs

Photo 1: At Vo Tech Dr. and E. Pike Blvd facing Northwest (View of Airport Runway)

Photo 2: At Vo Tech Dr. and E. Pike Blvd facing West

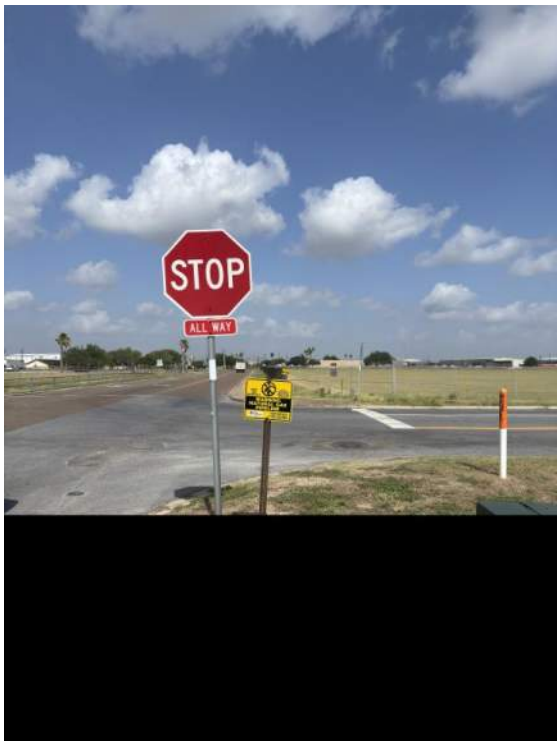

Photo 3: At Northeast corner of Vo Tech Dr. and E. Pike Blvd facing West (Stop and warning Sign)

Photo 4: At Northeast corner of Vo Tech Dr. and E. Pike Blvd facing Southeast (Warning sign and fire hydrant)

Photo 5: Northeast corner of Vo Tech Dr. and E. Pike Blvd facing Southwest (Presumed transformer, fire hydrant, stop, and warning sign)

Photo 6: Northeast corner of Vo Tech Dr. and E. Pike Blvd facing South (Close up of warning labels on presumed transformer)

Photo 7: Vo Tech Dr. and E. Pike Blvd facing North (Sanitary manhole cover)

Photo 8: Northwest corner of Vo Tech Dr. and E. Pike Blvd facing North (Warning sign and airport wire fence)

Photo 9: Northwest corner of Vo Tech Dr. and E. Pike Blvd facing South (View of Southwest corner)

Photo 10: Southwest corner of Vo Tech Dr. and E. Pike Blvd facing Southwest (Warning sign and manhole cover)

Photo 11: Southwest corner of Vo Tech Dr. and E. Pike Blvd facing Southeast

Photo 12: Vo Tech Dr. and E. Pike Blvd facing South

Photo 13: Vo Tech Dr. and E. Pike Blvd facing East

Photo 14: Vo Tech Dr. and E. Pike Blvd facing Northeast (view of Northeast corner)

Photo 15: Vo Tech Dr. and E. Pike Blvd facing North

Photo 16: Vo Tech Dr. and E. Pike Blvd Facing Northwest (View of Northwest corner and Airport Runway)

Photo 17: Vo Tech Dr. and E. Pike Blvd facing West

Photo 18: Northwest corner of Vo Tech Dr. and E. Pike Blvd facing West

Photo 19: Southeast corner of Vo Tech Dr. and E. Pike Blvd facing Northwest (View of Intersection)

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Appendix G | FAA Coordination Report

1000 Waterview Drive Suite 201
Hamilton, New Jersey 08691
Main: 877 627 3772

Colliers Engineering & Design

Memorandum

To: Guillermo Benavides, PE, ENV SP

Date: June 17, 2025

Subject: FAA Coordination Report

Project No.: 24013252A

Colliers Engineering & Design evaluated the Federal Aviation Administration (FAA) height restriction at Vo-Tech Drive and Pike Boulevard in Weslaco, Texas. The height restriction at the intersection was required for evaluating the proposed intersection improvements. The intersection is located adjacent to Mid Valley Airport (TXW), which is a small general aviation airport with a single runway. The evaluation was conducted by referencing the *FAA Airport Design AC 150/5300-13B, FAA Airport Lane Use Compatibility Planning*, and local guidelines. Additionally, Mid Valley Airport provided several documents that aided in completing the evaluation. These communications are attached.

The northwest corner of Vo-Tech Drive and Pike Boulevard is located approximately 825 feet southeast of the runway at Mid Valley Airport. The northwest corner of the intersection was used for all calculations, since it was located the closest to the runway. The intersection is directly in line with Runway 14/32. Runway 14 is the designation for when planes are taking off and landing in the southeast direction, where Runway 32 is designation for the northwest direction.

Based on this information, the intersection is located within the Runway Protection Zone (RPZ), which is also verified based on the attached Mid Valley Airport Overlay Zones Figure 2. Within the Runway Protection Zone, there is several regulations restricting the height of obstructions. These restrictions are summarized in several FAA documents and are outlined directly in *Title 14 of the Code of Federal Regulations Part 77 (14 CFR Part 77).* FAA documents state that "14 CFR Part 77 was developed by the FAA to promote safety, and the efficient use and preservation of navigable airspace" and "the airspace areas governed by 14 CFR Part 77 are called imaginary surface". These imaginary surfaces are the horizontal surface, conical surface, primary surface, approach surface, and transitional surface. With Vo-Tech Drive and Pike Boulevard being located directly in line with the runway and only 825 feet from the edge of the runway, the primary surface and approach surface are the imaginary surfaces that will dictate the height restrictions.

The approach to Runway 32 begins with a **primary surface** that extends 200 feet horizontally from the runway's edge. This surface maintains the runway elevation, which has been determined from Nearmap imagery to be approximately **68 feet**.

Beyond the primary surface lies the **approach surface**, an inclined plane that dictates maximum object heights. The exact slope of this surface is unconfirmed. While airport markings suggest a non-precision instrument runway (slope of 34:1, or one foot of vertical rise for every 34 feet of horizontal

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distance), FAA procedures do not currently specify this for Runway 32 (only Runway 14). Consequently, our analysis considers two potential scenarios: a **non-precision instrument runway (34:1)** and a **visual runway (20:1)**. Final confirmation of the applicable slope is pending from Mid Valley Airport.

This analysis focused on calculating the maximum permissible height for structures at the intersection of Vo-Tech Drive and Pike Boulevard. The ground elevation at the intersection is approximately **67 feet**.

The calculations were performed for the **northwest corner** of the intersection, as it represents the most restrictive case with the lowest height allowance.

- **Visual Runway Scenario (20:1):** At this location, the approach surface reaches an elevation of **99 feet**, resulting in a maximum allowable structure height of **32 feet**.
- **Non-Precision Runway Scenario (34:1):** The approach surface reaches an elevation of **86 feet**, restricting the maximum structure height to **19 feet**.

As illustrated in Figure 1, the height restrictions are slightly less stringent at the other corners of the intersection because the approach surface continues to slope upward, providing additional clearance.

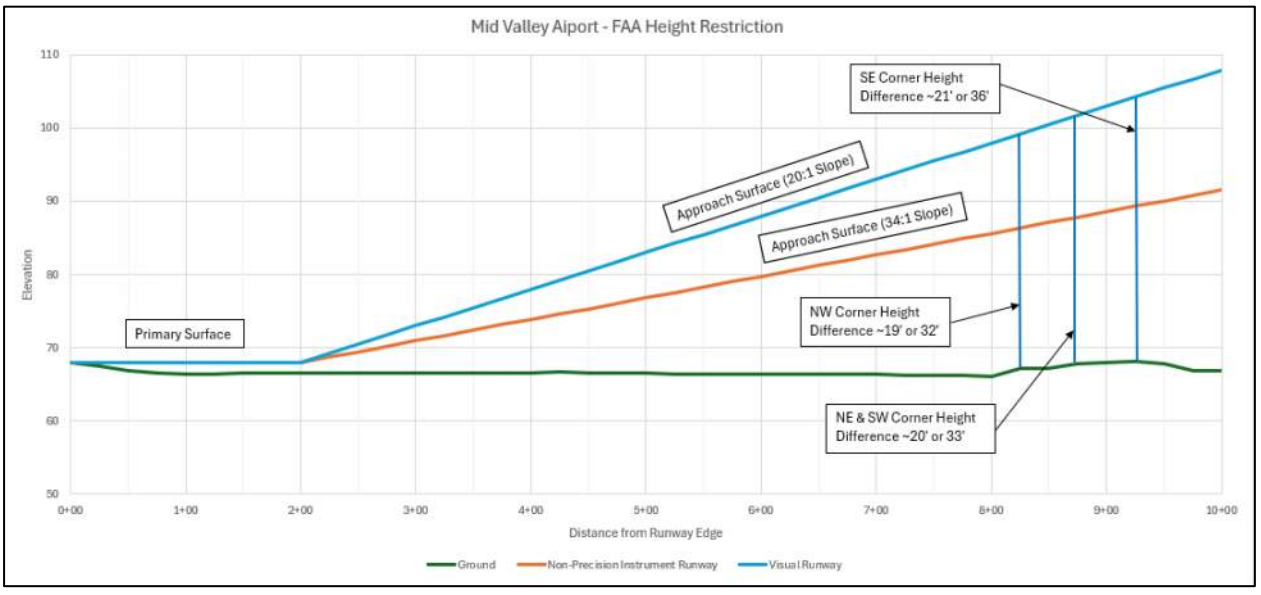


Figure 1: Mid Valley Airport – FAA Height Restriction

The calculated height restrictions, ranging from **19 to 32 feet** depending on the final runway designation, are a critical design constraint. This information must be utilized in the planning and engineering of any proposed improvements for the Vo-Tech Drive and Pike Boulevard intersection.

Outlook

Re: Document Request: Vo-Tech Dr & Pike Bvld Preliminary Engineering Report

From Maria Lily Alvarez <mlalvarez@weslacotx.gov>
Date Mon 4/14/2025 4:37 PM
To Colin O'Hara <colin.ohara@collierseng.com>

This Message originated outside your organization.

Hello, Colin,

I haven't forgotten about you. I was in training last week so missed a couple of days. Today as I am trying to send you the most useful map my Acrobat License expired (booo!) - working with IT to get it reinstalled. I will get that to you by tomorrow.

Lily Alvarez
Director, Mid-Valley Airport
1909 Joe Stephens Ave
Weslaco, TX 78596
PH. 956-969-0291

From: Colin O'Hara <colin.ohara@collierseng.com>
Sent: Wednesday, April 9, 2025 3:08 PM
To: Maria Lily Alvarez <mlalvarez@weslacotx.gov>
Cc: Adam Allen <Adam.Allen@collierseng.com>; Anthony Mariani <Anthony.Mariani@collierseng.com>
Subject: Document Request: Vo-Tech Dr & Pike Bvld Preliminary Engineering Report

EXTERNAL EMAIL: This email originated from outside of the organization. Do not click any links or open/download any attachments unless you recognize the sender and know the content is safe.

Hi Lily,

Thank you for the call back this afternoon.

As discussed, Colliers Engineering & Design is currently working on a Preliminary Engineering Report to assess traffic improvements at the Vo-Tech Drive and Pike Boulevard intersection. As part of our assessment, we are seeking information related to the FAA flight paths/fan charts and any restrictions that may apply to Mid-Valley Airport.

Could you kindly provide this information? Additionally, if you could also send any other relevant documents, such as the safety zone map, that would be greatly appreciated.

Thank you for your time and assistance. I look forward to your response.

Colin O'Hara, E.I.T.

Senior Engineer | Highway

colin.ohara@collierseng.com

Direct: 609 934 5351 | Main: 877 627 3772

1000 Waterview Drive Suite 201 | Hamilton, New Jersey 08691

colliersengineering.com | affiliated authorized entities

Colliers Engineering & Design

Outlook

FAA Form

From Maria Lily Alvarez <mlalvarez@weslacotx.gov>
Date Mon 4/21/2025 5:18 PM
To Colin O'Hara <colin.ohara@collierseng.com>

1 attachment (513 KB)
FAA_7460-1.pdf;

This Message originated outside your organization.

Hi Colin,

Please see attached.

Lily Alvarez
Director, Mid-Valley Airport
1909 Joe Stephens Ave
Weslaco, TX 78596
PH. 956-969-0291

NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

§ 77.7 Form and time of notice.

(a) If you are required to file notice under §77.9, you must submit to the FAA a completed FAA Form 7460–1, Notice of Proposed Construction or Alteration. FAA Form 7460–1 is available at FAA regional offices and on the Internet.

(b) You must submit this form at least 45 days before the start date of the proposed construction or alteration or the date an application for a construction permit is filed, whichever is earliest.

(c) If you propose construction or alteration that is also subject to the licensing requirements of the Federal Communications Commission (FCC), you must submit notice to the FAA on or before the date that the application is filed with the FCC.

(d) If you propose construction or alteration to an existing structure that exceeds 2,000 ft. in height above ground level (AGL), the FAA presumes it to be a hazard to air navigation that results in an inefficient use of airspace. You must include details explaining both why the proposal would not constitute a hazard to air navigation and why it would not cause an inefficient use of airspace.

(e) The 45-day advance notice requirement is waived if immediate construction or alteration is required because of an emergency involving essential public services, public health, or public safety. You may provide notice to the FAA by any available, expeditious means. You must file a completed FAA Form 7460–1 within 5 days of the initial notice to the FAA. Outside normal business hours, the nearest flight service station will accept emergency notices.

§ 77.9 Construction or alteration requiring notice.

If requested by the FAA, or if you propose any of the following types of construction or alteration, you must file notice with the FAA of:

(a) Any construction or alteration that is more than 200 ft. AGL at its site.

(b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:

(1) 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 ft. in actual length, excluding heliports.

(2) 50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 ft. in actual length, excluding heliports.

(3) 25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.

(c) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) or (b) of this section.

(d) Any construction or alteration on any of the following airports and heliports:

(1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications;

(2) A military airport under construction, or an airport under construction that will be available for public use;

(3) An airport operated by a Federal agency or the DOD.

(4) An airport or heliport with at least one FAA-approved instrument approach procedure.

(e) You do not need to file notice for construction or alteration of:

(1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;

(2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose;

(3) Any construction or alteration for which notice is required by any other FAA regulation.

(4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177
Fax: (817) 222-5920

Website: https://oeaaa.faa.gov

INSTRUCTIONS FOR COMPLETING FAA FORM 7460-1

PLEASE TYPE or PRINT

ITEM #1. Please include the name, address and phone number of a personal contact point as well as the company name.

ITEM #2. Please include the name, address and phone number of a personal contact point as well as the company name.

ITEM #3. New Construction would be a structure that has not yet been built.

Alteration is a change to an existing structure such as the addition of a side mounted antenna, a change to the marking and lighting, a change to power and/or frequency, or a change to the height. The nature of the alteration shall be included in ITEM #21 "Complete Description of Proposal".

Existing would be a correction to the latitude and/or longitude, a correction to the height, or if filing on an existing structure which has never been studied by the FAA. The reason for the notice shall be included in ITEM #21 "Complete Description of Proposal".

ITEM #4. If Permanent, so indicate. If Temporary, such as a crane or drilling derrick, enters the estimated length of time the temporary structure will be up.

ITEM #5. Enter the date that construction is expected to start and the date that construction should be completed.

ITEM #6. Please indicate the type of structure. DO NOT LEAVE BLANK.

ITEM #7. In the event that obstruction marking and lighting is required, please indicate type desired. If no preference, check "other" and indicate "no preference" DO NOT LEAVE BLANK. NOTE: High Intensity lighting shall be used only for structures over 500' AGL. In the absence of high intensity lighting for structures over 500' AGL, marking is also required.

ITEM #8. If this is an existing tower that has been registered with the FCC, enter the FCC Antenna Structure Registration number here.

ITEM #9 and #10. Latitude and longitude must be geographic coordinates, accurate to within the nearest second or to the nearest hundredth of a second if known. Latitude and longitude derived solely from a hand-held G P S instrument is NOT acceptable. A hand-held GPS is only accurate to within 100 meters (328 feet) 95 percent of the time. This data, when plotted, should match the site depiction submitted under ITEM #20.

ITEM #11. NAD 83 is preferred; however, latitude and longitude may be submitted in NAD 27. Also, in some geographic areas where NAD 27 and NAD 83 are not available other datum may be used. It is important to know which datum is used. DO NOT LEAVE BLANK.
ITEM #12. Enter the name of the nearest city and state to the site. If the structure is or will be in a city, enter the name of that city and state.

ITEM #13. Enter the full name of the nearest public-use (not private-use) airport or heliport or military airport or heliport to the site.

ITEM #14. Enter the distance from the airport or heliport listed in #13 to the structure.

ITEM #15. Enter the direction from the airport or heliport listed in #13 to the structure.

ITEM #16. Enter the site elevation above mean sea level and expressed in whole feet rounded to the nearest foot (e.g. 17'3" rounds to 17', 17'6" rounds to 18'). This data should match the ground contour elevations for site depiction submitted under ITEM #20.
ITEM #17. Enter the total structure height above ground level in whole feet rounded to the next highest foot (e.g. 17'3" rounds to 18'). The total structure height shall include anything mounted on top of the structure, such as antennas, obstruction lights, lightning rods, etc.

ITEM #18. Enter the overall height above mean sea level and expressed in whole feet. This will be the total of ITEM #16 + ITEM #17.

ITEM #19. If an FAA aeronautical study was previously conducted, enter the previous study number.

ITEM #20. Enter the relationship of the structure to roads, airports, prominent terrain, existing structures, etc. Attach an 8-1/2" x 11" non-reduced copy of the appropriate 7.5 minute U.S. Geological Survey (USGS) Quadrangle Map MARKED WITH A PRECISE INDICATION OF THE SITE LOCATION. To obtain maps, contact USGS at 1-888-275-8747 or via internet at "http://store.usgs.gov". If available, attach a copy of a documented site survey with the surveyor's certification stating the amount of vertical and horizontal accuracy in feet.

ITEM #21.
- For transmitting stations, include maximum effective radiated power (ERP) and all frequencies.
- For antennas, include the type of antenna and center of radiation (Attach the antenna pattern, if available).
- For microwave, include azimuth relative to true north.
- For overhead wires or transmission lines, include size and configuration of wires and their supporting structures (Attach depiction).
- For each pole/support, include coordinates, site elevation, and structure height above ground level or water.
- For buildings, include site orientation, coordinates of each corner, dimensions, and construction materials.
- For alterations, explain the alteration thoroughly.
- For existing structures, thoroughly explain the reason for notifying the FAA (e.g. corrections, no record or previous study, etc.).

Filing this information with the FAA does not relieve the sponsor of this construction or alteration from complying with any other federal, state or local rules or regulations. If you are not sure what other rules or regulations apply to your proposal, contact local/state aviation's and zoning authorities.

Please Type or Print on This Form

Form Approved OMB No.2120-0001
Expiration Date: 05/31/2026

U.S. Department of Transportation
Federal Aviation Administration

Failure To Provide All Requested Information May Delay Processing of Your Notice

Notice of Proposed Construction or Alteration

FOR FAA USE ONLY
Aeronautical Study Number

1. Sponsor *(person, company, etc. proposing this action):*
Attn. of
Name: _____
Address: _____
_____
City: _____ State: _____ Zip: _____
Telephone: _____ Fax: _____

2. Sponsor's Representative *(if other than #1):*
Attn. of
Name: _____
Address: _____
_____
City: _____ State: _____ Zip: _____
Telephone: _____ Fax: _____

3. Notice of: ☐ New Construction ☐ Alteration ☐ Existing

4. Duration: ☐ Permanent ☐ Temporary (___ months, ____days)

5. Work Schedule: Beginning _____ End _____

6. Type: ☐ Antenna Tower ☐ Crane ☐ Building ☐ Power Line
☐ Landfill ☐ Water Tank ☐ Other _____

7. Marking/Painting and/or Lighting Preferred:
☐ Red Lights and Paint ☐ Dual - Red and Medium Intensity
☐ White-Medium Intensity ☐ Dual - Red and high Intensity
☐ White -High Intensity ☐ Other

8. FCC Antenna Structure Registration Number *(if applicable)*:
_____

9. Latitude: ____ 0 ____ ____ . ____ "

10. Longitude: ____ 0 ____ ____ . ____ "

11. Datum: ☐ NAD 83 ☐ NAD 27 ☐ Other

12. Nearest: City: _____ State _____

13. Nearest *Public-use* *(not private-use)* or Military Airport or Heliport:
_____

14. Distance from #13. to Structure: _____

15. Direction from #13. to Structure: _____

16. Site Elevation ***(AMSL)***: _____ ft.

17. Total Structure Height ***(AGL)***: _____ ft.

18. Overall Height (#16 + #17) ***(AMSL)***: _____ ft.

19. Previous FAA Aeronautical Study Number *(if applicable)*:
_____-OE

20. Description of Location: *(Attach a USGS 7.5 minute Quadrangle Map with the precise site marked and any certified survey)*

21. Complete Description of Proposal:

Frequency/Power (kW)	

Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to a civil penalty of $1,000 per day until the notice is received, pursuant to 49 U.S.C., Section 46301(a)

I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking & lighting standards as necessary.

Date	Typed or Printed Name and Title of Person Filing Notice	Signature

Outlook

Zone Map

From Melissa Adame <madame@weslacotx.gov>
Date Mon 4/21/2025 5:52 PM
To Colin O'Hara <colin.ohara@collierseng.com>
Cc Maria Lily Alvarez <mlalvarez@weslacotx.gov>

1 attachment (5 MB)
MVA_-_Overlay_Zone_Map__Fig._2_ (1)2.pdf;

This Message originated outside your organization.

Please see attached file for your review.

Thank you,
Melissa Adame
General Service Coordinator, Mid-Valley Airport
1909 Joe Stephens Ave
Weslaco, TX 78596
PH. 956-969-0291

Outlook

3rd Attempt without attachments

From Maria Lily Alvarez <mlalvarez@weslacotx.gov>
Date Tue 4/15/2025 12:26 PM
To Colin O'Hara <colin.ohara@collierseng.com>

This Message originated outside your organization.

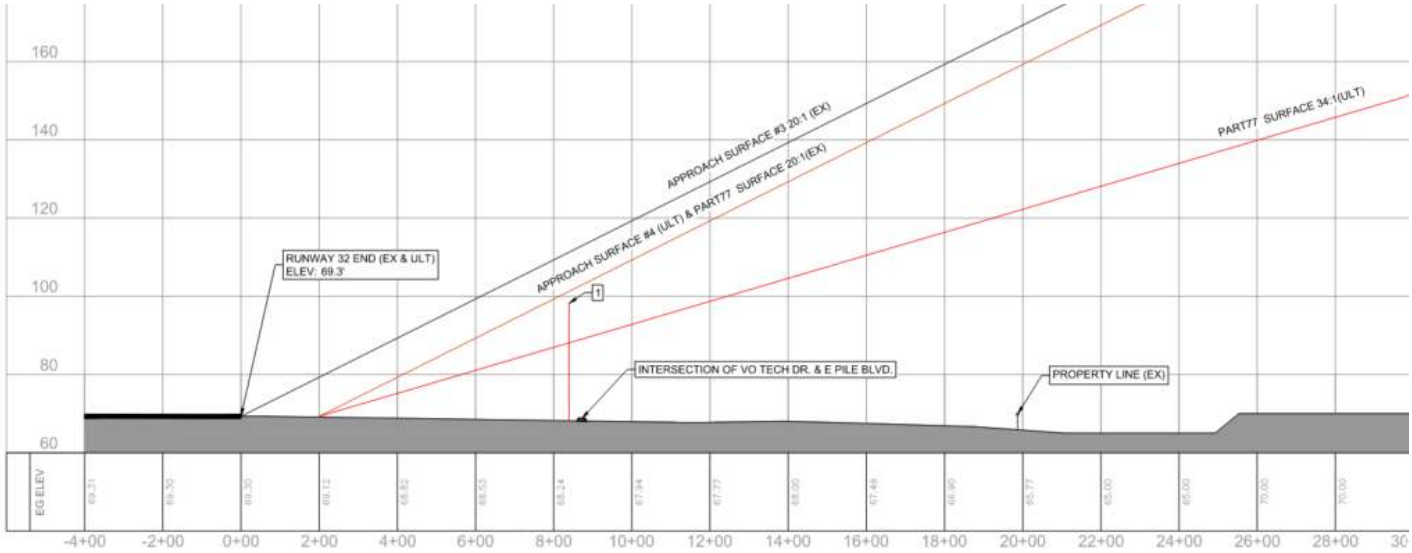
It must be our server; won't send any attachments or links 😖

From: Maria Lily Alvarez
Sent: Tuesday, April 15, 2025 10:07 AM
To: Colin O'Hara
Subject: Re: Document Request: Vo-Tech Dr & Pike Bvld Preliminary Engineering Report

Good morning,

I wonder if this might be helpful. A while back, while discussing our infamous intersection. I had our contracted master plan team review a light post at that intersection. This was their response (see below 🔽). Plus attached, find zone map (will send separately) and also this link is ultimately what FAA requires for approval of new construction (email would not sent so I deleted link; this can come later).

When we insert a proposed 30' traffic light (labeled 1 below in the graphic) at the intersection of Vo Tech and Pile, the height penetrates the Part 77 Surface by approx. 10'. The only remedy for this is either to make the pole lower or displace the runway threshold 340'. For submission to TxDOT we will not include the pole, but it will be an issue in the future for that intersection.



Lily Alvarez
Director, Mid-Valley Airport
1909 Joe Stephens Ave

Federal Aviation Administration

Terminal Procedures
Search Results

Showing results for:

Procedure effective date: Jun 12 - Jul 09, 2025 [2506]
Identifier: KTXW

Cntl/Click will allow you to open multiple PDFs, each one in a new tab.

Change search criteria

Showing results 1 - 4 of 4

State	City	Airport	Ident (ICAO)	Vol	Flag	Type	Procedure *(Cntrl/Click wil open files in a new tab)*	Compare
TX	WESLACO	MID VALLEY	TXW (KTXW)	SC-3		MIN	TAKEOFF MINIMUMS (PDF)	N/A
TX	WESLACO	MID VALLEY	TXW (KTXW)	SC-3		MIN	ALTERNATE MINIMUMS (PDF)	N/A
TX	WESLACO	MID VALLEY	TXW (KTXW)	SC-3		IAP	RNAV (GPS) RWY 14 (PDF)	N/A
TX	WESLACO	MID VALLEY	TXW (KTXW)	SC-3		IAP	VOR-A (PDF)	N/A

Showing results 1 - 4 of 4

Flag Values (Since last effective date)

"A" Added **"D"** Deleted **"C"** Changed

Additional Resources

- All Chart Supplement Hot Spot Information (PDF)
- Cold Temperature Airports (PDF)
- Legends & General Information (PDF)

d-TPP Metafile XML

- Current Edition:Jun 12 - Jul 10, 2025 (XML)
- Next Edition : Jul 10 - Aug 07, 2025

Page last modified: July 16, 2024 8:51:43 AM EDT

U.S. DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591
866.835.5322 (866-TELL-FAA)
Contact Us

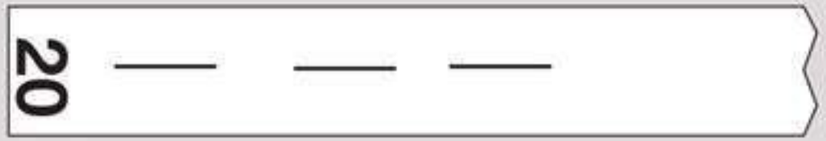
FAA Identifier: TXW/KTXW
UNICOM:122.8 APCH:125.95 LAT:26.10-39.6N LON:097-58-24.5W

Elevation: 69.9 ft. / 21 m (estimated)
6,000 x 80 Foot Lighted Runway
GPA/VOR-DME Instrument Approaches
AWOS - Automatic Weather Reporting (956-447-0414)
Pilot Briefing Weather (WSI)
24 Hour Self Serve Air AvFuel Fuel Station
Maintenance Facility/Mechanics on-site
Customer and Pilot Lounge
Day Recreation Available for Pilots (Golf, Tennis, Health Clubs)

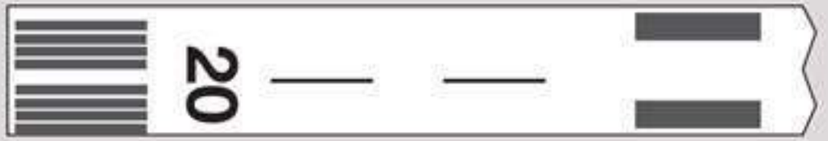
The Weslaco Mid Valley Airport is strategically located to allow its customers the most accessible option to business and pleasure throughout The Valley and Mexico. Direct highway access takes you to Harlingen or McAllen in 20 minutes … and to Mexico in 5 minutes.

RUNWAY MARKINGS

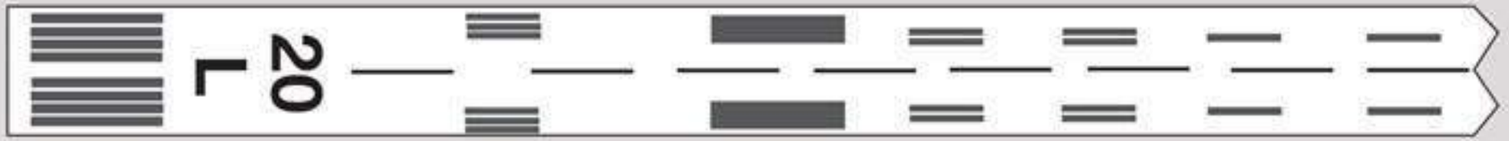
Runways have different markings depending on the types of approaches available



Visual
The runway is designated, and centerline is marked.



Nonprecision instrument
The runway is designated, and the centerline is marked. Threshold and aiming point are also marked.

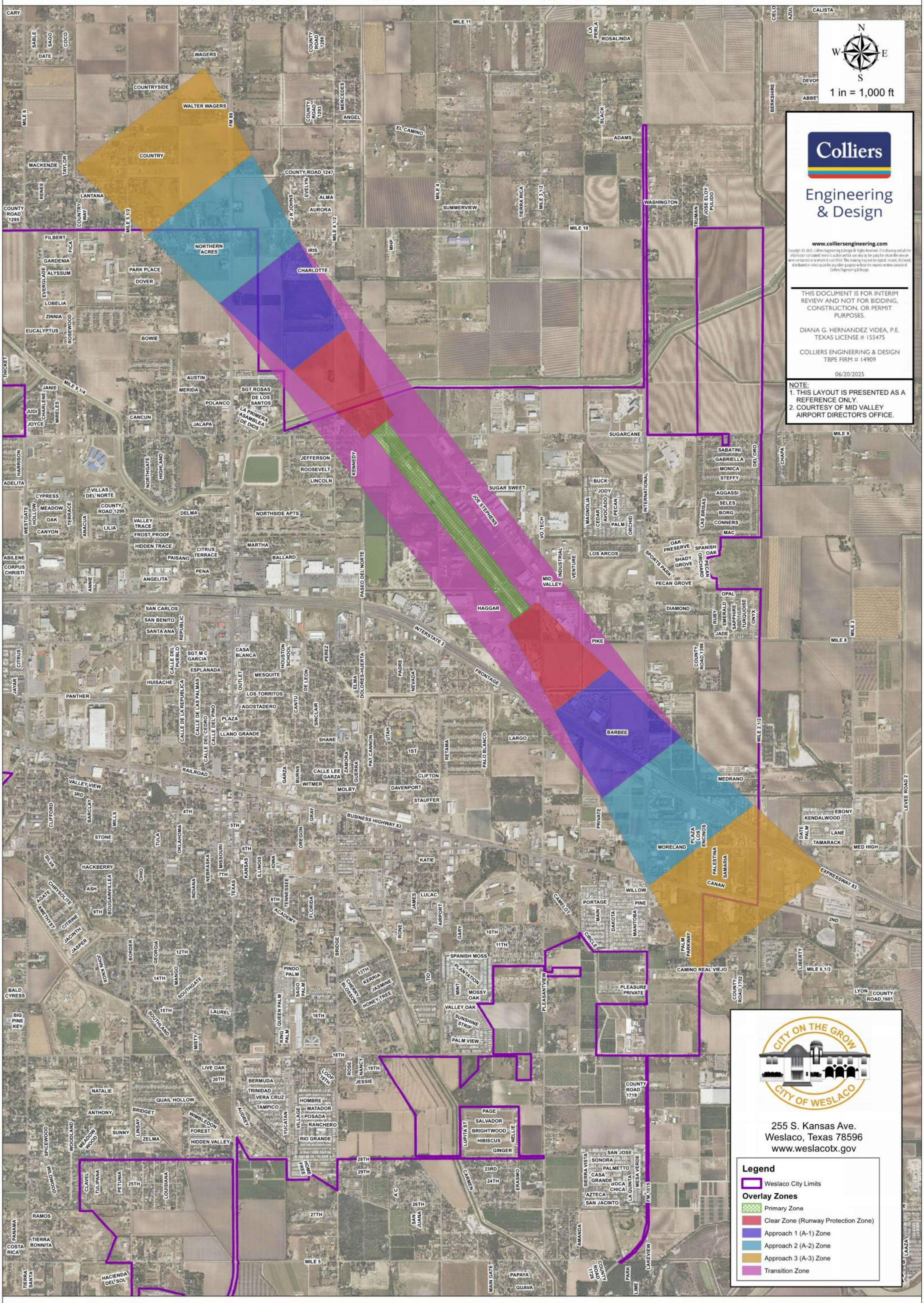


Precision instrument
The runway is designated, and the centerline is marked. Threshold and aiming point are also marked. Touchdown zone and side stripes are marked.

