

CITY OF WESLACO

A REGULAR MEETING OF THE PLANNING & ZONING COMMISSION

JUNE 1, 2022, 5:30P.M.

LEGISLATIVE CHAMBERS

255 S. KANSAS AVENUE

David Hernandez, Chairman

Lonnie Berry, Vice-Chairman

Miles Bullion, PZ Commissioner

Randy Summers, PZ Commissioner

Adrian Torres, PZ Commissioner

Jose Treviño, PZ Commissioner

Jim Forward, PZ Commissioner

**CITY OF WESLACO
PLANNING & ZONING COMMISSION
REGULAR MEETING
MAY 4, 2022**

On Wednesday, May 4, 2022, at 5:30 pm., the Planning and Zoning Commission of the City of Weslaco, Texas, convened in regular session in person

The following commissioners were present:

Lonnie Berry	Vice-Chairman
Randy Summers	Commissioner
Jim Forward	Commissioner
Miles Bullion	Commissioner
Jose Treviño	Commissioner

Rebekah de la Fuente	Planning Director
Kayla Arevalo	Secretary

Also, present were Mike Swinnea, Assistant Fire Marshall; Rolando Gonzalez, Building Official; Albert Aldana, City Engineer, and citizens.

I. CALL TO ORDER:

Vice-Chairman Berry called the meeting to order and welcomed everyone in the audience.

A. Roll Call/Establish a Quorum

Mrs. de la Fuente called the roll call noting that, Chairman Hernandez, Commissioner Bullion and Torres were absent at time of roll call, a quorum was established.

II. PUBLIC COMMENTS

There were no comments received.

III. APPROVAL OF MINUTES

A. April 6, 2022, Regular Meeting

Commissioner Summers made a motion to approve the minutes of April 6, 2022, seconded by Commissioner Forward. Motion carried.

IV. Public Hearing

A. Discussion and consideration to rezone 842 N. International. Also being a 6.17-acre tract of land out of Farm Tract 1030, West and Adams Tract Subdivision, Hidalgo County, Texas from R-1 One-family dwelling district to R-2 Duplex and Apartment District. Possible Action.

Mrs. de la Fuente stated that notice appeared in the Monitor on April 18, 2022, there were six (6) property owners notified within the 200-foot radius, no letters for or against the item were received. Staff recommended approval based on 2040 land use map.

Carlos Garza of AEC Engineering stated the property is being added to the property north of it for the proposed subdivision.

Commissioner Summers made a motion to close the Public Hearing, seconded by Commissioner Forward. Motion carried.

Commissioner Forward made a motion to approve the rezone request, seconded by Commissioner Treviño. Motion carried.

B. Discussion and consideration to approve Conditional Use Permit to obtain a Wine and Malt Beverage retail Dealer's On-Premises Permit at 623 W Business 83, also being Lot 5-8, West Tract Subdivision Weslaco, Hidalgo County, Texas Possible Action.

Mrs. de la Fuente stated that notice appeared in The Monitor on April 18, 2022, there were ten (10) property owners notified within the 200-foot radius, no letters for or against the item were received. Staff recommended approval.

Jose Lozano representative of Ayvaz Pizza stated the company took over the existing Pizza Hut and is changing the licenses to the new owners.

Commissioner Forward made a motion to close the Public Hearing, seconded by Commissioner Summers. Motion carried.

Commissioner Treviño made a motion to approve the conditional use permit, seconded by Commissioner Summers. Motion carried.

C. Discussion and consideration to approve Conditional Use Permit to obtain a Wine and Malt Beverage retail Dealer's On-Premises Permit at 1302 N Texas Blvd., also being Block 1, Lot 3, Wal-Mart Subdivision Weslaco, Hidalgo County, Texas Possible Action.

Mrs. de la Fuente stated that notice appeared in The Monitor on March 21, 2022, there were thirteen (13) property owners notified within the 200-foot radius, no letters for or against the item were received. Staff recommended approval.

Commissioner Forward made a motion to close the Public Hearing, seconded by Commissioner Summers. Motion carried.

Commissioner Treviño made a motion to approve the conditional use permit, seconded by Commissioner Summers. Motion carried.

V. DISCUSSION AND CONSIDERATION

A. Discussion and consideration for the Preliminary Plat for Mid Valley Estates– being a 40.00-acre tract of Farm Tract 715, The West Tract Subdivision, Weslaco, Hidalgo County, Texas Located on the Southwest corner of Mile 6 North and Mile 6 ½ West. Possible Action.

Mrs. de la Fuente stated that this item is a one hundred fifty-eight (158) lot subdivision and is located outside the City of Weslaco. This subdivision is being serviced with water by the City of Weslaco through an 8" waterline and sewer by the City of Weslaco through an 8" sewer line. The property is within a Flood Zone "B". Staff recommended approval of the Preliminary Plat.

Commissioner Summers made the motion to approve the Preliminary plat with the stipulation the size of lot 62 & 64 be corrected to meet the 6,000 sq ft requirement, seconded by Commissioner Forward. Motion carried.

B. Discussion and consideration for the Final Plat for the District North Weslaco Ph. II Subdivision– being 39.988-acres out of Farm Tract 179, BLK 160, West Tract Subdivision, Weslaco, Hidalgo County, Texas located on the southeast corner of Mile 5 ½ W & Mile 11 N. Rd. Possible action.

Mrs. de la Fuente stated that this item is a fifty-four (54) lot subdivision and is located outside the City of Weslaco. This subdivision is being serviced with water by the North Alamo Water Supply through a 6” waterline and sewer by OSSF. The property is within a Flood Zone “X”. Applicant was granted a variance for OSSF and off-site drainage at the last meeting. Staff recommended approval of the Final Plat.

Commissioner Forward made the motion to approve the Final plat, seconded by Commissioner Treviño. Motion carried

C. Discussion and consideration for the Final Plat for San Gabriel Subdivision Ph II– being a 10.01-acre tract of Farm Tract 795, The West and Adams Tracts Subdivision, Weslaco, Hidalgo County, Texas Located approximately 600ft east of Mile 6 West on the south side of Mile 5 Rd. Possible Action.

Mrs. de la Fuente stated that this item is a sixty-nine (69) lot subdivision and is located inside the City of Weslaco. This subdivision is being serviced with water by the City of Weslaco through an 8” waterline and sewer by the City of Weslaco through an 8” sewer line. The property is within a Flood Zone “B”. Applicant is requesting a variance for Off-site drainage and is pending the letters of support from Irrigation and Drainage District. Staff recommended denial of the Final Plat and compliance with the ordinance on the variance.

Gil Teegardin of Javier Hinojosa Engineering stated that support letter applications have been sent to both Irrigation and Drainage districts but have not received a response from either.

Commissioner Forward made the motion to deny the Final plat and variance requests, seconded by Commissioner Treviño. Motion carried

D. Discussion and consideration for the Final Plat for Shops at N. Bridge Subdivision– being a 10.657-acre tract of Farm Tract 39, West Tract Subdivision, Weslaco, Hidalgo County, Texas Located on the southwest corner of U.S. Expy 83 & Bridge Ave. Possible Action.

Mrs. de la Fuente stated that this item is an eight (8) lot subdivision and is located inside the City of Weslaco. This subdivision is being serviced with water by the City of Weslaco through an 8” waterline and sewer by the City of Weslaco through an 8” sewer line. The property is within a Flood Zone “B&C”. Engineering had required a TIA be submitted by Final Plat approval. However, the City Engineer and

project engineer have come to the agreement that the TIA could be submitted at the time of pre-construction. Staff recommended approval of the Final Plat as per this arrangement.

Commissioner Summers made the motion to deny the Final plat due to City Engineer and project representative not being present at the meeting to answer questions regarding the impact of the TIA on the development, seconded by Commissioner Forward. Motion carried.

E. Discussion and consideration for the Voluntary Annexation of Mid Valley Estates – being a 40.00-acre tract of land out of Farm Tract 715, West Tract Subdivision, Hidalgo County, Texas located on the southwest corner of Mile 6 North and Mile 6 1/2 West Possible Action.

Mrs. de la Fuente stated that the proposed development is currently located outside the City of Weslaco city limits. This subdivision is being serviced with water and sewer by the City of Weslaco. The developer has initiated a buyout from NAWSC and MHWSC so that the city can service this area. The proposed development will be a combination of one-family residential lots and apartments. The development is contiguous to the existing city limits line. Staff recommended approval.

Commissioner Bullion arrived at the dais 6:02pm.

Commissioner Summers made the motion to approve the Voluntary Annexation request, seconded by Commissioner Treviño. Motion carried

F. Discussion and re-consideration for the Final Plat for Pleasant View Village Subdivision– being an 8.55 out of Farm Tract 709, Block 136, The West and Adams Tracts, Weslaco, Hidalgo County, Texas Located approximately 1,300 ft South of Business 83 & Pleasantview Dr.to the East.

Mrs. de la Fuente stated that the Subdivision was previously approved by Commission November 16, 2021, as a thirty (30) lot subdivision. The developer is requesting a rear setback variance of 5', City ordinance requires 15'. Staff recommended approval of the Final Plat.

Ronald Riley developer stated all utilities have been moved to the front of the lots and to allow more space per lot they are requesting a reduced rear setback due to the depth of the lots being 67'. The developer was having difficulty accommodating both the setbacks for the building and the parking lot requirements.

Commissioner Summers made the motion to approve the Final plat and rear setback variance of 10' which was in line with previous variances granted for R-2 districts, seconded by Commissioner Forward. Motion carried

Vice- Chairman reopened Item D.

D. Discussion and consideration for the Final Plat for Shops at N. Bridge Subdivision– being a 10.657-acre tract of Farm Tract 39, West Tract Subdivision, Weslaco, Hidalgo County, Texas Located on the southwest corner of U.S. Expy 83 & Bridge Ave. Possible Action.

Vice-Chairman Berry, reopened discussion of this item now that the City Engineer was in attendance.

Albert Aldana, City Engineer stated TIA has not been completed and is scheduled to be completed by Friday. Project engineer has assured City that any recommendations of the TIA will be addressed during pre-construction phase. The potential recommendations from the TIA may call for a deceleration lane off frontage and that the existing traffic lights located on Pike and Bridge be adjusted to accommodate increased traffic. Mr. Aldana recommended approval of final plat and TIA recommendation be enforced at the pre-construction phase.

There was no motion made to change the decision of the item, Vice-chairman Berry closed the item.

G. Discussion and re-consideration for the Final Plat for Ten Fifteen Subdivision– being 10.33 acres being a resubdivision of lots 1A,2A,3A, 4A,5A and 6A, out of Plaza Diez Quince Subdivision, Weslaco, Hidalgo County, Texas located on the Northeast corner of F.M. 1015 and Mile 6 North. Possible Action.

Mrs. de la Fuente stated that the Subdivision was previously approved by Commission June 15, 2021, as a thirty-two (32) lot subdivision. The developer is requesting change the development from a public subdivision to a private subdivision. The developer will need to provide fire with gate details and paved road widths, as well as Knox box access. Engineering will need a minimum throat length of 80ft for queueing. Staff recommended approval.

Commissioner Summers made the motion to approve the Final plat as a private subdivision, seconded by Commissioner Bullion. Motion carried

H. Discussion and consideration for the construction of a cement manufacturing factory located at 615 E Business 83.

Mrs. de la Fuente stated that in accordance with section 150-11 of the city's zoning ordinance the proposed type of use requires Planning & Zoning and City Commission approval. The developer is proposing to construct a new building at the former McManus site. The site will have measures in place to capture dust created by the factory through a collection system.

Greg Kelly, MagX stated the product is a cementitious type of product and is made of minerals and sand, which creates a cement like product. The site has several measures in place to collect the dust created during the mixing process, which is then recycled into the next batch of the product. The bulk of the materials will be brought in and shipped out through railroad, with a new rail spur that will be constructed along Nevada Ave. All measures have been taken to reduce the amount of traffic along Airport Drive.

Commissioner Bullion made the motion to approve the construction, seconded by Commissioner Treviño. Motion carried

I. Discussion and consideration for the six-month extension of the Final Plat for Vaquero Estates Phase V– being a re-subdivision of 86.961 acres being all of farm tract 1072 an out of Farm Tract 1065,1066 & 1071, West and Adams Tract Subdivision, Weslaco, Hidalgo County, Texas located on FM 1015 & Mile 11 North. Possible Action.

Mrs. de la Fuente stated that the proposed two hundred fifty-three (253) lot subdivision is outside the City of Weslaco. Final Plat approval is set to expire on May 18, 2022. Staff recommended approval.

Commissioner Summers made the motion to approve the extension, seconded by Commissioner Forward. Motion carried

J. Discussion and consideration for the six-month extension of the Final Plat for Bridge Crossing Ph II– being a re-subdivision of 16.273acres being part or portion out of farm tract 744, The West and Adams Tract Subdivision, Weslaco, Hidalgo County, Texas located approximately 1370 ft east of the intersection of 18th st & mile 5 ½. Possible action.

Mrs. de la Fuente stated that the proposed sixty-four (64) lot subdivision is inside the City of Weslaco. Final Plat approval is set to expire on May 18, 2022. Staff recommended approval.

Commissioner Bullion made the motion to approve the extension, seconded by Commissioner Summers. Motion carried

VI. ADJOURNMENT

There being no further business to come before the Planning and Zoning Commission, Vice-chairman Berry adjourned the meeting at 6:17 p.m.

Planning and Zoning Commission

Absent

David Hernandez, Chairman

Lonnie Berry, Vice-Chairman

Randy Summers, Commissioner

Miles Bullion, Commissioner

Jose Treviño, Commissioner

Absent

Adrian Torres, Commissioner

Jim Forward, Commissioner

ATTEST:

Kayla A. Arevalo, Planning Secretary



**Planning & Zoning Commission
Standardized Agenda Request Form**

Date of Meeting: June 1, 2022	Agenda Item No. (to be assigned by PCE): IV.A.
From: Rebekah de la Fuente, Planning Director, on behalf of Javier Hinojosa P.E.	
Subject/Agenda Item: Discussion and consideration for the Preliminary and or Final Plat for San Gabriel Subdivision Ph II– being a 10.01-acre tract of Farm Tract 795, The West and Adams Tracts Subdivision, Weslaco, Hidalgo County, Texas Located approximately on 600ft east of Mile 6 West on the south side of Mile 5 Rd. Possible Action.	
Discussion/Overview: The proposed sixty-nine (69) lot subdivision is located inside the City of Weslaco. This subdivision is being serviced with water by the City of Weslaco through an 8" waterline and sewer by the City of Weslaco through an 8" sewer line. The property is within a Flood Zone "B". Applicants has submitted his letters of support from the drainage and irrigation district.	
If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners: N/A	
Staff recommendation for Commission's Action: Staff recommends approval of Preliminary and or Final Plat and compliance with the ordinance on the variance.	
Additional Action Prompted: ☒ Mayor's Signature ☐ Public Hearing ☐ Budget Amendment ☐ Resolution ☐ Ordinance – First Reading ☐ Ordinance – Final Reading	
Advisory Review, (if any): (name of board/committee, date of action, recommendation): N/A	
If item previously considered, provide date and action by Commission: N/A	
Attachments,(if any): Application for Subdivision platting, Staff's comments, Drainage Report, Subdivision plat and Utility layout.	
Responsibilities upon Commission's Action: Planning staff will advise applicant.	



SUBDIVISION PLATTING APPLICATION

DI AT-000200-2022

The Planning & Zoning Commission meets every 1st Wednesday of each month at 5:30 pm.

The City Commission meets every 1st and 3rd Tuesday of each month at 5:30 pm

FILE NO. _____

This form shall be completed by the Property Owner or Applicant and submitted to the Planning Department along with the required number of copies of the respective plat, review fee and all other required information listed below and in the Subdivision Ordinance. The submittal of an application does not constitute acceptance for processing until the staff reviews and determines the application is complete.

STAFF USE ONLY

☐ Single Lot Variance ☐ Minor Plat ☐ Planned Unit Development ☐ Standard Subdivision

GENERAL INFORMATION

Name of Subdivision: San Gabriel Subdivision Phase II

Location: 660 feet east of Mile 6 West on the south side of Mile 5 Road

Legal Description: 10.01 acres being out of Farm Tract 795, the West and Adams Tracts as recorded in Vol. 2, Pgs. 34-37, H.C.M.R.

Is subdivision inside city limits? ☒ YES ☐ NO

If subdivision is in the ETJ, indicate? ☐ 3.5 Mile ☐ 5 Mile

If no submit letter of Annexation (Contiguous or Consensual)

Existing Zoning: R-1 One Family Dwelling District

Existing Land Use: Open Proposed Land Use: R-1, R-2 Townhouses

Number of Lots Proposed: 69 Gross Acreage: 10.01

Title Report Submitted: ☒ YES ☐ NO

OWNER INFORMATION

Owner's Name: Cottonfields, LTD. Telephone: (956) 477-3962

Address: 702 W. Expressway 83, Ste. 100

Fax: _____

City: Weslaco State: TX Zip: 78596 E-mail: dominicareyna@gmail.com

ENGINEER INFORMATION

Name: Javier Hinojosa, P.E. Telephone: (956) 668-1588

Address: 416 E. Dove Ave.

Fax: _____

City: McAllen State: TX Zip: 78504 E-mail: javier@javierhinojosaeng.com

UTILITY PROVISIONS

Will proposed subdivision connect to:

☒ YES ☐ NO Water Provision: City of Weslaco

☐ YES ☐ NO Wastewater Provision: City of Weslaco

☐ YES ☐ NO Electric Company: AEP

☒ YES ☐ NO Phone Utility <u>AT&T</u>	☐ YES ☐ NO Gas Utility	☒ YES ☐ NO Cable Utility
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Proposed subdivision is in the following districts:

☒ YES ☐ NO Drainage District <u>H.C.D.D. # 1</u>	☒ YES ☐ NO Irrigation District <u>H.C.I.D. # 9</u>
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Has the property been assessed as flat rate irrigable property: ☐ YES ☐ NO

Have Water Rights been conveyed to City/Water Supplier? ☐ YES ☐ NO

(Attach written proof of such assessment or that it has never been assessed as such a property) If YES, attach an estimate from the irrigation district of the proportional water rights for the subdivision as calculated under Texas Water Code § 49.505.

SUBMITTALS REQUIRED FOR MINOR PLAT REVIEW

_____ Two (2) sets of plats **folded and stapled** (24 x 36) and forward a copy in PDF format to mhinojosa@weslacotx.gov & rdelafuente@weslacotx.gov

_____ \$350.00 Planning Review fee

_____ One 11" X 17" reduced copy of plat

_____ Plat Layout

_____ Existing & Proposed Easements

_____ Existing & Proposed ROW

_____ Existing & Proposed Drainage Easements

_____ Contours

_____ Flood Zones

_____ Adjoiners

_____ Existing street names

_____ Drainage plans and calculations with engineer's seal

_____ Elevations

_____ Flood directional arrows

_____ Detention areas

_____ Street names

_____ Proof of ownership of the property

_____ If septic tank system required, submit soil evaluation report

_____ Water Rights associated with the property

_____ Tax Receipt for all taxing entities showing that taxes are paid in full

SUBMITTALS REQUIRED FOR PRELIMINARY (P & Z)

_____ Twelve (12) sets of preliminary plat **folded and stapled** (24 x 36) and forward a copy in PDF format to mhinojosa@weslacotx.gov & rdelafuente@weslacotx.gov

_____ \$350.00 (one time fee for preliminary and final plat)

_____ One 11" X 17" reduced copy of plat

_____ Plat Layout

_____ Existing & Proposed Easements

_____ Existing & Proposed ROW

_____ Existing & Proposed Drainage Easements

255 S. KANSAS AVE ■ WESLACO, TEXAS 78596-6285 ■ 956-447-3401 ■ (Fax) 956-973-3128 ■ WWW.WESLACOTX.GOV

- _____ Contours
- _____ Flood Zones
- _____ Adjoiners
- _____ Existing & Proposed street names
- _____ Utility Layout
- _____ Existing & Proposed Utilities
- _____ Proposed Fire Hydrants
- _____ Adjoiners
- _____ Street names
- _____ Drainage plans and calculations with engineer's seal
- _____ Elevations
- _____ Flood directional arrows
- _____ Detention areas
- _____ Street names
- _____ Proof of ownership of the property
- _____ If septic tank system required, submit soil evaluation report
- _____ Water Rights associated with the property
- _____ Tax Receipt for all taxing entities showing that taxes are paid in full
- _____ Number of fire hydrants proposed for subdivision
- _____ Trip Generation Worksheet

SUBMITTALS REQUIRED FOR FINAL (P & Z) **Will not apply to Single Lot Variance**

- _____ **Twelve (12) sets of plans FOLDED & STAPLED (24 x 36) & PDF copy with all corrections**
- _____ Plats to be sealed by Professional Engineer
- _____ Approved Drainage Report
- _____ Traffic Impact Analysis (If required)

SUBMITTALS REQUIRED FOR FINAL (City Commission)

- _____ One set of 8 ½ x 11 of plat and utilities with all corrections done

SUBMITTALS REQUIRED FOR PRE-CONSTRUCTION MEETING

- _____ Seven (7) full sets of construction plans 24 x 36 and one (1) 11 x 17 with plan & profile.
- _____ Engineering cost estimates for 3% geotechnical testing fees and 2% inspection fees
- _____ Notice of Intent
- _____ SW3P

SUBMITTALS REQUIRED FOR RECORDING OR HIDALGO COUNTY PLANNING

- _____ Electronic file of final plat and as-builds
- _____ Reproducible plat to be recorded with all required signatures
- _____ 3% geotechnical testing fees or negotiated Material Testing fee by City, whichever is higher
- _____ 2% inspection fee
- _____ Park Fees
- _____ Checks or Receipts: HCCID #9; HCDD #1; County Clerk
- _____ Tax certificates
- _____ Memo from engineering inspector releasing subdivision
- _____ Water Rights associated with the property dedicated and assigned to City of Weslaco or payment of fees sufficient to meet the needs necessitated and attributable to development
- _____ 30 Year Water and 30 Year Sewer Service Agreements
- _____ Park dedication/Fees in lieu of

SUBMITTALS REQUIRED FOR RECORDING BY SECURITY

- _____ Sealed engineering cost estimates
- _____ Letter of Credit/Performance Bond/Escrow

** Any revisions requested would require resubmission of plats and reduced copy reflecting changes.

AUTHORIZATION AND ACKNOWLEDGEMENTS

I certify that I am the actual owner of the property described above and this application is being submitted with my consent (include corporate name if applicable); and the following person listed below is my authorized agent to act on my behalf.

I certify that the above information is correct and complete to the best of my knowledge. I understand that I must comply with all applicable local, state, and federal regulations.

Owner Printed Name: Ezequial Reyna

Owner Signature: _____ Date: _____

_____ is the authorized agent

Authorized Agent Signature: _____ Date: _____

Authorized Agent Printed Name: Javier Hinojosa, P.E.

THIS PAGE FOR STAFF USE ONLY

Date Received: _____ Received By: _____ Date Paid: _____

P & Z Commission Approval on Preliminary Plat: _____

P & Z Commission Approval on Final Plat: _____

City Commission Approval on Final Plat: _____

Preconstruction Meeting Date: _____

Date Recorded: _____ Instrument No. _____

General Comments: _____



HIDALGO COUNTY DRAINAGE DISTRICT No. 1

RAUL E. SESIN, PE, CFM
District General Manager
Hidalgo County Floodplain Administrator

BOARD OF DIRECTORS

DAVID L. FUENTES
Board Member

EDUARDO "EDDIE" CANTU
Board Member

RICHARD F. CORTEZ
Chairman of the Board

EVERARDO "EVER" VILLARREAL
Board Member

ELLIE TORRES
Board Member

May 9, 2022

City of Weslaco
Attn: Rebekah De La Fuente, Planning & Code Enforcement Director
255 S. Kansas Ave.
Weslaco, Texas 78596

RE: San Gabriel Subdivisions I and II

Dear Ms. De La Fuente:

This letter is in response to a request from Javier Hinojosa, PE, the Engineer of record for San Gabriel Subdivisions I and II. Our office has received and approved the proposed drainage statement for the above-mentioned developments and has no objections to the Engineer's plan to discharge water as identified in approved drainage report date Feb 1, 2022.

If you should have any questions or require additional information, please feel free to contact me at (956) 292-7080.

Sincerely,
HIDALGO COUNTY DRAINAGE DISTRICT No. 1

A handwritten signature in black ink, appearing to read "Yvette Barrera".

Yvette Barrera, PE, CFM
Assistant General Manager

Xc:
Raul Sesin, PE, CFM, General Manager
Alexis Lozano, EIT

Hidalgo and Cameron Counties Irrigation District No. 9

General Office

(956) 565-2411
(956) 565-0521 Fax

E-Mail
hccid9@hotmail.com



P O Box 237 Mercedes, Texas 78570

Randy Winston
General Manager

Judy Beall
Tax Assessor-Collector

Date: 5-24-22

JAVIER HINOJOSA P.E.
JAVIER HINOJOSA ENGINEERING/CONSULTING
416 E. DOVE AVENUE
MCALLEN, TEXAS 78504

RE: **SAN GABRIEL PH 2** Subd. Drainage and Detention

Good Morning Mr. Hinojosa:

I have received your revised cross section and calculations dated 02/25/22 for the **SAN GABRIEL PH 2** Subdivision modified to include the 100 year detention volume in the proposed drain ditch as shown on your provided cross sections.

HCCID #9 does not object to storing the mandated 100 year detention with the proposed ditch as shown on the cross sections. This Subdivision will require the following:

1. The Proposed Ditch widening, and Detention Area will require outlet controls going into existing ditch
2. Discharge Permit will be required.

The maintenance of this section is inside of the City Limits of Weslaco and will be done by City of Weslaco. Please verify final designs with Albert Aldana City of Weslaco Engineer.

Randall Winston
General Manager

HCCID #9
Mercedes, Texas
956-565-2411

**Drainage Statement
San Gabriel Subdivision
Weslaco, Texas**

Introduction

The initial phase of San Gabriel Subdivision is a 9.98 acre tract of land out of Farm Tract 795, The West and Adams Tract Subdivision as recorded in Volume 2, Page 34-37, Hidalgo County Map Records. San Gabriel Subdivision Phase II shall consist of 10.01 acres out of Farm Tract 795 for a total acreage of 19.98 Acres (rounding error). This subdivision is located along the east side of Mile 6 West (Westgate Drive), one-quarter of a mile south of Mile 5 North and is within the city limits of Weslaco, Texas.

Flood Plain

The subject tract of land is located within Zone "B" on a Flood Insurance Rate Map, Community Panel No. 480334 0525B, effective date January 2, 1981. Zone "B" is defined as "areas between the limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood (medium shading)". The minimum finish floor elevation shall be 18" above the top of curb as measured at the center of the lot or 18" above natural ground, whichever is higher.

Soil Conditions

According to the soil survey report prepared for Hidalgo County by the USDA Soil Conservation Service; the soils in this subdivision are found to be Cameron Silty Clay (7), Hidalgo Sandy Clay Loam (28), Mercedes Clay (39), and Raymondville Clay Loam (52). Soils group 28 is in hydrologic group "B" and are moderately pervious with a relatively low plasticity index. Soils group 7, 39 and 52 are in hydrologic group "D" and are not very pervious with a relatively high plasticity index. Soils group "D" make up 96% of this subdivision.

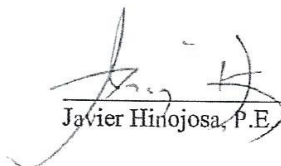
Pre-developed Conditions

The current land use for this property has been used for agricultural purposes and has an existing runoff generally in a northeasterly direction. Based on an existing 10-year storm, a total storm runoff of 15.08 cubic feet per second is being generated by both phases.

Proposed Conditions

The initial phase of San Gabriel Subdivision is a 31 single-family lot subdivision with Phase II adding an additional 23 single-family lots and 36 townhouse lots. Both phases shall be developed concurrently. Drainage shall be accomplished within this development with the placement of curb inlets to intercept drainage runoff generated by this subdivision. Pipe sizes shall range from a 24" to 36" throughout this development and shall discharge into a proposed detention pond located adjacent to the east side of this subdivision between the property line and golf cart path within Tierra Santa Golf Club. The detention pond shall discharge into an existing lake approximately 300 feet east of the detention pond via a 24" pipe at pre-development flows. The lakes within Tierra Santa are interconnected and ultimately discharge into the South Donna Drain. Both phases will increase runoff to a maximum of 85.27 cubic feet per second for an increase Q of 70.19 cubic feet per second based on a 100-year storm. Required detention for both phases is 136,854 cubic feet (3.142 Ac.Ft.). The detention pond for the overall

development shall be constructed as part of the initial phase and has a capacity of 200,746 cubic feet (4.608 Ac.Ft.) at a depth of 7.0 feet. An agreement has been reached allowing the overall development of San Gabriel Subdivision to connect to the lake at Tierra Santa.

 2/1/22
Javier Hinojosa, P.E.



☐ REJECTED	
☒ APPROVED FOR SUBMITTAL	
☐ TO H.C. PLANNING DEPT.	
☒ TO CITY	
☐ DISCHARGE PERMIT REQUIRED	
☐ DISTRICT FACILITY	
☐ CITY FACILITY	
☒ OTHER <u>Weslaco</u>	
<u>Alexis Lozano</u>	<u>2/25/22</u>
H.C.D.D. NO. 1	DATE

DRAINAGE ANALYSIS

PROJECT NAME: **San Gabriel Subdivision (Overall)**
DATE: February 1, 2022

I. Existing Condition-10 year

Ex. Area:	870,380 sf	Int. Coeff. "k	0.213 Table 3-2
	19.981 ac	K _u	3.28
Imp. Area:	- sf	Length	1090
% Imp. :	0.00	Velocity	0.34932 ft/sec
Slope :	0.25 %		
tc :	52.01 min		
Rainfall Intensity (10yr)			3.543 in/hr
c factor			0.213
Q peak existing condition:			15.08 cfs

II. Future Condition-100 year

Future area: 870,380.00 sf
19.98 ac

Estimated Imp. Area: 393,640 sf

% Imp. : 0.45

Slope : 0.25%

tc : 18.65 min

Rainfall Inte PL 8.691 in/hr

c factor 0.491

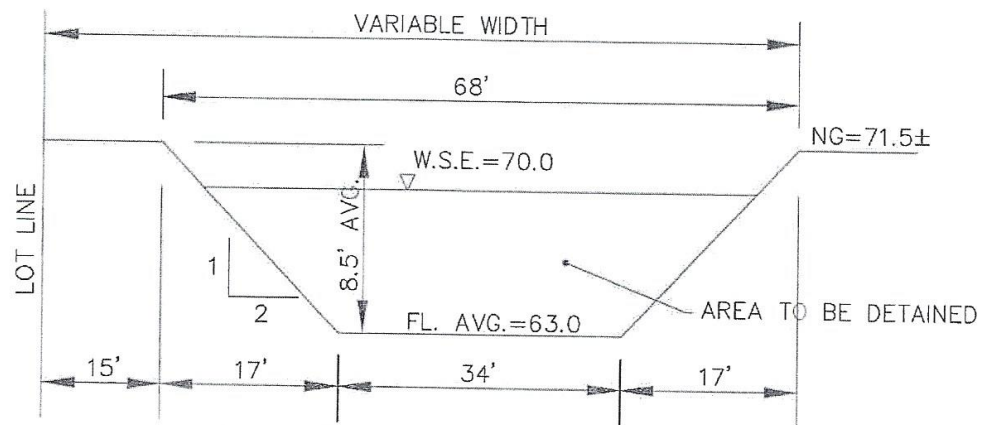
Q future cond. = $Aci = i * = 85.27 * 0.49$
9.81075712 i

time min.	time hour	i100 in/hr	Q100 in cfs	Vin cf	Q10 out cfs	Vout cf	REQ'D V cf
100	1.67	3.187	31.27	187,599	15.08	53,677	133,923
110	1.83	2.988	29.31	193,447	15.08	58,200	135,247
120	2.00	2.815	27.62	198,859	15.08	62,724	136,134
130	2.17	2.665	26.14	203,901	15.08	67,248	136,653
140	2.33	2.532	24.84	208,627	15.08	71,772	136,854 MAX.
150	2.50	2.413	23.68	213,078	15.08	76,296	136,781
160	2.67	2.307	22.63	217,288	15.08	80,820	136,468
170	2.83	2.211	21.69	221,286	15.08	85,344	135,942
180	3.00	2.124	20.84	225,094	15.08	89,868	135,226
190	3.17	2.045	20.06		15.08	94,392	134,339

Storage Required: 136,854 cf
Storage Required: 3.142 Ac.-Ft.
w/ release rate of: 15.08 cfs



Handwritten signature and date: 2/1/22



DETENTION SECTION "A"

N.T.S.

DETENTION CALCULATION

$$\begin{aligned} &(\text{TOP AREA} + \text{BOTTOM AREA}) / 2 \times \text{DEPTH} = \text{CAPACITY} \\ &(38,119 \text{ SF} + 19,237 \text{ SF}) / 2 \times 7.0' = 200,746 \text{ CF} \end{aligned}$$

Proposed
San Gabriel Subdivision
Weslaco, Texas

DRAINAGE REPORT

Prepared For:

City of Weslaco
255 S. Kansas Ave.
Weslaco, Texas 78596

Prepared By:

JAVIER HINOJOSA ENGINEERING
CONSULTING ENGINEERS

TBPELS FIRM NO. F-1295
416 E. Dove Avenue
McAllen, Texas 78504
(956) 668-1588
e-mail: javier@javierhinojosa.eng.com

February 1, 2022

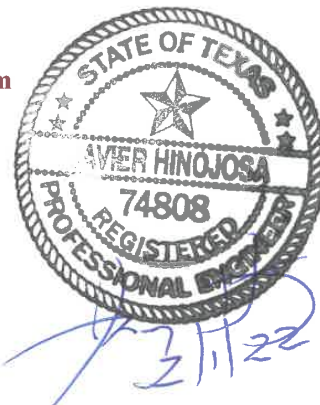


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Drainage Statement San Gabriel Subdivision Weslaco, Texas

Introduction

The initial phase of San Gabriel Subdivision is a 9.98 acre tract of land out of Farm Tract 795, The West and Adams Tract Subdivision as recorded in Volume 2, Page 34-37, Hidalgo County Map Records. San Gabriel Subdivision Phase II shall consist of 10.01 acres out of Farm Tract 795 for a total acreage of 19.98 Acres (rounding error). This subdivision is located along the east side of Mile 6 West (Westgate Drive), one-quarter of a mile south of Mile 5 North and is within the city limits of Weslaco, Texas.

Flood Plain

The subject tract of land is located within Zone "B" on a Flood Insurance Rate Map, Community Panel No. 480334 0525B, effective date January 2, 1981. Zone "B" is defined as "areas between the limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood (medium shading)". The minimum finish floor elevation shall be 18" above the top of curb as measured at the center of the lot or 18" above natural ground, whichever is higher.

Soil Conditions

According to the soil survey report prepared for Hidalgo County by the USDA Soil Conservation Service; the soils in this subdivision are found to be Cameron Silty Clay (7), Hidalgo Sandy Clay Loam (28), Mercedes Clay (39), and Raymondville Clay Loam (52). Soils group 28 is in hydrologic group "B" and are moderately pervious with a relatively low plasticity index. Soils group 7, 39 and 52 are in hydrologic group "D" and are not very pervious with a relatively high plasticity index. Soils group "D" make up 96% of this subdivision.

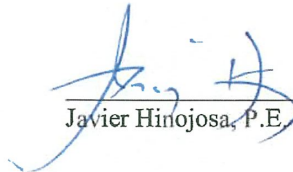
Pre-developed Conditions

The current land use for this property has been used for agricultural purposes and has an existing runoff generally in a northeasterly direction. Based on an existing 10-year storm, a total storm runoff of 15.08 cubic feet per second is being generated by both phases.

Proposed Conditions

The initial phase of San Gabriel Subdivision is a 31 single-family lot subdivision with Phase II adding an additional 23 single-family lots and 36 townhouse lots. Both phases shall be developed concurrently. Drainage shall be accomplished within this development with the placement of curb inlets to intercept drainage runoff generated by this subdivision. Pipe sizes shall range from a 24" to 36" throughout this development and shall discharge into a proposed detention pond located adjacent to the east side of this subdivision between the property line and golf cart path within Tierra Santa Golf Club. The detention pond shall discharge into an existing lake approximately 300 feet east of the detention pond via a 24" pipe at pre-development flows. The lakes within Tierra Santa are interconnected and ultimately discharge into the South Donna Drain. Both phases will increase runoff to a maximum of 85.27 cubic feet per second for an increase Q of 70.19 cubic feet per second based on a 100-year storm. Required detention for both phases is 136,854 cubic feet (3.142 Ac.Ft.). The detention pond for the overall

development shall be constructed as part of the initial phase and has a capacity of 200,746 cubic feet (4,608 Ac.Ft.) at a depth of 7.0 feet. An agreement has been reached allowing the overall development of San Gabriel Subdivision to connect to the lake at Tierra Santa.

 2/1/22
Javier Hinojosa, P.E.



☐ REJECTED	
☒ APPROVED FOR SUBMITTAL	
☐ TO H.C. PLANNING DEPT.	
☒ TO CITY	
☐ DISCHARGE PERMIT REQUIRED	
☐ DISTRICT FACILITY	
☐ CITY FACILITY	
☒ OTHER <u>Westlaco</u>	
<u>Alexis Lozano</u>	<u>2/25/22</u>
H.C.D.D. NO. 1	DATE

DRAINAGE ANALYSIS

PROJECT NAME: **San Gabriel Subdivision (Overall)**
DATE: February 1, 2022

I. Existing Condition-10 year

Ex. Area:	870,380 sf	Int. Coeff. "k	0.213 Table 3-2
	19.981 ac	K _u	3.28
Imp. Area:	- sf	Length	1090
% Imp. :	0.00	Velocity	0.34932 ft/sec
Slope :	0.25 %		
tc :	52.01 min		
Rainfall Intensity (10yr)			3.543 in/hr
c factor			0.213
Q peak existing condition:			15.08 cfs

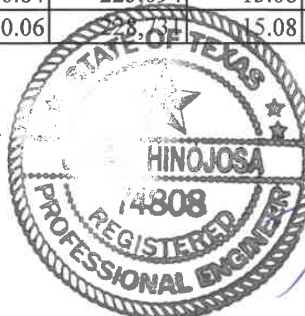
II. Future Condition-100 year

Future area:	870,380.00 sf		
	19.98 ac		
Estimated Imp. Area:	393,640 sf		
% Imp. :	0.45		
Slope :	0.25%		
tc :	18.65 min		
Rainfall Inte PL			8.691 in/hr
c factor			0.491
Q future cond. = Aci = i *	=	85.27 *	0.49
			9.81075712 i

time min.	time hour	i100 in/hr	Q100 in cfs	Vin cf	Q10 out cfs	Vout cf	REQ'D V cf
100	1.67	3.187	31.27	187,599	15.08	53,677	133,923
110	1.83	2.988	29.31	193,447	15.08	58,200	135,247
120	2.00	2.815	27.62	198,859	15.08	62,724	136,134
130	2.17	2.665	26.14	203,901	15.08	67,248	136,653
140	2.33	2.532	24.84	208,627	15.08	71,772	136,854
150	2.50	2.413	23.68	213,078	15.08	76,296	136,781
160	2.67	2.307	22.63	217,288	15.08	80,820	136,468
170	2.83	2.211	21.69	221,286	15.08	85,344	135,942
180	3.00	2.124	20.84	225,094	15.08	89,868	135,226
190	3.17	2.045	20.06	228,611	15.08	94,392	134,339

MAX.

Storage Required: 136,854 cf
Storage Required: 3.142 Ac.-Ft.
w/ release rate of: 15.08 cfs



Handwritten signature and date: 2/1/22

TABLE I TIME OF CONCENTRATION DETERMINATION San Gabriel Subdivision (Overall)												
COMPUTATION POINT	DESCRIPTION OF RUNOFF MEDIUM	OVERLAND FLOW			CHANNEL, PIPE, STREET, ETC. FLOW						TOTAL TIME (MIN)	
		C	LENGTH (FT.)	GRADE (%)	TIME (MIN)	WIDTH/A. (FT)	GRADE (%)	LENGTH (FT)	VELOCITY (FPS)	TIME (MIN)		
Existing	Overland	0.213	560		52.01						52.01	
D.A. #1	Overland & Gutter	0.491	115		4.79			400	1.0	6.67	11.46	
D.A. #1-D.A.#2	Pipe Flow	0.491						40	3.0	0.22	11.68	
D.A. #2	Overland & Gutter	0.491	165		6.88			400	1.0	6.67	13.54	
D.A.#2-D.A.#4	Pipe Flow	0.491						370	3.0	2.06	15.60	
D.A.#3	Overland & Gutter	0.491	120		5.00			235	1.0	3.92	8.92	
D.A.#3-D.A.#4	Pipe Flow	0.491						40	3.0	0.22	9.14	
D.A.#4	Overland & Gutter	0.491	172		7.17			225	1.0	3.75	10.92	
D.A.#4-D.A.#6	Pipe Flow	0.491						375	3.0	2.08	17.68	
D.A.#5	Overland & Gutter	0.491	123		5.13			225	1.0	3.75	8.88	
D.A.#5-D.A.#6	Pipe Flow	0.491						35	3.0	0.19	9.07	
D.A.#6	Overland & Gutter	0.491	172		7.17			225	1.0	3.75	10.92	
D.A.#6-OUTFALL A	Pipe Flow	0.491						175	3.0	0.97	18.65	
D.A.#7	Overland & Gutter	0.491	108		4.50			230	1.0	3.83	8.33	
D.A.#7-D.A.#8	Pipe Flow	0.491						35	3.0	0.19	8.53	
D.A.#8	Overland & Gutter	0.491	108		4.50			230	1.0	3.83	8.33	
D.A.#8-OUTFALL B	Pipe Flow	0.491						250	3.0	1.39	9.92	
D.A.#9	Overland & Gutter	0.491	92		3.83			160	1.0	2.67	6.50	
D.A.#9-D.A.#10	Pipe Flow	0.491						40	3.0	0.22	6.72	

$$T_c = \frac{L}{(V \times 60)}$$

FORMULA FOR TIME OF CONCENTRATION
USING THE RATIONAL METHOD, AS PER
"TXDOT BRIDGE HYDRAULIC MANUAL"

TABLE IA FLOWRATE DETERMINATION San Gabriel Subdivision (Overall)								
COMPUTATION POINT	TOTAL DRAINAGE AREA CONTRIBUTING TO POINT (acres)	C	TIME (SEE TABLE 1) (minutes)	RETURN FREQUENCY (years)	INTENSITY (in./hr.)	FLOWRATE (c.f.s.)	PIPE SIZE (inches)	MIN. SLOPE (FT./FT.)
Existing	19.981	0.213	52.01	10	3.543	15.08		
D.A. #1	1.784	0.491	11.46	10	8.249	7.23		
D.A. #1-D.A.#2	1.784	0.491	11.68	10	8.180	7.17	24	0.101%
D.A. #2	2.413	0.491	13.54	10	7.654	9.07		
D.A.#2-D.A.#4	4.197	0.491	15.60	10	7.156	14.75	24	0.426%
D.A.#3	0.914	0.491	8.92	10	9.136	4.10		
D.A.#3-D.A.#4	0.914	0.491	9.14	10	9.049	4.06	24	0.032%
D.A.#4	1.630	0.491	10.92	10	8.421	7.16		
D.A.#4-D.A.#6	6.741	0.491	17.68	10	6.721	22.24	30	0.294%
D.A.#5	1.189	0.491	8.88	10	9.152	7.16		
D.A.#5-D.A.#6	1.189	0.491	9.07	10	9.076	5.30	24	0.055%
D.A.#6	1.608	0.491	10.92	10	8.421	7.16		
D.A.#6-OUTFALL A	9.538	0.491	18.65	10	6.537	30.62	36	0.211%
D.A.#7	1.278	0.491	8.33	10	9.371	7.16	(2) 24"	0.459%
D.A.#7-D.A.#8	1.278	0.491	8.53	10	9.291	5.83	24	0.067%
D.A.#8	1.278	0.491	8.33	10	9.371	7.16		
D.A.#8-OUTFALL B	2.556	0.491	9.92	10	8.762	11.00	24	0.237%
D.A.#9	0.784	0.491	6.50	10	10.212	7.16		
D.A.#9-D.A.#10	0.784	0.491	6.72	10	10.101	3.89	24	0.030%

FORMULA FOR INTENSITY
USING THE RATIONAL METHOD, AS PER
"TXDOT BRIDGE HYDRAULIC MANUAL"

$$I = \frac{b}{(Tc + d)^{0.6}}$$

TABLE I

[illegible]

**FORMULA FOR TIME OF CONCENTRATION
USING THE RATIONAL METHOD, AS PER
"TXDOT BRIDGE HYDRAULIC MANUAL"**

$$T_c = \frac{L}{(V \times 60)}$$

TABLE IA

[illegible]
$$I = \frac{b}{(Tc + d)^e}$$

Weighted "c" value (POST DEVELOPMENT CONDITIONS)				
Type of Drainage Area	"c" value:	Square Footage	Acreage	partial "c"
Residential				
Single Family (Lots less than 1/4 acre)	0.35	0	0.000	0.000
Single Family (Lots 1/4 to 1/2 acre)	0.3	0	0.000	0.000
Single Family (Lots greater than 1/2 acre)	0.25	0	0.000	0.000
Multi-Family (Less than 20 DU / AC)	0.45	0	0.000	0.000
Multi-Family (Greater than 20 DU / AC)	0.55	0	0.000	0.000
Business Districts:	0.7	0	0.000	0.000
Industrial				
Light areas	0.5	0	0.000	0.000
Heavy areas	0.6	0	0.000	0.000
Railroad yard areas	0.2	0	0.000	0.000
Parks, cemeteries	0.1	0	0.000	0.000
Unimproved Areas				
Bare Surface	0.3	0	0.000	0.000
Grassland	0.25	476740	10.944	2.736
Cultivated	0.2	0	0.000	0.000
Woodlands	0.15	0	0.000	0.000
Detention/Ditch	0.25	0	0.000	0.000
Streets				
Asphalt	0.75	127320	2.923	2.192
Concrete	0.8	0	0.000	0.000
Parking/Driveways	0.8	48600	1.116	0.893
Sidewalks	0.8	21520	0.494	0.395
Buildings	0.8	196200	4.504	3.603
Total:		870,380	19.981	9.819
Weighted "c":			0.491	

$$C_w = (C_1A_1 + C_2A_2 + C_3A_3 + \dots + C_nA_n) / A_{total}$$

C_w = Weighted Runoff Coefficient (Composite Coefficient)

C_n = Runoff Coefficient n-th term

A_n = Area of n-th term

A_{total} = Total Area (acres)

A_{total} = Total Area (acres)

HIDALGO COUNTY RAINFALL INTENSITY TABLES

based on Weather Bureau (NWS) Technical Paper No. 40 "Rainfall Frequency Atlas of the United States"

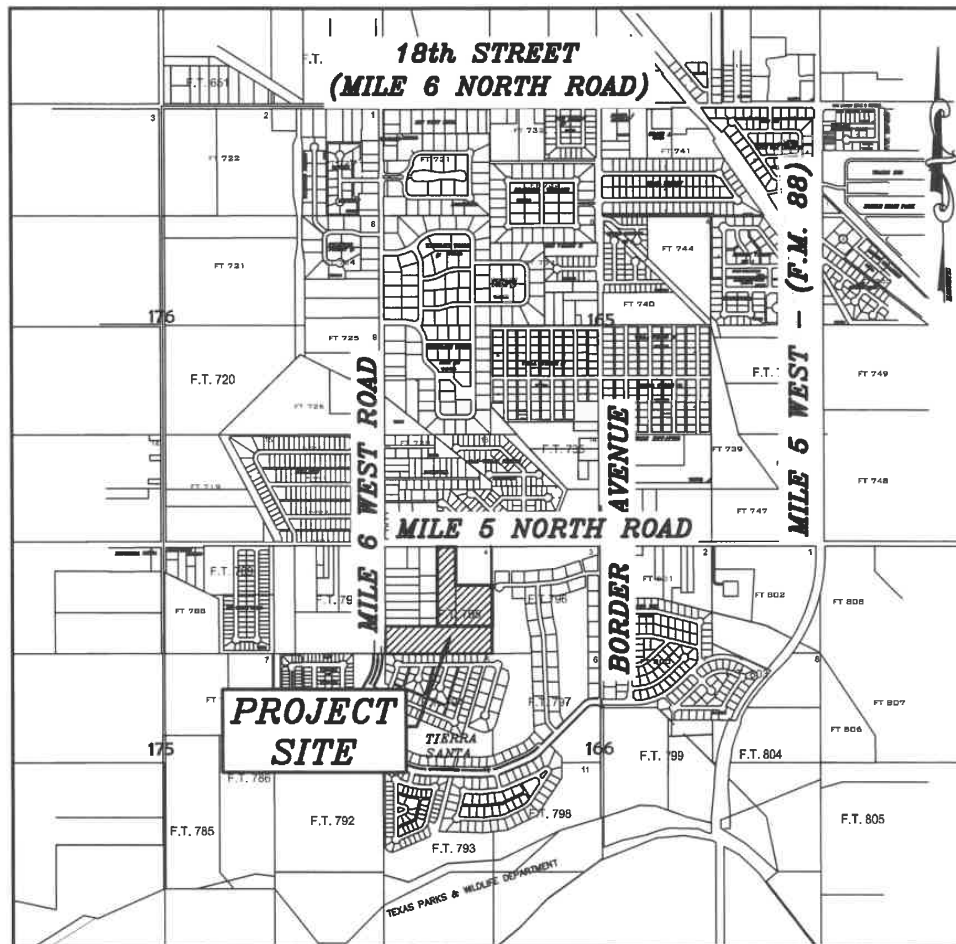
$$\text{formula } I = b/(t_c + d)^e$$

TIME	2 yr.	5 yr.	10 yr.	25 yr.	50 yr.	100 yr.
1	10.404	12.626	14.283	16.353	17.386	17.952
2	9.653	11.721	13.281	15.215	16.210	16.793
3	9.012	10.950	12.426	14.244	15.204	15.797
4	8.458	10.286	11.687	13.405	14.333	14.929
5	7.974	9.706	11.042	12.671	13.570	14.165
6	7.546	9.194	10.472	12.023	12.895	13.487
7	7.167	8.740	9.966	11.447	12.294	12.881
8	6.827	8.334	9.512	10.930	11.755	12.336
9	6.520	7.968	9.103	10.464	11.268	11.841
10	6.243	7.636	8.732	10.042	10.825	11.391
11	5.990	7.334	8.394	9.656	10.421	10.979
12	5.758	7.058	8.084	9.303	10.051	10.601
13	5.546	6.804	7.799	8.978	9.710	10.252
14	5.350	6.569	7.536	8.678	9.395	9.928
15	5.169	6.353	7.293	8.400	9.102	9.628
16	5.000	6.151	7.067	8.142	8.831	9.348
17	4.843	5.964	6.856	7.902	8.577	9.087
18	4.697	5.789	6.659	7.677	8.340	8.842
19	4.560	5.625	6.475	7.466	8.117	8.612
20	4.432	5.472	6.302	7.268	7.908	8.396
21	4.311	5.327	6.139	7.082	7.711	8.192
22	4.198	5.191	5.985	6.906	7.525	8.000
23	4.090	5.062	5.840	6.740	7.349	7.817
24	3.989	4.941	5.703	6.583	7.183	7.644
25	3.893	4.825	5.572	6.434	7.025	7.480
26	3.802	4.716	5.449	6.293	6.875	7.324
27	3.715	4.612	5.331	6.158	6.732	7.176
28	3.633	4.513	5.220	6.030	6.596	7.034
29	3.554	4.419	5.113	5.908	6.467	6.899
30	3.480	4.329	5.011	5.792	6.343	6.769
31	3.408	4.244	4.914	5.680	6.224	6.646
32	3.340	4.161	4.821	5.574	6.111	6.527
33	3.275	4.083	4.732	5.472	6.002	6.413
34	3.212	4.008	4.646	5.374	5.897	6.304
35	3.152	3.935	4.564	5.280	5.797	6.199

TIME	2 yr.	5 yr.	10 yr.	25 yr.	50 yr.	100 yr.
36	3.095	3.866	4.486	5.189	5.701	6.098
37	3.040	3.799	4.410	5.103	5.608	6.001
38	2.986	3.735	4.337	5.019	5.519	5.908
39	2.935	3.673	4.267	4.939	5.433	5.817
40	2.886	3.614	4.199	4.861	5.350	5.730
41	2.838	3.557	4.134	4.786	5.270	5.646
42	2.793	3.501	4.071	4.714	5.193	5.565
43	2.748	3.448	4.010	4.644	5.118	5.487
44	2.706	3.396	3.951	4.577	5.046	5.411
45	2.665	3.346	3.895	4.511	4.976	5.337
46	2.625	3.298	3.840	4.448	4.908	5.266
47	2.586	3.251	3.786	4.387	4.843	5.197
48	2.549	3.206	3.735	4.328	4.779	5.130
49	2.513	3.162	3.685	4.270	4.717	5.065
50	2.477	3.120	3.636	4.215	4.658	5.002
51	2.443	3.078	3.589	4.161	4.600	4.941
52	2.410	3.038	3.543	4.108	4.543	4.881
53	2.378	2.999	3.499	4.057	4.488	4.824
54	2.347	2.962	3.456	4.007	4.435	4.767
55	2.317	2.925	3.414	3.959	4.383	4.713
56	2.288	2.889	3.373	3.912	4.333	4.659
57	2.259	2.854	3.333	3.867	4.284	4.608
58	2.231	2.821	3.295	3.822	4.236	4.557
59	2.204	2.788	3.257	3.779	4.189	4.508
60	2.178	2.756	3.220	3.737	4.144	4.460
65	2.056	2.607	3.050	3.541	3.933	4.237
70	1.948	2.475	2.899	3.368	3.745	4.038
75	1.852	2.358	2.765	3.212	3.577	3.860
80	1.765	2.252	2.643	3.073	3.426	3.699
85	1.688	2.156	2.533	2.946	3.289	3.554
90	1.617	2.069	2.434	2.831	3.164	3.421
95	1.552	1.990	2.342	2.726	3.050	3.299
100	1.493	1.917	2.258	2.629	2.944	3.187
105	1.439	1.850	2.181	2.540	2.847	3.083
110	1.389	1.788	2.109	2.457	2.757	2.988

where:	2yr	5yr	10yr
e=	0.831	0.795	0.778
b=	74	80	87
d=	9.6	9.2	9.2

25yr	50yr	100yr
0.771	0.749	0.740
98	99	103
9.2	9.2	9.6



LOCATION MAP

SCALE: 1" = 2000'

SUBDIVISION PLAT OF
SAN GABRIEL
SUBDIVISION

9.98 ACRES BEING OUT OF FARM TRACT 795, THE WEST AND ADAMS TRACTS AS RECORDED IN VOLUME 2, PAGES 34-37 OF THE MAP RECORDS OF HIDALGO COUNTY, TEXAS.

