

CITY OF WESLACO

A REGULAR MEETING OF THE PLANNING & ZONING COMMISSION

**AUGUST 5, 2020, 3:30 P.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
JULY 20, 2020**

On Monday, July 20, 2020, at 10:00 a.m., the Planning and Zoning Commission of the City of Weslaco, Texas, convened in regular session VIA ZOOM MEETING

The following commissioners were present:

David Hernandez	Chairman
Lonnie Berry	Vice-Chairman
Jose Treviño	Commissioner
Miles Bullion	Commissioner
Randy Summers	Commissioner
Jim Forward	Commissioner
Rebekah de la Fuente	Planning Director
Kayla A. Arevalo	Planning Secretary

Also present were Rolando Gonzalez Building Official; Alberto Aldana, City Engineer; and citizens.

I. CALL TO ORDER:

Chairman Hernandez called the meeting to order and welcomed everyone in the audience.

A. Roll Call/Establish a Quorum

Ms. de la Fuente called the roll call noting that, Commissioner Torres and Commissioner Treviño were absent at the time of roll, a quorum was established.

II. PUBLIC COMMENTS

There were no comments received.

III. APPROVAL OF MINUTES

A. June 3, 2020 Regular Meeting

Commissioner Summers made a motion to approve the minutes of June 3, 2020, with the noted change, seconded by Commissioner Forward. Motion carried.

IV. PUBLIC HEARING

A. Discussion a consideration to approve Conditional Use Permit to obtain an On-Premise Wine and Beer Retailer's Permit at On-Premise Wine and Beer Retailer's Permit at 1311 West IH 2 Ste A, also being Lot 1, Weslaco Plaza Subdivision, Hidalgo County, and Texas. Possible Action.

Ms. de la Fuente stated that notice appeared in The Monitor on July 3, 2020, there were seven (7) 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 Berry. Motion carried.

Commissioner Berry made a motion the Conditional Use permit, seconded by Commissioner Summers. Motion carried.

B. Discussion and consideration to approve Conditional Use Permit to obtain an On-Premise Wine and Beer Retailer's Permit and Local Cartage Permit at 200 S. Border Ave. Suite C, also being Block 2, Lot 8, 9, 10 & 11, West Highway Subdivision, Weslaco, Hidalgo County, Texas Possible Action

Ms. de la Fuente stated that notice appeared in The Monitor on July 3, 2020, there were twenty-five (25) property owners notified within the 200-foot radius, no letters for or against the item were received. Staff recommended approval.

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

Commissioner Forward made a motion to approve the Conditional Use permit, seconded by Commissioner Summers. Motion carried.

C. Discussion and consideration to approve to rezone 3701 S. Westgate. Also being West Tract S330' & E440'-S495'-N990'FT 795 15 AC GR 14.77 AC NET, Hidalgo County, and Texas from R-1 One-family dwelling district to R-2 Duplex and apartment district.

Ms. de la Fuente stated that notice appeared in The Monitor on July 3, 2020, there were forty-one (41) property owners notified within the 200-foot radius. Staff recommended denial based on the 2040 land use map. Staff received one letter against from Hannah McCann request that a buffer fence be placed, and adequate drainage be required.

David Fuentes on behalf of the Reyna Family Development, stated area will be developed in phases of 10-15 apartment units.

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

Commissioner Summers made a motion approve the rezone request, seconded by Commissioner Bullion. Motion carried.

Commission Treviño arrived at the dais 10:14 a.m.

D. Discussion and consideration to approve rezone 321 S Airport, also being 27.080-acre Tract of land of Farm Tract 21 & 22, Block 135, West and Adams Tract

Subdivision, Hidalgo County, and Texas from R-1 One-family dwelling district to R-2 Duplex and apartment district.

Ms. de la Fuente stated that notice appeared in The Monitor on July 3, 2020, there were eighty-two (82) property owners notified within the 200-foot radius, no letters for or against the item were received. Staff recommended denial based on 2040 Land use map.

Commissioner Berry made a motion to close the Public Hearing, seconded by Commissioner Treviño. Motion carried.

Commissioner Berry made a motion approve the rezone request, seconded by Commissioner Bullion. Motion carried.