PLANNING AND CODE ENFORCEMENT

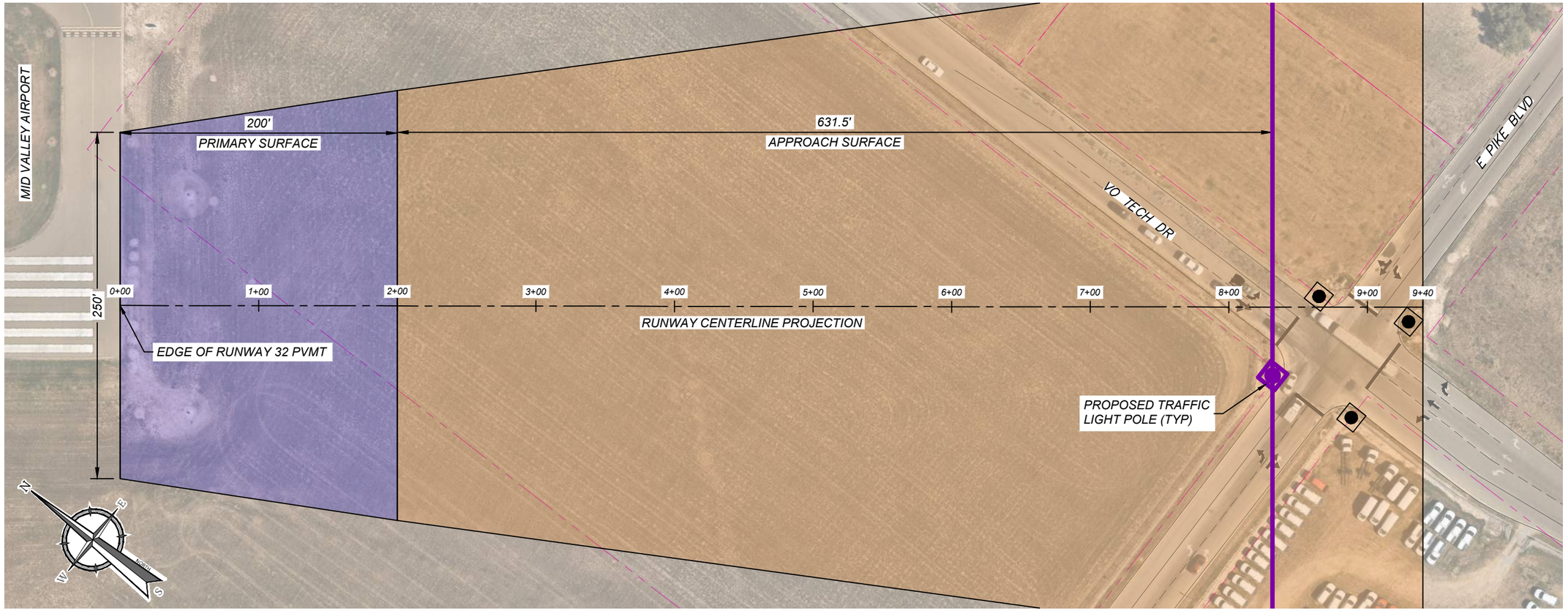
CITY OF WESLACO

PLANNING AND CODE ENFORCEMENT

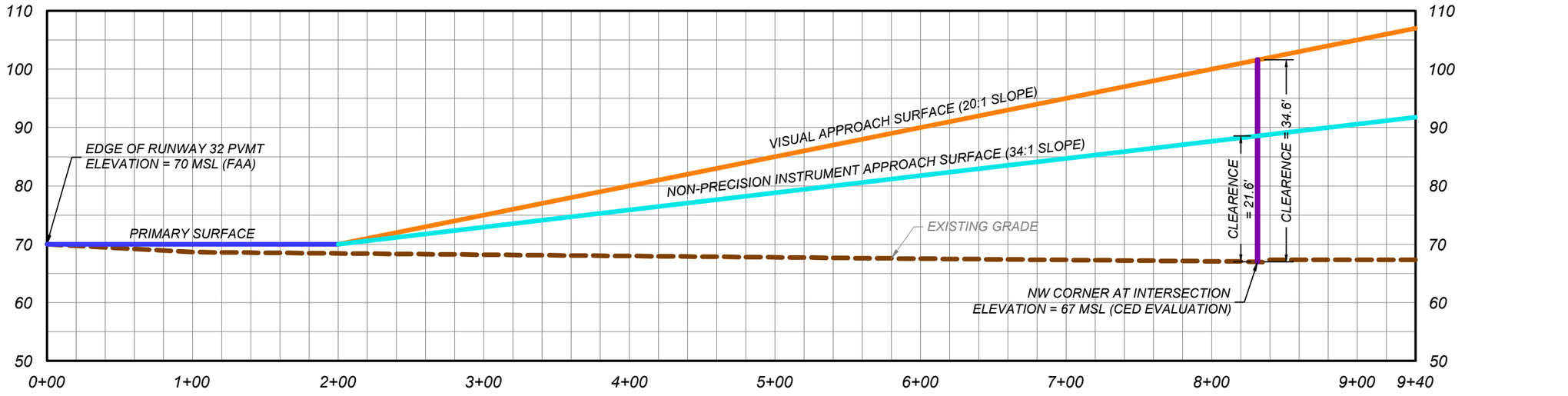


MID VALLEY AIRPORT OVERLAY ZONES

FIGURE 2



MID VALLEY AIRPORT - IMAGINARY SURFACES



80 0 80

SCALE : 1" = 80'
SELECT LINEAR UNIT OF MEASURE

Colliers Engineering & Design

www.colliersengineering.com

REV	DATE	DESCRIPTION

CITY ON THE GROW — CITY OF WESLACO

CITY OF WESLACO

PER EXHIBITS

IMPROVEMENTS AT INTERSECTION OF VO-TECH DR AND PIKE BLVD

CITY OF WESLACO
HIDALGO COUNTY
TEXAS

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DIANA G. HERNANDEZ VIDEA, P.E.
TEXAS LICENSE # 155475

COLLIERS ENGINEERING & DESIGN
TBPE FIRM # 14909

06/20/2025

HOUSTON
13501 Katy Freeway,
Suite 1350
Houston, TX 77079
Phone: 281.674.7560
COLLIERS ENGINEERING & DESIGN, INC.

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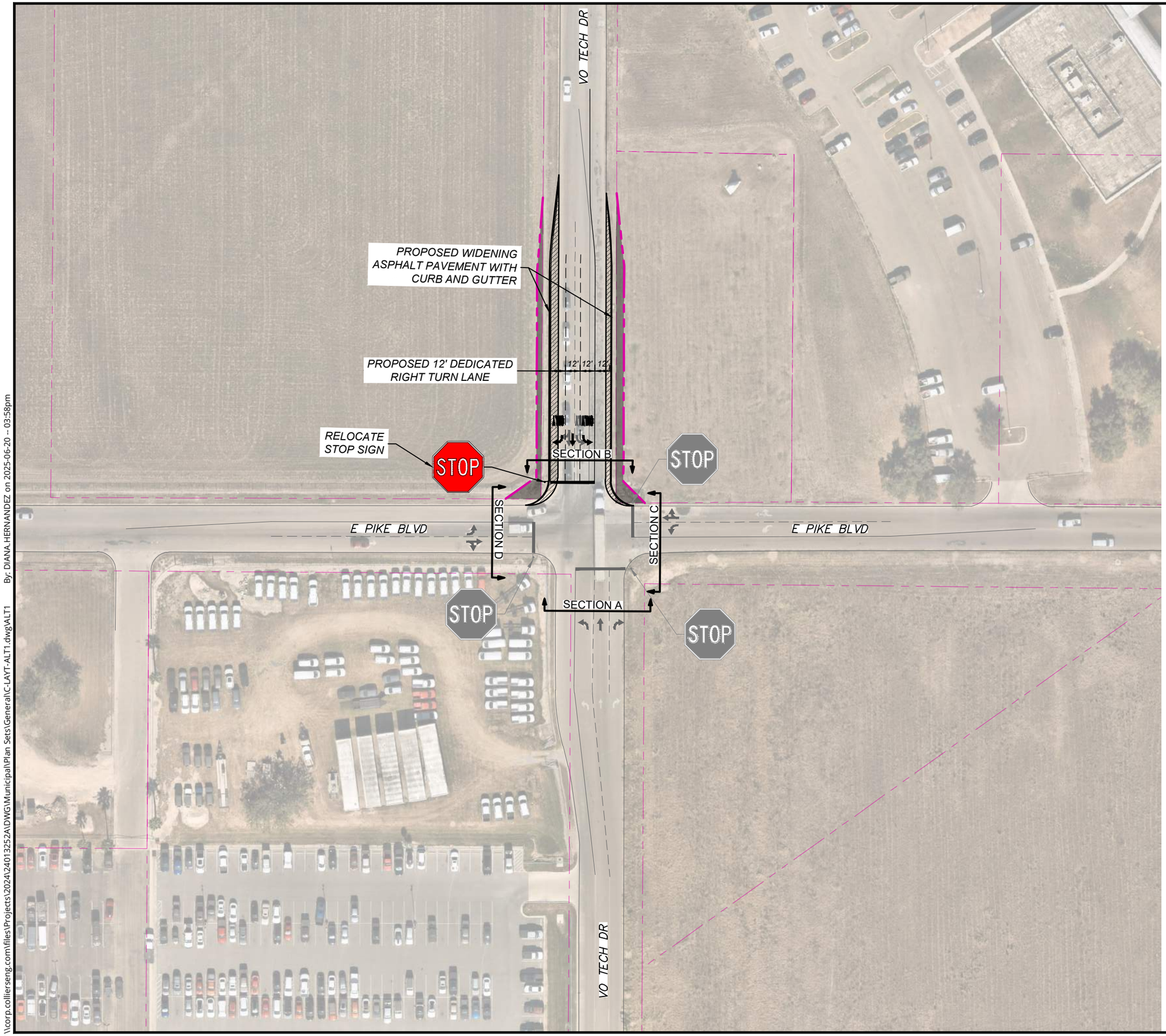
AS SHOWN	XXX
DESIGNED BY:	REVIEWED BY:
XXX	XXX
DATE ISSUED:	PROJECT NUMBER:
6/20/25	24013252A

SHEET NAME:
FAA - 14 CFR PART 77
IMAGINARY SURFACES
PLAN & PROFILE

DRAWING NUMBER:
EXHIBIT G1

Colliers
Engineering
& Design

Appendix H | Build Scenario Layout and Cross-Sections



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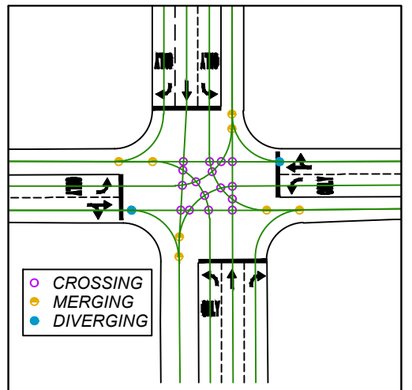
LEGEND

- PROPOSED RIGHT-OF-WAY
- RIGHT OF WAY IMPACT AREA
- PROPOSED PAVEMENT
- PROPOSED STRIPING
- APPARENT EXSITING R.O.W
- EXISTING PAVEMENT
- EXISTING STRIPING

NOTES:

APPROXIMATE TOTAL RIGHT-OF-WAY IMPACT AREA = 2630 SF

CONFLICT POINTS AT PROPOSED INTERSECTION



TOTAL CONFLICT POINTS = 26

80 0 80

SCALE : 1" = 80'
SELECT LINEAR UNIT OF MEASURE

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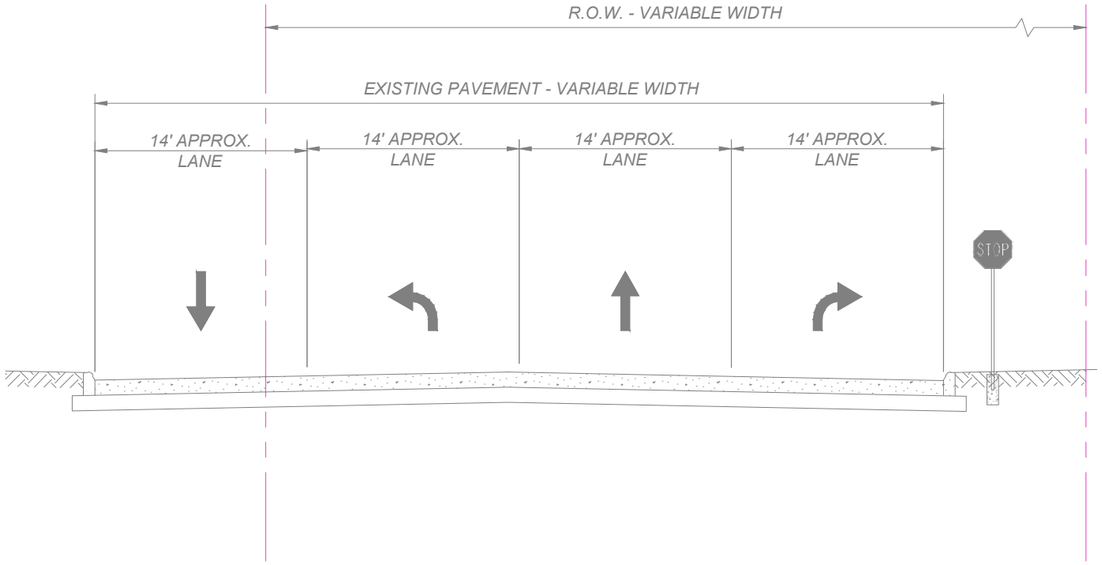
6/20/25	24013252A

SHEET NAME:

BUILD SCENARIO 1 LAYOUT

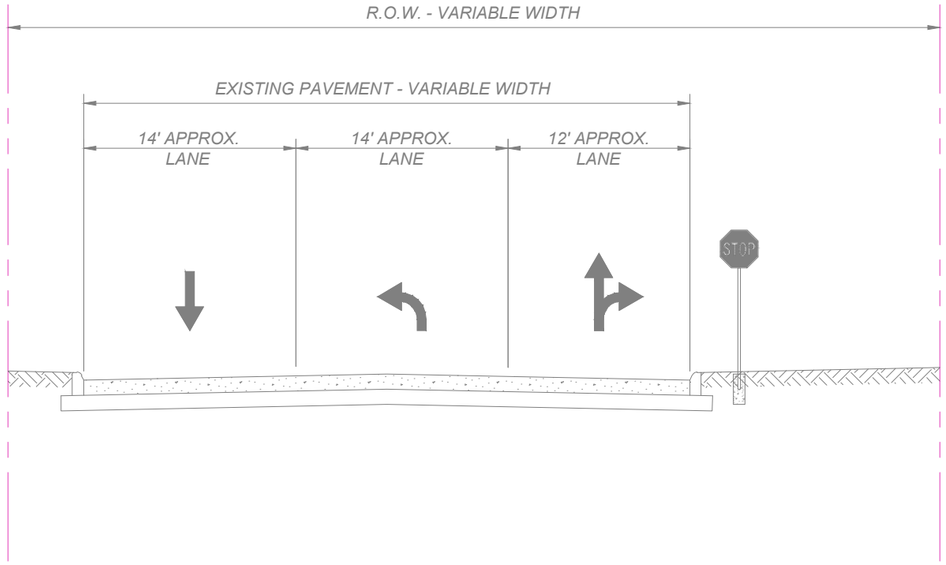
DRAWING NUMBER:

EXHIBIT H1.1



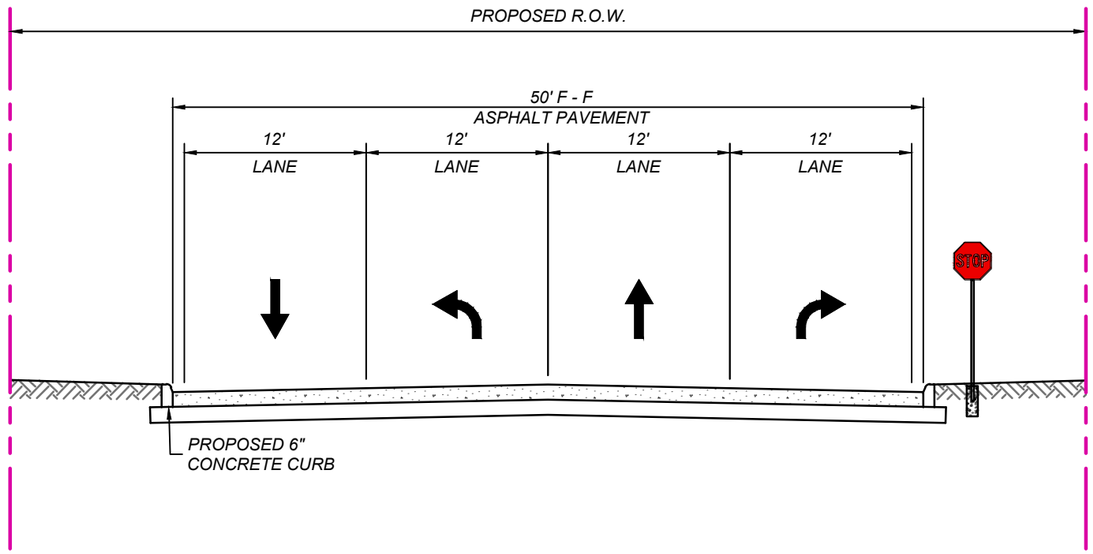
SECTION A

(VO TECH DR NORTHBOUND)



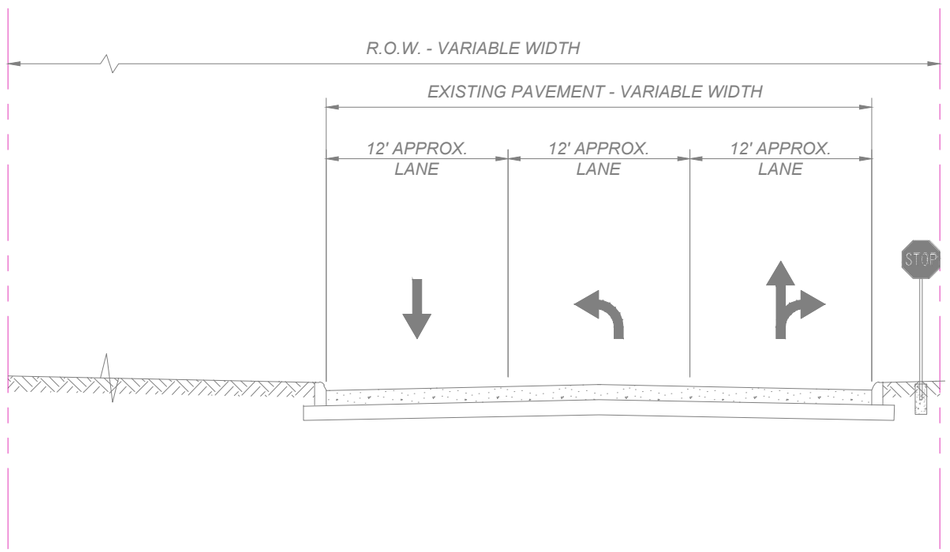
SECTION C

(E PIKE BLVD DR EASTBOUND)



SECTION B

(VO TECH DR SOUTHBOUND)



SECTION D

(E PIKE BLVD WESTBOUND)

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IMPROVEMENTS AT INTERSECTION OF VO-TECH DR AND PIKE BLVD

CITY OF WESLACO
HIDALGO COUNTY
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XXX	XXX
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6/20/25	24013252A

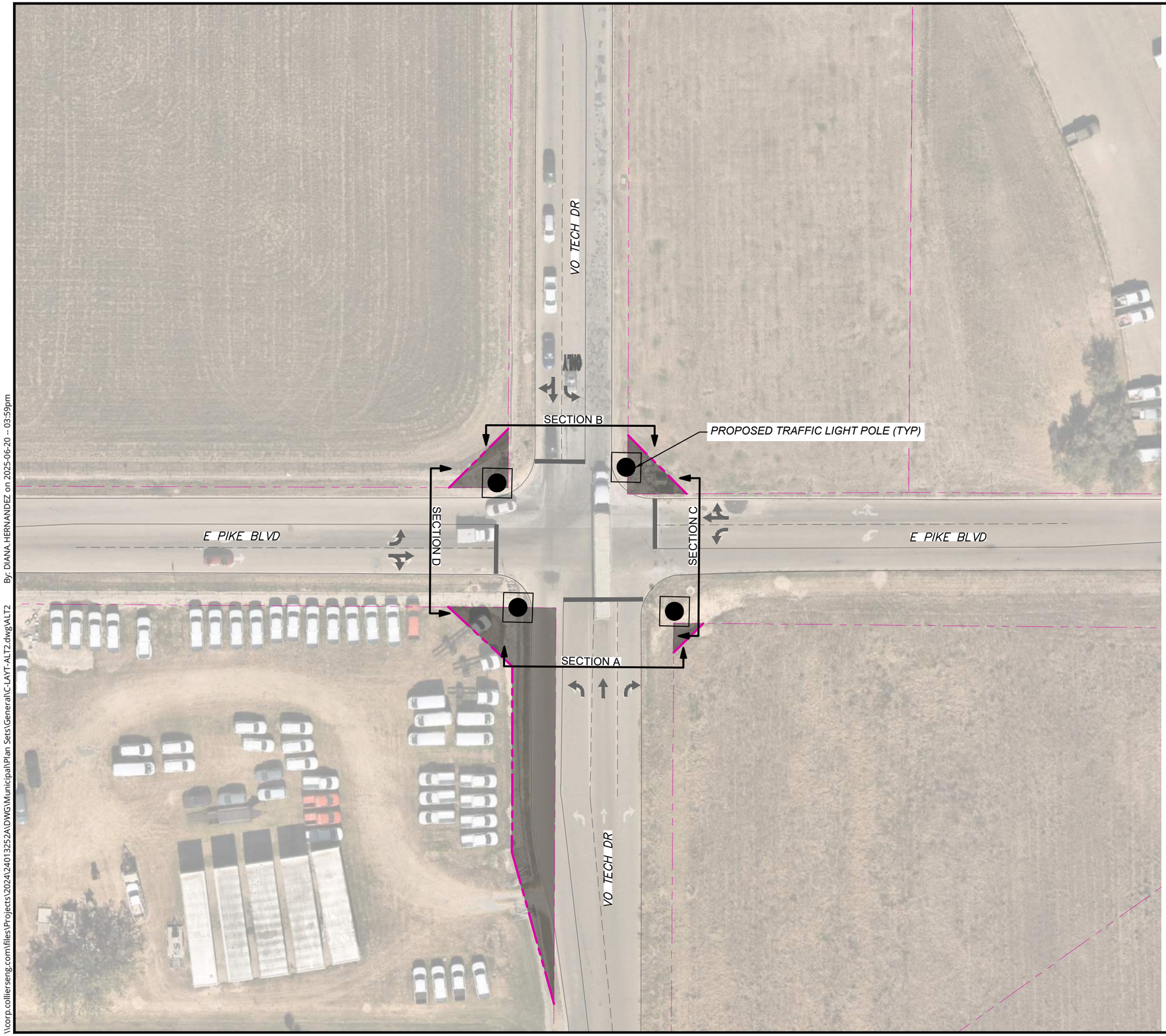
SHEET NAME:

BUILD SCENARIO 1
TYPICAL SECTION

DRAWING NUMBER:

EXHIBIT H1.2

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



N
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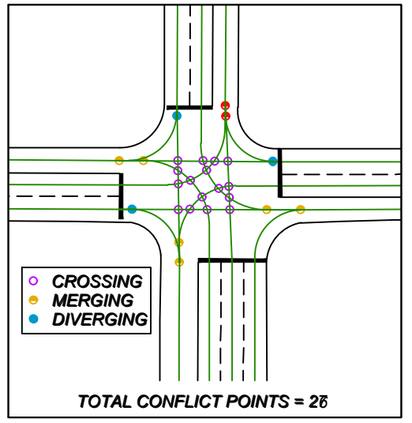
LEGEND

- PROPOSED RIGHT-OF-WAY
- RIGHT OF WAY IMPACT AREA
- PROPOSED PAVEMENT
- PROPOSED STRIPING
- APPARENT EXSITING R.O.W
- EXISTING PAVEMENT
- EXISTING STRIPING

NOTES:

APPROXIMATE TOTAL RIGHT-OF-WAY IMPACT AREA = 5100 SF

CONFLICT POINTS AT PROPOSED INTERSECTION



TOTAL CONFLICT POINTS = 28

50 0 50

SCALE : 1" = 50'
SELECT LINEAR UNIT OF MEASURE

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REV	DATE	DESCRIPTION

CITY ON THE GROW — CITY OF WESLACO

CITY OF WESLACO

PER EXHIBITS

IMPROVEMENTS AT INTERSECTION OF VO-TECH DR AND PIKE BLVD

CITY OF WESLACO
HIDALGO COUNTY
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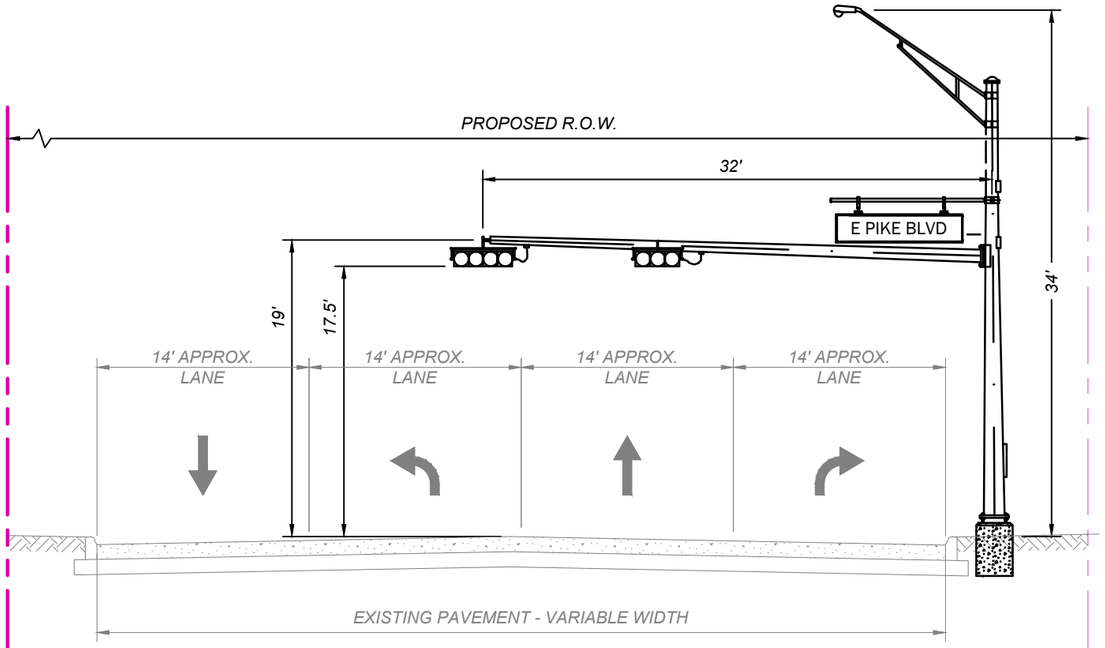
DESIGNED BY:	REVIEWED BY:
XXX	XXX
DATE ISSUED:	PROJECT NUMBER:
6/20/25	24013252A

SHEET NAME:

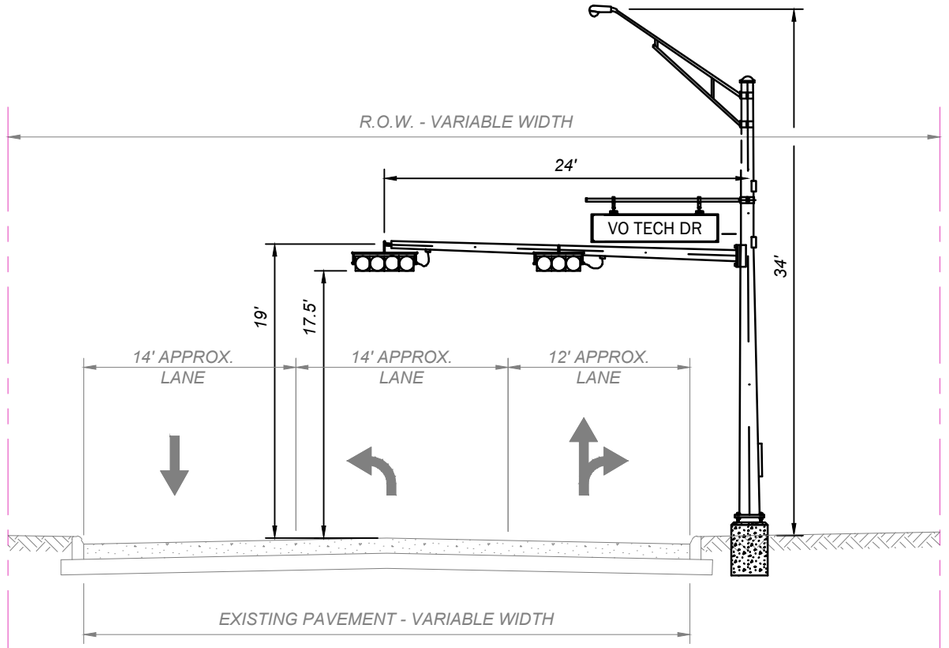
BUILD SCENARIO 2 LAYOUT

DRAWING NUMBER:

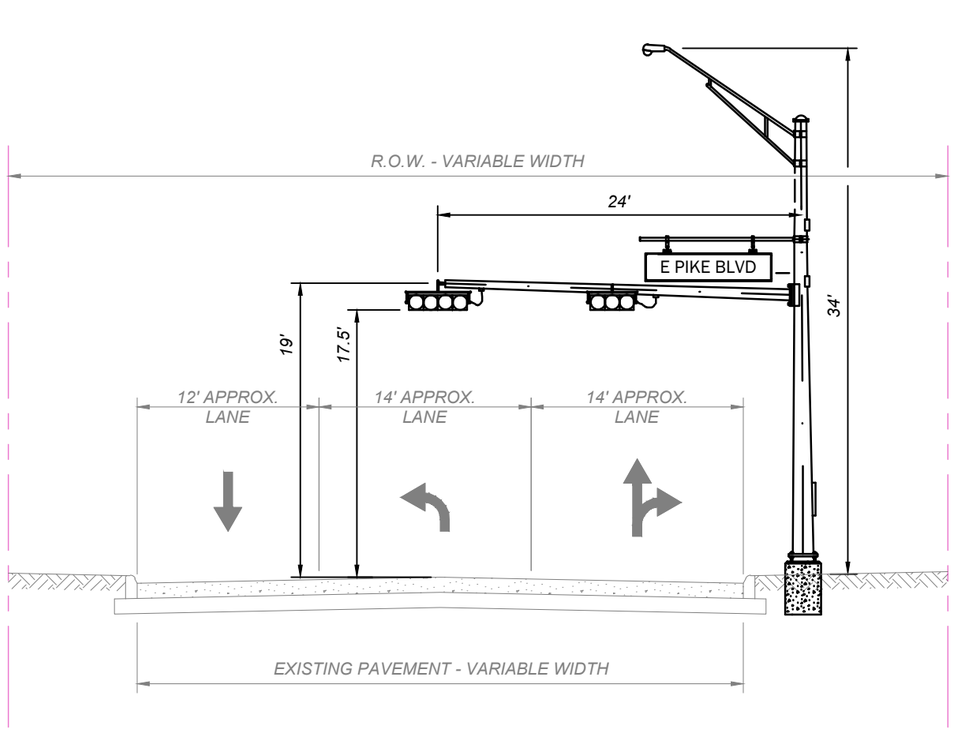
EXHIBIT H2.1



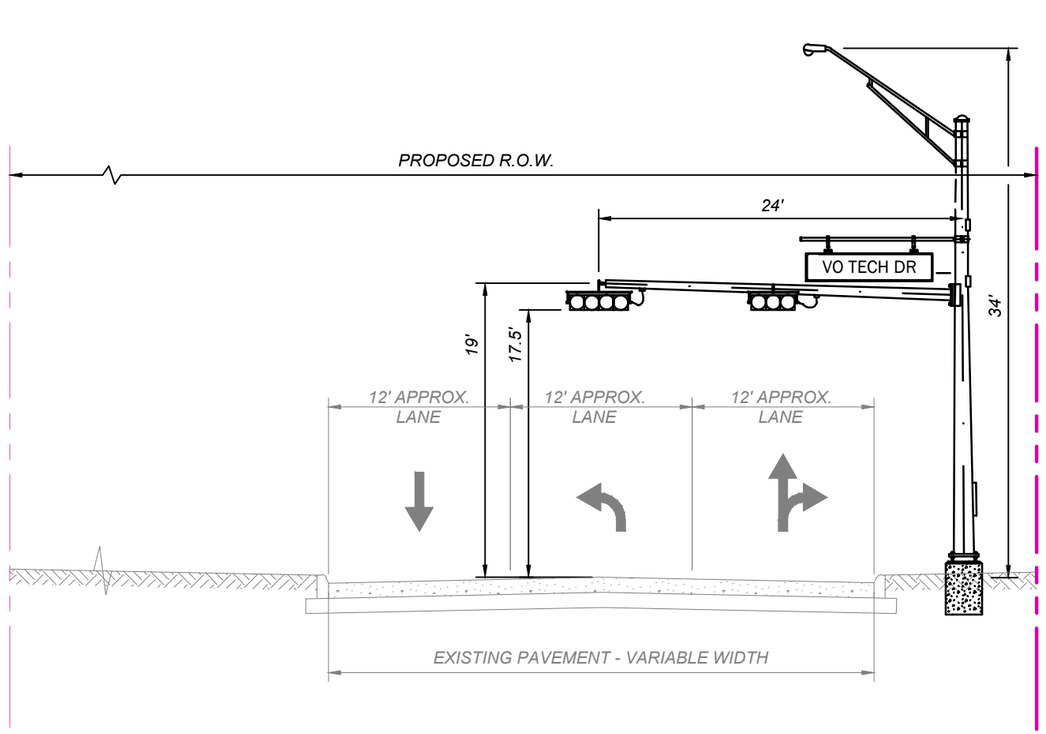
SECTION A
(VO TECH DR NORTHBOUND)



SECTION C
(E PIKE BLVD DR EASTBOUND)



SECTION B
(VO TECH DR SOUTHBOUND)



SECTION D
(E PIKE BLVD WESTBOUND)

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REV	DATE	DESCRIPTION

CITY ON THE GROW — CITY OF WESLACO

CITY OF WESLACO

PER EXHIBITS

IMPROVEMENTS AT INTERSECTION OF VO-TECH DR AND PIKE BLVD

CITY OF WESLACO
HIDALGO COUNTY
TEXAS

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06/20/2025

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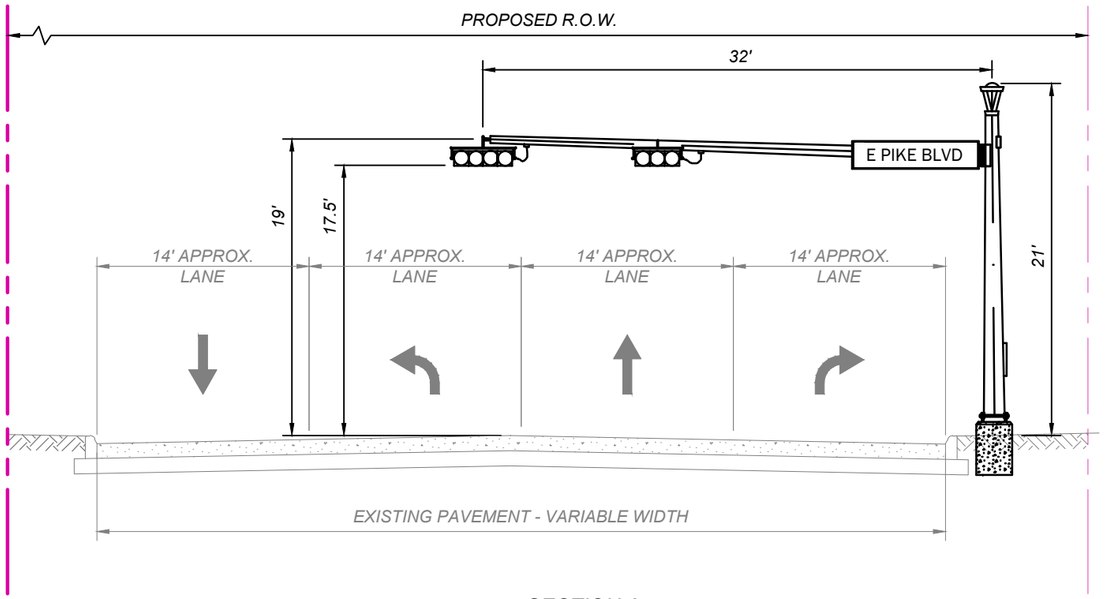
SCALE: AS SHOWN	DRAWN BY: XXX
DESIGNED BY: XXX	REVIEWED BY: XXX
DATE ISSUED: 6/20/25	PROJECT NUMBER: 24013252A

SHEET NAME:
BUILD SCENARIO 2
TYPICAL SECTION
(OPTION A)