STATE OF TEXAS
COUNTY OF HIDALGO

I, THE UNDERSIGNED OWNER(S) OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS SAN GABRIEL SUBDIVISION TO THE CITY OF WESLACO, COUNTY OF HIDALGO COUNTY, TEXAS AND WHOSE NAME IS SUBSCRIBED HEREIN, DOES (DO) HEREBY SUBDIVIDE SUCH PROPERTY AND DEDICATE TO THE USE OF THE PUBLIC ALL STREETS, ALLEYS, PARKS, WATER COURSES, DRAINS, EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

NAME: EZEQUIEL REYNA, GENERAL PARTNER
ADDRESS: 702 W. EXPRESSWAY 83, STE. 100
WESLACO, TEXAS 78596

STATE OF TEXAS
COUNTY OF HIDALGO

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DATED PERSONALLY APPEARED EZEQUIEL REYNA, KNOWN TO ME AS THE PERSON(S) WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND HE (SHE) ACKNOWLEDGED TO ME THAT THEY EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN STATED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE _____ DAY OF _____, 2021.

NOTARY PUBLIC FOR THE STATE OF TEXAS
MY COMMISSION EXPIRES ON: _____

STATE OF TEXAS
COUNTY OF HIDALGO
CERTIFICATE OF PLAT APPROVAL
UNDER LOCAL GOVERNMENT CODE 212.0115(b)

WE, THE UNDERSIGNED, CERTIFY THAT THIS PLAT OF SAN GABRIEL SUBDIVISION WAS REVIEWED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF WESLACO.

MAYOR OF THE CITY OF WESLACO: DAVID SUAREZ

SECRETARY OF THE CITY OF WESLACO, NORMA A. CANTU

THIS PLAT OF SAN GABRIEL SUBDIVISION HAS BEEN SUBMITTED TO AND CONSIDERED BY THE PLANNING AND ZONING COMMISSION OF THE CITY OF WESLACO, TEXAS AND IS HEREBY APPROVED BY SUCH COMMISSION.

DATED THIS _____ DAY OF _____, 2021.

CHAIRMAN

THIS PLAT APPROVED BY HIDALGO AND CAMERON COUNTIES IRRIGATION DISTRICT NO. 9, THIS THE _____ DAY OF _____, 2021.
NO IMPROVEMENTS OF ANY KIND SHALL BE PLACED UPON HIDALGO AND CAMERON COUNTY IRRIGATION DISTRICT NO. 9 RIGHT-OF-WAY OR EASEMENTS WITHOUT THE EXPRESSED WRITTEN PERMISSION OF THE HIDALGO AND CAMERON COUNTY IRRIGATION DISTRICT NO. 9.

SECRETARY

STATE OF TEXAS
COUNTY OF HIDALGO

I, JAVIER HINOJOSA, P.E., A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, HEREBY CERTIFY THAT PROPER ENGINEERING CONSIDERATION HAS BEEN GIVEN TO THIS PLAT.

JAVIER HINOJOSA, P.E.
REGISTERED PROFESSIONAL ENGINEER NO. 74808

I, CARLOS VASQUEZ, A REGISTERED PUBLIC LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT AND UNDER MY SUPERVISION ON THE GROUND.

CARLOS VASQUEZ, R.P.L.S.
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4608
C.V.Q. LAND SURVEYORS LLC
517 BEAUMONT AVENUE
MCALLEN, TEXAS 78502

DATE SURVEYED: FEBRUARY 01, 2021

SCALE: 1" = 100'

METES and BOUNDS DESCRIPTION

A TRACT OF LAND CONTAINING 9.98 ACRES OF LAND, MORE OR LESS SITUATED IN HIDALGO COUNTY, TEXAS, BEING PART OF FARM TRACT 795, THE WEST AND ADAMS TRACTS, HIDALGO COUNTY, TEXAS, MADE RECORDED IN VOLUME 2, PAGES 34-37 OF THE MAP RECORDS OF HIDALGO COUNTY, TEXAS, SAID 9.98 ACRES BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A 1/2" IRON ROD WITH A PLASTIC CAP STAMPED "PE 5242" FOUND AT THE SOUTHWEST CORNER OF THIS TRACT;

THENCE N 01°11'45" W, ALONG THE WEST LINE OF SAID FARM TRACT 795, WITHIN SAID MILE 6 WEST ROAD A DISTANCE OF 329.51 FEET TO A 1/2" IRON ROD WITH A PLASTIC CAP STAMPED "PE 5242" FOUND FOR THE NORTHWEST CORNER HEREOF;

THENCE N 88°49'42" E, A DISTANCE OF 1,320.00 FEET TO A 1/2" IRON ROD WITH A PLASTIC CAP STAMPED "PE 5242" FOUND ON THE EAST LINE OF SAID FARM TRACT 795, THE WEST LINE OF TERRA SANTA GOLF CLUB AND COMMUNITY PHASE 1, FOR THE NORTHEAST CORNER HEREOF;

THENCE S 01°11'45" E, ALONG THE EAST LINE OF SAID FARM TRACT 795, THE WEST LINE OF SAID TERRA SANTA GOLF CLUB AND COMMUNITY PHASE 1, A DISTANCE OF 329.27 FEET, TO A 1/2" IRON ROD WITH A PLASTIC CAP STAMPED "PE 5242" FOUND ON THE SOUTHEAST CORNER OF SAID FARM TRACT 795, FOR THE SOUTHEAST CORNER HEREOF;

THENCE S 88°48'47" W, ALONG THE SOUTH LINE OF SAID FARM TRACT 795 AND THE NORTH LINE OF SAID TERRA SANTA GOLF CLUB AND COMMUNITY PHASE 1, PASS AT A DISTANCE OF 1300.00 FEET A 1/2" IRON ROD WITH A PLASTIC CAP STAMPED "PE 5242" FOUND ON THE EAST LINE OF SAID MILE 6 WEST ROAD, CONTINUING A TOTAL DISTANCE OF 1120.00 FEET, TO THE POINT OF BEGINNING, CONTAINING 9.98 ACRES OF LAND, BEING MORE PARTICULARLY DESCRIBED AS PER TEXAS STATE PLANE COORDINATE SYSTEM.



HIDALGO COUNTY DRAINAGE DISTRICT NO. 1 HEREBY CERTIFIES THAT THE DRAINAGE PLANS FOR THIS SUBDIVISION COMPLY WITH THE MINIMUM STANDARDS OF THE DISTRICT ADOPTED UNDER TEXAS WATER CODE 45.211(C). THE DISTRICT HAS NOT REVIEWED AND DOES NOT CERTIFY THAT THE DRAINAGE PLANS ARE APPROPRIATE FOR THE SPECIFIC SUBDIVISION, BASED ON GENERALLY ACCEPTED ENGINEERING CRITERIA. IT IS THE RESPONSIBILITY OF THE DEVELOPER AND HIS ENGINEER TO MAKE THESE DETERMINATIONS.

HIDALGO COUNTY DRAINAGE DISTRICT NO. 1

RAUL E. SESIN, P.E., C.F.M.
GENERAL MANAGER

THIS PLAT IS APPROVED BY HIDALGO AND CAMERON COUNTIES IRRIGATION DISTRICT NO. 9

DATED THIS _____ DAY OF _____, 2021.

1. NO IMPROVEMENTS OF ANY KIND SHALL BE PLACED UPON HCOID #9 RIGHT-OF-WAY OR EASEMENT WITHOUT THE EXPRESSED WRITTEN PERMISSION OF HCOID #9.
2. IT IS UNDERSTOOD THAT THE RATE OF FLOW OF STORM WATER WILL NOT BE GREATER THAN THE RATE OF FLOW OF STORM WATER WHEN THE LAND WAS IN AGRICULTURAL USE.
3. HCOID #9 WILL NOT BE RESPONSIBLE FOR STORM DRAINAGE OR DELIVERY OF WATER TO ANY LOT IN THIS SUBDIVISION. IF DESIRED, THIS WILL NOT BE AT THE DISTRICT'S EXPENSE. ALSO THERE WILL NOT BE ANY PERMANENT STRUCTURES ON DISTRICT RIGHT-OF-WAYS AND/OR EASEMENTS.
4. HCOID #9 HAS NOT REVIEWED AND DOES NOT CERTIFY THAT THE STORM SEWERS OR UTILITIES SYSTEM DESCRIBED ARE APPROPRIATE FOR THE PARTICULAR SUBDIVISION. BASED ON GENERALLY ACCEPTED ENGINEERING CRITERIA. THE DEVELOPER AND HIS ENGINEER ARE RESPONSIBLE FOR THEIR DETERMINATIONS.

GENERAL MANAGER
HIDALGO & CAMERON COUNTIES IRRIGATION DISTRICT NO. 9



ON: _____ AT _____ AM/PM
INSTRUMENT NUMBER _____
OF THE MAP RECORDS OF HIDALGO COUNTY, TEXAS
BY: _____ DEPUTY

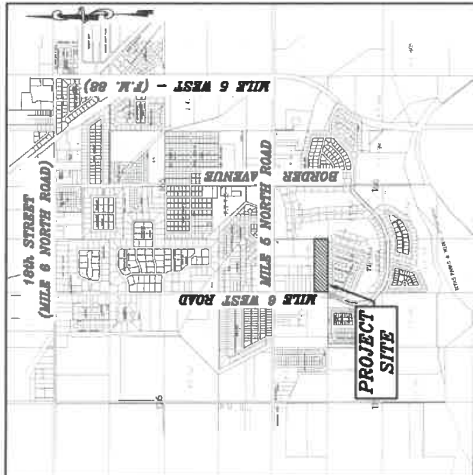
PRINCIPAL CONTACTS:
NAME: _____ CITY & ZIP: _____
ADDRESS: _____
OWNER: COTTONFIELD, LTD. 702 W. EXPRESSWAY 83 WESLACO, TX 78596 (956)477-3962
ENGINEER: JAVIER HINOJOSA 418 E. DOVE AVENUE MCALLEN, TX 78504 (956)668-1588
SURVEYOR: CARLOS VASQUEZ 517 BEAUMONT AVE. MCALLEN, TX 78501 (956)618-1551

JAVIER HINOJOSA ENGINEERING
CONSULTING ENGINEERS
418 E. DOVE AVENUE MCALLEN, TEXAS 78504
PHONE (956) 668-1588
javier@javierhinojosa.com
TPELS FIRM NO. F-1285

LOCATION MAP
SCALE: 1" = 2000'

DATE OF PREPARATION: OCTOBER, 2021

DRAWN BY:



CURVE DATA			
CURVE	DELTA	RADIUS	CHORD
"C1"	150°00'00"	50.00'	186.60'
"C2"	150°00'00"	50.00'	186.60'

LOT #	AREA	SQ. FT.	ACRES	LOT #	AREA	SQ. FT.	ACRES
1	13,161	0.30	17	12,335	0.28		
2	8,637	0.20	18	12,334	0.28		
3	8,637	0.20	19	12,334	0.28		
4	8,633	0.20	20	12,332	0.28		
5	8,631	0.20	21	12,331	0.28		
6	8,630	0.20	22	12,331	0.28		
7	8,628	0.20	23	12,329	0.28		
8	8,628	0.20	24	12,329	0.28		
9	8,661	0.20	25	12,327	0.28		
10	8,662	0.20	26	12,327	0.28		
11	8,616	0.20	27	12,326	0.28		
12	8,616	0.20	28	12,326	0.28		
13	8,615	0.20	29	12,324	0.28		
14	8,613	0.20	30	12,324	0.28		
15	15,540	0.36	31	16,589	0.38		
16	22,619	0.52					

LEGEND:

- IRON ROD FOUND
- IRON ROD SET OF BEGINNING
- IRON ROD SET OF END
- IRON ROD SET OF RIGHT OF WAY
- H.C.M.R. = HIDALGO COUNTY MAP RECORDS

SUBDIVISION PLAT OF
SAN GABRIEL
SUBDIVISION PHASE II

10.01 ACRES BEING OUT OF FARM TRACT 795, THE
WEST AND ADAMS TRACTS, AS RECORDED IN VOLUME 2,
PAGES 34-37 OF THE MAP RECORDS OF HIDALGO
COUNTY, TEXAS.

STATE OF TEXAS
COUNTY OF HIDALGO

I, THE UNDERSIGNED OWNER(S) OF THE LAND SHOWN ON THIS PLAT, AND
DESIGNATED HEREIN AS SAN GABRIEL SUBDIVISION PHASE II TO THE CITY OF
WESLACO, COUNTY OF HIDALGO COUNTY, TEXAS AND WHOSE NAME IS
SUBSCRIBED HERETO, DOES (DO) HEREBY SUBDIVIDE SUCH PROPERTY AND
SURRENDER THE USE OF THE PUBLIC ALL STREETS, ALLEYS, PARKS, WATER
COURSES, OR LAKES, OR ANY PART THEREOF, TO THE PUBLIC FOR THE
PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

NAME: EZEQUIEL REYNA, GENERAL PARTNER
OWNER: COTTONFIELD LTD.,
ADDRESS: 702 W. EXPRESSWAY 83, STE. 100
WESLACO, TEXAS 78596

STATE OF TEXAS
COUNTY OF HIDALGO

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DATED PERSONALLY
APPEARED EZEQUIEL REYNA KNOWN TO ME TO BE THE PERSON(S) WHOSE
NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO
ME THAT THEY EXECUTED THE SAME FOR THE PURPOSES AND
CONSIDERATIONS THEREIN STATED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE ____ DAY OF
_____, 2021.

NOTARY PUBLIC FOR THE STATE OF TEXAS
MY COMMISSION EXPIRES ON: _____

STATE OF TEXAS
COUNTY OF HIDALGO
COMMISSIONED FOR PLAT APPROVAL
UNDER LOCAL GOVERNMENT CODE 212.0115(b)

WE, THE UNDERSIGNED, CERTIFY THAT THIS PLAT OF SAN GABRIEL SUBDIVISION
PHASE II WAS REVIEWED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF
WESLACO.

MAYOR OF THE CITY OF WESLACO: DAVID SUAREZ

SECRETARY OF THE CITY OF WESLACO, NORMA A. CANTU

THIS PLAT OF SAN GABRIEL SUBDIVISION PHASE II HAS BEEN SUBMITTED TO AND
CONSIDERED BY THE PLANNING AND ZONING COMMISSION OF THE CITY OF
WESLACO, TEXAS AND IS HEREBY APPROVED BY SUCH COMMISSION.

DATED THIS ____ DAY OF _____, 2021.

SECRETARY

STATE OF TEXAS
COUNTY OF HIDALGO

I, JAVIER HINOJOSA, P.E., A REGISTERED PROFESSIONAL ENGINEER IN THE STATE
OF TEXAS, HEREBY CERTIFY THAT PROPER ENGINEERING CONSIDERATION HAS BEEN
GIVEN TO THIS PLAT.

JAVIER HINOJOSA, P.E.
REGISTERED PROFESSIONAL ENGINEER NO. 74808

I, CARLOS VASQUEZ, A REGISTERED PUBLIC LAND SURVEYOR IN STATE
OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT AND
WAS PREPARED AND DRAWN IN ACCORDANCE WITH THE RULES AND REGULATIONS
UNDER MY SUPERVISION ON THE GROUND.

CARLOS VASQUEZ, R.P.L.S.
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4608
C.V.Q. LAND SURVEYORS L.L.C.
10101 BEAUMONT AVENUE
MCALLEN, TEXAS 78501
TEL. (956) 618-1551

DATE SURVEYED: FEBRUARY 01, 2021

GENERAL NOTES

1. THIS PROPERTY IS LOCATED IN ZONE "B" ON A FLOOD INSURANCE RATE MAP, COMMUNITY PANEL
No. 480334 0525 B, REVISED JANUARY 2, 1981. ZONE "B" IS DEFINED AS AREAS BETWEEN LIMITS
OF THE 100-YEAR FLOOD AND 500-YEAR FLOOD; OR CERTAIN AREAS SUBJECT TO 100-YEAR
FLOODING, WITH AVERAGE DEPTHS LESS THAN ONE (1) FOOT OR WHERE THE CONTRIBUTING
DRAINAGE AREA IS LESS THAN ONE SQUARE MILE, OR AREAS PROTECTED BY LEVEES FROM THE
BASE FLOOD.
2. MINIMUM FINISH FLOOR ELEVATION SHALL BE 18" ABOVE THE TOP OF CURB AS MEASURED AT THE
CENTER OF EACH LOT.
3. IN ACCORDANCE WITH THE HIDALGO COUNTY DRAINAGE DISTRICT NO.1 AND CITY OF WESLACO
REQUIREMENTS, THIS DEVELOPMENT WILL BE REQUIRED TO DETAIN A TOTAL OF 136,880 CUBIC FEET
(3,142 ACRE-Feet) OF STORM WATER RUNOFF. DRAINAGE DETENTION IN ACCORDANCE WITH THE
LOCAL REQUIREMENTS WILL BE ACCOMPLISHED AS FOLLOWS: THE DEVELOPER SHALL BE
RESPONSIBLE TO DETAIN AND ACCOMMODATE MORE THAN THE DETAINED VOLUME SHOWN ABOVE IF
DETERMINES AT THE DEVELOPMENT PERMIT STAGE THAT THE DETENTION REQUIREMENTS ARE
NOT MET. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE DETENTION
CONSIDERED FOR HIS CALCULATIONS OF THIS SUBDIVISION.
4. NO PERMANENT STRUCTURES ARE PERMITTED OVER ANY EASEMENTS. EASEMENTS SHALL BE KEPT
CLEAR OF BUILDING, SHEDS, SHRUBS, TREES AND OTHER PLANTINGS (EXCEPT LOW, LESS THAN 18"
MATURE HEIGHTS, GROUND COVER, GRASS OR FLOWERS) AND OTHER OBSTRUCTIONS THAT WILL
INTERFERE WITH THE OPERATIONS AND MAINTENANCE OF THE EASEMENT.
5. MINIMUM BUILDING SETBACKS SHALL BE AS FOLLOWS:
FRONT:25 FEET
REAR:15 FEET
SIDE:5 FEET
SIDE CORNER:10 FEET
6. A 5-FOOT SIDEWALK SHALL BE REQUIRED ALONG THE SOUTH SIDE OF MILE 5 NORTH.
7. A 4-FOOT SIDEWALK SHALL BE REQUIRED ALONG BOTH SIDES OF INTERIOR STREET AT TIME OF
BUILDING PERMIT.
8. PROJECT BENCHMARK: MAGNETIC NAIL SET 27.55 FEET SOUTH AND 310.57 FEET EAST FROM THE
NORTHEAST CORNER OF THIS SUBDIVISION. ELEVATION: 68.64 (NAD 83-NAVD 88) (ZONE 4205 TX,
SOUTH). NORTHING: 16578357.402 EASTING: 1162741.954
9. SET 1/2" IRON ROD ON ALL LOT CORNERS UNLESS OTHERWISE NOTED.
10. NO PERMANENT STRUCTURES SHALL BE PERMITTED OVER ANY EASEMENTS.
11. LANDSCAPING REQUIRED FOR THIS SUBDIVISION SHALL BE AS PER CITY OF WESLACO LANDSCAPE
ORDINANCE.
12. A STORMWATER POLLUTION PREVENTION PLAN SHALL BE REQUIRED PRIOR TO CONSTRUCTION AND
MUST COMPLY WITH TPDES & FOLLOW SNRP.
13. STREET LIGHTS AND STREET SIGNS SHALL BE INSTALLED IN ACCORDANCE TO CITY OF WESLACO
ORDINANCE BY THE DEVELOPER PRIOR TO ISSUANCE OF BUILDING PERMIT.
14. STREET LIGHTS MUST BE LOCATED AT 300-FOOT MAXIMUM SPACING.
15. NO ACCESS SHALL BE PERMITTED FOR LOTS 67 AND 68 TO MILE 5 NORTH.
16. SITE PLAN AND DETENTION PLAN MUST BE REVIEWED AND APPROVED BY THE CITY OF WESLACO
PRIOR TO ISSUANCE OF BUILDING PERMIT.
17. CORNER LOT DRIVEWAYS SHOULD BE CONSTRUCTED AT FURTHEST POSSIBLE POINT FROM
INTERSECTION AND IN COMPLIANCE WITH ACCESS MANAGEMENT ORDINANCE.

HIDALGO COUNTY DRAINAGE DISTRICT NO. 1 HEREBY CERTIFIES THAT THE DRAINAGE
SUBDIVISION COMPLIES WITH THE MINIMUM STANDARDS OF THE DISTRICT ADOPTED FOR THE
WATERSHED. THE DRAINAGE DISTRICT ENGINEER AND DESIGNER HAVE REVIEWED THE
DRAINAGE STRUCTURES DESCRIBED ARE APPROPRIATE FOR THE SPECIFIC SITE AND
GENERALLY ACCEPTED ENGINEERING CRITERIA. IT IS THE RESPONSIBILITY OF THE
ENGINEER TO MAKE THESE DETERMINATIONS.

HIDALGO COUNTY DRAINAGE DISTRICT NO. 1

RAUL E. SESIN, P.E., C.F.M.
GENERAL MANAGER

DATE

THIS PLAT IS APPROVED BY HIDALGO AND CAMERON COUNTIES IRRIGATION DISTRICT NO. 9
DATED THIS ____ DAY OF _____, 2021.

1. NO IMPROVEMENTS OF ANY KIND SHALL BE PLACED UPON HCDD #9 RIGHT-OF-WAY OR EASEMENT
WITHOUT THE EXPRESSED WRITTEN PERMISSION OF HCDD #9.
2. IT IS UNDERSTOOD THAT THE RATE OF FLOW OF STORM WATER WILL NOT BE GREATER THAN THE
RATE OF FLOW OF STORM WATER WHEN THE LAND WAS IN AGRICULTURAL USE.
3. HCDD #9 WILL NOT BE RESPONSIBLE FOR STORM/DRAINAGE OR DELIVERY OF WATER TO ANY LOT
IN THIS SUBDIVISION. IF DESIRED, THIS WILL NOT BE AT THE DISTRICT'S EXPENSE. ALSO THERE WILL
NOT BE ANY PERMANENT STRUCTURES ON DISTRICT RIGHT-OF-WAYS AND/OR EASEMENTS.
4. HCDD #9 HAS NOT REVIEWED AND DOES NOT CERTIFY THAT THE STORM SEWERS OR UTILITIES
SYSTEM DESCRIBED IS APPROPRIATE FOR THE SUBDIVISION. THE DEVELOPER AND HIS ENGINEER ARE RESPONSIBLE FOR
THEIR DETERMINATIONS.

GENERAL MANAGER
HIDALGO & CAMERON COUNTIES IRRIGATION DISTRICT NO. 9



FILED FOR RECORD IN
HIDALGO COUNTY
ARTURO GUJARDO, JR.
HIDALGO COUNTY CLERK

ON: _____ AT _____ AM/PM
INSTRUMENT NUMBER _____
OF THE MAP RECORDS OF HIDALGO COUNTY, TEXAS
BY: _____ DEPUTY

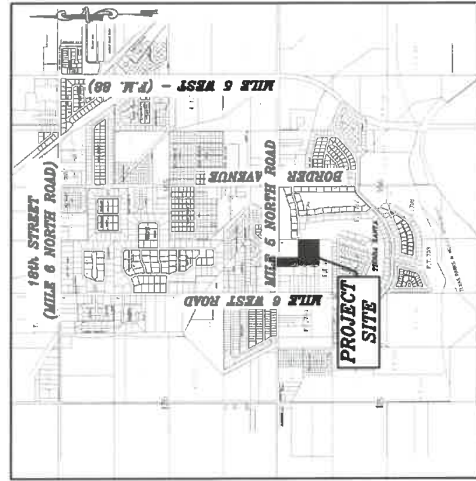
PRINCIPAL CONTACTS:			
NAME	ADDRESS	CITY & ZIP	PHONE #
OWNER: COTTONFIELD, LTD.	702 W. EXPRESSWAY 83	WESLACO, TX 78596	(956) 477-3962
ENGINEER: JAVIER HINOJOSA	418 E. DOVE AVENUE	MCALLEN, TX 78504	(956) 968-1368
SURVEYOR: CARLOS VASQUEZ	517 BEAUMONT AVE.	MCALLEN, TX 78501	(956) 618-1551

Bearing basis as per TEXAS STATE PLANE COORDINATES SYSTEM NAD 1983, South Zone.

DRAWN BY: G. TEEGARDEN

DATE OF PREPARATION: NOVEMBER, 2021

JAVIER HINOJOSA ENGINEERING
CONSULTING ENGINEERS
418 E. DOVE AVENUE MCALLEN, TEXAS 78504
PHONE (956) 688-1588
javier@javierhinojosaengineering.com
TBPELS FIRM No. F-1295



LOCATION MAP
SCALE: 1" = 2000'

METES AND BOUNDS DESCRIPTION

A tract of land containing 10.01 acres of land, more or less situated in Hidalgo County, Texas, being part of
portion of FARM TRACT 795, THE WEST AND ADAMS TRACTS, Hidalgo County, Texas, map reference: Volume 2,
Pages 34-37, Map Records, Hidalgo County, Texas, said 10.01 acres being more particularly described as follows;

COMMENCING for reference at the Northwest corner of said Farm Tract 795, within the intersection of
Mile 6 West Road and Mile 5 North Road, THENCE N 88° 48' 15" E, along the North line of said Farm
Tract 795, within said Mile 5 North Road a distance of 659.78 feet to the Northeast corner of a tract of land
deeded to Rogelio Olvera and wife, Maria Olvera in Document Number 870627 Deed Records, Hidalgo County,
Texas for the POINT OF BEGINNING and the Northwest corner of this tract;

THENCE N 88° 48' 15" E, continuing along the North line of said Farm Tract 795, within said Mile 5 North Road
a distance of 220.00 feet to the northwest corner of a tract of land deeded to MW Petroleum Corporation,
recovered in Volume 3107 Page 511 Deed Records, Hidalgo County, Texas, for the Northeast corner hereof;

THENCE S 01° 11' 45" E, along the west line of said Petroleum Corporation tract at distance of 20.00 feet pass
the South right-of-way line of said Mile 5 North Road, at a distance of 30.00 feet pass on Iron rod found on
the South line of a 10.00 foot right-of-way agreement to South Texas Natural Gas Gathering Company, recorded
in Volume 3107 Page 538 Deed Records, Hidalgo County, Texas, continuing a total distance of 485.48 feet to on
Iron rod found on the South line of said Mile 5 North Road, on the southwest corner of said Petroleum Corporation
tract, and inside corner hereof;

THENCE N 88° 48' 15" E, along the south line of said Petroleum Corporation tract, a distance of 440.22 feet, to
1/2" iron rod with a plastic cap stamped "PE 522" found on the southeast corner of said Petroleum
Corporation tract, recovered in Volume 3107 Page 511 Deed Records, Hidalgo County, Texas, for the Northeast corner
Phase I recorded in Volume 31 Page 79, Map Records, Hidalgo County, Texas, for the Northeast corner hereof;

THENCE S 01° 11' 45" E, along the common line of said Farm Tract 795, the west line of said Tierra Santa Golf
Club Subdivision, a distance of 485.25 feet, for the Southeast corner hereof;

THENCE S 88° 49' 24" W, distance of 660.22 feet to the southeast corner of a tract of land deeded to Adrian
Rodriguez and wife, Lidia Rodriguez recorded in Document Number 517465 Deed Records, Hidalgo County, Texas,
for the Southwest corner hereof;

THENCE N 01° 11' 45" W, along the common line of said Rodriguez tract, at distance of 960.51 feet pass the
south line of said South Texas Natural Gas Company right-of-way agreement, at a distance of 970.51 feet pass the
South right-of-way line of said Mile 5 North Road, continuing a total distance of 980.51 feet to the POINT OF
BEGINNING, containing 10.01 acres of land, more or less.

LEGEND:

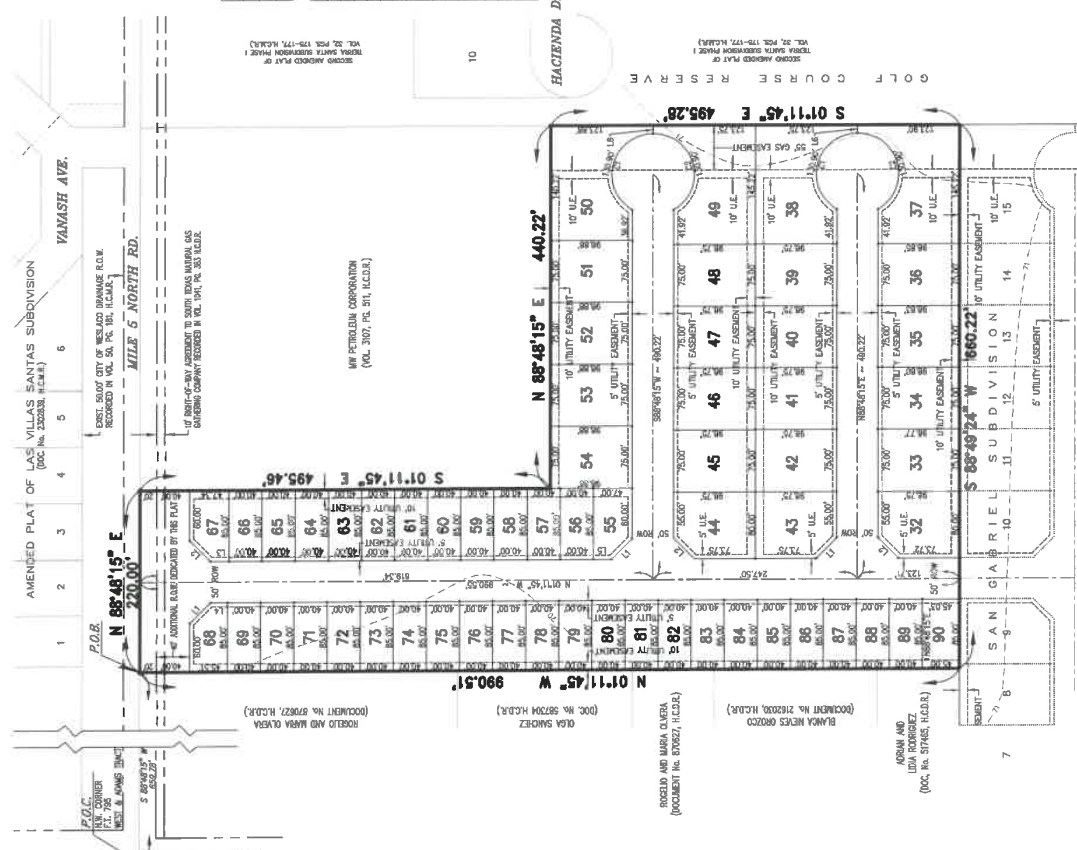
- IRON ROD FOUND
- IRON ROD SET
- P.O.B. = POINT OF BEGINNING
- P.O.C. = POINT OF COMMENCEMENT
- R.O.W. = RIGHT OF WAY
- H.C.D.R. = HIDALGO COUNTY MAP RECORDS
- U.E. = UTILITY EASEMENT

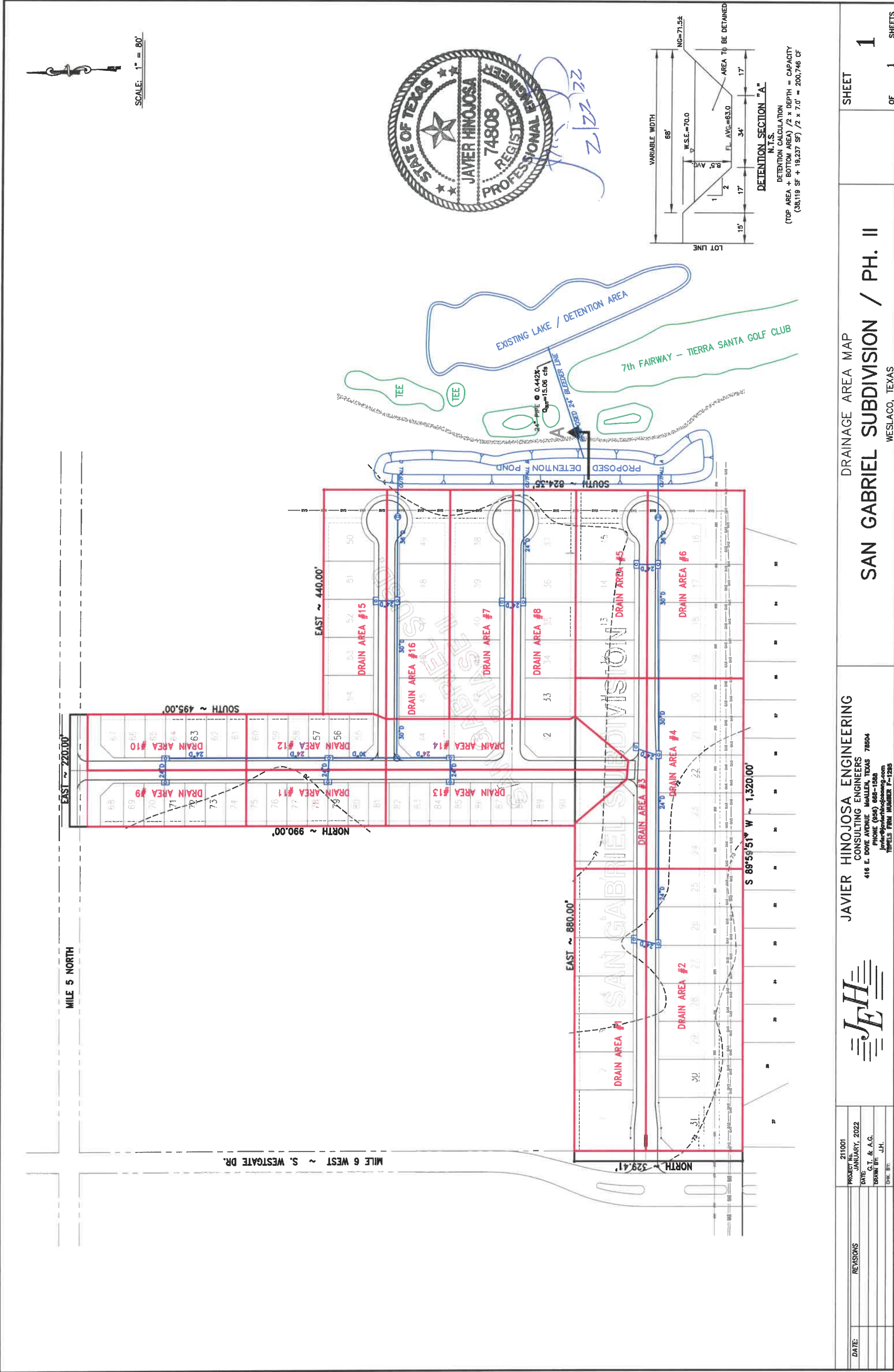
SCALE: 1" = 100'

CURVE DATA				
CURVE	DELTA	RADIUS	TANGENT	CH. BEARING
"C1"	150°00'00"	50.00'	186.80'	130.90'
"C2"	150°00'00"	50.00'	186.80'	130.90'

LINE DATA			
LINE	BEARING	LENGTH	DISTANCE
L1	N 48°11'45" E	35.36	
L2	N 43°48'15" E	35.36	
L3	N 01°11'45" E	22.54	
L4	S 01°11'45" W	22.54	
L5	N 01°11'45" W	22.00	
L6	S 88°48'15" W	10.00'	

IRREGULAR LOT AREAS			
LOT #	AREA, SQ. FT.	ACRES	
32	7,596	0.17	
33	7,407	0.17	
34	7,409	0.17	
35	7,413	0.17	
36	7,413	0.17	
37	13,128	0.30	
38	13,109	0.30	
44	7,588	0.17	
49	13,109	0.30	
50	12,633	0.29	
51	3,663	0.08	
52	3,556	0.08	
60	3,626	0.09	
90			





JAVIER HINOJOSA ENGINEERING
CONSULTING ENGINEERS
416 E. DOW AVENUE, MULEN, TEXAS 78044
PHONE: (512) 688-1800
JHINOJOSA@JHEENGINEERING.COM
TXPELS FIRM NUMBER F-1295

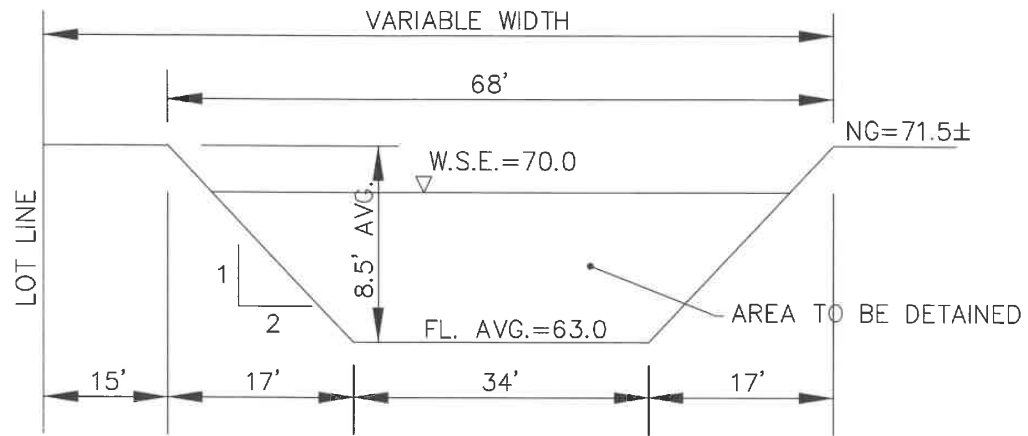


DATE:	REVISIONS
21001	PROJ. NO.
JANUARY, 2022	DATE
G.T. & A.G.	DATE
DRAIN BY: J.H.	DATE
CHK BY:	DATE

DRAINAGE AREA MAP
SAN GABRIEL SUBDIVISION / PH. II
WESLACO, TEXAS

SHEET
1
OF
1
SHEETS

211001

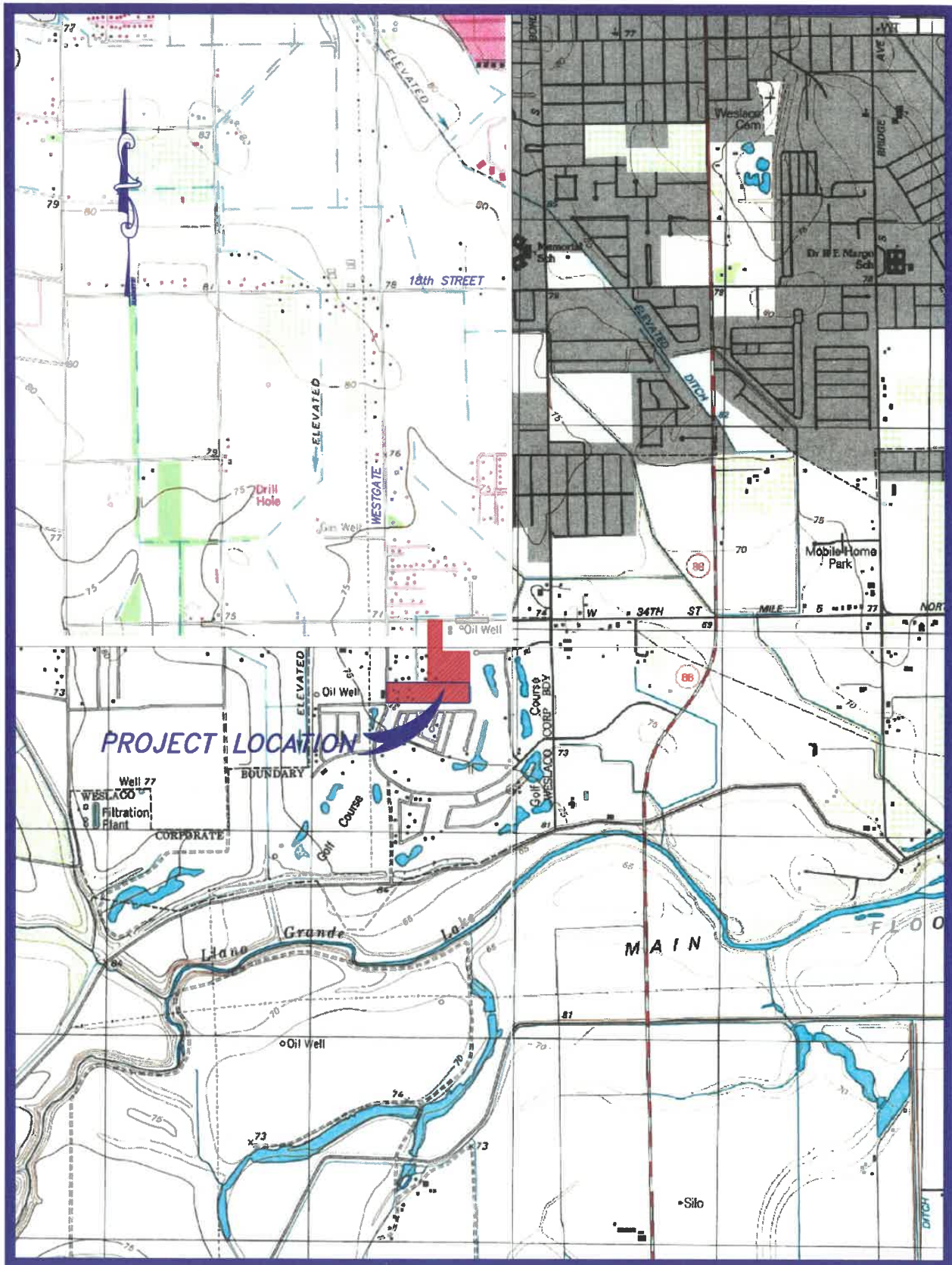


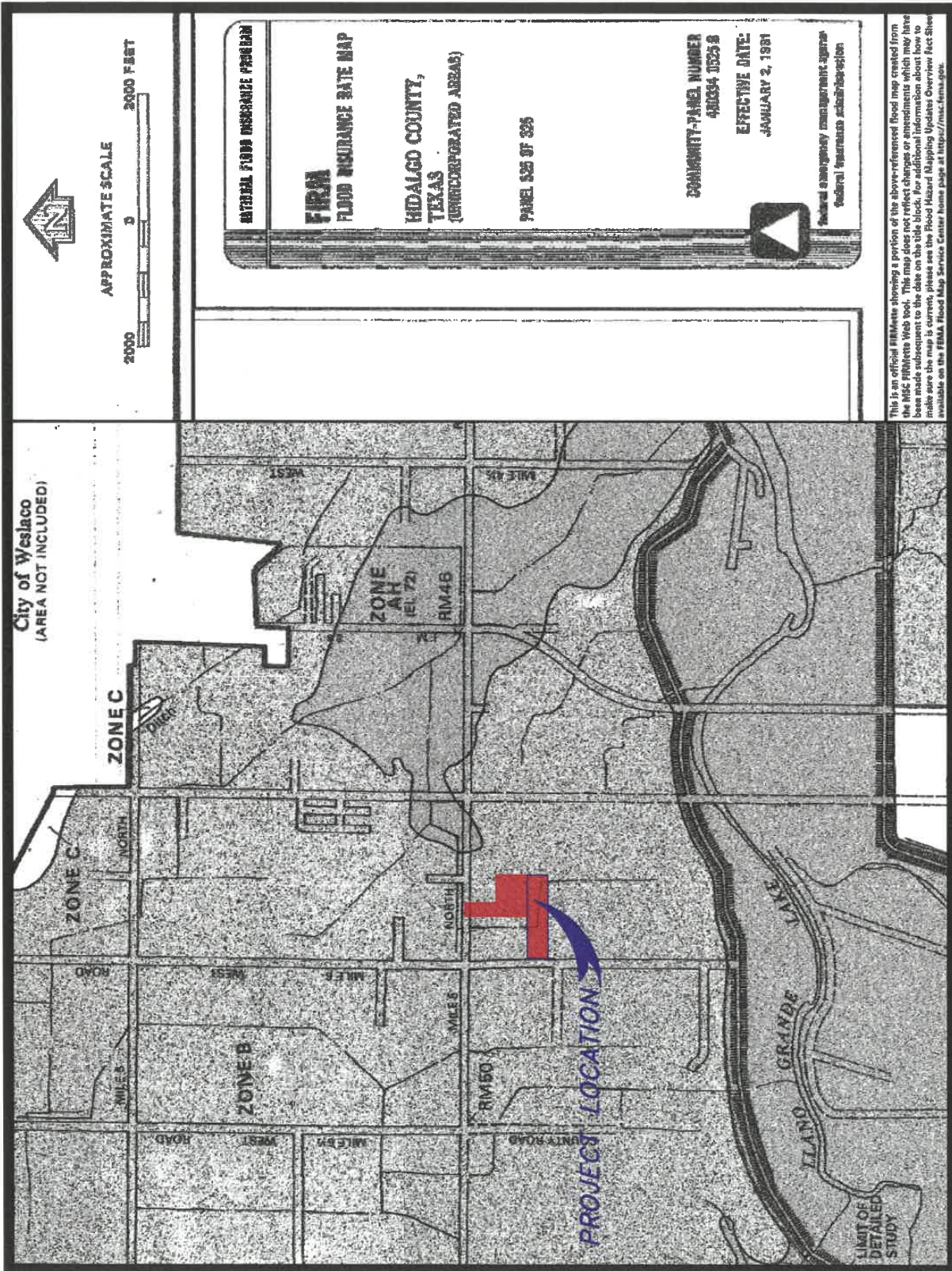
DETENTION SECTION "A"

N.T.S.

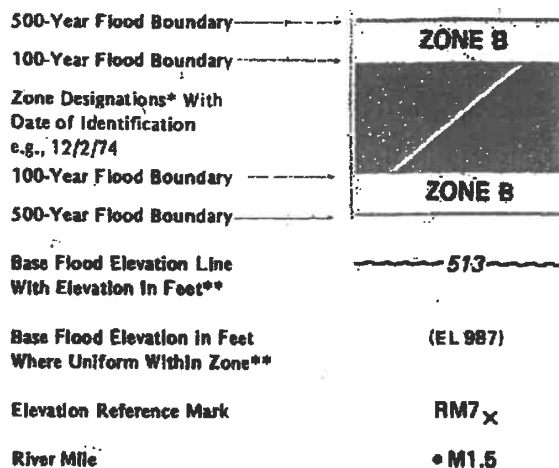
DETENTION CALCULATION

$$\begin{aligned} &(\text{TOP AREA} + \text{BOTTOM AREA}) / 2 \times \text{DEPTH} = \text{CAPACITY} \\ &(38,119 \text{ SF} + 19,237 \text{ SF}) / 2 \times 7.0' = 200,746 \text{ CF} \end{aligned}$$





KEY TO MAP



**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.



A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Hidalgo County, Texas

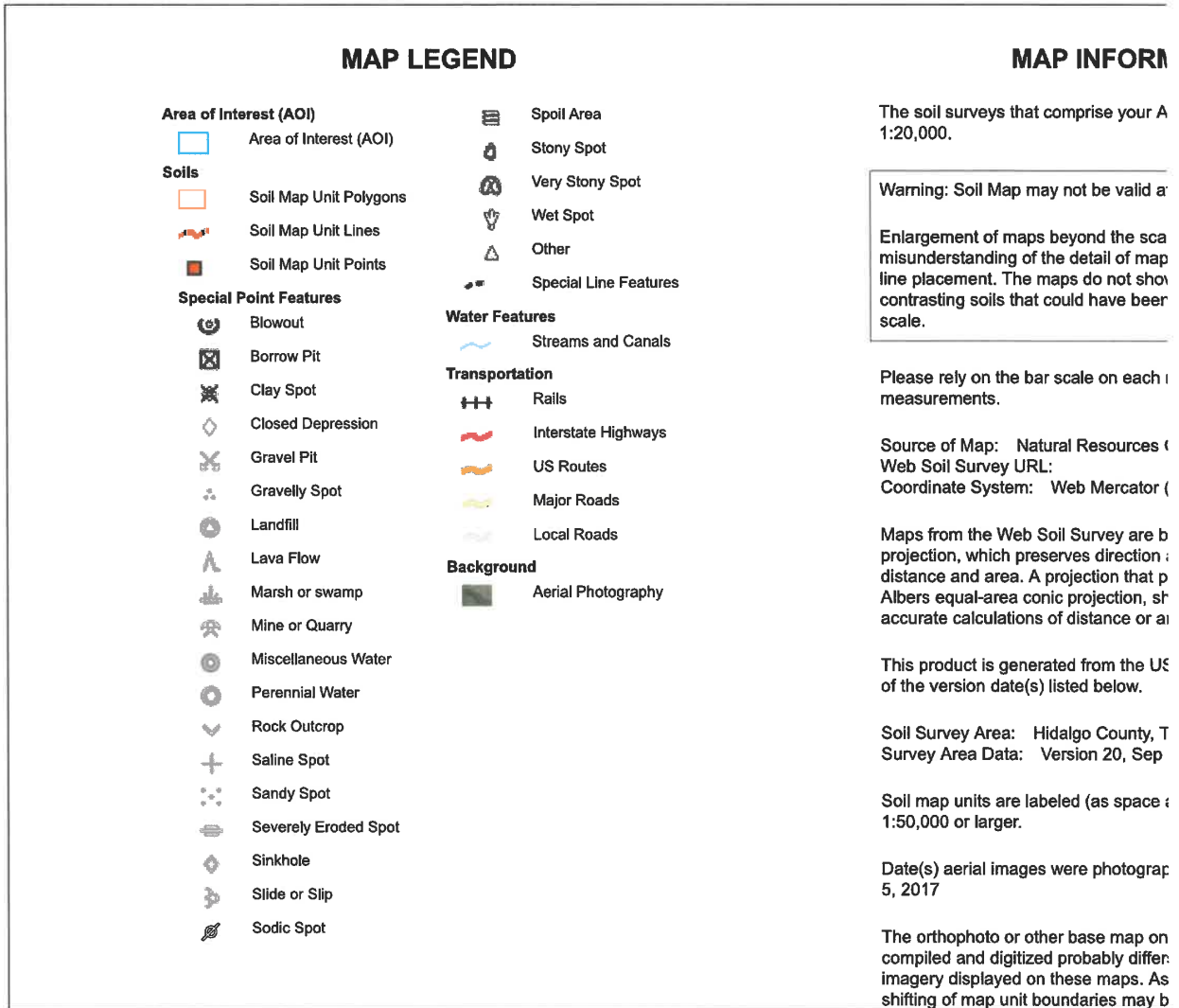
SAN GABRIEL SUBDIVISION



October 20, 2021



Custom Soil Resource Report



Custom Soil Resource Report

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
7	Cameron silty clay	0.3	1.4%
28	Hidalgo sandy clay loam, 0 to 1 percent slopes	0.8	4.0%
39	Mercedes clay, 0 to 1 percent slopes	0.5	2.5%
52	Raymondville clay loam, 0 to 1 percent slopes	18.5	92.2%
Totals for Area of Interest		20.1	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

Custom Soil Resource Report

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

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TABLE 16. -- ENGINEERING INDEX PROPERTIES--CONTINUED

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number				Liquid limit	Plast. index
			Unified	AASHTO	4	10	40	200		
1:*	in								Pct	
Arents----										
2-----	0-7	Clay-----	CH	A-7-6	100	100	100	95-100	75-94	48-64
Benito	7-65	Clay-----	CH	A-7-6	100	100	100	95-100	75-94	48-64
3, 4-----	0-13	Fine sandy loam	SM, SM-SC	A-2-4, A-4	100	98-100	70-100	20-45	<30	NP-9
Brennan	13-65	Sandy clay loam, loam.	SC, CL	A-2-4 A-2-6 A-4, A-6	95-100	90-100	60-100	30-59	22-39	8-22
5-----	0-8	Silt loam-----	CL, CL-ML	A-6, A-4	100	100	95-100	70-100	20-35	4-16
Camargo	8-65	Stratified silty clay loam to very fine sandy loam.	CL	A-6, A-7-6	100	100	95-100	70-100	30-45	11-25
6-----	0-8	Silty clay loam	CL	A-6, A-7-6	100	100	95-100	70-100	30-45	11-25
Camargo	8-65	Stratified silty clay loam to very fine sandy loam.	CL	A-6, A-7-6	100	100	95-100	70-100	30-45	11-25
7-----	0-30	Silty clay-----	CH, CL	A-7-6	100	100	100	90-100	48-68	25-41
Cameron	30-65	Silt loam, loam	CL	A-4, A-6	100	95-100	90-100	70-95	25-35	8-15
8-----	0-28	Loamy fine sand	SM, SM-SC	A-2-4	95-100	95-100	85-100	15-25	<25	NP-4
Comitas	28-80	Fine sandy loam, sandy clay loam.	SM, SC SM-SC	A-2-4, A-2-6, A-4, A-6	95-100	95-100	80-100	23-50	<34	NP-14
9-----	0-13	Loamy fine sand	SM, SM-SC	A-2-4, A-4	100	100	85-100	20-45	<25	NP-7
Delfina	13-34	Sandy clay loam, clay loam.	SC, CL	A-6, A-7-6	100	95-100	90-100	40-55	31-48	18-35
	34-72	Sandy clay loam, fine sandy loam.	SC	A-6, A-7-6	90-100	75-98	70-97	36-50	30-46	16-31
10, 11-----	0-13	Fine sandy loam,	SM-SC, SC	A-2-4, A-4	100	100	90-100	25-50	19-30	3-10
Delfina	13-34	Sandy clay loam, clay loam.	SM SC, CL	A-6, A-7-6	100	95-100	90-100	40-55	31-48	18-35
	34-72	Sandy clay loam, fine sandy loam.	SC	A-6, A-7-6	90-100	75-98	70-97	36-50	31-46	16-31
12-----	0-13	Loamy fine sand	SM, SM-SC,	A-2-4	100	95-100	85-100	11-25	<25	NP-7
Delmita	13-34	Sandy clay loam, fine sandy loam.	SP-SM SC	A-2-4 A-2-6, A-4, A-6	100	100	90-100	30-50	27-39	8-18
	34-60	Indurated-----	---	---	---	---	---	---	---	---
13:*	0-13	Fine sandy loam	SM, SM-SC	A-2-4	100	100	90-100	20-35	<27	NP-7
Delmita-----	13-34	Sandy clay loam, fine sandy loam.	SC	A-2-4, A-2-6, A-4, A-6	100	100	90-100	30-50	27-39	8-18
	34-60	Indurated-----	---	---	---	---	---	---	---	---

SOILS LEGEND

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TABLE 16. -- ENGINEERING INDEX PROPERTIES--CONTINUED

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number				Liquid limit	Plas- ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
13:*										
Randado----	0-9	Fine sandy loam	SM, SM-SC	A-2-4	75-100	70-100	70-100	20-35	<25	NP-7
	9-16	Fine sandy loam, sand clay loam.	SC, SM-SC, GC	A-2-4 A-2-6 A-4, A-6	65-100	60-100	60-100	25-50	25-34	7-14
	16-60	Cemented-----	---	---	---	---	---	---	---	---
14-----	0-80	Fine sand-----	SP-SM, SM	A-2-4, A-3	100	100	75-100	5-25	<25	NP-3
Falfurrias										
15-----	0-7	Clay-----	CL, CH	A-7-6	100	100	100	90-100	41-55	20-30
Grulla	7-65	Silty clay, clay	CH	A-7-6	100	100	100	90-100	52-66	28-39
16, 17, 18---	0-18	Fine sandy loam	SC, SM-SC, SM	A-2-4	100	95-100	95-100	17-35	<30	NP-8
Hargill	18-63	Sand clay loam	SC, CL	A-6	100	95-100	95-100	40-55	30-40	11-20
	63-80	Sand clay loam	SC	A-2-4 A-2-6 A-4, A-6	85-100	80-100	75-100	34-50	28-39	9-18
19, 20-----	0-8	Clay-----	CH	A-7-6	100	100	100	90-100	51-85	32-60
Harlingen	8-35	Clay-----	CH	A-7-6	100	100	100	95-100	65-85	50-65
	35-72	Clay-----	CH	A-7-6	100	100	100	95-100	65-85	50-65
21:*										
Harlingen---	0-8	Clay-----	CH	A-7-6	100	100	100	90-100	51-85	32-60
	8-35	Clay-----	CH	A-7-6	100	100	100	95-100	65-85	50-65
	35-72	Clay-----	CH	A-7-6	100	100	100	95-100	65-85	50-65
Urban land.										
22, 23, 24---	0-17	Sandy loam-----	SM	A-2-4	100	100	75-100	13-24	<25	NP-4
Hebbronville	17-58	Fine sandy loam, loam.	SM, SM-SC	A-2-4	100	100	90-100	20-30	<30	NP-7
	58-65	Fine sandy loam, loam.	SM-SC, SC	A-2-4 A-4 A-2-6 A-6	95-100	95-100	90-100	20-40	20-30	4-13
25, 26, 27---	0-17	Fine sandy loam,	SC, SM-SC	A-4, A-6	100	95-100	90-100	36-50	20-30	4-11
Hidalgo	17-28	Sandy clay loam, clay loam.	SC, CL	A-6	100	95-100	90-100	36-80	30-40	11-20
	28-80	Clay loam, sandy clay loam.	CL, SC	A-6, A-7-6	90-100	80-100	75-99	44-80	30-44	11-23
28, 29, 30---	0-17	Sandy clay loam	SC, CL	A-6	100	95-100	90-100	36-55	29-40	11-20
Hidalgo	17-28	Sandy clay loam, clay loam.	SC, CL	A-6	100	95-100	90-100	36-80	30-40	11-20
	28-80	Clay loam, sandy clay loam.	CL, SC	A-6, A-7-6	90-100	80-100	75-99	44-80	40-44	11-23
31*										
Hidalgo-----	0-17	Sandy clay loam	SC, CL	A-6	100	95-100	90-100	36-50	29-40	11-20
	17-28	Sandy clay loam clay loam.	SC, CL	A-6	100	95-100	90-100	36-80	30-40	11-20
	28-80	Clay loam, sandy clay loam.	CL, SC	A-6, A-7-6	90-100	80-100	75-99	44-80	30-44	11-23

SOILS LEGEND

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TABLE 16. -- ENGINEERING INDEX PROPERTIES--CONTINUED

Map symbol and soil name	Depth in	USDA texture	Classification		Percentage passing sieve number				Liquid limit Pct	Plas- ticity index
			Unified	AASHTO	4	10	40	200		
32:* Jimenez----	0-8	Very gravelly loam.	GC, GM-GC	A-1, A-2-4, A-2-6,	30-58	15-40	15-35	15-30	22-35	15-May
	8-10	Cemented-----	---	---	---	---	---	---	---	---
	10-60	Variable-----	---	---	---	---	---	---	---	---
Quemado-----	0-6	Very gravelly sandy loam.	GM, GC, GM-GC	A-1, A-2	30-50	20-50	15-35	15-30	<25	NP-10
	6-12	Very gravelly sandy clay loam. gravelly loam, Very gravelly sandy clay loam.	GM, GC, GM-GC	A-1, A-2	30-50	20-50	15-35	15-30	18-28	10-2
	12-18	Cemented-----	---	---	---	---	---	---	---	---
	18-60	Variable-----	---	---	---	---	---	---	---	---
33--- Laredo	14-Jan	Silty clay loam	CL	A-6, A-7-6, A-4	100	100	90-100	85-100	28-44	9-22
	14-65	Silty clay loam silty loam, very fine sandy loam.	CL	A-6, A-7-6, A-4	100	90-100	90-100	70-95	28-43	9-21
34-----	0-60	Silty clay, stratified silt loam to clay	CH	A-7-6	100	100	100	90-100	51-85	30-41
35, 36, 37--- McAllen	0-14	Fine sandy loam	CL, SC, CL-ML, SM-SC	A-4, A-6	100	100	95-100	36-55	21-30	4-11
	14-72	Sandy clay loam, clay loam, fine sandy loam.	CL, SC,	A-6	95-100	90-100	85-100	45-70	28-40	11-20
38----- McAllen	0-14	Sandy clay loam	CL, SC,	A-6	100	100	95-100	36-55	29-40	11-20
	14-72	Sandy clay loam clay loam, fine sandy loam.	CL, SC,	A-6	95-100	90-100	85-100	45-40	28-40	11-20
39, 40, 41--- Mercedes	0-19	Clay -----	CH	A-7-6	85-100	80-100	80-100	75-100	55-76	32-49
	19-57	Clay -----	CH, CL-CH	A-7-6	85-100	80-100	80-100	75-100	50-76	32-49
	57-65	Clay -----	CH, CL	A-7-6	85-100	80-100	80-100	75-100	48-76	32-49
42----- Nueces	0-29	Fine sand-----	SP-SM, SM, SM-SC	A-2-4, A-3	100	95-100	90-100	8-35	<25	NP-6
	29-72	Sandy clay loam, sandy loam.	SC	A-2-6, A-6	90-100	90-100	80-100	20-50	25-40	11-20
43* Nueces-----	0-29	Fine sand-----	SP-SM, SM, SM-SC	A-2-4, A-3	100	95-100	90-100	8-35	<25	NP-6
	29-72	Sandy clay loam, sandy loam.	SC	A-2-6, A-6	90-100	90-100	80-100	20-50	25-40	11-20
Saita-----	0-48	Fine sand-----	SM-SC, SP-SM, SM	A-2-4, A-4	100	100	65-100	9-35	<25	NP-7
	48-80	Sandy clay loam, fine sandy loam	SC	A-2-6, A-6	100	100	80-100	30-50	28-40	11-22
44----- Olmito	0-47	Silty clay-----	CH	A-7-6	100	100	100	90-100	51-70	28-44
	47-65	Silty clay, silty clay loam.	CH	A-7-6	95-100	90-100	85-100	85-100	51-70	28-44

SOILS LEGEND

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TABLE 16. -- ENGINEERING INDEX PROPERTIES--CONTINUED

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number				Liquid limit	Plast. index
			Unified	AASHTO	4	10	40	200		
	in								Pct	
45,* 46,* 47.- Pits										
48, 49----- Ramadero	0-13 13-49 49-72	Sandy clay loam Sandy clay loam, clay loam. Sandy clay loam, clay loam.	CL, SC CL, SC CL, SC	A-4, A-6 A-6, A-7 A-6	100 100 90-100	100 95-100 80-100	95-100 90-100 80-95	45-65 45-65 40-65	27-35 34-43 30-40	8-15 15-22 22-20
50----- Ramadero	0-21 21-65	Sandy clay loam Sandy clay loam, clay loam.	CL, SC CL, SC	A-6, A-4 A-6, A-7	100 100	100 95-100	95-100 90-100	45-65 46-65	27-39 32-42	9-18 13-21
51*----- Ramadero	0-9 9-16	Fine sandy loam Fine sandy loam, sandy caly loam.	SM, SM-SC SC, SM-SC, GC	A-2-4 A-2-4, A-2-6, A-4, A-6	75-100 65-100	70-100 60-100	70-100 60-100	20-35 25-50	<25 25-34	NP-7 7-14
	16-60	Cemented-----	---	---	---	---	---	---	---	---
Cuevitas-----	0-8 8-60	Fine sandy loam Cemented-----	SM, SM-SC, SC- ---	A-2-4 ---	80-100 ---	80-100 ---	80-100 ---	20-35 ---	<28 ---	NP-9 ---
52, 53----- Raymondville	0-15 15-43 43-65	Clay loam----- Clay, clay loam Clay, clay loam	CL CL, CH CL, CH	A-6, A-7-6 A-6, A-7-6 A-7-6	100 100 100	100 95-100 85-100	95-100 95-100 80-100	51-85 75-95 75-95	37-50 38-55 40-53	18-30 19-35 20-30
54:*----- Raymondville	0-15 15-43 43-65	Clay loam----- Clay, clay loam Clay, clay loam	CL CL, CH CL, CH	A-6, A-7-6 A-6, A-7-6 A-7-6	100 100 100	100 95-100 85-100	95-100 95-100 80-100	51-85 75-95 75-95	37-50 38-55 40-53	18-30 19-35 20-30
55,56----- Reynosa	0-15 15-48 48-65	Silty clay loam Sandy clay loam, silt loam. Stratified silty clay loam to silt loam.	CL, CL-ML CL CL, CL-ML	A-6, A-4, A-7-6 A-6, A-4, A-7-6 A-6, A-4, A-7-6	100 100 100	100 100 100	95-100 95-100 90-100	80-100 80-100 70-100	25-45 28-44 20-49	7-25 9-23 4-29
57:*----- Reynosa	0-15 15-48 48-65	Silty clay loam Silty clay loam, silt loam. Stratified silty clay loam to silt loam.	CL, CL-ML CL CL, CL-ML	A-6, A-4, A-7-6 A-6, A-4, A-7-6 A-6, A-4, A-7-6	100 100 100	100 100 100	95-100 95-100 90-100	80-100 80-100 70-100	25-45 28-44 20-49	7-25 9-23 4-29
Urban land.										
58, 59----- Rio	0-12 12-38 38-63	Fine sandy loam Clay loam, clay Clay loam, snady clay sandy clay loam.	SC, SM-SC CL, CH CL	A-2-4, A-4 A-7-6 A-7-6	95-100 95-100 95-100	95-100 95-100 95-100	95-100 95-100 85-95	30-48 75-95 55-80	<30 43-57 41-50	5-10 21-32 20-27

SOILS LEGEND

TABLE 18. -- SOIL AND WATER FEATURES
("Flooding" and "water table" and terms such as "rare," "brief," "apparent," and "perched" are explained in the text.
The symbol > means more than. Absence of an entry indicates that the feature is not a concern)

Map symbol and soil name	Hydrologic group	Flooding			High water table			Cemented pan		Risk of corrol	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hardness	Uncoated steel	Conc.
1.* Arents					ft			in			
2----- Benito	D	Occasional	Long-----	Sep-May	4.0-6.0	Apparent	Sep-May	---	---	High-----	Low.
3,4----- Brennan	B	None-----	---	---	M	---	---	---	---	Moderate	Low
5,6----- Camargo	B	Rare-----	Brief-----	Sep-May	>6.0	---	---	---	---	Moderate	Low
7----- Cameron	D	None-----	---	---	5.0-6.0	Apparent	Sep-May	---	---	High-----	Low
8----- Comitas	A	None-----	---	---	>6.0	---	---	---	---	Low-----	Low
9, 10, 11----- Delfina	B	None-----	---	---	2.5-5.0	Apparent	Sep-May	---	---	High-----	Low
12----- Delmita	C	None-----	---	---	>6.0	---	---	20-40	Thin	Moderate	Low
13.* Delmita-----	C	None-----	---	---	>6.0	---	---	20-40	Thin	Moderate	Low
Randado-----	C	None-----	---	---	>6.0	---	---	8-20	Thin	Low-----	Low
14----- Falfurrias	A	None-----	---	---	>6.0	---	---	---	---	High-----	Low
15**----- Grulla	D	Frequent-----	Very long	Sep-May	+2-6.0	Apparent	Sep-May	---	---	High-----	Low
16, 17, 18----- Hargill	B	None-----	---	---	>6.0	---	---	---	---	High-----	Low
19----- Harlingen	D	None-----	---	---	>6.0	---	---	---	---	High-----	Low
20----- Harlingen	D	None-----	---	---	5.0-6.0	---	---	---	---	High-----	Moderate
21.* Harlingen-----	D	None to rare	---	---	>6.0	---	---	---	---	High-----	Low
Urban land.											
22, 23, 24----- Hebbronville	B	None-----	---	---	>6.0	---	---	---	---	Low-----	Low
25, 26, 27, 28 29 Hidalgo	B	None-----	---	---	>6.0	---	---	---	---	High-----	Low
30----- Hidalgo	B	None-----	---	---	2.5-5.0	Apparent	Sep-May	---	---	High-----	Low
31.* Hidalgo-----	B	None-----	---	---	>6.0	---	---	---	---	High-----	Low

HYDROLOGIC LEGEND

TABLE 18. -- SOIL AND WATER FEATURES
("Flooding" and "water table" and terms such as "rare," "brief," "apparent," and "perched" are explained in the text.
The symbol > means more than. Absence of an entry indicates that the feature is not a concern)

Map symbol and soil name	Hydrologic group	Frequency	Flooding		Depth	High water table		Cemented pan		Risk of corrol	
			Duration	Months		Kind	Months	Depth	Hardness	Uncoated steel	Conc.
Urban land.					ft			in			
32:* Jimenez-----	C	None-----	---	---	>6.0	---	---	7-20	---	High-----	Low
32:* Quemado-----	C	None-----	---	---	>6.0	---	---	10-20	Thin	Moderate	Low.
33----- Benito	B	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
34----- Matamoros	C	Occasional	Long-----	Sep-May	>6.0	---	---	---	---	High-----	Low.
35, 36, 37, 38- McAllen	C	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
39, 40, 41----- Mercedes	D	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
42----- Nueces	C	None-----	---	---	>6.0	---	---	---	---	Moderate	Low.
43:* Nueces-----	C	None-----	---	---	>6.0	---	---	---	---	Moderate	Low.
Sarita	A	None-----	---	---	>6.0	---	---	---	---	Low-----	Low.
44, 44----- Olmito	D	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
45,* 46,* 47.* Pits											
48----- Racombes	B	Rare-----	---	---	>6.0	---	---	---	---	High-----	Low.
49----- Racombes	B	Rare-----	---	---	1.5-4.5	Apparent	Sep-May	---	---	High-----	Low.
50----- Racombes	B	Common-----	Brief-----	Sep-May	>6.0	---	---	---	---	High-----	Low.
51:* Randado-----	C	None-----	---	---	>6.0	---	---	8-20	Thin	Moderate	Low.
Cuevitas-----	D	None-----	---	---	>6.0	---	---	8-14	Thin	Moderate	Low.
52----- Raymondville	D	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
53----- Raymondville	D	None-----	---	---	2.5-4.5	Apparent	Sep-May	---	---	High-----	Low.
54:* Raymondville---	D	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
55----- Reynosa	B	None-----	---	---	>6.0	---	---	---	---	High-----	Low.

HYDROLOGIC LEGEND

January 31, 2022

Ezequiel Reyna, Jr.
702 W. Expressway 83, Ste. 100
Weslaco, Texas 78599

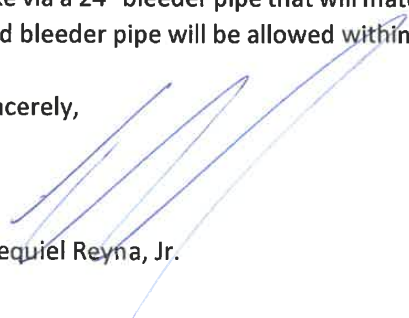
Hidalgo County Drainage District No. 1
Attn: Isaac Gonzalez, EIT
902 N. Doolittle Road
Edinburg, Texas 78542

Re: San Gabriel Subdivision

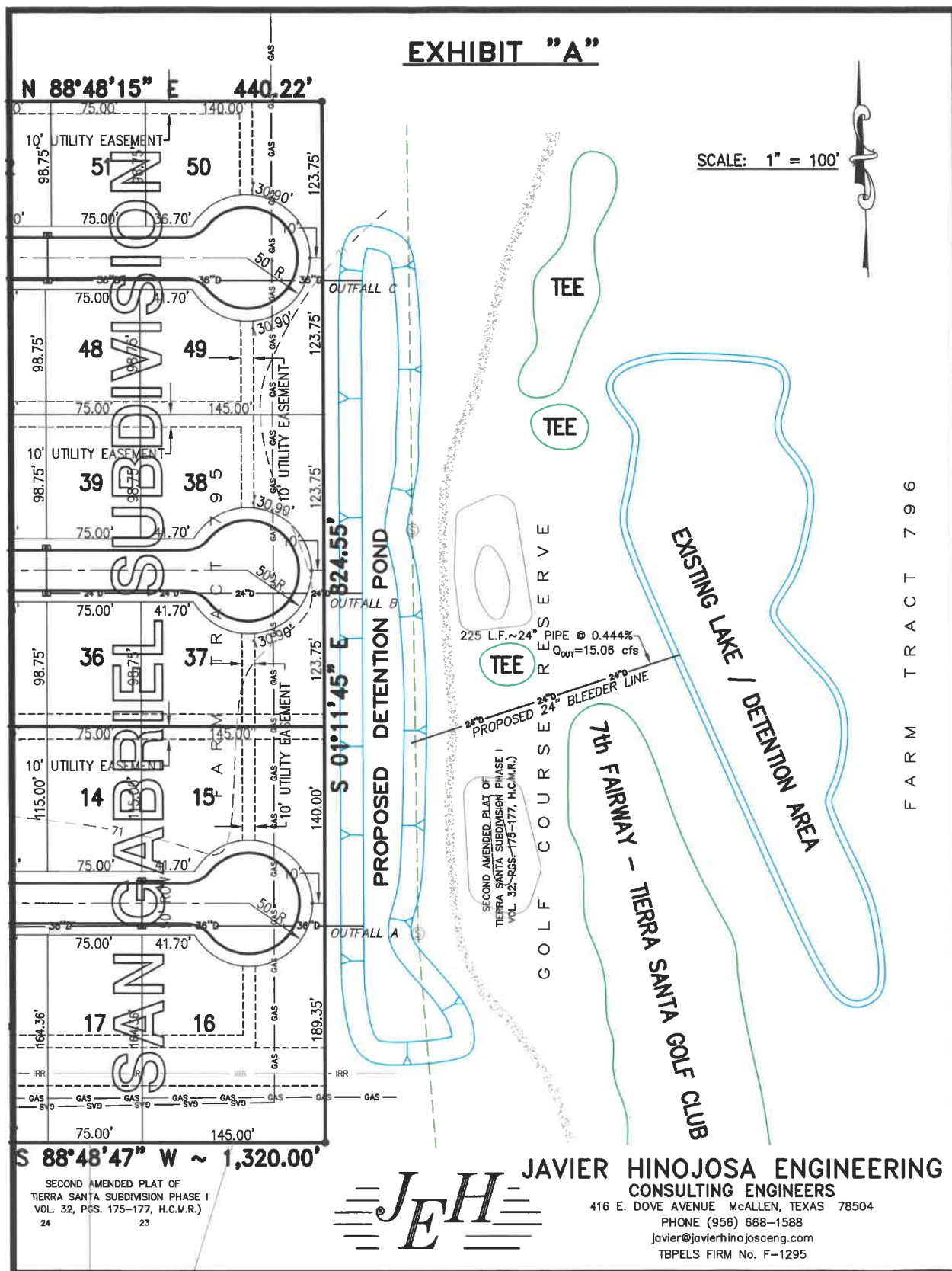
Dear Mr. Gonzalez:

I am the General Manager/Owner of Cottonwood LTD., the Developer of San Gabriel Subdivision, and I am also the owner of Tierra Santa Golf Club. I am aware of, and will allow the construction of a proposed detention pond that lies within the "Golf Course Reserve" as shown on the attached "Exhibit A" that will receive storm runoff from San Gabriel Subdivision through three outfalls, labeled Outfall A, B and C. This detention pond will then be connected to an existing lake via a 24" bleeder pipe that will match the existing pre-development Q₁₀. The detention pond and bleeder pipe will be allowed within Tierra Santa Golf Club in perpetuity.

Sincerely,



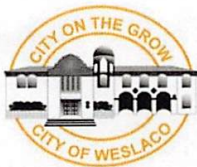
Ezequiel Reyna, Jr.





**Planning & Zoning Commission
Standardized Agenda Request Form**

Date of Meeting: June 1, 2022	Agenda Item No. (to be assigned by PCE): IV.B.
From: Rebekah de la Fuente, Planning Director, on behalf of Melden & Hunt, Inc	
Subject/Agenda Item: Discussion and consideration for the Preliminary and or Final Plat for Shops at N Bridge– being a 10.657-acre tract of Farm Tract 39, The West Tract Subdivision, Weslaco, Hidalgo County, Texas Located approximately on the southwest corner of U.S. Expy 83 & Bridge Ave. Possible Action.	
Discussion/Overview: The proposed eight (8) lot subdivision is located inside the City of Weslaco. This subdivision is being serviced with water by the City of Weslaco through an 8” waterline and sewer by the City of Weslaco through an 8” sewer line. The property is within a Flood Zone “B&C”. TIA has been submitted and accepted by Engineering.	
If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners: N/A	
Staff recommendation for Commission’s Action: Staff recommends approval of Preliminary and or Final Plat	
Additional Action Prompted: ☒ Mayor’s Signature ☐ Public Hearing ☐ Budget Amendment ☐ Resolution ☐ Ordinance – First Reading ☐ Ordinance – Final Reading	
Advisory Review, (if any): (name of board/committee, date of action, recommendation): N/A	
If item previously considered, provide date and action by Commission: N/A	
Attachments,(if any): Application for Subdivision platting, Staff’s comments, Drainage Report, Subdivision plat and Utility layout.	
Responsibilities upon Commission’s Action: Planning staff will advise applicant.	



SUBDIVISION PLATTING APPLICATION

PLAT-002122022

The Planning & Zoning Commission meets every 1st Wednesday of each month at 5:30 pm.

The City Commission meets every 1st and 3rd Tuesday of each month at 5:30 pm

FILE NO. _____

This form shall be completed by the Property Owner or Applicant and submitted to the Planning Department along with the required number of copies of the respective plat, review fee and all other required information listed below and in the Subdivision Ordinance. The submittal of an application does not constitute acceptance for processing until the staff reviews and determines the application is complete.

STAFF USE ONLY

☐ Single Lot Variance ☐ Minor Plat ☐ Planned Unit Development ☒ Standard Subdivision

GENERAL INFORMATION

Name of Subdivision: SHOPS AT N. BRIDGE SUBDIVISION

Location: southwest corner of U.S. Expressway 83 & Bridge Avenue

Legal Description: Being a resubdivision of 10.657 acres out of Farm Tract 39, West Tract S/D

Is subdivision inside city limits? ☒ YES ☐ NO

If subdivision is in the ETJ, indicate? ☐ 3.5 Mile ☐ 5 Mile

If no submit letter of Annexation (Contiguous or Consensual)

Existing Zoning: B-1 & B-2

Existing Land Use: Open Proposed Land Use: Commercial

Number of Lots Proposed: 8 Gross Acreage: 10.657

Title Report Submitted: ☐ YES ☒ NO

OWNER INFORMATION

Owner's Name: Shops at N Bridge, LLC Telephone: c/o (956) 381-0981

Address: 105 Sequoia Drive Fax: c/o (956) 381-1839

City: San Antonio State: TX Zip: 78232 E-mail: c/o mario@meldenandhunt.com

ENGINEER INFORMATION

Name: Melden & Hunt, Inc. Telephone: (956) 381-0981

Address: 115 W. McIntyre Street Fax: (956) 381-1839

City: Edinburg State: TX Zip: 78541 E-mail: mario@meldenandhunt.com

255 S. KANSAS AVE ■ WESLACO, TEXAS 78596-6285 ■ 956-447-3401 ■ (Fax) 956-973-3128 ■ WWW.WESLACOTX.GOV

UTILITY PROVISIONS

Will proposed subdivision connect to:

☒ YES ☐ NO Water Provision: City of Weslaco

☒ YES ☐ NO Wastewater Provision: City of Weslaco

☒ YES ☐ NO Electric Company: AEP

☒ YES ☐ NO Phone Utility <u>Verizon/AT&T</u>	☒ YES ☐ NO Gas Utility	☒ YES ☐ NO Cable Utility
---	---	---

Proposed subdivision is in the following districts:

☒ YES ☐ NO Drainage District <u>HCDD#1</u>	☒ YES ☐ NO Irrigation District <u>HCCID#9</u>
---	--

Has the property been assessed as flat rate irrigable property: ☐ YES ☒ NO

Have Water Rights been conveyed to City/Water Supplier? ☒ YES ☐ NO

(Attach written proof of such assessment or that it has never been assessed as such a property) If **YES**, attach an estimate from the irrigation district of the proportional water rights for the subdivision as calculated under Texas Water Code § 49.505.

SUBMITTALS REQUIRED FOR MINOR PLAT REVIEW

Two (2) sets of plats **folded and stapled** (24 x 36) and forward a copy in PDF format to mhinojosa@weslacotx.gov & rdelafuente@weslacotx.gov

\$355.00 Planning Review fee

One 11" X 17" reduced copy of plat

Plat Layout

Existing & Proposed Easements

Existing & Proposed ROW

Existing & Proposed Drainage Easements

Contours

Flood Zones

Adjoiners

Existing street names

Drainage plans and calculations with engineer's seal

Elevations

Flood directional arrows

Detention areas

Street names

Proof of ownership of the property

If septic tank system required, submit soil evaluation report

Water Rights associated with the property

Tax Receipt for all taxing entities showing that taxes are paid in full

SUBMITTALS REQUIRED FOR PRELIMINARY (P & Z)

X Twelve (12) sets of preliminary plat **folded and stapled** (24 x 36) and forward a copy in PDF format to mhinojosa@weslacotx.gov & rdelafuente@weslacotx.gov

X \$350.00 (one time fee for preliminary and final plat)

X One 11" X 17" reduced copy of plat

X Plat Layout

X Existing & Proposed Easements

X Existing & Proposed ROW

X Existing & Proposed Drainage Easements

255 S. KANSAS AVE ■ WESLACO, TEXAS 78596-6285 ■ 956-447-3401 ■ (Fax) 956-973-3128 ■ WWW.WESLACOTX.GOV

☒ Contours
☒ Flood Zones
☒ Adjoiners
☒ Existing & Proposed street names
☒ Utility Layout
☒ Existing & Proposed Utilities
☒ Proposed Fire Hydrants
☒ Adjoiners
☐ Street names
☒ Drainage plans and calculations with engineer's seal
☒ Elevations
☒ Flood directional arrows
☒ Detention areas
☐ Street names
☒ Proof of ownership of the property
☐ If septic tank system required, submit soil evaluation report
☒ Water Rights associated with the property
☒ Tax Receipt for all taxing entities showing that taxes are paid in full
☐ Number of fire hydrants proposed for subdivision
☐ Trip Generation Worksheet

SUBMITTALS REQUIRED FOR FINAL (P & Z) **Will not apply to Single Lot Variance**

☐ Twelve (12) sets of plans **FOLDED & STAPLED** (24 x 36) & PDF copy with all corrections
☐ Plats to be sealed by Professional Engineer
☐ Approved Drainage Report
☐ Traffic Impact Analysis (If required)

SUBMITTALS REQUIRED FOR FINAL (City Commission)

☐ One set of 8 ½ x 11 of plat and utilities with all corrections done

SUBMITTALS REQUIRED FOR PRE-CONSTRUCTION MEETING

☐ Seven (7) full sets of construction plans 24 x 36 and one (1) 11 x 17 with plan & profile.
☐ Engineering cost estimates for 3% geotechnical testing fees and 2% inspection fees
☐ Notice of Intent
☐ SW3P

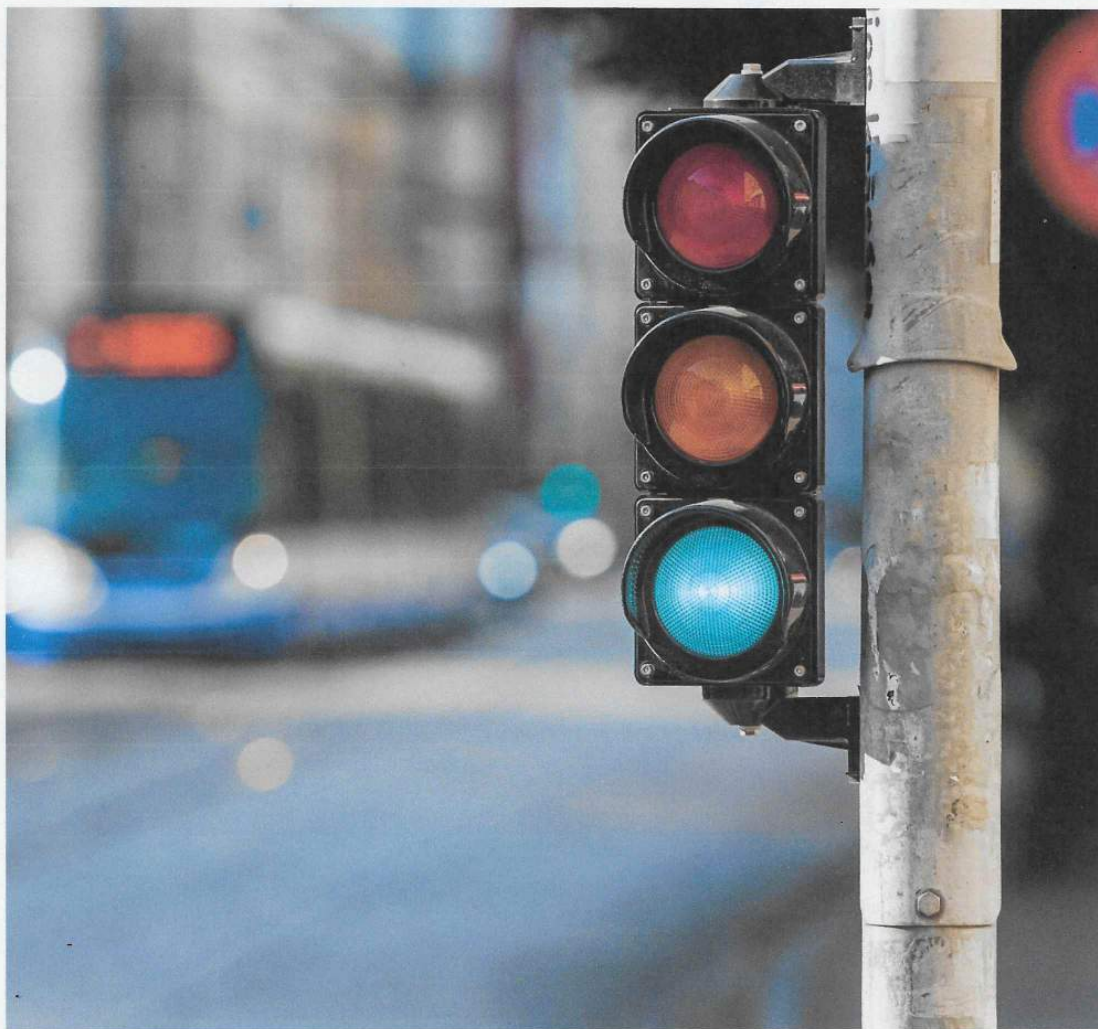
SUBMITTALS REQUIRED FOR RECORDING OR HIDALGO COUNTY PLANNING

☐ Electronic file of final plat and as-builds
☐ Reproducible plat to be recorded with all required signatures
☐ 3% geotechnical testing fees or negotiated Material Testing fee by City, whichever is higher
☐ 2% inspection fee
☐ Park Fees
☐ Checks or Receipts: HCCID #9; HCDD #1; County Clerk
☐ Tax certificates
☐ Memo from engineering inspector releasing subdivision
☐ Water Rights associated with the property dedicated and assigned to City of Weslaco or payment of fees sufficient to meet the needs necessitated and attributable to development
☐ 30 Year Water and 30 Year Sewer Service Agreements
☐ Park dedication/Fees in lieu of

SUBMITTALS REQUIRED FOR RECORDING BY SECURITY

☐ Sealed engineering cost estimates
☐ Letter of Credit/Performance Bond/Escrow

RISE TO THE CHALLENGE



TRAFFIC IMPACT ANALYSIS

Shops at N. Bridge Subdivision
10.657 Acres, N. Bridge Avenue
Westlaco, Texas

SUBMITTED: Melden & Hunt, Inc.
115 W. McIntyre
Edinburg, Texas



TRAFFIC IMPACT ANALYSIS SHOPS AT N. BRIDGE SUBDIVISION 10.657 ACRES, N. BRIDGE AVENUE WESLACO, TEXAS

Introduction

A. Project Description

The Shops at N Bridge Subdivision development is to be located on the south side of the U.S. 83 Expressway and west of N. Bridge Avenue in Weslaco. The property, consisting of approximately 10.657 acres, is proposed to be developed with as many as 40,400 square feet of strip retail area, 8,000 square feet of fast-food restaurants, and 32,800 square feet of highturnover (sit-down) restaurants to be developed on eight commercial lots. The developments will access onto the eastbound frontage road of US 83 and N. Bridge Avenue. The access drives will be shared and will be determined with the final development plan. The eight-lot subdivision land plan is shown in Figure 1 and is included in Appendix A.

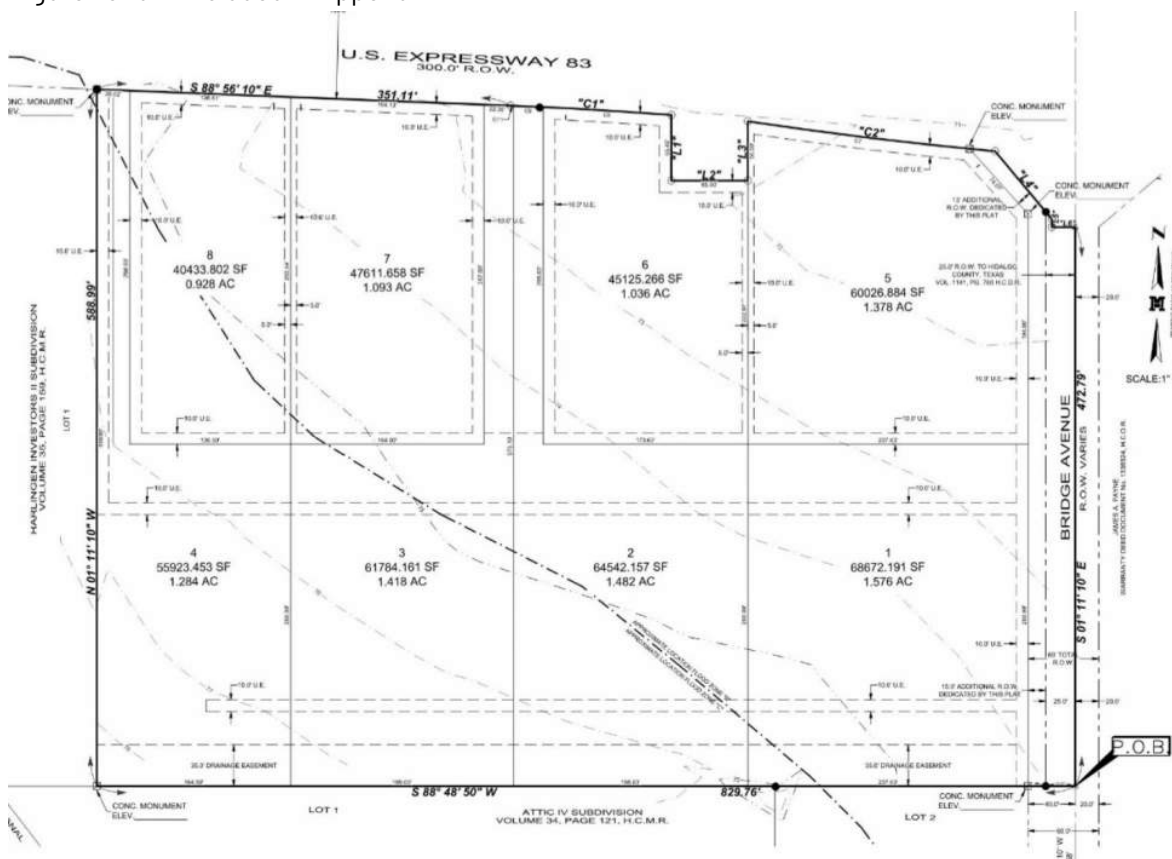


Figure 1. Shops at N. Bridge Land Plan

Purpose of Project

The purpose of this project is to develop a commercial subdivision with retail lease spaces and restaurants.

Study Procedure

The study procedure to determine the impact of the traffic generated by the proposed development would normally include:

- determine the anticipated trips to be generated by the proposed development,
- determine a reasonable trip distribution of the trips during the peak periods of the development (generally between 7:00-9:00 AM weekdays and 4:00-6:00 PM weekdays). The peak period traffic counts at the intersections of the US 83 Expressway frontage roads with Texas Boulevard, N. Bridge Avenue, and Airport Drive, Texas Boulevard and E Pike Boulevard, N. Bridge Avenue and E Pike Boulevard, and Airport Drive and Esplanada were made to determine the anticipated distribution of trips by approach volumes on each roadway.
- determine what mitigation that may be necessary to provide adequate levels of service with the project trips.

Existing Conditions

A. Project Location Map and Study Intersections Identified

The Aerial Photo Exhibit, Exhibit B, and the Hidalgo County Appraisal Map, Exhibit C [Appendix A], show the project study area. The study area would include the intersections of the US 83 Expressway frontage roads with Texas Boulevard, N. Bridge Avenue, and Airport Drive, Texas Boulevard and E Pike Boulevard, N. Bridge Avenue and E Pike Boulevard, and Airport Drive and Esplanada.

B. Roadway Network

The roadways that would serve the proposed project would be the US 83 Expressway, Texas Boulevard, N. Bridge Avenue, Airport Drive, E. Pike Boulevard, and Esplanada.

- **US 83 Expressway** is a major east-west thoroughfare traversing through Weslaco and Hidalgo County. The one-way frontage roads along the expressway are three lane roadways between Texas Boulevard and Airport Drive. The eastbound exit from the expressway main lanes is located just east of Texas Boulevard. The eastbound entrance ramp is located west of Airport Drive. The westbound exit is located west of Airport Drive and the westbound entrance ramps are located east of Texas Boulevard and approximately ½ mile west of Texas Boulevard.
- **Texas Boulevard** is a major north-south roadway. Texas Boulevard is generally a four-lane roadway with left turn lanes at signalized intersections.

Shops at N. Bridge Subdivision
Traffic Impact Analysis Report



- **N. Bridge Avenue** is a collector street south of US 83. N. Bridge Avenue is a two-lane roadway with a left turn lane at E. Pike Boulevard.
- **Airport Drive** is a collector street south of US 83. Airport Drive is a two-lane roadway.
- **E. Pike Boulevard** is a collector street between Texas Boulevard and Airport Drive. E. Pike Boulevard is a two-lane roadway with left turn lanes at Texas Boulevard and at N. Bridge Avenue.
- **Esplanada** is a neighbor collector street west of Airport Drive, providing full access to Airport Drive. Esplanada is a two-lane roadway.

Total Traffic Conditions

Project Traffic

- Trip Generation.** Using the Tenth Edition of the ITE *TRIP GENERATION MANUAL* reference, the proposed development is expected to generate trips based on the gross leasable space of the retail shops and the square footage of the restaurants, in units of 1,000 square feet. Table 1 shows the anticipated trip generation for the proposed development.

Table 1. Trip Generation for Shops at N. Bridge.

ITE Code	Weekday 24 Hour		Weekday AM Peak		Weekday PM Peak		Saturday 24 Hour		Saturday Peak	
822	Strip Retail Shops – 40,800 gla									
Rate / Unit	54.46		7.60		13.24		65.70		6.57	
Trips	2,222		310		540		2,680		268	
Enter/Exit %	50%	50%	50%	50%	54%	46%	50%	50%	51%	49%
# Enter/Exit	1,111	1,111	155	155	292	248	1,340	1,340	137	131
934	Fast-Food Restaurant with Drive-Thru – 8,000 sf									
Rate / Unit	467.48		50.57		50.94		616.12		55.25	
Trips	3,740		404		408		4,930		442	
Enter/Exit %	50%	50%	52%	48%	51%	49%	50%	50%	51%	49%
# Enter/Exit	1,870	1,870	210	194	208	200	2,465	2,465	225	217
932	High-Turn-Over (Sit-Down) Restaurant – 32,800 sf									
Rate / Unit	107.20		13.68		16.35		122.40		11.19	
Trips	3,516		448		536		4,016		390	
Enter/Exit %	50%	50%	57%	43%	51%	49%	50%	50%	51%	49%
# Enter/Exit	1,758	1,758	255	193	273	263	2,008	2,008	199	191
Total	Total Trips									
Trips	9,478		1,162		1,484		11,626		1,100	
# Enter/Exit	4,739	4,739	620	542	773	711	5,813	5,813	561	539

Source: ITE Trip Generation Manual, Tenth Edition

Shops at N. Bridge Subdivision
Traffic Impact Analysis Report



- ii. **Pass-By and/or Internal Trip Calculations and Reductions.** For this report, no adjustment is made for pass-by or internal trip calculations, although internal trips are anticipated.
- iii. **Trip Distribution by Intersection.** The anticipated trip distribution is shown on Exhibit D. 25% of the trips would be expected from the west and from the east via the US 83 Expressway, using the ramps and the turnarounds at Texas Boulevard. 20% of the trips would be expected to and from north of US 83 and 30% expected to be to and from south of US 83. The anticipated volumes are shown on Exhibit E22.

Capacity Analysis

Levels-of-service analyses will be made of the intersections of the US 83 Expressway frontage roads with Texas Boulevard, N. Bridge Avenue, and Airport Drive, Texas Boulevard and E Pike Boulevard, N. Bridge Avenue and E Pike Boulevard, and Airport Drive and Esplanada.

Table 2. Level-of-Service Criteria for Signalized and Unsignalized Intersections

Level-of-Service (LOS)	Control Delay (seconds/vehicle)		Description
	Signalized Intersections	Unsignalized Intersections	
A	≤10.0	≤10.0	Very low vehicle delay, free traffic flow, good signal progression
B	10.1 to 20.0	10.1 to 15.0	Good signal progression, more vehicle stops and higher delay than LOS A
C	20.1 to 35.0	15.1 to 25.0	Stable traffic flow, fair signal progression, significant number of vehicle stops
D	35.1 to 55.0	25.1 to 35.0	Noticeable traffic congestion, longer delays and unfavorable signal progression
E	55.1 to 80.0	35.1 to 50.0	Limit of acceptable vehicle delay, unstable traffic flow, poor signal progression
F	> 80.0	> 50.0	Unacceptable delay, extremely unstable flow, heavy congestion, traffic exceeds capacity

TRAFFIC SIMULATION RESULTS AND OBSERVATIONS

The study intersection and driveway were analyzed for the weekday morning and evening peak periods. The individual Level of Service for each approach for each intersection is shown on the Intersection Level of Service Calculation Tables in Appendix C.

- Tables 3 and 4 summarize the level-of-service results by approach with the current morning and evening peak traffic volumes.
- Tables 5 and 6 summarize the level-of-service results by approach for the proposed morning and evening peak traffic volumes with the built-out of the Shops at N. Bridge.

Table 3. Levels of Service Summary for the Study Area – Current 2022 Weekday AM Peak

Intersection	Intersection Approaches										Average	
	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS
Airport Dr & WBFR (Signalized control)			WB WBFR 16.5	B	NB Airport Dr 4.5	A	SB Airport Dr 3.2	A			7.7	A
Airport Dr & EBFR (Signalized control)	EB EBFR 19.1	B			NB Airport Dr 9.2	A	SB Airport Dr 7.0	A			13.6	B
Texas Blvd & WBFR (Signalized control)			WB WBFR 20.2	C	NB Texas Blvd 10.0	B	SB Texas Blvd 11.6	B			12.8	B
Texas Blvd & EBFR (Signalized control)	EB EBFR 28.2	C			NB Texas Blvd 18.1	B	SB N Ware Rd 12.1	B			18.0	B
Texas Blvd & E Pike (Signalized control)	EB E Pike 16.2	B	WB E Pike 15.5	B	NB Texas Blvd 6.8	A	SB Texas Blvd 7.3	A			9.2	A
N Bridge & E Pike (Signalized control)	EB E Pike 12.5	B	WB E Pike 13.0	B	NB N Bridge 5.4	A	SB N Bridge 6.1	A			7.9	A
N Bridge & EBFR (N Bridge stops)	EB EBFR 0.0	A			NB N Bridge 57.8	F					4.4	A
Airport Dr & Esplanada (Esplanada stops)	EB Esplanada 21.2	C			NB Airport Dr 1.2	A	SB Airport Dr 0.0	A			1.5	A

Table 4. Levels of Service Summary for the Study Area – Current 2022 Weekday PM Peak

Intersection	Intersection Approaches										Average	
	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS
Airport Dr & WBFR (Signalized control)		WB WBFR	16.2	B	NB Airport Dr	A	3.3	A	SB Airport Dr	A	8.3	A
Airport Dr & EBFR (Signalized control)	EB EBFR		19.1	B	NB Airport Dr	A	9.2	A	SB Airport Dr	A	13.6	B
Texas Blvd & WBFR (Signalized control)		WB WBFR	29.3	C	NB Texas Blvd	A	4.6	A	SB Texas Blvd	C	22.2	B
Texas Blvd & EBFR (Signalized control)	EB EBFR		29.3	C	NB Texas Blvd	C	21.7	C	SB N Ware Rd	B	12.9	B
Texas Blvd & E Pike (Signalized control)	EB E Pike		14.4	B	NB Texas Blvd	B	11.0	B	SB Texas Blvd	B	11.0	B
N Bridge & E Pike (Signalized control)	EB E Pike		12.9	B	NB N Bridge	A	6.0	A	SB N Bridge	A	5.8	A
N Bridge & EBFR (N Bridge stops)	EB EBFR		0.0	A	NB N Bridge	D	25.6	D	SB N Bridge	A	1.4	A
Airport Dr & Esplanada (Esplanada stops)	EB Esplanada		22.9	C	NB Airport Dr	A	1.3	A	SB Airport Dr	A	0.0	A

Table 5. Levels of Service Summary for the Study Area – Proposed 2022 Weekday AM Peak

Intersection	Intersection Approaches										Average	
	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS
Airport Dr & WBFR (Signalized control)			WB	WBFR			NB	NB	SB	SB	7.7	A
			16.5			B	4.6	A	3.2	A		
Airport Dr & EBFR (Signalized control)	EB						NB	NB	SB	SB	13.5	B
	EBFR						Airport Dr	Airport Dr	Airport Dr	Airport Dr		
Texas Blvd & WBFR (Signalized control)	19.1	B					9.3	A	7.0	A		
							Texas Blvd	Texas Blvd	Texas Blvd	Texas Blvd		
Texas Blvd & EBFR (Signalized control)	28.2	C					4.3	B	14.5	B		
Texas Blvd & E Pike (Signalized control)	EB		WB				NB	NB	SB	SB	18.5	B
	EBFR						Texas Blvd	Texas Blvd	N Ware Rd	N Ware Rd		
N Bridge & E Pike (Signalized control)	14.6	B					18.9	B	12.8	B		
N Bridge & EBFR (N Bridge stops)	EB		WB				NB	NB	SB	SB	10.9	B
	EBFR						Texas Blvd	Texas Blvd	Texas Blvd	Texas Blvd		
Airport Dr & Esplanada (Esplanada stops)	12.6	B					9.2	A	9.8	A		
	EB		WB				NB	NB	SB	SB	10.1	B
	EBFR						N Bridge	N Bridge	N Bridge	N Bridge		
	0.0	A					7.3	A	9.7	A		
	EB						NB	NB			19.8	C
	EBFR						N Bridge	N Bridge				
	53.2	F					202.2	F				
	EB						NB	NB	SB	SB	4.7	A
	Esplanada						Airport Dr	Airport Dr	Airport Dr	Airport Dr		
							1.7	A	0.0	A		

Table 6. Levels of Service Summary for the Study Area – Proposed 2022 Weekday PM Peak

Intersection	Intersection Approaches										Average	
	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS	Control Delay (Sec)	LOS
Airport Dr & WBFR (Signalized control)			WB WBFR	B	16.2	B	NB Airport Dr	A	3.4	A	SB Airport Dr	8.2
Airport Dr & EBFR (Signalized control)	EB EBFR	B					NB Airport Dr	A	9.4	A	SB Airport Dr	13.1
Texas Blvd & WBFR (Signalized control)			WB WBFR	C	29.3	C	NB Texas Blvd	B	18.4	B	SB Texas Blvd	21.5
Texas Blvd & EBFR (Signalized control)	EB EBFR	C					NB Texas Blvd	C	23.7	C	SB N Ware Rd	22.0
Texas Blvd & E Pike (Signalized control)	EB E Pike	B	WB E Pike	B	13.3	B	NB Texas Blvd	B	11.0	B	SB Texas Blvd	14.7
N Bridge & E Pike (Signalized control)	EB E Pike	B	WB E Pike	B	12.9	B	NB N Bridge	B	15.7	B	SB N Bridge	10.6
N Bridge & EBFR (N Bridge stops)	EB EBFR	A					NB N Bridge	F	74.4	F		6.7
Airport Dr & Esplanada (Esplanada stops)	EB Esplanada	F					NB Airport Dr	A	1.8	A	SB Airport Dr	8.9

◆ IDENTIFICATION OF IMPACTS & MITIGATION IMPROVEMENTS

The level-of-service analysis for each signalized intersection with each scenario was made with optimizing each signal operation with a maximum cycle length of 70 seconds. The approaches on all the signalized intersections would have a Level-of-Service C or better when the property is fully developed.

The only intersections with a level-of-service worse than LOS C would be the N. Bridge Avenue approach to the eastbound frontage road and the Esplanada approach to Airport Drive. The Esplanada left turn movement onto Airport Drive has significant delay which will increase with the Shop at N. Bridge traffic. Channelizing the eastbound approach for two lanes will reduce the delay but not sufficiently to maintain a Level-of-Service C. The traffic desiring to continue north of US 83 has an alternate route using N. Paseo Del Norte. The northbound N. Bridge Avenue would continue to experience delays exceeding LOS C.

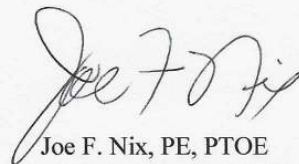
Based on the anticipated entering turning movements into the Shops, a left turn lane would be warranted on N. Bridge Avenue and a right turn deceleration lane would be warranted on the eastbound frontage road.

CONCLUSIONS & RECOMMENDATIONS

The mitigation recommended for the development of the Shops at N. Bridge would be a left turn lane on N. Bridge Avenue and a right turn deceleration lane on the eastbound frontage road of US 83.



Prepared by:


Joe F. Nix, PE, PTOE
KCI Tex Firm No. F-10573



APPENDIX INDEX

<u>Appendix A</u>	Land Use
<u>Appendix B</u>	Traffic Data
<u>Appendix C</u>	Synchro Printouts

APPENDIX A

LAND USE

- Trip Generation Worksheets
- Shops at N Bridge Subdivision Plat
- Aerial Photo – Exhibit B
- Hidalgo County Appraisal Map – Exhibit C
- Weekday Peak Trip Distribution, Site Percentages – Exhibit D
- Weekday Peak Trip Distribution, Site Volumes – Exhibit E22
- 2022 Current Traffic Volumes – Exhibit F22
- 2022 Proposed Traffic Volumes – Exhibit G22



**City of Weslaco
Engineering Division**
255 S. Kansas ♦ Weslaco, TX 78570 ♦ (956)

TRIP GENERATION WORKSHEET

Complete parts A and B as an aid to determine if your project requires a Traffic Impact Analysis (TIA).

A. Subdivision Information

Subdivision Name: _____

Location: _____

Applicant: Shops at N. Bridge Subdivision ☐ Owner ☐ Agent

Address: Bridge Avenue at I-2 Eastbound Frontage Road Number: _____

KCI Technologies

2610 N. Shary Rd. Mission, Tx 78572

956-369-4529

B. Trip Generation Calculation

The texts needed to complete this table are available at the Planning Department. See back of sheet for more information.