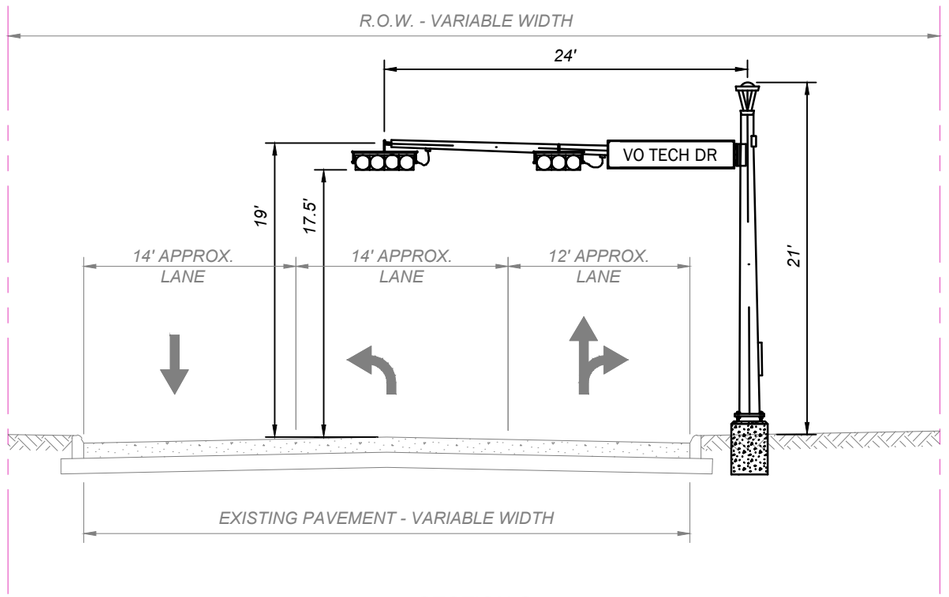
DRAWING NUMBER:
EXHIBIT H2.2

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



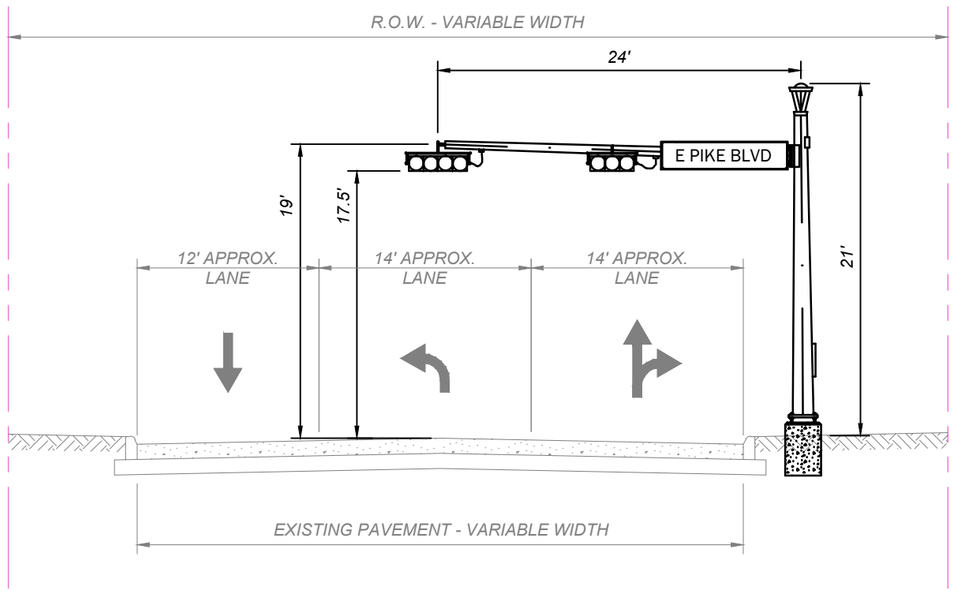
SECTION A

(VO TECH DR NORTHBOUND)



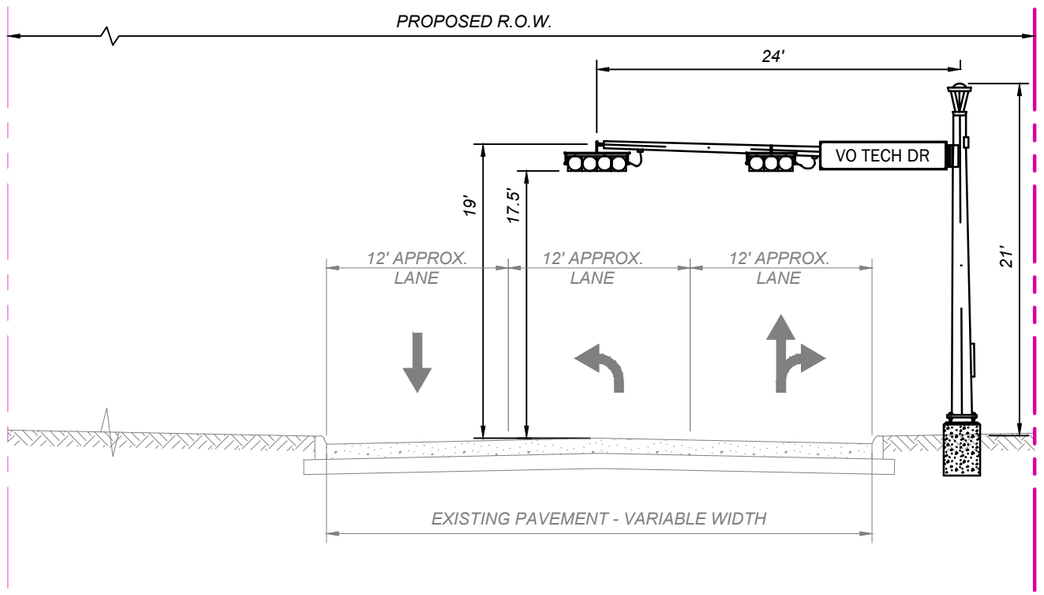
SECTION C

(E PIKE BLVD DR EASTBOUND)



SECTION B

(VO TECH DR SOUTHBOUND)



SECTION D

(E PIKE BLVD WESTBOUND)

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REV	DATE	DESCRIPTION

CITY ON THE GROW — CITY OF WESLACO

CITY OF WESLACO

PER EXHIBITS

IMPROVEMENTS AT INTERSECTION OF VO-TECH DR AND PIKE BLVD

CITY OF WESLACO
HIDALGO COUNTY
TEXAS

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COLLIERS ENGINEERING & DESIGN
TBPE FIRM # 14909

06/20/2025

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13501 Katy Freeway,
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Houston, TX 77079
Phone: 281.674.7560
COLLIERS ENGINEERING & DESIGN, INC.

SCALE: AS SHOWN	DRAWN BY: XXX
DESIGNED BY: XXX	REVIEWED BY: XXX
DATE ISSUED: 6/20/25	PROJECT NUMBER: 24013252A

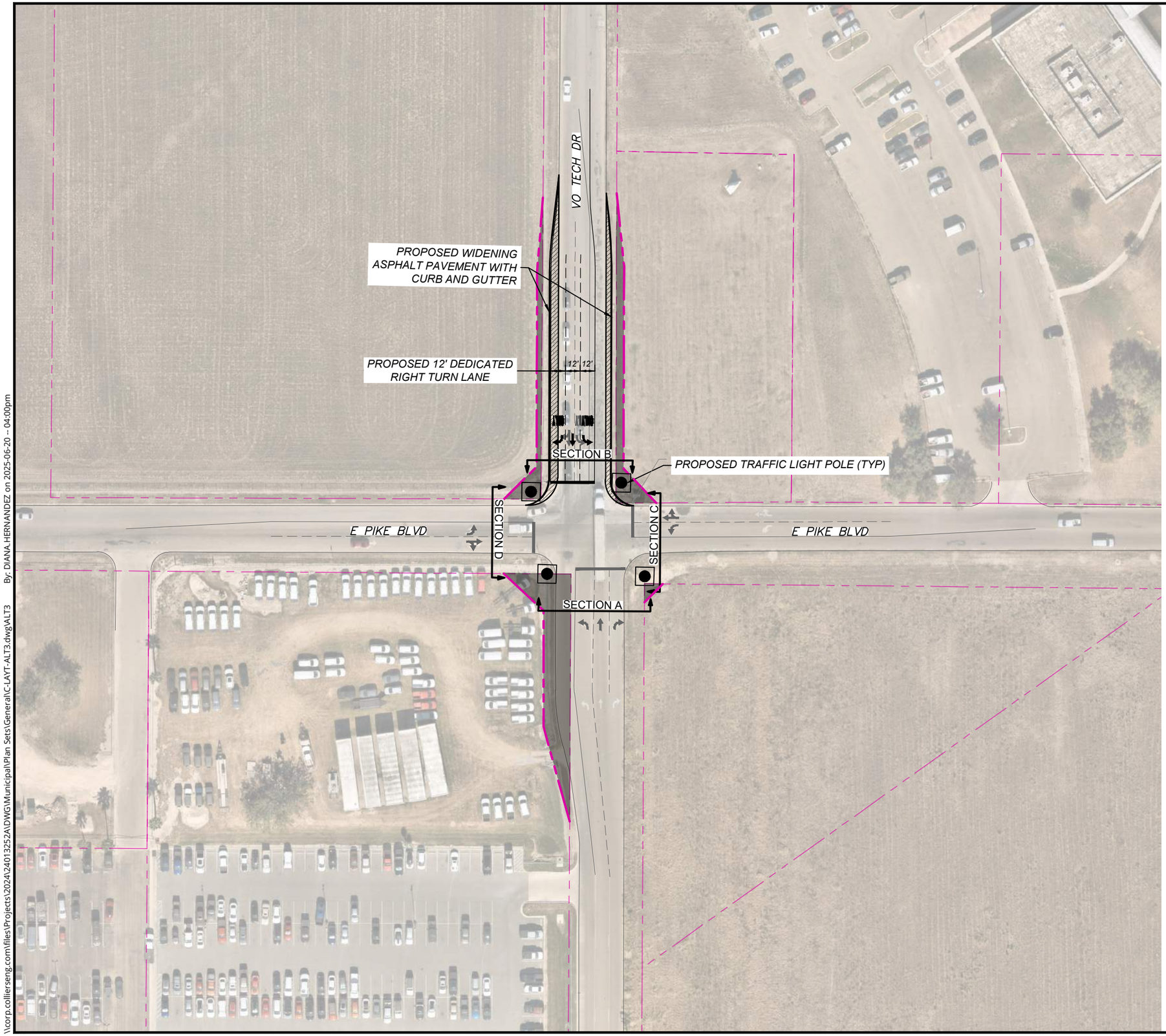
SHEET NAME:

BUILD SCENARIO 2
TYPICAL SECTION
(OPTION B)

DRAWING NUMBER:

EXHIBIT H2.3

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



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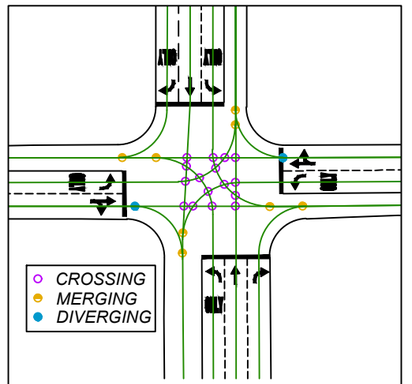
LEGEND

- PROPOSED RIGHT-OF-WAY
- RIGHT OF WAY IMPACT AREA
- PROPOSED PAVEMENT
- PROPOSED STRIPING
- APPARENT EXSITING R.O.W
- EXISTING PAVEMENT
- EXISTING STRIPING

NOTES:

APPROXIMATE TOTAL RIGHT-OF-WAY IMPACT AREA = 7,180 SF

CONFLICT POINTS AT PROPOSED INTERSECTION



TOTAL CONFLICT POINTS = 26

80 0 80

SCALE : 1" = 80'
SELECT LINEAR UNIT OF MEASURE

Colliers Engineering & Design

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REV	DATE	DESCRIPTION

CITY ON THE GROW — CITY OF WESLACO

CITY OF WESLACO

PER EXHIBITS

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TBPE FIRM # 14909

06/20/2025

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13501 Katy Freeway,
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Phone: 281.674.7560
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SCALE:	DRAWN BY:
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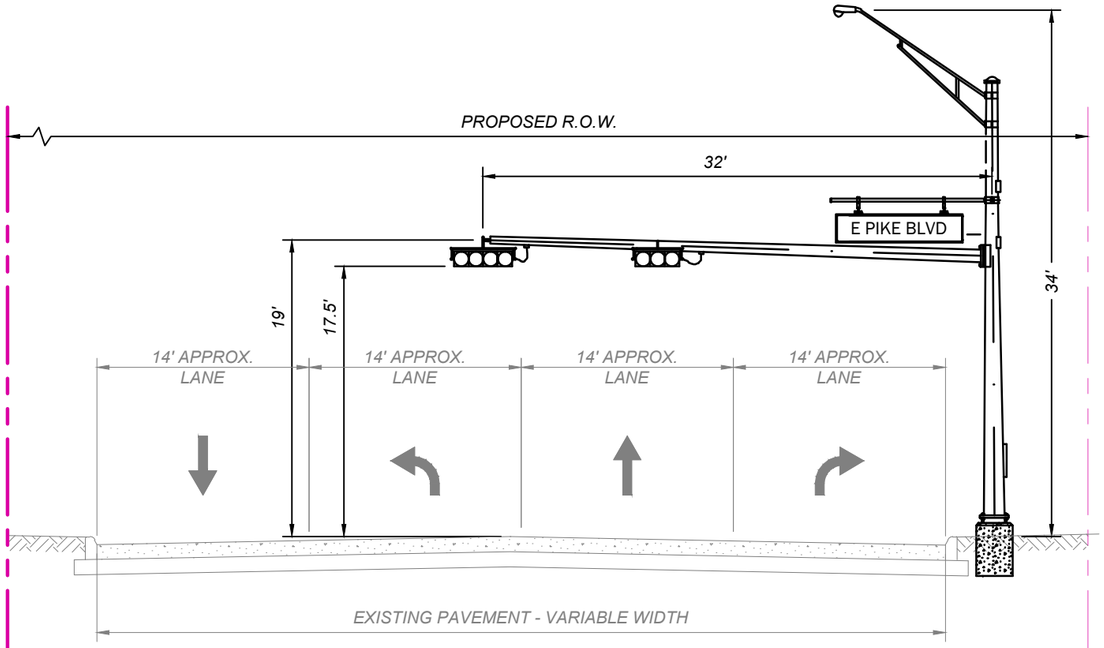
DESIGNED BY:	REVIEWED BY:
XXX	XXX
DATE ISSUED:	PROJECT NUMBER:
6/20/25	24013252A

SHEET NAME:

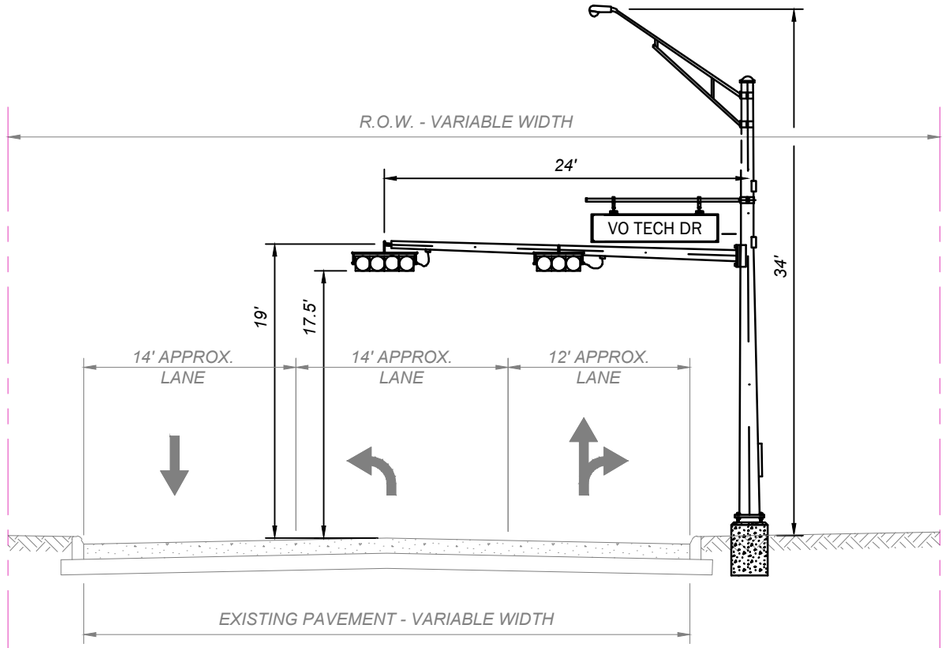
BUILD SCENARIO 3 LAYOUT

DRAWING NUMBER:

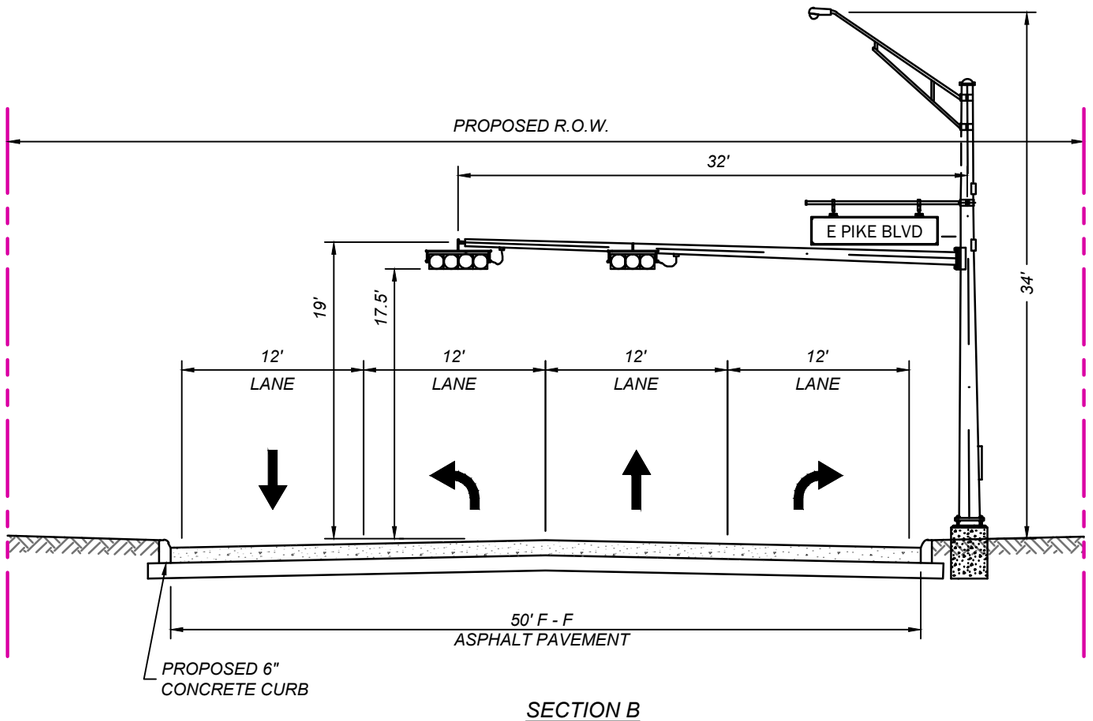
EXHIBIT H3.1



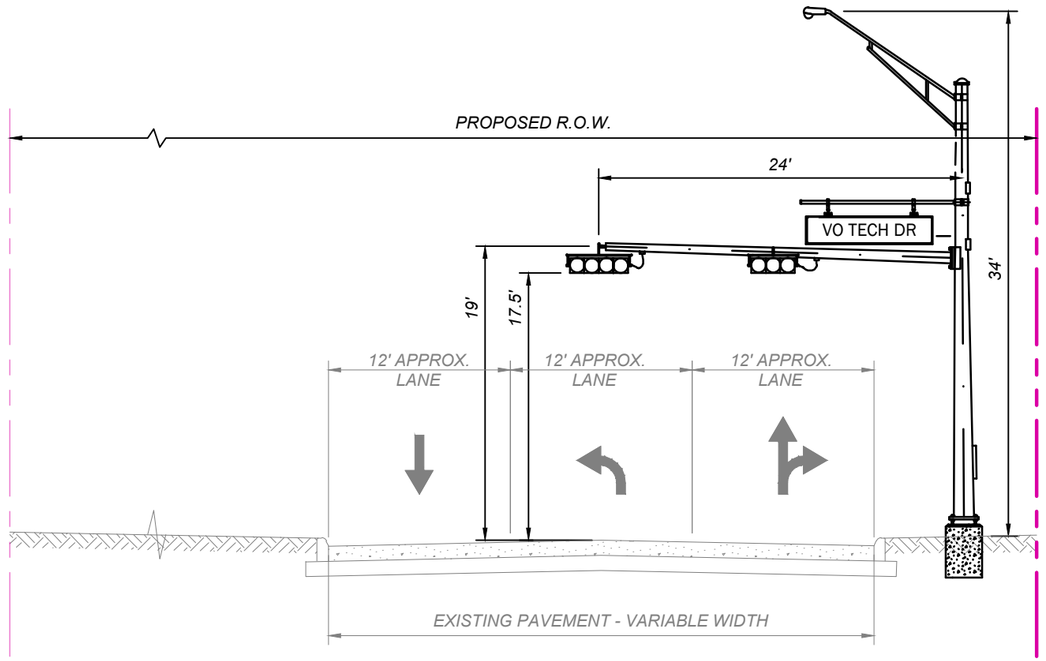
SECTION A
(VO TECH DR NORTHBOUND)



SECTION C
(E PIKE BLVD DR EASTBOUND)



SECTION B
(VO TECH DR SOUTHBOUND)



SECTION D
(E PIKE BLVD WESTBOUND)

Colliers Engineering & Design

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REV	DATE	DESCRIPTION

CITY ON THE GROW — CITY OF WESLACO

CITY OF WESLACO

PER EXHIBITS

IMPROVEMENTS AT INTERSECTION OF VO-TECH DR AND PIKE BLVD

CITY OF WESLACO
HIDALGO COUNTY
TEXAS

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DIANA G. HERNANDEZ VIDEA, P.E.
TEXAS LICENSE # 155475

COLLIERS ENGINEERING & DESIGN
TBPE FIRM # 14909

06/20/2025

HOUSTON
13501 Katy Freeway,
Suite 1350
Houston, TX 77079
Phone: 281.674.7560
COLLIERS ENGINEERING & DESIGN, INC.

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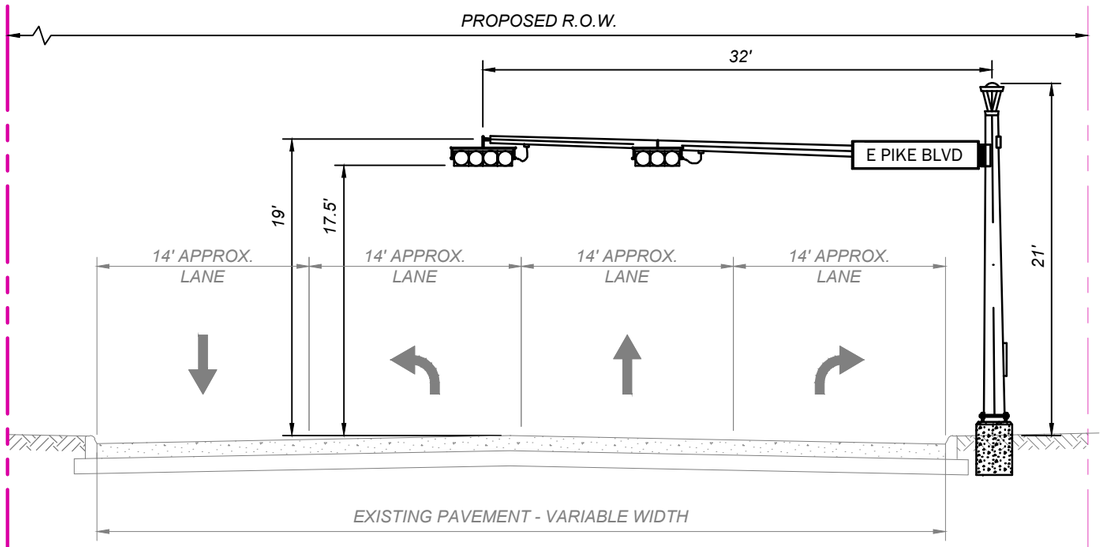
AS SHOWN	XXX
DESIGNED BY:	REVIEWED BY:
XXX	XXX
DATE ISSUED:	PROJECT NUMBER:
6/20/25	24013252A

SHEET NAME:
BUILD SCENARIO 3 TYPICAL SECTION (OPTION A)

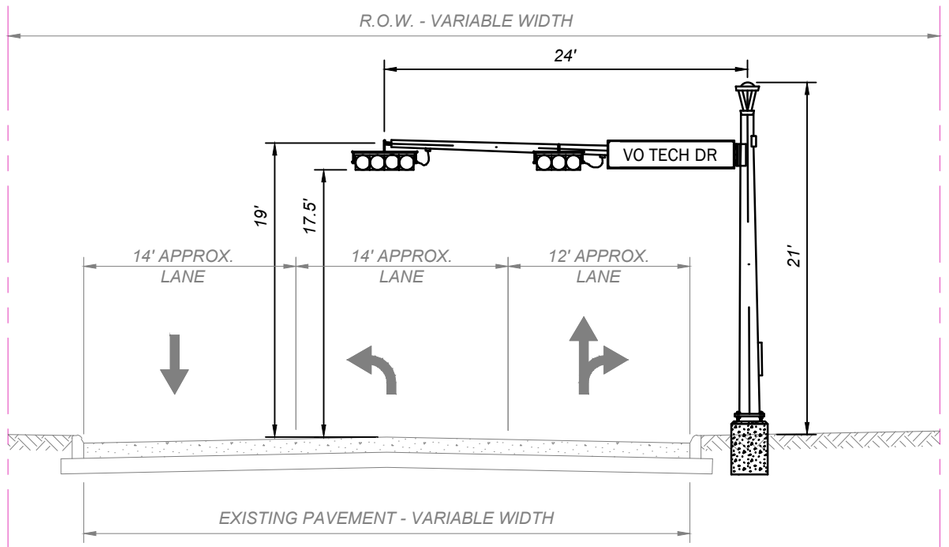
DRAWING NUMBER:
EXHIBIT H3.2

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



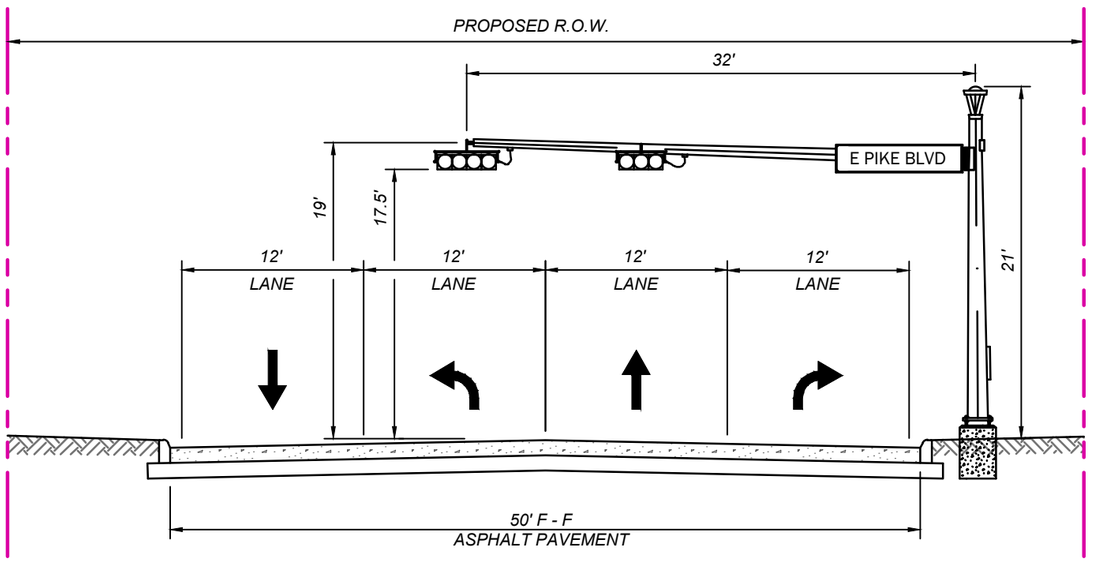
SECTION A

(VO TECH DR NORTHBOUND)



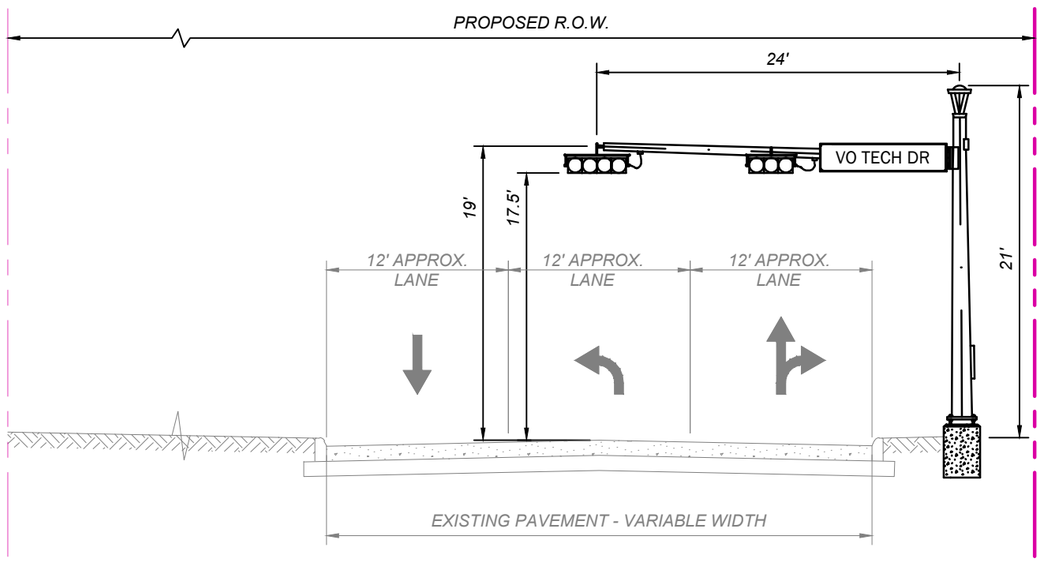
SECTION C

(E PIKE BLVD DR EASTBOUND)



SECTION B

(VO TECH DR SOUTHBOUND)



SECTION D

(E PIKE BLVD WESTBOUND)

Colliers Engineering & Design

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REV	DATE	DESCRIPTION

CITY ON THE GROW — CITY OF WESLACO

CITY OF WESLACO

PER EXHIBITS

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CITY OF WESLACO
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XXX	XXX
DATE ISSUED:	PROJECT NUMBER:
6/20/25	24013252A

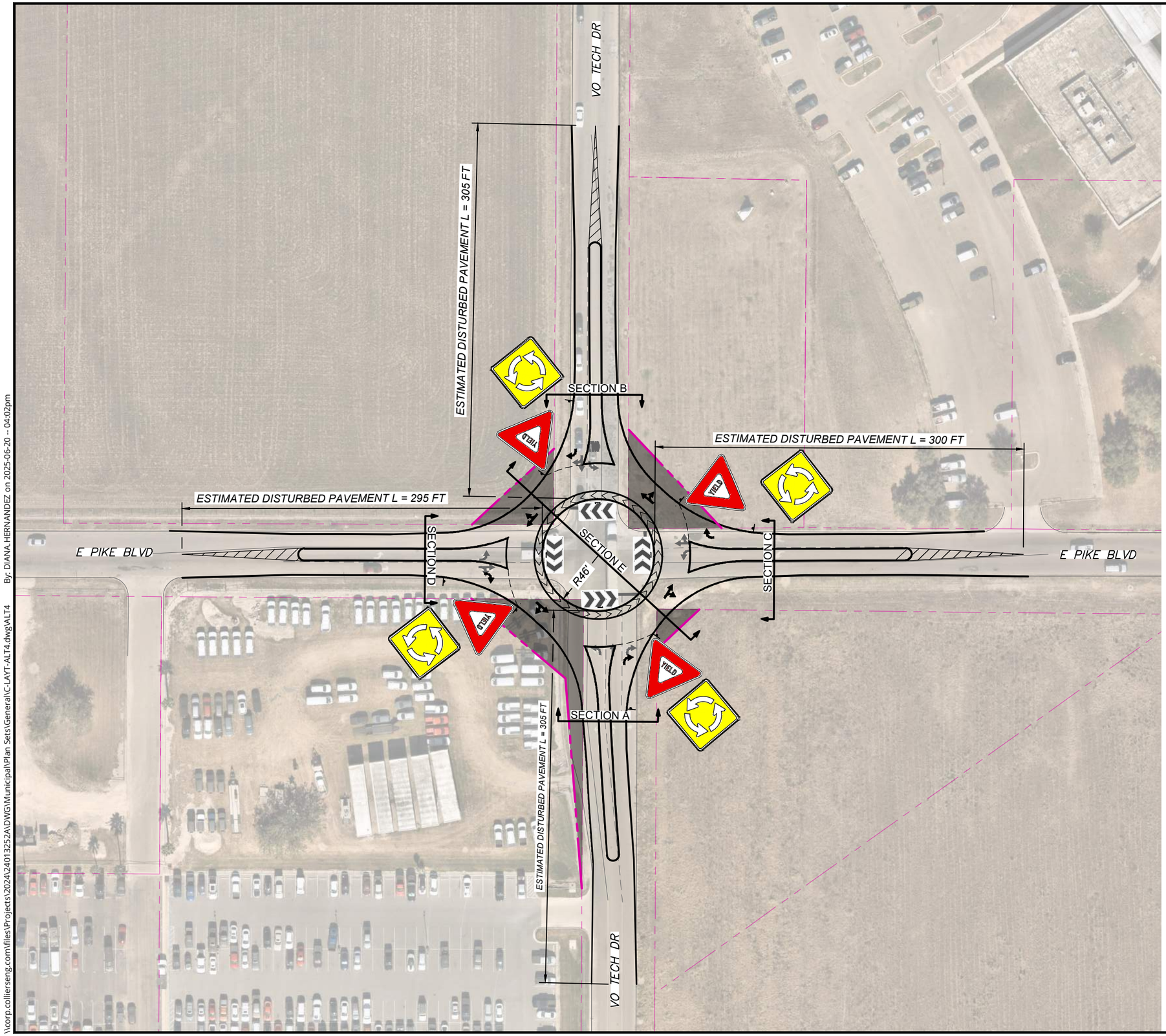
SHEET NAME:

BUILD SCENARIO 3
TYPICAL SECTION
(OPTION B)

DRAWING NUMBER:

EXHIBIT H3.3

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



N
W E
S

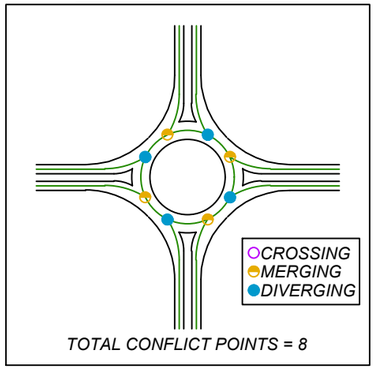
LEGEND

- PROPOSED RIGHT-OF-WAY
- RIGHT OF WAY IMPACT AREA
- PROPOSED PAVEMENT
- PROPOSED STRIPING
- APPARENT EXSITING R.O.W
- EXISTING PAVEMENT
- EXISTING STRIPING

NOTES:

APPROXIMATE TOTAL RIGHT-OF-WAY IMPACT AREA = 10,350 SF

CONFLICT POINTS AT PROPOSED ROUNDABOUT



TOTAL CONFLICT POINTS = 8

80 0 80

SCALE : 1" = 80'
SELECT LINEAR UNIT OF MEASURE

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REV	DATE	DESCRIPTION

CITY ON THE GROW — CITY OF WESLACO

CITY OF WESLACO

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DESIGNED BY:	REVIEWED BY:
XXX	XXX
DATE ISSUED:	PROJECT NUMBER:
6/20/25	24013252A