ITE Code	Anticipated Land Use	Project Size			AM Peak Hour Trips	PM Peak Hour Trips	Weekday Trips
		Acres	GFA	# of Units			

Comments: Retail & Restaurant 10.2 81,614 NA 1,162 1,484 9,478

Prepared by: See attached Plat Sheet and Trip Generation Calculations Date: _____

Address: Eric Martinez, EIT Phone Number: _____

2610 N. Shary Road Mission, Tx 78572 **956-367-7246**

(For Official Use Only, Do Not Write In This Box)

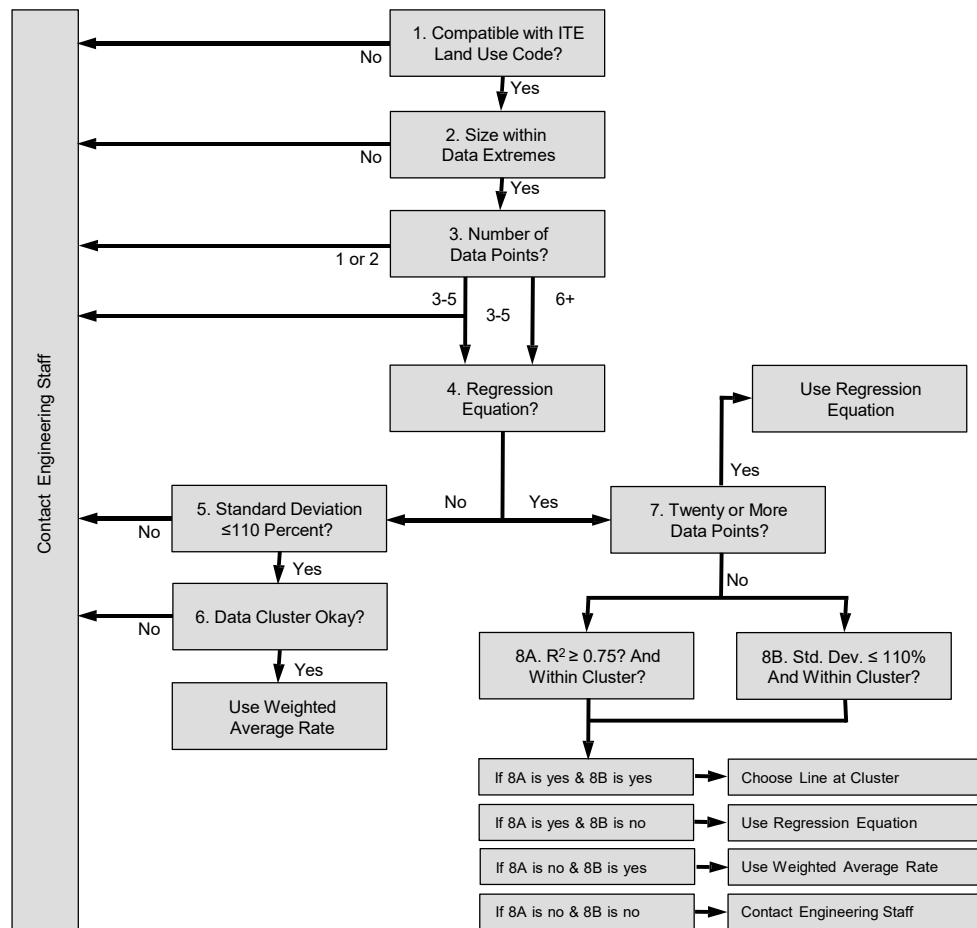
_____ A traffic impact analysis is required. The agent preparing the study must meet with City staff to discuss the scope and requirements of the study before beginning the study.

_____ A traffic impact analysis is not required. The traffic generated by the proposed development does not exceed the threshold requirements.

Comments: _____

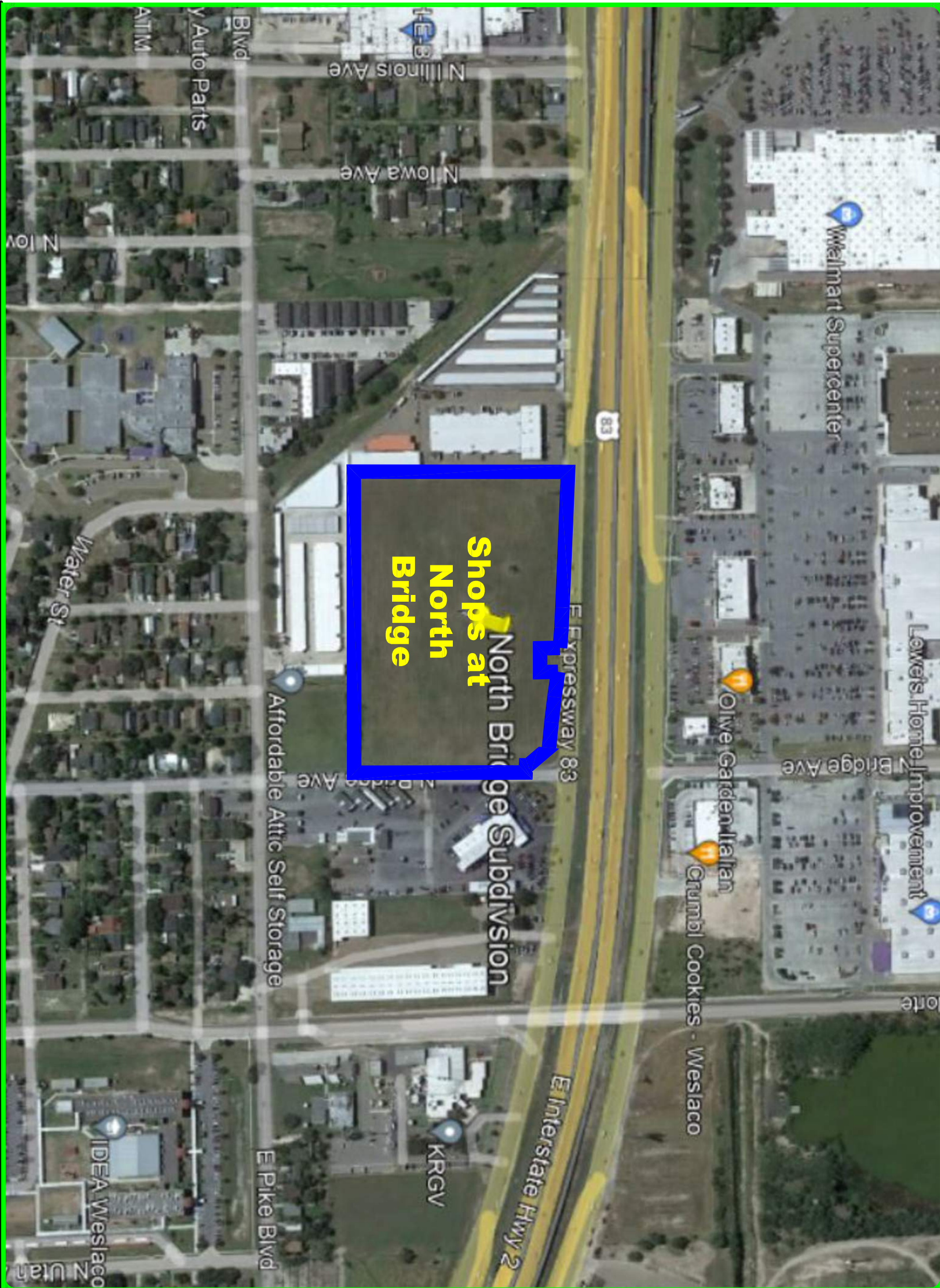
Reviewed by: _____ Date: _____ STID#: _____

Recommended Procedure for Selecting Between Trip Generation Average Rates and Equations



From ITE Trip Generation Handbook

City of Weslaco
Engineering Division
255 S. Kansas Ave
Weslaco, TX 78596
(956)
(956) 973-3128 (fax)



B

Shops at North Bridge

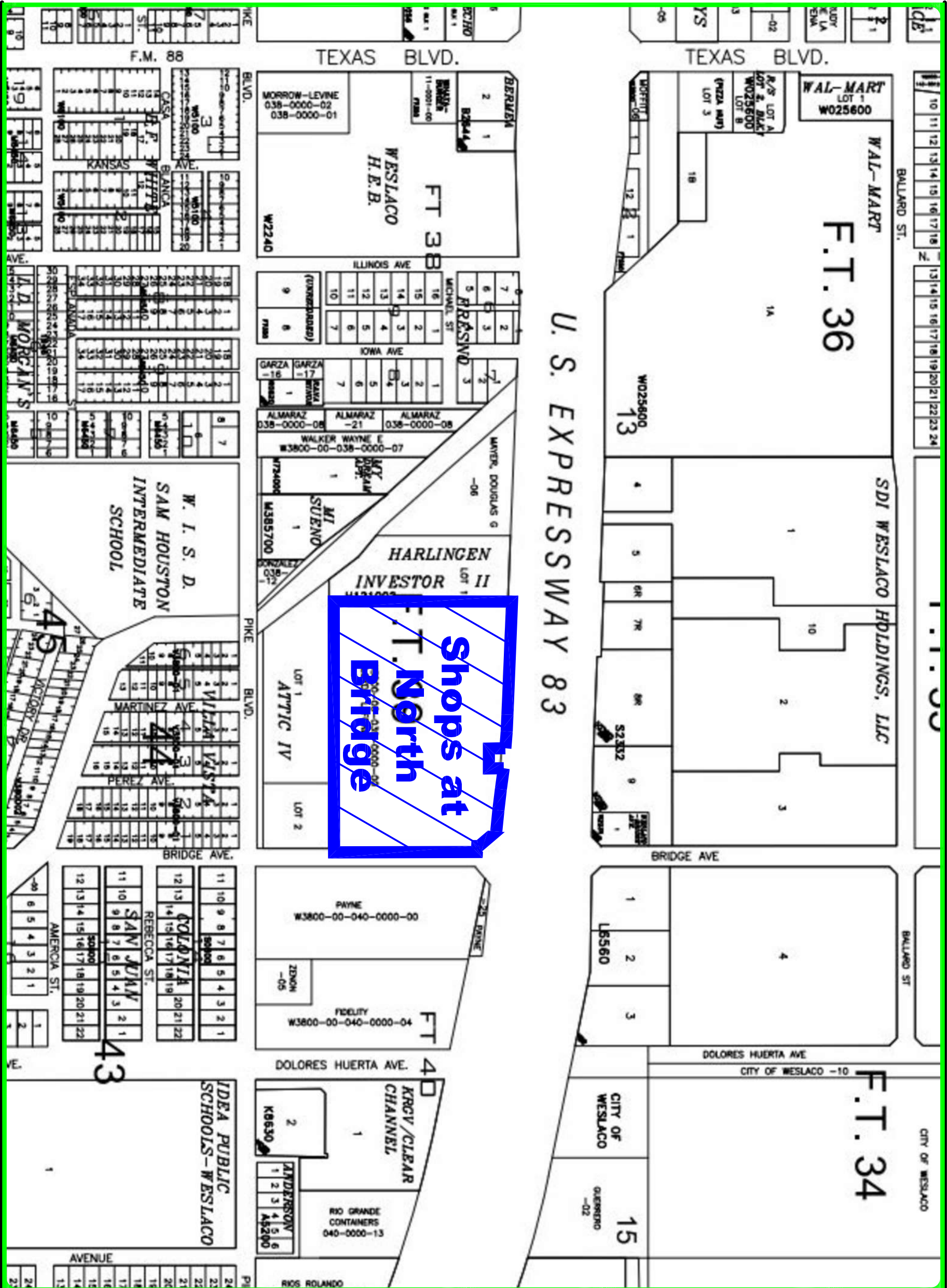
Aerial Photo Exhibit

REV	DATE	DESCRIPTION



CIVIL ENGINEERING CONSULTANTS
DON DURDEN, INC.
11550 I.H. 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230
TEL: (210) 641-9999
FAX: (210) 641-6440
EMAIL: cec@cectexas.com

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	May 2022
JOB NUMBER:	862202950



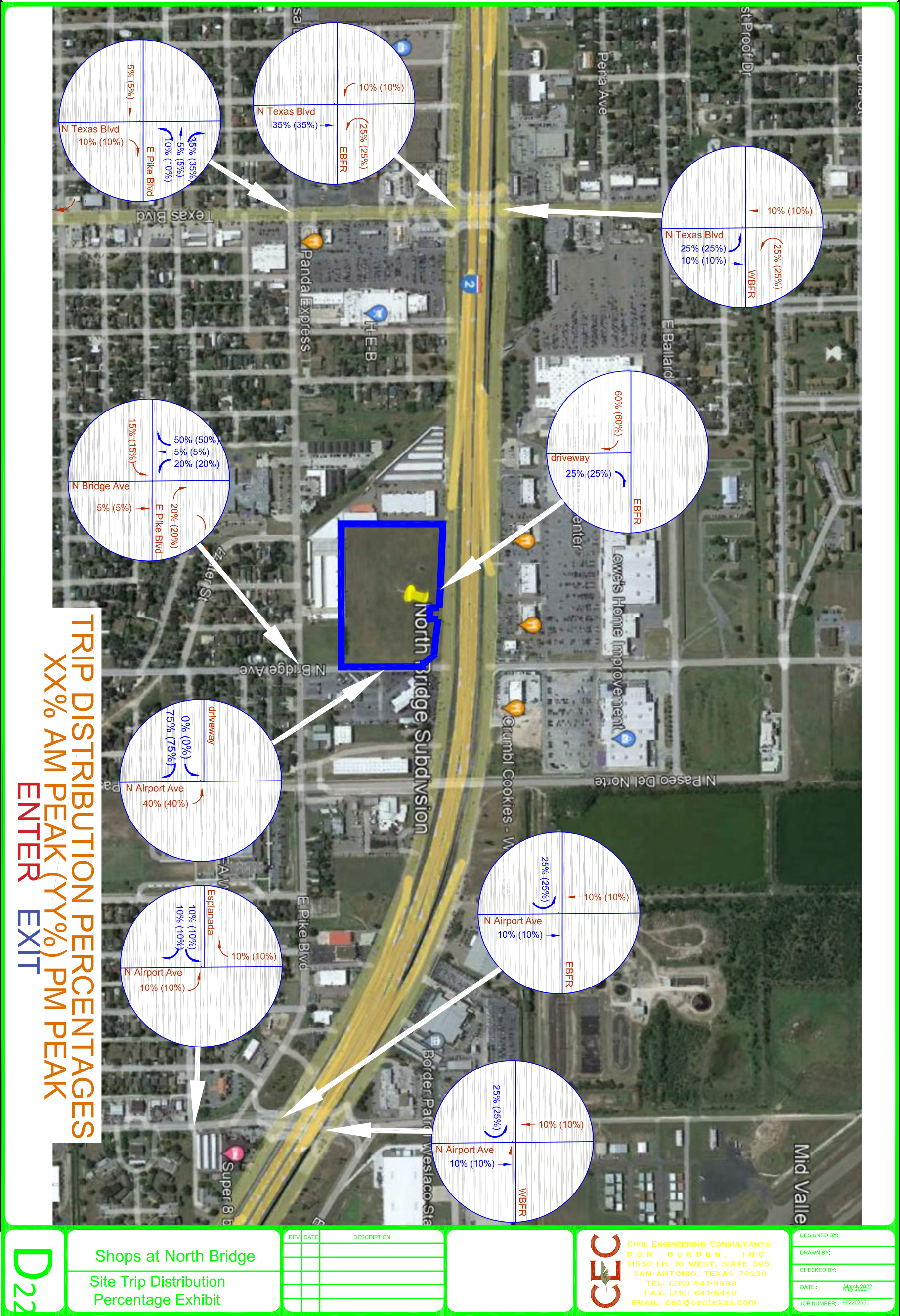
Shops at North Bridge
Hildago Appraisal District Map
Exhibit

REV	DATE	DESCRIPTION



CIVIL ENGINEERING CONSULTANTS
DON DURDEN, INC.
11550 I.H. 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230
TEL: (210) 641-9999
FAX: (210) 641-6440
EMAIL: cec@cectexas.com

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	May 2022
JOB NUMBER:	862202050



D22

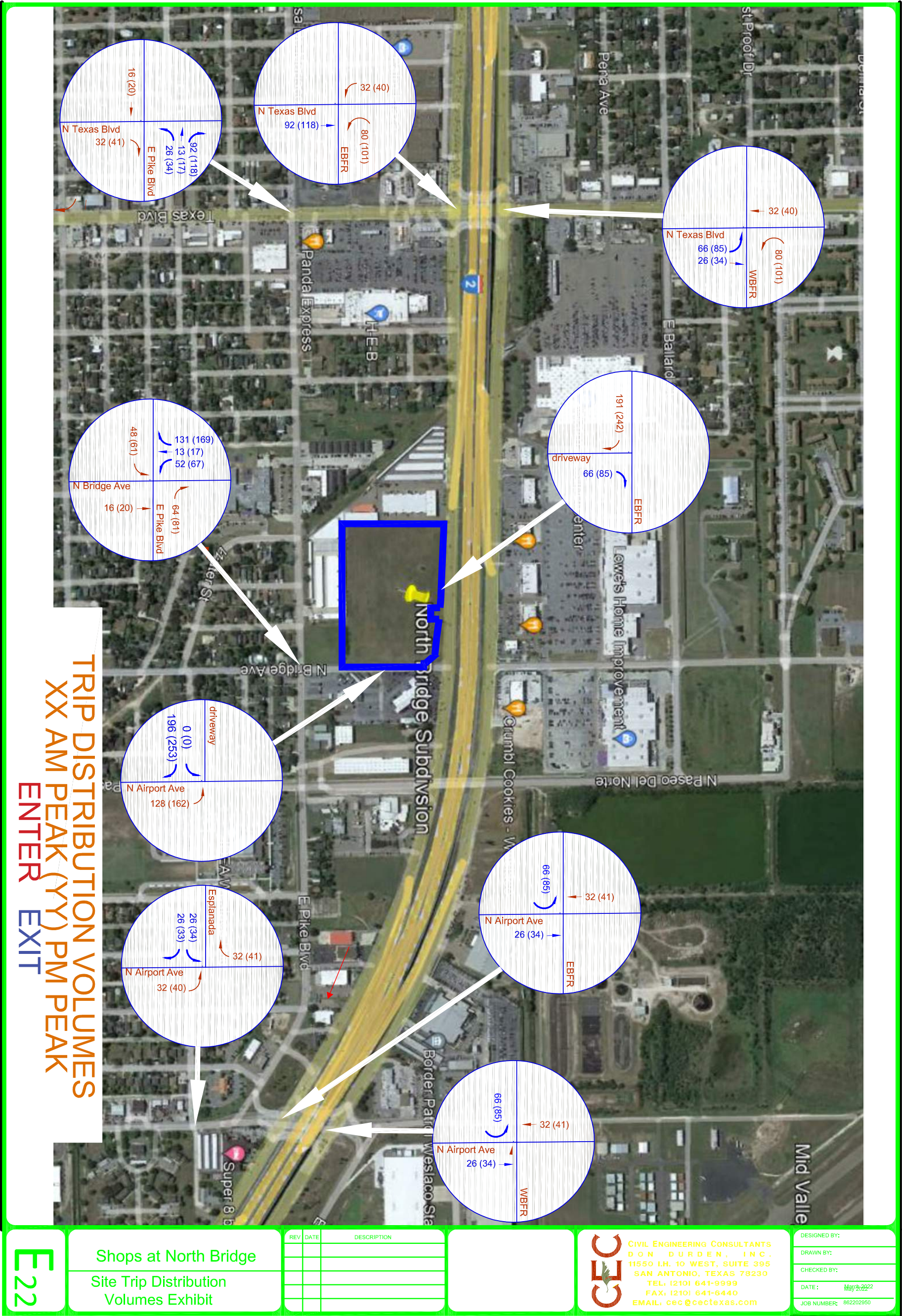
Shops at North Bridge
Site Trip Distribution
Percentage Exhibit

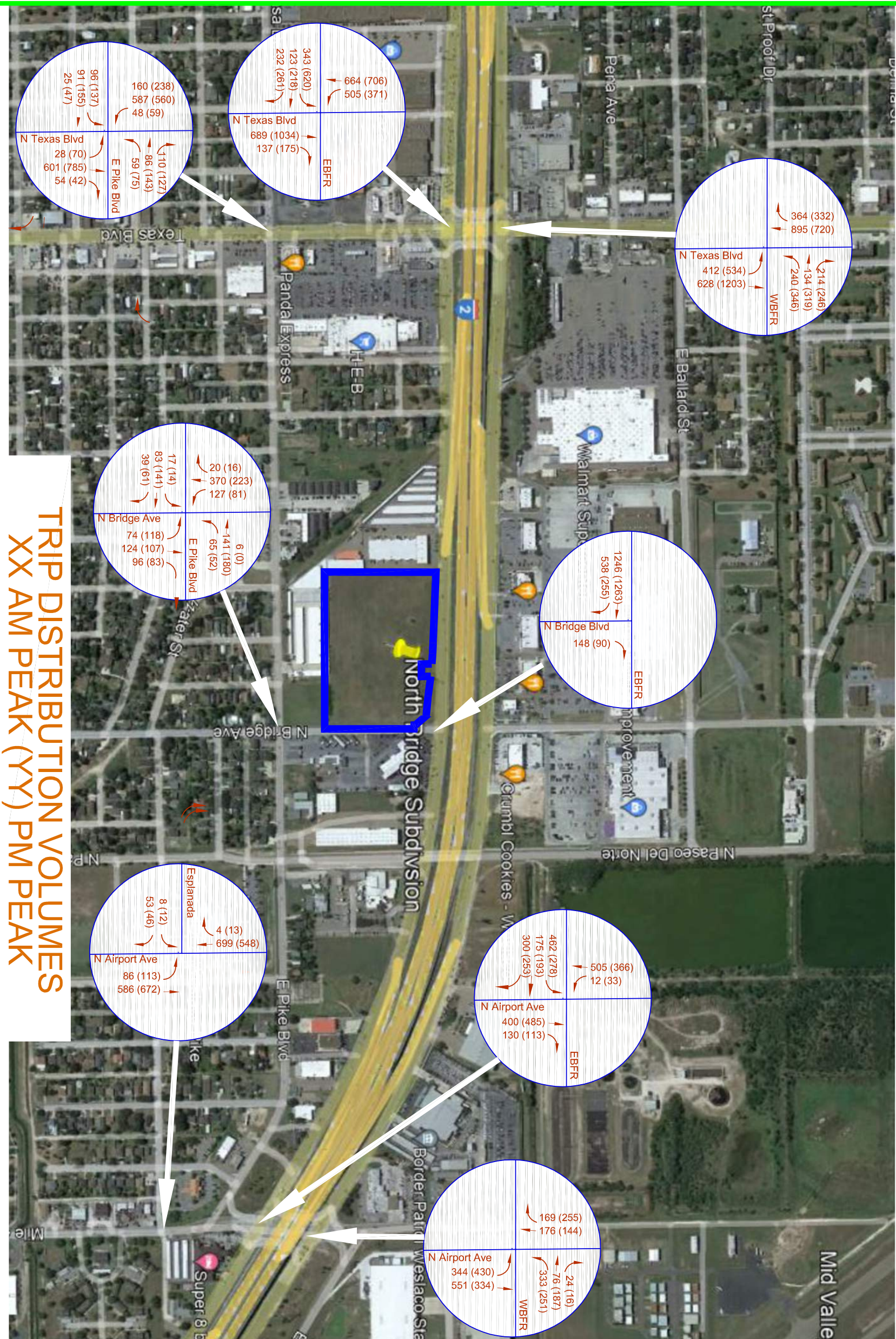
REV	DATE	DESCRIPTION



CIVIL ENGINEERING CONSULTANTS
DON DURDEN, INC.
11550 I.H. 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230
TEL: (210) 641-9999
FAX: (210) 641-6440
EMAIL: cec@cectexas.com

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	May 2, 2022
JOB NUMBER:	862202950





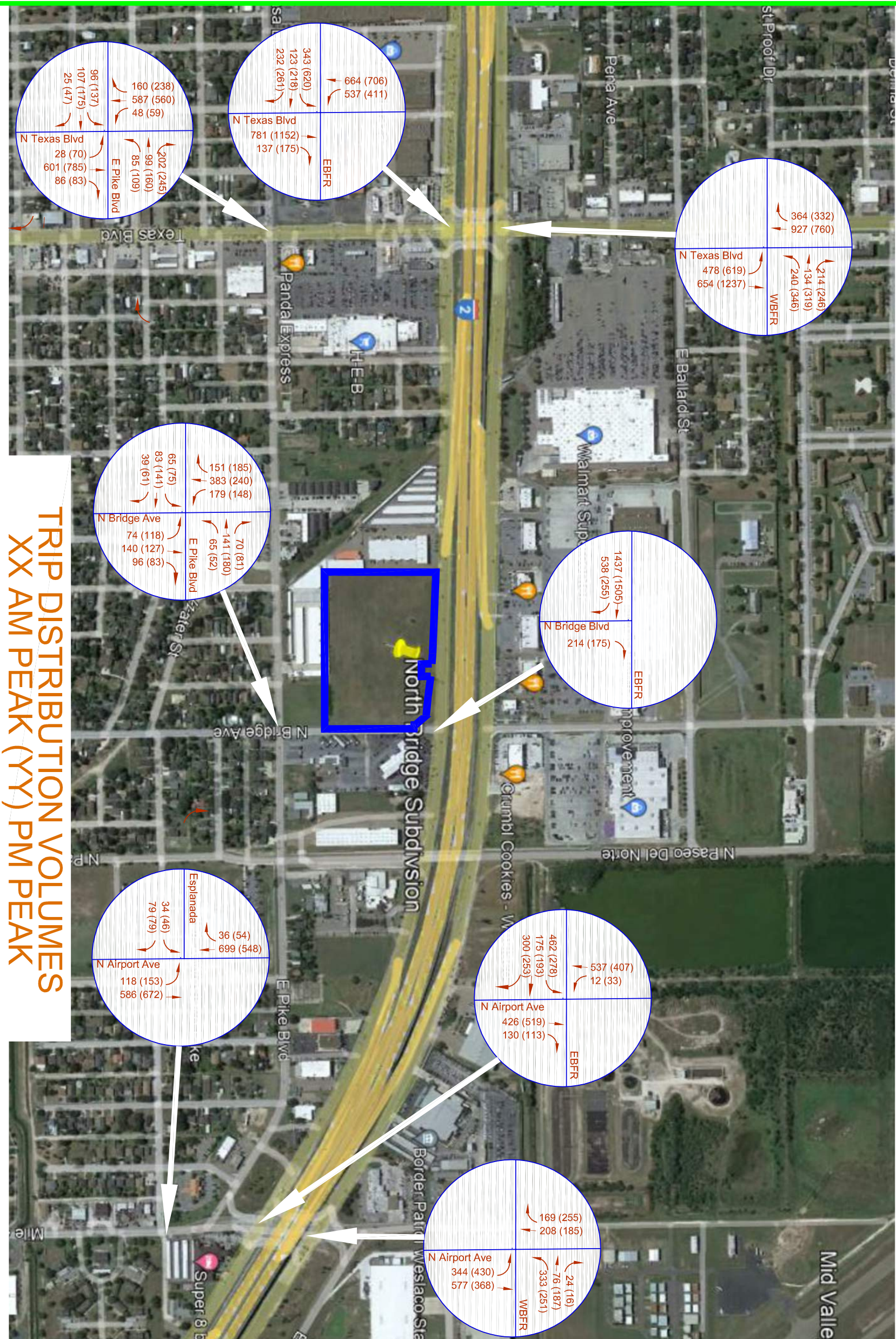
F22

Shops at North Bridge
2022 Current Volumes
Exhibit

REV	DATE	DESCRIPTION

Civil Engineering Consultants
DON DURDEN, INC.
11550 I.H. 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230
TEL: (210) 641-9999
FAX: (210) 641-6440
EMAIL: cec@cectexas.com

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	May 2, 2022
JOB NUMBER:	862202950



G22

Shops at North Bridge
2022 Proposed Volumes
Exhibit

REV	DATE	DESCRIPTION



CIVIL ENGINEERING CONSULTANTS
DON DURDEN, INC.
11550 I.H. 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230
TEL: (210) 641-9999
FAX: (210) 641-6440
EMAIL: cec@cectexas.com

DESIGNED BY:
DRAWN BY:
CHECKED BY:
DATE: May 2, 2022
JOB NUMBER: 862202950

APPENDIX B

TRAFFIC VOLUME DATA

Leg	N Airport Dr						
Direction	Southbound						
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW
2022-04-21 07:00:00	0	505	12	0	517	0	0
2022-04-21 08:00:00	0	289	13	0	302	0	0
2022-04-21 16:00:00	0	366	33	0	399	0	0
2022-04-21 17:00:00	0	360	22	0	382	0	0
Grand Total	0	1520	80	0	1600	0	0
% Approach	0.0%	95.0%	5.0%	0.0%			
% Total	0.0%	21.3%	1.1%	0.0%	22.4%		
Lights	0	1470	75	0	1545		
% Lights	0.0%	96.7%	93.8%	0.0%	96.6%		
Articulated Trucks	0	5	1	0	6		
% Articulated Trucks	0.0%	0.3%	1.3%	0.0%	0.4%		
Buses and Single-Unit Trucks	0	45	4	0	49		
% Buses and Single-Unit Trucks	0.0%	3.0%	5.0%	0.0%	3.1%		
Pedestrians						0	0
% Pedestrians						0.0%	0.0%
Bicycles on Crosswalk						0	0
% Bicycles on Crosswalk						0.0%	0.0%

EBFR US 83										N Airport Dr				
Westbound										Northbound				
Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn				
0	0	0	0	76	76	0	0	130	400	0	0	0	0	0
0	0	0	0	56	56	0	0	87	339	0	0	0	0	0
0	0	0	0	93	93	0	0	113	485	0	0	0	0	0
0	0	0	0	100	100	0	0	141	512	0	0	0	0	0
0	0	0	0	325	325	0	0	471	1736	0	0	0	0	0
0.0%	0.0%	0.0%	0.0%	100.0%				21.3%	78.7%	0.0%	0.0%	0.0%	0.0%	0.0%
0.0%	0.0%	0.0%	0.0%	4.5%	4.5%			6.6%	24.3%	0.0%	0.0%	0.0%	0.0%	0.0%
0	0	0	0	315	315			463	1694	0	0	0	0	0
0.0%	0.0%	0.0%	0.0%	96.9%	96.9%			98.3%	97.6%	0.0%	0.0%	0.0%	0.0%	0.0%
0	0	0	0	5	5			2	2	0	0	0	0	0
0.0%	0.0%	0.0%	0.0%	1.5%	1.5%			0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
0	0	0	0	5	5			6	40	0	0	0	0	0
0.0%	0.0%	0.0%	0.0%	1.5%	1.5%			1.3%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%
						0	0							
						0.0%	0.0%							
						0	0							
						0.0%	0.0%							

EBFR US 83										
Eastbound										
App Total	Peds CW	Peds CCW	Right	Thru	Left	App Total	Peds CW	Peds CCW	Int Total	
530	0	0	300	175	462	937	0	0	2060	
426	0	0	278	109	290	677	0	0	1461	
598	0	0	253	193	278	724	0	0	1814	
653	0	0	303	158	216	677	0	0	1812	
2207	0	0	1134	635	1246	3015	0	0	7147	
30.9%			37.6%	21.1%	41.3%	42.2%			6948	
2157			15.9%	8.9%	17.4%	2931			97.2%	
97.7%			1125	625	1181	2931			35	
4			99.2%	98.4%	94.8%	20			0.5%	
0.2%			1	1	18	64			164	
46			0.1%	0.2%	1.4%	64			2.3%	
2.1%			8	9	47					
			0.7%	1.4%	3.8%					
	0	0					0	0		
	0.0%	0.0%					0.0%	0.0%		
	0	0					0	0		
	0.0%	0.0%					0.0%	0.0%		

Leg	Direction	Start Time	East Westbound Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	N Bridge Av, Northbound Right
		2022-04-13 00:00:00	0	0	0	0	0	0	4
		2022-04-13 01:00:00	0	0	0	0	0	0	3
		2022-04-13 02:00:00	0	0	0	0	0	0	6
		2022-04-13 03:00:00	0	0	0	0	0	0	2
		2022-04-13 04:00:00	0	0	0	0	0	0	10
		2022-04-13 05:00:00	0	0	0	0	0	0	21
		2022-04-13 06:00:00	0	0	0	0	0	0	46
		2022-04-13 07:00:00	0	0	0	0	0	0	148
		2022-04-13 08:00:00	0	0	0	0	0	0	100
		2022-04-13 09:00:00	0	0	0	0	0	0	72
		2022-04-13 10:00:00	0	0	0	0	0	0	77
		2022-04-13 11:00:00	0	0	0	0	0	0	84
		2022-04-13 12:00:00	0	0	0	0	0	0	113
		2022-04-13 13:00:00	0	0	0	0	0	0	86
		2022-04-13 14:00:00	0	0	0	0	0	0	90
		2022-04-13 15:00:00	0	0	0	0	0	0	130
		2022-04-13 16:00:00	0	0	0	0	0	0	128
		2022-04-13 17:00:00	0	0	0	0	0	0	139
		2022-04-13 18:00:00	0	0	0	0	0	0	72
		2022-04-13 19:00:00	0	0	0	0	0	0	55
		2022-04-13 20:00:00	0	0	0	0	0	0	38
		2022-04-13 21:00:00	0	0	0	0	0	0	51
		2022-04-13 22:00:00	0	0	0	0	0	0	17
		2022-04-13 23:00:00	0	0	0	0	0	0	17
		Grand Total	0	0	0	0	0	0	1509
		% Approach	0.0%	0.0%	0.0%	0.0%			100.0%
		% Total	0.0%	0.0%	0.0%	0.0%			6.1%
		Lights	0	0	0	0			1481
		% Lights	0.0%	0.0%	0.0%	0.0%			98.1%
		Articulated Trucks	0	0	0	0			5
		% Articulated Trucks	0.0%	0.0%	0.0%	0.0%			0.3%

e

EBFR US 83
Eastbound

Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	U-Turn	App Total	Peds CW	Peds CCW
0	0	4	0	0	22	102	0	124	0	0
0	0	3	0	0	13	45	0	58	0	0
0	0	6	0	0	9	22	0	31	0	0
0	0	2	0	0	17	32	0	49	0	0
0	0	10	0	0	13	112	0	125	0	0
0	0	21	0	0	26	278	0	304	0	0
0	0	46	0	0	136	565	0	701	0	0
0	0	148	0	0	538	1246	0	1784	0	0
0	0	100	0	0	303	1135	0	1438	0	0
0	0	72	0	0	232	914	0	1146	0	0
0	0	77	0	0	206	883	0	1089	0	0
0	0	84	0	0	209	1142	0	1351	0	0
0	0	113	0	0	283	1321	0	1604	0	0
0	0	86	0	0	300	1385	0	1685	0	0
0	0	90	0	0	255	1263	0	1518	0	0
0	0	130	0	0	358	1297	0	1655	0	0
0	0	128	0	0	329	1351	0	1680	0	0
0	0	139	0	0	307	1377	0	1684	0	0
0	0	72	0	0	267	1325	0	1592	0	0
0	0	55	0	0	176	942	0	1118	0	0
0	0	38	0	0	152	861	0	1013	0	0
0	0	51	0	0	120	707	0	827	0	0
0	0	17	0	0	69	424	0	493	0	0
0	0	17	0	0	53	243	0	296	0	0
0	0	1509	0	0	4393	18972	0	23365	0	0
0.0%	0.0%				18.8%	81.2%	0.0%			
0.0%	0.0%	6.1%			17.7%	76.3%	0.0%	93.9%		
0	0	1481			4326	18572	0	22898		
0.0%	0.0%	98.1%			98.5%	97.9%	0.0%	98.0%		
0	0	5			15	155	0	170		
0.0%	0.0%	0.3%			0.3%	0.8%	0.0%	0.7%		

Leg	N Texas Blvd						
Direction	Southbound						
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW
2022-04-13 07:00:00	0	664	505	0	1169	0	0
2022-04-13 08:00:00	0	561	385	0	946	0	0
2022-04-13 16:00:00	0	706	371	0	1077	0	0
2022-04-13 17:00:00	0	676	372	0	1048	0	0
Grand Total	0	2607	1633	0	4240	0	0
% Approach	0.0%	61.5%	38.5%	0.0%			
% Total	0.0%	17.8%	11.1%	0.0%	28.9%		
Lights	0	2586	1591	0	4177		
% Lights	0.0%	99.2%	97.4%	0.0%	98.5%		
Articulated Trucks	0	2	9	0	11		
% Articulated Trucks	0.0%	0.1%	0.6%	0.0%	0.3%		
Buses and Single-Unit Trucks	0	19	33	0	52		
% Buses and Single-Unit Trucks	0.0%	0.7%	2.0%	0.0%	1.2%		
Pedestrians						0	0
% Pedestrians						0.0%	0.0%
Bicycles on Crosswalk						0	0
% Bicycles on Crosswalk						0.0%	0.0%

EBFR US 83										N Texas Blvd				
Westbound										Northbound				
Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn				
0	0	0	0	273	273	1	1	137	689	0	0	0	0	0
0	0	0	0	234	234	0	0	102	581	0	0	0	0	0
0	0	0	0	370	370	2	0	175	1034	0	0	0	0	0
0	1	1	0	365	366	2	1	134	1059	0	0	0	0	0
0	1	0	0	1242	1243	5	2	548	3363	0	0	0	0	0
0.0%	0.1%	0.0%	99.9%	8.5%	8.5%			14.0%	86.0%	0.0%	0.0%	0.0%	0.0%	0.0%
0.0%	0.0%	0.0%	8.5%	1230	1230			3.7%	23.0%	0.0%	0.0%	0.0%	0.0%	0.0%
0	1	0	1229	99.0%	99.0%			538	3320	0	0	0	0	0
0.0%	100.0%	0.0%	99.0%	4	4			98.2%	98.7%	0.0%	0.0%	0.0%	0.0%	0.0%
0	0	0	4	0.3%	0.3%			1	4	0	0	0	0	0
0.0%	0.0%	0.0%	0.3%	9	9			0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
0	0	0	9	0.7%	0.7%			9	39	0	0	0	0	0
0.0%	0.0%	0.0%	0.7%	2	2			1.6%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%

EBFR US 83 Eastbound												
App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total		
826	0	0	232	123	343	331	1029	1	1	3297		
683	3	3	241	135	305	323	1004	3	1	2867		
1209	0	0	261	218	620	540	1639	1	0	4295		
1193	0	0	290	236	621	438	1585	1	1	4192		
3911	3	3	1024	712	1889	1632	5257	6	3	14651		
26.7%			19.5%	13.5%	35.9%	31.0%	35.9%			14471		
3858			7.0%	4.9%	12.9%	11.1%	5206			98.8%		
98.6%			1013	701	1867	1625	99.0%			40		
5			98.9%	98.5%	98.8%	99.6%	20			0.3%		
0.1%			2	5	9	4	0.4%			140		
48			0.2%	0.7%	0.5%	0.2%	31			1.0%		
1.2%			9	6	13	3	0.6%					
	3	3	0.9%	0.8%	0.7%	0.2%		6	3			
	100.0%	100.0%						100.0%	100.0%			
	0	0						0	0			
	0.0%	0.0%						0.0%	0.0%			

Leg	N Airport Dr									
Direction	Southbound									
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW			
2022-04-13 15:45:00	6	157	0	0	163	0	0			
2022-04-13 16:00:00	1	125	0	0	126	0	0			
2022-04-13 16:15:00	3	150	0	0	153	0	0			
2022-04-13 16:30:00	3	116	0	0	119	0	0			
Grand Total	13	548	0	0	561	0	0			
% Approach	2.3%	97.7%	0.0%	0.0%						
% Total	0.9%	39.0%	0.0%	0.0%	40.0%					
PHF (3:45 PM - 4:45 PM)	0.542	0.873	0	0	0.86					
Lights	13	534	0	0	547					
% Lights	100.0%	97.4%	0.0%	0.0%	97.5%					
Articulated Trucks	0	2	0	0	2					
% Articulated Trucks	0.0%	0.4%	0.0%	0.0%	0.4%					
Buses and Single-Unit Trucks	0	12	0	0	12					
% Buses and Single-Unit Trucks	0.0%	2.2%	0.0%	0.0%	2.1%					
Pedestrians						0	0			
% Pedestrians						0.0%	0.0%			
Bicycles on Crosswalk						0	0			
% Bicycles on Crosswalk						0.0%	0.0%			

Esplanada St Westbound					N Airport Dr Northbound				
Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left
0	0	0	0	0	0	0	0	148	50
0	0	0	0	0	0	0	0	188	33
0	0	0	0	0	0	0	0	178	15
0	0	0	0	0	0	0	0	158	15
0	0	0	0	0	0	0	0	672	113
0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	85.6%	14.4%
0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	47.9%	8.0%
0	0	0	0	0	0	0	0	0.894	0.565
0	0	0	0	0	0	0	0	656	108
0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	97.6%	95.6%
0	0	0	0	0	0	0	0	1	0
0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	0.1%	0.0%
0	0	0	0	0	0	0	0	15	5
0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	2.2%	4.4%
0	0	0	0	0	0	0	0	0	0
0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	0	0
0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	0	0
0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	0	0

Esplanada St Eastbound											
App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total	
198	0	0	15	0	4	0	19	0	0	380	
221	0	0	19	0	3	0	22	0	0	369	
193	0	0	7	0	3	0	10	0	0	356	
173	0	0	5	0	2	0	7	0	0	299	
785	0	0	46	0	12	0	58	0	0	1404	
55.9%			79.3%	0.0%	20.7%	0.0%	4.1%			0.924	
0.888			3.3%	0.0%	0.9%	0.0%	0.659			1368	
764			0.605	0	0.75	0	57			97.4%	
97.3%			45	0	12	0	57			3	
1			97.8%	0.0%	100.0%	0.0%	98.3%			0.2%	
0.1%			0	0	0	0	0			33	
20			0.0%	0.0%	0.0%	0.0%	0.0%			2.4%	
2.5%			1	0	0	0	1				
			2.2%	0.0%	0.0%	0.0%	1.7%				
	0	0						0	0		
	0.0%	0.0%						0.0%	0.0%		
	0	0						0	0		
	0.0%	0.0%						0.0%	0.0%		

Leg	N Bridge Ave									
Direction	Southbound									
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW			
2022-04-13 00:00:00	1	15	5	0	21	0	0	0	0	0
2022-04-13 01:00:00	0	11	4	0	15	0	0	0	0	0
2022-04-13 02:00:00	1	6	3	0	10	0	0	0	0	0
2022-04-13 03:00:00	1	13	2	0	16	0	0	0	0	0
2022-04-13 04:00:00	0	12	1	0	13	0	0	0	0	0
2022-04-13 05:00:00	1	17	8	0	26	0	0	0	0	0
2022-04-13 06:00:00	4	92	30	0	126	0	0	0	0	0
2022-04-13 07:00:00	20	370	127	0	517	0	0	0	0	0
2022-04-13 08:00:00	9	261	39	0	309	0	0	0	0	0
2022-04-13 09:00:00	11	189	36	0	236	0	0	0	0	0
2022-04-13 10:00:00	12	137	55	0	204	0	0	0	0	0
2022-04-13 11:00:00	14	127	65	0	206	0	0	0	0	0
2022-04-13 12:00:00	16	209	56	0	281	0	0	0	0	0
2022-04-13 13:00:00	21	224	52	0	297	0	0	0	0	0
2022-04-13 14:00:00	17	193	47	0	257	0	0	0	0	0
2022-04-13 15:00:00	11	250	95	0	356	0	0	0	0	0
2022-04-13 16:00:00	16	223	81	0	320	0	0	0	0	0
2022-04-13 17:00:00	26	207	72	0	305	0	0	0	0	0
2022-04-13 18:00:00	22	186	64	0	272	0	0	0	0	0
2022-04-13 19:00:00	12	120	49	0	181	0	0	0	0	0
2022-04-13 20:00:00	11	111	36	0	158	0	0	0	0	0
2022-04-13 21:00:00	5	100	15	0	120	0	0	0	0	0
2022-04-13 22:00:00	4	49	15	0	68	0	0	0	0	0
2022-04-13 23:00:00	1	39	13	0	53	0	0	0	0	0
Grand Total	236	3161	970	0	4367	0	0	0	0	0
% Approach	5.4%	72.4%	22.2%	0.0%						
% Total	1.8%	24.7%	7.6%	0.0%	34.2%					
Lights	235	3112	960	0	4307					
% Lights	99.6%	98.4%	99.0%	0.0%	98.6%					
Articulated Trucks	0	11	1	0	12					
% Articulated Trucks	0.0%	0.3%	0.1%	0.0%	0.3%					

E Pike Blvd Westbound										N Bridge Ave Northbound									
Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right
0	5	3	0	8	0	0	5	4	1	0	0	1	3	4	0	0	0	0	0
0	0	2	0	2	0	0	1	3	4	0	0	1	3	4	0	0	0	0	0
0	1	1	0	2	0	0	1	5	0	0	0	1	5	0	0	0	0	0	0
0	4	0	0	4	0	0	1	2	2	0	0	2	2	2	0	0	0	0	0
0	2	2	0	4	0	0	0	8	5	0	0	0	8	5	0	0	0	0	0
1	6	0	0	7	0	0	4	18	7	0	0	4	18	7	0	0	0	0	0
2	22	10	0	34	0	0	16	41	37	0	0	16	41	37	0	0	0	0	0
6	141	65	0	212	0	0	96	124	74	0	0	96	124	74	0	0	0	0	0
0	110	50	0	160	0	0	67	89	89	0	0	67	89	89	0	0	0	0	0
3	88	30	0	121	0	0	53	63	76	0	0	53	63	76	0	0	0	0	0
6	93	23	0	122	0	0	46	69	78	0	0	46	69	78	0	0	0	0	0
11	133	32	0	176	0	0	55	73	97	0	0	55	73	97	0	0	0	0	0
10	143	38	0	191	0	0	56	100	109	0	0	56	100	109	0	0	0	0	0
12	118	43	0	173	0	0	38	70	70	0	0	38	70	70	0	0	0	0	0
3	102	46	0	151	0	0	56	72	79	0	0	56	72	79	0	0	0	0	0
15	160	61	0	236	0	0	87	112	91	0	0	87	112	91	0	0	0	0	0
0	180	52	0	232	0	0	83	107	118	0	0	83	107	118	0	0	0	0	0
5	158	47	0	210	0	0	71	110	104	0	0	71	110	104	0	0	0	0	0
3	126	45	0	174	0	0	53	56	74	0	0	53	56	74	0	0	0	0	0
2	74	29	0	105	0	0	44	42	77	0	0	44	42	77	0	0	0	0	0
0	48	20	0	68	0	0	32	32	62	0	0	32	32	62	0	0	0	0	0
1	48	16	0	65	0	0	24	49	47	0	0	24	49	47	0	0	0	0	0
0	29	16	0	45	0	0	11	17	26	0	0	11	17	26	0	0	0	0	0
0	9	7	0	16	0	0	4	12	11	0	0	4	12	11	0	0	0	0	0
80	1800	638	0	2518	0	0	904	1278	1338	0	0	904	1278	1338	0	0	0	0	0
3.2%	71.5%	25.3%	0.0%	19.7%			25.7%	36.3%	38.0%	0.0%		25.7%	36.3%	38.0%	0.0%				
0.6%	14.1%	5.0%	0.0%	2464			7.1%	10.0%	10.5%	0.0%		7.1%	10.0%	10.5%	0.0%				
78	1771	615	0	97.9%			900	1253	1329	0		900	1253	1329	0				
97.5%	98.4%	96.4%	0.0%	97.9%			99.6%	98.0%	99.3%	0.0%		99.6%	98.0%	99.3%	0.0%				
1	0	1	0	2			0	3	1	0		0	3	1	0				
1.3%	0.0%	0.2%	0.0%	0.1%			0.0%	0.2%	0.1%	0.0%		0.0%	0.2%	0.1%	0.0%				

E Pike Blvd Eastbound												
App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total		
10	0	0	1	2	0	0	3	0	0	42		
8	0	0	2	0	0	0	2	0	0	27		
6	0	0	0	2	2	0	4	0	0	22		
5	0	0	2	1	2	0	5	0	0	30		
13	0	0	0	0	2	0	2	0	0	32		
29	0	0	4	3	2	0	9	0	0	71		
94	0	0	10	18	3	0	31	0	0	285		
294	0	0	39	83	17	0	139	0	0	1162		
245	0	0	31	61	7	0	99	0	0	813		
192	0	0	20	51	10	0	81	0	0	630		
193	0	0	32	70	5	0	107	0	0	626		
225	0	0	45	117	5	0	167	0	0	774		
265	0	0	48	105	11	0	164	0	0	901		
178	0	0	54	119	8	0	181	0	0	829		
207	0	0	44	106	10	0	160	0	0	775		
290	0	0	62	116	10	0	188	0	0	1070		
308	0	0	61	141	14	0	216	0	0	1076		
285	0	0	44	137	17	0	198	0	0	998		
183	0	0	55	128	12	0	195	0	0	824		
163	0	0	47	94	0	0	141	0	0	590		
126	0	0	39	90	1	0	130	0	0	482		
120	0	0	20	58	1	0	79	0	0	384		
54	0	0	19	28	1	0	48	0	0	215		
27	0	0	4	11	5	0	20	0	0	116		
3520	0	0	683	1541	145	0	2369	0	0	12774		
27.6%			28.8%	65.0%	6.1%	0.0%	18.5%			12599		
3482			5.3%	12.1%	1.1%	0.0%	2346			98.6%		
98.9%			679	1527	140	0	99.0%			18		
4			99.4%	99.1%	96.6%	0.0%	0			0.1%		
0.1%			0	0	0	0.0%	0.0%					

Leg	Direction	Start Time	Texas Blvd Southbound		Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW
		2022-04-13 00:00:00			5	55	2	0	62	0	0
		2022-04-13 01:00:00			1	26	4	0	31	0	0
		2022-04-13 02:00:00			2	18	0	0	20	0	0
		2022-04-13 03:00:00			6	25	3	0	34	0	0
		2022-04-13 04:00:00			7	28	1	0	36	0	0
		2022-04-13 05:00:00			10	58	6	0	74	0	0
		2022-04-13 06:00:00			62	208	17	0	287	0	0
		2022-04-13 07:00:00			160	587	48	0	795	0	0
		2022-04-13 08:00:00			147	554	40	0	741	0	0
		2022-04-13 09:00:00			137	455	20	0	612	0	0
		2022-04-13 10:00:00			141	439	39	0	619	0	0
		2022-04-13 11:00:00			196	498	54	0	748	0	0
		2022-04-13 12:00:00			236	547	51	0	834	0	0
		2022-04-13 13:00:00			177	517	50	0	744	0	0
		2022-04-13 14:00:00			153	484	71	0	708	0	0
		2022-04-13 15:00:00			206	540	63	0	809	1	1
		2022-04-13 16:00:00			238	560	59	0	857	0	0
		2022-04-13 17:00:00			208	554	54	1	817	1	0
		2022-04-13 18:00:00			173	458	59	0	690	0	0
		2022-04-13 19:00:00			121	384	42	0	547	0	1
		2022-04-13 20:00:00			99	343	28	1	471	0	0
		2022-04-13 21:00:00			52	274	28	0	354	1	0
		2022-04-13 22:00:00			36	180	13	0	229	0	0
		2022-04-13 23:00:00			25	122	9	0	156	0	0
		Grand Total			2598	7914	761	2	11275	3	2
		% Approach			23.0%	70.2%	6.7%	0.0%			
		% Total			8.6%	26.2%	2.5%	0.0%	37.4%		
	Lights				2586	7791	749	2	11128		
	% Lights				99.5%	98.4%	98.4%	100.0%	98.7%		
	Articulated Trucks				5	16	2	0	23		
	% Articulated Trucks				0.2%	0.2%	0.3%	0.0%	0.2%		

W Pike Blvd Westbound					Texas Blvd Northbound				
Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left
8	3	3	0	14	0	0	1	45	2
1	0	1	0	2	0	0	0	41	0
2	2	0	0	4	0	0	0	15	1
3	0	1	0	4	0	0	1	20	1
5	6	0	0	11	1	0	2	38	1
11	5	0	0	16	0	0	2	78	1
65	12	5	0	82	0	0	12	218	7
110	86	59	0	255	0	0	54	601	28
96	77	47	0	220	1	0	19	467	28
75	72	44	1	192	0	0	19	495	37
92	98	40	0	230	0	0	23	580	47
121	96	69	0	286	0	0	52	689	71
127	117	100	0	344	0	2	44	673	62
111	103	59	1	274	1	0	51	627	49
119	105	79	0	303	0	0	37	587	50
149	99	83	0	331	0	1	73	674	69
127	143	75	1	346	0	0	42	785	70
132	144	90	0	366	1	0	49	792	59
108	123	59	0	290	0	0	39	637	51
126	96	76	1	299	0	1	38	514	38
101	63	70	0	234	1	2	19	478	26
68	43	46	0	157	1	0	22	351	18
43	36	22	0	101	0	1	11	173	5
21	9	8	0	38	0	1	3	135	2
1821	1538	1036	4	4399	6	8	613	9713	723
41.4%	35.0%	23.6%	0.1%	14.6%			5.5%	87.9%	6.5%
6.0%	5.1%	3.4%	0.0%	4347			2.0%	32.2%	2.4%
1799	1518	1026	4	98.8%			602	9598	720
98.8%	98.7%	99.0%	100.0%	9			98.2%	98.8%	99.6%
2	6	1	0	0.2%			0	13	0
0.1%	0.4%	0.1%	0.0%				0.0%	0.1%	0.0%

W Pike Blvd Eastbound											
App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total	
48	0	0	0	0	1	4	5	0	0	129	
41	0	0	0	0	1	2	3	0	0	77	
16	0	0	0	0	1	1	2	0	0	42	
22	0	0	2	2	2	5	9	0	0	69	
41	0	0	2	2	2	0	4	0	0	92	
81	0	0	3	5	5	6	14	0	0	185	
237	0	0	6	9	12	12	27	0	0	633	
684	0	0	25	91	96	0	212	0	0	1946	
514	0	0	18	65	64	0	147	0	0	1622	
551	1	1	25	65	68	0	158	0	0	1513	
650	0	0	26	81	77	0	184	0	0	1683	
812	1	0	47	105	116	0	268	0	0	2114	
779	0	0	40	99	107	0	246	0	1	2203	
728	1	0	34	98	112	0	244	0	1	1990	
674	0	0	31	102	80	0	213	2	1	1898	
816	0	0	66	97	106	0	269	2	0	2225	
897	0	0	47	155	137	0	339	1	1	2439	
900	0	0	32	126	133	0	291	0	0	2374	
727	0	1	38	123	129	0	290	0	0	1997	
590	0	0	28	92	74	0	194	0	2	1630	
523	0	0	25	67	62	0	154	0	0	1382	
391	0	1	17	30	48	0	95	0	0	997	
190	0	0	6	35	24	0	65	0	0	585	
140	1	1	4	6	12	0	22	0	0	356	
11052	4	4	522	1458	1475	0	3455	5	6	30181	
36.6%			15.1%	42.2%	42.7%	0.0%	11.4%			29825	
10923			1.7%	4.8%	4.9%	0.0%	3427			98.8%	
98.8%			518	1445	1464	0	99.2%			49	
13			99.2%	99.1%	99.3%	0	4			0.2%	
0.1%			2	0	2	0	0.1%				
			0.4%	0.0%	0.1%	0.0%	0.1%				