SHEET NAME:

BUILD SCENARIO 4 LAYOUT

DRAWING NUMBER:

EXHIBIT H4.1

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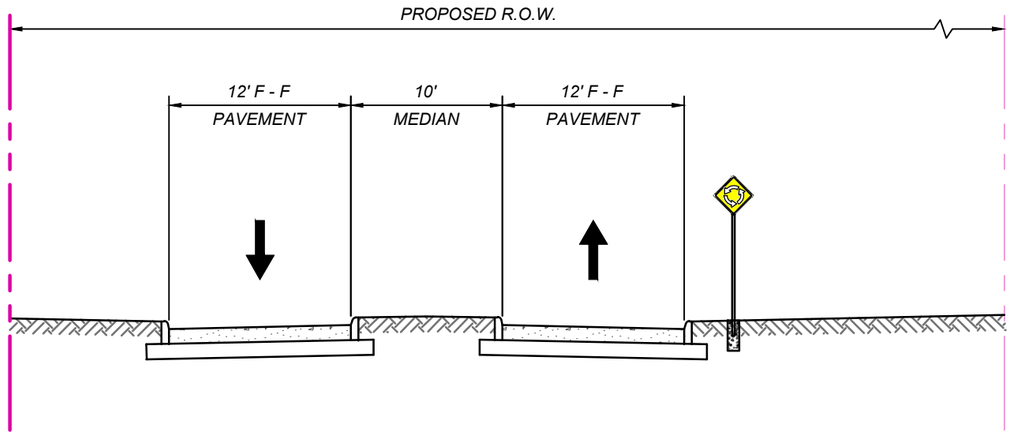
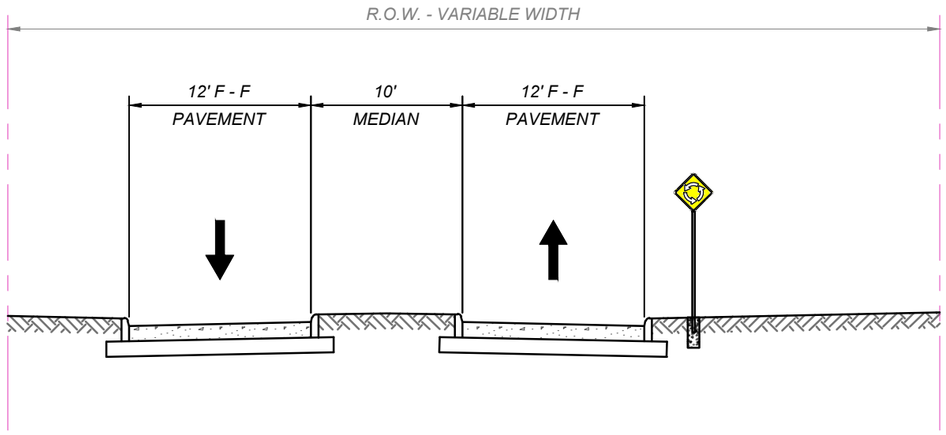


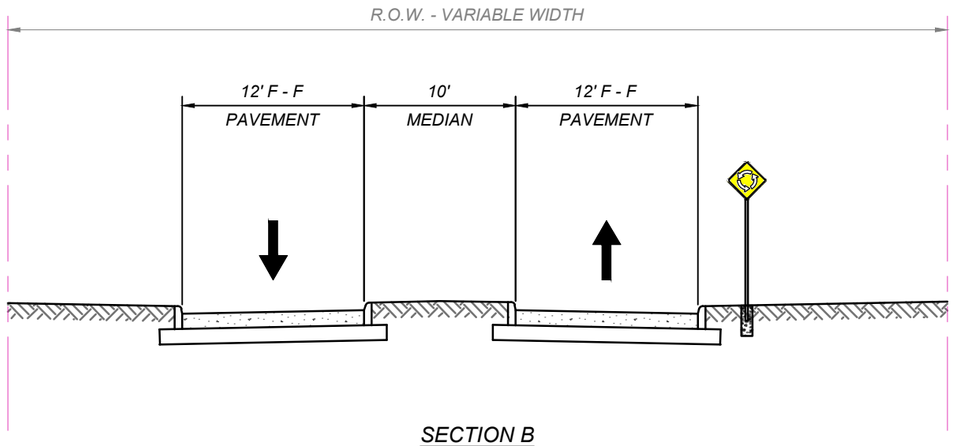
SECTION A

(VO TECH DR NORTHBOUND)



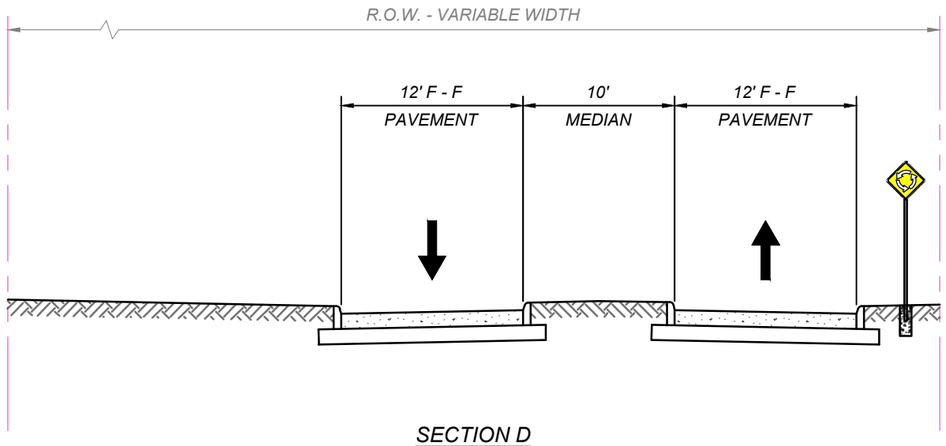
SECTION C

(E PIKE BLVD DR EASTBOUND)



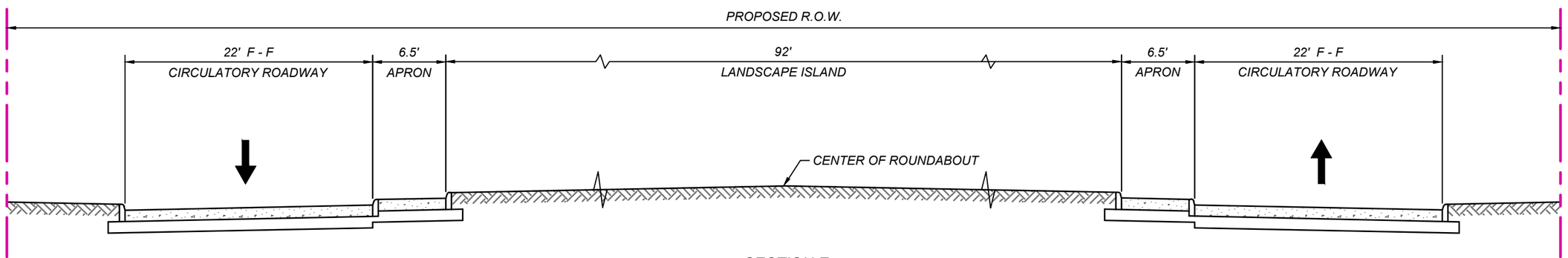
SECTION B

(VO TECH DR SOUTHBOUND)



SECTION D

(E PIKE BLVD WESTBOUND)



SECTION E

(ROUNDABOUT)

Colliers Engineering & Design

REV	DATE	DESCRIPTION

CITY ON THE GROW — CITY OF WESLACO

CITY OF WESLACO

PER EXHIBITS

IMPROVEMENTS AT INTERSECTION OF VO-TECH DR AND PIKE BLVD

CITY OF WESLACO
HIDALGO COUNTY
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06/20/2025

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DESIGNED BY:	REVIEWED BY:
XXX	XXX
DATE ISSUED:	PROJECT NUMBER:
6/20/25	24013252A

SHEET NAME:

BUILD SCENARIO 4
TYPICAL SECTION

DRAWING NUMBER:

EXHIBIT H4.2

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

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Appendix I | Build Scenario Level of Service

Table 8 – Level of Service Summary – Existing and No-Build

Intersection	Movement		2025 Existing						2035 No-Build					
			AM Peak		PM Peak		SAT Peak		AM Peak		PM Peak		SAT Peak	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	f	65.9	c	19.5	b	12.2	f	151.8	d	28.2	b	14.3
		TR	c	16.7	b	12.5	b	11.0	c	21.5	b	14.7	b	12.9
	WB	L	b	14.2	b	12.1	b	10.7	c	16.1	b	13.4	b	11.7
		TR	c	17.3	b	13.2	b	10.9	c	21.7	c	15.5	b	12.5
	NB	L	b	13.3	b	11.8	b	10.2	b	14.7	b	12.9	b	10.9
		T	d	31.8	b	13.4	b	10.5	f	57.9	c	15.7	b	11.6
		R	b	12.2	b	10.3	a	9.0	b	13.7	b	11.3	a	9.7
	SB	L	b	13.9	b	11.4	a	10.0	c	15.8	b	12.6	b	10.6
		TR	f	88.3	e	46.3	b	12.7	f	200.2	f	134.9	c	16.0

Note: Uppercase indicates signalized intersections; lowercase indicates unsignalized intersections.

Table 9 – 95th Percentile Queue Length Summary – Existing and No-Build

Intersection	Movement		Storage Length	2025 Existing			2035 No-Build		
				AM Peak	PM Peak	SAT Peak	AM Peak	PM Peak	SAT Peak
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	200′	268'	78′	33′	453′	123′	48′
		TR	> 500′	45'	25′	30′	65′	35′	43′
	WB	L	200′	5'	8′	13′	8′	8′	15′
		TR	> 500′	33'	23′	23′	45′	30′	30′
	NB	L	200′	3'	3′	0′	5′	3′	0′
		T	> 500′	130'	20′	8′	213′	28′	10′
		R	200′	8'	0′	0′	10′	0′	0′
	SB	L	150′	15'	13′	3′	18′	18′	3′
		TR	> 625′	365'	280′	45′	613′	573′	70′

Table 10 – Level of Service Summary – Build Scenario 1

Intersection	Movement		2035 No-Build						2035 Build Scenario 1					
			AM Peak		PM Peak		SAT Peak		AM Peak		PM Peak		SAT Peak	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	f	151.8	d	28.2	b	14.3	f	158.4	d	26.7	b	13.9
		TR	c	21.5	b	14.7	b	12.9	c	20.8	b	14.0	b	12.5
	WB	L	c	16.1	b	13.4	b	11.7	c	15.3	b	12.9	b	11.5
		TR	c	21.7	c	15.5	b	12.5	c	20.6	b	14.8	b	12.2
	NB	L	b	14.7	b	12.9	b	10.9	b	14.4	b	12.6	b	10.8
		T	f	57.9	c	15.7	b	11.6	f	58.8	c	15.4	b	11.4
		R	b	13.7	b	11.3	a	9.7	b	13.5	b	11.0	a	9.6
	SB	L	c	15.8	b	12.6	b	10.6	c	15.9	b	12.6	b	10.5
		T	f	200.2	f	134.9	c	16.0	d	26.9	c	19.9	b	11.8
		R							d	34.1	c	21.0	b	11.2

Note: Uppercase indicates signalized intersections; lowercase indicates unsignalized intersections.

Table 11 – 95th Percentile Queue Length Summary – Build Scenario 1

Intersection	Movement		Storage Length	2035 No-Build			2035 Build Scenario 1		
				AM Peak	PM Peak	SAT Peak	AM Peak	PM Peak	SAT Peak
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	200′	453′	123′	48′	490′	123′	45′
		TR	> 500′	65′	35′	43′	68′	35′	43′
	WB	L	200′	8′	8′	15′	8′	8′	15′
		TR	> 500′	45′	30′	30′	45′	30′	30′
	NB	L	200′	5′	3′	0′	5′	3′	0′
		T	> 500′	213′	28′	10′	220′	28′	10′
		R	200′	10′	0′	0′	10′	3′	0′
	SB	L	150′	18′	18′	3′	18′	18′	3′
		T	> 625′	613′	573′	70′	95′	88′	23′
		R	185′				148′	113′	28′

Table 12 – Level of Service Summary – Build Scenario 2

Intersection	Movement		2035 No-Build						2035 Build Scenario 2					
			AM Peak		PM Peak		SAT Peak		AM Peak		PM Peak		SAT Peak	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	f	151.8	d	28.2	b	14.3	D	44.3	C	24.1	B	17.9
		TR	c	21.5	b	14.7	b	12.9	C	23.4	C	24.8	C	24.2
	WB	L	c	16.1	b	13.4	b	11.7	C	30.4	C	27.1	B	17.9
		TR	c	21.7	c	15.5	b	12.5	D	40.9	D	37.2	C	25.6
	NB	L	b	14.7	b	12.9	b	10.9	C	21.5	B	19.9	B	14.8
		T	f	57.9	c	15.7	b	11.6	C	24.7	B	18.4	B	15.0
		R	b	13.7	b	11.3	a	9.7	B	17.8	B	14.4	B	11.0
	SB	L	c	15.8	b	12.6	b	10.6	B	17.6	B	13.9	B	13.6
		TR	f	200.2	f	134.9	c	16.0	D	51.2	D	52.0	B	17.3
	Overall		**-**	**-**	**-**	**-**	**-**	**-**	**D**	**38.2**	**D**	**36.2**	**B**	**20.0**

Note: Uppercase indicates signalized intersections; lowercase indicates unsignalized intersections.

Table 13 – 95th Percentile Queue Length Summary – Build Scenario 2

Intersection	Movement		Storage Length	2035 No-Build			2035 Build Scenario 2		
				AM Peak	PM Peak	SAT Peak	AM Peak	PM Peak	SAT Peak
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	200′	453′	123′	48′	322′	185′	88′
		TR	> 500′	65′	35′	43′	154′	120′	121′
	WB	L	200′	8′	8′	15′	24′	34′	42′
		TR	> 500′	45′	30′	30′	125′	120′	105′
	NB	L	200′	5′	3′	0′	17′	11′	3′
		T	> 500′	213′	28′	10′	247′	88′	39′
		R	200′	10′	0′	0′	0′	0′	0′
	SB	L	150′	18′	18′	3′	48′	52′	13′
		TR	> 625′	613′	573′	70′	486′	567′	119′

Table 14 – Level of Service Summary – Build Scenario 3

Intersection	Movement		2035 No-Build						2035 Build Scenario 3					
			AM Peak		PM Peak		SAT Peak		AM Peak		PM Peak		SAT Peak	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	f	151.8	d	28.2	b	14.3	C	26.5	B	19.0	B	17.9
		TR	c	21.5	b	14.7	b	12.9	B	18.7	C	20.4	C	24.2
	WB	L	c	16.1	b	13.4	b	11.7	C	26.4	C	22.2	B	17.9
		TR	c	21.7	c	15.5	b	12.5	D	35.3	C	29.7	C	25.6
	NB	L	b	14.7	b	12.9	b	10.9	C	20.0	B	17.5	B	14.4
		T	f	57.9	c	15.7	b	11.6	C	29.6	B	19.7	B	15.0
		R	b	13.7	b	11.3	a	9.7	B	19.7	B	15.5	B	11.0
	SB	L	c	15.8	b	12.6	b	10.6	B	19.6	B	15.0	B	13.6
		T	f	200.2	f	134.9	c	16.0	C	22.2	B	18.2	B	14.7
		R							B	10.2	B	10.8	A	10.0
	Overall		-	-	-	-	-	-	**C**	**23.0**	**B**	**17.9**	**B**	**18.5**

Note: Uppercase indicates signalized intersections; lowercase indicates unsignalized intersections.

Table 15 – 95th Percentile Queue Length Summary – Build Scenario 3

Intersection	Movement		Storage Length	2035 No-Build			2035 Build Scenario 3		
				AM Peak	PM Peak	SAT Peak	AM Peak	PM Peak	SAT Peak
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	200′	453′	123′	48′	344′	172′	74′
		TR	> 500′	65′	35′	43′	154′	114′	107′
	WB	L	200′	8′	8′	15′	24′	31′	36′
		TR	> 500′	45′	30′	30′	125′	115′	94′
	NB	L	200′	5′	3′	0′	17′	11′	3′
		T	> 500′	213′	28′	10′	247′	89′	39′
		R	200′	10′	0′	0′	0′	0′	0′
	SB	L	150′	18′	18′	3′	48′	52′	12′
		T	> 625′	613′	573′	70′	173′	201′	74′
		R	185′				33′	35′	14′

Table 16 – Level of Service Summary – Build Scenario 4

Intersection	Movement		2035 No-Build						2035 Build Scenario 4					
			AM Peak		PM Peak		SAT Peak		AM Peak		PM Peak		SAT Peak	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	f	151.8	d	28.2	b	14.3	c	17.5	b	11.2	a	7.5
		TR	c	21.5	b	14.7	b	12.9						
	WB	L	c	16.1	b	13.4	b	11.7	b	10.4	a	6.4	a	5.7
		TR	c	21.7	c	15.5	b	12.5						
	NB	L	b	14.7	b	12.9	b	10.9	c	19.0	a	7.3	a	5.1
		T	f	57.9	c	15.7	b	11.6						
		R	b	13.7	b	11.3	a	9.7						
	SB	L	c	15.8	b	12.6	b	10.6	b	10.3	b	11.4	a	6.3
		TR	f	200.2	f	134.9	c	16.0						

Note: Uppercase indicates signalized intersections; lowercase indicates unsignalized intersections.

Table 17 – 95th Percentile Queue Length Summary – Build Scenario 4

Intersection	Movement		Storage Length	2035 No-Build			2035 Build Scenario 4		
				AM Peak	PM Peak	SAT Peak	AM Peak	PM Peak	SAT Peak
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	200′	453′	123′	48′	175′	75′	50′
		TR	> 500′	65′	35′	43′			
	WB	L	200′	8′	8′	15′	25′	25′	25′
		TR	> 500′	45′	30′	30′			
	NB	L	200′	5′	3′	0′	125′	25′	0′
		T	> 500′	213′	28′	10′			
		R	200′	10′	0′	0′			
	SB	L	150′	18′	18′	3′	100′	100′	25′
		TR	> 625′	613′	573′	70′			

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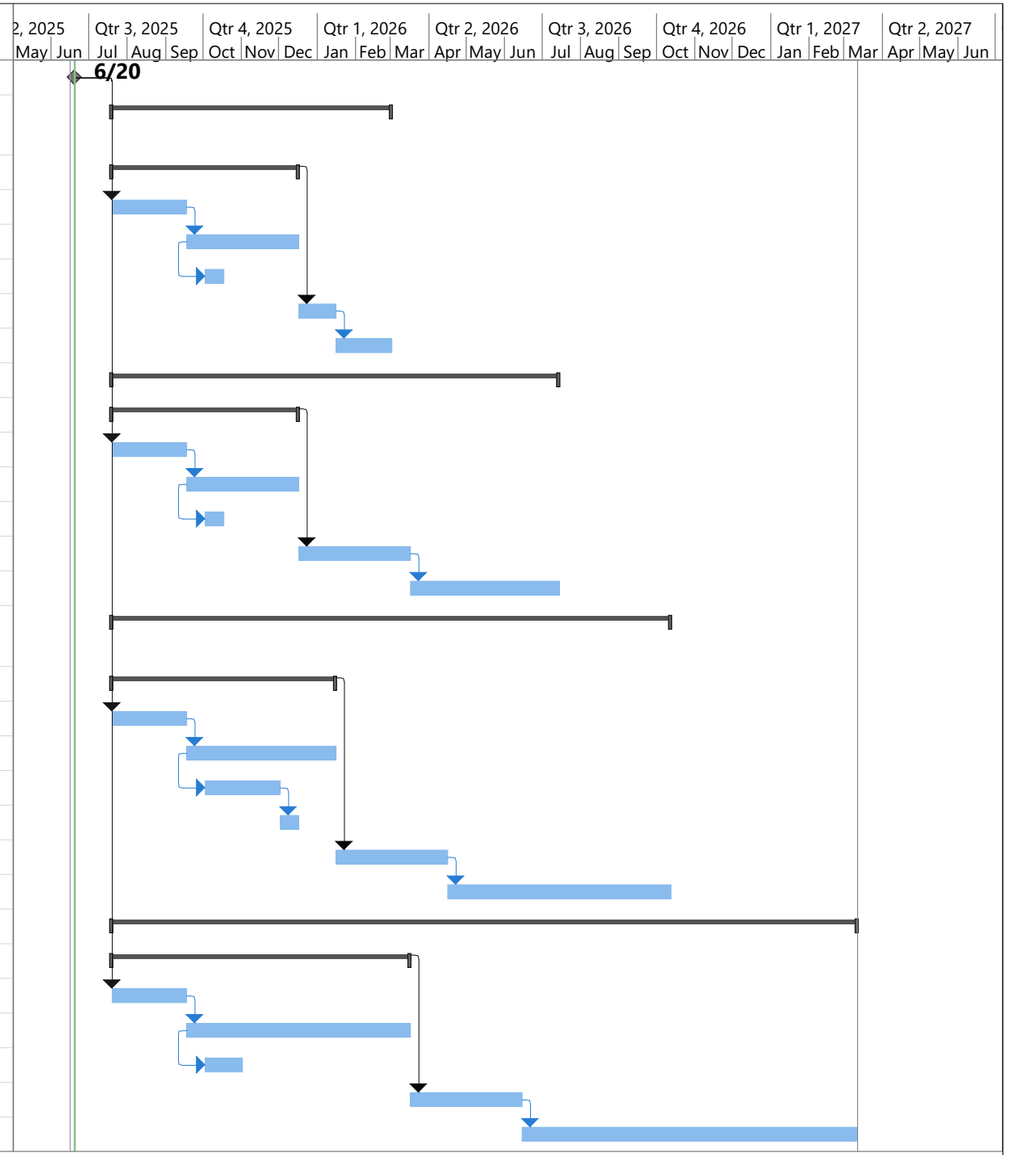
Appendix J | Build Scenario Schedules and Implementation Durations

ID	Task Name	Duration	Start	Finish	Predecessors
1	**Preliminary Engineering Report (PER)**	0 days	Fri 6/20/25	Fri 6/20/25	
2	**BUILD SCENARIO 1 - ALL-WAY STOP CONTROL (AWSC) W/ ADDITION OF SOUTHBOUND DEDICATED RIGHT TURN LANE**	**225 days**	**Sun 7/20/25**	**Sun 3/1/26**	
3	**Design**	**150 days**	**Sun 7/20/25**	**Tue 12/16/25**	
4	Geotechnical/Survey/SUE	60 days	Sun 7/20/25	Wed 9/17/25	1FS+30 days
5	Roadway/Drainage Design	90 days	Thu 9/18/25	Tue 12/16/25	4
6	Traffic Control Design	15 days	Fri 10/3/25	Fri 10/17/25	5SS+15 days
7	Permitting and FAA Coordination	30 days	Wed 12/17/25	Thu 1/15/26	3
8	Construction	45 days	Fri 1/16/26	Sun 3/1/26	7
9	**BUILD SCENARIO 2 - ADDITION OF TRAFFIC SIGNAL**	**360 days**	**Sun 7/20/25**	**Tue 7/14/26**	
10	**Design**	**150 days**	**Sun 7/20/25**	**Tue 12/16/25**	
11	Geotechnical/Survey/SUE	60 days	Sun 7/20/25	Wed 9/17/25	1FS+30 days
12	Traffic Signal Design	90 days	Thu 9/18/25	Tue 12/16/25	11
13	Traffic Control Design	15 days	Fri 10/3/25	Fri 10/17/25	12SS+15 days
14	Permitting and FAA Coordination	90 days	Wed 12/17/25	Mon 3/16/26	10
15	Construction	120 days	Tue 3/17/26	Tue 7/14/26	14
16	**BUILD SCENARIO 3 - ADDITION OF TRAFFIC SIGNAL W/ SOUTHBOUND DEDICATED RIGHT TURN LANE**	**450 days**	**Sun 7/20/25**	**Mon 10/12/26**	
17	**Design**	**180 days**	**Sun 7/20/25**	**Thu 1/15/26**	
18	Geotechnical/Survey/SUE	60 days	Sun 7/20/25	Wed 9/17/25	1FS+30 days
19	Traffic Signal Design	120 days	Thu 9/18/25	Thu 1/15/26	18
20	Roadway/Drainage Design	60 days	Fri 10/3/25	Mon 12/1/25	19SS+15 days
21	Traffic Control Design	15 days	Tue 12/2/25	Tue 12/16/25	20
22	Permitting and FAA Coordination	90 days	Fri 1/16/26	Wed 4/15/26	17
23	Construction	180 days	Thu 4/16/26	Mon 10/12/26	22
24	**BUILD SCENARIO 4 - SINGLE LANE ROUNDABOUT**	**600 days**	**Sun 7/20/25**	**Thu 3/11/27**	
25	**Design**	**240 days**	**Sun 7/20/25**	**Mon 3/16/26**	
26	Geotechnical/Survey/SUE	60 days	Sun 7/20/25	Wed 9/17/25	1FS+30 days
27	Roadway/Drainage Design	180 days	Thu 9/18/25	Mon 3/16/26	26
28	Traffic Control Design	30 days	Fri 10/3/25	Sat 11/1/25	27SS+15 days
29	Permitting and FAA Coordination	90 days	Tue 3/17/26	Sun 6/14/26	25
30	Construction	270 days	Mon 6/15/26	Thu 3/11/27	29



Project: Project Duration
Date: Fri 6/20/25

Task	Project Summary	Manual Task	Start-only	Deadline
Split	Inactive Task	Duration-only	Finish-only	Progress
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Manual Progress
Summary	Inactive Summary	Manual Summary	External Milestone	

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Appendix K | Cost Estimates

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Project Name VO TECH DRIVE & EAST PIKE BOULEVARD
City, State WESLACO, TEXAS
Project # 24013252A

Preliminary Cost Estimate

Item #	Description	Unit	Total Quantities	Unit Price	Amount
BUILD SCENARIO 1 - ALL-WAY STOP CONTROL (AWSC) W/ ADDITION OF SOUTHBOUND DEDICATED RIGHT TURN LANE					
CONSTRUCTION FEES					
Line No.					
1	MOBILIZATION	LS	1	6%	$ 3,184.65
2	STABILIZED CONSTRUCTION ACCESS	SY	222	$ 11.50	$ 2,556.00
3	REMOVE AND DISPOSE OF PAVEMENT (ALL THICKNESS & MATERIAL INCLUDING BASE)	SY	889	$ 4.60	$ 4,089.00
4	TYPE B HOT MIX ASPHALTIC BASE COURSE (8")	TON	125	$ 138.00	$ 17,250.00
5	TYPE D HOT MIX ASPHALTIC CONCRETE PAVEMENT (2.5")	TON	125	$ 143.75	$ 17,969.00
6	6-INCH CONCRETE CURB	LF	475	$ 5.18	$ 2,458.00
7	UTILITY RELOCATION	LS	1	$ 57,500.00	$ 57,500.00
8	TRAFFIC CONTROL AND REGULATION	LS	1	$ 17,250.00	$ 17,250.00
				SUBTOTAL	$ 122,256.65
			CONTIGENCY	35%	$ 42,789.83
				TOTAL	**$ 165,046.48**
ENGINEERING & SUPPORTING SERVICES					**$ 25,000.00**
RIGHT-OF-WAY ACQUISITION (CITY PROPERTY ACQUISITION)					**$ 30,000.00**
				GRAND TOTAL	**$ 220,046.48**

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Project Name VO TECH DRIVE & EAST PIKE BOULEVARD
City, State WESLACO, TEXAS
Project # 24013252A

Preliminary Cost Estimate

BUILD SCENARIO 2 - ADDITION OF TRAFFIC SIGNAL					
CONSTRUCTION FEES					
Line No.					
1	MOBILIZATION	LS	1	6%	$ 28,031.00
2	PROPOSED TRAFFIC SIGNAL	LS	1	$222,000.00	$ 222,000.00
3	SOURCING ELECTRICITY TO THE INTERSECTION (POWER)	LS	1	$ 55,500.00	$ 55,500.00
4	UTILITY RELOCATION	LS	1	$222,000.00	$ 222,000.00
5	TRAFFIC CONTROL AND REGULATION	LS	1	$ 5,550.00	$ 5,550.00
				SUBTOTAL	$ 533,081.00
			CONTIGENCY	35%	$ 186,578.35
				TOTAL	**$ 719,659.35**
ENGINEERING & SUPPORTING SERVICES					**$ 100,000.00**
RIGHT-OF-WAY ACQUISITION (CITY PROPERTY ACQUISITION = $15K, AMIGO RENTAL PROPERTY ACQUISITION = $450K)					**$ 465,000.00**
				GRAND TOTAL	**$ 1,284,659.35**

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Project Name VO TECH DRIVE & EAST PIKE BOULEVARD
City, State WESLACO, TEXAS
Project # 24013252A

Preliminary Cost Estimate

BUILD SCENARIO 3 - ADDITION OF TRAFFIC SIGNAL W/ SOUTHBOUND DEDICATED RIGHT TURN LANE					
CONSTRUCTION FEES					
Line No.					
1	MOBILIZATION	LS	1	6%	$ 30,909.00
2	PROPOSED TRAFFIC SIGNAL	LS	1	$221,600.00	$ 221,600.00
3	SOURCING ELECTRICITY TO THE INTERSECTION (POWER)	LS	1	$ 55,400.00	$ 55,400.00
4	STABILIZED CONSTRUCTION ACCESS	SY	222	$ 11.08	$ 2,462.00
5	REMOVE AND DISPOSE OF PAVEMENT (ALL THICKNESS & MATERIAL INCLUDING BASE)	SY	889	$ 4.43	$ 3,940.00
6	TYPE B HOT MIX ASPHALTIC BASE COURSE (8")	TON	125	$ 132.96	$ 16,620.00
7	TYPE D HOT MIX ASPHALTIC CONCRETE PAVEMENT (2.5")	TON	125	$ 138.50	$ 17,313.00
8	6-INCH CONCRETE CURB	LF	475	$ 4.99	$ 2,368.00
9	UTILITY RELOCATION	LS	1	$221,600.00	$ 221,600.00
10	TRAFFIC CONTROL AND REGULATION	LS	1	$ 16,620.00	$ 16,620.00
				SUBTOTAL	$ 588,832.00
			CONTIGENCY	35%	$ 206,091.20
				TOTAL	**$ 794,923.20**
ENGINEERING & SUPPORTING SERVICES					**$ 125,000.00**
RIGHT-OF-WAY ACQUISITION (CITY PROPERTY ACQUISITION = $35K, AMIGO RENTAL PROPERTY ACQUISITION = $470K)					**$ 485,000.00**
				GRAND TOTAL	**$ 1,404,923.20**

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Project Name VO TECH DRIVE & EAST PIKE BOULEVARD
City, State WESLACO, TEXAS
Project # 24013252A

Preliminary Cost Estimate

BUILD SCENARIO 4 - SINGLE LANE ROUNDABOUT					
CONSTRUCTION FEES					
Line No.					
1	MOBILIZATION	LS	1	6%	$ 38,778.00
2	STABILIZED CONSTRUCTION ACCESS	SY	444	$ 11.04	$ 4,907.00
3	REMOVE AND DISPOSE OF PAVEMENT (ALL THICKNESS & MATERIAL INCLUDING BASE)	SY	2,767	$ 4.42	$ 12,218.00
4	TYPE B HOT MIX ASPHALTIC BASE COURSE (8")	TON	1,230	$ 132.48	$ 162,950.00
5	TYPE D HOT MIX ASPHALTIC CONCRETE PAVEMENT (2.5")	TON	385	$ 138.00	$ 53,130.00
6	6-INCH CONCRETE CURB	LF	3,350	$ 4.97	$ 16,643.00
7	TRAFFIC CONTROL AND REGULATION	LS	1	$ 55,200.00	$ 55,200.00
8	UTILITY RELOCATION	LS	1	$386,400.00	$ 386,400.00
9	SIGNAGE AND PAVEMENT MARKINGS	LS	1	$ 11,040.00	$ 11,040.00
10	LANDSCAPING	LS	1	$ 22,080.00	$ 22,080.00
				SUBTOTAL	$ 741,266.00
			CONTIGENCY	35%	$ 259,443.10
				TOTAL	**$ 1,000,709.10**
ENGINEERING & SUPPORTING SERVICES					**$ 200,000.00**
RIGHT-OF-WAY ACQUISITION (CITY PROPERTY ACQUISITION = $60K, AMIGO RENTAL PROPERTY ACQUISITION = $470K)					**$ 530,000.00**
				GRAND TOTAL	**$ 1,730,709.10**

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Appendix L | Utility Conflicts Summary Table

Potential Utility Conflict Table

Project Name: VO TECH DRIVE & EAST PIKE BOULEVARD

Project Limits:

UPIN:

Project Manager:

Engineer of Record:

Colliers Engineering & Design

Date:

#	Street or Alignment Name	Build Scenarios	Start Station/ Offset	End Station/ Offset	Longitudinal or Crossing	Utility Type	Utility Description (Size, etc)	Utility Company	Utility Easement	Conflict	Describe Facility/Conflict (if applicable)	Recommended Action/Resolution	Pipeline Information (if applicable)			
									Yes/No	Yes/No			SUE Level	Test Hole No.	Test Hole Depth	(811) Field Contact Name
1	VO TECH DR	1, 2, 3, 4	NORTH OF E PIKE BLVD		Crossing	Fire Hydrant				Yes	TRAFFIC SIGNAL POLE OR CONCRETE CURB	RELOCATE FIRE HYDRANT				
2	E PIKE BLVD	1, 3, 4	WEST OF VO TECH DR		Crossing	Water Valve				Yes	CONCRETE CURB	ADJUST WATER VALVE TO GRADE				
3	E PIKE BLVD	1, 3, 4	EAST OF VO TECH DR		Crossing	Water Valve				Yes	CONCRETE CURB	ADJUST WATER VALVE TO GRADE				
4	E PIKE BLVD	1, 3, 4	EAST OF VO TECH DR		Crossing	Water Valve				Yes	CONCRETE CURB	ADJUST WATER VALVE TO GRADE				
5	VO TECH DR	1, 2, 3, 4	NORTH OF E PIKE BLVD		Crossing	Water Line				Yes	CONCRETE CURB/ TRAFFIC SIGNAL/ ROUNDABOUT PVMT	SUE INVESTIGATION FOR DEPTH OF UTILITY				
6	VO TECH DR	1, 2, 3, 4	NORTH OF E PIKE BLVD		Longitudinal	Water Line				Yes	CONCRETE CURB/ TRAFFIC SIGNAL/ ROUNDABOUT PVMT	SUE INVESTIGATION FOR DEPTH OF UTILITY				
7	VO TECH DR	4	NORTH OF E PIKE BLVD		Crossing	Sanitary Sewer Manhole				Yes	ROUNDABOUT LANE	ADJUST TO GRADE				
8	E PIKE BLVD	4	SE CORNER OF INTERSECTION		Crossing	Sanitary Sewer Manhole				Yes	ROUNDABOUT LANE	ADJUST TO GRADE				
9	VO TECH DR	1, 3, 4	NORTH OF E PIKE BLVD		Longitudinal	Sanitary Sewer				Yes	TRAFFIC SIGNAL/ ROUNDABOUT PVMT	SUE INVESTIGATION FOR DEPTH OF UTILITY				
10	E PIKE BLVD	2, 3, 4	EAST OF VO TECH DR		Crossing	Sanitary Sewer				Yes	CONCRETE CURB/ TRAFFIC SIGNAL/ ROUNDABOUT PVMT	SUE INVESTIGATION FOR DEPTH OF UTILITY				
11	VO TECH DRIVE	2, 3, 4	SOUTH OF E PIKE BLVD		Crossing	Sanitary Sewer				Yes	CONCRETE CURB/ TRAFFIC SIGNAL/ ROUNDABOUT PVMT	SUE INVESTIGATION FOR DEPTH OF UTILITY				
12	E PIKE BLVD	4	WEST OF VO TECH DR		Longitudinal	Telecom Manhole				Yes	ROUNDABOUT LANE	ADJUST TO GRADE				
13	VO TECH DR	1, 2, 3, 4	ACROSS INTERSECTION SW TO NE		Crossing	Underground Telecom Line				Yes	CONCRETE CURB/ TRAFFIC SIGNAL/ ROUNDABOUT PVMT	RELOCATE TELECOM LINE				
14	VO TECH DR	1, 2, 3, 4	EAST SIDE OF VO TECH DR		Longitudinal	Underground Telecom Line				Yes	CONCRETE CURB/ TRAFFIC SIGNAL/ ROUNDABOUT PVMT	RELOCATE TELECOM LINE				
15	E PIKE BLVD	1, 2, 3, 4	EAST OF VO TECH DR		Longitudinal	Underground Telecom Line				Yes	CONCRETE CURB/ TRAFFIC SIGNAL/ ROUNDABOUT PVMT	RELOCATE TELECOM LINE				
16	VO TECH DR	1, 2, 3, 4	NE CORNER OF INTERSECTION		Crossing	Telecom Handhole				Yes	CONCRETE CURB/ TRAFFIC SIGNAL/ ROUNDABOUT PVMT	RELOCATE HANDHOLE				
17	VO TECH DR	1, 2, 3, 4	NE CORNER OF INTERSECTION		Crossing	Telecom Handhole				Yes	CONCRETE CURB/ TRAFFIC SIGNAL/ ROUNDABOUT PVMT	RELOCATE HANDHOLE				
18	VO TECH DR	2, 3, 4	SW CORNER OF INTERSECTION		Crossing	Gas Valve				Yes	CONCRETE CURB/ TRAFFIC SIGNAL/ ROUNDABOUT PVMT	RELOCATE GAS VALVE				
19	VO TECH DR	1, 2, 3, 4	NW CORNER OF INTERSECTION		Crossing	Gas Valve				Yes	CONCRETE CURB/ TRAFFIC SIGNAL/ ROUNDABOUT PVMT	RELOCATE GAS VALVE				
20	VO TECH DR	1, 2, 3, 4	NORTH OF E PIKE BLVD		Crossing	Gas Line				Yes	CONCRETE CURB/ TRAFFIC SIGNAL/ ROUNDABOUT PVMT	RELOCATE GAS LINE				
21	E PIKE BLVD	1, 2, 3, 4	WEST OF VO TECH DR		Crossing	Gas Line				Yes	CONCRETE CURB/ TRAFFIC SIGNAL/ ROUNDABOUT PVMT	RELOCATE GAS LINE				

Potential Utility Conflict Table

Project Name: VO TECH DRIVE & EAST PIKE BOULEVARD

Project Limits:

UPIN:

Project Manager:

Engineer of Record:

Colliers Engineering & Design

Date:

#	Street or Alignment Name	Build Scenarios	Start Station/ Offset	End Station/ Offset	Longitudinal or Crossing	Utility Type	Utility Description (Size, etc)	Utility Company	Utility Easement	Conflict	Describe Facility/Conflict (if applicable)	Recommended Action/Resolution	Pipeline Information (if applicable)			
									Yes/No	Yes/No			SUE Level	Test Hole No.	Test Hole Depth	(811) Field Contact Name
22	VO TECH DR	1, 2, 3, 4	NE CORNER OF INTERSECTION		Crossing	Underground Electric Pullbox				Yes	CONCRETE CURB/ TRAFFIC SIGNAL/ ROUNDABOUT PVMT	RELOCATE PULLBOX				
23	VO TECH DR	1, 2, 3, 4	NE CORNER OF INTERSECTION		Crossing	Underground Electric Line	Aboveground Electrical Transformer			Yes	CONCRETE CURB/ TRAFFIC SIGNAL/ ROUNDABOUT PVMT	RELOCATE TRANSFORMER				
24	VO TECH DR	1, 2, 3, 4	NORTH OF E PIKE BLVD		Crossing	Underground Electric Line				Yes	CONCRETE CURB/ TRAFFIC SIGNAL/ ROUNDABOUT PVMT	RELOCATE UNDERGROUND ELECTRIC LINE				
25	E PIKE BLVD	1, 2, 3, 4	EAST OF VO TECH DR		Crossing	Underground Electric Line				Yes	CONCRETE CURB/ TRAFFIC SIGNAL/ ROUNDABOUT PVMT	RELOCATE UNDERGROUND ELECTRIC LINE				
26																
27																
28																
29																
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Appendix M | Cost Benefit Analysis

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VO TECH DRIVE & EAST PIKE BOULEVARD - COST BENEFIT ITEMS					
		BUILD SCENARIO 1 - ALL-WAY STOP CONTROL (AWSC) W/ ADDITION OF SOUTHBOUND DEDICATED RIGHT TURN LANE	BUILD SCENARIO 2 - ADDITION OF TRAFFIC SIGNAL	BUILD SCENARIO 3 - ADDITION OF TRAFFIC SIGNAL W/ SOUTHBOUND DEDICATED RIGHT TURN LANE	BUILD SCENARIO 4 - SINGLE LANE ROUNDABOUT
COST	DESIGN FEES	$25,000.00	$100,000.00	$125,000.00	$200,000.00
	ROW ACQUISITION, APPROXIMATE FEE	YES, $30,000	YES, $540,000 (City = $15,000 & AMIGO RENTAL INC = $450,000)	YES, $540,000 (City = $35,000 & AMIGO RENTAL INC = $450,000)	YES, $540,000 (City = $60,000 & AMIGO RENTAL INC = $470,000)
	CONSTRUCTION	$165,000.00	$720,000.00	$795,000.00	$1,000,000.00
	MAINTENANCE	NPR (10 YR) - $3,000/YR	NPR (10 YR) - $10,000/YR	NPR (10 YR) - $10,000/YR	NPR (10 YR) - $3,000/YR
PROJECT DURATION	DESIGN & PERMITTING / CONSTRUCTION / OVERALL (DAYS)	180 / 45 / 225	240 / 120 / 360	270 / 180 / 450	330 / 270 / 600
FAA	RESTRICTIONS	N/A	VERTICAL CLEARANCE - FAA REQUIRES 34.6', THIS INTERSECTION HEIGHT = 21.6'	VERTICAL CLEARANCE - FAA REQUIRES 34.6', THIS INTERSECTION HEIGHT = 21.6'	N/A
SAFETY	NO. OF CONFLICT POINTS	26 NO. OF CONFLICT POINTS	27 NO. OF CONFLICT POINTS	26 NO. OF CONFLICT POINTS	8 NO. OF CONFLICT POINTS
	POWER	N/A	POTENTIAL POWER OUTAGES	POTENTIAL POWER OUTAGES	N/A
	DRIVER ERRORS	RUNNING STOP SIGNS	RUNNING RED LIGHTS & INCREASED REAR-END COLLISIONS	RUNNING RED LIGHTS & INCREASED REAR-END COLLISIONS	NOT YIELDING TO DRIVERS WITHIN THE ROUNDABOUT
TRAFFIC FLOW	DELAYS / VEHICLE STOPS	N/A	MOST EFFICIENT DURING PEAK HOURS	MOST EFFICIENT DURING PEAK HOURS	REDUCE BY 89% / 56%; PEAK HOURS WILL CAUSE GRIDLOCK DUE TO OVERCROWDING
TRAFFIC ANALYSIS	LEVEL OF SERVICE, PEAK (AM / PM / SAT)	f / f / b	D / D / B	C / B / B	B / B / A
ENVIRONMENTAL	FUEL AND EMISSION IMPACT	IDLING BURNS MORE FUEL AND PRODUCES MORE EMISSION	IDLING BURNS MORE FUEL AND PRODUCES MORE EMISSION	IDLING BURNS MORE FUEL AND PRODUCES MORE EMISSION	REDUCED FUEL CONSUMPTION AND EMISSIONS DUE TO SMOOTHER TRAFFIC FLOW

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Appendix N | Intersection Control Evaluation (ICE)

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Intersection Control Evaluation

June 18, 2025

Vo Tech Drive & East Pike Boulevard

City of Weslaco, Hidalgo County, Texas

Prepared for:

City of Weslaco
255 South Kansas Avenue
Weslaco, Texas 78596

Prepared by:

Matthew Nowelski, PE
TX Professional Engineer
License No. 153795

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5901 Vega Avenue
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Main: 877 627 3772
colliersengineering.com

Project No. 24013252A

Colliers Engineering & Design

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Introduction

The following report has been prepared for the City of Weslaco to determine the optimal intersection control strategy at the intersection of Vo Tech Drive & East Pike Boulevard within the City of Weslaco, Hidalgo County, Texas. Currently, the intersection operates under all-way stop control. An intersection location map is included as **Figure 1** in **Appendix A**. It is noted that the subject intersection is located directly southeast of the Mid Valley Airport (KTXW), in line with the runway.

This study presents an evaluation of the current and future traffic conditions at the subject intersection. Specific elements included in the study are:

- An inventory of the roadway facilities in the vicinity of the subject intersection, including the existing physical and traffic operating characteristics;
- Determination of the Existing Conditions;
- Crash Analysis;
- Forecast of the 2035 Future Traffic Volumes;
- Traffic Signal Warrant Analysis;
- Turn Lane Warrant Analysis;
- Peak Hour Capacity Analysis for the 2025 Existing Conditions;
- Peak Hour Capacity Analysis for the 2035 No-Build Conditions;
- Peak Hour Capacity Analysis for Build Scenario 1;
- Peak Hour Capacity Analysis for Build Scenario 2;
- Peak Hour Capacity Analysis for Build Scenario 3;
- Peak Hour Capacity Analysis for Build Scenario 4;
- ICE Evaluation; and
- Recommendations.

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Existing Roadway Conditions

A field investigation was conducted at the study intersection to obtain an inventory of existing roadway conditions, posted traffic controls, adjacent land uses, lane configurations, and existing vehicular/pedestrian traffic patterns.

Roadways

Vo Tech Drive is a north-south oriented minor arterial roadway under jurisdiction of the City of Weslaco. The roadway provides one (1) travel lane in each direction with a posted speed limit of 30 mph.

East Pike Boulevard is an east-west oriented minor arterial roadway under jurisdiction of the City of Weslaco. The roadway provides one (1) travel lane in each direction with a posted speed limit of 30 mph.

Intersection

Vo Tech Drive & East Pike Boulevard is an unsignalized four-leg intersection under all-way stop control. The northbound approach of Vo Tech Drive provides one (1) dedicated left-turn lane, one (1) dedicated through lane, and one (1) dedicated right-turn lane. The southbound approach of Vo Tech Drive and the eastbound and westbound approaches of East Pike Boulevard each provide one (1) dedicated left-turn lane and one (1) shared through/right-turn lane.

Existing Traffic Conditions

Traffic volume data was collected at the study intersection to gain an understanding of the existing roadway conditions and operations through turning movement counts ("TMC") conducted on Thursday, April 24, 2025, from 7:00 AM to 7:00 PM, and on Saturday, April 26, 2025, from 11:00 AM to 1:00 PM, at the intersection of Vo Tech Drive & East Pike Boulevard. The data collection occurred while local schools were on a normal schedule and not on any major holidays. The data collection efforts are detailed in **Table 1**. The processed TMC data is provided in **Appendix C**.

Table 1 – Data Collection Efforts and Observed Peak Hours

Peak Period	Date Collected	Traffic Count Time Frame	Observed Peak Hour
Weekday Morning	Thursday, April 24, 2025	7:00 AM – 7:00 PM	7:30 AM – 8:30 AM
Weekday Evening			4:00 PM – 5:00 PM
Saturday Midday	Saturday, April 26, 2025	11:00 AM – 1:00 PM	12:00 PM – 1:00PM

A Volume Flow Diagram illustrating the 2025 Existing Conditions is provided as **Figure 2** in **Appendix A**.

Crash Analysis

Roadway crash statistics provide quantitative data that provide engineers a tool to objectively assess and evaluate the existing roadway conditions and traffic operations. Crash frequency and crash trends at the subject intersection were reviewed. The most recent five (5) years of crash data at the study intersection was obtained from the TxDOT's Crash Records Information System (C.R.I.S.) using the Query Tool. The number of crashes per year are summarized by type and severity in **Tables 2** and **3**. The C.R.I.S. Query Tool results are provided in **Appendix D**.

Table 2 – Crash Statistics – Crash Type

Crash Type	Year					Total
	2021	2022	2023	2024	2025	
Angle	1	1	3	1	0	**6**
Right Turn	1	0	0	2	0	**3**
Left Turn	0	0	0	0	1	**1**
Sideswipe	0	1	0	0	0	**1**
Opposite	0	1	1	0	1	**3**
Other/Unknown	0	0	0	1	0	**1**
Total	**2**	**3**	**4**	**4**	**2**	**15**

Table 3 – Crash Statistics – Crash Severity

Crash Severity	Year					Total
	2021	2022	2023	2024	2025	
Fatal	0	0	0	0	0	**0**
Injury	0	1	1	2	0	**4**
Property Damage	0	1	0	1	0	**2**
Total	**0**	**2**	**1**	**3**	**0**	**6**

Based on a review of the data, approximately 40% of the crashes occurred at an angle. All of the angle collisions were due to either a failure to yield the right of way or a complete disregard of the stop signs. Approximately 25% of all crashes resulted in injury. None of the injuries were fatal.

Future Traffic Conditions

To determine the traffic impact of the proposed improvements, an estimation of the traffic operational characteristics at the Build date, without the construction of any improvements (or "No-Build" condition), is made. The existing volumes have been projected to the Build year of 2035.

Background Growth

As discussed with the City of Weslaco, an annual background growth rate of 2.00% was utilized. This accounts for general increases in traffic due to regional population and employment growth by the build year.

2035 Future Conditions

The 2035 Future traffic volumes were forecasted by applying the annual background growth rate to the 2025 Existing traffic volumes. The 2035 Future traffic volumes are applicable to both the No-Build and Build conditions, as the intersection control type will not impact the traffic volumes. A Volume Flow Diagram illustrating the 2035 Future Conditions is provided as **Figure 3** in **Appendix A**.

Build Scenario 1

Under Build Scenario 1, it is proposed to maintain the existing all-way stop control configuration and construct a dedicated right-turn lane along the southbound approach of Vo Tech Drive. All other intersection approaches would maintain the existing lane geometry. A concept plan depicting Build Scenario 1 is provided in **Appendix B**.

Build Scenario 2

Under Build Scenario 2, it is proposed to install a traffic signal while maintaining the existing lane geometry. The northbound approach of Vo Tech Drive would continue to provide one (1) dedicated left-turn lane, one (1) dedicated through lane, and one (1) dedicated right-turn lane. The southbound approach of Vo Tech Drive and the eastbound and westbound approaches of East Pike Boulevard would each continue to provide one (1) dedicated left-turn lane and one (1) shared through/right-turn lane. A concept plan depicting Build Scenario 2 is provided in **Appendix B**.

Build Scenario 3

Under Build Scenario 3, it is proposed to install a traffic signal and construct a dedicated right-turn lane along the southbound approach of Vo Tech Drive. All other intersection approaches would maintain the existing lane geometry. A concept plan depicting Build Scenario 3 is provided in **Appendix B**.

Build Scenario 4

Under Build Scenario 4, it is proposed to reconstruct the intersection as a one-lane roundabout. Each intersection approach would provide one (1) channelized right-turn lane under yield control. A concept plan depicting Build Scenario 4 is provided in **Appendix B**.

Traffic Signal Warrant Analysis

Signal warrant methodology and factors are outlined in *Chapter 4C* of the *Texas Manual on Uniform Traffic Control Devices, 2014* (TMUTCD). Section 4C.01 of the TMUTCD states that to warrant a traffic signal, "An engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location shall be performed to determine whether the installation of a traffic signal is justified at a particular location."

The traffic control signal investigation is comprised of analyzing several factors related to the operation and safety at the study location. The factors are utilized to determine if the potential signalization will improve traffic operations. The TMUTCD outlines multiple traffic signal warrants that are applied to determine if signalization is warranted. A typical traffic signal warrant analysis is based on the hourly traffic volumes over at least a 12-hour period. The warrants applicable to this analysis are defined in **Table 4**.

Table 4 – Traffic Signal Warrant Descriptions

Warrant		Description
1	8-Hour Vehicular Volume	This warrant examines any 8 hours within a study period with consideration given to the large volume of traffic interacting at an intersection and/or large queues of traffic along an intersecting minor street.
2	4-Hour Vehicular Volume	This warrant examines any 4 hours within a study period with consideration given to intersecting traffic volumes as the main consideration.
3	Peak Hour	This warrant is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street suffers undue delay when entering or crossing a major street.

This analysis was performed using the latest version of *Trafficware Warrants V.10*. Based on TMUTCD standards, the 4-hour and peak-hour traffic signal warrants are **met** for the intersection of Vo Tech Drive & East Pike Boulevard under the 2035 Future conditions. **Table 5** summarizes the warrant analysis results, which are also included in **Appendix E.**

Table 5 – Traffic Signal Warrant Results

Warrant			Hours Required	2035 Future	
				Hours Reached	Satisfied
1	8-Hour Vehicular Volume	Condition A	8	4	No
		Condition B	8	1	
2	4-Hour Vehicular Volume		4	6	Yes
3	Peak Hour		1	2	Yes
Total Warrants Satisfied				**2**	

Turn Lane Warrant Analysis

A turn lane warrant analysis was conducted at the intersection of Vo Tech Drive & East Pike Boulevard in accordance with the TxDOT Access Management Manual and the TxDOT Roadway Design Manual standards. For facilities with posted speed limits of 45 mph or lower, turn lanes are required at driveways or street intersections with 60 or more peak hour trips. The turn lane warrants for the intersection of Vo Tech Drive & East Pike Boulevard with the 2035 Future traffic volumes are summarized in **Table 6**.

Table 6 – Turn Lane Warrant Results

Movement		Traffic Volume			Turn Lane Warranted?	Minimum Turn Lane Length	Existing Turn Lane Length
		AM Peak	PM Peak	SAT Peak			
EB	R	24	13	28	No	-	-
WB	R	16	15	2	No	-	-
NB	R	39	7	5	No	-	250 ft (100 ft storage + 150 ft taper)
SB	R	280	324	115	Yes	235 ft [1]	-

Based on the anticipated 2035 Future traffic volumes, a dedicated 235’ right-turn lane (30’ storage length + 205’ deceleration length, inclusive of a 50’ taper) is warranted along the southbound approach of Vo Tech Drive at East Pike Boulevard.

[1] Calculated per TxDOT RDM using 35 mph design speed, 0 mph speed differential, 30 ft queue storage, and 100 ft taper.

HCM Capacity Analysis

The peak hour traffic operations within the project vicinity were evaluated at the study intersections. The analyses were performed using the latest version of *Synchro Trafficware*, a traffic analysis and simulation program. The results of these analyses provide Levels of Service ("LOS"), volume/capacity descriptions, and average seconds of delay for the intersection movements.

The efficiency with which an intersection operates is a function of volume and capacity. The capacity of an intersection is the volume of vehicles it can accommodate during a given time period. LOS is a qualitative measure describing operational conditions within a traffic stream in terms of traffic characteristics, such as freedom to maneuver, traffic interruption, comfort, and convenience. Six (6) LOS are defined for each type of facility with analysis procedures available. Levels of Service range from "A" through "F," with Level "A" representing excellent conditions with no delays, and failure and deficient operations denoted by Level "F." The HCM LOS criteria for signalized and unsignalized intersections are summarized in **Table 7**.

Table 7 – HCM LOS/Delay Criteria

Level of Service	Average Control Delay (sec/veh)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10	≤ 10
B	> 10 – 20	> 10 – 15
C	> 20 – 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50

The Levels of Service and 95th percentile queue lengths for the 2025 Existing, 2035 No-Build, and 2035 Build Scenarios 1, 2, 3, and 4 are detailed in **Tables 8 – 17**. The capacity analysis calculation worksheets are provided in **Appendix F**.

Table 8 – Level of Service Summary – Existing and No-Build

Intersection	Movement		2025 Existing						2035 No-Build					
			AM Peak		PM Peak		SAT Peak		AM Peak		PM Peak		SAT Peak	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	f	65.9	c	19.5	b	12.2	f	151.8	d	28.2	b	14.3
		TR	c	16.7	b	12.5	b	11.0	c	21.5	b	14.7	b	12.9
	WB	L	b	14.2	b	12.1	b	10.7	c	16.1	b	13.4	b	11.7
		TR	c	17.3	b	13.2	b	10.9	c	21.7	c	15.5	b	12.5
	NB	L	b	13.3	b	11.8	b	10.2	b	14.7	b	12.9	b	10.9
		T	d	31.8	b	13.4	b	10.5	f	57.9	c	15.7	b	11.6
		R	b	12.2	b	10.3	a	9.0	b	13.7	b	11.3	a	9.7
	SB	L	b	13.9	b	11.4	a	10.0	c	15.8	b	12.6	b	10.6
		TR	f	88.3	e	46.3	b	12.7	f	200.2	f	134.9	c	16.0

Note: Uppercase indicates signalized intersections; lowercase indicates unsignalized intersections.

Table 9 – 95th Percentile Queue Length Summary – Existing and No-Build

Intersection	Movement		Storage Length	2025 Existing			2035 No-Build		
				AM Peak	PM Peak	SAT Peak	AM Peak	PM Peak	SAT Peak
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	200′	268'	78′	33′	453′	123′	48′
		TR	> 500′	45'	25′	30′	65′	35′	43′
	WB	L	200′	5'	8′	13′	8′	8′	15′
		TR	> 500′	33'	23′	23′	45′	30′	30′
	NB	L	200′	3'	3′	0′	5′	3′	0′
		T	> 500′	130'	20′	8′	213′	28′	10′
		R	200′	8'	0′	0′	10′	0′	0′
	SB	L	150′	15'	13′	3′	18′	18′	3′
		TR	> 625′	365'	280′	45′	613′	573′	70′

Table 10 – Level of Service Summary – Build Scenario 1

Intersection	Movement		2035 No-Build						2035 Build Scenario 1					
			AM Peak		PM Peak		SAT Peak		AM Peak		PM Peak		SAT Peak	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	f	151.8	d	28.2	b	14.3	f	158.4	d	26.7	b	13.9
		TR	c	21.5	b	14.7	b	12.9	c	20.8	b	14.0	b	12.5
	WB	L	c	16.1	b	13.4	b	11.7	c	15.3	b	12.9	b	11.5
		TR	c	21.7	c	15.5	b	12.5	c	20.6	b	14.8	b	12.2
	NB	L	b	14.7	b	12.9	b	10.9	b	14.4	b	12.6	b	10.8
		T	f	57.9	c	15.7	b	11.6	f	58.8	c	15.4	b	11.4
		R	b	13.7	b	11.3	a	9.7	b	13.5	b	11.0	a	9.6
	SB	L	c	15.8	b	12.6	b	10.6	c	15.9	b	12.6	b	10.5
		T	f	200.2	f	134.9	c	16.0	d	26.9	c	19.9	b	11.8
		R							d	34.1	c	21.0	b	11.2

Note: Uppercase indicates signalized intersections; lowercase indicates unsignalized intersections.

Table 11 – 95th Percentile Queue Length Summary – Build Scenario 1

Intersection	Movement		Storage Length	2035 No-Build			2035 Build Scenario 1		
				AM Peak	PM Peak	SAT Peak	AM Peak	PM Peak	SAT Peak
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	200′	453′	123′	48′	490′	123′	45′
		TR	> 500′	65′	35′	43′	68′	35′	43′
	WB	L	200′	8′	8′	15′	8′	8′	15′
		TR	> 500′	45′	30′	30′	45′	30′	30′
	NB	L	200′	5′	3′	0′	5′	3′	0′
		T	> 500′	213′	28′	10′	220′	28′	10′
		R	200′	10′	0′	0′	10′	3′	0′
	SB	L	150′	18′	18′	3′	18′	18′	3′
		T	> 625′	613′	573′	70′	95′	88′	23′
		R	185′				148′	113′	28′

Table 12 – Level of Service Summary – Build Scenario 2

Intersection	Movement		2035 No-Build						2035 Build Scenario 2					
			AM Peak		PM Peak		SAT Peak		AM Peak		PM Peak		SAT Peak	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	f	151.8	d	28.2	b	14.3	D	44.3	C	24.1	B	17.9
		TR	c	21.5	b	14.7	b	12.9	C	23.4	C	24.8	C	24.2
	WB	L	c	16.1	b	13.4	b	11.7	C	30.4	C	27.1	B	17.9
		TR	c	21.7	c	15.5	b	12.5	D	40.9	D	37.2	C	25.6
	NB	L	b	14.7	b	12.9	b	10.9	C	21.5	B	19.9	B	14.8
		T	f	57.9	c	15.7	b	11.6	C	24.7	B	18.4	B	15.0
		R	b	13.7	b	11.3	a	9.7	B	17.8	B	14.4	B	11.0
	SB	L	c	15.8	b	12.6	b	10.6	B	17.6	B	13.9	B	13.6
		TR	f	200.2	f	134.9	c	16.0	D	51.2	D	52.0	B	17.3
	Overall		**-**	**-**	**-**	**-**	**-**	**-**	**D**	**38.2**	**D**	**36.2**	**B**	**20.0**

Note: Uppercase indicates signalized intersections; lowercase indicates unsignalized intersections.

Table 13 – 95th Percentile Queue Length Summary – Build Scenario 2

Intersection	Movement		Storage Length	2035 No-Build			2035 Build Scenario 2		
				AM Peak	PM Peak	SAT Peak	AM Peak	PM Peak	SAT Peak
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	200′	453′	123′	48′	322′	185′	88′
		TR	> 500′	65′	35′	43′	154′	120′	121′
	WB	L	200′	8′	8′	15′	24′	34′	42′
		TR	> 500′	45′	30′	30′	125′	120′	105′
	NB	L	200′	5′	3′	0′	17′	11′	3′
		T	> 500′	213′	28′	10′	247′	88′	39′
		R	200′	10′	0′	0′	0′	0′	0′
	SB	L	150′	18′	18′	3′	48′	52′	13′
		TR	> 625′	613′	573′	70′	486′	567′	119′

Table 14 – Level of Service Summary – Build Scenario 3

Intersection	Movement		2035 No-Build						2035 Build Scenario 3					
			AM Peak		PM Peak		SAT Peak		AM Peak		PM Peak		SAT Peak	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	f	151.8	d	28.2	b	14.3	C	26.5	B	19.0	B	17.9
		TR	c	21.5	b	14.7	b	12.9	B	18.7	C	20.4	C	24.2
	WB	L	c	16.1	b	13.4	b	11.7	C	26.4	C	22.2	B	17.9
		TR	c	21.7	c	15.5	b	12.5	D	35.3	C	29.7	C	25.6
	NB	L	b	14.7	b	12.9	b	10.9	C	20.0	B	17.5	B	14.4
		T	f	57.9	c	15.7	b	11.6	C	29.6	B	19.7	B	15.0
		R	b	13.7	b	11.3	a	9.7	B	19.7	B	15.5	B	11.0
	SB	L	c	15.8	b	12.6	b	10.6	B	19.6	B	15.0	B	13.6
		T	f	200.2	f	134.9	c	16.0	C	22.2	B	18.2	B	14.7
		R							B	10.2	B	10.8	A	10.0
	Overall		-	-	-	-	-	-	**C**	**23.0**	**B**	**17.9**	**B**	**18.5**

Note: Uppercase indicates signalized intersections; lowercase indicates unsignalized intersections.

Table 15 – 95th Percentile Queue Length Summary – Build Scenario 3

Intersection	Movement		Storage Length	2035 No-Build			2035 Build Scenario 3		
				AM Peak	PM Peak	SAT Peak	AM Peak	PM Peak	SAT Peak
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	200′	453′	123′	48′	344′	172′	74′
		TR	> 500′	65′	35′	43′	154′	114′	107′
	WB	L	200′	8′	8′	15′	24′	31′	36′
		TR	> 500′	45′	30′	30′	125′	115′	94′
	NB	L	200′	5′	3′	0′	17′	11′	3′
		T	> 500′	213′	28′	10′	247′	89′	39′
		R	200′	10′	0′	0′	0′	0′	0′
	SB	L	150′	18′	18′	3′	48′	52′	12′
		T	> 625′	613′	573′	70′	173′	201′	74′
		R	185′				33′	35′	14′

Table 16 – Level of Service Summary – Build Scenario 4

Intersection	Movement		2035 No-Build						2035 Build Scenario 4					
			AM Peak		PM Peak		SAT Peak		AM Peak		PM Peak		SAT Peak	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	f	151.8	d	28.2	b	14.3	c	17.5	b	11.2	a	7.5
		TR	c	21.5	b	14.7	b	12.9						
	WB	L	c	16.1	b	13.4	b	11.7	b	10.4	a	6.4	a	5.7
		TR	c	21.7	c	15.5	b	12.5						
	NB	L	b	14.7	b	12.9	b	10.9	c	19.0	a	7.3	a	5.1
		T	f	57.9	c	15.7	b	11.6						
		R	b	13.7	b	11.3	a	9.7						
	SB	L	c	15.8	b	12.6	b	10.6	b	10.3	b	11.4	a	6.3
		TR	f	200.2	f	134.9	c	16.0						

Note: Uppercase indicates signalized intersections; lowercase indicates unsignalized intersections.

Table 17 – 95th Percentile Queue Length Summary – Build Scenario 4

Intersection	Movement		Storage Length	2035 No-Build			2035 Build Scenario 4		
				AM Peak	PM Peak	SAT Peak	AM Peak	PM Peak	SAT Peak
Vo Tech Drive (NB/SB) & East Pike Boulevard (EB/WB)	EB	L	200′	453′	123′	48′	175′	75′	50′
		TR	> 500′	65′	35′	43′			
	WB	L	200′	8′	8′	15′	25′	25′	25′
		TR	> 500′	45′	30′	30′			
	NB	L	200′	5′	3′	0′	125′	25′	0′
		T	> 500′	213′	28′	10′			
		R	200′	10′	0′	0′			
	SB	L	150′	18′	18′	3′	100′	100′	25′
		TR	> 625′	613′	573′	70′			

Vo Tech Drive & East Pike Boulevard

2025 Existing Analysis

Under the Existing conditions, all intersection movements operate at Levels of Service "E" or better during all peak hours studied, with the exception of the eastbound left-turn movement and the southbound through/right-turn movements during the weekday morning peak hour.

2035 No-Build Analysis

Under the No-Build conditions, all intersection movements will continue to operate at or near Existing Levels of Service during all peak hours studied. The eastbound left-turn movement, the northbound through movement, and the southbound through/right-turn movements will experience delays during the weekday morning peak hour. The southbound through/right-turn movement will also experience delays during the weekday evening peak hour.

2035 Build Scenario 1 Analysis

Under Build Scenario 1 with the existing intersection geometry and the construction of a southbound right-turn lane, the delays experienced by the southbound approach in the No-Build conditions would be reduced to acceptable levels. However, the eastbound left-turn movement and northbound through movement would continue to experience delays during the weekday morning peak hour, and the 95th percentile queue lengths along the eastbound, westbound, and northbound approaches would remain similar to the No-Build conditions. All other intersection movements would operate at Levels of Service "D" or better during all peak hours studied.

2035 Build Scenario 2 Analysis

Under Build Scenario 2 with the existing intersection geometry and the installation of a traffic signal, the delays experienced in the No-Build conditions would be reduced to acceptable levels. However, the 95th percentile queue lengths would remain similar to the No-Build conditions. All intersection movements would operate at Levels of Service "D" or better during all peak hours studied. The intersection would operate at overall Levels of Service "D" or better during all peak hours studied.

2035 Build Scenario 3 Analysis

Under Build Scenario 3, with the installation of a traffic signal and the construction of a southbound right-turn lane, the delays experienced in the No-Build conditions would be reduced to acceptable levels. The 95th percentile queue lengths along the southbound approach would be reduced compared to the No-Build conditions, while all other intersection approaches would remain similar. All intersection movements would operate at Levels of Service "D" or better during all peak hours studied. The intersection would operate at overall Levels of Service "C" or better during all peak hours studied.

2035 Build Scenario 4 Analysis

Under Build Scenario 4, with the construction of a roundabout, the delays and 95th percentile queue lengths experienced in the No-Build conditions would be reduced to acceptable levels. All intersection movements would operate at Levels of Service "C" or better during all peak hours studied.

ICE Evaluation

A Stage 1 Intersection Control Evaluation (ICE) was conducted to evaluate the intersection traffic and geometric control in accordance with Chapter 10 of TxDOT's *Traffic and Safety Analysis Procedures Manual*. ICE analysis is required when there are plans to establish a new intersection or when any substantive change is made to the roadway geometry of an existing intersection along a state highway. Results from the CAP-X and SPICE analysis tools are used together to provide recommendations for safe and viable control types at intersections.

The Federal Highway Administration's (FHWA) Capacity Analysis for Planning of Junctions (CAP-X) tool was utilized to estimate the operational performance of different intersection configurations given the anticipated peak hour turning movement volumes.

The Federal Highway Administration's (FHWA) Safety Performance for Intersection Control Evaluation (SPICE) tool was utilized to estimate the safety of different intersection configurations given the anticipated average daily traffic volumes.

Capacity Analysis for Planning of Junctions (CAP-X)

As discussed, the 2035 Future traffic volumes were estimated by applying an annual background growth rate to the Exiting traffic volumes. The CAP-X results indicating the performance of each control type at the intersection of Vo Tech Drive & East Pike Boulevard during the weekday morning, weekday evening, and Saturday midday peak hours are summarized in **Tables 18 – 20**.

Table 18 – CAP-X Results – AM Peak

TYPE OF INTERSECTION	Overall V/C Ratio	V/C Ranking	Pedestrian Accommodations	Bicycle Accommodations
Traffic Signal	0.56	1	Good	Excellent
1 X 1 Roundabout	0.63	2	Excellent	Excellent
All-Way Stop Control	1.43	3	Good	Excellent

Table 19 – CAP-X Results – PM Peak

TYPE OF INTERSECTION	Overall V/C Ratio	V/C Ranking	Pedestrian Accommodations	Bicycle Accommodations
Traffic Signal	0.41	1	Good	Excellent
1 X 1 Roundabout	0.58	2	Excellent	Excellent
All-Way Stop Control	1.20	3	Good	Excellent

Table 20 – CAP-X Results – SAT Peak

TYPE OF INTERSECTION	Overall V/C Ratio	V/C Ranking	Pedestrian Accommodations	Bicycle Accommodations
Traffic Signal	0.21	1	Good	Excellent
1 X 1 Roundabout	0.26	2	Excellent	Excellent
All-Way Stop Control	0.63	3	Good	Excellent

The CAP-X results indicate that in comparison to the existing all-way stop control, the traffic signal and the roundabout would both represent an improvement in operations with lower v/c ratios. The traffic signal would maintain equivalent pedestrian and bicycle accommodations, while the roundabout would offer improved pedestrian accommodations.

Safety Performance for Intersection Control Evaluation (SPICE)

The average daily traffic (ADT) volumes were estimated utilizing the 2035 Future traffic volumes, as detailed in **Table 21**, for use with the SPICE tool. The SPICE results indicating the safety of each control type at the intersection of Vo Tech Drive & East Pike Boulevard are summarized in **Table 22**.