Leg	N Airport Dr						
Direction	Southbound						
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW
2022-04-21 07:00:00	169	176	0	0	345	0	0
2022-04-21 08:00:00	138	92	0	0	230	0	0
2022-04-21 16:00:00	255	144	0	0	399	0	0
2022-04-21 17:00:00	257	136	0	0	393	0	0
Grand Total	819	548	0	0	1367	0	0
% Approach	59.9%	40.1%	0.0%	0.0%			
% Total	11.1%	7.4%	0.0%	0.0%	18.6%		
Lights	784	523	0	0	1307		
% Lights	95.7%	95.4%	0.0%	0.0%	95.6%		
Articulated Trucks	9	2	0	0	11		
% Articulated Trucks	1.1%	0.4%	0.0%	0.0%	0.8%		
Buses and Single-Unit Trucks	26	23	0	0	49		
% Buses and Single-Unit Trucks	3.2%	4.2%	0.0%	0.0%	3.6%		
Pedestrians						0	0
% Pedestrians						0.0%	0.0%
Bicycles on Crosswalk						0	0
% Bicycles on Crosswalk						0.0%	0.0%

WBFR US 83										N Airport Dr				
Westbound										Northbound				
Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn				
24	76	333	74	507	0	0	0	551	344	0				
19	97	198	51	365	0	0	0	363	280	0				
16	187	251	84	538	0	0	0	334	430	0				
26	204	236	86	552	0	0	0	292	456	0				
85	564	1018	295	1962	0	0	0	1540	1510	0				
4.3%	28.7%	51.9%	15.0%				0.0%	50.5%	49.5%	0.0%				
1.2%	7.7%	13.8%	4.0%	26.7%			0.0%	20.9%	20.5%	0.0%				
81	553	991	285	1910			0	1446	1489	0				
95.3%	98.0%	97.3%	96.6%	97.3%			0.0%	93.9%	98.6%	0.0%				
0	7	3	4	14			0	17	3	0				
0.0%	1.2%	0.3%	1.4%	0.7%			0.0%	1.1%	0.2%	0.0%				
4	4	24	6	38			0	77	18	0				
4.7%	0.7%	2.4%	2.0%	1.9%			0.0%	5.0%	1.2%	0.0%				
					0	0								
					0.0%	0.0%								
					0	0								
					0.0%	0.0%								

WBFR US 83										
Eastbound										
App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
895	0	0	0	0	0	246	246	0	0	1993
643	0	0	0	0	0	142	142	0	0	1380
764	0	0	0	0	0	324	324	0	0	2025
748	0	0	0	0	0	267	267	0	0	1960
3050	0	0	0	0	0	979	979	0	0	7358
			0.0%	0.0%	0.0%	100.0%				
41.5%			0.0%	0.0%	0.0%	13.3%	13.3%			7124
2935			0	0	0	972	972			96.8%
96.2%			0.0%	0.0%	0.0%	99.3%	99.3%			49
20			0	0	0	4	4			0.7%
0.7%			0.0%	0.0%	0.0%	0.4%	0.4%			185
95			0	0	0	3	3			2.5%
3.1%			0.0%	0.0%	0.0%	0.3%	0.3%			
	0	0						0	0	
	0.0%	0.0%						0.0%	0.0%	
	0	0						0	0	
	0.0%	0.0%						0.0%	0.0%	

Leg Direction Start Time	N Texas Blvd Southbound		Left	U-Turn	App Total	Peds CW	Peds CCW
	Right	Thru					
2022-04-13 07:00:00	364	895	0	0	1259	0	0
2022-04-13 08:00:00	299	721	0	0	1020	0	0
2022-04-13 16:00:00	332	720	0	0	1052	0	0
2022-04-13 17:00:00	350	711	0	0	1061	0	0
Grand Total	1345	3047	0	0	4392	0	0
% Approach	30.6%	69.4%	0.0%	0.0%			
% Total	8.7%	19.6%	0.0%	0.0%	28.3%		
Lights	1303	2997	0	0	4300		
% Lights	96.9%	98.4%	0.0%	0.0%	97.9%		
Articulated Trucks	15	10	0	0	25		
% Articulated Trucks	1.1%	0.3%	0.0%	0.0%	0.6%		
Buses and Single-Unit Trucks	27	40	0	0	67		
% Buses and Single-Unit Trucks	2.0%	1.3%	0.0%	0.0%	1.5%		
Pedestrians						0	0
% Pedestrians						0.0%	0.0%
Bicycles on Crosswalk						0	0
% Bicycles on Crosswalk						0.0%	0.0%

WBFR US 83				N Texas Blvd						
Westbound				Northbound						
Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn
214	134	240	241	829	3	3	0	628	412	0
124	174	231	225	754	0	2	0	590	325	0
246	319	346	372	1283	4	2	0	1203	534	0
218	337	320	356	1231	0	0	0	1189	502	0
802	964	1137	1194	4097	7	7	0	3610	1773	0
19.6%	23.5%	27.8%	29.1%				0.0%	67.1%	32.9%	0.0%
5.2%	6.2%	7.3%	7.7%	26.4%			0.0%	23.2%	11.4%	0.0%
774	954	1125	1181	4034			0	3570	1748	0
96.5%	99.0%	98.9%	98.9%	98.5%			0.0%	98.9%	98.6%	0.0%
5	3	2	4	14			0	12	1	0
0.6%	0.3%	0.2%	0.3%	0.3%			0.0%	0.3%	0.1%	0.0%
23	7	10	9	49			0	28	24	0
2.9%	0.7%	0.9%	0.8%	1.2%			0.0%	0.8%	1.4%	0.0%
					6	3				
					85.7%	42.9%				
					1	4				
					14.3%	57.1%				

WBFR US 83 Eastbound										
App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
1040	0	0	0	0	0	331	331	1	0	3459
915	0	0	0	0	0	340	340	0	1	3029
1737	0	0	0	0	0	526	526	0	0	4598
1691	0	0	0	0	0	470	470	2	2	4453
5383	0	0	0	0	0	1667	1667	3	3	15539
			0.0%	0.0%	0.0%	100.0%				
34.6%			0.0%	0.0%	0.0%	10.7%	10.7%			15310
5318			0	0	0	1658	1658			98.5%
98.8%			0.0%	0.0%	0.0%	99.5%	99.5%			55
13			0	0	0	3	3			0.4%
0.2%			0.0%	0.0%	0.0%	0.2%	0.2%			174
52			0	0	0	6	6			1.1%
1.0%			0.0%	0.0%	0.0%	0.4%	0.4%			
	0	0						2	2	
	0.0%	0.0%						66.7%	66.7%	
	0	0						1	1	
	0.0%	0.0%						33.3%	33.3%	

APPENDIX C

SYNCHRO PRINTOUTS

HCM 2010 TWSC 4: Airport & Esplanada

05/12/2022

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	53	86	586	699	4
Future Vol, veh/h	8	53	86	586	699	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	58	93	637	760	4
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1585	762	764	0	-	0
Stage 1	762	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	119	405	849	-	-	-
Stage 1	461	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	99	405	849	-	-	-
Mov Cap-2 Maneuver	99	-	-	-	-	-
Stage 1	383	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	21.2	1.2		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	849	-	288	-	-	
HCM Lane V/C Ratio	0.11	-	0.23	-	-	
HCM Control Delay (s)	9.8	0	21.2	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.4	-	0.9	-	-	

HCM 2010 Signalized Intersection Summary 7: WBFR & Airport

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	333	76	24	344	551	0	0	176	169
Future Volume (veh/h)	0	0	0	333	76	24	344	551	0	0	176	169
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				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
Adj Sat Flow, veh/h/ln				1863	1863	1863	1863	1863	0	0	1863	1863
Adj Flow Rate, veh/h				362	83	26	324	669	0	0	191	0
Adj No. of Lanes				2	1	1	1	2	0	0	2	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				616	323	275	887	2325	0	0	2208	988
Arrive On Green				0.17	0.17	0.17	0.62	0.62	0.00	0.00	0.62	0.00
Sat Flow, veh/h				3548	1863	1583	1187	3725	0	0	3632	1583
Grp Volume(v), veh/h				362	83	26	324	669	0	0	191	0
Grp Sat Flow(s),veh/h/ln				1774	1863	1583	1187	1863	0	0	1770	1583
Q Serve(g_s), s				3.9	1.6	0.6	6.3	3.5	0.0	0.0	0.9	0.0
Cycle Q Clear(g_c), s				3.9	1.6	0.6	7.2	3.5	0.0	0.0	0.9	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				616	323	275	887	2325	0	0	2208	988
V/C Ratio(X)				0.59	0.26	0.09	0.37	0.29	0.00	0.00	0.09	0.00
Avail Cap(c_a), veh/h				1352	710	603	887	2325	0	0	2208	988
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.94	0.94	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				16.0	15.0	14.6	4.6	3.6	0.0	0.0	3.1	0.0
Incr Delay (d2), s/veh				0.9	0.4	0.1	1.1	0.3	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.0	0.9	0.3	2.3	1.9	0.0	0.0	0.4	0.0
LnGrp Delay(d),s/veh				16.9	15.4	14.7	5.7	3.9	0.0	0.0	3.2	0.0
LnGrp LOS				B	B	B	A	A			A	
Approach Vol, veh/h					471			993			191	
Approach Delay, s/veh					16.5			4.5			3.2	
Approach LOS					B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		30.7				30.7		11.3				
Change Period (Y+Rc), s		* 4.5				4.5		4.0				
Max Green Setting (Gmax), s		* 16				18.0		16.0				
Max Q Clear Time (g_c+I1), s		9.2				2.9		5.9				
Green Ext Time (p_c), s		3.2				0.9		1.4				
Intersection Summary												
HCM 2010 Ctrl Delay				7.7								
HCM 2010 LOS				A								
Notes												

HCM 2010 Signalized Intersection Summary 10: Airport & EBFR

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	462	175	300	0	0	0	0	400	130	12	505	0
Future Volume (veh/h)	462	175	300	0	0	0	0	400	130	12	505	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	502	190	326				0	435	0	13	549	0
Adj No. of Lanes	2	1	1				0	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	953	500	425				0	1646	736	29	2104	0
Arrive On Green	0.27	0.27	0.27				0.00	0.46	0.00	0.02	0.56	0.00
Sat Flow, veh/h	3548	1863	1583				0	3632	1583	1774	3725	0
Grp Volume(v), veh/h	502	190	326				0	435	0	13	549	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583				0	1770	1583	1774	1863	0
Q Serve(g_s), s	6.5	4.5	10.2				0.0	4.0	0.0	0.4	4.1	0.0
Cycle Q Clear(g_c), s	6.5	4.5	10.2				0.0	4.0	0.0	0.4	4.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	953	500	425				0	1646	736	29	2104	0
V/C Ratio(X)	0.53	0.38	0.77				0.00	0.26	0.00	0.45	0.26	0.00
Avail Cap(c_a), veh/h	1183	621	528				0	1646	736	164	2104	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	0.00	0.97	0.97	0.00
Uniform Delay (d), s/veh	16.8	16.1	18.2				0.0	8.8	0.0	26.3	6.0	0.0
Incr Delay (d2), s/veh	0.5	0.5	5.3				0.0	0.4	0.0	10.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	2.3	5.1				0.0	2.0	0.0	0.3	2.1	0.0
LnGrp Delay(d),s/veh	17.3	16.6	23.5				0.0	9.2	0.0	36.4	6.3	0.0
LnGrp LOS	B	B	C					A		D	A	
Approach Vol, veh/h	1018						435			562		
Approach Delay, s/veh	19.1						9.2			7.0		
Approach LOS	B						A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	5.4	29.6		19.0		35.0						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	5.0	18.0		18.0		18.0						
Max Q Clear Time (g_c+I), s	12.4	6.0		12.2		6.1						
Green Ext Time (p_c), s	0.0	2.2		2.3		2.9						
Intersection Summary												
HCM 2010 Ctrl Delay	13.6											
HCM 2010 LOS	B											
Notes												

HCM 2010 TWSC
16: N Bridge & EBFR

05/12/2022

Intersection						
Int Delay, s/veh	4.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑					↑
Traffic Vol, veh/h	1246	538	0	0	0	148
Future Vol, veh/h	1246	538	0	0	0	148
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1354	585	0	0	0	161
Major/Minor	Major1		Minor1			
Conflicting Flow All	0	0			-	970
Stage 1	-	-			-	-
Stage 2	-	-			-	-
Critical Hdwy	-	-			-	7.14
Critical Hdwy Stg 1	-	-			-	-
Critical Hdwy Stg 2	-	-			-	-
Follow-up Hdwy	-	-			-	3.92
Pot Cap-1 Maneuver	-	-			0	217
Stage 1	-	-			0	-
Stage 2	-	-			0	-
Platoon blocked, %	-	-				
Mov Cap-1 Maneuver	-	-			-	217
Mov Cap-2 Maneuver	-	-			-	-
Stage 1	-	-			-	-
Stage 2	-	-			-	-
Approach	EB		NB			
HCM Control Delay, s	0		57.8			
HCM LOS			F			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR			
Capacity (veh/h)	217	-	-			
HCM Lane V/C Ratio	0.741	-	-			
HCM Control Delay (s)	57.8	-	-			
HCM Lane LOS	F	-	-			
HCM 95th %tile Q(veh)	5	-	-			

HCM 2010 Signalized Intersection Summary 19: N Bridge & E Pike

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	83	39	65	141	6	74	124	96	127	370	20
Future Volume (veh/h)	17	83	39	65	141	6	74	124	96	127	370	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	18	90	42	71	153	7	80	135	104	138	402	22
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	360	235	110	378	346	16	596	524	404	739	938	51
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.54	0.54	0.54	0.54	0.54	0.54
Sat Flow, veh/h	1221	1203	561	1253	1768	81	959	977	753	1136	1750	96
Grp Volume(v), veh/h	18	0	132	71	0	160	80	0	239	138	0	424
Grp Sat Flow(s),veh/h/ln	1221	0	1764	1253	0	1848	959	0	1730	1136	0	1846
Q Serve(g_s), s	0.4	0.0	2.2	1.8	0.0	2.6	1.8	0.0	2.5	2.5	0.0	4.6
Cycle Q Clear(g_c), s	3.0	0.0	2.2	3.9	0.0	2.6	6.5	0.0	2.5	5.0	0.0	4.6
Prop In Lane	1.00		0.32	1.00		0.04	1.00		0.44	1.00		0.05
Lane Grp Cap(c), veh/h	360	0	345	378	0	362	596	0	928	739	0	990
V/C Ratio(X)	0.05	0.00	0.38	0.19	0.00	0.44	0.13	0.00	0.26	0.19	0.00	0.43
Avail Cap(c_a), veh/h	776	0	946	805	0	991	596	0	928	739	0	990
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.2	0.0	11.7	13.4	0.0	11.9	6.6	0.0	4.2	5.5	0.0	4.7
Incr Delay (d2), s/veh	0.1	0.0	0.7	0.2	0.0	0.9	0.5	0.0	0.7	0.6	0.0	1.4
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(50%),veh/ln	0.2	0.0	1.1	0.6	0.0	1.4	0.6	0.0	1.3	0.9	0.0	2.6
LnGrp Delay(d),s/veh	13.3	0.0	12.4	13.7	0.0	12.7	7.1	0.0	4.9	6.1	0.0	6.0
LnGrp LOS	B		B	B		B	A		A	A		A
Approach Vol, veh/h	150				231				319			
Approach Delay, s/veh	12.5				13.0				5.4			
Approach LOS	B				B				A			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	22.5		11.1		22.5		11.1					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	18.0		18.0		18.0		18.0					
Max Q Clear Time (g_c+I1), s	8.5		5.0		7.0		5.9					
Green Ext Time (p_c), s	1.2		0.6		2.5		0.8					
Intersection Summary												
HCM 2010 Ctrl Delay	7.9											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary 24: E Pike & Texas Blvd

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	91	25	59	86	110	28	601	54	48	587	160
Future Volume (veh/h)	96	91	25	59	86	110	28	601	54	48	587	160
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	104	99	27	64	93	120	30	653	59	52	638	174
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	324	352	96	403	184	238	438	1808	163	483	1515	413
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	1164	1410	385	1260	740	955	669	3284	296	735	2751	749
Grp Volume(v), veh/h	104	0	126	64	0	213	30	352	360	52	410	402
Grp Sat Flow(s),veh/h/ln	1164	0	1795	1260	0	1694	669	1770	1810	735	1770	1731
Q Serve(g_s), s	3.8	0.0	2.6	1.9	0.0	4.9	1.2	5.0	5.0	1.9	6.1	6.1
Cycle Q Clear(g_c), s	8.6	0.0	2.6	4.5	0.0	4.9	7.4	5.0	5.0	6.9	6.1	6.1
Prop In Lane	1.00		0.21	1.00		0.56	1.00		0.16	1.00		0.43
Lane Grp Cap(c), veh/h	324	0	447	403	0	422	438	975	997	483	975	953
V/C Ratio(X)	0.32	0.00	0.28	0.16	0.00	0.50	0.07	0.36	0.36	0.11	0.42	0.42
Avail Cap(c_a), veh/h	500	0	718	592	0	678	438	975	997	483	975	953
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	18.2	0.0	13.6	15.5	0.0	14.5	8.1	5.7	5.7	7.6	5.9	5.9
Incr Delay (d2), s/veh	0.6	0.0	0.3	0.2	0.0	0.9	0.3	1.0	1.0	0.4	1.3	1.4
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(50%),veh/ln	1.3	0.0	1.3	0.7	0.0	2.4	0.3	2.7	2.8	0.5	3.3	3.3
LnGrp Delay(d),s/veh	18.8	0.0	14.0	15.6	0.0	15.4	8.4	6.7	6.7	8.1	7.2	7.3
LnGrp LOS	B		B	B		B	A	A	A	A	A	A
Approach Vol, veh/h	230			277			742			864		
Approach Delay, s/veh	16.2			15.5			6.8			7.3		
Approach LOS	B			B			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	29.3		15.7		29.3		15.7					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	18.0		18.0		18.0		18.0					
Max Q Clear Time (g_c+I1), s	9.4		10.6		8.9		6.9					
Green Ext Time (p_c), s	3.1		0.6		3.7		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay	9.2											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary 29: WBFR & Texas Blvd

05/12/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	240	134	214	412	628	0	0	895	364
Future Volume (veh/h)	0	0	0	240	134	214	412	628	0	0	895	364
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				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
Adj Sat Flow, veh/h/ln				1863	1863	1863	1863	1863	0	0	1863	1863
Adj Flow Rate, veh/h				261	146	233	377	782	0	0	973	396
Adj No. of Lanes				2	1	1	1	2	0	0	3	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				673	353	300	501	2540	0	0	2389	744
Arrive On Green				0.19	0.19	0.19	0.30	1.00	0.00	0.00	0.47	0.47
Sat Flow, veh/h				3548	1863	1583	1774	3725	0	0	5253	1583
Grp Volume(v), veh/h				261	146	233	377	782	0	0	973	396
Grp Sat Flow(s),veh/h/ln				1774	1863	1583	1774	1863	0	0	1695	1583
Q Serve(g_s), s				4.5	4.8	9.8	7.6	0.0	0.0	0.0	8.8	12.4
Cycle Q Clear(g_c), s				4.5	4.8	9.8	7.6	0.0	0.0	0.0	8.8	12.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				673	353	300	501	2540	0	0	2389	744
V/C Ratio(X)				0.39	0.41	0.78	0.75	0.31	0.00	0.00	0.41	0.53
Avail Cap(c_a), veh/h				917	482	409	680	2540	0	0	2389	744
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.86	0.86	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.8	24.9	26.9	7.6	0.0	0.0	0.0	12.2	13.1
Incr Delay (d2), s/veh				0.4	0.8	6.3	2.8	0.3	0.0	0.0	0.5	2.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.2	2.5	4.8	3.8	0.1	0.0	0.0	4.2	6.0
LnGrp Delay(d),s/veh				25.2	25.7	33.3	10.3	0.3	0.0	0.0	12.7	15.8
LnGrp LOS				C	C	C	B	A			B	B
Approach Vol, veh/h					640			1159			1369	
Approach Delay, s/veh					28.2			3.5			13.6	
Approach LOS					C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		52.2			14.8	37.4		17.8				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		42.9			17.4	21.0		18.1				
Max Q Clear Time (g_c+I1), s		2.0			9.6	14.4		11.8				
Green Ext Time (p_c), s		6.5			0.8	4.1		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay				12.9								
HCM 2010 LOS				B								
Notes												

HCM 2010 Signalized Intersection Summary 32: Texas Blvd & EBRD

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	343	123	232	0	0	0	0	689	137	505	664	0
Future Volume (veh/h)	343	123	232	0	0	0	0	689	137	505	664	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	373	134	252				0	749	149	424	897	0
Adj No. of Lanes	2	1	1				0	3	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	718	377	320				0	1768	550	456	2493	0
Arrive On Green	0.20	0.20	0.20				0.00	0.35	0.35	0.51	1.00	0.00
Sat Flow, veh/h	3548	1863	1583				0	5253	1583	1774	3725	0
Grp Volume(v), veh/h	373	134	252				0	749	149	424	897	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583				0	1695	1583	1774	1863	0
Q Serve(g_s), s	6.6	4.3	10.6				0.0	7.9	4.7	15.6	0.0	0.0
Cycle Q Clear(g_c), s	6.6	4.3	10.6				0.0	7.9	4.7	15.6	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	718	377	320				0	1768	550	456	2493	0
V/C Ratio(X)	0.52	0.36	0.79				0.00	0.42	0.27	0.93	0.36	0.00
Avail Cap(c_a), veh/h	912	479	407				0	1768	550	520	2493	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.91	0.91	0.00
Uniform Delay (d), s/veh	24.9	24.0	26.5				0.0	17.5	16.4	16.4	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.6	7.7				0.0	0.7	1.2	20.5	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	2.3	5.3				0.0	3.8	2.3	9.9	0.1	0.0
LnGrp Delay(d),s/veh	25.5	24.6	34.2				0.0	18.2	17.7	36.9	0.4	0.0
LnGrp LOS	C	C	C					B	B	D	A	
Approach Vol, veh/h	759						898			1321		
Approach Delay, s/veh	28.2						18.1			12.1		
Approach LOS	C						B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	22.5	28.8		18.7		51.3						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	20.5	18.0		18.0		43.0						
Max Q Clear Time (g_c+I17, s)	17.6	9.9		12.6		2.0						
Green Ext Time (p_c), s	0.4	3.5		1.6		7.9						
Intersection Summary												
HCM 2010 Ctrl Delay	18.0											
HCM 2010 LOS	B											
Notes												

HCM 2010 TWSC 4: Airport & Esplanada

05/12/2022

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	46	113	672	548	13
Future Vol, veh/h	12	46	113	672	548	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	50	123	730	596	14
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1579	603	610	0	-	0
Stage 1	603	-	-	-	-	-
Stage 2	976	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	120	499	969	-	-	-
Stage 1	546	-	-	-	-	-
Stage 2	365	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	94	499	969	-	-	-
Mov Cap-2 Maneuver	94	-	-	-	-	-
Stage 1	429	-	-	-	-	-
Stage 2	365	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	22.9	1.3		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	969	-	264	-	-	
HCM Lane V/C Ratio	0.127	-	0.239	-	-	
HCM Control Delay (s)	9.3	0	22.9	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.4	-	0.9	-	-	

HCM 2010 Signalized Intersection Summary 7: WBFR & Airport

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	251	187	16	430	334	0	0	144	255
Future Volume (veh/h)	0	0	0	251	187	16	430	334	0	0	144	255
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				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
Adj Sat Flow, veh/h/ln				1863	1863	1863	1863	1863	0	0	1863	1863
Adj Flow Rate, veh/h				273	203	17	467	363	0	0	157	0
Adj No. of Lanes				2	1	1	2	1	0	0	2	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				656	344	293	1800	1141	0	0	2169	970
Arrive On Green				0.18	0.18	0.18	0.61	0.61	0.00	0.00	0.61	0.00
Sat Flow, veh/h				3548	1863	1583	2449	1863	0	0	3632	1583
Grp Volume(v), veh/h				273	203	17	467	363	0	0	157	0
Grp Sat Flow(s),veh/h/ln				1774	1863	1583	1225	1863	0	0	1770	1583
Q Serve(g_s), s				2.9	4.2	0.4	4.0	3.9	0.0	0.0	0.8	0.0
Cycle Q Clear(g_c), s				2.9	4.2	0.4	4.8	3.9	0.0	0.0	0.8	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				656	344	293	1800	1141	0	0	2169	970
V/C Ratio(X)				0.42	0.59	0.06	0.26	0.32	0.00	0.00	0.07	0.00
Avail Cap(c_a), veh/h				1352	710	603	1800	1141	0	0	2169	970
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.96	0.96	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				15.1	15.7	14.1	4.3	3.9	0.0	0.0	3.3	0.0
Incr Delay (d2), s/veh				0.4	1.6	0.1	0.3	0.7	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.4	2.3	0.2	1.4	2.2	0.0	0.0	0.4	0.0
LnGrp Delay(d),s/veh				15.5	17.3	14.2	4.6	4.6	0.0	0.0	3.3	0.0
LnGrp LOS				B	B	B	A	A			A	
Approach Vol, veh/h					493			830			157	
Approach Delay, s/veh					16.2			4.6			3.3	
Approach LOS					B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		30.2				30.2		11.8				
Change Period (Y+Rc), s		* 4.5				4.5		4.0				
Max Green Setting (Gmax), s		* 16				18.0		16.0				
Max Q Clear Time (g_c+I1), s		6.8				2.8		6.2				
Green Ext Time (p_c), s		3.0				0.7		1.6				
Intersection Summary												
HCM 2010 Ctrl Delay				8.3								
HCM 2010 LOS				A								
Notes												

HCM 2010 Signalized Intersection Summary 10: Airport & EBFR

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱	↱					↱↱	↱	↰	↰↱	
Traffic Volume (veh/h)	278	193	253	0	0	0	0	485	113	33	366	0
Future Volume (veh/h)	278	193	253	0	0	0	0	485	113	33	366	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	302	210	275				0	527	0	36	398	0
Adj No. of Lanes	2	1	1				0	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	839	440	374				0	1681	752	69	2224	0
Arrive On Green	0.24	0.24	0.24				0.00	0.47	0.00	0.04	0.60	0.00
Sat Flow, veh/h	3548	1863	1583				0	3632	1583	1774	3725	0
Grp Volume(v), veh/h	302	210	275				0	527	0	36	398	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583				0	1770	1583	1774	1863	0
Q Serve(g_s), s	3.8	5.2	8.7				0.0	5.0	0.0	1.1	2.6	0.0
Cycle Q Clear(g_c), s	3.8	5.2	8.7				0.0	5.0	0.0	1.1	2.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	839	440	374				0	1681	752	69	2224	0
V/C Ratio(X)	0.36	0.48	0.73				0.00	0.31	0.00	0.53	0.18	0.00
Avail Cap(c_a), veh/h	1183	621	528				0	1681	752	164	2224	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00				0.00	1.00	0.00	0.98	0.98	0.00
Uniform Delay (d), s/veh	17.2	17.7	19.1				0.0	8.7	0.0	25.5	4.9	0.0
Incr Delay (d2), s/veh	0.3	0.8	3.2				0.0	0.5	0.0	6.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.8	4.1				0.0	2.5	0.0	0.6	1.4	0.0
LnGrp Delay(d),s/veh	17.5	18.5	22.3				0.0	9.2	0.0	31.5	5.1	0.0
LnGrp LOS	B	B	C					A		C	A	
Approach Vol, veh/h		787						527			434	
Approach Delay, s/veh		19.4						9.2			7.3	
Approach LOS		B						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	6.6	30.1		17.3		36.7						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	5.0	18.0		18.0		18.0						
Max Q Clear Time (g_c+I13, s)	13.5	7.0		10.7		4.6						
Green Ext Time (p_c), s	0.0	2.6		2.1		2.1						
Intersection Summary												
HCM 2010 Ctrl Delay			13.3									
HCM 2010 LOS			B									
Notes												

HCM 2010 TWSC
16: N Bridge & EBFR

05/12/2022

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑					↑
Traffic Vol, veh/h	1263	255	0	0	0	90
Future Vol, veh/h	1263	255	0	0	0	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1373	277	0	0	0	98

Major/Minor	Major1		Minor1	
Conflicting Flow All	0	0	-	825
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	271
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-		
Mov Cap-1 Maneuver	-	-	-	271
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s	0	25.6
HCM LOS		D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	271	-	-
HCM Lane V/C Ratio	0.361	-	-
HCM Control Delay (s)	25.6	-	-
HCM Lane LOS	D	-	-
HCM 95th %tile Q(veh)	1.6	-	-

HCM 2010 Signalized Intersection Summary 19: N Bridge & E Pike

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	141	61	52	180	0	118	107	83	81	223	16
Future Volume (veh/h)	14	141	61	52	180	0	118	107	83	81	223	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	15	153	66	57	196	0	128	116	90	88	242	17
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	374	289	125	350	436	0	685	497	386	725	879	62
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.00	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	1182	1236	533	1157	1863	0	1116	974	756	1171	1721	121
Grp Volume(v), veh/h	15	0	219	57	196	0	128	0	206	88	0	259
Grp Sat Flow(s),veh/h/ln	1182	0	1769	1157	1863	0	1116	0	1729	1171	0	1841
Q Serve(g_s), s	0.4	0.0	3.8	1.6	3.2	0.0	2.6	0.0	2.3	1.6	0.0	2.8
Cycle Q Clear(g_c), s	3.6	0.0	3.8	5.4	3.2	0.0	5.4	0.0	2.3	3.9	0.0	2.8
Prop In Lane	1.00		0.30	1.00		0.00	1.00		0.44	1.00		0.07
Lane Grp Cap(c), veh/h	374	0	414	350	436	0	685	0	883	725	0	940
V/C Ratio(X)	0.04	0.00	0.53	0.16	0.45	0.00	0.19	0.00	0.23	0.12	0.00	0.28
Avail Cap(c_a), veh/h	701	0	903	670	951	0	685	0	883	725	0	940
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	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	11.8	14.2	11.6	0.0	6.5	0.0	4.8	5.9	0.0	4.9
Incr Delay (d2), s/veh	0.0	0.0	1.1	0.2	0.7	0.0	0.6	0.0	0.6	0.3	0.0	0.7
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(50%),veh/ln	0.1	0.0	1.9	0.5	1.7	0.0	0.9	0.0	1.2	0.6	0.0	1.6
LnGrp Delay(d),s/veh	13.1	0.0	12.9	14.4	12.3	0.0	7.1	0.0	5.4	6.2	0.0	5.6
LnGrp LOS	B		B	B	B		A		A	A		A
Approach Vol, veh/h		234			253			334			347	
Approach Delay, s/veh		12.9			12.8			6.0			5.8	
Approach LOS		B			B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		12.7		22.5		12.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		7.4		5.8		5.9		7.4				
Green Ext Time (p_c), s		1.3		1.0		1.4		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay			8.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary 24: E Pike & Texas Blvd

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	155	47	75	143	127	70	785	42	59	560	238
Future Volume (veh/h)	137	155	47	75	143	127	70	785	42	59	560	238
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	149	168	51	82	155	138	76	853	46	64	609	259
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	450	137	431	298	265	347	1613	87	343	1144	486
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	1082	1373	417	1157	910	810	635	3416	184	617	2422	1029
Grp Volume(v), veh/h	149	0	219	82	0	293	76	442	457	64	445	423
Grp Sat Flow(s),veh/h/ln	1082	0	1789	1157	0	1720	635	1770	1830	617	1770	1681
Q Serve(g_s), s	5.8	0.0	4.2	2.6	0.0	6.2	4.3	7.9	7.9	3.7	8.0	8.0
Cycle Q Clear(g_c), s	12.0	0.0	4.2	6.8	0.0	6.2	12.3	7.9	7.9	11.6	8.0	8.0
Prop In Lane	1.00		0.23	1.00		0.47	1.00		0.10	1.00		0.61
Lane Grp Cap(c), veh/h	365	0	586	431	0	563	347	836	865	343	836	794
V/C Ratio(X)	0.41	0.00	0.37	0.19	0.00	0.52	0.22	0.53	0.53	0.19	0.53	0.53
Avail Cap(c_a), veh/h	443	0	716	514	0	688	347	836	865	343	836	794
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	17.1	0.0	11.6	14.2	0.0	12.3	12.7	8.3	8.3	12.4	8.4	8.4
Incr Delay (d2), s/veh	0.7	0.0	0.4	0.2	0.0	0.7	1.4	2.4	2.3	1.2	2.4	2.6
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(50%),veh/ln	1.8	0.0	2.1	0.9	0.0	3.0	0.9	4.4	4.5	0.7	4.4	4.2
LnGrp Delay(d),s/veh	17.9	0.0	12.0	14.4	0.0	13.0	14.2	10.7	10.7	13.6	10.8	10.9
LnGrp LOS	B		B	B		B	B	B	B	B	B	B
Approach Vol, veh/h	368			375			975			932		
Approach Delay, s/veh	14.4			13.3			11.0			11.0		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	25.8		19.2		25.8		19.2					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	18.0		18.0		18.0		18.0					
Max Q Clear Time (g_c+I1), s	14.3		14.0		13.6		8.8					
Green Ext Time (p_c), s	2.1		0.7		2.4		1.4					
Intersection Summary												
HCM 2010 Ctrl Delay	11.8											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary 29: WBFR & Texas Blvd

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↖↗	↗	↖	↖↗			↗↗↗	↗
Traffic Volume (veh/h)	0	0	0	346	319	246	534	1203	0	0	720	332
Future Volume (veh/h)	0	0	0	346	319	246	534	1203	0	0	720	332
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				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
Adj Sat Flow, veh/h/ln				1863	1863	1863	1863	1863	0	0	1863	1863
Adj Flow Rate, veh/h				404	308	267	580	1308	0	0	783	361
Adj No. of Lanes				2	1	1	1	2	0	0	3	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				769	404	343	668	2439	0	0	1673	521
Arrive On Green				0.22	0.22	0.22	0.52	1.00	0.00	0.00	0.33	0.33
Sat Flow, veh/h				3548	1863	1583	1774	3725	0	0	5253	1583
Grp Volume(v), veh/h				404	308	267	580	1308	0	0	783	361
Grp Sat Flow(s),veh/h/ln				1774	1863	1583	1774	1863	0	0	1695	1583
Q Serve(g_s), s				7.0	10.9	11.1	16.3	0.0	0.0	0.0	8.5	13.9
Cycle Q Clear(g_c), s				7.0	10.9	11.1	16.3	0.0	0.0	0.0	8.5	13.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				769	404	343	668	2439	0	0	1673	521
V/C Ratio(X)				0.53	0.76	0.78	0.87	0.54	0.00	0.00	0.47	0.69
Avail Cap(c_a), veh/h				917	482	409	668	2439	0	0	1673	521
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	1.00	1.00	0.56	0.56	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.2	25.7	25.8	6.9	0.0	0.0	0.0	18.6	20.4
Incr Delay (d2), s/veh				0.6	5.9	7.7	7.1	0.5	0.0	0.0	0.9	7.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.5	6.2	5.6	8.6	0.2	0.0	0.0	4.1	7.1
LnGrp Delay(d),s/veh				24.8	31.6	33.6	14.0	0.5	0.0	0.0	19.6	27.8
LnGrp LOS				C	C	C	B	A			B	C
Approach Vol, veh/h					979			1888			1144	
Approach Delay, s/veh					29.3			4.6			22.2	
Approach LOS					C			A			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		50.3			22.8	27.5		19.7				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		42.9			18.3	20.1		18.1				
Max Q Clear Time (g_c+I1), s		2.0			18.3	15.9		13.1				
Green Ext Time (p_c), s		13.6			0.0	2.5		2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				15.7								
HCM 2010 LOS				B								
Notes												

HCM 2010 Signalized Intersection Summary 32: Texas Blvd & EBRD

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	620	218	261	0	0	0	0	1034	175	371	706	0
Future Volume (veh/h)	620	218	261	0	0	0	0	1034	175	371	706	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	674	237	284				0	1124	190	390	785	0
Adj No. of Lanes	2	1	1				0	3	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	838	440	374				0	1692	527	423	2366	0
Arrive On Green	0.24	0.24	0.24				0.00	0.33	0.33	0.48	1.00	0.00
Sat Flow, veh/h	3548	1863	1583				0	5253	1583	1774	3725	0
Grp Volume(v), veh/h	674	237	284				0	1124	190	390	785	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583				0	1695	1583	1774	1863	0
Q Serve(g_s), s	12.5	7.8	11.7				0.0	13.3	6.4	14.4	0.0	0.0
Cycle Q Clear(g_c), s	12.5	7.8	11.7				0.0	13.3	6.4	14.4	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	838	440	374				0	1692	527	423	2366	0
V/C Ratio(X)	0.80	0.54	0.76				0.00	0.66	0.36	0.92	0.33	0.00
Avail Cap(c_a), veh/h	938	492	418				0	1692	527	469	2366	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.87	0.87	0.00
Uniform Delay (d), s/veh	25.2	23.4	24.9				0.0	20.0	17.7	17.7	0.0	0.0
Incr Delay (d2), s/veh	4.7	1.0	7.1				0.0	2.1	1.9	20.5	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	4.1	5.8				0.0	6.5	3.1	9.3	0.1	0.0
LnGrp Delay(d),s/veh	29.9	24.4	31.9				0.0	22.1	19.6	38.2	0.3	0.0
LnGrp LOS	C	C	C					C	B	D	A	
Approach Vol, veh/h	1195						1314			1175		
Approach Delay, s/veh	29.3						21.7			12.9		
Approach LOS	C						C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	31.2	27.8		21.0		49.0						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	31.5	19.5		18.5		42.5						
Max Q Clear Time (g_c+I), s	10.4	15.3		14.5		2.0						
Green Ext Time (p_c), s	0.3	2.9		2.0		6.6						
Intersection Summary												
HCM 2010 Ctrl Delay	21.4											
HCM 2010 LOS	C											
Notes												

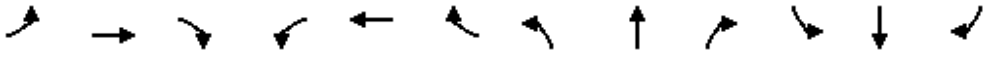
HCM 2010 TWSC 4: Airport & Esplanada

05/12/2022

Intersection						
Int Delay, s/veh	4.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	34	79	118	586	669	36
Future Vol, veh/h	34	79	118	586	669	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	86	128	637	727	39
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1640	747	766	0	-	0
Stage 1	747	-	-	-	-	-
Stage 2	893	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	110	413	847	-	-	-
Stage 1	468	-	-	-	-	-
Stage 2	400	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	84	413	847	-	-	-
Mov Cap-2 Maneuver	84	-	-	-	-	-
Stage 1	358	-	-	-	-	-
Stage 2	400	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	53.2	1.7		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	847	-	190	-	-	
HCM Lane V/C Ratio	0.151	-	0.646	-	-	
HCM Control Delay (s)	10	0	53.2	-	-	
HCM Lane LOS	B	A	F	-	-	
HCM 95th %tile Q(veh)	0.5	-	3.8	-	-	

HCM 2010 Signalized Intersection Summary 7: WBFR & Airport

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	333	76	24	344	577	0	0	206	169
Future Volume (veh/h)	0	0	0	333	76	24	344	577	0	0	206	169
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				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
Adj Sat Flow, veh/h/ln				1863	1863	1863	1863	1863	0	0	1863	1863
Adj Flow Rate, veh/h				362	83	26	334	683	0	0	224	0
Adj No. of Lanes				2	1	1	1	2	0	0	2	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				616	323	275	861	2325	0	0	2208	988
Arrive On Green				0.17	0.17	0.17	0.62	0.62	0.00	0.00	0.62	0.00
Sat Flow, veh/h				3548	1863	1583	1152	3725	0	0	3632	1583
Grp Volume(v), veh/h				362	83	26	334	683	0	0	224	0
Grp Sat Flow(s),veh/h/ln				1774	1863	1583	1152	1863	0	0	1770	1583
Q Serve(g_s), s				3.9	1.6	0.6	6.9	3.5	0.0	0.0	1.1	0.0
Cycle Q Clear(g_c), s				3.9	1.6	0.6	7.9	3.5	0.0	0.0	1.1	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				616	323	275	861	2325	0	0	2208	988
V/C Ratio(X)				0.59	0.26	0.09	0.39	0.29	0.00	0.00	0.10	0.00
Avail Cap(c_a), veh/h				1352	710	603	861	2325	0	0	2208	988
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	1.00	1.00	0.94	0.94	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				16.0	15.0	14.6	4.8	3.6	0.0	0.0	3.2	0.0
Incr Delay (d2), s/veh				0.9	0.4	0.1	1.2	0.3	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.0	0.9	0.3	2.4	1.9	0.0	0.0	0.5	0.0
LnGrp Delay(d),s/veh				16.9	15.4	14.7	6.0	3.9	0.0	0.0	3.2	0.0
LnGrp LOS				B	B	B	A	A			A	
Approach Vol, veh/h					471			1017			224	
Approach Delay, s/veh					16.5			4.6			3.2	
Approach LOS					B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		30.7				30.7		11.3				
Change Period (Y+Rc), s		* 4.5				4.5		4.0				
Max Green Setting (Gmax), s		* 16				18.0		16.0				
Max Q Clear Time (g_c+l1), s		9.9				3.1		5.9				
Green Ext Time (p_c), s		3.0				1.1		1.4				
Intersection Summary												
HCM 2010 Ctrl Delay				7.7								
HCM 2010 LOS				A								
Notes												

HCM 2010 Signalized Intersection Summary 10: Airport & EBFR

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						 			 	
Traffic Volume (veh/h)	462	175	300	0	0	0	0	426	130	12	537	0
Future Volume (veh/h)	462	175	300	0	0	0	0	426	130	12	537	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	502	190	326				0	463	0	13	584	0
Adj No. of Lanes	2	1	1				0	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	953	500	425				0	1646	736	29	2104	0
Arrive On Green	0.27	0.27	0.27				0.00	0.46	0.00	0.02	0.56	0.00
Sat Flow, veh/h	3548	1863	1583				0	3632	1583	1774	3725	0
Grp Volume(v), veh/h	502	190	326				0	463	0	13	584	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583				0	1770	1583	1774	1863	0
Q Serve(g_s), s	6.5	4.5	10.2				0.0	4.3	0.0	0.4	4.4	0.0
Cycle Q Clear(g_c), s	6.5	4.5	10.2				0.0	4.3	0.0	0.4	4.4	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	953	500	425				0	1646	736	29	2104	0
V/C Ratio(X)	0.53	0.38	0.77				0.00	0.28	0.00	0.45	0.28	0.00
Avail Cap(c_a), veh/h	1183	621	528				0	1646	736	164	2104	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	0.00	0.98	0.98	0.00
Uniform Delay (d), s/veh	16.8	16.1	18.2				0.0	8.9	0.0	26.3	6.1	0.0
Incr Delay (d2), s/veh	0.5	0.5	5.3				0.0	0.4	0.0	10.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	2.3	5.1				0.0	2.2	0.0	0.3	2.3	0.0
LnGrp Delay(d),s/veh	17.3	16.6	23.5				0.0	9.3	0.0	36.4	6.4	0.0
LnGrp LOS	B	B	C					A		D	A	
Approach Vol, veh/h	1018						463			597		
Approach Delay, s/veh	19.1						9.3			7.0		
Approach LOS	B						A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4		6							
Phs Duration (G+Y+Rc), s	5.4	29.6	19.0		35.0							
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5							
Max Green Setting (Gmax), s	5.0	18.0	18.0		18.0							
Max Q Clear Time (g_c+I), s	12.4	6.3	12.2		6.4							
Green Ext Time (p_c), s	0.0	2.3	2.3		3.0							
Intersection Summary												
HCM 2010 Ctrl Delay			13.5									
HCM 2010 LOS			B									
Notes												

HCM 2010 TWSC
16: N Bridge & EBFR

05/12/2022

Intersection						
Int Delay, s/veh	19.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑					↑
Traffic Vol, veh/h	1437	538	0	0	0	214
Future Vol, veh/h	1437	538	0	0	0	214
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1562	585	0	0	0	233

Major/Minor	Major1		Minor1	
Conflicting Flow All	0	0	-	1074
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	~ 185
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Platoon blocked, %	-	-		
Mov Cap-1 Maneuver	-	-	-	~ 185
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	NB
HCM Control Delay, s	0	202.2
HCM LOS		F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	185	-	-
HCM Lane V/C Ratio	1.257	-	-
HCM Control Delay (s)	202.2	-	-
HCM Lane LOS	F	-	-
HCM 95th %tile Q(veh)	12.8	-	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 2010 Signalized Intersection Summary 19: N Bridge & E Pike

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	83	39	65	141	70	74	140	96	179	383	151
Future Volume (veh/h)	65	83	39	65	141	70	74	140	96	179	383	151
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	71	90	42	71	153	76	80	152	104	195	416	164
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	351	292	136	430	286	142	421	521	356	671	642	253
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	1147	1203	561	1253	1176	584	831	1032	706	1119	1273	502
Grp Volume(v), veh/h	71	0	132	71	0	229	80	0	256	195	0	580
Grp Sat Flow(s),veh/h/ln	1147	0	1764	1253	0	1760	831	0	1738	1119	0	1774
Q Serve(g_s), s	2.0	0.0	2.2	1.8	0.0	4.0	2.8	0.0	3.1	4.4	0.0	8.6
Cycle Q Clear(g_c), s	6.1	0.0	2.2	3.9	0.0	4.0	11.4	0.0	3.1	7.4	0.0	8.6
Prop In Lane	1.00		0.32	1.00		0.33	1.00		0.41	1.00		0.28
Lane Grp Cap(c), veh/h	351	0	429	430	0	428	421	0	877	671	0	895
V/C Ratio(X)	0.20	0.00	0.31	0.17	0.00	0.54	0.19	0.00	0.29	0.29	0.00	0.65
Avail Cap(c_a), veh/h	651	0	890	757	0	888	421	0	877	671	0	895
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.4	0.0	11.0	12.7	0.0	11.7	10.7	0.0	5.1	7.3	0.0	6.5
Incr Delay (d2), s/veh	0.3	0.0	0.4	0.2	0.0	1.0	1.0	0.0	0.8	1.1	0.0	3.6
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(50%),veh/ln	0.7	0.0	1.1	0.6	0.0	2.0	0.7	0.0	1.6	1.5	0.0	4.9
LnGrp Delay(d),s/veh	14.7	0.0	11.4	12.8	0.0	12.8	11.7	0.0	6.0	8.4	0.0	10.1
LnGrp LOS	B		B	B		B	B		A	A		B
Approach Vol, veh/h	203				300		336				775	
Approach Delay, s/veh	12.6				12.8		7.3				9.7	
Approach LOS	B				B		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	22.5		13.2		22.5		13.2					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	18.0		18.0		18.0		18.0					
Max Q Clear Time (g_c+I1), s	13.4		8.1		10.6		6.0					
Green Ext Time (p_c), s	0.8		0.6		2.8		1.2					
Intersection Summary												
HCM 2010 Ctrl Delay			10.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary 24: E Pike & Texas Blvd

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	107	25	85	99	202	28	601	86	48	587	160
Future Volume (veh/h)	96	107	25	85	99	202	28	601	86	48	587	160
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	104	116	27	92	108	220	30	653	93	52	638	174
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	315	462	108	479	173	353	380	1506	214	407	1332	363
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	1048	1462	340	1240	548	1117	669	3112	443	712	2751	749
Grp Volume(v), veh/h	104	0	143	92	0	328	30	371	375	52	410	402
Grp Sat Flow(s),veh/h/ln	1048	0	1803	1240	0	1666	669	1770	1785	712	1770	1731
Q Serve(g_s), s	4.2	0.0	2.7	2.7	0.0	7.5	1.4	6.2	6.2	2.3	7.0	7.0
Cycle Q Clear(g_c), s	11.8	0.0	2.7	5.3	0.0	7.5	8.4	6.2	6.2	8.5	7.0	7.0
Prop In Lane	1.00		0.19	1.00		0.67	1.00		0.25	1.00		0.43
Lane Grp Cap(c), veh/h	315	0	570	479	0	526	380	857	864	407	857	838
V/C Ratio(X)	0.33	0.00	0.25	0.19	0.00	0.62	0.08	0.43	0.43	0.13	0.48	0.48
Avail Cap(c_a), veh/h	403	0	721	583	0	666	380	857	864	407	857	838
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	18.1	0.0	11.4	13.4	0.0	13.1	10.6	7.6	7.6	10.4	7.8	7.8
Incr Delay (d2), s/veh	0.6	0.0	0.2	0.2	0.0	1.2	0.4	1.6	1.6	0.6	1.9	2.0
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(50%),veh/ln	1.3	0.0	1.3	0.9	0.0	3.6	0.3	3.4	3.4	0.5	3.9	3.8
LnGrp Delay(d),s/veh	18.7	0.0	11.7	13.6	0.0	14.3	11.0	9.2	9.2	11.0	9.7	9.8
LnGrp LOS	B		B	B		B	B	A	A	B	A	A
Approach Vol, veh/h	247				420				776		864	
Approach Delay, s/veh	14.6				14.2				9.2		9.8	
Approach LOS	B				B				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	26.3		18.7		26.3		18.7					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	18.0		18.0		18.0		18.0					
Max Q Clear Time (g_c+I1), s	10.4		13.8		10.5		9.5					
Green Ext Time (p_c), s	2.9		0.4		3.3		1.6					
Intersection Summary												
HCM 2010 Ctrl Delay	10.9											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary 29: WBFR & Texas Blvd

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	240	134	214	478	654	0	0	927	364
Future Volume (veh/h)	0	0	0	240	134	214	478	654	0	0	927	364
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				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
Adj Sat Flow, veh/h/ln				1863	1863	1863	1863	1863	0	0	1863	1863
Adj Flow Rate, veh/h				261	146	233	410	865	0	0	1008	396
Adj No. of Lanes				2	1	1	1	2	0	0	3	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				673	353	300	512	2540	0	0	2318	722
Arrive On Green				0.19	0.19	0.19	0.32	1.00	0.00	0.00	0.46	0.46
Sat Flow, veh/h				3548	1863	1583	1774	3725	0	0	5253	1583
Grp Volume(v), veh/h				261	146	233	410	865	0	0	1008	396
Grp Sat Flow(s),veh/h/ln				1774	1863	1583	1774	1863	0	0	1695	1583
Q Serve(g_s), s				4.5	4.8	9.8	8.6	0.0	0.0	0.0	9.4	12.7
Cycle Q Clear(g_c), s				4.5	4.8	9.8	8.6	0.0	0.0	0.0	9.4	12.7
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				673	353	300	512	2540	0	0	2318	722
V/C Ratio(X)				0.39	0.41	0.78	0.80	0.34	0.00	0.00	0.43	0.55
Avail Cap(c_a), veh/h				917	482	409	644	2540	0	0	2318	722
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	1.00	1.00	0.81	0.81	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.8	24.9	26.9	8.0	0.0	0.0	0.0	12.9	13.8
Incr Delay (d2), s/veh				0.4	0.8	6.3	4.7	0.3	0.0	0.0	0.6	3.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.2	2.5	4.8	4.5	0.1	0.0	0.0	4.5	6.1
LnGrp Delay(d),s/veh				25.2	25.7	33.3	12.7	0.3	0.0	0.0	13.5	16.8
LnGrp LOS				C	C	C	B	A			B	B
Approach Vol, veh/h					640			1275			1404	
Approach Delay, s/veh					28.2			4.3			14.5	
Approach LOS					C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		52.2			15.8	36.4		17.8				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		42.9			16.5	21.9		18.1				
Max Q Clear Time (g_c+l1), s		2.0			10.6	14.7		11.8				
Green Ext Time (p_c), s		7.5			0.7	4.5		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay				13.2								
HCM 2010 LOS				B								
Notes												

HCM 2010 Signalized Intersection Summary 32: Texas Blvd & EBRD

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	343	123	232	0	0	0	0	781	137	537	664	0
Future Volume (veh/h)	343	123	232	0	0	0	0	781	137	537	664	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	373	134	252				0	849	149	435	930	0
Adj No. of Lanes	2	1	1				0	3	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	718	377	320				0	1746	543	464	2493	0
Arrive On Green	0.20	0.20	0.20				0.00	0.34	0.34	0.52	1.00	0.00
Sat Flow, veh/h	3548	1863	1583				0	5253	1583	1774	3725	0
Grp Volume(v), veh/h	373	134	252				0	849	149	435	930	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583				0	1695	1583	1774	1863	0
Q Serve(g_s), s	6.6	4.3	10.6				0.0	9.2	4.8	16.1	0.0	0.0
Cycle Q Clear(g_c), s	6.6	4.3	10.6				0.0	9.2	4.8	16.1	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	718	377	320				0	1746	543	464	2493	0
V/C Ratio(X)	0.52	0.36	0.79				0.00	0.49	0.27	0.94	0.37	0.00
Avail Cap(c_a), veh/h	912	479	407				0	1746	543	494	2493	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.90	0.90	0.00
Uniform Delay (d), s/veh	24.9	24.0	26.5				0.0	18.1	16.7	16.2	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.6	7.7				0.0	1.0	1.2	23.3	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	2.3	5.3				0.0	4.5	2.3	10.5	0.1	0.0
LnGrp Delay(d),s/veh	25.5	24.6	34.2				0.0	19.1	17.9	39.4	0.4	0.0
LnGrp LOS	C	C	C					B	B	D	A	
Approach Vol, veh/h	759						998			1365		
Approach Delay, s/veh	28.2						18.9			12.8		
Approach LOS	C						B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	32.8	28.5		18.7		51.3						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	19.0	19.0		18.0		43.0						
Max Q Clear Time (g_c+I1), s	11.2	11.2		12.6		2.0						
Green Ext Time (p_c), s	0.2	3.8		1.6		8.3						
Intersection Summary												
HCM 2010 Ctrl Delay	18.5											
HCM 2010 LOS	B											
Notes												