Table 21 – Average Daily Traffic (ADT) Volumes

Roadway	Location	Total Entering Volume (TEV)			ADT (TEV/10%)			Average ADT	
		AM	PM	SAT	AM	PM	SAT		
Vo Tech Drive	North of Int.	1,288	1,056	402	12,880	10,560	4,020	9,153	6,687
	South of Int.	616	430	222	6,160	4,300	2,220	4,220	
East Pike Boulevard	East of Int.	406	373	318	4,060	3,730	3,180	3,657	5,794
	West of Int.	992	859	528	9,920	8,590	5,280	7,930	

Table 22 – SPICE Results

Control Strategy	Crash Type	Opening Year	Design Year	Total Project Life Cycle	AADT Within Prediction Range?
1-lane Roundabout	Total	1.22	--	--	N/A
	Fatal & Injury	0.23	--	--	
All Way Stop	Total	2.18	--	--	N/A
	Fatal & Injury	0.94	--	--	
Traffic Signal	Total	5.89	--	--	Yes
	Fatal & Injury	2.00	--	--	

The SPICE results indicate that in comparison to the existing all-way stop control, the traffic signal could increase both the total and the fatal/injury crash rates. The roundabout would operate with the lowest rates for both total crashes and fatal/injury crashes.

Recommendations

This Intersection Control Evaluation studied the intersection of Vo Tech Drive & East Pike Boulevard in the City of Weslaco, Hidalgo County, Texas. The findings of the report are summarized as follows:

1. Vo Tech Drive & East Pike Boulevard is an unsignalized four-leg intersection under all-way stop control. The northbound approach of Vo Tech Drive provides one (1) dedicated left-turn lane, one (1) dedicated through lane, and one (1) dedicated right-turn lane. The southbound approach of Vo Tech Drive and the eastbound and westbound approaches of East Pike Boulevard provide one (1) dedicated left-turn lane and one (1) shared through/right-turn lane.

2. Under the No-Build conditions, all intersection movements will continue to operate at or near Existing Levels of Service during all peak hours studied. The eastbound left-turn movement, the northbound through movement, and the southbound through/right-turn movements will experience delays during the weekday morning peak hour. The southbound through/right-turn movement will also experience delays during the weekday evening peak hour.

3. A roundabout would operate with the lowest amount of vehicular delay, the shortest queuing, and the fewest conflict points. However, it would cost approximately three to four times more than a traffic signal. While a traffic signal would not entirely mitigate the existing queuing issues experienced under all-way stop control, it would reduce the amount of vehicular delay and could reduce certain types of crashes. Both control types would be compatible with the vertical clearance requirements of the adjacent Mid Valley Airport.

4. With a roundabout (Build Scenario 4), each intersection approach would provide one (1) lane under yield control. All intersection movements would operate at Levels of Service “C” or better during all peak hour studied. The 95th percentile queue lengths along all intersection approaches would be significantly reduced in comparison to the No-Build condition.

5. With a traffic signal (Build Scenarios 2 and 3), all intersection movements would operate at Levels of Service “D” or better during all peak hours studied. The intersection would operate at overall Levels of Service “D” or better during all peak hours studied. The 95th percentile queue lengths of the eastbound left-turn movement would continue to exceed the available turn lane storage length during the weekday morning peak hour. If a southbound right-turn lane was constructed (Build Scenario 3), the 95th percentile queue lengths of the southbound through/right-turn movements would be significantly reduced.

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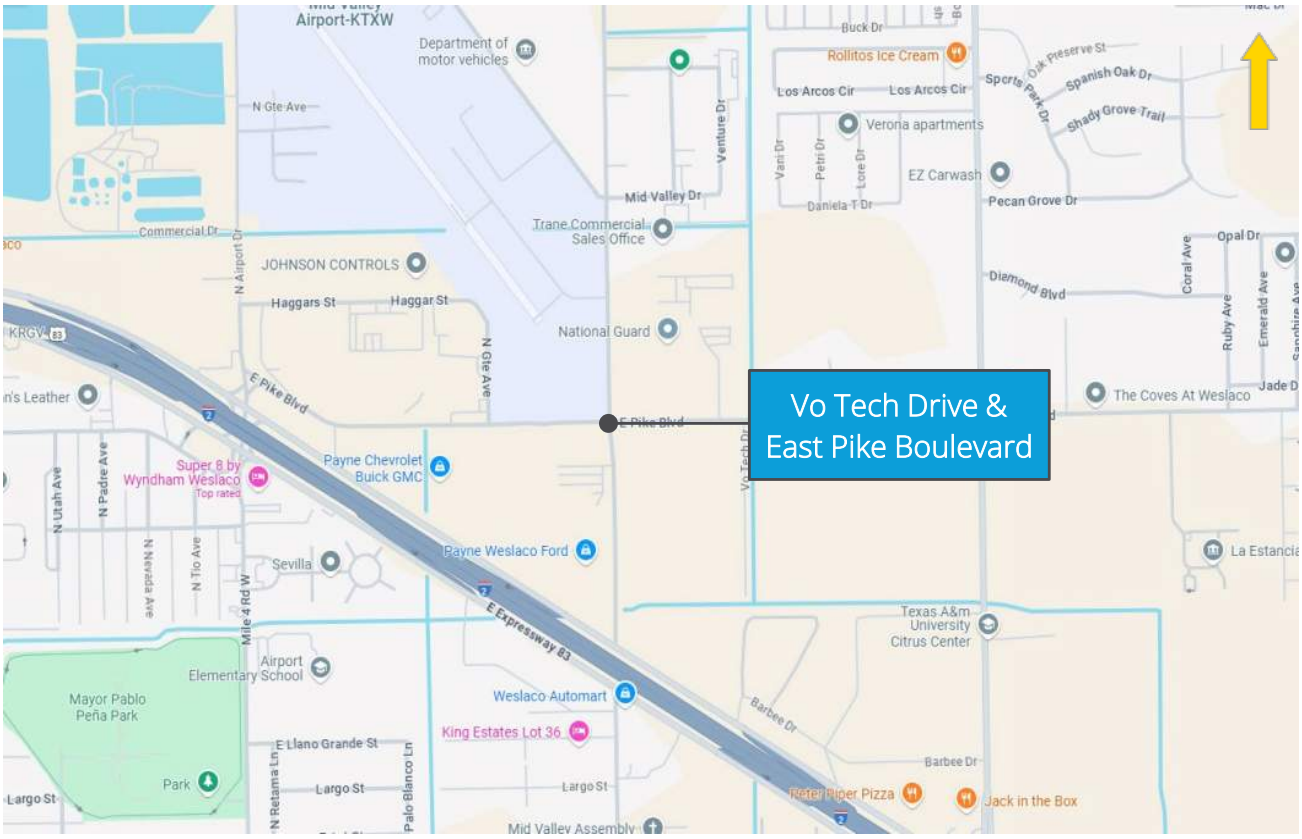
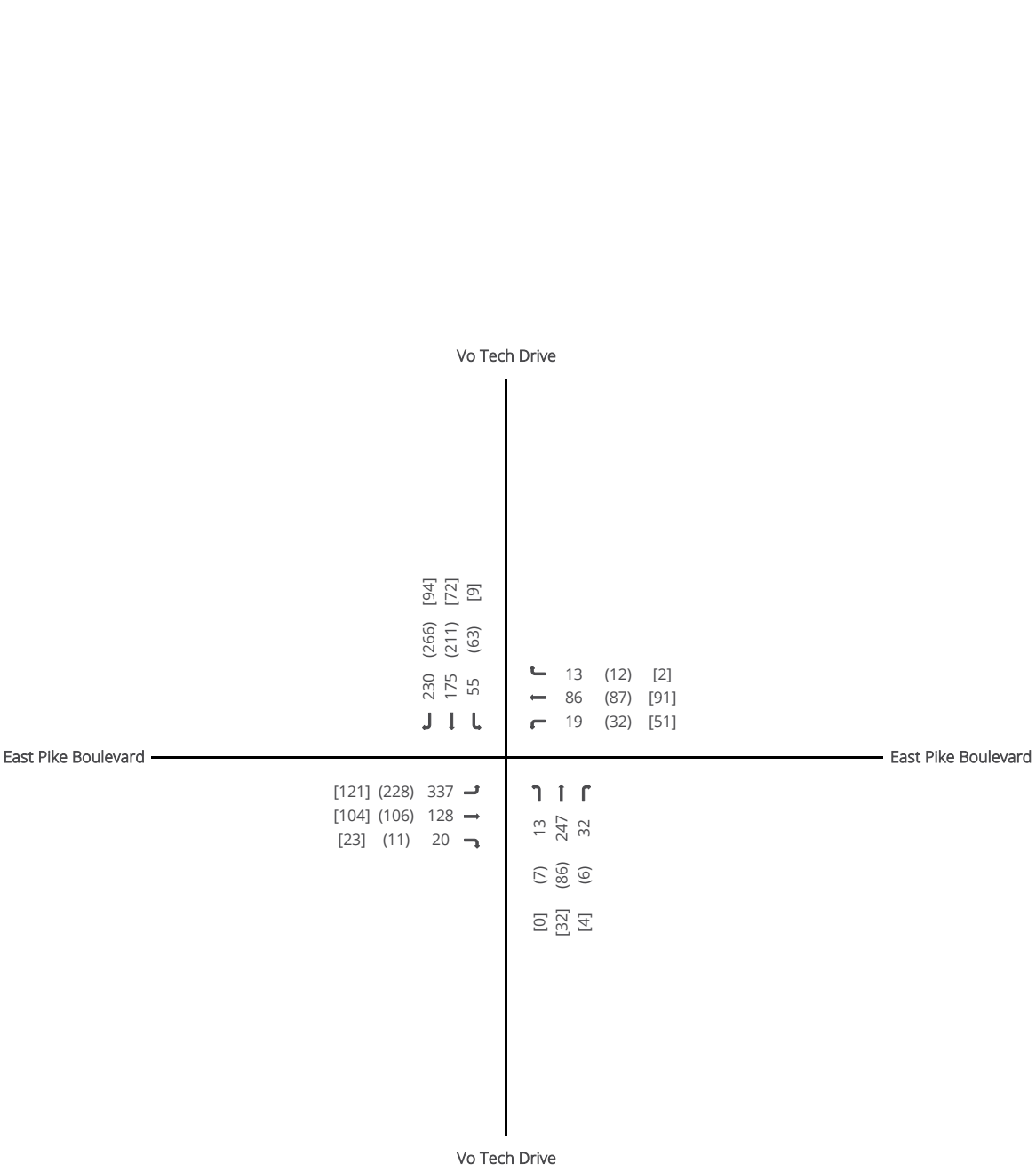
Colliers
Engineering
& Design

Traffic Impact Study

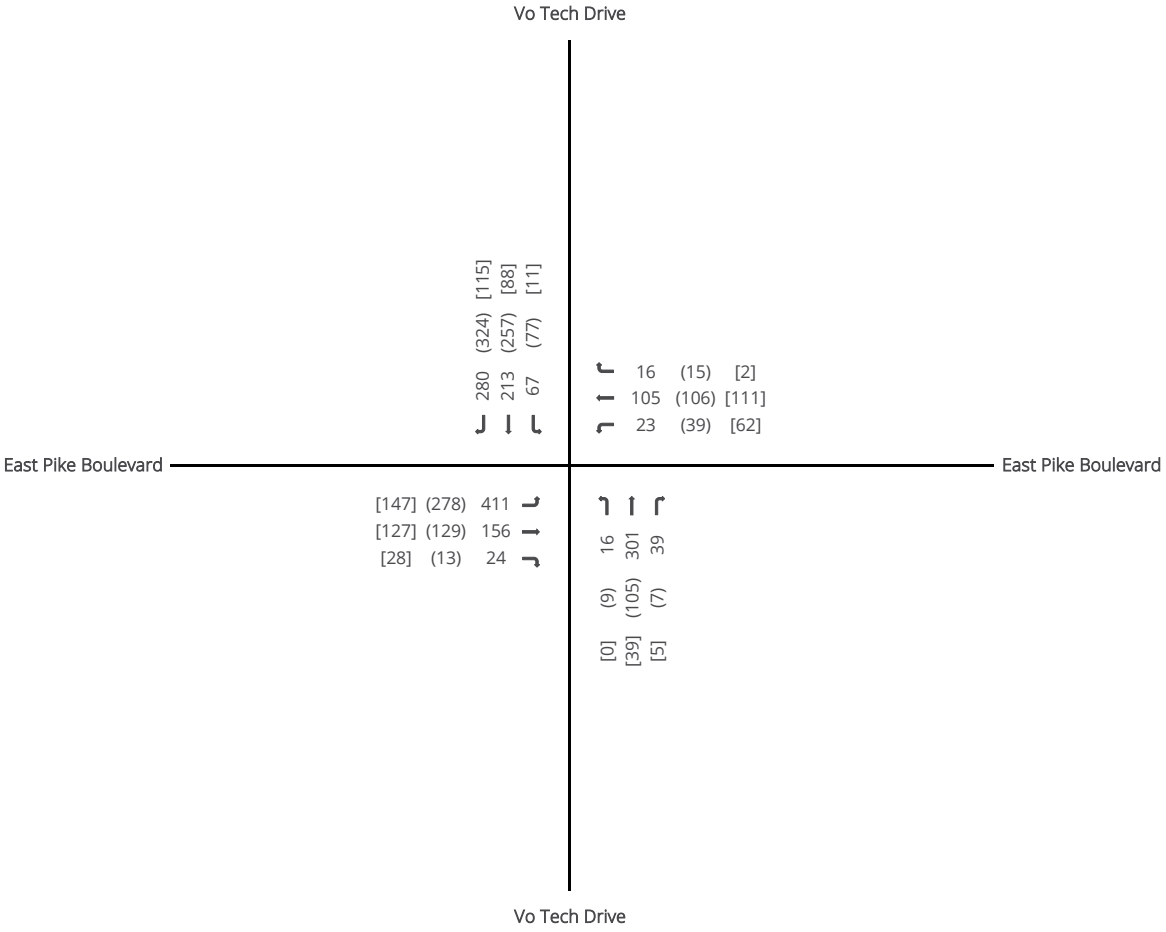
Appendix A | Traffic Figures



Colliers Engineering & Design	Intersection Control Evaluation	**Figure 1**
	Project No. 23013252A	**Intersection Location Map**
	City of Weslaco, Hidalgo County, Texas	



Colliers Engineering & Design	Intersection Control Evaluation Project No. 24013252A City of Weslaco, Hildago County, Texas	Legend AM Peak Hour: ### Through Movement: PM Peak Hour: (###) Turning Movement: SAT Peak Hour: [###]	**Figure 2** **2025 Existing Conditions** **AM & PM Peak Hours**



Build-Year Growth Rate	
Growth Rate:	2.00%
Years:	10
Growth Factor:	1.219

Colliers Engineering & Design	Intersection Control Evaluation Project No. 24013252A City of Weslaco, Hildago County, Texas	Legend AM Peak Hour: ### Through Movement: PM Peak Hour: (###) Turning Movement: SAT Peak Hour: [###]	**Figure 3** **2035 Future Conditions** **AM & PM Peak Hours**

Colliers Engineering & Design

Traffic Impact Study

Refer to:

Appendix B | Concept Plans

Appendix C | Traffic Count Data

Appendix D | Crash Data

All crash data available using this tool represents reportable data collected from Texas Peace Officer's Crash Reports (CR-3) received and processed by the Texas Department of Transportation (Department) as of 05/07/2025. The Department makes no warranty, representation or guaranty as to the content, accuracy, timeliness or completeness of any of the information provided as a result of your query. Any opinions and conclusions resulting from analysis performed on the crash data must be represented as your own and not those of the State of Texas or the Department.

Query Result Counts:
Your query returned a total of 15 Crashes
containing 35 Units and 43 Persons
Filters Applied to current Query:
Crash Year Is In 2020 or 2021 or 2022 or 2023 or 2024 or 2025

TxDOT-Authored Filters Applied to current Query:
Intersection Related Crashes

Crash ID	Contributing Factors	Crash Date	Crash Number	Crash Severity	Crash Time	Day of Week	Intersection Related	Manner of Collision	Surface Condition	Weather Condition	Person Restraint Used	Property Damages
18058597	OTHER (EXPLAIN IN NARRATIVE)	1/12/2021	2021011713	N - NOT INJURED	1237	TUESDAY	INTERSECTION RELATED	SAME DIRECTION - ONE STRAIGHT-ONE RIGHT TURN	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
18058597	OTHER (EXPLAIN IN NARRATIVE)	1/12/2021	2021011713	N - NOT INJURED	1237	TUESDAY	INTERSECTION RELATED	SAME DIRECTION - ONE STRAIGHT-ONE RIGHT TURN	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
18486277	FAILED TO YIELD RIGHT OF WAY - STOP SIGN	9/16/2021	2021447038	N - NOT INJURED	2039	THURSDAY	INTERSECTION	ANGLE - BOTH GOING STRAIGHT	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
18486277	FAILED TO YIELD RIGHT OF WAY - STOP SIGN	9/16/2021	2021447038	N - NOT INJURED	2039	THURSDAY	INTERSECTION	ANGLE - BOTH GOING STRAIGHT	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
18486277	FAILED TO YIELD RIGHT OF WAY - STOP SIGN	9/16/2021	2021447038	N - NOT INJURED	2039	THURSDAY	INTERSECTION	ANGLE - BOTH GOING STRAIGHT	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
18769780	DISREGARD STOP SIGN OR LIGHT	2/22/2022	2022085213	B - SUSPECTED MINOR INJURY	2029	TUESDAY	INTERSECTION	ANGLE - BOTH GOING STRAIGHT	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
18769780	DISREGARD STOP SIGN OR LIGHT	2/22/2022	2022085213	B - SUSPECTED MINOR INJURY	2029	TUESDAY	INTERSECTION	ANGLE - BOTH GOING STRAIGHT	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
18825010	CHANGED LANE WHEN UNSAFE	3/28/2022	2022140235	N - NOT INJURED	1648	MONDAY	INTERSECTION RELATED	SAME DIRECTION - BOTH GOING STRAIGHT-SIDESWIPE	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	FENCE LINE STRUCK
18825010	CHANGED LANE WHEN UNSAFE	3/28/2022	2022140235	N - NOT INJURED	1648	MONDAY	INTERSECTION RELATED	SAME DIRECTION - BOTH GOING STRAIGHT-SIDESWIPE	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	FENCE LINE STRUCK
18825010	CHANGED LANE WHEN UNSAFE	3/28/2022	2022140235	N - NOT INJURED	1648	MONDAY	INTERSECTION RELATED	SAME DIRECTION - BOTH GOING STRAIGHT-SIDESWIPE	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
18825010	CHANGED LANE WHEN UNSAFE	3/28/2022	2022140235	N - NOT INJURED	1648	MONDAY	INTERSECTION RELATED	SAME DIRECTION - BOTH GOING STRAIGHT-SIDESWIPE	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
18825010	CHANGED LANE WHEN UNSAFE	3/28/2022	2022140235	N - NOT INJURED	1648	MONDAY	INTERSECTION RELATED	SAME DIRECTION - BOTH GOING STRAIGHT-SIDESWIPE	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
19268111	BACKED WITHOUT SAFETY	11/30/2022	2022589981	N - NOT INJURED	1820	WEDNESDAY	INTERSECTION RELATED	OPPOSITE DIRECTION - ONE BACKING-ONE STOPPED	1 - DRY	2 - CLOUDY	1 - SHOULDER & LAP BELT	NONE
19268111	BACKED WITHOUT SAFETY	11/30/2022	2022589981	N - NOT INJURED	1820	WEDNESDAY	INTERSECTION RELATED	OPPOSITE DIRECTION - ONE BACKING-ONE STOPPED	1 - DRY	2 - CLOUDY	1 - SHOULDER & LAP BELT	NONE
19363106	FAILED TO YIELD RIGHT OF WAY - STOP SIGN	1/29/2023	2023041031	N - NOT INJURED	1917	SUNDAY	INTERSECTION	ANGLE - BOTH GOING STRAIGHT	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
19363106	FAILED TO YIELD RIGHT OF WAY - STOP SIGN	1/29/2023	2023041031	N - NOT INJURED	1917	SUNDAY	INTERSECTION	ANGLE - BOTH GOING STRAIGHT	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
19363106	FAILED TO YIELD RIGHT OF WAY - STOP SIGN	1/29/2023	2023041031	N - NOT INJURED	1917	SUNDAY	INTERSECTION	ANGLE - BOTH GOING STRAIGHT	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
19634483	BACKED WITHOUT SAFETY	6/28/2023	2023320853	N - NOT INJURED	1124	WEDNESDAY	INTERSECTION RELATED	OPPOSITE DIRECTION - ONE BACKING-ONE STOPPED	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
19634483	BACKED WITHOUT SAFETY	6/28/2023	2023320853	N - NOT INJURED	1124	WEDNESDAY	INTERSECTION RELATED	OPPOSITE DIRECTION - ONE BACKING-ONE STOPPED	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
19634483	BACKED WITHOUT SAFETY	6/28/2023	2023320853	N - NOT INJURED	1124	WEDNESDAY	INTERSECTION RELATED	OPPOSITE DIRECTION - ONE BACKING-ONE STOPPED	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
19889502	TURNED IMPROPERLY - CUT CORNER ON LEFT	11/22/2023	2023579083	N - NOT INJURED	1442	WEDNESDAY	INTERSECTION RELATED	ANGLE - ONE LEFT TURN-ONE STOPPED	1 - DRY	2 - CLOUDY	1 - SHOULDER & LAP BELT	NONE
19889502	TURNED IMPROPERLY - CUT CORNER ON LEFT	11/22/2023	2023579083	N - NOT INJURED	1442	WEDNESDAY	INTERSECTION RELATED	ANGLE - ONE LEFT TURN-ONE STOPPED	1 - DRY	2 - CLOUDY	1 - SHOULDER & LAP BELT	NONE
19889502	TURNED IMPROPERLY - CUT CORNER ON LEFT	11/22/2023	2023579083	N - NOT INJURED	1442	WEDNESDAY	INTERSECTION RELATED	ANGLE - ONE LEFT TURN-ONE STOPPED	1 - DRY	2 - CLOUDY	1 - SHOULDER & LAP BELT	NONE
19889502	TURNED IMPROPERLY - CUT CORNER ON LEFT	11/22/2023	2023579083	N - NOT INJURED	1442	WEDNESDAY	INTERSECTION RELATED	ANGLE - ONE LEFT TURN-ONE STOPPED	1 - DRY	2 - CLOUDY	1 - SHOULDER & LAP BELT	STOP SIGN
19889502	TURNED IMPROPERLY - CUT CORNER ON LEFT	11/22/2023	2023579083	N - NOT INJURED	1442	WEDNESDAY	INTERSECTION RELATED	ANGLE - ONE LEFT TURN-ONE STOPPED	1 - DRY	2 - CLOUDY	1 - SHOULDER & LAP BELT	NONE
19901037	DISREGARD STOP SIGN OR LIGHT	11/28/2023	2023590616	C - POSSIBLE INJURY	2143	TUESDAY	INTERSECTION	ANGLE - BOTH GOING STRAIGHT	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
19901037	DISREGARD STOP SIGN OR LIGHT	11/28/2023	2023590616	C - POSSIBLE INJURY	2143	TUESDAY	INTERSECTION	ANGLE - BOTH GOING STRAIGHT	1 - DRY	1 - CLEAR	4 - CHILD SEAT, FACING FORWARD	NONE
19901037	DISREGARD STOP SIGN OR LIGHT	11/28/2023	2023590616	C - POSSIBLE INJURY	2143	TUESDAY	INTERSECTION	ANGLE - BOTH GOING STRAIGHT	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
19988042	FAILED TO YIELD RIGHT OF WAY - STOP SIGN	1/18/2024	2024026567	C - POSSIBLE INJURY	1327	THURSDAY	INTERSECTION	ANGLE - BOTH GOING STRAIGHT	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
19988042	FAILED TO YIELD RIGHT OF WAY - STOP SIGN	1/18/2024	2024026567	C - POSSIBLE INJURY	1327	THURSDAY	INTERSECTION	ANGLE - BOTH GOING STRAIGHT	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
20442201	NONE	10/13/2024	2024480698	99 - UNKNOWN	858	SUNDAY	INTERSECTION RELATED	ONE MOTOR VEHICLE - OTHER	1 - DRY	1 - CLEAR	99 - UNKNOWN	NONE
20478093	FAULTY EVASIVE ACTION	10/29/2024	2024516560	C - POSSIBLE INJURY	1419	TUESDAY	INTERSECTION RELATED	SAME DIRECTION - ONE STRAIGHT-ONE RIGHT TURN	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
20478093	FAULTY EVASIVE ACTION	10/29/2024	2024516560	C - POSSIBLE INJURY	1419	TUESDAY	INTERSECTION RELATED	SAME DIRECTION - ONE STRAIGHT-ONE RIGHT TURN	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
20519039	TURNED IMPROPERLY - WRONG LANE	11/21/2024	2024557485	N - NOT INJURED	1450	THURSDAY	INTERSECTION RELATED	SAME DIRECTION - ONE RIGHT TURN-ONE STOPPED	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
20519039	TURNED IMPROPERLY - WRONG LANE	11/21/2024	2024557485	N - NOT INJURED	1450	THURSDAY	INTERSECTION RELATED	SAME DIRECTION - ONE RIGHT TURN-ONE STOPPED	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	NONE
20681189	FAILED TO YIELD RIGHT OF WAY - TURNING LEFT	2/26/2025	2025084719	N - NOT INJURED	2023	WEDNESDAY	INTERSECTION	OPPOSITE DIRECTION - ONE STRAIGHT-ONE LEFT TURN	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	
20681189	FAILED TO YIELD RIGHT OF WAY - TURNING LEFT	2/26/2025	2025084719	N - NOT INJURED	2023	WEDNESDAY	INTERSECTION	OPPOSITE DIRECTION - ONE STRAIGHT-ONE LEFT TURN	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	
20681189	FAILED TO YIELD RIGHT OF WAY - TURNING LEFT	2/26/2025	2025084719	N - NOT INJURED	2023	WEDNESDAY	INTERSECTION	OPPOSITE DIRECTION - ONE STRAIGHT-ONE LEFT TURN	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	
20681189	FAILED TO YIELD RIGHT OF WAY - TURNING LEFT	2/26/2025	2025084719	N - NOT INJURED	2023	WEDNESDAY	INTERSECTION	OPPOSITE DIRECTION - ONE STRAIGHT-ONE LEFT TURN	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	
20681189	FAILED TO YIELD RIGHT OF WAY - TURNING LEFT	2/26/2025	2025084719	N - NOT INJURED	2023	WEDNESDAY	INTERSECTION	OPPOSITE DIRECTION - ONE STRAIGHT-ONE LEFT TURN	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	
20681189	FAILED TO YIELD RIGHT OF WAY - TURNING LEFT	2/26/2025	2025084719	N - NOT INJURED	2023	WEDNESDAY	INTERSECTION	OPPOSITE DIRECTION - ONE STRAIGHT-ONE LEFT TURN	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	
20757145	TURNED IMPROPERLY - WRONG LANE	4/13/2025	2025160364	N - NOT INJURED	1211	SUNDAY	INTERSECTION	SAME DIRECTION - ONE STRAIGHT-ONE LEFT TURN	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	
20757145	TURNED IMPROPERLY - WRONG LANE	4/13/2025	2025160364	N - NOT INJURED	1211	SUNDAY	INTERSECTION	SAME DIRECTION - ONE STRAIGHT-ONE LEFT TURN	1 - DRY	1 - CLEAR	1 - SHOULDER & LAP BELT	

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Traffic Impact Study

Appendix E | Traffic Signal Warrant Analysis

Warrants Summary Report

1: Vo Tech Drive & East Pike Boulevard

Intersection Information:

	Major Street	Minor Street
Street Name	Vo Tech Drive	East Pike Boulevard
Direction	NB/SB	EB/WB
Number of Lanes	2	2
Approach Speed	30	30

Warrant	Met?	Notes
Warrant 1, Eight-Hour Vehicular Volume		
	No	
Condition A or B Met?	No	4 Hours met (8 required)
Condition A and B Met?	No	4 Hours met (8 required)
Warrant 2, Four-Hour Vehicular Volume		
	Yes	6 Hours met (4 required)
Warrant 3, Peak Hour		
	Yes	
Condition A Met?	No	0 Hours met (1 required)
Condition B Met?	Yes	2 Hours met (1 required)
Warrant 4, Pedestrian Volume		
	No	
Condition A Met?	No	0 Hours met (4 required)
Condition B Met?	No	0 Hours met (1 required)
Warrant 5, School Crossing		
	No	

Warrant 6, Coordinated Signal System

No

Warrant 7, Crash Experience

No

Traffic Volume Cond.?	Yes	9 Hours met (8 required)
Ped Condition?	No	0 Hours met (8 required)

Warrant 8, Roadway Network

Yes

Warrant 9, Intersection Near a Grade Crossing

No

AWSC Warrant, Multiway Stop Application

Yes

Condition A Met?	Yes
Condition B Met?	No
Condition C Met?	No

18:30 to 19:30	155		137		No	No	No	No
Condition A	Volume >= 100% column (600)?	No	Volume >= 100% column (200)?	No				
	Volume >= 80% column (480)?	No	Volume >= 80% column (160)?	No				
Condition B	**Volume >= 100% column (900)?**	No	**Volume >= 100% column (100)?**	Yes				
	Volume >= 80% column (720)?	No	**Volume >= 80% column (80)?**	Yes				

18:45 to 19:45	61		70		No	No	No	No
Condition A	Volume >= 100% column (600)?	No	Volume >= 100% column (200)?	No				
	Volume >= 80% column (480)?	No	Volume >= 80% column (160)?	No				
Condition B	**Volume >= 100% column (900)?**	No	**Volume >= 100% column (100)?**	No				
	Volume >= 80% column (720)?	No	**Volume >= 80% column (80)?**	No				

Warrant 2: Four-hour Vehicular Volume

1: Vo Tech Drive & East Pike Boulevard

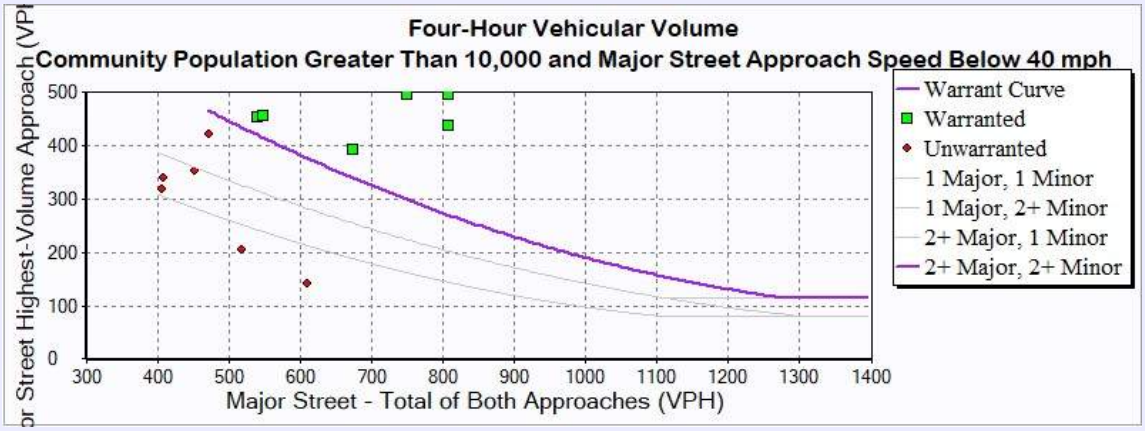
Intersection Information:

	Major Street	Minor Street
Street Name	Vo Tech Drive	East Pike Boulevard
Direction	NB/SB	EB/WB
Number of Lanes	2	2
Approach Speed	30	30

Warrant 2 Met? **Yes**

Details:

Notes	6 Hours met (4 required)
Low population?	No



Hourly Volumes

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
00:00:00 - 01:00:00	0.00	0.00
01:00:00 - 02:00:00	0.00	0.00
02:00:00 - 03:00:00	0.00	0.00
03:00:00 - 04:00:00	0.00	0.00
04:00:00 - 05:00:00	0.00	0.00
05:00:00 - 06:00:00	0.00	0.00
06:00:00 - 07:00:00	0.00	0.00
07:00:00 - 08:00:00	809.00	565.00
08:00:00 - 09:00:00	750.00	564.00
09:00:00 - 10:00:00	453.00	352.00
10:00:00 - 11:00:00	407.00	320.00
11:00:00 - 12:00:00	519.00	205.00
12:00:00 - 13:00:00	610.00	141.00
13:00:00 - 14:00:00	549.00	457.00
14:00:00 - 15:00:00	472.00	422.00
15:00:00 - 16:00:00	596.00	447.00
16:00:00 - 17:00:00	777.00	420.00
17:00:00 - 18:00:00	625.00	403.00
18:00:00 - 19:00:00	369.00	311.00
19:00:00 - 20:00:00	0.00	0.00
20:00:00 - 21:00:00	0.00	0.00
21:00:00 - 22:00:00	0.00	0.00
22:00:00 - 23:00:00	0.00	0.00
23:00:00 - 00:00:00	0.00	0.00

Warranted Volumes

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
07:00:00 - 08:00:00	809.00	565.00
08:00:00 - 09:00:00	750.00	564.00
13:00:00 - 14:00:00	549.00	457.00
14:45:00 - 15:45:00	540.00	453.00
15:45:00 - 16:45:00	808.00	437.00
16:45:00 - 17:45:00	675.00	393.00

Warrant 3: Peak Hour

1: Vo Tech Drive & East Pike Boulevard

Intersection Information:

	Major Street	Minor Street
Street Name	Vo Tech Drive	East Pike Boulevard
Direction	NB/SB	EB/WB
Number of Lanes	2	2
Approach Speed	30	30

Warrant 3 Met? **Yes**

Details

Low Population? No

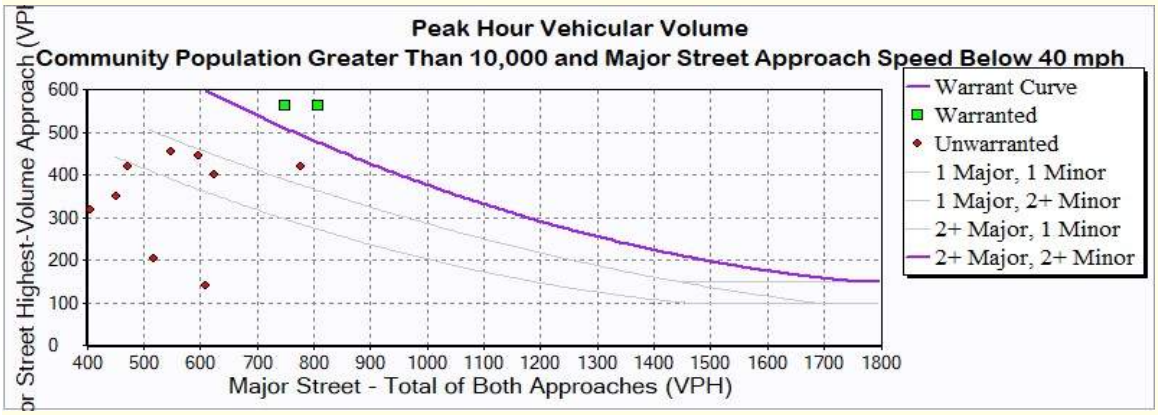
Condition A Met? No

Notes 0 Hours met (1 required)

Condition B Met? Yes

Notes 2 Hours met (1 required)

Minor Approach Time Delay Condition Met?	Not Met
Minor Approach Volume Condition Met?	Met
Total Entering Intersection Volume Condition Met?	Not Met



Warrant 8: Roadway Network

1: Vo Tech Drive & East Pike Boulevard

Intersection Information:

Major Street Name	Vo Tech Drive
Major Street Direction	NB/SB
Minor Street Direction	EB/WB

WARRANT 8 MET? (A or B) Yes

Details:

Growth Rates % (per year)

	NB	SB	EB	WB
L	0.00	0.00	0.00	0.00
T	0.00	0.00	0.00	0.00
R	0.00	0.00	0.00	0.00

Condition A, Total Entering Volume

Existing Peak Hour	1,652
Years	0.00
Future Peak Hour	1,652
Warrant 1 in 5 Years?	No
Warrant 2 in 5 Years?	Yes
Warrant 3 in 5 Years?	Yes

Condition B, Non-normal Business Day

	Existing	Future
Highest Hour	0	0
Second Highest Hour	0	0
Third Highest Hour	0	0
Fourth Highest Hour	0	0
Fifth Highest Hour	0	0
Yearly Growth Rate (%)	0.00	
Years	0.00	

Condition A Met? Yes **Condition B Met?** No

2025 Counted Traffic Volumes												
Leg	E Pike Blvd			E Pike Blvd			Vo-Tech Dr			Vo-Tech Dr		
Direction	Eastbound			Westbound			Northbound			Southbound		
Start Time	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM	86	13	0	2	16	0	3	41	1	4	27	31
7:15 AM	93	18	5	3	34	4	2	46	2	9	46	53
7:30 AM	93	22	5	8	26	4	5	49	6	14	40	67
7:45 AM	91	30	7	2	26	2	5	87	10	14	45	57
8:00 AM	68	33	2	3	19	4	1	71	4	11	50	50
8:15 AM	85	43	6	6	15	3	2	40	12	16	40	56
8:30 AM	59	57	3	4	19	5	2	28	11	15	39	45
8:45 AM	62	33	12	6	18	1	2	20	17	11	32	41
9:00 AM	50	14	8	7	11	2	0	19	3	7	29	53
9:15 AM	40	9	9	5	13	1	0	17	6	6	29	29
9:30 AM	55	17	4	4	17	3	1	20	3	1	35	21
9:45 AM	57	20	6	6	15	7	0	20	1	8	33	31
10:00 AM	71	11	4	3	21	2	1	10	2	8	32	25
10:15 AM	42	12	2	4	10	2	0	17	2	8	30	26
10:30 AM	41	10	5	1	8	6	0	7	1	6	34	37
10:45 AM	41	19	5	2	22	4	0	18	0	5	34	32
11:00 AM	53	17	3	30	37	5	1	17	1	7	44	45
11:15 AM	65	34	4	6	21	2	1	18	3	4	27	36
11:30 AM	75	37	6	15	13	2	2	10	4	5	46	37
11:45 AM	69	24	2	12	22	3	1	24	6	9	38	40
12:00 PM	67	26	4	20	11	1	1	18	4	12	42	73
12:15 PM	51	25	9	6	20	3	2	26	2	6	39	48
12:30 PM	62	25	9	2	15	3	1	21	6	6	40	42
12:45 PM	86	21	9	6	13	6	2	28	6	6	42	29
1:00 PM	72	23	4	6	14	6	2	23	3	4	30	55
1:15 PM	59	25	5	5	24	5	0	20	1	3	42	53
1:30 PM	65	27	7	4	17	5	0	22	0	3	33	41
1:45 PM	64	18	6	46	49	2	3	27	2	5	37	41
2:00 PM	62	26	6	14	23	3	1	21	1	6	38	35
2:15 PM	62	21	3	4	13	1	0	19	3	7	27	26
2:30 PM	52	16	4	3	25	3	1	25	0	8	42	24
2:45 PM	59	26	7	2	17	4	0	23	1	4	35	40
3:00 PM	58	15	5	2	20	1	0	25	1	11	48	47
3:15 PM	69	24	2	5	17	3	0	13	1	12	36	37
3:30 PM	75	27	5	5	16	5	2	25	2	9	26	46
3:45 PM	60	26	2	7	16	1	0	20	2	9	54	65
4:00 PM	60	32	2	13	19	4	2	19	1	22	50	74
4:15 PM	63	24	4	11	18	2	2	21	1	17	60	75
4:30 PM	59	24	3	6	34	4	3	25	2	15	58	68
4:45 PM	46	26	2	2	16	2	0	21	2	9	43	49
5:00 PM	61	16	2	0	18	2	4	18	0	15	70	87
5:15 PM	49	30	4	0	19	1	0	14	4	12	52	55
5:30 PM	46	35	5	3	11	1	0	11	3	3	35	47
5:45 PM	59	21	2	1	16	1	0	16	2	5	25	35
6:00 PM	49	27	1	5	15	2	0	9	0	6	41	44
6:15 PM	40	22	3	3	12	1	0	7	3	3	29	33
6:30 PM	33	19	3	0	13	0	0	14	1	2	19	42
6:45 PM	34	20	4	4	9	1	1	5	0	4	19	21

Colliers Engineering & Design

Traffic Engineering Services - Vo-Tech Dr. and Pike Blvd

Project No. 24013252A

City of Weslaco, Hildago County, Texas

2035 Future Roadway Volumes												
Leg	E Pike Blvd			E Pike Blvd			Vo-Tech Dr			Vo-Tech Dr		
Direction	Eastbound			Westbound			Northbound			Southbound		
Start Time	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM	105	16	0	2	20	0	4	50	1	5	33	38
7:15 AM	113	22	6	4	41	5	2	56	2	11	56	65
7:30 AM	113	27	6	10	32	5	6	60	7	17	49	82
7:45 AM	111	37	9	2	32	2	6	106	12	17	55	69
8:00 AM	83	40	2	4	23	5	1	87	5	13	61	61
8:15 AM	104	52	7	7	18	4	2	49	15	20	49	68
8:30 AM	72	69	4	5	23	6	2	34	13	18	48	55
8:45 AM	76	40	15	7	22	1	2	24	21	13	39	50
9:00 AM	61	17	10	9	13	2	0	23	4	9	35	65
9:15 AM	49	11	11	6	16	1	0	21	7	7	35	35
9:30 AM	67	21	5	5	21	4	1	24	4	1	43	26
9:45 AM	69	24	7	7	18	9	0	24	1	10	40	38
10:00 AM	87	13	5	4	26	2	1	12	2	10	39	30
10:15 AM	51	15	2	5	12	2	0	21	2	10	37	32
10:30 AM	50	12	6	1	10	7	0	9	1	7	41	45
10:45 AM	50	23	6	2	27	5	0	22	0	6	41	39
11:00 AM	1	21	1	37	45	6	1	21	1	9	54	55
11:15 AM	1	22	4	7	26	2	1	22	4	5	33	44
11:30 AM	2	12	5	18	16	2	2	12	5	6	56	45
11:45 AM	1	29	7	15	27	4	1	29	7	11	46	49
12:00 PM	1	22	5	24	13	1	1	22	5	15	51	89
12:15 PM	2	32	2	7	24	4	2	32	2	7	48	59
12:30 PM	1	26	7	2	18	4	1	26	7	7	49	51
12:45 PM	2	34	7	7	16	7	2	34	7	7	51	35
1:00 PM	88	28	5	7	17	7	2	28	4	5	37	67
1:15 PM	72	30	6	6	29	6	0	24	1	4	51	65
1:30 PM	79	33	9	5	21	6	0	27	0	4	40	50
1:45 PM	78	22	7	56	60	2	4	33	2	6	45	50
2:00 PM	76	32	7	17	28	4	1	26	1	7	46	43
2:15 PM	76	26	4	5	16	1	0	23	4	9	33	32
2:30 PM	63	20	5	4	30	4	1	30	0	10	51	29
2:45 PM	72	32	9	2	21	5	0	28	1	5	43	49
3:00 PM	71	18	6	2	24	1	0	30	1	13	59	57
3:15 PM	84	29	2	6	21	4	0	16	1	15	44	45
3:30 PM	91	33	6	6	20	6	2	30	2	11	32	56
3:45 PM	73	32	2	9	20	1	0	24	2	11	66	79
4:00 PM	73	39	2	16	23	5	2	23	1	27	61	90
4:15 PM	77	29	5	13	22	2	2	26	1	21	73	91
4:30 PM	72	29	4	7	41	5	4	30	2	18	71	83
4:45 PM	56	32	2	2	20	2	0	26	2	11	52	60
5:00 PM	74	20	2	0	22	2	5	22	0	18	85	106
5:15 PM	60	37	5	0	23	1	0	17	5	15	63	67
5:30 PM	56	43	6	4	13	1	0	13	4	4	43	57
5:45 PM	72	26	2	1	20	1	0	20	2	6	30	43
6:00 PM	60	33	1	6	18	2	0	11	0	7	50	54
6:15 PM	49	27	4	4	15	1	0	9	4	4	35	40
6:30 PM	40	23	4	0	16	0	0	17	1	2	23	51
6:45 PM	41	24	5	5	11	1	1	6	0	5	23	26

Colliers Engineering & Design

Traffic Engineering Services - Vo-Tech Dr. and Pike Blvd

Project No. 24013252A

City of Weslaco, Hildago County, Texas

Colliers
Engineering
& Design

Traffic Impact Study

Appendix F | Capacity Analysis

Intersection	
Intersection Delay, s/veh	52.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	337	128	20	19	86	13	13	247	32	55	175	230
Future Vol, veh/h	337	128	20	19	86	13	13	247	32	55	175	230
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	8	2	2	2	2	2	15	4	2	9	5	6
Mvmt Flow	374	142	22	21	96	14	14	274	36	61	194	256
Number of Lanes	1	1	0	1	1	0	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	2
HCM Control Delay, s/veh	50.9	16.8	28.8	79.4
HCM LOS	F	C	D	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	86%	0%	87%	0%	43%
Vol Right, %	0%	0%	100%	0%	14%	0%	13%	0%	57%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	247	32	337	148	19	99	55	405
LT Vol	13	0	0	337	0	19	0	55	0
Through Vol	0	247	0	0	128	0	86	0	175
RT Vol	0	0	32	0	20	0	13	0	230
Lane Flow Rate	14	274	36	374	164	21	110	61	450
Geometry Grp	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.04	0.705	0.084	0.954	0.386	0.061	0.304	0.16	1.056
Departure Headway (Hd)	10.159	9.445	8.681	9.357	8.64	10.824	10.205	9.45	8.448
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	355	384	415	389	419	333	354	382	432
Service Time	7.859	7.145	6.381	7.057	6.34	8.524	7.905	7.149	6.147
HCM Lane V/C Ratio	0.039	0.714	0.087	0.961	0.391	0.063	0.311	0.16	1.042
HCM Control Delay, s/veh	13.3	31.8	12.2	65.9	16.7	14.2	17.3	13.9	88.3
HCM Lane LOS	B	D	B	F	C	B	C	B	F
HCM 95th-tile Q	0.1	5.2	0.3	10.7	1.8	0.2	1.3	0.6	14.6

Intersection	
Intersection Delay, s/veh	28.4
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	228	106	11	32	87	12	7	86	6	63	211	266
Future Vol, veh/h	228	106	11	32	87	12	7	86	6	63	211	266
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	7	2	2	2	3	17	14	17	2	5	6	2
Mvmt Flow	240	112	12	34	92	13	7	91	6	66	222	280
Number of Lanes	1	1	0	1	1	0	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	2
HCM Control Delay, s/veh	17.1	12.9	13.1	42.2
HCM LOS	C	B	B	E

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	91%	0%	88%	0%	44%
Vol Right, %	0%	0%	100%	0%	9%	0%	12%	0%	56%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	86	6	228	117	32	99	63	477
LT Vol	7	0	0	228	0	32	0	63	0
Through Vol	0	86	0	0	106	0	87	0	211
RT Vol	0	0	6	0	11	0	12	0	266
Lane Flow Rate	7	91	6	240	123	34	104	66	502
Geometry Grp	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.018	0.211	0.013	0.532	0.25	0.08	0.231	0.138	0.918
Departure Headway (Hd)	8.851	8.39	7.408	7.981	7.322	8.572	7.992	7.474	6.584
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	404	427	482	451	490	418	449	480	552
Service Time	6.61	6.148	5.166	5.727	5.067	6.33	5.749	5.21	4.32
HCM Lane V/C Ratio	0.017	0.213	0.012	0.532	0.251	0.081	0.232	0.138	0.909
HCM Control Delay, s/veh	11.8	13.4	10.3	19.5	12.5	12.1	13.2	11.4	46.3
HCM Lane LOS	B	B	B	C	B	B	B	B	E
HCM 95th-tile Q	0.1	0.8	0	3.1	1	0.3	0.9	0.5	11.2

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	121	104	23	51	91	2	1	32	4	9	72	94
Future Vol, veh/h	121	104	23	51	91	2	1	32	4	9	72	94
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles, %	4	2	2	2	2	2	2	13	2	11	7	2
Mvmt Flow	166	142	32	70	125	3	1	44	5	12	99	129
Number of Lanes	1	1	0	1	1	0	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	2
HCM Control Delay, s/veh	11.6	10.8	10.3	12.6
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	82%	0%	98%	0%	43%
Vol Right, %	0%	0%	100%	0%	18%	0%	2%	0%	57%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1	32	4	121	127	51	93	9	166
LT Vol	1	0	0	121	0	51	0	9	0
Through Vol	0	32	0	0	104	0	91	0	72
RT Vol	0	0	4	0	23	0	2	0	94
Lane Flow Rate	1	44	5	166	174	70	127	12	227
Geometry Grp	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.003	0.086	0.009	0.303	0.286	0.133	0.224	0.024	0.386
Departure Headway (Hd)	7.406	7.088	6.186	6.583	5.918	6.859	6.339	7.083	6.104
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	482	504	576	545	607	523	566	505	589
Service Time	5.168	4.85	3.947	4.323	3.658	4.606	4.087	4.829	3.849
HCM Lane V/C Ratio	0.002	0.087	0.009	0.305	0.287	0.134	0.224	0.024	0.385
HCM Control Delay, s/veh	10.2	10.5	9	12.2	11	10.7	10.9	10	12.7
HCM Lane LOS	B	B	A	B	B	B	B	A	B
HCM 95th-tile Q	0	0.3	0	1.3	1.2	0.5	0.9	0.1	1.8

Intersection	
Intersection Delay, s/veh	113.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	411	156	24	23	105	16	16	301	39	67	213	280
Future Vol, veh/h	411	156	24	23	105	16	16	301	39	67	213	280
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	8	2	2	2	2	2	15	4	2	9	5	6
Mvmt Flow	457	173	27	26	117	18	18	334	43	74	237	311
Number of Lanes	1	1	0	1	1	0	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	2
HCM Control Delay, s/veh	112.1	20.8	51.1	178.1
HCM LOS	F	C	F	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	87%	0%	87%	0%	43%
Vol Right, %	0%	0%	100%	0%	13%	0%	13%	0%	57%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	301	39	411	180	23	121	67	493
LT Vol	16	0	0	411	0	23	0	67	0
Through Vol	0	301	0	0	156	0	105	0	213
RT Vol	0	0	39	0	24	0	16	0	280
Lane Flow Rate	18	334	43	457	200	26	134	74	548
Geometry Grp	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.051	0.887	0.106	1.217	0.495	0.078	0.389	0.203	1.35
Departure Headway (Hd)	11.381	10.659	9.887	10.401	9.677	12.359	11.731	10.465	9.453
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	317	341	365	352	376	292	309	345	389
Service Time	9.081	8.359	7.587	8.101	7.377	10.059	9.431	8.165	7.153
HCM Lane V/C Ratio	0.057	0.979	0.118	1.298	0.532	0.089	0.434	0.214	1.409
HCM Control Delay, s/veh	14.7	57.9	13.8	151.8	21.5	16.1	21.7	15.8	200.2
HCM Lane LOS	B	F	B	F	C	C	C	C	F
HCM 95th-tile Q	0.2	8.5	0.4	18.1	2.6	0.3	1.8	0.7	24.5

Intersection	
Intersection Delay, s/veh	68.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	278	129	13	39	106	15	9	105	7	77	257	324
Future Vol, veh/h	278	129	13	39	106	15	9	105	7	77	257	324
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	7	2	2	2	3	17	14	17	2	5	6	2
Mvmt Flow	293	136	14	41	112	16	9	111	7	81	271	341
Number of Lanes	1	1	0	1	1	0	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	2
HCM Control Delay, s/veh	23.6	15	15.2	120.6
HCM LOS	C	B	C	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	91%	0%	88%	0%	44%
Vol Right, %	0%	0%	100%	0%	9%	0%	12%	0%	56%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	105	7	278	142	39	121	77	581
LT Vol	9	0	0	278	0	39	0	77	0
Through Vol	0	105	0	0	129	0	106	0	257
RT Vol	0	0	7	0	13	0	15	0	324
Lane Flow Rate	9	111	7	293	149	41	127	81	612
Geometry Grp	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.025	0.273	0.016	0.677	0.319	0.103	0.299	0.182	1.208
Departure Headway (Hd)	9.927	9.46	8.469	8.842	8.18	9.624	9.036	8.105	7.11
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	363	382	425	413	442	375	400	446	508
Service Time	7.627	7.16	6.169	6.542	5.88	7.324	6.736	5.805	4.91
HCM Lane V/C Ratio	0.025	0.291	0.016	0.709	0.337	0.109	0.318	0.182	1.205
HCM Control Delay, s/veh	12.9	15.7	11.3	28.2	14.7	13.4	15.5	12.6	134.9
HCM Lane LOS	B	C	B	D	B	B	C	B	F
HCM 95th-tile Q	0.1	1.1	0	4.9	1.4	0.3	1.2	0.7	22.9

Intersection	
Intersection Delay, s/veh	13.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	147	127	28	62	111	2	1	39	5	11	88	115
Future Vol, veh/h	147	127	28	62	111	2	1	39	5	11	88	115
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles, %	4	2	2	2	2	2	2	13	2	11	7	2
Mvmt Flow	201	174	38	85	152	3	1	53	7	15	121	158
Number of Lanes	1	1	0	1	1	0	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	2
HCM Control Delay, s/veh	13.6	12.2	11.4	15.7
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	100%	0%	0%	82%	0%	98%	0%	43%
Vol Right, %	0%	0%	100%	0%	18%	0%	2%	0%	57%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1	39	5	147	155	62	113	11	203
LT Vol	1	0	0	147	0	62	0	11	0
Through Vol	0	39	0	0	127	0	111	0	88
RT Vol	0	0	5	0	28	0	2	0	115
Lane Flow Rate	1	53	7	201	212	85	155	15	278
Geometry Grp	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.003	0.116	0.013	0.393	0.375	0.174	0.295	0.032	0.507
Departure Headway (Hd)	8.161	7.84	6.932	7.02	6.354	7.368	6.85	7.553	6.57
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	441	460	519	509	563	484	520	471	545
Service Time	5.861	5.54	4.632	4.803	4.136	5.162	4.643	5.342	4.359
HCM Lane V/C Ratio	0.002	0.115	0.013	0.395	0.377	0.176	0.298	0.032	0.51
HCM Control Delay, s/veh	10.9	11.6	9.7	14.3	12.9	11.7	12.5	10.6	16
HCM Lane LOS	B	B	A	B	B	B	B	B	C
HCM 95th-tile Q	0	0.4	0	1.9	1.7	0.6	1.2	0.1	2.8

Intersection	
Intersection Delay, s/veh	64.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	411	156	24	23	105	16	16	301	39	67	213	280
Future Vol, veh/h	411	156	24	23	105	16	16	301	39	67	213	280
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	8	2	2	2	2	2	15	4	2	9	5	6
Mvmt Flow	457	173	27	26	117	18	18	334	43	74	237	311
Number of Lanes	1	1	0	1	1	0	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay, s/veh	116.5	19.8	51.8	29.2
HCM LOS	F	C	F	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	87%	0%	87%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	13%	0%	13%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	301	39	411	180	23	121	67	213	280
LT Vol	16	0	0	411	0	23	0	67	0	0
Through Vol	0	301	0	0	156	0	105	0	213	0
RT Vol	0	0	39	0	24	0	16	0	0	280
Lane Flow Rate	18	334	43	457	200	26	134	74	237	311
Geometry Grp	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.051	0.898	0.108	1.24	0.504	0.078	0.389	0.203	0.608	0.741
Departure Headway (Hd)	11.083	10.363	9.593	9.775	9.067	11.664	11.05	10.524	9.929	9.212
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	325	351	376	370	396	309	328	343	367	395
Service Time	8.783	8.063	7.293	7.574	6.866	9.364	8.75	8.224	7.629	6.912
HCM Lane V/C Ratio	0.055	0.952	0.114	1.235	0.505	0.084	0.409	0.216	0.646	0.787
HCM Control Delay, s/veh	14.4	58.8	13.5	158.4	20.8	15.3	20.6	15.9	26.9	34.1
HCM Lane LOS	B	F	B	F	C	C	C	C	D	D
HCM 95th-tile Q	0.2	8.8	0.4	19.6	2.7	0.3	1.8	0.7	3.8	5.9

Intersection	
Intersection Delay, s/veh	19.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	278	129	13	39	106	15	9	105	7	77	257	324
Future Vol, veh/h	278	129	13	39	106	15	9	105	7	77	257	324
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	7	2	2	2	3	17	14	17	2	5	6	2
Mvmt Flow	293	136	14	41	112	16	9	111	7	81	271	341
Number of Lanes	1	1	0	1	1	0	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay, s/veh	22.4	14.3	14.9	19.6
HCM LOS	C	B	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	91%	0%	88%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	9%	0%	12%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	105	7	278	142	39	121	77	257	324
LT Vol	9	0	0	278	0	39	0	77	0	0
Through Vol	0	105	0	0	129	0	106	0	257	0
RT Vol	0	0	7	0	13	0	15	0	0	324
Lane Flow Rate	9	111	7	293	149	41	127	81	271	341
Geometry Grp	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.025	0.279	0.017	0.675	0.318	0.103	0.299	0.181	0.568	0.642
Departure Headway (Hd)	9.559	9.095	8.107	8.302	7.649	9.042	8.465	8.055	7.56	6.773
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	374	393	440	436	469	395	423	445	476	532
Service Time	7.342	6.877	5.889	6.062	5.409	6.818	6.241	5.812	5.317	4.53
HCM Lane V/C Ratio	0.024	0.282	0.016	0.672	0.318	0.104	0.3	0.182	0.569	0.641
HCM Control Delay, s/veh	12.6	15.4	11	26.7	14	12.9	14.8	12.6	19.9	21
HCM Lane LOS	B	C	B	D	B	B	B	B	C	C
HCM 95th-tile Q	0.1	1.1	0.1	4.9	1.4	0.3	1.2	0.7	3.5	4.5

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	147	127	28	62	111	2	1	39	5	11	88	115
Future Vol, veh/h	147	127	28	62	111	2	1	39	5	11	88	115
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles, %	4	2	2	2	2	2	2	13	2	11	7	2
Mvmt Flow	201	174	38	85	152	3	1	53	7	15	121	158
Number of Lanes	1	1	0	1	1	0	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay, s/veh	13.2	12	11.2	11.4
HCM LOS	B	B	B	B

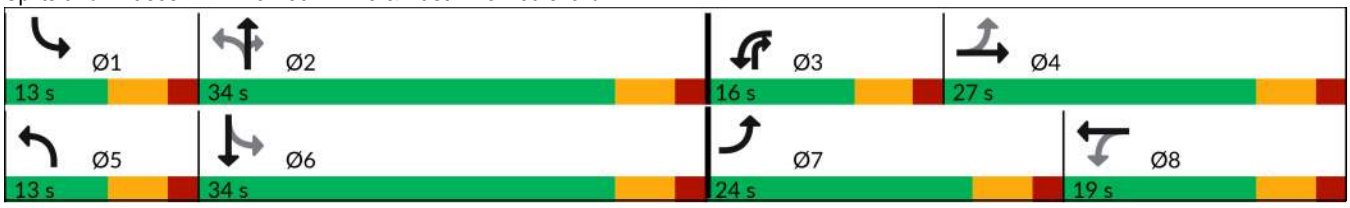
Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	82%	0%	98%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	18%	0%	2%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1	39	5	147	155	62	113	11	88	115
LT Vol	1	0	0	147	0	62	0	11	0	0
Through Vol	0	39	0	0	127	0	111	0	88	0
RT Vol	0	0	5	0	28	0	2	0	0	115
Lane Flow Rate	1	53	7	201	212	85	155	15	121	158
Geometry Grp	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.003	0.113	0.013	0.384	0.366	0.17	0.288	0.031	0.232	0.269
Departure Headway (Hd)	7.956	7.636	6.728	6.869	6.207	7.205	6.69	7.521	6.942	6.142
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	447	466	528	522	578	496	536	474	515	581
Service Time	5.749	5.428	4.519	4.63	3.967	4.973	4.458	5.293	4.714	3.914
HCM Lane V/C Ratio	0.002	0.114	0.013	0.385	0.367	0.171	0.289	0.032	0.235	0.272
HCM Control Delay, s/veh	10.8	11.4	9.6	13.9	12.5	11.5	12.2	10.5	11.8	11.2
HCM Lane LOS	B	B	A	B	B	B	B	B	B	B
HCM 95th-tile Q	0	0.4	0	1.8	1.7	0.6	1.2	0.1	0.9	1.1

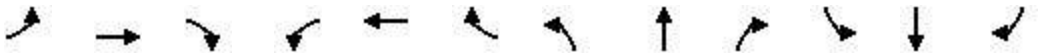
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	411	156	23	105	16	301	39	67	213
Future Volume (vph)	411	156	23	105	16	301	39	67	213
Lane Group Flow (vph)	457	200	26	135	18	334	43	74	548
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	7	4	3	8	5	2	3	1	6
Permitted Phases	4		8		2		2	6	
Detector Phase	7	4	3	8	5	2	3	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	15.0	7.0	7.0	15.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	21.0	13.0	13.0	21.0
Total Split (s)	24.0	27.0	16.0	19.0	13.0	34.0	16.0	13.0	34.0
Total Split (%)	26.7%	30.0%	17.8%	21.1%	14.4%	37.8%	17.8%	14.4%	37.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	None	None	None
v/c Ratio	0.83	0.31	0.08	0.55	0.08	0.63	0.05	0.22	0.86
Control Delay (s/veh)	35.6	24.3	17.4	41.6	14.8	32.2	0.1	16.1	38.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	35.6	24.3	17.4	41.6	14.8	32.2	0.1	16.1	38.3
Queue Length 50th (ft)	168	77	7	60	5	153	0	22	197
Queue Length 95th (ft)	#322	154	24	125	17	247	0	48	#486
Internal Link Dist (ft)		1091		1197		182			656
Turn Bay Length (ft)	150		150		100		100	150	
Base Capacity (vph)	547	629	377	305	212	646	869	328	655
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.32	0.07	0.44	0.08	0.52	0.05	0.23	0.84

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 80.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Vo Tech Drive & East Pike Boulevard





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	411	156	24	23	105	16	16	301	39	67	213	280
Future Volume (veh/h)	411	156	24	23	105	16	16	301	39	67	213	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1870	1870	1870	1870	1870	1678	1841	1870	1767	1826	1811
Adj Flow Rate, veh/h	457	173	27	26	117	18	18	334	43	74	237	311
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	8	2	2	2	2	2	15	4	2	9	5	6
Cap, veh/h	504	451	70	276	158	24	156	564	546	353	249	327
Arrive On Green	0.22	0.29	0.29	0.04	0.10	0.10	0.03	0.31	0.31	0.07	0.35	0.35
Sat Flow, veh/h	1697	1579	247	1781	1583	244	1598	1841	1585	1682	716	940
Grp Volume(v), veh/h	457	0	200	26	0	135	18	334	43	74	0	548
Grp Sat Flow(s),veh/h/ln	1697	0	1826	1781	0	1827	1598	1841	1585	1682	0	1657
Q Serve(g_s), s	18.0	0.0	7.0	1.0	0.0	5.8	0.6	12.3	1.5	2.3	0.0	25.9
Cycle Q Clear(g_c), s	18.0	0.0	7.0	1.0	0.0	5.8	0.6	12.3	1.5	2.3	0.0	25.9
Prop In Lane	1.00		0.14	1.00		0.13	1.00		1.00	1.00		0.57
Lane Grp Cap(c), veh/h	504	0	522	276	0	183	156	564	546	353	0	576
V/C Ratio(X)	0.91	0.00	0.38	0.09	0.00	0.74	0.12	0.59	0.08	0.21	0.00	0.95
Avail Cap(c_a), veh/h	504	0	522	430	0	296	249	642	614	381	0	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.2	0.0	23.0	30.2	0.0	35.1	21.2	23.6	17.7	17.3	0.0	25.5
Incr Delay (d2), s/veh	20.1	0.0	0.5	0.1	0.0	5.8	0.3	1.1	0.1	0.3	0.0	25.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.3	0.0	5.4	0.8	0.0	5.0	0.4	9.1	0.9	1.6	0.0	19.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.3	0.0	23.4	30.4	0.0	40.9	21.5	24.7	17.8	17.6	0.0	51.2
LnGrp LOS	D		C	C		D	C	C	B	B		D
Approach Vol, veh/h		657			161			395			622	
Approach Delay, s/veh		38.0			39.2			23.8			47.2	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	30.6	9.1	28.9	8.3	33.9	24.0	14.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	7.0	28.0	10.0	21.0	7.0	28.0	18.0	13.0
Max Q Clear Time (g_c+I1), s	4.3	14.3	3.0	9.0	2.6	27.9	20.0	7.8
Green Ext Time (p_c), s	0.0	1.8	0.0	0.8	0.0	0.1	0.0	0.3

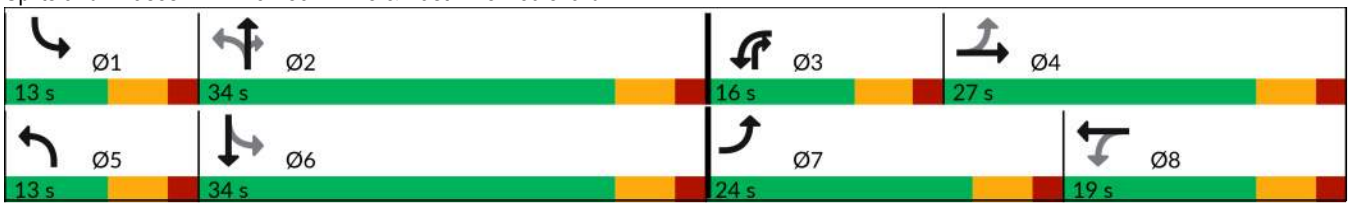
Intersection Summary	
HCM 7th Control Delay, s/veh	38.2
HCM 7th LOS	D

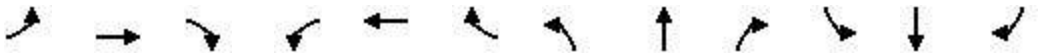
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	278	129	39	106	9	105	7	77	257
Future Volume (vph)	278	129	39	106	9	105	7	77	257
Lane Group Flow (vph)	293	150	41	128	9	111	7	81	612
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	7	4	3	8	5	2	3	1	6
Permitted Phases	4		8		2		2	6	
Detector Phase	7	4	3	8	5	2	3	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	15.0	7.0	7.0	15.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	21.0	13.0	13.0	21.0
Total Split (s)	24.0	27.0	16.0	19.0	13.0	34.0	16.0	13.0	34.0
Total Split (%)	26.7%	30.0%	17.8%	21.1%	14.4%	37.8%	17.8%	14.4%	37.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	None	None	None
v/c Ratio	0.59	0.27	0.12	0.50	0.03	0.23	0.00	0.15	0.84
Control Delay (s/veh)	21.1	22.9	15.9	37.2	14.6	25.7	0.0	15.4	33.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.1	22.9	15.9	37.2	14.6	25.7	0.0	15.4	33.9
Queue Length 50th (ft)	84	51	10	50	2	42	0	22	217
Queue Length 95th (ft)	185	120	34	120	11	88	0	52	#567
Internal Link Dist (ft)		1091		1197		182			656
Turn Bay Length (ft)	150		150		100		100	150	
Base Capacity (vph)	555	620	394	340	233	657	921	512	722
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.24	0.10	0.38	0.04	0.17	0.01	0.16	0.85

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 71.5
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Vo Tech Drive & East Pike Boulevard





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	129	13	39	106	15	9	105	7	77	257	324
Future Volume (veh/h)	278	129	13	39	106	15	9	105	7	77	257	324
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1870	1870	1870	1856	1648	1693	1648	1870	1826	1811	1870
Adj Flow Rate, veh/h	293	136	14	41	112	16	9	111	7	81	271	341
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	2	2	2	3	17	14	17	2	5	6	2
Cap, veh/h	438	370	38	317	157	22	135	528	593	569	278	350
Arrive On Green	0.18	0.22	0.22	0.05	0.10	0.10	0.02	0.32	0.32	0.08	0.38	0.38
Sat Flow, veh/h	1711	1668	172	1781	1588	227	1612	1648	1585	1739	729	917
Grp Volume(v), veh/h	293	0	150	41	0	128	9	111	7	81	0	612
Grp Sat Flow(s),veh/h/ln	1711	0	1839	1781	0	1815	1612	1648	1585	1739	0	1646
Q Serve(g_s), s	10.6	0.0	5.1	1.5	0.0	5.0	0.3	3.6	0.2	2.1	0.0	26.9
Cycle Q Clear(g_c), s	10.6	0.0	5.1	1.5	0.0	5.0	0.3	3.6	0.2	2.1	0.0	26.9
Prop In Lane	1.00		0.09	1.00		0.13	1.00		1.00	1.00		0.56
Lane Grp Cap(c), veh/h	438	0	408	317	0	180	135	528	593	569	0	628
V/C Ratio(X)	0.67	0.00	0.37	0.13	0.00	0.71	0.07	0.21	0.01	0.14	0.00	0.98
Avail Cap(c_a), veh/h	555	0	526	463	0	321	263	628	690	601	0	628
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	24.2	27.0	0.0	32.1	19.7	18.2	14.4	13.8	0.0	22.4
Incr Delay (d2), s/veh	2.1	0.0	0.6	0.2	0.0	5.1	0.2	0.2	0.0	0.1	0.0	29.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.6	0.0	3.9	1.1	0.0	4.3	0.2	2.4	0.1	1.4	0.0	20.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.1	0.0	24.8	27.1	0.0	37.2	19.9	18.4	14.4	13.9	0.0	52.0
LnGrp LOS	C		C	C		D	B	B	B	B		D
Approach Vol, veh/h		443			169			127			693	
Approach Delay, s/veh		24.3			34.8			18.3			47.5	
Approach LOS		C			C			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	29.5	10.0	22.3	7.2	34.0	19.0	13.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	7.0	28.0	10.0	21.0	7.0	28.0	18.0	13.0
Max Q Clear Time (g_c+I1), s	4.1	5.6	3.5	7.1	2.3	28.9	12.6	7.0
Green Ext Time (p_c), s	0.0	0.6	0.0	0.6	0.0	0.0	0.4	0.3