HCM 2010 TWSC 4: Airport & Esplanada

05/12/2022

Intersection						
Int Delay, s/veh	8.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	46	79	153	672	548	54
Future Vol, veh/h	46	79	153	672	548	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	86	166	730	596	59
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1688	626	655	0	-	0
Stage 1	626	-	-	-	-	-
Stage 2	1062	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	103	484	932	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	332	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	72	484	932	-	-	-
Mov Cap-2 Maneuver	72	-	-	-	-	-
Stage 1	373	-	-	-	-	-
Stage 2	332	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	98.5	1.8		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	932	-	156	-	-	
HCM Lane V/C Ratio	0.178	-	0.871	-	-	
HCM Control Delay (s)	9.7	0	98.5	-	-	
HCM Lane LOS	A	A	F	-	-	
HCM 95th %tile Q(veh)	0.6	-	6	-	-	

HCM 2010 Signalized Intersection Summary 7: WBFR & Airport

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	251	187	16	430	368	0	0	185	255
Future Volume (veh/h)	0	0	0	251	187	16	430	368	0	0	185	255
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				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
Adj Sat Flow, veh/h/ln				1863	1863	1863	1863	1863	0	0	1863	1863
Adj Flow Rate, veh/h				273	203	17	483	378	0	0	201	0
Adj No. of Lanes				2	1	1	2	1	0	0	2	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				656	344	293	1730	1141	0	0	2169	970
Arrive On Green				0.18	0.18	0.18	0.61	0.61	0.00	0.00	0.61	0.00
Sat Flow, veh/h				3548	1863	1583	2353	1863	0	0	3632	1583
Grp Volume(v), veh/h				273	203	17	483	378	0	0	201	0
Grp Sat Flow(s),veh/h/ln				1774	1863	1583	1177	1863	0	0	1770	1583
Q Serve(g_s), s				2.9	4.2	0.4	4.5	4.1	0.0	0.0	1.0	0.0
Cycle Q Clear(g_c), s				2.9	4.2	0.4	5.4	4.1	0.0	0.0	1.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				656	344	293	1730	1141	0	0	2169	970
V/C Ratio(X)				0.42	0.59	0.06	0.28	0.33	0.00	0.00	0.09	0.00
Avail Cap(c_a), veh/h				1352	710	603	1730	1141	0	0	2169	970
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.95	0.95	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				15.1	15.7	14.1	4.5	4.0	0.0	0.0	3.3	0.0
Incr Delay (d2), s/veh				0.4	1.6	0.1	0.4	0.7	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.4	2.3	0.2	1.5	2.3	0.0	0.0	0.5	0.0
LnGrp Delay(d),s/veh				15.5	17.3	14.2	4.8	4.7	0.0	0.0	3.4	0.0
LnGrp LOS				B	B	B	A	A			A	
Approach Vol, veh/h					493			861			201	
Approach Delay, s/veh					16.2			4.8			3.4	
Approach LOS					B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		30.2				30.2		11.8				
Change Period (Y+Rc), s		* 4.5				4.5		4.0				
Max Green Setting (Gmax), s		* 16				18.0		16.0				
Max Q Clear Time (g_c+I1), s		7.4				3.0		6.2				
Green Ext Time (p_c), s		3.1				1.0		1.6				
Intersection Summary												
HCM 2010 Ctrl Delay				8.2								
HCM 2010 LOS				A								
Notes												

HCM 2010 Signalized Intersection Summary 10: Airport & EBFR

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰	↰					↰↰	↰	↰	↰↰	
Traffic Volume (veh/h)	278	193	253	0	0	0	0	519	113	33	407	0
Future Volume (veh/h)	278	193	253	0	0	0	0	519	113	33	407	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	302	210	275				0	564	0	36	442	0
Adj No. of Lanes	2	1	1				0	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	839	440	374				0	1681	752	69	2224	0
Arrive On Green	0.24	0.24	0.24				0.00	0.47	0.00	0.04	0.60	0.00
Sat Flow, veh/h	3548	1863	1583				0	3632	1583	1774	3725	0
Grp Volume(v), veh/h	302	210	275				0	564	0	36	442	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583				0	1770	1583	1774	1863	0
Q Serve(g_s), s	3.8	5.2	8.7				0.0	5.4	0.0	1.1	2.9	0.0
Cycle Q Clear(g_c), s	3.8	5.2	8.7				0.0	5.4	0.0	1.1	2.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	839	440	374				0	1681	752	69	2224	0
V/C Ratio(X)	0.36	0.48	0.73				0.00	0.34	0.00	0.53	0.20	0.00
Avail Cap(c_a), veh/h	1183	621	528				0	1681	752	164	2224	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	0.00	0.98	0.98	0.00
Uniform Delay (d), s/veh	17.2	17.7	19.1				0.0	8.9	0.0	25.5	5.0	0.0
Incr Delay (d2), s/veh	0.3	0.8	3.2				0.0	0.5	0.0	6.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.8	4.1				0.0	2.7	0.0	0.6	1.5	0.0
LnGrp Delay(d),s/veh	17.5	18.5	22.3				0.0	9.4	0.0	31.5	5.2	0.0
LnGrp LOS	B	B	C					A		C	A	
Approach Vol, veh/h		787						564			478	
Approach Delay, s/veh		19.4						9.4			7.2	
Approach LOS		B						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	6.6	30.1		17.3		36.7						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	5.0	18.0		18.0		18.0						
Max Q Clear Time (g_c+I), s	13.5	7.4		10.7		4.9						
Green Ext Time (p_c), s	0.0	2.8		2.1		2.4						
Intersection Summary												
HCM 2010 Ctrl Delay			13.1									
HCM 2010 LOS			B									
Notes												

HCM 2010 TWSC
16: N Bridge & EBFR

05/12/2022

Intersection						
Int Delay, s/veh	6.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑					↑
Traffic Vol, veh/h	1505	255	0	0	0	175
Future Vol, veh/h	1505	255	0	0	0	175
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	-	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1636	277	0	0	0	190
Major/Minor	Major1		Minor1			
Conflicting Flow All	0	0			-	957
Stage 1	-	-			-	-
Stage 2	-	-			-	-
Critical Hdwy	-	-			-	7.14
Critical Hdwy Stg 1	-	-			-	-
Critical Hdwy Stg 2	-	-			-	-
Follow-up Hdwy	-	-			-	3.92
Pot Cap-1 Maneuver	-	-			0	222
Stage 1	-	-			0	-
Stage 2	-	-			0	-
Platoon blocked, %	-	-				
Mov Cap-1 Maneuver	-	-			-	222
Mov Cap-2 Maneuver	-	-			-	-
Stage 1	-	-			-	-
Stage 2	-	-			-	-
Approach	EB		NB			
HCM Control Delay, s	0				74.4	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR			
Capacity (veh/h)	222	-	-			
HCM Lane V/C Ratio	0.857	-	-			
HCM Control Delay (s)	74.4	-	-			
HCM Lane LOS	F	-	-			
HCM 95th %tile Q(veh)	6.7	-	-			

HCM 2010 Signalized Intersection Summary 19: N Bridge & E Pike

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	141	61	52	180	81	118	127	83	148	240	185
Future Volume (veh/h)	75	141	61	52	180	81	118	127	83	148	240	185
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	82	153	66	57	196	88	128	138	90	161	261	201
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	352	352	152	404	347	156	456	502	328	647	466	359
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	1091	1236	533	1157	1219	547	926	1054	687	1148	977	753
Grp Volume(v), veh/h	82	0	219	57	0	284	128	0	228	161	0	462
Grp Sat Flow(s),veh/h/ln	1091	0	1769	1157	0	1766	926	0	1741	1148	0	1730
Q Serve(g_s), s	2.6	0.0	3.8	1.6	0.0	5.2	4.3	0.0	3.0	3.7	0.0	7.2
Cycle Q Clear(g_c), s	7.8	0.0	3.8	5.4	0.0	5.2	11.5	0.0	3.0	6.7	0.0	7.2
Prop In Lane	1.00		0.30	1.00		0.31	1.00		0.39	1.00		0.44
Lane Grp Cap(c), veh/h	352	0	504	404	0	503	456	0	830	647	0	825
V/C Ratio(X)	0.23	0.00	0.43	0.14	0.00	0.56	0.28	0.00	0.27	0.25	0.00	0.56
Avail Cap(c_a), veh/h	561	0	843	625	0	842	456	0	830	647	0	825
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	11.0	13.2	0.0	11.5	11.2	0.0	6.0	8.0	0.0	7.1
Incr Delay (d2), s/veh	0.3	0.0	0.6	0.2	0.0	1.0	1.5	0.0	0.8	0.9	0.0	2.7
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(50%),veh/ln	0.8	0.0	1.9	0.5	0.0	2.7	1.3	0.0	1.6	1.3	0.0	4.0
LnGrp Delay(d),s/veh	15.2	0.0	11.6	13.4	0.0	12.5	12.7	0.0	6.8	8.9	0.0	9.8
LnGrp LOS	B		B	B		B	B		A	A		A
Approach Vol, veh/h		301			341			356			623	
Approach Delay, s/veh		12.6			12.6			8.9			9.6	
Approach LOS		B			B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		15.3		22.5		15.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		13.5		9.8		9.2		7.4				
Green Ext Time (p_c), s		0.8		1.0		2.5		1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			10.6									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary 24: E Pike & Texas Blvd

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	175	47	109	160	240	70	785	70	59	560	238
Future Volume (veh/h)	137	175	47	109	160	240	70	785	70	59	560	238
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	149	190	51	118	174	261	76	853	76	64	609	259
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	341	566	152	508	270	404	286	1315	117	274	969	412
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	950	1416	380	1134	674	1011	635	3288	293	600	2422	1029
Grp Volume(v), veh/h	149	0	241	118	0	435	76	459	470	64	445	423
Grp Sat Flow(s),veh/h/ln	950	0	1796	1134	0	1684	635	1770	1811	600	1770	1681
Q Serve(g_s), s	6.8	0.0	4.2	3.6	0.0	9.4	4.9	9.5	9.5	4.4	9.1	9.1
Cycle Q Clear(g_c), s	16.2	0.0	4.2	7.8	0.0	9.4	14.0	9.5	9.5	13.8	9.1	9.1
Prop In Lane	1.00		0.21	1.00		0.60	1.00		0.16	1.00		0.61
Lane Grp Cap(c), veh/h	341	0	718	508	0	674	286	708	724	274	708	672
V/C Ratio(X)	0.44	0.00	0.34	0.23	0.00	0.65	0.27	0.65	0.65	0.23	0.63	0.63
Avail Cap(c_a), veh/h	341	0	718	508	0	674	286	708	724	274	708	672
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	17.5	0.0	9.4	12.1	0.0	10.9	16.4	10.9	10.9	16.5	10.8	10.8
Incr Delay (d2), s/veh	0.9	0.0	0.3	0.2	0.0	2.1	2.3	4.6	4.5	2.0	4.2	4.4
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(50%),veh/ln	0.0	0.0	2.1	1.1	0.0	4.7	1.0	5.5	5.6	0.9	5.2	4.9
LnGrp Delay(d),s/veh	18.3	0.0	9.6	12.3	0.0	13.1	18.7	15.5	15.4	18.5	15.0	15.2
LnGrp LOS	B		A	B		B	B	B	B	B	B	B
Approach Vol, veh/h	390				553		1005				932	
Approach Delay, s/veh	13.0				12.9		15.7				15.4	
Approach LOS	B				B		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	22.5		22.5		22.5		22.5					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	18.0		18.0		18.0		18.0					
Max Q Clear Time (g_c+I1), s	16.0		18.2		15.8		11.4					
Green Ext Time (p_c), s	1.2		0.0		1.3		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay			14.7									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary 29: WBFR & Texas Blvd

05/12/2022

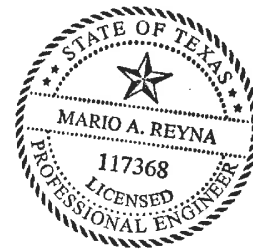
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	346	319	246	619	1237	0	0	760	332
Future Volume (veh/h)	0	0	0	346	319	246	619	1237	0	0	760	332
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				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
Adj Sat Flow, veh/h/ln				1863	1863	1863	1863	1863	0	0	1863	1863
Adj Flow Rate, veh/h				404	308	267	673	1345	0	0	826	361
Adj No. of Lanes				2	1	1	1	2	0	0	3	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				769	404	343	629	2439	0	0	1803	561
Arrive On Green				0.22	0.22	0.22	0.47	1.00	0.00	0.00	0.35	0.35
Sat Flow, veh/h				3548	1863	1583	1774	3725	0	0	5253	1583
Grp Volume(v), veh/h				404	308	267	673	1345	0	0	826	361
Grp Sat Flow(s),veh/h/ln				1774	1863	1583	1774	1863	0	0	1695	1583
Q Serve(g_s), s				7.0	10.9	11.1	16.5	0.0	0.0	0.0	8.8	13.3
Cycle Q Clear(g_c), s				7.0	10.9	11.1	16.5	0.0	0.0	0.0	8.8	13.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				769	404	343	629	2439	0	0	1803	561
V/C Ratio(X)				0.53	0.76	0.78	1.07	0.55	0.00	0.00	0.46	0.64
Avail Cap(c_a), veh/h				917	482	409	629	2439	0	0	1803	561
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	1.00	1.00	0.41	0.41	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.2	25.7	25.8	10.3	0.0	0.0	0.0	17.4	18.9
Incr Delay (d2), s/veh				0.6	5.9	7.7	44.2	0.4	0.0	0.0	0.8	5.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.5	6.2	5.6	16.3	0.1	0.0	0.0	4.2	6.7
LnGrp Delay(d),s/veh				24.8	31.6	33.6	54.6	0.4	0.0	0.0	18.2	24.5
LnGrp LOS				C	C	C	F	A			B	C
Approach Vol, veh/h					979			2018			1187	
Approach Delay, s/veh					29.3			18.4			20.1	
Approach LOS					C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		50.3			21.0	29.3		19.7				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		42.9			16.5	21.9		18.1				
Max Q Clear Time (g_c+l1), s		2.0			18.5	15.3		13.1				
Green Ext Time (p_c), s		14.2			0.0	3.6		2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				21.5								
HCM 2010 LOS				C								
Notes												

HCM 2010 Signalized Intersection Summary 32: Texas Blvd & EBRD

05/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	620	216	261	0	0	0	0	1152	175	411	706	0
Future Volume (veh/h)	620	216	261	0	0	0	0	1152	175	411	706	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	674	235	284				0	1252	190	405	826	0
Adj No. of Lanes	2	1	1				0	3	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	829	435	370				0	1662	518	438	2376	0
Arrive On Green	0.23	0.23	0.23				0.00	0.33	0.33	0.49	1.00	0.00
Sat Flow, veh/h	3548	1863	1583				0	5253	1583	1774	3725	0
Grp Volume(v), veh/h	674	235	284				0	1252	190	405	826	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583				0	1695	1583	1774	1863	0
Q Serve(g_s), s	12.6	7.7	11.7				0.0	15.4	6.4	14.9	0.0	0.0
Cycle Q Clear(g_c), s	12.6	7.7	11.7				0.0	15.4	6.4	14.9	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	829	435	370				0	1662	518	438	2376	0
V/C Ratio(X)	0.81	0.54	0.77				0.00	0.75	0.37	0.93	0.35	0.00
Avail Cap(c_a), veh/h	912	479	407				0	1662	518	494	2376	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.85	0.85	0.00
Uniform Delay (d), s/veh	25.4	23.5	25.1				0.0	21.0	18.0	17.1	0.0	0.0
Incr Delay (d2), s/veh	5.3	1.0	7.9				0.0	3.2	2.0	19.6	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	4.1	5.9				0.0	7.7	3.1	9.3	0.1	0.0
LnGrp Delay(d),s/veh	30.6	24.6	32.9				0.0	24.2	20.0	36.7	0.3	0.0
LnGrp LOS	C	C	C					C	C	D	A	
Approach Vol, veh/h	1193						1442			1231		
Approach Delay, s/veh	30.0						23.7			12.3		
Approach LOS	C						C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	31.8	27.4		20.8		49.2						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	39.5	19.0		18.0		43.0						
Max Q Clear Time (g_c+I), s	16.9	17.4		14.6		2.0						
Green Ext Time (p_c), s	0.4	1.3		1.8		7.0						
Intersection Summary												
HCM 2010 Ctrl Delay	22.0											
HCM 2010 LOS	C											
Notes												

FIRM NAME: MELDEN & HUNT, INC.
TBPELS FIRM #F1435
TITLE: SHOPS AT N. BRIDGE SUBDIVISION
PREPARED BY: MARIO A. REYNA, P.E
DATE: December 16, 2021
Revised: January 14, 2022



M. H.
1-14-21

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TBPELS Firm # F-1435
TBPELS # 10096900

MELDEN & HUNT INC.

CONSULTANTS • ENGINEERS • SURVEYORS

FRED L. KURTH • ALLAN F. BOOE • KELLEY A. HELLER-VELA • ROBERTO N. TAMEZ • MARIO A. REYNA • RUBEN JAMES DE JESUS

Drainage Statement

SHOPS AT N. BRIDGE SUBDIVISION

Project #21178.00 Date: December 16, 2021 Rev: January 14, 2022

SHOPS AT N. BRIDGE SUBDIVISION A tract of land containing 10.657 acres situated in the City of Weslaco, County of Hidalgo Texas, being 10.657 acres out of Farm Tract 39, West Tract Subdivision, according to the plat thereof recorded in Volume 2, Pages 34-37, Hidalgo County Map Records. This subdivision lies in Zone "B" & "C", Zone B is defined as areas between limits of the 100-year flood and 500-year flood: or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile: or areas protected by levees from the base flood. Zone "C" is defined as areas of minimal flooding. Community Panel No. 480349 0005 B; Map Revised: March 4, 1980. The property is located on the southwest corner of U.S. Expressway 83 & Bridge Avenue. The property is currently open with a proposed use of 8 commercial lots, currently inside the City of Weslaco, Texas.

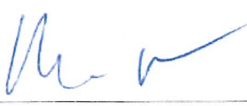
The soil in this area is (72) Willacy-Urban land complex, which is in Hydrologic Group "B". This soil is moderately pervious and have a relatively low plasticity index. (See excerpts from "Soil Survey of Hidalgo County, Texas").

Existing runoff is in a northeasterly direction, with a runoff of 7.70 c.f.s. during the 10-year storm frequency as per the attached calculations. Proposed runoff after development is 68.53 c.f.s., during the 50-year storm frequency, per the attached calculation, which is an increase of 60.83 c.f.s.

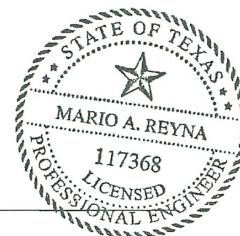
The proposed drainage for this subdivision shall consist of surface runoff from the Roof into the proposed parking area and collected by type "C-C" inlets located at key points within the subdivision. The pipe size diameters shall range from 24" to 30". The proposed storm system for lot 1 shall discharge into a proposed detention pond located on the south side of site. The proposed detention pond will discharge into the City of Weslaco storm sewer network.

In accordance with the Hidalgo County's drainage policy, the peak rate of runoff in this subdivision will not be increased during the 50-year rainfall event due to the building of this subdivision. Therefore, as per attached calculations the required 143,137 cubic feet of detention will be provided. Lot 1-4 will detain a total of 93,064 cubic feet, the 50,073 will be required to detain at building permit stage prorated on each lot as follows; Lot 5: 15,547 c.f., Lot 6: 11,688 c.f., Lot 7: 12,331 c.f., & Lot 8: 10,507 c.f.

☐ REJECTED	
☒ APPROVED FOR SUBMITTAL	
☐ TO H.C. PLANNING DEPT.	
☒ TO CITY	
☒ DISCHARGE PERMIT REQUIRED	
☐ DISTRICT FACILITY	
☒ CITY FACILITY	
☐ OTHER	
<u>Alexis Lozano</u>	<u>1/26/22</u>
H.C.D.D. NO. 1	DATE

 1-14-21
Mario A. Reyna, P.E. #117368
Vice-President

Date:



DRAINAGE REPORT

PROJECT NAME: **Shops At N. Bridge Subdivision**

8

PROJECT NUMBER: **21778**

DATE: **12/16/2021 Rev: 01/14/2022**

I. Existing Condition-10 year

Ex. Area: **464,218.92** sf
10.66 ac

Int. Coeff. "k" **0.213** Table 3-2
K_u **3.28**
Length **820** ft
Velocity **0.270582** ft/sec

Slope **0.15** %
tc : **50.51** min
Rainfall Intensity (10yr)
c factor
Q peak existing condition:

3.612 in/hr
0.200
7.70 cfs

II. Future Condition-50 year

Future area: **464,218.92** sf
10.66 ac

Slope **15.00** %
tc : **21.05** min

Rainfall Intensity (50yr)
c factor

7.701 in/hr
0.835

Q future cond. = Aci = i *

68.53 * **0.84**
8.898595 i

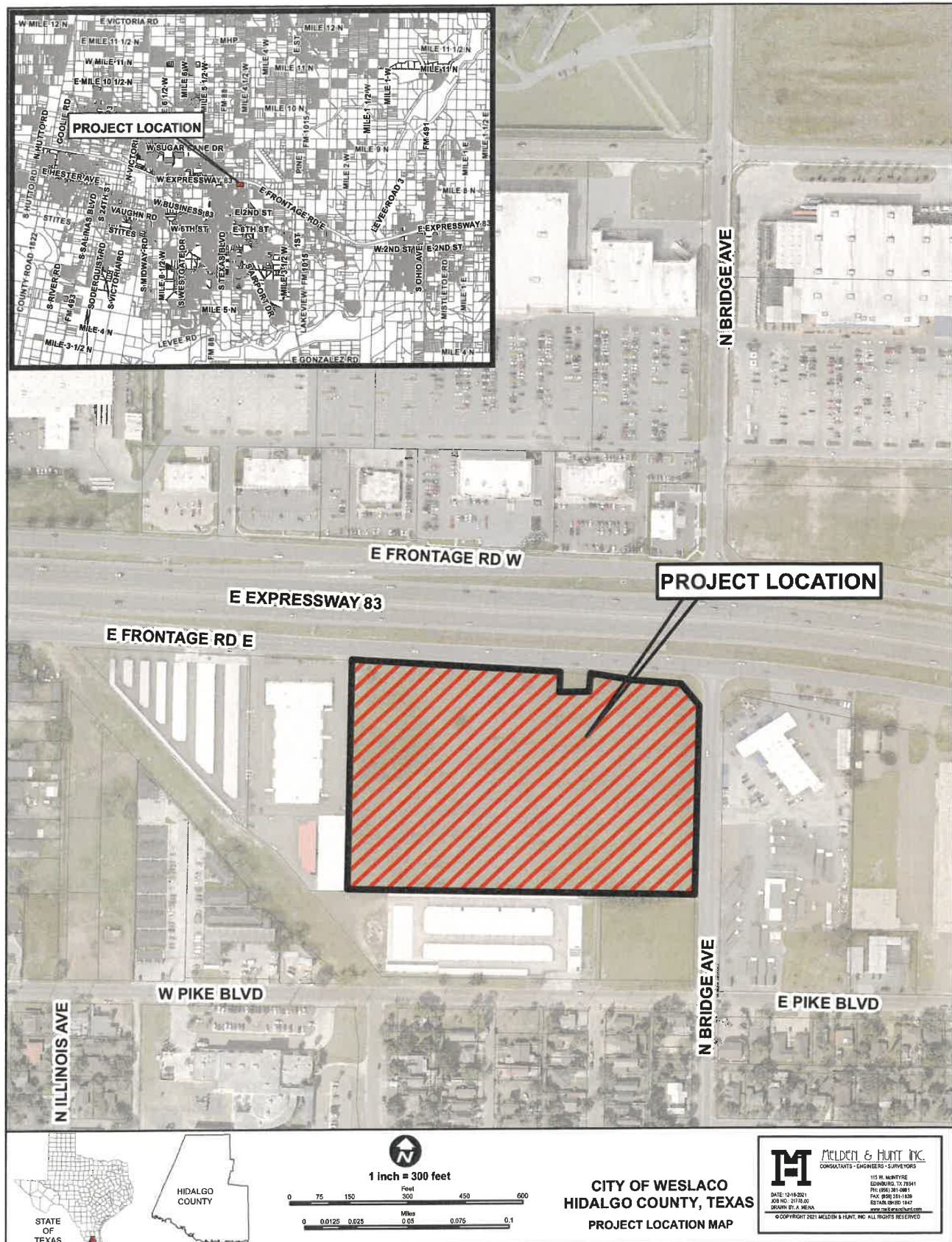
time min.	time hour	i in/hr	Qin cfs	Vin cf	Qout cfs	Vout cf	REQ'D V cf
5	0.08	13.57	120.75	36226	7.70	6017	30209
10	0.17	10.83	96.33	57796	7.70	7172	50625
15	0.25	9.10	81.00	72896	7.70	8326	64569
25	0.42	7.03	62.51	93769	7.70	10636	83133
35	0.58	5.80	51.59	108329	7.70	12946	95383
45	0.75	4.98	44.28	119554	7.70	15255	104299
55	0.92	3.96	35.23	116257	7.70	17565	98692
65	1.08	3.54	31.51	122889	7.70	19875	103014
75	1.25	3.21	28.58	128620	7.70	22184	106436
85	1.42	2.95	26.22	133698	7.70	24494	109204
95	1.58	2.73	24.26	138268	7.70	26804	111464
105	1.75	2.54	22.60	142395	7.70	29113	113282
115	1.92	2.67	23.79	164184	7.70	31423	132761
125	2.08	2.52	22.45	168384	7.70	33733	134651
135	2.25	2.39	21.28	172340	7.70	36042	136298
145	2.42	2.27	20.24	176048	7.70	38352	137696
155	2.58	2.17	19.30	179500	7.70	40662	138838
165	2.75	2.08	18.46	182799	7.70	42971	139828
175	2.92	1.99	17.71	185936	7.70	45281	140655
185	3.08	1.91	17.02	188955	7.70	47591	141365
195	3.25	1.84	16.39	191777	7.70	49900	141877
205	3.42	1.78	15.82	194607	7.70	52210	142397
215	3.58	1.72	15.29	197212	7.70	54520	142693
225	3.75	1.66	14.80	199778	7.70	56829	142948
235	3.92	1.61	14.34	202132	7.70	59139	142993

245	4.08	1.56	13.92	204586	7.70	61449	143137
255	4.25	1.52	13.52	206810	7.70	63758	143051
265	4.42	1.48	13.14	208977	7.70	66068	142909
275	4.58	1.44	12.80	211137	7.70	68378	142759
285	4.75	1.40	12.48	213337	7.70	70687	142649
295	4.92	1.37	12.16	215310	7.70	72997	142312
305	5.08	1.33	11.87	217234	7.70	75307	141927
315	5.25	1.30	11.59	219143	7.70	77616	141527
325	5.42	1.27	11.34	221068	7.70	79926	141142
335	5.58	1.25	11.09	222862	7.70	82236	140626
345	5.75	1.22	10.86	224725	7.70	84545	140180
355	5.92	1.19	10.59	225553	7.70	86855	138698
365	6.08	1.17	10.41	228009	7.70	89165	138844
375	6.25	1.15	10.23	230251	7.70	91474	138777
385	6.42	1.13	10.06	232280	7.70	93784	138496
395	6.58	1.10	9.79	231986	7.70	96094	135893
405	6.75	1.08	9.61	233535	7.70	98403	135131
415	6.92	1.07	9.49	236199	7.70	100713	135486
425	7.08	1.05	9.32	237579	7.70	103023	134556
435	7.25	1.03	9.16	238989	7.70	105333	133656
445	7.42	1.01	9.01	240444	7.70	107642	132801
455	7.58	1.00	8.86	241960	7.70	109952	132008
465	7.75	0.98	8.72	243305	7.70	112262	131044
475	7.92	0.97	8.63	246002	7.70	114571	131430
485	8.08	0.95	8.45	246002	7.70	116881	129121
495	8.25	0.94	8.36	248431	7.70	119191	129240
505	8.42	0.92	8.19	248057	7.70	121500	126557
515	8.58	0.91	8.10	250220	7.70	123810	126410
525	8.75	0.90	8.01	252275	7.70	126120	126156
535	8.92	0.88	7.83	251368	7.70	128429	122938
545	9.08	0.87	7.74	253156	7.70	130739	122417
555	9.25	0.86	7.65	254838	7.70	133049	121789
565	9.42	0.85	7.56	256413	7.70	135358	121055
575	9.58	0.84	7.47	257881	7.70	137668	120213
585	9.75	0.83	7.39	259243	7.70	139978	119265

Storage Required: 143,137 cf
Storage Required: 3.286 Ac.-Ft.
w/ release rate of: 7.70 cfs
Storage / Ac. Development: 0.308 Ac.Ft. per Ac.
Storage / Lot: 17,892.13 cf per lot



M - L
1-14-21



HIDALGO COUNTY RAINFALL INTENSITY TABLES

based on Weather Bureau (NWS) Technical Paper No. 40 "Rainfall Frequency Atlas of the United States"

TIME	5 yr.	10 yr.	25 yr.	50 yr.
------	-------	--------	--------	--------

1	12.626	14.283	16.353	17.386
2	11.721	13.281	15.215	16.210
3	10.950	12.426	14.244	15.204
4	10.286	11.687	13.405	14.333
5	9.706	11.042	12.671	13.570
6	9.194	10.472	12.023	12.895
7	8.740	9.966	11.447	12.294
8	8.334	9.512	10.930	11.755
9	7.968	9.103	10.464	11.268
10	7.636	8.732	10.042	10.825
11	7.334	8.394	9.656	10.421
12	7.058	8.084	9.303	10.051
13	6.804	7.799	8.978	9.710
14	6.569	7.536	8.678	9.395
15	6.353	7.293	8.400	9.102
16	6.151	7.067	8.142	8.831
17	5.964	6.856	7.902	8.577
18	5.789	6.659	7.677	8.340
19	5.625	6.475	7.466	8.117
20	5.472	6.302	7.268	7.908
21	5.327	6.139	7.082	7.711
22	5.191	5.985	6.906	7.525
23	5.062	5.840	6.740	7.349
24	4.941	5.703	6.583	7.183
25	4.825	5.572	6.434	7.025
26	4.716	5.449	6.293	6.875
27	4.612	5.331	6.158	6.732
28	4.513	5.220	6.030	6.596
29	4.419	5.113	5.908	6.467
30	4.329	5.011	5.792	6.343
31	4.244	4.914	5.680	6.224
32	4.161	4.821	5.574	6.111
33	4.083	4.732	5.472	6.002
34	4.008	4.646	5.374	5.897
35	3.935	4.564	5.280	5.797

TIME	5 yr.	10 yr.	25 yr.	50 yr.
------	-------	--------	--------	--------

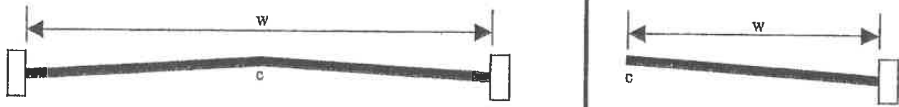
36	3.866	4.486	5.189	5.701
37	3.799	4.410	5.103	5.608
38	3.735	4.337	5.019	5.519
39	3.673	4.267	4.939	5.433
40	3.614	4.199	4.861	5.350
41	3.557	4.134	4.786	5.270
42	3.501	4.071	4.714	5.193
43	3.448	4.010	4.644	5.118
44	3.396	3.951	4.577	5.046
45	3.346	3.895	4.511	4.976
46	3.298	3.840	4.448	4.908
47	3.251	3.786	4.387	4.843
48	3.206	3.735	4.328	4.779
49	3.162	3.685	4.270	4.717
50	3.120	3.636	4.215	4.658
51	3.078	3.589	4.161	4.600
52	3.038	3.543	4.108	4.543
53	2.999	3.499	4.057	4.488
54	2.962	3.456	4.007	4.435
55	2.925	3.414	3.959	4.383
56	2.889	3.373	3.912	4.333
57	2.854	3.333	3.867	4.284
58	2.821	3.295	3.822	4.236
59	2.788	3.257	3.779	4.189
60	2.756	3.220	3.737	4.144
61	2.724	3.185	3.696	4.099
62	2.694	3.150	3.656	4.056
63	2.664	3.116	3.617	4.014
64	2.635	3.083	3.578	3.973
65	2.607	3.050	3.541	3.933
66	2.579	3.019	3.505	3.894
67	2.552	2.988	3.469	3.855
68	2.526	2.958	3.435	3.818
69	2.500	2.928	3.401	3.781
70	2.475	2.899	3.368	3.745

HIDALGO COUNTY RAINFALL INTENSITY TABLES (cont.)

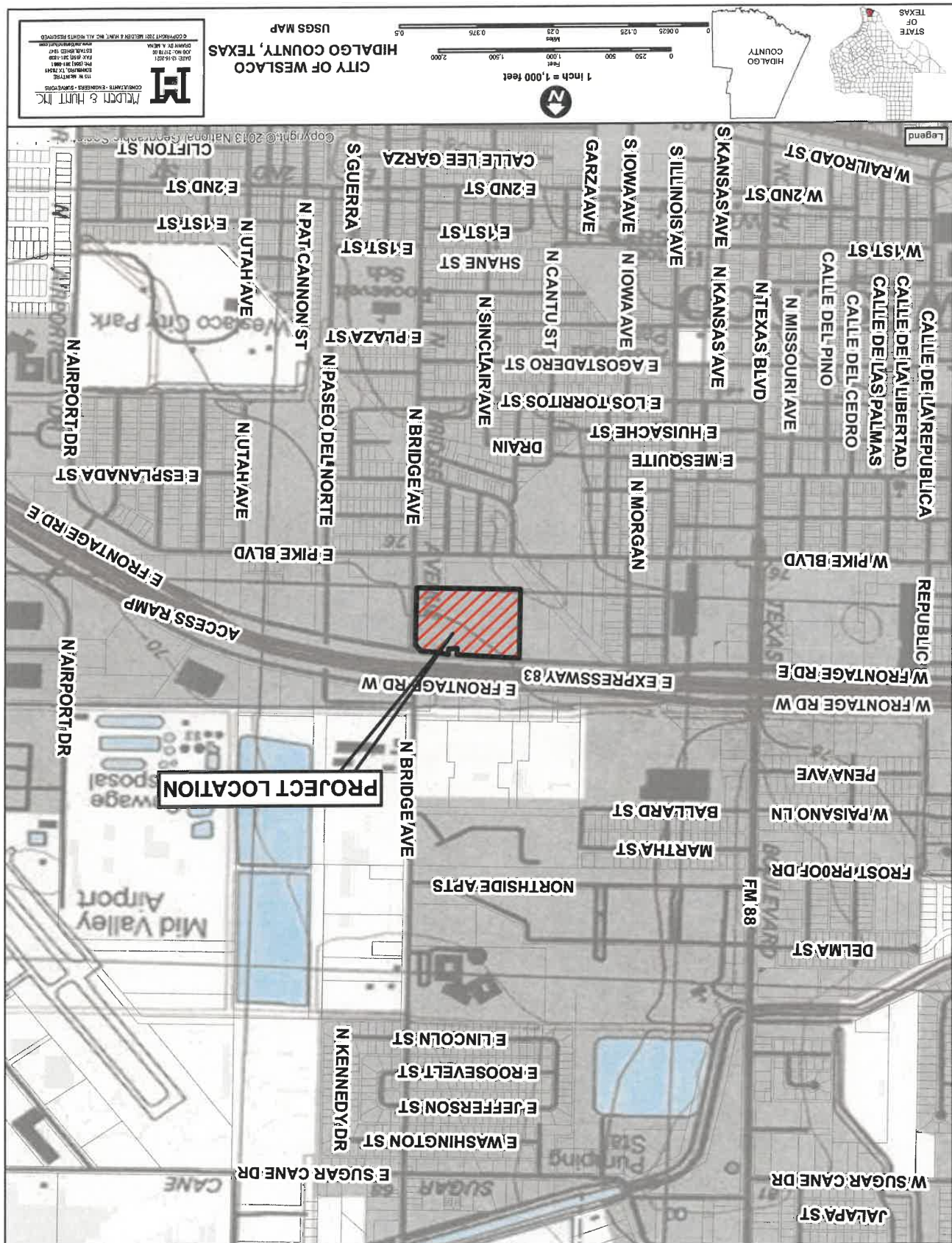
based on Weather Bureau (NWS) Technical Paper No. 40 "Rainfall Frequency Atlas of the United States"

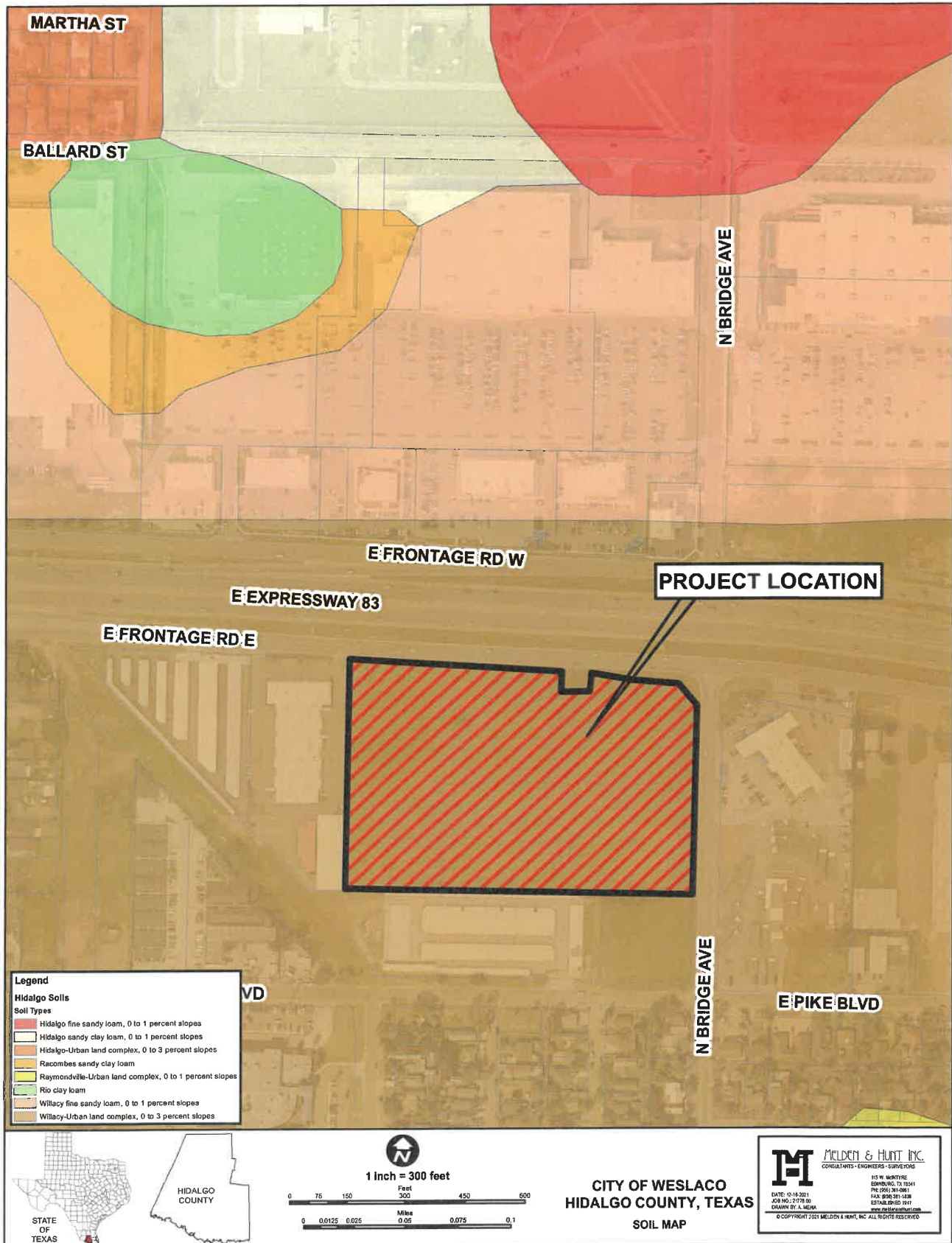
TIME	5 yr.	10 yr.	25 yr.	50 yr.	TIME	5 yr.	10 yr.	25 yr.	50 yr.
71	2.451	2.871	3.335	3.710	106	1.838	2.166	2.523	2.829
72	2.427	2.844	3.303	3.676	107	1.825	2.152	2.506	2.811
73	2.403	2.817	3.272	3.642	108	1.813	2.137	2.489	2.793
74	2.380	2.790	3.242	3.610	109	1.800	2.123	2.473	2.775
75	2.358	2.765	3.212	3.577	110	1.788	2.109	2.457	2.757
76	2.336	2.739	3.183	3.546	110	1.788	2.109	2.457	2.757
77	2.314	2.715	3.155	3.515	112	1.765	2.082	2.426	2.723
78	2.293	2.690	3.127	3.485	113	1.753	2.069	2.410	2.707
79	2.272	2.667	3.099	3.455	114	1.742	2.056	2.395	2.690
80	2.252	2.643	3.073	3.426	115	1.731	2.043	2.380	2.674
81	2.232	2.620	3.046	3.398	116	1.720	2.030	2.366	2.658
82	2.213	2.598	3.020	3.370	117	1.709	2.018	2.351	2.642
83	2.193	2.576	2.995	3.342	118	1.698	2.006	2.337	2.626
84	2.175	2.555	2.970	3.315	119	1.688	1.993	2.323	2.611
85	2.156	2.533	2.946	3.289	120	1.677	1.981	2.309	2.596
86	2.138	2.513	2.922	3.263	125	1.628	1.924	2.242	2.523
87	2.121	2.492	2.899	3.238	130	1.581	1.870	2.180	2.455
88	2.103	2.472	2.876	3.213	135	1.537	1.819	2.122	2.391
89	2.086	2.453	2.853	3.188	140	1.496	1.771	2.067	2.331
90	2.069	2.434	2.831	3.164	145	1.457	1.727	2.015	2.274
91	2.053	2.415	2.809	3.140	150	1.421	1.684	1.966	2.220
92	2.037	2.396	2.788	3.117	155	1.386	1.644	1.919	2.169
93	2.021	2.378	2.767	3.094	160	1.354	1.606	1.876	2.121
94	2.005	2.360	2.746	3.072	165	1.323	1.570	1.834	2.075
95	1.990	2.342	2.726	3.050	170	1.293	1.536	1.794	2.032
96	1.975	2.325	2.706	3.028	175	1.265	1.504	1.757	1.990
97	1.960	2.308	2.686	3.007	180	1.239	1.473	1.721	1.951
98	1.946	2.291	2.667	2.986	185	1.213	1.443	1.686	1.913
99	1.931	2.275	2.648	2.965	190	1.189	1.415	1.654	1.877
100	1.917	2.258	2.629	2.944	195	1.166	1.388	1.622	1.842
101	1.904	2.242	2.610	2.924	200	1.144	1.362	1.592	1.809
102	1.890	2.227	2.592	2.905	210	1.102	1.313	1.536	1.747
103	1.876	2.211	2.574	2.885	220	1.063	1.268	1.484	1.690
104	1.863	2.196	2.557	2.866	230	1.028	1.227	1.436	1.637
105	1.850	2.181	2.540	2.847	240	0.995	1.189	1.392	1.587

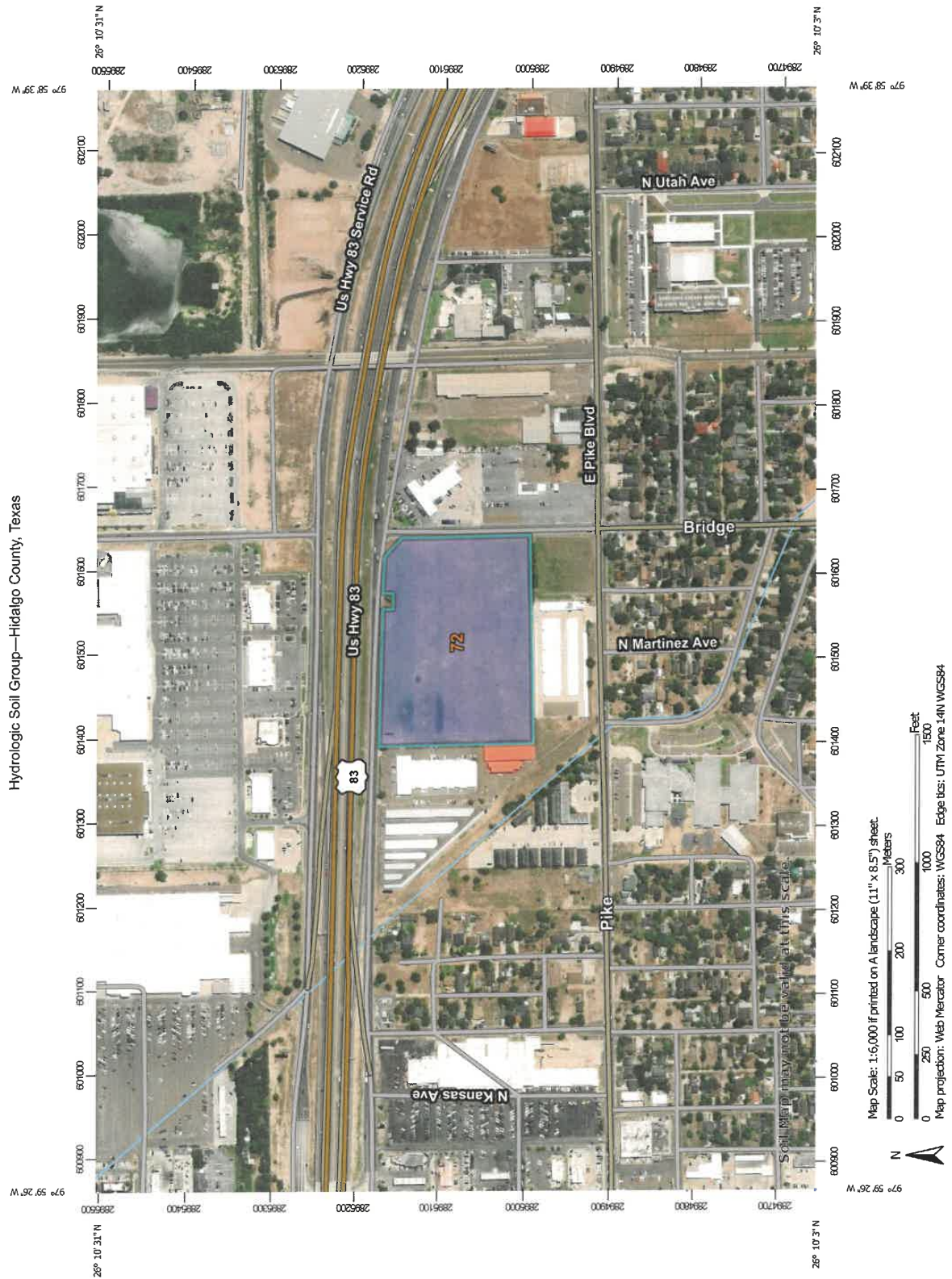
Appendix 3.0
Street Velocities and Capacities Flowing Curb Full
Manning's $n = 0.018$



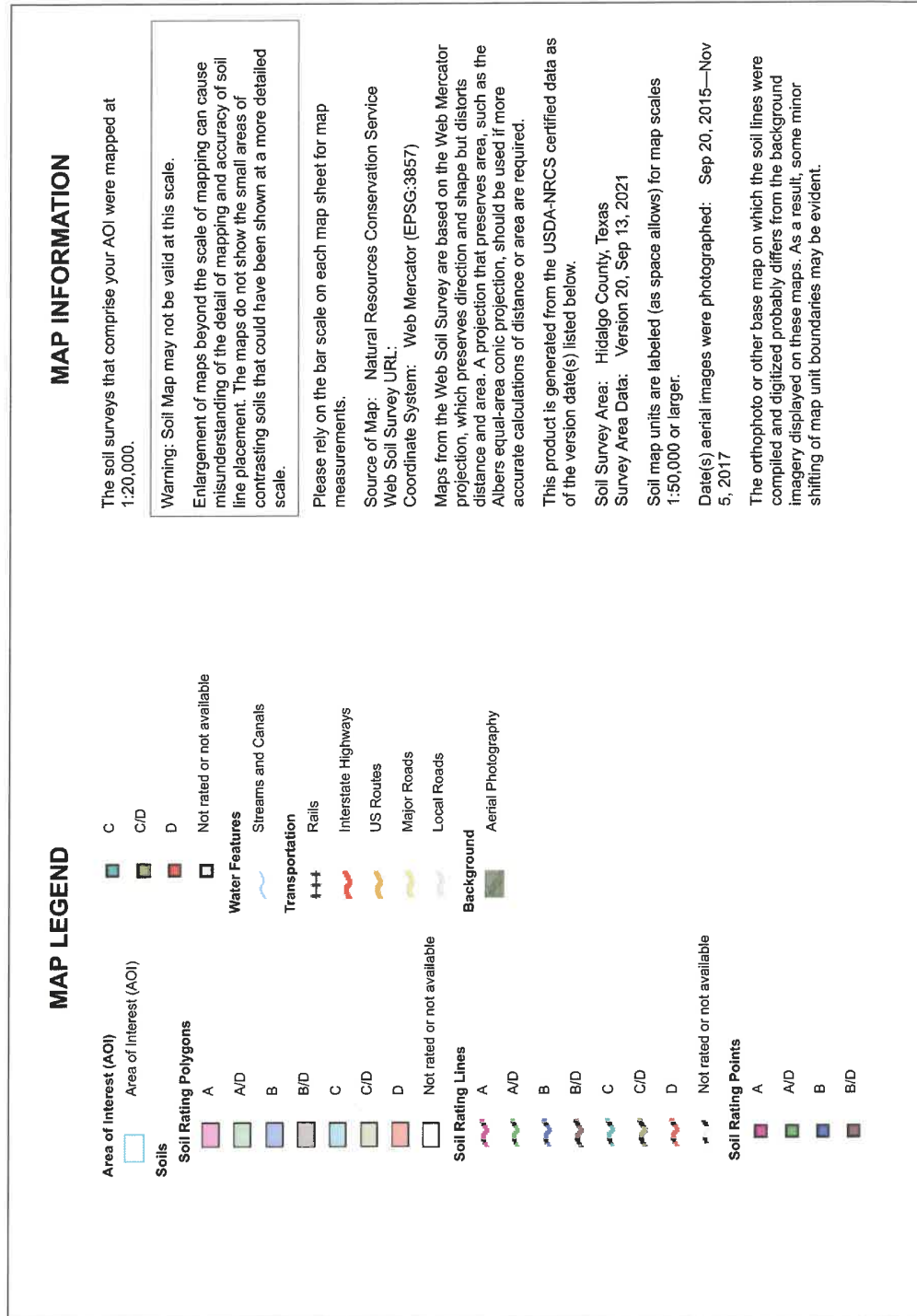
	Local Street $w = 30'$		Local Street $w = 40'$		Collector Street $w = 44'$		Secondary Street (half-section) $w = 24'$		Primary Street (half-section)	
Slope %	$c = 4" \quad wp = 31.16$ $A = 12.45 \quad r = 0.40$		$c = 4" \quad wp = 41.17$ $A = 16.67 \quad r = 0.405$		$c = 5" \quad wp = 45.17$ $A = 16.50 \quad r = 0.365$		$c = 6" \quad wp = 24.66$ $A = 7.92 \quad r = 0.32$		$c = 9" \quad wp = 28.52$ $A = 8.12 \quad r = 0.28$	
	V ft/sec	Q cfs	V ft/sec	Q cfs	V ft/sec	Q cfs	V ft/sec	Q cfs	V ft/sec	Q cfs
0.10	1.42	17.68	1.43	23.81	1.33	22.01	1.22	9.66	1.12	9.09
0.15	1.74	21.66	1.74	29.17	1.63	26.96	1.50	11.88	1.37	11.12
0.20	2.00	24.90	2.02	33.68	1.89	31.13	1.73	13.70	1.58	12.83
0.25	2.24	27.89	2.26	37.66	2.11	34.80	1.93	15.29	1.77	14.37
0.30	2.46	30.63	2.47	41.25	2.31	38.13	2.12	16.79	1.94	15.75
0.35	2.65	32.99	2.67	44.56	2.50	41.18	2.29	18.14	2.09	16.97
0.40	2.84	35.36	2.86	47.64	2.67	44.02	2.44	19.32	2.24	18.19
0.45	3.01	37.47	3.03	50.53	2.83	46.69	2.59	20.51	2.37	19.24
0.50	3.17	39.47	3.19	53.26	2.98	49.22	2.73	21.62	2.50	20.30
0.55	3.32	41.33	3.35	55.86	3.13	51.62	2.87	22.73	2.62	21.27
0.60	3.47	43.20	3.50	58.34	3.27	53.92	2.99	23.68	2.74	22.25
0.65	3.61	44.94	3.64	60.72	3.40	56.12	3.12	24.71	2.86	23.14
0.70	3.75	46.62	3.78	63.02	3.53	58.24	3.23	25.58	2.96	24.04
0.75	3.88	48.31	3.91	66.23	3.65	60.28	3.35	26.53	3.06	24.85
0.80	4.01	49.92	4.04	67.37	3.77	62.26	3.46	27.40	3.16	25.66
0.85	4.13	51.42	4.17	69.44	3.89	64.17	3.56	28.20	3.26	26.47
0.90	4.25	52.91	4.29	71.45	4.00	66.03	3.67	29.07	3.35	27.20
0.95	4.37	54.41	4.40	73.41	4.11	67.84	3.77	29.86	3.44	27.93
1.00	4.48	55.78	4.52	75.31	4.22	69.61	3.86	30.57	3.53	28.66
1.50	5.49	68.35	5.53	92.25	5.17	85.25	4.73	37.46	4.33	35.16
2.00	6.34	78.93	6.39	106.52	5.97	98.44	5.46	43.24	5.00	40.60
2.50	7.09	88.27	7.14	119.09	6.67	110.06	6.11	48.39	5.59	45.39
3.00	7.76	96.61	7.83	130.46	7.31	120.56	6.69	52.98	6.12	49.59
3.50	8.39	104.46	8.45	140.91	7.89	130.22	7.23	57.26	6.61	53.67
4.00	8.97	111.68	9.04	150.64	8.44	139.21	7.73	61.22	7.07	57.41
4.50	9.51	118.40	9.58	159.78	8.95	147.66	8.20	64.94	7.50	60.90
5.00	10.02	124.75	10.10	168.42	9.43	155.65	8.64	68.43	7.90	64.15
5.50	10.51	130.85	10.60	176.64	9.89	163.24	9.06	71.76	8.29	67.31
6.00	10.98	136.70	11.07	184.49	10.33	170.50	9.46	74.92	8.65	70.24
6.50	11.43	143.30	11.52	192.03	10.76	177.46	9.85	78.01	9.01	73.16
7.00	11.86	147.66	11.95	199.28	11.16	184.16	10.22	80.94	9.35	75.92
7.50	12.28	152.89	12.37	206.27	11.55	190.63	10.58	83.79	9.68	78.60
8.00	12.68	157.85	12.78	213.04	11.93	196.88	10.93	86.57	9.99	81.12
8.50	13.07	162.72	13.17	219.59	12.30	202.94	11.26	89.18	10.30	83.64
9.00	13.45	167.45	13.55	225.96	12.66	208.82	11.59	91.79	10.60	86.07
9.50	13.82	172.06	13.93	232.15	13.00	214.54	11.91	94.33	10.89	88.43
10.00	14.18	176.54	14.29	238.18	13.34	220.12	12.22	96.78	11.17	90.70







Hydrologic Soil Group—Hidalgo County, Texas



Hydrologic Soil Group—Hidalgo County, Texas

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
72	Willacy-Urban land complex, 0 to 3 percent slopes	B	10.6	100.0%
Totals for Area of Interest			10.6	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition



Hydrologic Soil Group—Hidalgo County, Texas

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

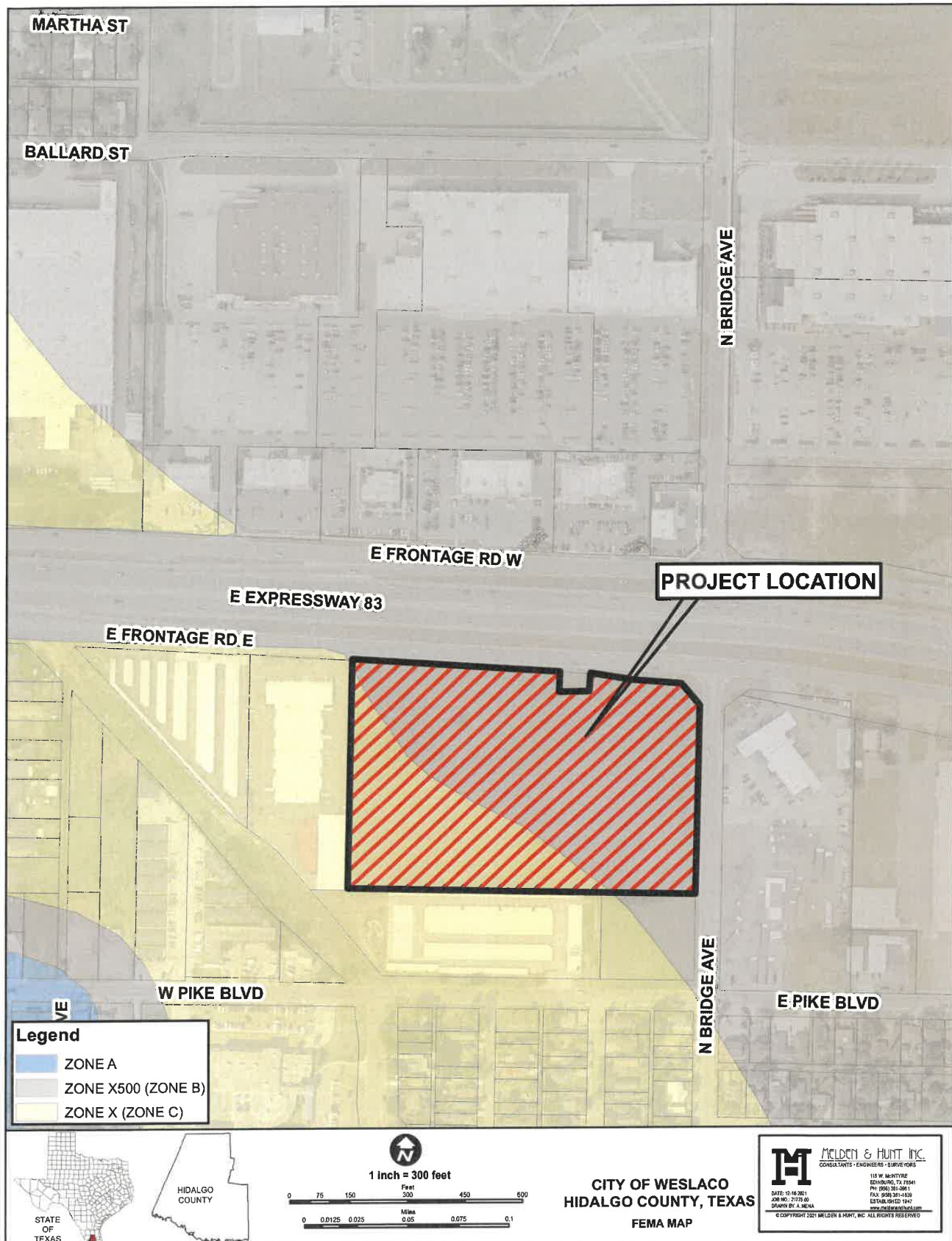
The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

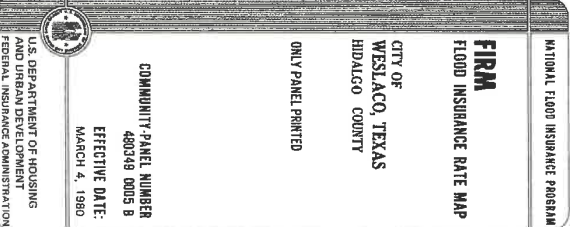
Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.