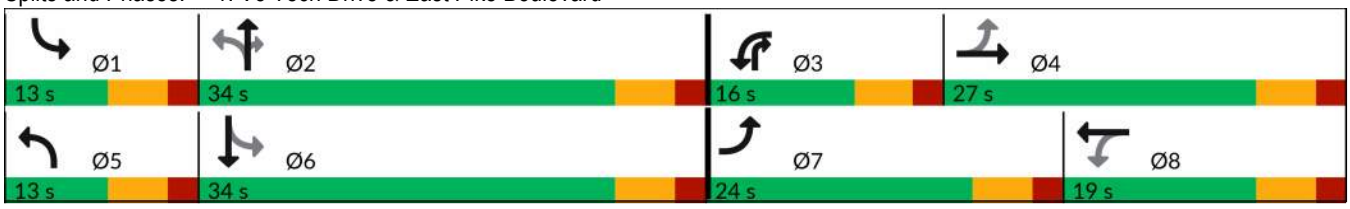
Intersection Summary	
HCM 7th Control Delay, s/veh	36.2
HCM 7th LOS	D

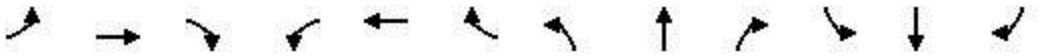
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	147	127	62	111	1	39	5	11	88
Future Volume (vph)	147	127	62	111	1	39	5	11	88
Lane Group Flow (vph)	201	212	85	155	1	53	7	15	279
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases	7	4	3	8	5	2	3	1	6
Permitted Phases	4		8		2		2	6	
Detector Phase	7	4	3	8	5	2	3	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	15.0	7.0	7.0	15.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	21.0	13.0	13.0	21.0
Total Split (s)	24.0	27.0	16.0	19.0	13.0	34.0	16.0	13.0	34.0
Total Split (%)	26.7%	30.0%	17.8%	21.1%	14.4%	37.8%	17.8%	14.4%	37.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	None	None	None
v/c Ratio	0.40	0.40	0.20	0.45	0.00	0.10	0.00	0.03	0.48
Control Delay (s/veh)	13.4	21.1	12.2	28.8	14.0	18.7	0.0	14.4	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.4	21.1	12.2	28.8	14.0	18.7	0.0	14.4	17.5
Queue Length 50th (ft)	33	53	13	43	0	12	0	3	50
Queue Length 95th (ft)	88	121	42	105	3	39	0	13	119
Internal Link Dist (ft)		1091		1197		182			656
Turn Bay Length (ft)	150		150		100		100	150	
Base Capacity (vph)	706	771	511	474	425	920	1057	459	948
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.27	0.17	0.33	0.00	0.06	0.01	0.03	0.29

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 55.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Vo Tech Drive & East Pike Boulevard





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	127	28	62	111	2	1	39	5	11	88	115
Future Volume (veh/h)	147	127	28	62	111	2	1	39	5	11	88	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1870	1870	1870	1870	1870	1870	1707	1870	1737	1796	1870
Adj Flow Rate, veh/h	201	174	38	85	152	3	1	53	7	15	121	158
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	4	2	2	2	2	2	2	13	2	11	7	2
Cap, veh/h	425	250	55	365	234	5	303	466	580	487	210	274
Arrive On Green	0.13	0.17	0.17	0.09	0.13	0.13	0.00	0.27	0.27	0.03	0.30	0.30
Sat Flow, veh/h	1753	1487	325	1781	1828	36	1781	1707	1585	1654	707	923
Grp Volume(v), veh/h	201	0	212	85	0	155	1	53	7	15	0	279
Grp Sat Flow(s),veh/h/ln	1753	0	1812	1781	0	1864	1781	1707	1585	1654	0	1630
Q Serve(g_s), s	5.2	0.0	6.0	2.1	0.0	4.3	0.0	1.3	0.2	0.4	0.0	7.9
Cycle Q Clear(g_c), s	5.2	0.0	6.0	2.1	0.0	4.3	0.0	1.3	0.2	0.4	0.0	7.9
Prop In Lane	1.00		0.18	1.00		0.02	1.00		1.00	1.00		0.57
Lane Grp Cap(c), veh/h	425	0	305	365	0	239	303	466	580	487	0	485
V/C Ratio(X)	0.47	0.00	0.70	0.23	0.00	0.65	0.00	0.11	0.01	0.03	0.00	0.58
Avail Cap(c_a), veh/h	769	0	697	526	0	444	528	876	960	656	0	836
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	21.4	17.5	0.0	22.6	14.8	14.9	11.0	13.5	0.0	16.3
Incr Delay (d2), s/veh	0.8	0.0	2.9	0.3	0.0	3.0	0.0	0.1	0.0	0.0	0.0	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.6	0.0	4.6	1.5	0.0	3.5	0.0	0.8	0.1	0.2	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.9	0.0	24.2	17.9	0.0	25.6	14.8	15.0	11.0	13.6	0.0	17.3
LnGrp LOS	B		C	B		C	B	B	B	B		B
Approach Vol, veh/h		413			240			61			294	
Approach Delay, s/veh		21.1			22.9			14.5			17.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	20.9	11.1	15.2	6.1	22.2	13.3	13.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	7.0	28.0	10.0	21.0	7.0	28.0	18.0	13.0
Max Q Clear Time (g_c+I1), s	2.4	3.3	4.1	8.0	2.0	9.9	7.2	6.3
Green Ext Time (p_c), s	0.0	0.2	0.1	0.9	0.0	1.6	0.4	0.4

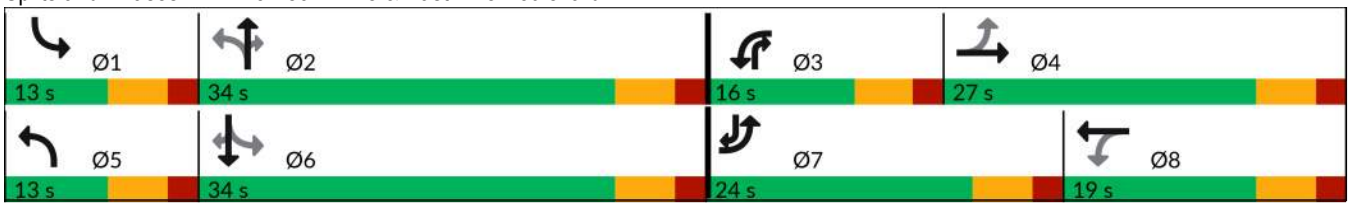
Intersection Summary	
HCM 7th Control Delay, s/veh	20.0
HCM 7th LOS	B

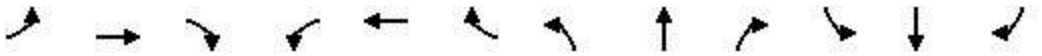
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	411	156	23	105	16	301	39	67	213	280
Future Volume (vph)	411	156	23	105	16	301	39	67	213	280
Lane Group Flow (vph)	457	200	26	135	18	334	43	74	237	311
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4	3	8	5	2	3	1	6	7
Permitted Phases	4		8		2		2	6		6
Detector Phase	7	4	3	8	5	2	3	1	6	7
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	15.0	7.0	7.0	15.0	7.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	21.0	13.0	13.0	21.0	13.0
Total Split (s)	24.0	27.0	16.0	19.0	13.0	34.0	16.0	13.0	34.0	24.0
Total Split (%)	26.7%	30.0%	17.8%	21.1%	14.4%	37.8%	17.8%	14.4%	37.8%	26.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	None	None	None	None
v/c Ratio	0.83	0.32	0.08	0.50	0.04	0.66	0.05	0.22	0.38	0.26
Control Delay (s/veh)	34.8	24.2	16.9	39.4	14.4	33.5	0.1	16.3	23.5	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.8	24.2	16.9	39.4	14.4	33.5	0.1	16.3	23.5	1.7
Queue Length 50th (ft)	168	77	7	60	5	153	0	22	77	0
Queue Length 95th (ft)	#344	154	24	125	17	247	0	48	173	33
Internal Link Dist (ft)		1091		1197		182			656	
Turn Bay Length (ft)	150		150		100		100	150		185
Base Capacity (vph)	551	637	383	343	404	728	888	331	748	1143
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.31	0.07	0.39	0.04	0.46	0.05	0.22	0.32	0.27

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 74.7
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Vo Tech Drive & East Pike Boulevard





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	411	156	24	23	105	16	16	301	39	67	213	280
Future Volume (veh/h)	411	156	24	23	105	16	16	301	39	67	213	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1870	1870	1870	1870	1870	1678	1841	1870	1767	1826	1811
Adj Flow Rate, veh/h	457	173	27	26	117	18	18	334	43	74	237	311
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	8	2	2	2	2	2	15	4	2	9	5	6
Cap, veh/h	573	503	79	295	164	25	275	415	420	281	496	808
Arrive On Green	0.25	0.32	0.32	0.04	0.10	0.10	0.03	0.23	0.23	0.08	0.27	0.27
Sat Flow, veh/h	1697	1579	247	1781	1583	244	1598	1841	1585	1682	1826	1535
Grp Volume(v), veh/h	457	0	200	26	0	135	18	334	43	74	237	311
Grp Sat Flow(s),veh/h/ln	1697	0	1826	1781	0	1827	1598	1841	1585	1682	1826	1535
Q Serve(g_s), s	15.9	0.0	5.9	0.9	0.0	5.0	0.6	12.1	1.4	2.3	7.7	8.5
Cycle Q Clear(g_c), s	15.9	0.0	5.9	0.9	0.0	5.0	0.6	12.1	1.4	2.3	7.7	8.5
Prop In Lane	1.00		0.14	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	573	0	582	295	0	190	275	415	420	281	496	808
V/C Ratio(X)	0.80	0.00	0.34	0.09	0.00	0.71	0.07	0.80	0.10	0.26	0.48	0.38
Avail Cap(c_a), veh/h	574	0	582	477	0	337	386	731	692	320	725	1000
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	0.0	18.4	26.3	0.0	30.6	19.9	25.9	19.6	19.1	21.5	9.9
Incr Delay (d2), s/veh	7.8	0.0	0.3	0.1	0.0	4.9	0.1	3.7	0.1	0.5	0.7	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.2	0.0	4.3	0.7	0.0	4.3	0.4	9.3	0.9	1.6	5.8	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.5	0.0	18.7	26.4	0.0	35.5	20.0	29.6	19.7	19.6	22.2	10.2
LnGrp LOS	C		B	C		D	C	C	B	B	C	B
Approach Vol, veh/h		657			161			395			622	
Approach Delay, s/veh		24.1			34.0			28.1			15.9	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	21.9	8.8	28.5	8.1	25.2	24.0	13.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	7.0	28.0	10.0	21.0	7.0	28.0	18.0	13.0
Max Q Clear Time (g_c+I1), s	4.3	14.1	2.9	7.9	2.6	10.5	17.9	7.0
Green Ext Time (p_c), s	0.0	1.8	0.0	0.8	0.0	2.3	0.0	0.3

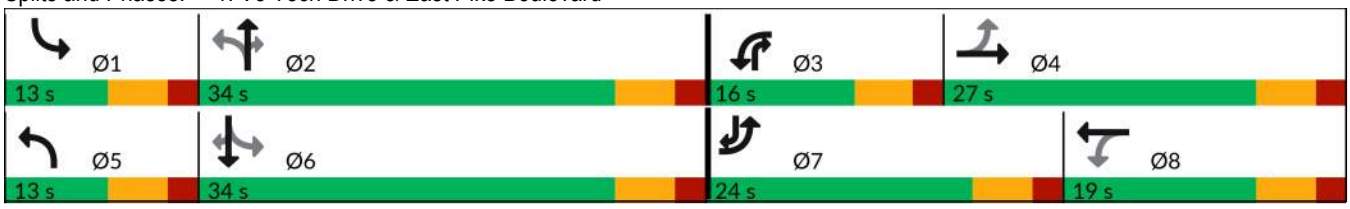
Intersection Summary	
HCM 7th Control Delay, s/veh	23.0
HCM 7th LOS	C

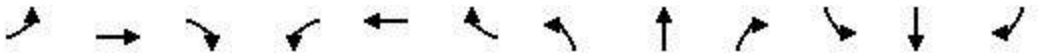
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	278	129	39	106	9	105	7	77	257	324
Future Volume (vph)	278	129	39	106	9	105	7	77	257	324
Lane Group Flow (vph)	293	150	41	128	9	111	7	81	271	341
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4	3	8	5	2	3	1	6	7
Permitted Phases	4		8		2		2	6		6
Detector Phase	7	4	3	8	5	2	3	1	6	7
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	15.0	7.0	7.0	15.0	7.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	21.0	13.0	13.0	21.0	13.0
Total Split (s)	24.0	27.0	16.0	19.0	13.0	34.0	16.0	13.0	34.0	24.0
Total Split (%)	26.7%	30.0%	17.8%	21.1%	14.4%	37.8%	17.8%	14.4%	37.8%	26.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	None	None	None	None
v/c Ratio	0.57	0.26	0.11	0.46	0.02	0.26	0.00	0.16	0.40	0.27
Control Delay (s/veh)	19.5	22.3	15.1	35.4	14.7	26.5	0.0	15.8	21.6	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.5	22.3	15.1	35.4	14.7	26.5	0.0	15.8	21.6	1.6
Queue Length 50th (ft)	84	51	10	50	2	42	0	22	83	0
Queue Length 95th (ft)	172	114	31	115	11	89	0	52	201	35
Internal Link Dist (ft)		1091		1197		182			656	
Turn Bay Length (ft)	150		150		100		100	150		185
Base Capacity (vph)	604	684	425	377	400	731	910	480	807	1265
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.22	0.10	0.34	0.02	0.15	0.01	0.17	0.34	0.27

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 67.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Vo Tech Drive & East Pike Boulevard





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	129	13	39	106	15	9	105	7	77	257	324
Future Volume (veh/h)	278	129	13	39	106	15	9	105	7	77	257	324
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1870	1870	1870	1856	1648	1693	1648	1870	1826	1811	1870
Adj Flow Rate, veh/h	293	136	14	41	112	16	9	111	7	81	271	341
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	2	2	2	3	17	14	17	2	5	6	2
Cap, veh/h	476	390	40	355	177	25	278	396	471	493	559	773
Arrive On Green	0.18	0.23	0.23	0.06	0.11	0.11	0.02	0.24	0.24	0.08	0.31	0.31
Sat Flow, veh/h	1711	1668	172	1781	1588	227	1612	1648	1585	1739	1811	1585
Grp Volume(v), veh/h	293	0	150	41	0	128	9	111	7	81	271	341
Grp Sat Flow(s),veh/h/ln	1711	0	1839	1781	0	1815	1612	1648	1585	1739	1811	1585
Q Serve(g_s), s	8.7	0.0	4.2	1.2	0.0	4.2	0.3	3.4	0.2	2.0	7.6	8.8
Cycle Q Clear(g_c), s	8.7	0.0	4.2	1.2	0.0	4.2	0.3	3.4	0.2	2.0	7.6	8.8
Prop In Lane	1.00		0.09	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	476	0	430	355	0	203	278	396	471	493	559	773
V/C Ratio(X)	0.62	0.00	0.35	0.12	0.00	0.63	0.03	0.28	0.01	0.16	0.48	0.44
Avail Cap(c_a), veh/h	662	0	619	539	0	378	433	739	801	541	812	995
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.7	0.0	20.0	22.1	0.0	26.5	17.5	19.3	15.5	14.9	17.6	10.4
Incr Delay (d2), s/veh	1.3	0.0	0.5	0.1	0.0	3.2	0.0	0.4	0.0	0.2	0.7	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.9	0.0	3.2	0.9	0.0	3.4	0.2	2.3	0.1	1.4	5.4	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.0	0.0	20.4	22.2	0.0	29.7	17.5	19.7	15.5	15.0	18.2	10.8
LnGrp LOS	B		C	C		C	B	B	B	B	B	B
Approach Vol, veh/h		443			169			127			693	
Approach Delay, s/veh		19.5			27.9			19.3			14.2	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	21.0	9.6	20.6	7.0	25.3	17.2	13.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	7.0	28.0	10.0	21.0	7.0	28.0	18.0	13.0
Max Q Clear Time (g_c+I1), s	4.0	5.4	3.2	6.2	2.3	10.8	10.7	6.2
Green Ext Time (p_c), s	0.0	0.6	0.0	0.6	0.0	2.7	0.5	0.3

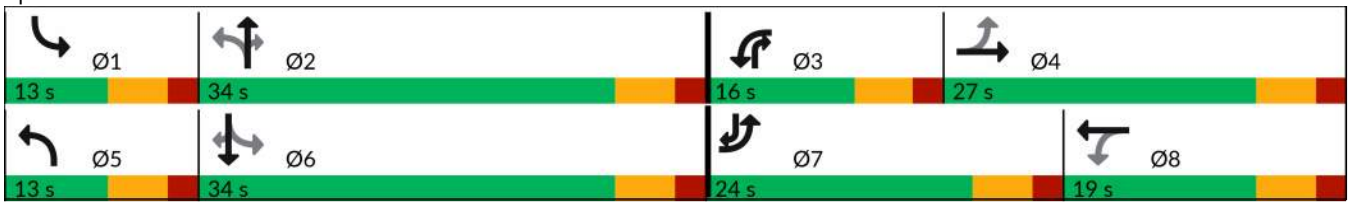
Intersection Summary	
HCM 7th Control Delay, s/veh	17.9
HCM 7th LOS	B

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	147	127	62	111	1	39	5	11	88	115
Future Volume (vph)	147	127	62	111	1	39	5	11	88	115
Lane Group Flow (vph)	201	212	85	155	1	53	7	15	121	158
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4	3	8	5	2	3	1	6	7
Permitted Phases	4		8		2		2	6		6
Detector Phase	7	4	3	8	5	2	3	1	6	7
Switch Phase										
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	15.0	7.0	7.0	15.0	7.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	21.0	13.0	13.0	21.0	13.0
Total Split (s)	24.0	27.0	16.0	19.0	13.0	34.0	16.0	13.0	34.0	24.0
Total Split (%)	26.7%	30.0%	17.8%	21.1%	14.4%	37.8%	17.8%	14.4%	37.8%	26.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	None	None	None	None
v/c Ratio	0.35	0.34	0.16	0.34	0.00	0.07	0.00	0.03	0.16	0.16
Control Delay (s/veh)	11.2	18.8	10.6	24.8	14.0	19.1	0.0	14.7	19.7	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	11.2	18.8	10.6	24.8	14.0	19.1	0.0	14.7	19.7	2.3
Queue Length 50th (ft)	33	53	13	43	0	12	0	3	28	0
Queue Length 95th (ft)	74	107	36	94	3	39	0	12	74	14
Internal Link Dist (ft)		1091		1197		182			656	
Turn Bay Length (ft)	150		150		100		100	150		185
Base Capacity (vph)	878	926	658	670	510	1002	987	479	1058	1229
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.23	0.13	0.23	0.00	0.05	0.01	0.03	0.11	0.13

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 49.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Vo Tech Drive & East Pike Boulevard



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	127	28	62	111	2	1	39	5	11	88	115
Future Volume (veh/h)	147	127	28	62	111	2	1	39	5	11	88	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1870	1870	1870	1870	1870	1870	1707	1870	1737	1796	1870
Adj Flow Rate, veh/h	201	174	38	85	152	3	1	53	7	15	121	158
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	4	2	2	2	2	2	2	13	2	11	7	2
Cap, veh/h	425	250	55	365	234	5	407	466	580	487	534	682
Arrive On Green	0.13	0.17	0.17	0.09	0.13	0.13	0.00	0.27	0.27	0.03	0.30	0.30
Sat Flow, veh/h	1753	1487	325	1781	1828	36	1781	1707	1585	1654	1796	1585
Grp Volume(v), veh/h	201	0	212	85	0	155	1	53	7	15	121	158
Grp Sat Flow(s),veh/h/ln	1753	0	1812	1781	0	1864	1781	1707	1585	1654	1796	1585
Q Serve(g_s), s	5.2	0.0	6.0	2.1	0.0	4.3	0.0	1.3	0.2	0.4	2.8	3.4
Cycle Q Clear(g_c), s	5.2	0.0	6.0	2.1	0.0	4.3	0.0	1.3	0.2	0.4	2.8	3.4
Prop In Lane	1.00		0.18	1.00		0.02	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	425	0	305	365	0	239	407	466	580	487	534	682
V/C Ratio(X)	0.47	0.00	0.70	0.23	0.00	0.65	0.00	0.11	0.01	0.03	0.23	0.23
Avail Cap(c_a), veh/h	769	0	697	526	0	444	632	876	960	656	921	1024
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	21.4	17.5	0.0	22.6	14.4	14.9	11.0	13.5	14.5	9.8
Incr Delay (d2), s/veh	0.8	0.0	2.9	0.3	0.0	3.0	0.0	0.1	0.0	0.0	0.2	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.6	0.0	4.6	1.5	0.0	3.5	0.0	0.8	0.1	0.2	1.9	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.9	0.0	24.2	17.9	0.0	25.6	14.4	15.0	11.0	13.6	14.7	10.0
LnGrp LOS	B		C	B		C	B	B	B	B	B	B
Approach Vol, veh/h		413			240			61			294	
Approach Delay, s/veh		21.1			22.9			14.5			12.1	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	20.9	11.1	15.2	6.1	22.2	13.3	13.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	7.0	28.0	10.0	21.0	7.0	28.0	18.0	13.0
Max Q Clear Time (g_c+I1), s	2.4	3.3	4.1	8.0	2.0	5.4	7.2	6.3
Green Ext Time (p_c), s	0.0	0.2	0.1	0.9	0.0	1.2	0.4	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	18.5
HCM 7th LOS	B

Intersection	
Intersection Delay, s/veh	14.8
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	657	161	395	622
Demand Flow Rate, veh/h	698	164	412	660
Vehicles Circulating, veh/h	357	862	751	167
Vehicles Exiting, veh/h	470	301	304	859
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	17.5	10.4	19.0	10.3
Approach LOS	C	B	C	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	698	164	412	660
Cap Entry Lane, veh/h	959	573	641	1164
Entry HV Adj Factor	0.941	0.980	0.958	0.943
Flow Entry, veh/h	657	161	395	622
Cap Entry, veh/h	902	561	614	1097
V/C Ratio	0.728	0.286	0.642	0.567
Control Delay, s/veh	17.5	10.4	19.0	10.3
LOS	C	B	C	B
95th %tile Queue, veh	7	1	5	4

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	443	169	127	693
Demand Flow Rate, veh/h	467	176	147	720
Vehicles Circulating, veh/h	414	454	538	167
Vehicles Exiting, veh/h	473	231	343	463
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	11.2	6.4	7.3	11.4
Approach LOS	B	A	A	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	467	176	147	720
Cap Entry Lane, veh/h	905	868	797	1164
Entry HV Adj Factor	0.949	0.958	0.865	0.962
Flow Entry, veh/h	443	169	127	693
Cap Entry, veh/h	859	832	689	1120
V/C Ratio	0.516	0.203	0.184	0.619
Control Delay, s/veh	11.2	6.4	7.3	11.4
LOS	B	A	A	B
95th %tile Queue, veh	3	1	1	4

Intersection	
Intersection Delay, s/veh	6.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	413	240	61	294
Demand Flow Rate, veh/h	425	245	68	307
Vehicles Circulating, veh/h	233	270	403	243
Vehicles Exiting, veh/h	317	201	255	272
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.5	5.7	5.1	6.3
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	425	245	68	307
Cap Entry Lane, veh/h	1088	1048	915	1077
Entry HV Adj Factor	0.971	0.979	0.898	0.956
Flow Entry, veh/h	413	240	61	294
Cap Entry, veh/h	1056	1026	822	1030
V/C Ratio	0.391	0.234	0.074	0.285
Control Delay, s/veh	7.5	5.7	5.1	6.3
LOS	A	A	A	A
95th %tile Queue, veh	2	1	0	1

Colliers Engineering & Design

Traffic Impact Study

Appendix G | FAA Coordination

Refer to:
Appendix G | FAA Coordination Report

Colliers
Engineering
& Design

Appendix O | Desktop Environmental Report

1.0 PROJECT AREA DESCRIPTION

1.1 VEGETATION COMMUNITIES AND LAND USE

The Project is located within the 34e Lower Rio Grande Valley Ecoregion as defined by the United States Environmental Protection Agency (EPA) Level IV Ecoregions. This ecoregion once supported dense, diverse grassland and shrub communities and low woodlands. However, mesquite, granjeno, and a variety of brush and shrub species invaded the landscape. Now, it is almost all in cropland, pasture, and urban land cover. The region is underlain by a mix of Quaternary clays and sands with some Miocene-age sediments of the Goliad Formation at the western edge. Mollisols are extensive, and the soils are deep, mostly clay loams and sandy clay loams. The freeze-free growing season is often over 320 days compared to 250-260 days along the northern Texas coastal area of Ecoregion 34a. Along with Ecoregion 34f, the Lower Rio Grande Valley contains important nesting grounds for the white-winged dove, a favored hunting species in southern Texas.

1.2 TOPOGRAPHY AND SOILS

The Project is located within the USGS 7.5-minute *Mercedes, TX* Topographic Map Quadrangle. Topography within the Project Area consists of flat plains (**Appendix A - Figure 1**). Elevation within the Project Area is consistently at 65 feet above mean sea level. Surface drainage from the Project Area trends westward.

The Natural Resource Conservation Service (NRCS) Web Soil Survey (WSS) (NRCS 2023) depicts two (2) soil unit within the Project Area. **Table 1** summarizes the mapped soil units and soil unit characteristics.

Table 1. NRCS Soil Unit and Description

Map Unit Symbol	Soil Description	Hydric (Y/N)	Acreage of Project Area	% of Project Area
28	Hidalgo sandy clay loam, 0 to 1 percent slopes	N	5.2	59.7
52	Raymondville clay loam, 0 to 1 percent slopes	N	3.5	40.3
		Total	**8.7**	**100%**

The mapped soil unit was not listed as being hydric and not likely to contain wetlands primarily due to the shallow seasonal high-watertable. The NRCS Soils Map (**Appendix A – Figure 1**) depicts 28 and 52 throughout the entirety of the Project Area.

1.3 SURFACE WATERS, FLOODPLAIN, AND WETLANDS

CED reviewed data from the United States Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI) and the USGS National Hydrology Dataset (NHD) for potential aquatic features mapped within the Project Area (USFWS 2021; USGS 2021). There are no mapped features found within the Project Area.

2.0 PROTECTED SPECIES ASSESSMENT

CED reviewed the USFWS Information, Planning, and Conservation (IPaC) System to identify federally listed threatened and endangered species (TES) and migratory bird species that have the potential to occur within the Project Area (USFWS 2025).

The resulting USFWS IPaC Resource List identified twelve (12) listed or proposed listed threatened and endangered species (**Appendix B**).

There is no USFWS designated critical habitat located within the Project Area. **Table 2** summarizes the determination of effect for federally listed species that potentially occur within the Project Area.

Table 2. Federally Protected Species Potentially Occurring within the Project Area

Common Name (Scientific Name)	Federal Status	Habitat Description (NatureServe 2025)	Habitat Determination
Birds			
Northern Aplomado Falcon (*Falco femoralis septentrionalis*)	LE	Habitat requirements are open rangelands and savannas, semiarid grasslands with scattered trees and shrubs. Availability of other bird species' nests is also a requirement.	No suitable habitat; **No Effect**
Red Knot (Calidris canutus rufa)	LT	The red knot uses different habitats for breeding, wintering, and migration. Tundra habitats that are elevated and sparely vegetated ridges or slopes are primary breeding habitat. Wintering and migration habitats consist of muddy or sandy coastal areas, such as the mouth of bays and estuaries, and tidal flats. This species is often adjacent to wetlands and lake edges for foraging.	No suitable habitat; **No Effect**
Piping Plover (Charadrius melodus)	LT	Breeding habitat comprises sandy upper beaches, especially where scattered grass tufts are present, and sparsely vegetated shores and islands of shallow lakes, ponds, rivers, and impoundments. Nests may also be built on sandy open flats among shells or cobble behind foredunes. Nonbreeding habitat comprises ocean beaches or sand and algal flats in protected bays.	No suitable habitat; **No Effect**
Cactus Ferruginous Pygmy-owl (Glaucidium brasilianum cactorum)	LT	Formerly common in coastal plain oak associations and Tamaulipan thornscrub of the lower Rio Grande valley region (mesquite, hackberry, oak, Texas ebony). Now the largest population is in coastal sand plains dominated by mixed live oak and honey mesquite forest. Nests usually in natural tree or columnar cactus cavity or abandoned woodpecker hole; reported sites 3.3-9 m above ground. May re-use old nest site. Has used fabricated nest boxes.	No suitable habitat; **No Effect**
Mammals			
Gulf Coast Jaguarundi (Puma yagouaroundi cacomitli)	LE	Habitat requirements are thick brushlands (patchy or continuous). Habitat near water is favored. Spends most of time on ground, though climbs well. Sleeping and birthing occur in a den in a hollow log, treefall, or thicket.	No suitable habitat; **No Effect**
Ocelot (Leopardus pardalis)	LE	Habitats with good cover; when active by day, tends to keep hidden in dense brush Inhabits dense chaparral thickets in Texas. Where not hunted, adapts well to disturbed habitats around villages; often uses man-made trails Mainly terrestrial but climbs, jumps, and swims well. Dens are in caves, hollow trees, thickets, or the spaces between the closed buttress roots of large trees; rarely climbs but sometimes may sleep on tree branch.	No suitable habitat; **No Effect**
Tricolored bat (Perimyotis subflavus	PE	These bats are associated with forested landscapes, where they forage near trees. Hibernation sites often are in caves, mines, or cavelike tunnels, also box culverts under highways, especially those near forest .Hibernating individuals perch singly, infrequently in small groups.	No suitable habitat; **No Effect**

LT - Federally Threatened; LE - Federally Endangered; PT - Proposed Threatened; PE - Proposed Endangered

Common Name (Scientific Name)	Federal Status	Habitat Description (NatureServe 2025)	Habitat Determination
Clams			
Salina Mucket (Potamilus metnecktayi)	PE	The Rio Grande and its tributaries in both Texas and Mexico have experienced dramatic environmental alterations throughout. Further, no living specimens have been documented in over 20 years. It is therefore impossible to clearly define habitat preferences or needs for this species other than a few peripheral deductions. It probably occurred in small to moderate size streams and rivers (no natural lakes occur within its range). Current absence in reservoirs within its range may suggest intolerance of impoundment. Recently collected shells and valves usually display signs of mechanical erosion suggesting specimens live in flowing waters in sand and gravel.	No suitable habitat; **No Effect**
Insects			
Monatch Butterfly (Danaus Plexippus)	PT	This subspecies is found in many habitats; the majority of breeding habitat occurs where milkweed plants grow, which includes grasslands, scrublands, croplands, roadsides, urban and suburban parks and gardens, and sand dune areas (USFWS 2024). Adults roost in trees near water; primarily in maple trees and conifers in the northern USA, and pecan and oak trees in the southern USA. Overwintering occurs in forests in Mexico, in oyamel fir trees, and in California, USA, in pine, cypress, sycamore, and non-native eucalyptus trees	No suitable habitat; **No Effect**
Flowering Plants			
Star Cactus (Astrophytum asterias)	LE	Currently, this species is found in sparse, fairly open brushland. It is most often found growing in gravelly, sometimes saline, clays or loams in the partial shade of other plants or rocks. The vegetation in these areas was originally a subtropical grassland or grassland/savannah, but fire suppression, overgrazing, and pasture improvement have converted it to thorny shrublands and stands of non-native pasture grass. It is uncertain what habitat this species occupied in the original grassland ecosystem.	No suitable habitat; **No Effect**
Texas Ayenia (Ayenia limitaris)	LE	Dense subtropical woodland communities at low elevations. The current Texas site is within the Texas Ebony-Anacua (Pithecellobium ebano-Ehretia anacua) plant community - a closed-canopy community of riparian terraces that once covered much of the Rio Grande delta, but is now reduced to remnant fragments surrounded by agricultural fields, pastures, and urban areas. The site was once an active floodplain, and the effects of hydrologic changes on Ayenia limitaris are unknown.	No suitable habitat; **No Effect**
Walker's Manioc (Manihot walkerae)	LE	Endemic to the Tamaulipan grassland-thornscrub community of the Lower Rio Grande Valley, where it occurs on sandy-loam soils underlain by caliche.	No suitable habitat; **No Effect**

LT - Federally Threatened; LE - Federally Endangered; PT - Proposed Threatened; PE - Proposed Endangered

3.0 CULTURAL RESOURCES CONSTRAINTS

The initial background review consisted of a cultural resources and literature review of the Project Area. A CED archaeologist reviewed the Texas Archaeological Sites Atlas (TASA), a restricted online database, for any previously recorded surveys, historic or prehistoric sites, and cemeteries located in or near the Project. Site files, relevant maps, the NRHP, aerial photographs, topographic maps, and the NRCS Web Soil Survey were examined for historical and environmental information related to the Project Area prior to the field investigation.

3.1 PREVIOUSLY CONDUCTED ARCHAEOLOGICAL SURVEYS

The background review revealed that the Project area has not been surveyed for cultural resources. However, there are four previously conducted cultural resources within a 1-mile (1.6-kilometer [km]) radius of the Project area. Three of the surveys were area surveys, and one was linear. More information on these surveys is listed in 3 (TASA 2025).

Table 3. Previously Conducted Cultural Resource Surveys within a 1-Mile (1.6-km) Radius of the Project Area.

Atlas Number	Survey Type	Project Name	Year	Investigating Firm / Sponsor	Distance to the Project APE
8500000636	Area	-	1989	Federal Aviation Administration	Abuts
8500061062	Area	-	2014	Gulf South Research Corporation	0.49 miles / 0.79 km
8500000637	Area	-	1982	EPA / Texas Department of Water Resources	0.53 miles / 0.85 km
8400001305	Linear	-	-	-	0.79 miles / 1.27 km

3.2 PREVIOUSLY RECORDED CULTURAL RESOURCES

The background review also revealed that there are no previously documented cultural resources located within or adjacent (within 300 feet [91.4 meters (m)] to the Project Area. However, there is one historical marker situated approximately 0.89 miles (1.43 km) southeast of the Project area. This marker was placed in 1989 for Reverend Pierre Yves Keralum. The marker reads, “Father Pierre Yves Keralum was born in France in 1817, and worked as both a cabinetmaker and an architect before entering the seminary at the age of 28. In 1852, he was ordained an Oblate of Mary Immaculate (O.M.I.) and sent to deep south Texas to assist in the missionary work of this rugged frontier territory. Father Keralum quickly put his architectural training to good use by designing Gothic-style churches throughout the border region. He is most remembered for his great devotion to the service of the many isolated “ranchitos” in the area. On a mission to the ranchitos in 1872, he disappeared, leaving his fate a mystery until ten years later, when his remains were discovered some four miles north of the present city of Mercedes. Apparently, the aging priest had become disoriented in the thick brush and was unable to find his way. In the end, Father Keralum gave his life, as well as his love, serving the people of the Rio Grande Delta” (TASA 2025).

4.0 CONCLUSION AND RECOMMENDATIONS

On behalf of the City of Weslaco, CED conducted a desktop review of environmental and cultural resources constraints within the Project Area. The Project proposes to construct traffic alternatives at the intersection of Vo Tech Drive and Pike Boulevard in Weslaco, Texas.

Based on this Environmental Desktop Assessment CED did not identify any potential constraints.

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Standardized Agenda Request Form

Date of Meeting: July 15, 2025	**Agenda Item No.** (to be assigned by CSO)**:** 2025-898
From:	
Subject: Discussion and presentation on group health insurance for city employees. (Staffed by Human Resources Department.)	
Background:	
Funding Source (budget code, if applicable)**:**	

Amount:	Term of Impact:	Identified in Current Budget:

Additional Action Prompted:	
If item previously considered, provide date and action by Commission:	
If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners:	
Advisory Review, if any (name of board/committee, date of action, recommendation)**:**	
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City Manager Comments:	
Staff Recommendation:	
Attachments, if any:	
Responsibilities upon Approval:	