**Planning & Zoning Commission
Standardized Agenda Request Form**

Date of Meeting: June 1, 2022	Agenda Item No. (to be assigned by PCE): IV.C.
From: Rebekah de la Fuente, Planning Director, on behalf of Ronnie Cruz	
Subject/Agenda Item: Discussion and consideration for the Final Plat for Mid Valley Estates– being a 40.00-acre tract of Farm Tract 715, The West Tract Subdivision, Weslaco, Hidalgo County, Texas Located on the Southwest corner of Mile 6 North and Mile 6 ½ West. Possible Action.	
Discussion/Overview: The proposed one hundred fifty-eight (158) lot subdivision is located outside the City of Weslaco. This subdivision is being serviced with water by the City of Weslaco through an 8” waterline and sewer by the City of Weslaco through an 8” sewer line. The property is within a Flood Zone “B”. Applicant is requesting a variance for Off-site drainage and has submitted both letters of support.	
If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners: N/A	
Staff recommendation for Commission’s Action: Staff recommends approval of Final Plat and compliance with the ordinance on the variance.	
Additional Action Prompted: ☒ Mayor’s Signature ☐ Public Hearing ☐ Budget Amendment ☐ Resolution ☐ Ordinance – First Reading ☐ Ordinance – Final Reading	
Advisory Review, (if any): (name of board/committee, date of action, recommendation): N/A	
If item previously considered, provide date and action by Commission: N/A	
Attachments,(if any): Application for Subdivision platting, Staff’s comments, Drainage Report, Subdivision plat and Utility layout.	
Responsibilities upon Commission’s Action: Planning staff will advise applicant.	



SUBDIVISION PLATTING APPLICATION

The Planning & Zoning Commission meets every 1st Wednesday of each month at 5:30 pm.

The City Commission meets every 1st and 3rd Tuesday of each month at 5:30 pm

FILE NO. _____

This form shall be completed by the Property Owner or Applicant and submitted to the Planning Department along with the required number of copies of the respective plat, review fee and all other required information listed below and in the Subdivision Ordinance. The submittal of an application does not constitute acceptance for processing until the staff reviews and determines the application is complete.

STAFF USE ONLY

☐ Single Lot Variance ☐ Minor Plat ☐ Planned Unit Development ☐ Standard Subdivision

GENERAL INFORMATION

Name of Subdivision: Mid Valley Estates

Location: Southwest corner of Mile 6 North (18th St.) and mile 6 1/2 Weat (Milano)

Legal Description: Farm tract 715, out of the west tract subdivision Hidalgo County, Texas as per map recorded in vol. 2, pages 34-37 of the H.C.M.R.

Is subdivision inside city limits? ☐ YES ☒ NO

If subdivision is in the ETJ, indicate? ☒ 3.5 Mile ☐ 5 Mile

If no submit letter of Annexation (Contiguous or Consensual)

Existing Zoning: _____

Existing Land Use: Farm Land Proposed Land Use: Multi-Family and Residential

Number of Lots Proposed: 158 Gross Acreage: 40.00

Title Report Submitted: ☒ YES ☐ NO

OWNER INFORMATION

Owner's Name: Affordable Homes of South Texas, Inc. (AHSTI) Telephone: 956-687-6263

Address: 1420 Erie Ave. Fax: _____

City: McAllen State: Tx Zip: 78504 E-mail: rcalvillo@ahsti.org

ENGINEER INFORMATION

Name: Ronnie Cruz, P.E., CFM Telephone: 956-682-5022

Address: 605 E. Violet Ave., Ste. 1 Fax: _____

City: McAllen State: Tx Zip: 78504 E-mail: ronnie@cruzhogan.net

255 S. KANSAS AVE ■ WESLACO, TEXAS 78596-6285 ■ 956-447-3401 ■ (Fax) 956-973-3128 ■ WWW.WESLACOTX.GOV

- ☒ Contours
- ☒ Flood Zones
- ☒ Adjoiners
- ☒ Existing & Proposed street names
- ☒ Utility Layout
 - ☒ Existing & Proposed Utilities
 - ☒ Proposed Fire Hydrants
 - ☒ Adjoiners
 - ☐ Street names
- ☒ Drainage plans and calculations with engineer's seal
 - ☒ Elevations
 - ☒ Flood directional arrows
 - ☒ Detention areas
 - ☐ Street names
- ☒ Proof of ownership of the property
- ☐ If septic tank system required, submit soil evaluation report
- ☐ Water Rights associated with the property
- ☐ Tax Receipt for all taxing entities showing that taxes are paid in full
- ☐ 11 Number of fire hydrants proposed for subdivision
- ☒ Trip Generation Worksheet

SUBMITTALS REQUIRED FOR FINAL (P & Z) **Will not apply to Single Lot Variance**

- ☒ Twelve (12) sets of plans **FOLDED & STAPLED** (24 x 36) & PDF copy **with all corrections**
- ☐ Plats to be sealed by Professional Engineer
- ☒ Approved Drainage Report
- ☒ Traffic Impact Analysis (If required)

SUBMITTALS REQUIRED FOR FINAL (City Commission)

- ☐ One set of 8 ½ x 11 of plat and utilities with all corrections done

SUBMITTALS REQUIRED FOR PRE-CONSTRUCTION MEETING

- ☐ Seven (7) full sets of construction plans 24 x 36 and one (1) 11 x 17 with plan & profile.
- ☐ Engineering cost estimates for 3% geotechnical testing fees and 2% inspection fees
- ☐ Notice of Intent
- ☐ SW3P

SUBMITTALS REQUIRED FOR RECORDING OR HIDALGO COUNTY PLANNING

- ☐ Electronic file of final plat and as-builds
- ☐ Reproducible plat to be recorded with all required signatures
- ☐ 3% geotechnical testing fees or negotiated Material Testing fee by City, whichever is higher
- ☐ 2% inspection fee
- ☐ Park Fees
- ☐ Checks or Receipts: HCCID #9; HCDD #1; County Clerk
- ☐ Tax certificates
- ☐ Memo from engineering inspector releasing subdivision
- ☐ Water Rights associated with the property dedicated and assigned to City of Weslaco or payment of fees sufficient to meet the needs necessitated and attributable to development
- ☐ 30 Year Water and 30 Year Sewer Service Agreements
- ☐ Park dedication/Fees in lieu of

SUBMITTALS REQUIRED FOR RECORDING BY SECURITY

- ☐ Sealed engineering cost estimates
- ☐ Letter of Credit/Performance Bond/Escrow

UTILITY PROVISIONS

Will proposed subdivision connect to:

☒ YES ☐ NO Water Provision: City of Weslaco

☒ YES ☐ NO Wastewater Provision: City of Weslaco

☐ YES ☐ NO Electric Company: Magic Valley Electric

☒ YES ☐ NO Phone Utility _____	☒ YES ☐ NO Gas Utility _____	☒ YES ☐ NO Cable Utility _____
---	---	---

Proposed subdivision is in the following districts:

☒ YES ☐ NO Drainage District <u>1</u>	☒ YES ☐ NO Irrigation District <u>#9</u>
--	---

Has the property been assessed as flat rate irrigable property: ☐ YES ☒ NO

Have Water Rights been conveyed to City/Water Supplier? ☐ YES ☒ NO

(Attach written proof of such assessment or that it has never been assessed as such a property) If YES, attach an estimate from the irrigation district of the proportional water rights for the subdivision as calculated under Texas Water Code § 49.505.

SUBMITTALS REQUIRED FOR MINOR PLAT REVIEW

- _____ Two (2) sets of plats folded and stapled (24 x 36) and forward a copy in PDF format to mhinojosa@weslacotx.gov & rdelafuente@weslacotx.gov
- _____ \$355.00 Planning Review fee
- _____ One 11" X 17" reduced copy of plat
- _____ Plat Layout
 - _____ Existing & Proposed Easements
 - _____ Existing & Proposed ROW
 - _____ Existing & Proposed Drainage Easements
 - _____ Contours
 - _____ Flood Zones
 - _____ Adjoiners
 - _____ Existing street names
- _____ Drainage plans and calculations with engineer's seal
 - _____ Elevations
 - _____ Flood directional arrows
 - _____ Detention areas
 - _____ Street names
- _____ Proof of ownership of the property
- _____ If septic tank system required, submit soil evaluation report
- _____ Water Rights associated with the property
- _____ Tax Receipt for all taxing entities showing that taxes are paid in full

SUBMITTALS REQUIRED FOR PRELIMINARY (P & Z)

- ✓ _____ Twelve (12) sets of preliminary plat folded and stapled (24 x 36) and forward a copy in PDF format to mhinojosa@weslacotx.gov & rdelafuente@weslacotx.gov
- ✓ _____ \$350.00 (one time fee for preliminary and final plat)
- ✓ _____ One 11" X 17" reduced copy of plat
- ✓ _____ Plat Layout
 - ✓ _____ Existing & Proposed Easements
 - ✓ _____ Existing & Proposed ROW
 - ✓ _____ Existing & Proposed Drainage Easements

255 S. KANSAS AVE ■ WESLACO, TEXAS 78598-6285 ■ 956-447-3401 ■ (Fax) 956-973-3128 ■ WWW.WESLACOTX.GOV

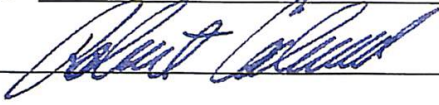
** Any revisions requested would require resubmission of plats and reduced copy reflecting changes.

AUTHORIZATION AND ACKNOWLEDGEMENTS

I certify that I am the actual owner of the property described above and this application is being submitted with my consent (include corporate name if applicable); and the following person listed below is my authorized agent to act on my behalf.

I certify that the above information is correct and complete to the best of my knowledge. I understand that I must comply with all applicable local, state, and federal regulations.

Owner Printed Name: Robert Calvillo

Owner Signature:  Date: 4/20/22

_____ is the authorized agent

Authorized Agent Signature: _____ Date: _____

Authorized Agent Printed Name: _____

THIS PAGE FOR STAFF USE ONLY

Date Received: _____ Received By: _____ Date Paid: _____

P & Z Commission Approval on Preliminary Plat: _____

P & Z Commission Approval on Final Plat: _____

City Commission Approval on Final Plat: _____

Preconstruction Meeting Date: _____

Date Recorded: _____ Instrument No. _____

General Comments: _____



HIDALGO COUNTY DRAINAGE DISTRICT No. 1

RAUL E. SESIN, PE, CFM

District General Manager
Hidalgo County Floodplain Administrator

BOARD OF DIRECTORS

DAVID L. FUENTES
Board Member

EDUARDO "EDDIE" CANTU
Board Member

RICHARD F. CORTEZ
Chairman of the Board

EVERARDO "EVER" VILLARREAL
Board Member

ELLIE TORRES
Board Member

May 26, 2022

Rebekah De La Fuente, Planning & Code Enforcement Director
City of Weslaco
255 S. Kansas Ave.
Weslaco, Texas 78596

RE: Mid Valley Estates Subdivision

Dear Ms. De La Fuente,

This letter is in response to a request from Ronnie Cruz, PE, the Engineer of record for Mid Valley Estates Subdivision. Our office has received and approved the proposed drainage statement for the above-mentioned development and sees no objections to the engineer's plan to discharge into the ditch adjacent to the west of the property, owned by HCCID9, and to be dedicated to the City of Weslaco. Our office has no objection to outfall into said ditch to account for runoff volume, as approved in a letter addressed to Mr. Ronnie Cruz from Mr. Albert Aldana, City Engineer for the City of Weslaco, dated March 2, 2022. We strongly encourage the use of on-site detention.

If you should have any questions or require additional information, please feel free to give me a call at (956) 292-7080.

Sincerely,
HIDALGO COUNTY DRAINAGE DISTRICT No. 1

A handwritten signature in blue ink, appearing to read "Yvette Barrera", with a long horizontal flourish extending to the right.

Yvette Barrera, PE, CFM
Assistant General Manager

Cc: Raul Sesin, Omar Anzaldua, Isaac J Gonzalez, Alexis Lozano, Gilberto Aguirre

Hidalgo and Cameron Counties Irrigation District No. 9

General Office

(956) 565-2411
(956) 565-0521 Fax

E-Mail
hccid9@hotmail.com



Randy Winston
General Manager

Judy Beall
Tax Assessor-Collector

P O Box 237 Mercedes, Texas 78570

Date: 5-25-22

ORLANDO CRUZ
CRUZ-HOGAN
605 E VIOLET AVE. STE 1
MCALLEN, TEXAS 78504

RE: **MID VALLEY ESTATES** Subd. Drainage and Detention

Good Morning Mr. Cruz,:

I have received your revised cross section and calculations dated 03/07/2022 for the **MID VALLEY ESTATES** Subdivision modified to include the 50 year detention volume in the proposed drain ditch as shown on your provided cross sections.

HCCID #9 does not object to storing the mandated 50 year detention with the proposed ditch as shown on the cross sections. This Subdivision will require the following:

1. The Proposed Ditch widening, and Detention Area will require outlet controls going into existing ditch
2. Discharge Permit will be required.
3. Relocation of Irrigation line and acceptance.

The maintenance of this section is inside of the City Limits of Weslaco and will be done by the City of Weslaco. Please verify final designs with Albert Aldana City of Weslaco Engineer.

Randall Winston
General Manager

HCCID #9
Mercedes, Texas
956-565-2411

**DRAINAGE STATEMENT
FOR
MID VALLEY ESTATES
CITY OF WESLACO**

PROJECT LOCATION

The proposed Mid Valley Estates is 40.00 acre subdivision located adjacent to the City of Weslaco city limit line. Legal description is Farm Tract 715, West Tract Subdivision, Hidalgo County, Texas as per Map Recorded in Volume 2, Pages 34-37, Hidalgo County Map Records. It is physically located at the Southwest corner of Mile 6 North (18th Street) and Mile 6 ½ West Road (S. Milano Road). Weslaco, Texas.

FLOOD PLAIN

This tract of land is located within Zone "B" (Medium shading) according to FIRM Flood Insurance Rate Map Community Panel 480334 0525 B, dated January 2, 1981. Zone "B" are areas between limits of the 100-year and 500-year flood; or certain areas subject to 100-year flooding with average depths less than (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium Shading)

SOIL CONDITIONS

According to the soil survey report for Hidalgo County by the U.S.D.A. Soil Conservation Service, there is (28) Hidalgo Sandy Clay Loam with a Hydrological Soil Group B, (52) Raymondville Clay Loam with a Hydrological Soil Group C, and (39) Mercedes Clay with a Hydrological Soil Group D. Soil (28) is made up of Sandy Clay Loam (SC) and Clay Loam (CL). It's moderately well drained, surface runoff slow, and permeability is moderate. Plasticity Index has a range of 11-22. Natural slopes are of 0 to 3 percent. Soil (52) is made of Clay Loam (CL) and Clay (CH). It has slow infiltration rate and have moderate rate of water transmission. Plasticity index has a range of 18-30. Soil (39) is made up of clay (CH) and has a very slow infiltration rate. These soils have a very slow rate of water transmission. Plasticity index has a range of 32-49.

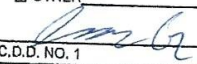
EXISTING CONDITIONS

Existing on the proposed site is open farm land. The site has a slope from east to west. The drop is approximately 3 feet. The existing runoff for the proposed subdivision is $Q = 13.70 \text{ ft}^3/\text{sec}$ based on a 10 year storm and a C value of .20.

PROPOSED CONDITIONS

The Subdivision will be constructed in 2 types of zoning. Proposed are 114 residential lots (R-1) and 44 multi-family lots (R-2). After development, the runoff will increase to $Q = 54.31 \text{ ft}^3/\text{sec}$. As calculations show, the detention required will be $164,632 \text{ ft}^3$ or 3.78 Ac-Ft. These calculations were based on a 50-year storm event. Detention will be provided by expanding an existing drainage ditch along the west property line owned by Hidalgo/Cameron County Irrigation District No. 9. The district and the City of Weslaco have provided us with a cross section of their requirements. The subdivision will have two drainage outfalls into the existing ditch. A drainage system consisting of 18", 24", and 36" lines with 8-Type "A" inlets will drain the multi-family lots which consists of 17.27 acres. The second drainage system will drain 22.73 acres of the residential lots which consists of 18", 24", 30" and 42" RCP lines with 16-Type "A" inlets. Both systems will discharge into the existing ditch. The ditch flows south for approximately 9,500 feet into the floodway.

The proposed subdivision lies adjacent to the city limits of the City of Weslaco. The developer will apply to be annexed into the city. After annexation, the ditch owned by Hidalgo/Cameron Irrigation District #9 will be dedicated to the City of Weslaco. The City has also agreed for the developer to widen the ditch and use it for the detention requirement of the proposed subdivision. A letter is attached from the City to this affect.

☐ REJECTED	
☒ APPROVED FOR SUBMITTAL	
☐ TO H.C. PLANNING DEPT.	
☒ TO CITY	
☒ DISCHARGE PERMIT REQUIRED	
☒ DISTRICT FACILITY	
☒ CITY FACILITY	
☐ OTHER	
	
H.C.D.D. NO. 1	DATE 3-7-22



Mid-Valley Estates Subdivision Weslaco, Texas

EXISTING DATA

Date: 10-Jan-22

Total Area 40.000 ac
Intercept Coefficient - "K" 0.213 Table 3-2 *
"K_u" 3.28
Overland Flow Length - "L" 1320.00 ft
Overland Slope - "S_p" 0.0500 ft/ft
Velocity - "V" 0.15 ft/s
Existing Time of Concentration - "T" 147 min.
Existing Runoff Coefficient - "C" 0.20
Intensity of Rainfall - "I" 1.71 in/hr (10 year event)
Existing - "Q_{10yr}" 13.70 ft³/s

PROPOSED IMPROVEMENTS

Proposed Runoff Coefficient - "C" 0.31 Table 3-4 *
Velocity - "V" 0.40 ft/s
Proposed Time of Concentration - "T" 55 min.
Proposed Intensity - "I" 4.38 in/hr (50 year event)
Proposed - "Q_{50yr}" 54.31 ft³/s

IDF Coefficients For 50yr Storm

e=0.749
b=99.0
d=9.2

t= D/N(60)
t= 55 min.

Time		I _{50yr}	Q _{50yr} in	V in	Q _{10yr} out	V out	Req'd V	Req'd V
min	hr	in/hr	ft ³ /s	ft ³	ft ³ /s	ft ³	ft ³	ac-ft
55.00	0.92	4.38	54.35	179361	13.70	45202	134158	3.08
75.00	1.25	3.58	44.36	199623	13.70	53421	146202	3.36
95.00	1.58	3.05	37.82	215550	13.70	61640	153911	3.53
115.00	1.92	2.67	33.16	228775	13.70	69858	158917	3.65
135.00	2.25	2.39	29.65	240147	13.70	78077	162070	3.72
155.00	2.58	2.17	26.90	250164	13.70	86295	163869	3.76
175.00	2.92	1.99	24.68	259146	13.70	94514	164632	3.78
195.00	3.25	1.84	22.85	267307	13.70	102733	164575	3.78
215.00	3.58	1.72	21.30	274802	13.70	110951	163851	3.76
235.00	3.92	1.61	19.98	281744	13.70	119170	162574	3.73
255.00	4.25	1.52	18.84	288218	13.70	127388	160829	3.69
275.00	4.58	1.44	17.84	294291	13.70	135607	158684	3.64
295.00	4.92	1.37	16.95	300016	13.70	143826	156190	3.59
315.00	5.25	1.30	16.16	305436	13.70	152044	153391	3.52

PEAK



Type of Drainage Area	Runoff Coefficient, C
Business:	
Downtown Areas	0.70 - 0.95
Neighborhood Areas	0.50 - 0.70
Residential:	
Single Family Areas	0.30 - 0.50
Multi-Units, Detached	0.40 - 0.60
Multi-Units Attached	0.60 - 0.75
Suburban	0.25 - 0.40
Apartment Dwelling Areas	0.50 - 0.70
Industrial:	
Light Areas	0.50 - 0.80
Heavy Areas	0.60 - 0.90
Parks, Cemeteries	0.10 - 0.25
Playgrounds	0.20 - 0.40
Railroad Yard Areas	0.20 - 0.40
Unimproved Areas	0.10 - 0.30
Lawns:	
Sandy Soil, flat, 2%	0.05 - 0.10
Sandy Soil, average, 2 - 7%	0.10 - 0.15
Sandy Soil, steep, 7%	0.15 - 0.20
Heavy Soil, flat, 2%	0.13 - 0.17
Heavy Soil, average, 2 - 7%	0.18 - 0.22
Heavy Soil, steep, 7%	0.25 - 0.35
Streets:	
Asphaltic	0.70 - 0.95
Concrete	0.80 - 0.95
Brick	0.70 - 0.85
Drives and Walks:	0.75 - 0.85
Roofs:	0.75 - 0.95

Table 3-3: Runoff Coefficients

Weighted C Calculation				
Land Use:	"C" Value	Square Footage	Acreage	Partial "C"
Roofs	0.75	241400	5.542	4.156
Drives and Walks	0.75	90475	2.077	1.558
Streets Asphaltic	0.8	221600	5.087	4.070
Lawns Sandy Soil, Average 2-7%	0.1	1188926.64	27.294	2.729
Total		1742401.64	40.000	12.513
Weighted "C"=			0.31	

Table 3-4: Calculated Weighted "C" Runoff Coefficient





CRUZ - HOGAN
ENGINEERS | PLANNERS

DRAINAGE REPORT
FOR
MID VALLEY ESTATES SUBDIVISION
WESLACO, TEXAS

PREPARED BY:

CRUZ-HOGAN CONSULTANTS, INC.
605 E. VIOLET, SUITE 1
MCALLEN, TEXAS 78504
TBPE FIRM REGISTRATION No. F-4880



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**DRAINAGE STATEMENT
FOR
MID VALLEY ESTATES
CITY OF WESLACO**

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FLOOD PLAIN

This tract of land is located within Zone "B" (Medium shading) according to FIRM Flood Insurance Rate Map Community Panel 480334 00525 B, dated January 2, 1981. Zone "B" are areas between limits of the 100-year and 500-year flood; or certain areas subject to 100-year flooding with average depths less than (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium Shading)

SOIL CONDITIONS

According to the soil survey report for Hidalgo County by the U.S.D.A. Soil Conservation Service, there is (28) Hidalgo Sandy Clay Loam with a Hydrological Soil Group B, (52) Raymondville Clay Loam with a Hydrological Soil Group C, and (39) Mercedes Clay with a Hydrological Soil Group D. Soil (28) is made up of Sandy Clay Loam (SC) and Clay Loam (CL). It's moderately well drained, surface runoff slow, and permeability is moderate. Plasticity Index has a range of 11-22. Natural slopes are of 0 to 3 percent. Soil (52) is made of Clay Loam (CL) and Clay (CH). It has slow infiltration rate and have moderate rate of water transmission. Plasticity index has a range of 18-30. Soil (39) is made up of clay (CH) and has a very slow infiltration rate. These soils have a very slow rate of water transmission. Plasticity index has a range of 32-49.

EXISTING CONDITIONS

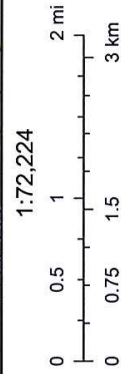
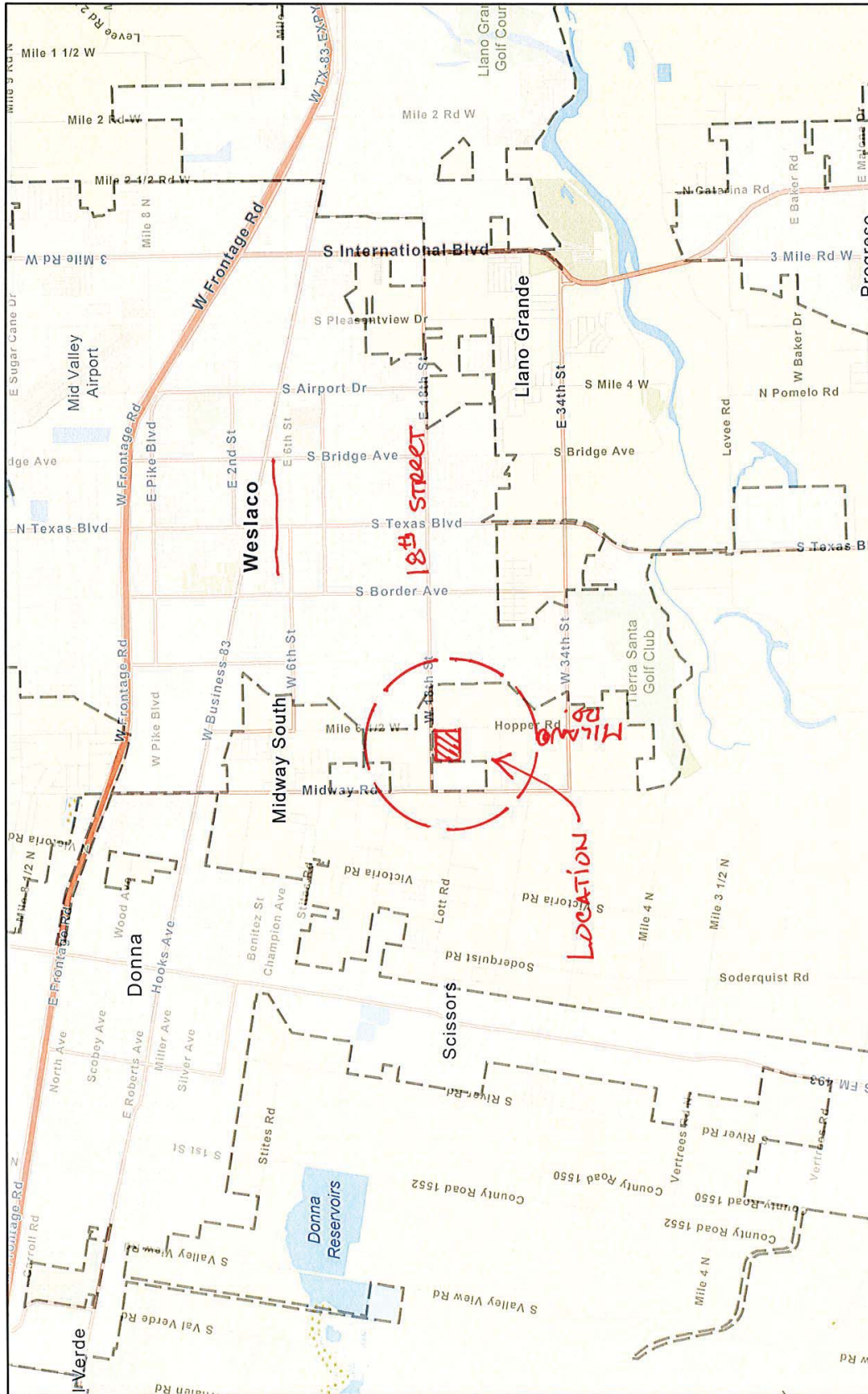
Existing on the proposed site is open farm land. The site has a slope from east to west. The drop is approximately 3 feet. The existing runoff for the proposed subdivision is $Q = 13.70 \text{ ft}^3/\text{sec}$ based on a 10 year storm and a C value of .20.

PROPOSED CONDITIONS

The Subdivision will be constructed in 2 types of zoning. Proposed are 114 residential lots (R-1) and 44 multi-family lots (R-2). After development, the runoff will increase to $Q = 54.31 \text{ ft}^3/\text{sec}$. As calculations show, the detention required will be $164,632 \text{ ft}^3$ or 3.78 Ac-Ft . These calculations were based on a 50-year storm event. Detention will be provided by expanding an existing drainage ditch along the west property line owned by Hidalgo/Cameron County Irrigation District No. 9. The district and the City of Weslaco have provided us with a cross section of their requirements. The subdivision will have two drainage outfalls into the existing ditch. A drainage system consisting of 18", 24", and 36" lines with 8-Type "A" inlets will drain the multi-family lots which consists of 17.27 acres. The second drainage system will drain 22.73 acres of the residential lots which consists of 18", 24", 30" and 42" RCP lines with 16-Type "A" inlets. Both systems will discharge into the existing ditch. The ditch flows south for approximately 9,500 feet into the floodway.



ArcGIS Web Map



1:72,224

LOCATION MAP

2/17/2022, 3:14:55 PM

City_Limits_2020

Mid-Valley Estates Subdivision Weslaco, Texas

Date: 10-Jan-22

EXISTING DATA

Total Area	40.000 ac
Intercept Coefficient - "k"	0.213 Table 3-2 *
"K _u "	3.28
Overland Flow Length - "L"	1320.00 ft
Overland Slope - "S _p "	0.0500 ft/ft
Velocity - "V"	0.15 ft/s
Existing Time of Concentration - "T"	147 min.
Existing Runoff Coefficient - "C"	0.20
Intensity of Rainfall - "I"	1.71 in/hr (10 year event)
Existing - "Q _{10yr} "	13.70 ft ³ /s

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Proposed Runoff Coefficient - "C"	0.31 Table 3-4 *	
Velocity - "V"	0.40 ft/s	
Proposed Time of Concentration - "T"	55 min.	
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Proposed - "Q _{50yr} "	54.31 ft ³ /s	t= 55 min.

IDF Coefficients For 50yr Storm

e=0.749
b=99.0
d=9.2

Time		I _{50yr}	Q _{50yr} in	V in	Q _{10yr} out	V out	Req'd V	Req'd V
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Suburban	0.25 - 0.40
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Industrial:	
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Unimproved Areas	0.10 - 0.30
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Sandy Soil, average, 2 - 7%	0.10 - 0.15
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Lawns Sandy Soil, Average 2-7%	0.1	1188926.64	27.294	2.729
Total		1742401.64	40.000	12.513
			Weighted "C"=	0.31

Table 3-4: Calculated Weighted "C" Runoff Coefficient

TABLE I TIME OF CONCENTRATION DETERMINATION MID-VALLEY ESTATES SUBDIVISION											
COMPUTATION POINT	DESCRIPTION OF RUNOFF MEDIUM	OVERLAND FLOW			CHANNEL, PIPE, STREET, ETC. FLOW						
		C	LENGTH (FT.)	GRADE (%)	TIME (MIN.)	WIDTH (FT)	GRADE (%)	LENGTH (FT.)	VELOCITY (FPS)	TIME (MIN.)	TOTAL TIME (MIN.)
Existing	Overland	0.2	1320		147						147
DRAINAGE SYSTEM 1											
D1	Overland & Gutter	0.31	425		47.2			0	0.4	0	47.2
D1 - D3	Pipe Flow	0.31						68	3	0.38	47.6
D2	Overland & Gutter	0.31	280		31.1			0	0.4	0	31.1
D2 - D3	Pipe Flow	0.31						35	3	0.19	31.3
D3	Overland & Gutter	0.31	410		45.6			0	0.4	0	45.6
D3 - D4	Pipe Flow	0.31						382	3	2.12	47.7
D4	Overland & Gutter	0.31	460		51.1			0	0.4	0	51.1
D4 - D5	Pipe Flow	0.31						68	3	0.38	51.5
D5	Overland & Gutter	0.31	460		51.1			0	0.4	0	51.1
D5 - D8	Pipe Flow	0.31						382	3	2.12	53.2
D6	Overland & Gutter	0.31	290		32.2			0	0.4	0	32.2
D6 - D5	Pipe Flow	0.31						35	3	0.19	32.4
D7	Overland & Gutter	0.31	510		56.7			0	0.4	0	56.7
D7 - D8	Pipe Flow	0.31						35	3	0.19	56.9
D8	Overland & Gutter	0.31	410		45.6			0	0.4	0	45.6
D8 - OUTFALL #1	Pipe Flow	0.31						302	3	1.68	47.2
DRAINAGE SYSTEM 2											
D9	Overland & Gutter	0.31	241		26.8			0	0.4	0	26.8
D9 - D10	Pipe Flow	0.31						35	3	0.19	27.0
D10	Overland & Gutter	0.31	320		35.6			0	0.4	0	35.6
D10 - D12	Pipe Flow	0.31						436	3	2.42	38.0
D11	Overland & Gutter	0.31	270		30.0			0	0.4	0	30.0
D11 - D12	Pipe Flow	0.31						35	3	0.19	30.2

TABLE I TIME OF CONCENTRATION DETERMINATION MID-VALLEY ESTATES SUBDIVISION												
COMPUTATION POINT	DESCRIPTION OF RUNOFF MEDIUM	OVERLAND FLOW				CHANNEL, PIPE, STREET, ETC. FLOW						
		C	LENGTH (FT.)	GRADE (%)	TIME (MIN.)	WIDTH/DIA. (FT)	GRADE (%)	LENGTH (FT.)	VELOCITY (FPS)	TIME (MIN.)	TOTAL TIME (MIN.)	
D12	Overland & Gutter	0.31	270		30.0			0	0.4	0	30.0	
D12 - D14	Pipe Flow	0.31						466	3	2.59	32.6	
D13	Overland & Gutter	0.31	230		25.6			0	0.4	0	25.6	
D13 - D14	Pipe Flow	0.31						38	3	0.21	25.8	
D14	Overland & Gutter	0.31	265		29.4			0	0.4	0	29.4	
D14 - D15	Pipe Flow	0.31						60	3	0.33	29.8	
D15	Overland & Gutter	0.31	255		28.3			0	0.4	0	28.3	
D15 - D24	Pipe Flow	0.31						230	3	1.28	29.6	
D16	Overland & Gutter	0.31	360		40.0			0	0.4	0	40.0	
D16 - D17	Pipe Flow	0.31						35	3	0.19	40.2	
D17	Overland & Gutter	0.31	360		40.0			0	0.4	0	40.0	
D17 - D24	Pipe Flow	0.31						519	3	2.88	42.9	
D18	Overland & Gutter	0.31	235		26.1			0	0.4	0	26.1	
D18 - D19	Pipe Flow	0.31						35	3	0.19	26.3	
D19	Overland & Gutter	0.31	320		35.6			0	0.4	0	35.6	
D19 - D21	Pipe Flow	0.31						436	3	2.42	38.0	
D20	Overland & Gutter	0.31	270		30.0			0	0.4	0	30.0	
D20 - D21	Pipe Flow	0.31						35	3	0.19	30.2	
D21	Overland & Gutter	0.31	270		30.0			0	0.4	0	30.0	
D21 - D23	Pipe Flow	0.31						466	3	2.59	32.6	
D22	Overland & Gutter	0.31	225		25.0			0	0.4	0	25.0	
D22 - D23	Pipe Flow	0.31						38	3	0.21	25.2	
D23	Overland & Gutter	0.31	265		29.4			0	0.4	0	29.4	
D23 - D24	Pipe Flow	0.31						234	3	1.30	30.7	
D24	Overland & Gutter	0.31	255		28.3			0	0.4	0	28.3	
D24 - OUTFALL #2	Pipe Flow	0.31						200	3	1.11	29.4	

TABLE 1A FLOWRATE DETERMINATION MID-VALLEY ESTATES SUBDIVISION									
COMPUTATION POINT	TOTAL DRAINAGE AREA CONTRIBUTING TO POINT (ACRES)	C	TIME (SEE TABLE I) (MIN.)	RETURN FREQUENCY (YEARS)	INTENSITY (IN./HR.)	FLOWRATE (C.F.S.)	DESIGN PIPE SIZE (IN.)	MIN. SLOPE (FT./FT.)	
Existing	40	0.2	147.0	10	1.71	13.7			
DRAINAGE SYSTEM 1									
D1	1.91	0.31	55.0	50	4.38	2.60			
D1 - D3	1.91	0.31	55.0	50	4.38	2.60	18.00	0.00061	
D2	1.74	0.31	55.0	50	4.38	2.36			
D2 - D3	1.74	0.31	55.0	50	4.38	2.36	18.00	0.00050	
D3	1.59	0.31	55.0	50	4.38	2.16			
D3 - D4	5.24	0.31	55.0	50	4.38	7.12	24.00	0.00099	
D4	2.6	0.31	55.0	50	4.38	3.53			
D4 - D5	7.84	0.31	55.0	50	4.38	10.65	30.00	0.00067	
D5	2.65	0.31	55.0	50	4.38	3.60			
D5 - D8	12.31	0.31	55.0	50	4.38	16.73	30.00	0.00165	
D6	1.82	0.31	55.0	50	4.38	2.47			
D6 - D5	1.82	0.31	55.0	50	4.38	2.47	18.00	0.00055	
D7	3.44	0.31	55.0	50	4.38	4.67			
D7 - D8	3.44	0.31	55.0	50	4.38	4.67	18.00	0.00197	
D8	1.54	0.31	55.0	50	4.38	2.09			
D8 - OUTFALL#1	17.29	0.31	55.0	50	4.38	23.49	36.00	0.00123	
DRAINAGE SYSTEM 2									
D9	1.13	0.31	55.0	50	4.38	1.54			
D9 - D10	1.13	0.31	55.0	50	4.38	1.54	18.00	0.00021	
D10	1.99	0.31	55.0	50	4.38	2.70			
D10 - D12	3.12	0.31	55.0	50	4.38	4.24	18.00	0.00162	
D11	1.43	0.31	55.0	50	4.38	1.94			
D11 - D12	1.43	0.31	55.0	50	4.38	1.94	18.00	0.00034	
D12	1.43	0.31	55.0	50	4.38	1.94			
D12 - D14	5.98	0.31	55.0	50	4.38	8.13	24.00	0.00128	

TABLE 1A FLOWRATE DETERMINATION MID-VALLEY ESTATES SUBDIVISION								
COMPUTATION POINT	TOTAL DRAINAGE AREA CONTRIBUTING TO POINT (ACRES)	C	TIME (SEE TABLE I) (MIN.)	RETURN FREQUENCY (YEARS)	INTENSITY (IN./HR.)	FLOWRATE (C.F.S.)	DESIGN PIPE SIZE (IN.)	MIN. SLOPE (FT./FT.)
D13	0.9	0.31	55.0	50	4.38	1.22		
D13 - D14	0.9	0.31	55.0	50	4.38	1.22	18.00	0.00013
D14	1.14	0.31	55.0	50	4.38	1.55		
D14 - D15	8.02	0.31	55.0	50	4.38	10.90	30.00	0.00070
D15	1.32	0.31	55.0	50	4.38	1.79		
D15 - D24	9.34	0.31	55.0	50	4.38	12.69	30.00	0.00095
D16	2.01	0.31	55.0	50	4.38	2.73		
D16 - D17	2.01	0.31	55.0	50	4.38	2.73	18.00	0.00067
D17	2.01	0.31	55.0	50	4.38	2.73		
D17 - D24	4.02	0.31	55.0	50	4.38	5.46	18.00	0.00269
D18	1.11	0.31	55.0	50	4.38	1.51		
D18 - D19	1.11	0.31	55.0	50	4.38	1.51	18.00	0.00021
D19	1.99	0.31	55.0	50	4.38	2.70		
D19 - D21	3.1	0.31	55.0	50	4.38	4.21	18.00	0.00160
D20	1.43	0.31	55.0	50	4.38	1.94		
D20 - D21	1.43	0.31	55.0	50	4.38	1.94	18.00	0.00034
D21	1.44	0.31	55.0	50	4.38	1.96		
D21 - D23	5.97	0.31	55.0	50	4.38	8.11	24.00	0.00128
D22	0.9	0.31	55.0	50	4.38	1.22		
D22 - D23	0.90	0.31	55.0	50	4.38	1.22	18.00	0.00013
D23	1.15	0.31	55.0	50	4.38	1.56		
D23 - D24	8.02	0.31	55.0	50	4.38	10.90	30.00	0.00070
D24	1.33	0.31	55.0	50	4.38	1.81		
D24 - OUTFALL #2	22.71	0.31	55.0	50	4.38	30.86	42.00	0.00094

Land Cover / Flow Regime	k
Forrest w/ heavy ground litter; hay meadow (overland flow)	0.076
Trash fallow or minimum tillage cultivation; contour or strip cropped; woodland (overland flow)	0.152
Short grass pasture (overland flow)	0.213
Cultivated straight row (overland flow)	0.274
Nearly bare and untilled (overland flow); Alluvial fans in western mountain regions	0.305
Grassed waterway (shallow concentrated flow)	0.457
Unpaved (shallow concentrated flow)	0.491
Paved Area (shallow concentrated flow); small upland gullies	0.619

Table 3-2: Intercept Coefficients

HIDALGO COUNTY RAINFALL INTENSITY TABLES

based on Weather Bureau (NWS) Technical Paper No. 40 "Rainfall Frequency Atlas of the United States"

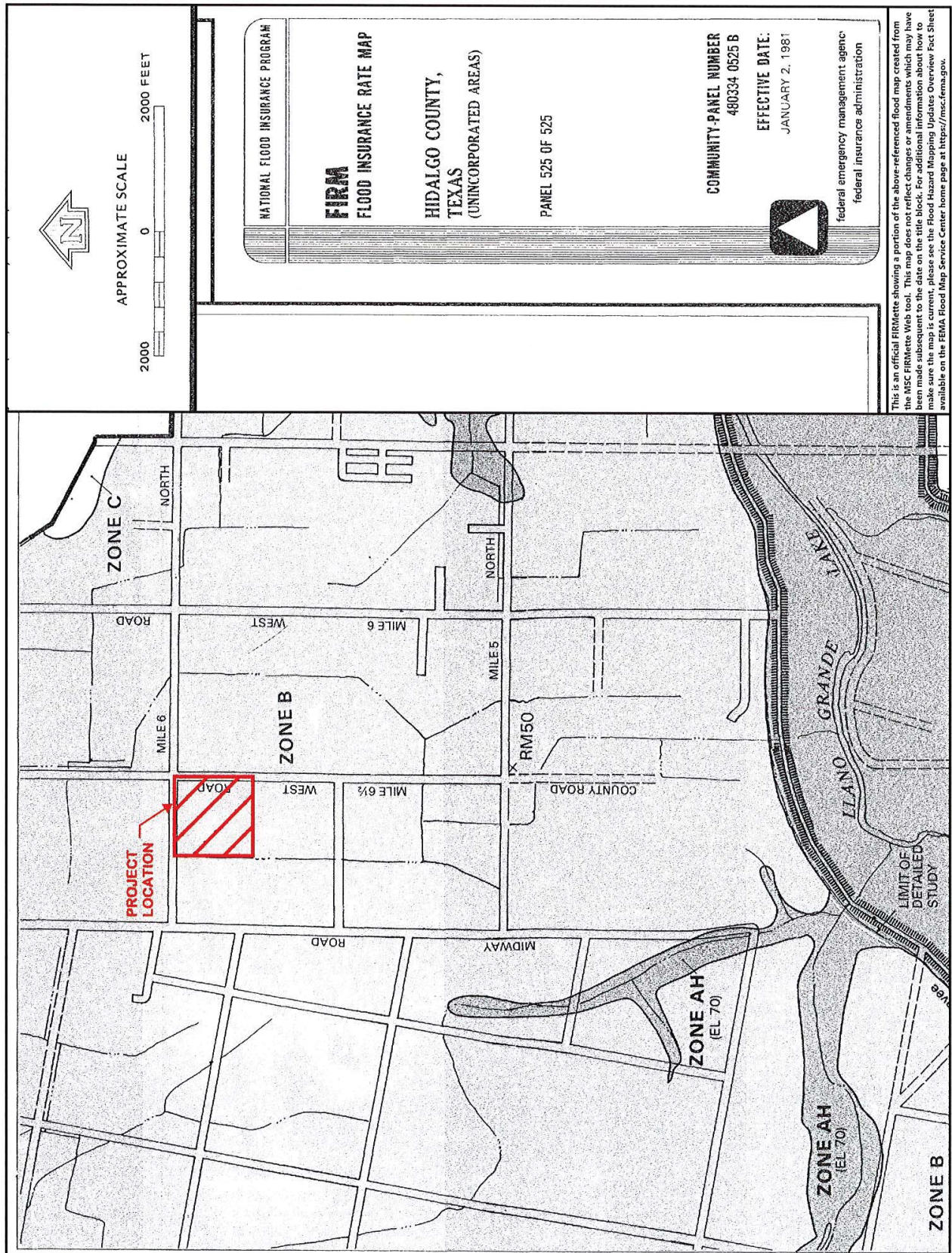
$$\text{formula } I = b / (t_c + d)^e$$

TIME	2 yr.	5 yr.	10 yr.	25 yr.	50 yr.	100 yr.
1	10.404	12.626	14.283	16.353	17.386	17.952
2	9.653	11.721	13.281	15.215	16.210	16.793
3	9.012	10.950	12.426	14.244	15.204	15.797
4	8.458	10.286	11.687	13.405	14.333	14.929
5	7.974	9.706	11.042	12.671	13.570	14.165
6	7.546	9.194	10.472	12.023	12.895	13.487
7	7.167	8.740	9.966	11.447	12.294	12.881
8	6.827	8.334	9.512	10.930	11.755	12.336
9	6.520	7.968	9.103	10.464	11.268	11.841
10	6.243	7.636	8.732	10.042	10.825	11.391
11	5.990	7.334	8.394	9.656	10.421	10.979
12	5.758	7.058	8.084	9.303	10.051	10.601
13	5.546	6.804	7.799	8.978	9.710	10.252
14	5.350	6.569	7.536	8.678	9.395	9.928
15	5.169	6.353	7.293	8.400	9.102	9.628
16	5.000	6.151	7.067	8.142	8.831	9.348
17	4.843	5.964	6.856	7.902	8.577	9.087
18	4.697	5.789	6.659	7.677	8.340	8.842
19	4.560	5.625	6.475	7.466	8.117	8.612
20	4.432	5.472	6.302	7.268	7.908	8.396
21	4.311	5.327	6.139	7.082	7.711	8.192
22	4.198	5.191	5.985	6.906	7.525	8.000
23	4.090	5.062	5.840	6.740	7.349	7.817
24	3.989	4.941	5.703	6.583	7.183	7.644
25	3.893	4.825	5.572	6.434	7.025	7.480
26	3.802	4.716	5.449	6.293	6.875	7.324
27	3.715	4.612	5.331	6.158	6.732	7.176
28	3.633	4.513	5.220	6.030	6.596	7.034
29	3.554	4.419	5.113	5.908	6.467	6.899
30	3.480	4.329	5.011	5.792	6.343	6.769
31	3.408	4.244	4.914	5.680	6.224	6.646
32	3.340	4.161	4.821	5.574	6.111	6.527
33	3.275	4.083	4.732	5.472	6.002	6.413
34	3.212	4.008	4.646	5.374	5.897	6.304
35	3.152	3.935	4.564	5.280	5.797	6.199

TIME	2 yr.	5 yr.	10 yr.	25 yr.	50 yr.	100 yr.
36	3.095	3.866	4.486	5.189	5.701	6.098
37	3.040	3.799	4.410	5.103	5.608	6.001
38	2.986	3.735	4.337	5.019	5.519	5.908
39	2.935	3.673	4.267	4.939	5.433	5.817
40	2.886	3.614	4.199	4.861	5.350	5.730
41	2.838	3.557	4.134	4.786	5.270	5.646
42	2.793	3.501	4.071	4.714	5.193	5.565
43	2.748	3.448	4.010	4.644	5.118	5.487
44	2.706	3.396	3.951	4.577	5.046	5.411
45	2.665	3.346	3.895	4.511	4.976	5.337
46	2.625	3.298	3.840	4.448	4.908	5.266
47	2.586	3.251	3.786	4.387	4.843	5.197
48	2.549	3.206	3.735	4.328	4.779	5.130
49	2.513	3.162	3.685	4.270	4.717	5.065
50	2.477	3.120	3.636	4.215	4.658	5.002
51	2.443	3.078	3.589	4.161	4.600	4.941
52	2.410	3.038	3.543	4.108	4.543	4.881
53	2.378	2.999	3.499	4.057	4.488	4.824
54	2.347	2.962	3.456	4.007	4.435	4.767
55	2.317	2.925	3.414	3.959	4.383	4.713
56	2.288	2.889	3.373	3.912	4.333	4.659
57	2.259	2.854	3.333	3.867	4.284	4.608
58	2.231	2.821	3.295	3.822	4.236	4.557
59	2.204	2.788	3.257	3.779	4.189	4.508
60	2.178	2.756	3.220	3.737	4.144	4.460
65	2.056	2.607	3.050	3.541	3.933	4.237
70	1.948	2.475	2.899	3.368	3.745	4.038
75	1.852	2.358	2.765	3.212	3.577	3.860
80	1.765	2.252	2.643	3.073	3.426	3.699
85	1.688	2.156	2.533	2.946	3.289	3.554
90	1.617	2.069	2.434	2.831	3.164	3.421
95	1.552	1.990	2.342	2.726	3.050	3.299
100	1.493	1.917	2.258	2.629	2.944	3.187
105	1.439	1.850	2.181	2.540	2.847	3.083
110	1.389	1.788	2.109	2.457	2.757	2.988

where:	2yr	5yr	10yr
e =	0.831	0.795	0.778
b =	74	80	87
d =	9.6	9.2	9.2

	25yr	50yr	100yr
	0.771	0.749	0.74
	98	99	103
	9.2	9.2	9.6



KEY TO MAP		NOTES TO USER																						
500-Year Flood Boundary → 100-Year Flood Boundary → Zone Designations* With Date of Identification e.g., 12/2/74 100-Year Flood Boundary → 500-Year Flood Boundary → Base Flood Elevation Line With Elevation In Feet** Base Flood Elevation in Feet Where Uniform Within Zone** Elevation Reference Mark River Mile	ZONE B ZONE A2 DATE ZONE A1 DATE → ZONE B ~~~~~ 513 ~~~~~ (EL 987) RM7 X • M1.5	Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures. This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas. For adjoining map panels, see separately printed Index To Map Panels. INITIAL IDENTIFICATION: MAY 23, 1978																						
FLOOD INSURANCE RATE MAP EFFECTIVE: JANUARY 2, 1981 Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date shown on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established. To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program at (800) 638-6620, or (800) 424-8872.																								
*EXPLANATION OF ZONE DESIGNATIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">ZONE</th> <th style="width: 90%;">EXPLANATION</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Areas of 100-year flood; base flood elevations and flood hazard factors not determined.</td> </tr> <tr> <td>A0</td> <td>Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.</td> </tr> <tr> <td>AH</td> <td>Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.</td> </tr> <tr> <td>A1-A30</td> <td>Areas of 100-year flood; base flood elevations and flood hazard factors determined.</td> </tr> <tr> <td>A99</td> <td>Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.</td> </tr> <tr style="background-color: yellow;"> <td>B</td> <td>Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)</td> </tr> <tr> <td>C</td> <td>Areas of minimal flooding. (No shading)</td> </tr> <tr> <td>D</td> <td>Areas of undetermined, but possible, flood hazards.</td> </tr> <tr> <td>V</td> <td>Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.</td> </tr> <tr> <td>V1-V30</td> <td>Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.</td> </tr> </tbody> </table>			ZONE	EXPLANATION	A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.	A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.	AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.	A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.	A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.	B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)	C	Areas of minimal flooding. (No shading)	D	Areas of undetermined, but possible, flood hazards.	V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.	V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.
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V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.																							

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

HIDALGO COUNTY,
TEXAS
(UNINCORPORATED AREAS)

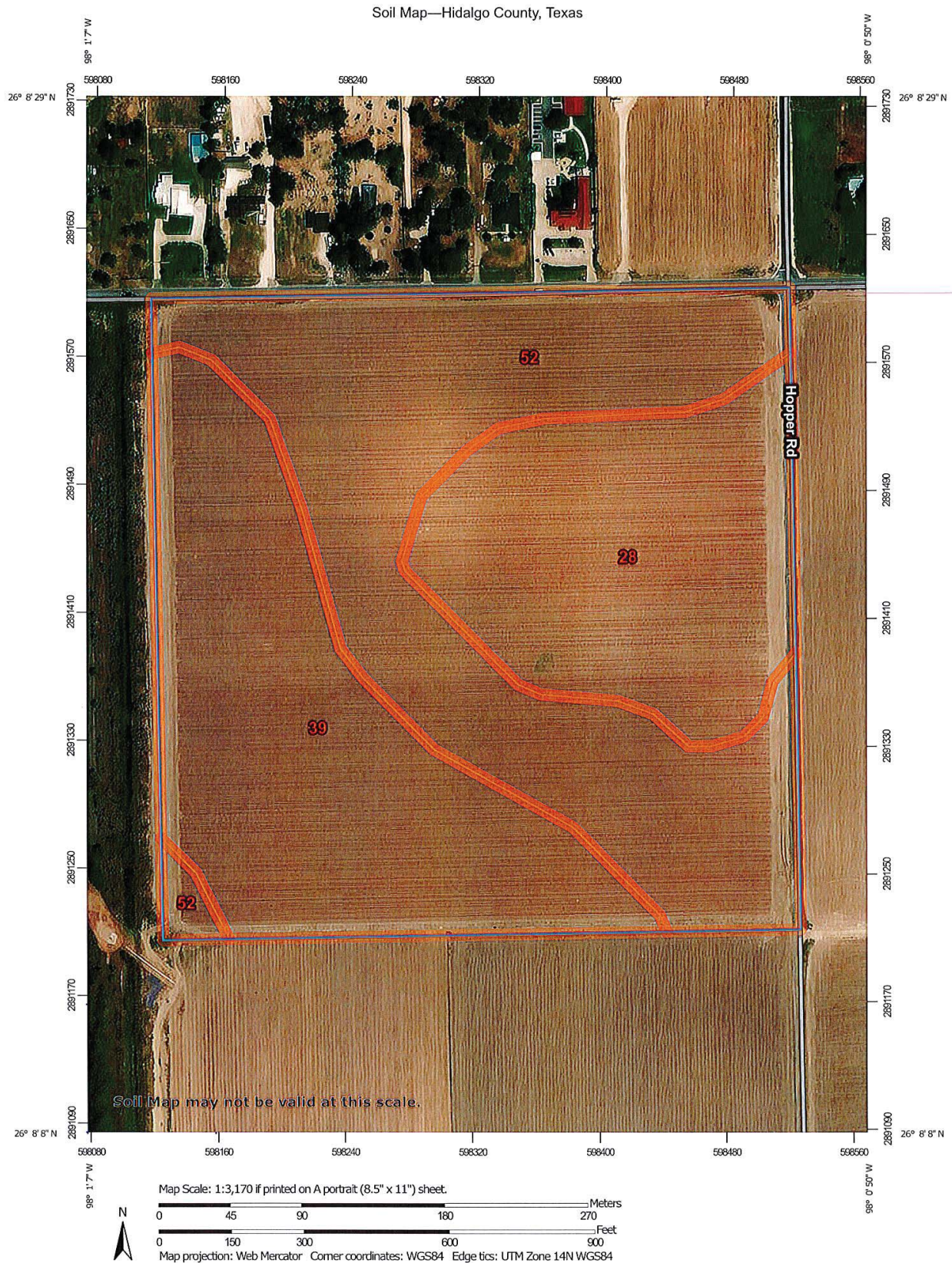
PANEL 525 OF 525

COMMUNITY-PANEL NUMBER
480334 0525 B

EFFECTIVE DATE:
JANUARY 2, 1981

federal emergency management agency
federal insurance administration

This is an official FIRMette showing a portion of the above-referenced flood map created from the FIRMette Web tool. The map is for informational purposes only and does not constitute an official FEMA product. For additional information about how to use the FIRMette Web tool, please visit the FEMA website at <https://www.fema.gov/firmette>. To ensure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at <https://msc.fema.gov>.



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

1/10/2022
Page 1 of 3

Soil Map—Hidalgo County, Texas

MAP LEGEND

 Area of Interest (AOI)	 Spoil Area
 Soils	 Stony Spot
 Soil Map Unit Polygons	 Very Stony Spot
 Soil Map Unit Lines	 Wet Spot
 Soil Map Unit Points	 Other
 Special Point Features	 Special Line Features
 Blowout	 Water Features
 Borrow Pit	 Streams and Canals
 Clay Spot	 Transportation
 Closed Depression	 RAILS
 Gravel Pit	 Interstate Highways
 Gravelly Spot	 US Routes
 Landfill	 Major Roads
 Lava Flow	 Local Roads
 Marsh or swamp	 Background
 Mine or Quarry	 Aerial Photography
 Miscellaneous Water	
 Perennial Water	
 Rock Outcrop	
 Saline Spot	
 Sandy Spot	
 Severely Eroded Spot	
 Sinkhole	
 Slide or Slip	
 Sodic Spot	

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hidalgo County, Texas

Survey Area Data: Version 20, Sep 13, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 20, 2015—Nov 5, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Soil Map—Hidalgo County, Texas

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
28	Hidalgo sandy clay loam, 0 to 1 percent slopes	10.1	25.2%
39	Mercedes clay, 0 to 1 percent slopes	13.3	33.3%
52	Raymondville clay loam, 0 to 1 percent slopes	16.6	41.5%
Totals for Area of Interest		40.0	100.0%

Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Percentage of rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Liquid limit and plasticity index (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

Engineering Properties--Hidalgo County, Texas

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Report—Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk "*" denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(<http://directives.sc.egov.usda.gov/>)
OpenNonWebContent.aspx?content=17757.wba). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Engineering Properties—Hidalgo County, Texas														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
28—Hidalgo sandy clay loam, 0 to 1 percent slopes	85	B	In	Sandy clay loam	CL, SC	A-6	0-0-0	0-0-0	100-100	95-98-100	86-96-100	44-54-63	25-30-39	11-15-18
			17-28	Sandy clay loam, clay loam	CL, SC	A-6, A-7-6	0-0-0	0-0-0	100-100	94-98-100	85-96-100	50-60-75	30-35-44	11-17-22
			28-38	Clay loam, sandy clay loam	CL, SC	A-6, A-7-6	0-0-0	0-0-0	95-97-100	91-94-100	81-93-100	54-68-81	30-38-44	11-17-22
			38-80	Sandy clay loam, clay loam	CL, SC	A-6, A-7-6	0-0-0	0-0-0	96-97-100	91-95-100	82-94-100	57-72-84	30-38-44	11-17-22
39—Mercedes clay, 0 to 1 percent slopes	85	D	0-19	Clay	CH	A-7-6	0-0-0	0-1-2	85-93-100	80-90-100	80-90-100	75-85-95	55-66-76	32-41-49
Mercedes			19-57	Clay	CH	A-7-6	0-0-0	0-1-2	85-93-100	80-90-100	80-90-100	75-85-95	50-63-76	32-41-49
			57-65	Clay	CH, CL	A-7-6	0-0-0	0-1-2	85-93-100	80-90-100	80-90-100	75-85-95	48-62-76	32-41-49

Engineering Properties—Hidalgo County, Texas

Engineering Properties—Hidalgo County, Texas														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments >10 inches	Percentage passing sieve number—				Liquid limit	Plasticity index	
					Unified	AASHTO		4	10	40	200			
52—Raymondville clay loam, 0 to 1 percent slopes			<i>In</i>				<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>		
	85	C	0-15	Clay loam	CL	A-6, A-7-6	0-0-0	0-0-0	100-100-100	95-98-100	51-68-85	37-44-50	18-24-30	
			15-43	Clay, clay loam	CH, CL	A-6, A-7-6	0-0-0	0-0-0	100-100-100	95-98-100	75-85-95	38-47-55	19-27-35	
			43-65	Clay, clay loam	CH, CL	A-7-6	0-0-0	0-0-0	100-100-100	85-93-100	80-90-100	75-85-95	40-47-53	20-25-30

Data Source Information

Soil Survey Area: Hidalgo County, Texas
Survey Area Data: Version 20, Sep 13, 2021

Soil Features

This table gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage, or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, saturated hydraulic conductivity (Ksat), content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Soil Features—Hidalgo County, Texas

Mid Valley Estates

Report—Soil Features

Soil Features—Hidalgo County, Texas										
Map symbol and soil name	Restrictive Layer				Hardness	Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Range		Initial	Total		Uncoated steel	Concrete
		Low-RV-High	In	In		Low-High	Low-High			
28—Hidalgo sandy clay loam, 0 to 1 percent slopes		In				In	In			
Hidalgo		—	—			0	0	None	Moderate	Moderate
39—Mercedes clay, 0 to 1 percent slopes										
Mercedes		—	—			0	—	None	High	High
52—Raymondville clay loam, 0 to 1 percent slopes										
Raymondville		—	—			0	—	None	High	Moderate

Data Source Information

Soil Survey Area: Hidalgo County, Texas
Survey Area Data: Version 20, Sep 13, 2021

Hydrologic Soil Group---Hidalgo County, Texas

Mid Valley Estates

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
28	Hidalgo sandy clay loam, 0 to 1 percent slopes	B	9.6	24.4%
39	Mercedes clay, 0 to 1 percent slopes	D	14.1	36.0%
52	Raymondville clay loam, 0 to 1 percent slopes	C	15.6	39.6%
Totals for Area of Interest			39.2	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Hydrologic Soil Group---Hidalgo County, Texas

Mid Valley Estates

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



Water Features

This table gives estimates of various soil water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. The concept indicates relative runoff for very specific conditions. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which a water table, ponding, and/or flooding is most likely to be a concern.

Water table refers to a saturated zone in the soil. The water features table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table. The kind of water table, apparent or perched, is given if a seasonal high water table exists in the soil. A water table is perched if free water is restricted from moving downward in the soil by a restrictive feature, in most cases a hardpan; there is a dry layer of soil underneath a wet layer. A water table is apparent if free water is present in all horizons from its upper boundary to below 2 meters or to the depth of observation. The water table kind listed is for the first major component in the map unit.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration and frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and frequency are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Water Features---Hidalgo County, Texas

Mid Valley Estates

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Water Features—Hidalgo County, Texas

Mid Valley Estates

Report—Water Features

Map unit symbol and soil name	Hydrologic group	Surface runoff	Most likely months	Water table			Ponding			Flooding	
				Upper limit	Lower limit	Kind	Surface depth	Duration	Frequency	Duration	Frequency
28—Hidalgo sandy clay loam, 0 to 1 percent slopes											
Hidalgo	B	Negligible	Jan-Dec	—	—	—	—	—	None	—	None
39—Mercedes clay, 0 to 1 percent slopes											
Mercedes	D	High	Jan-Dec	—	—	—	—	—	None	—	None
52—Raymondville clay loam, 0 to 1 percent slopes											
Raymondville	C	Medium	Jan-Dec	—	—	—	—	—	None	—	None

Data Source Information

Soil Survey Area: Hidalgo County, Texas
Survey Area Data: Version 20, Sep 13, 2021

Hydrologic Soil Group and Surface Runoff

This table gives estimates of various soil water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. The concept indicates relative runoff for very specific conditions. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

Report—Hydrologic Soil Group and Surface Runoff

Absence of an entry indicates that the data were not estimated. The dash indicates no documented presence.

Hydrologic Soil Group and Surface Runoff—Hidalgo County, Texas			
Map symbol and soil name	Pct. of map unit	Surface Runoff	Hydrologic Soil Group
28—Hidalgo sandy clay loam, 0 to 1 percent slopes			
Hidalgo	85	Negligible	B

Hydrologic Soil Group and Surface Runoff---Hidalgo County, Texas

Mid Valley Estates

Hydrologic Soil Group and Surface Runoff--Hidalgo County, Texas			
Map symbol and soil name	Pct. of map unit	Surface Runoff	Hydrologic Soil Group
39--Mercedes clay, 0 to 1 percent slopes			
Mercedes	85	High	D
52--Raymondville clay loam, 0 to 1 percent slopes			
Raymondville	85	Medium	C

Data Source Information

Soil Survey Area: Hidalgo County, Texas

Survey Area Data: Version 20, Sep 13, 2021



Map Unit Description---Hidalgo County, Texas

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named, soils that are similar to the named components, and some minor components that differ in use and management from the major soils.

Most of the soils similar to the major components have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Some minor components, however, have properties and behavior characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Map Unit Description---Hidalgo County, Texas

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description

Hidalgo County, Texas

28—Hidalgo sandy clay loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2sxxv

Elevation: 20 to 500 feet

Map Unit Description---Hidalgo County, Texas

Mean annual precipitation: 20 to 27 inches
Mean annual air temperature: 72 to 74 degrees F
Frost-free period: 300 to 365 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hidalgo and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hidalgo

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous loamy alluvium

Typical profile

Ap - 0 to 17 inches: sandy clay loam
Bk1 - 17 to 28 inches: sandy clay loam
Bk2 - 28 to 38 inches: clay loam
Ck - 38 to 80 inches: clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 2c
Hydrologic Soil Group: B
Ecological site: R083DY019TX - Gray Sandy Loam
Hydric soil rating: No

Minor Components

Raymondville

Percent of map unit: 7 percent

Map Unit Description---Hidalgo County, Texas

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R083DY025TX - Clay Loam
Hydric soil rating: No

Racombes

Percent of map unit: 6 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R083DY025TX - Clay Loam
Hydric soil rating: No

Willacy

Percent of map unit: 2 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

39—Mercedes clay, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: dbk
Elevation: 10 to 150 feet
Mean annual precipitation: 24 to 34 inches
Mean annual air temperature: 73 to 75 degrees F
Frost-free period: 300 to 365 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Mercedes and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mercedes

Setting

Landform: Delta plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous clayey alluvium

Typical profile

H1 - 0 to 19 inches: clay
H2 - 19 to 57 inches: clay
H3 - 57 to 65 inches: clay

Map Unit Description---Hidalgo County, Texas

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 10 percent
Maximum salinity: Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 12.0
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: D
Ecological site: R083DY015TX - Saline Clay
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 15 percent
Hydric soil rating: No

52—Raymondville clay loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: dbm1
Elevation: 20 to 200 feet
Mean annual precipitation: 23 to 33 inches
Mean annual air temperature: 72 to 73 degrees F
Frost-free period: 300 to 340 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Raymondville and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Raymondville

Setting

Landform: Delta plains
Down-slope shape: Linear

Map Unit Description---Hidalgo County, Texas

Across-slope shape: Linear

Parent material: Calcareous clayey alluvium

Typical profile

H1 - 0 to 15 inches: clay loam

H2 - 15 to 43 inches: clay loam

H3 - 43 to 65 inches: clay

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water

(Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum: 8.0

Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 2s

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: C

Ecological site: R083DY025TX - Clay Loam

Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 15 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Hidalgo County, Texas

Survey Area Data: Version 20, Sep 13, 2021

Physical Soil Properties

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates in the table are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In this table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained by returning crop residue to the soil.

Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and Ksat. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (<http://soils.usda.gov>)

Mid Valley Estates

Physical Soil Properties—Hidalgo County, Texas

Report—Physical Soil Properties

Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Physical Soil Properties—Hidalgo County, Texas														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors		Wind erodibility group	Wind erodibility index	
										Kw	Kf			T
	In	Pct	Pct	Pct	g/cc	micro m/sec	In/in	Pct	Pct					
28—Hidalgo sandy clay loam, 0 to 1 percent slopes														
	0-17	45-55- 70	5-18- 28	20-27- 30	1.35-1.50 -1.65	4.00-9.00-14.00	0.10-0.13-0.18	1.5- 2.7- 5.0	1.0- 1.5- 2.0	.17	.17	5	56	
	17-28	25-48- 70	10-25- 50	23-27- 35	1.20-1.40 -1.50	4.00-9.00-14.00	0.10-0.13-0.18	1.2- 2.1- 5.0	0.3- 0.6- 1.0	.28	.28			
	28-38	25-35- 70	10-35- 50	23-30- 35	1.20-1.40 -1.60	4.00-9.00-14.00	0.10-0.13-0.18	1.2- 2.3- 5.9	0.1- 0.3- 0.5	.32	.32			
39—Mercedes clay, 0 to 1 percent slopes	38-80	25-30- 70	10-40- 50	23-30- 35	1.40-1.50 -1.80	4.00-9.00-14.00	0.10-0.13-0.18	1.0- 2.2- 5.0	0.1- 0.2- 0.3	.32	.32			
Mercedes	0-19	-22-	-28-	40-50- 60	1.35-1.45 -1.55	0.01-0.21-0.42	0.12-0.15-0.18	9.0-17.0-25.0	1.0- 2.0- 3.0	.17	.17	5	4	86
	19-57	-18-	-29-	45-53- 60	1.35-1.48 -1.60	0.01-0.21-0.42	0.09-0.12-0.15	9.0-17.0-25.0	0.1- 0.6- 1.0	.24	.24			
	57-65	-22-	-28-	40-50- 60	1.40-1.55 -1.70	0.01-0.21-0.42	0.06-0.13-0.20	9.0-17.0-25.0	0.1- 0.6- 1.0	.24	.24			

Mid Valley Estates

Physical Soil Properties---Hidalgo County, Texas

Physical Soil Properties—Hidalgo County, Texas														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
52— Raymondville clay loam, 0 to 1 percent slopes														
	0-15	-31-	-33-	32-37-42	1.20-1.33 -1.45	1.40-2.70-4.00	0.12-0.15-0. 18	6.0- 7.5- 8.9	1.0-2.0- 3.0	.28	.28	5	4	86
	15-43	-30-	-32-	35-38- 50	1.25-1.35 -1.45	0.42-1.00-1.40	0.12-0.15-0. 18	6.0- 7.5- 8.9	0.5-0.8- 1.0	.28	.28			
	43-65	-30-	-30-	35-40- 45	1.25-1.35 -1.45	0.42-1.00-1.40	0.12-0.15-0. 18	6.0- 7.5- 8.9	0.1-0.3- 0.5	.28	.28			

Data Source Information

Soil Survey Area: Hidalgo County, Texas
Survey Area Data: Version 20, Sep 13, 2021

2/17/2022
Page 5 of 5

Web Soil Survey
National Cooperative Soil Survey

Natural Resources
Conservation Service



USGS MAP

A number line with two scales. The top scale is labeled in miles (mi) and has major tick marks at 0, 0.28, 0.55, and 1.1. The bottom scale is labeled in kilometers (km) and has major tick marks at 0, 0.42, 0.85, and 1.7. The scales are aligned such that 0.28 miles corresponds to 0.42 kilometers, 0.55 miles corresponds to 0.85 kilometers, and 1.1 miles corresponds to 1.7 kilometers.

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ULTIMATE OUTFALL

The image shows two horizontal number lines. The top number line is labeled with '0', '0.13', '0.25', and '0.5 mi'. The bottom number line is labeled with '0', '0.2', '0.4', and '0.8 km'. Both lines have tick marks at the labeled values and unlabeled intervals.

Esri, NASA, NGA, USGS, FEMA, Esri Community Maps Contributors,
Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph,
GeoTechnologies, Inc., METI/NASA, USGS, EPA, NPS, US Census
Bureau, USDA

NOAA/NOS/OCS nowCOAST, NOAA/NWS and NOAA/OAR/NSSL | Edgar Valdez, Raul Sesin P.E., Hidalgo County Drainage District No. 1 | Raul Sesin P.E.; Edgar O. Valdez; Hidalgo County

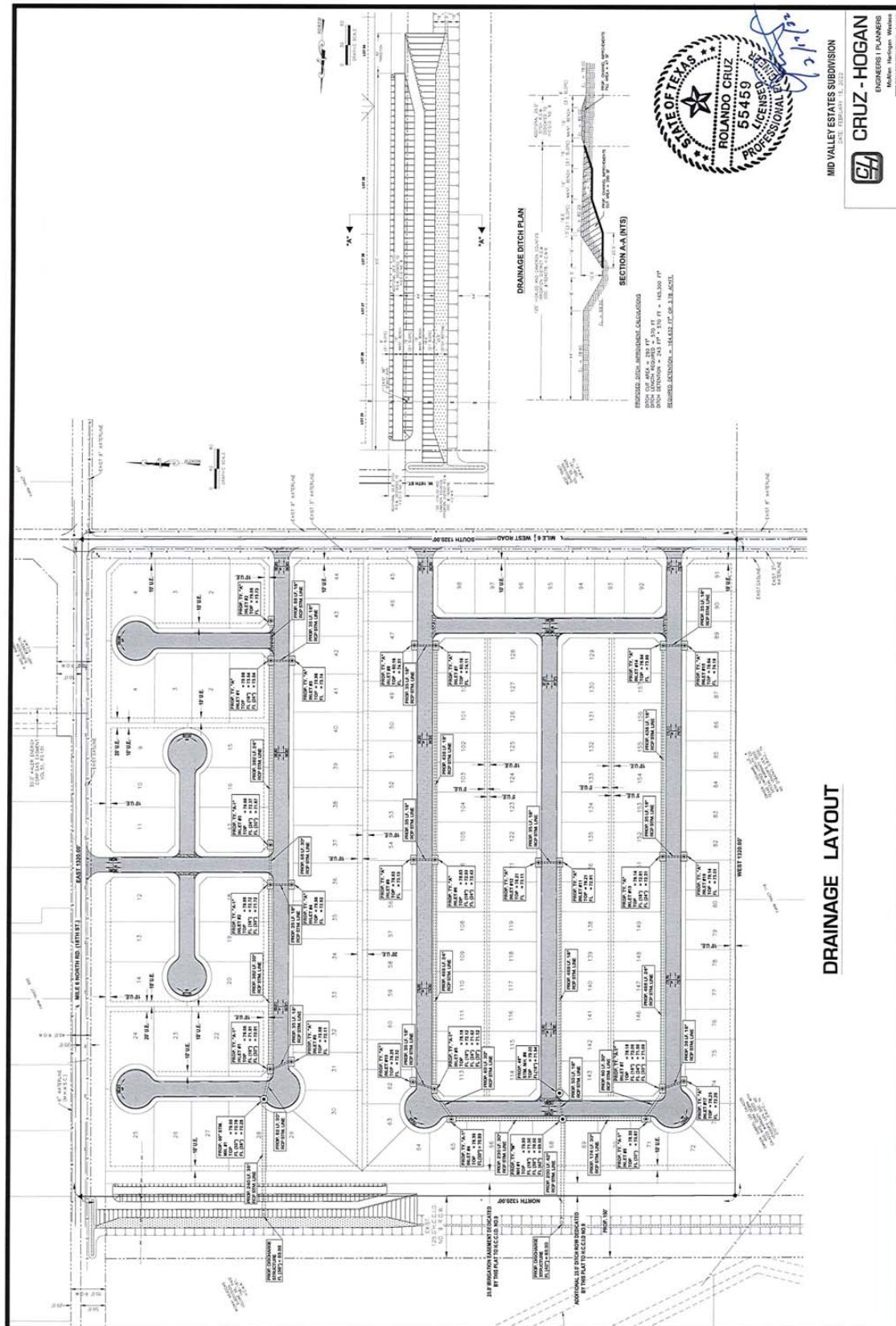


DITCH CUT AREA = 290 FT²
DITCH LENGTH REQUIRED = 570 FT
DITCH DETENTION = 243 FT² * 570 FT = 165,300 FT³
REQUIRED DETENTION = 164,632 FT³ OR 3.78 AC*FT.

MID-VALLEY ESTATES SUBDIVISION
DATE: FEBRUARY 11, 2022



CRUZ - HOGAN
ENGINEERS | PLANNERS
McAllan Hurling Westlake
TYPE FIRM REGISTRATION No: F-4060





CRUZ - HOGAN
ENGINEERS | PLANNERS



**Planning & Zoning Commission
Standardized Agenda Request Form**

Date of Meeting: June 1, 2022	Agenda Item No. (to be assigned by PCE): IV.D.
From: Rebekah de la Fuente, Planning Director, on behalf of Spoor Engineering Consultants, Inc.	
Subject/Agenda Item: Discussion and consideration for the six-month extension of the Final Plat for Greener Pastures Mobile Home Subdivision PH II– being A 3.94 acre tract of land out of Lot 82,133,134,135 and 136, Greener Pastures Mobile Home Subdivision, Weslaco, Hidalgo County, Texas located approximately on Main Gate Drive and Corral Drive Possible action.	
Discussion/Overview: The proposed fourteen (14) lot subdivision is outside the City of Weslaco. Final Plat approval is set to expire on May 18, 2022. The infrastructure is currently under construction. This is the first 6-month extension for the subdivision.	
If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners: N/A	
Staff recommendation for Commission's Action: Staff recommends approval.	
Additional Action Prompted: [X] Mayor's Signature [] Public Hearing [] Budget Amendment [] Resolution [] Ordinance – First Reading [] Ordinance – Final Reading	
Advisory Review, (if any): (name of board/committee, date of action, recommendation): N/A	
If item previously considered, provide date and action by Commission: N/A	
Attachments,(if any): Application for Subdivision platting, Staff's comments, Drainage Report, Subdivision plat and Utility layout.	
Responsibilities upon Commission's Action: Planning staff will advise applicant.	



TBPELS Firm # F-1435
TBPELS # 10096900

MELDEN & HUNT INC.
CONSULTANTS • ENGINEERS • SURVEYORS

MARIO A. REYNA • ALLAN F. BOOE • KELLEY A. HELLER-VELA • ROBERTO N. TAMEZ • RUBEN JAMES DE JESUS • MICHAEL HERNANDEZ

April 29, 2022

Rebekah De La Fuente, Planning Director
CITY OF WESLACO PLANNING DEPT.
255 South Kansas Ave.
Weslaco, TX 78596

Re: GREENER PASTURES MOBILE HOME SUBDIVISION PHASE II – REQUEST FOR EXTENSION

Dear Ms. De La Fuente:

On behalf of the owner, Amistad Finance, LLC, we are requesting a six-month extension on the above referenced subdivision plat. The owner is requesting an additional six-month time frame.

Your consideration on this request at your next board meeting is appreciated. If you have any questions and/or require additional information, please do not hesitate to contact me.

Respectfully,

Mario A. Reyna, P.E.
President

Cc: John G. Phillips, Amistad Finance, LLC



**Planning & Zoning Commission
Standardized Agenda Request Form**

Date of Meeting: June 1, 2022	Agenda Item No. (to be assigned by PCE): IV.E.
From: Rebekah de la Fuente, Planning Director, on behalf of David Salinas.	
Subject/Agenda Item: Discussion and consideration for the Voluntary Annexation of South Bridge Ranchettes – being a 25.45 acre tract of land out of Farm Tract 575, West Tract Subdivision, Hidalgo County, Texas located on the northeast corner of Mile 5 North and South Bridge Ave Possible Action.	
Discussion/Overview: The proposed development is currently located outside the City of Weslaco city limits. This subdivision is being serviced with water and sewer by the City of Weslaco. The proposed development will be one-family residential lots. In accordance with Senate Bill 374 the City has received ownership of the Right of way along South Bridge from County. The development is now contiguous to the existing city limits line.	
If item requires Publication Notice, provide date and periodical of publication; indicate if comments received from letters mailed to property owners: N/A	
Staff recommendation for Commission's Action: Staff recommends approval.	
Additional Action Prompted: ☒ Mayor's Signature ☐ Public Hearing ☐ Budget Amendment ☐ Resolution ☐ Ordinance – First Reading ☐ Ordinance – Final Reading	
Advisory Review, (if any): (name of board/committee, date of action, recommendation): N/A	
If item previously considered, provide date and action by Commission: N/A	
Attachments,(if any): Request letter.	
Responsibilities upon Commission's Action: Planning staff will advise applicant.	



APPLICATION FOR VOLUNTARY ANNEXATION

Annex-000234-2022.

The Planning & Zoning Commission meets every 1st Wednesday of each month at 5:30 pm.

The City Commission meets every 1st and 3rd Tuesday of each month at 5:30 pm

FILE NO. _____

GENERAL INFORMATION

Name of Subdivision: SOUTH BRIDGE RAUCHETTES SUBD.

Location: NEC MILE 5 NORTH RD & SOUTH BRIDGE AVE.

Legal Description: 25.45 AC. O/O F.T. 575, WEST TRACT
SUBD., W.C.T.

- ☒ Petition for annexation signed and notarized by property owners.
- ☒ Detailed dimensioned site plan/map must be submitted with this request.
- ☒ Survey and metes and bounds.
- ☒ City and school tax receipts attached.

OWNER INFORMATION

Owner's Name: CYNTHIA O'BRIEN Telephone: 917-838-7222
Address: 152 E. 94TH ST. APT. 6J Fax: _____
City: NEW YORK State: NY Zip: 10128 E-mail: Luis RAYAS 034 @ yahoo.com

ENGINEER INFORMATION

Name: Dr. D. Omar Salinas Telephone: 956-682-9081
Address: 2221 DAFFODIL AVE. Fax: 956-686-1489
City: MENARD State: TX Zip: 78501 E-mail: dsalinas@salinasengineering-inc.com

AUTHORIZATION AND ACKNOWLEDGEMENTS

I certify that I am the actual owner of the property described above and this application is being submitted with my consent (include corporate name if applicable); and the following person listed below is my authorized agent to act on my behalf.

I certify that the above information is correct and complete to the best of my knowledge. I understand that I must comply with all applicable local, state, and federal regulations.

Owner Printed Name: Cynthia O'Brien
Owner Signature: Cynthia O'Brien Date: 5-10-22

_____ is the authorized agent
Authorized Agent Signature: [Signature] Date: 5/11/22
Authorized Agent Printed Name: Donald Owen Sullivan

THIS PAGE FOR STAFF USE ONLY

Date Received: _____ Received By: _____
Staff Review Date: _____
P & Z Commission Approval: _____
City Commission Approval on First Reading: _____
City Commission Approval on Final Reading: _____

City of Weslaco

"The City on the Grow"



David Suarez, Mayor
Leo Muñoz, Mayor Pro-Tem, District 1
Greg Kerr, Commissioner, District 2
Jose "J.P." Rodriguez, Commissioner, District 3
Adrian Farias, Commissioner, District 4
Letty Lopez, Commissioner, District 5
Josh Pedraza, Commissioner, District 6

Andrew Muñoz, Interim City Manager

November 15, 2021

Commissioner David Fuentes
Hidalgo County Precinct #1
1902 Joe Stephens Ste 101
Weslaco, Texas 78599

**Re: Dedication of Right-of-way along Bridge Avenue between E Mile 5 ½ North/
E 22nd Street to Mile 5 North Road.**

Dear Commissioner Fuentes:

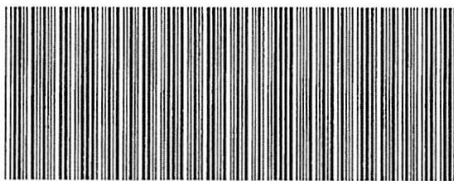
In accordance with Senate Bill 374 the City of Weslaco is requesting permission to annex South Bridge Avenue between E Mile 5 ½ North/ E 22nd Street to Mile 5 North Road, that currently pertains to the County of Hidalgo.

It is the intention of Luis Reyes, who is the property owner of the Northeast corner of Bridge Avenue and Mile 5 North Road to voluntarily annex into the Weslaco City Limits and the City must have approval from Hidalgo county prior to annexing the abutting roadway. By authorizing the City to take over the entire portion of Bridge Avenue City staff will be able to provide proper maintenance in this area.

Should you need additional information or have any questions, please call Rebekah de la Fuente, Planning & Code Enforcement Director at (956) 447-3403.

Attentively,

Andrew Muñoz
Interim City Manager



VG-120-2022-3297587

Hidalgo County
Arturo Guajardo Jr.
County Clerk
Edinburg, Texas 78540

Document No: 3297587

Billable Pages: 7

Recorded On: January 05, 2022 09:29 AM

Number of Pages: 8

*****Examined and Charged as Follows*****

Total Recording: \$ 60.00

*****THIS PAGE IS PART OF THE DOCUMENT*****

Any provision herein which restricts the Sale, Rental, or use of the described REAL PROPERTY
because of color or race is invalid and unenforceable under federal law.

File Information:

Document No: 3297587
Receipt No: 20220105000082
Recorded On: January 05, 2022 09:29 AM
Deputy Clerk: Imelda Leal
Station: CH-1-CC-K27

Record and Return To:

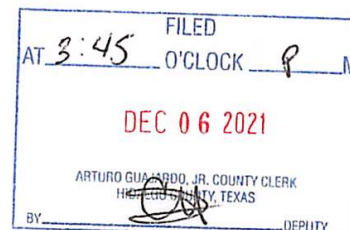
City of Weslaco
255 S Kansas
original returned to customer
Weslaco TX 78596-6158



STATE OF TEXAS
COUNTY OF HIDALGO

I hereby certify that this Instrument was FILED in the File Number sequence on the date/time
printed hereon, and was duly RECORDED in the Official Records of Hidalgo County, Texas.

Arturo Guajardo Jr.
County Clerk
Hidalgo County, Texas



**ORDER VACATING AND DISCONTINUING COUNTY ROAD
AND CONVEYING HIDALGO COUNTY'S INTEREST TO THE CITY OF WESLACO**

WHEREAS, the Commissioners Court of Hidalgo County, on the 30th day of November 2021, at a duly called and noticed meeting of the Hidalgo County Commissioners Court at which a quorum was present came to be heard facts and information concerning the City of Weslaco's (City) proposal to Annex South Bridge Avenue between E Mile 5 ½ North / E 22nd Street to Mile 5 North Road, a county road is 0.86 acres of land (the "Road") and the entire width of the Road and the adjacent right-of-way on both sides of the Road, more particularly described by metes and bounds as attached hereto as Exhibit "A" and made part hereof.

WHEREAS, Hidalgo County, Texas and the City of Weslaco currently each own half of the Road in Exhibit "A"; and

WHEREAS, Hidalgo County desires to vacate and discontinue the maintenance of the Road and requests that City maintain the Road in accordance with Subchapter B, Section 251.051 of the Texas Transportation Code; and

WHEREAS, the governing body of the City desires to take full responsibility in maintaining the Road located in the City of Weslaco to promote and protect the general health, safety, and welfare of persons residing in and adjacent to the City;

WHEREAS, the City may by ordinance annex a road right-of-way on request of the County that maintains the road and applicable right-of way under the procedures prescribed by the Texas Local Government Code; and

WHEREAS, the City has provided County written notice of the proposed annexation, in accordance with the requirements set forth in the Texas Local Government Code (see Exhibit A); and

WHEREAS, County and City acknowledge that Road shall continue to be used as a public road.

NOW, THEREFORE, BE IT ORDERED, ADJUDGED AND DECREED that the Commissioners Court of Hidalgo County based on the facts presented, does hereby unanimously agree to vacate, discontinue and convey its interest in the Road as described in Exhibit "A" to the City of Weslaco.

BE IT FURTHER ORDERED that, a copy of this Order shall be filed in the deed records of Hidalgo County and serves as the official instrument of conveyance from Hidalgo County to the City of Weslaco.

WHEREUPON, Commissioners Court moved for the adoption of said Order, said Motion being seconded by and duly adopted by all members of the court present voting "aye".

ORDERED THIS 30TH DAY OF NOVEMBER 2021

Richard F. Cortez

HIDALGO COUNTY JUDGE Hon. Richard F. Cortez

David L. Fuentes

COMMISSIONER DAVID L. FUENTES
PRECINCT ONE

Eduardo Cantu

COMMISSIONER EDUARDO CANTU
PRECINCT TWO

Everardo Villarreal

COMMISSIONER EVERARDO VILLARREAL
PRECINCT THREE

Ellie Torres

COMMISSIONER ELLIE TORRES
PRECINCT FOUR

ATTEST:

By:

Arturo Guajardo, Jr.
Arturo Guajardo, Jr. County Clerk

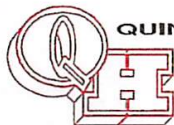


APPROVED BY
COMMISSIONERS COURT

Approved by Hidalgo County Commissioners Court on:

ON: 11/30/21 *per*

EXHIBIT “A”



QUINTANILLA, HEADLEY AND ASSOCIATES, INC.

Consulting Engineers ★ Land Surveyors

Alfonso Quintanilla, P.E., R.P.L.S. Eulalio Ramirez, P.E.
Engineering Firm Registration No. F-1513
Surveying Firm Registration No. 100411-00
Municipal & County Projects ★ Subdivisions ★ Surveys
124 E. Stubbs, Edinburg, Texas 78539
Phone 956/381-6480 Fax 956/381-0527

METES AND BOUNDS

HIDALGO COUNTY PRECINT No.1
BRIDGE AVENUE RIGHT OF WAY
FROM MILE 5 NORTH ROAD TO 22ND STREET

A 2.41 ACRE TRACT OF LAND OUT OF FARM TRACTS 754, 755, 757 AND 758, WEST AND ADAMS TRACTS SUBDIVISION, HIDALGO COUNTY, TEXAS, ACCORDING TO THE PLAT OR MAP THEREOF RECORDED IN VOLUME 2, PAGES 34-37, MAP RECORDS HIDALGO COUNTY, TEXAS, REFERENCE TO WHICH IS HERE MADE FOR ALL PURPOSES AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS.

BEGINNING AT A COTTON PICKER SPINDLE SET ON THE SOUTH LINE OF FARM TRACT 756, ALSO THE SOUTH LINE OF BRIONES-CARILLO SUBDIVISION UNIT No.2 (RECORDED IN VOLUME 29, PAGE 43B, MAP RECORDS, HIDALGO COUNTY, TEXAS), AND IN THE CENTERLINE OF MILE 5 NORTH ROAD FOR THE SOUTHWEST CORNER OF THIS TRACT, SAID POINT BEARS WEST 60.00 FEET FROM THE SOUTHEAST CORNER OF FARM TRACT 756.

THENCE; NORTH, A DISTANCE OF 40.00 FEET TO A 1/2" IRON ROD FOUND ON THE NORTH RIGHT OF WAY LINE OF MILE 5 NORTH ROAD FOR AN EXTERIOR CORNER OF THIS TRACT.

THENCE; N 45°09'04" E (MAP RECORD: N 45°00' E), ALONG THE NORTH RIGHT OF WAY LINE OF MILE 5 NORTH ROAD, A DISTANCE OF 42.01 FEET (MAP RECORD: 42.43 FEET) TO A 1/2" IRON ROD FOUND ON THE WEST RIGHT OF WAY LINE OF BRIDGE AVENUE (MILE 4 1/2 WEST ROAD) FOR AN INTERIOR CORNER OF THIS TRACT.

THENCE; NORTH, ALONG THE WEST RIGHT OF WAY LINE OF BRIDGE AVENUE (MILE 4 1/2 WEST ROAD), A DISTANCE OF 590.11 FEET (MAP RECORD: 590.00 FEET) TO A 1/2" IRON ROD FOUND ON THE NORTH LINE OF BRIONES-CARILLO SUBDIVISION UNIT No.1 (RECORDED IN VOLUME 28, PAGE 138B, MAP RECORDS, HIDALGO COUNTY, TEXAS) FOR AN EXTERIOR CORNER OF THIS TRACT.

THENCE; EAST, ALONG THE NORTH LINE OF BRIONES-CARILLO SUBDIVISION UNIT No.1 AND THE WEST RIGHT OF WAY LINE OF BRIDGE AVENUE (MILE 4 1/2 WEST ROAD), A DISTANCE OF 15.00 FEET TO A 1/2" IRON ROD WITH CAP STAMPED RPLS 4856 SET FOR AN INTERIOR CORNER OF THIS TRACT.

THENCE; NORTH, ALONG THE WEST RIGHT OF WAY LINE OF BRIDGE AVENUE (MILE 4 1/2 WEST ROAD), A DISTANCE OF 405.04 FEET TO A 1/2" IRON ROD WITH CAP STAMPED RPLS 4856 SET ON THE SOUTH LINE OF EL NOGAL MOBILE HOME SUBDIVISION (RECORDED IN VOLUME 33, PAGE 22, MAP RECORDS, HIDALGO COUNTY, TEXAS) FOR AN INTERIOR CORNER OF THIS TRACT.

THENCE; WEST, ALONG THE SOUTH LINE OF EL NOGAL MOBILE HOME SUBDIVISION AND THE WEST RIGHT OF WAY LINE OF BRIDGE AVENUE (MILE 4 1/2 WEST ROAD), A DISTANCE OF 25.00 FEET TO A 1/2" IRON ROD FOUND FOR AN EXTERIOR CORNER OF THIS TRACT.

THENCE; NORTH, ALONG THE WEST RIGHT OF WAY LINE OF BRIDGE AVENUE (MILE 4 1/2 WEST ROAD), A DISTANCE OF 255.00 FEET TO A 1/2" IRON ROD FOUND ON THE NORTH LINE OF EL NOGAL MOBILE HOME SUBDIVISION FOR AN EXTERIOR CORNER OF THIS TRACT.

THENCE; EAST, ALONG THE NORTH LINE OF EL NOGAL MOBILE HOME SUBDIVISION AND THE WEST RIGHT OF WAY LNE OF BRIDGE AVENUE (MILE 4 1/2 WEST ROAD),

A DISTANCE OF 25.00 FEET TO A 1/2" IRON ROD WITH CAP STAMPED RPLS 4856 SET FOR AN INTERIOR CORNER OF THIS TRACT.

THENCE; NORTH, ALONG THE WEST RIGHT OF WAY LINE OF BRIDGE AVENUE (MILE 4 1/2 WEST ROAD), A DISTANCE OF 1,320.00 FEET TO A 1/2" IRON ROD WITH CAP STAMPED RPLS 4856 SET ON THE NORTH LINE OF LOT 11, BLOCK 140, WEST TRACT SUBDIVISION (RECORDED IN VOLUME 1, PAGES 4 AND 5, MAP RECORDS, HIDALGO COUNTY, TEXAS) FOR THE NORTHWEST CORNER OF THIS TRACT.

THENCE; EAST, ALONG THE NORTH LINE OF LOT 11, BLOCK 140, PASSING AT 15.00 FEET A POINT IN THE CENTERLINE OF BRIDGE AVENUE (MILE 4 1/2 WEST ROAD) FOR THE NORTHEAST CORNER OF FARM TRACT 754, THE NORTHWEST CORNER OF FARM TRACT 758, THE NORTHWEST CORNER OF ANGELA SUBDIVISION (RECORDED IN VOLUME 17, PAGE 55, MAP RECORDS, HIDALGO COUNTY, TEXAS), AND CONTINUING ALONG THE NORTH LINE OF FARM TRACT 758 AND THE NORTH LINE OF ANGELA SUBDIVISION, A TOTAL DISTANCE OF 45.00 FEET TO A 1/2" IRON ROD WITH CAP STAMPED RPLS 4856 SET ON THE EAST RIGHT OF WAY LINE OF BRIDGE AVENUE (MILE 4 1/2 WEST ROAD) FOR THE NORTHEAST CORNER OF THIS TRACT.

THENCE; SOUTH, ALONG THE EAST RIGHT OF WAY LINE OF BRIDGE AVENUE (MILE 4 1/2 WEST ROAD), A DISTANCE OF 511.00 FEET TO A 1/2" IRON ROD WITH CAP STAMPED RPLS 4856 SET ON THE SOUTH LINE OF ANGELA SUBDIVISION FOR AN EXTERIOR CORNER OF THIS TRACT.

THENCE; WEST, ALONG THE SOUTH LINE OF ANGELA SUBDIVISION AND THE EAST RIGHT OF WAY LINE OF BRIDGE AVENUE (MILE 4 1/2 WEST ROAD), A DISTANCE OF 15.00 FEET TO A 1/2" IRON ROD WITH CAP STAMPED RPLS 4856 SET FOR AN INTERIOR CORNER OF THIS TRACT.

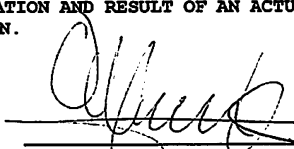
THENCE; SOUTH, ALONG THE EAST RIGHT OF WAY LINE OF BRIDGE AVENUE (MILE 4 1/2 WEST ROAD), PASSING A COTTON PICKER SPINDLE SET AT 2,108.77 FEET FOR THE NORTH RIGHT OF WAY LINE OF MILE 5 NORTH ROAD, A TOTAL DISTANCE OF 2,128.77 FEET TO A COTTON PICKER SPINDLE SET ON THE SOUTH LINE OF FARM TRACT 757 AND IN THE CENTERLINE OF MILE 5 NORTH ROAD FOR THE SOUTHEAST CORNER OF THIS TRACT.

THENCE; WEST, ALONG THE SOUTH LINE OF FARM TRACT 757 AND THE CENTERLINE OF MILE 5 NORTH ROAD, PASSING A POINT AT 15.00 FEET FOR THE SOUTHEAST CORNER OF FARM TRACT 756, THE SOUTHEAST CORNER OF BRIONES-CARRILLO SUBDIVISION UNIT No.2, THE SOUTHWEST CORNER OF FARM TRACT 757, AND CONTINUING ALONG THE SOUTH LINE OF FARM TRACT 756, THE SOUTH LINE OF BRIONES-CARRILLO SUBDIVISION UNIT No.2 AND THE CENTERLINE OF MILE 5 NORTH ROAD, A TOTAL DISTANCE OF 75.00 FEET TO THE POINT OF BEGINNING AND CONTAINING 2.41 ACRES OF LAND MORE OR LESS.

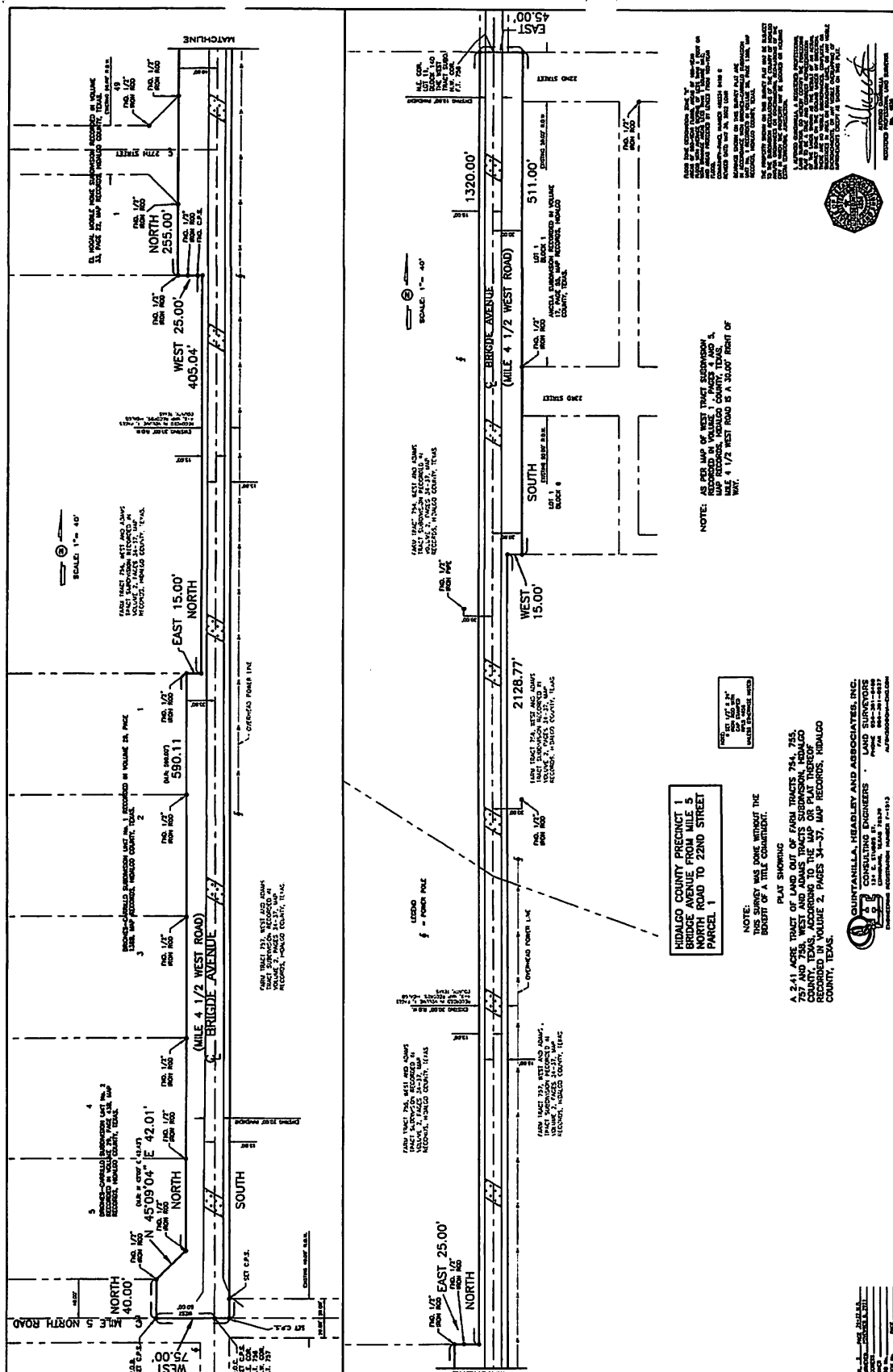
BEARINGS ARE IN ACCORDANCE BRIONES-CARRILLO SUBDIVISION UNIT No.1, RECORDED IN VOLUME 28, PAGE 138B, MAP RECORDS, HIDALGO COUNTY, TEXAS.

I, ALFONSO QUINTANILLA, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, DO HEREBY CERTIFY THE ABOVE METES AND BOUNDS TO BE TRUE AND CORRECT, AND TO BE THE REPRESENTATION AND RESULT OF AN ACTUAL SURVEY DONE ON THE GROUND UNDER MY DIRECTION.

DATE PREPARED: NOVEMBER 8, 2021


ALFONSO QUINTANILLA
REGISTERED PROFESSIONAL
LAND SURVEYOR No. 4856





City of Weslaco

"The City on the Grow"



David Suarez, Mayor
Leo Muñoz, Mayor Pro-Tem, District 1
Greg Kerr, Commissioner, District 2
Jose "J.P." Rodriguez, Commissioner, District 3
Adrian Farias, Commissioner, District 4
Letty Lopez, Commissioner, District 5
Josh Pedraza, Commissioner, District 6

Andrew Muñoz, Interim City Manager

November 15, 2021

Commissioner David Fuentes
Hidalgo County Precinct #1
1902 Joe Stephens Ste 101
Weslaco, Texas 78599

**Re: Dedication of Right-of-way along Bridge Avenue between E Mile 5 ½ North/
E 22nd Street to Mile 5 North Road.**

Dear Commissioner Fuentes:

In accordance with Senate Bill 374 the City of Weslaco is requesting permission to annex South Bridge Avenue between E Mile 5 ½ North/ E 22nd Street to Mile 5 North Road, that currently pertains to the County of Hidalgo.

It is the intention of Luis Reyes, who is the property owner of the Northeast corner of Bridge Avenue and Mile 5 North Road to voluntarily annex into the Weslaco City Limits and the City must have approval from Hidalgo county prior to annexing the abutting roadway. By authorizing the City to take over the entire portion of Bridge Avenue City staff will be able to provide proper maintenance in this area.

Should you need additional information or have any questions, please call Rebekah de la Fuente, Planning & Code Enforcement Director at (956) 447-3403.

Attentively,

Andrew Muñoz
Interim City Manager