V. DISCUSSION AND CONSIDERATION

A. Discussion and consideration for the Preliminary Plat Verona subdivision- being 20 acres out of Farm Tract 1038, West and Adams Tract Subdivision, Weslaco, Hidalgo County, Texas located approximately 1800 ft. North of mile 8 on FM 1015. Possible Action.

Ms. de la Fuente stated that this item is a fifty (50) lot subdivision is inside the City of Weslaco city limits. This subdivision is being serviced with water by the City of Weslaco through a 12" waterline and sewer by the City of Weslaco services through a 6" sewer line. The property is within a Flood Zone "X". Owner is requesting off-site drainage detention variance. Staff recommends approval with compliance of the ordinance on the variance.

In response to Commissioner Summers, Albert Aldana stated that the existing drainage was already undersized for the area.

Jose Reyes, SWG, stated that the development was required to detaining 95,000cf but would be excavating the existing ditch for over 205,000cf. The design of the ditch was required and approved by the Drainage District and they have provided letters of support from the Irrigation District and Drainage District.

Commissioner Berry made the motion to approve preliminary plat, with denial of the variance request, seconded by Commissioner Summers. Motion carried.

B. Discussion and consideration for the Preliminary Plat for Milanos Estates 2 Subdivision- being a 26.43 acres being out of and forming a portion of Farm Tract 720 and 721, West and Adams Tract Subdivision, Weslaco, Hidalgo County, Texas located on the Northeast corner of Mile 5 ½ West and Mile 6 ½ Road. Possible Action.

Ms. de la Fuente stated that this item is an eighty-eight (88) lot subdivision is 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 services through an 8" sewer line. The property is within a Flood Zone "B". Applicant is requesting a variance for lot setbacks. Applicant must request a variance for off-site drainage. Staff recommends approval with compliance of the ordinance on the variance.

Commissioner Bullion made the motion to deny preliminary plat, and the variance request, seconded by Commissioner Summers. Motion carried.

C. Discussion and consideration for the Preliminary Plat for Moonlight Subdivision– being 4.00 acres out of Farm Tract 175, West and Adams Tract Subdivision, Weslaco, Hidalgo County, Texas located approximately 330’ north of Mile 10N along the Westside of F.M. 88. Possible Action.

Ms. de la Fuente stated that this item is a two (2) lot subdivision is outside the City of Weslaco. This subdivision is being serviced with water by the North Alamo Water Supply Company through a 4” waterline and sewer by OSSF. The property is within a Flood Zone “X”. Applicant must request variance for OSSF. Staff recommends approval.

Commissioner Summers made the motion to approve preliminary plat, seconded by Commissioner Berry. Motion carried.

D. Discussion and consideration for the Preliminary Plat for Professional & Medical ph. 2 Subdivision– being 5.474 acres out of Farm Tract 17, West and Adams Tract Subdivision, Weslaco, Hidalgo County, Texas located approximately 420’ South of U.S Expressway 83 on Professional Drive. Possible Action.

Ms. de la Fuente stated that this item is a two (2) lot subdivision is inside the City of Weslaco city limits. This subdivision is being serviced with water by the City of Weslaco through an 8” waterline and sewer by the City of Weslaco through a 6” sewer line. The property is within a Flood Zone “X”. Staff recommends approval.

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

E. Discussion and consideration for the Final Plat for Mira Vista Phase II Subdivision– being 13.49 acres out of Farm Tract 1020 and out of Lot 11 and 12, BLK 113, West and Adams Tract Subdivision, Weslaco, Hidalgo County, Texas located approximately 2575ft. South of Bus. 83 along International Blvd. Possible Action.

Ms. de la Fuente stated that this item is a thirty-five (35) lot subdivision part is inside the City of Weslaco city limits. This subdivision is being serviced with water by the City of Weslaco through an 8” waterline and sewer by the City of Weslaco services through a 10” sewer line. The property is within a Flood Zone “B”. Variance request for setback and drainage detention were tabled at the last meeting. City of Mercedes does not agree with the annexation by the City of Weslaco. The 911 addressing department has not submitted a letter regarding emergency response times but did verify that Mercedes FD was responsible for areas outside our city limits. Staff recommends denial with compliance of the ordinance on the variance.

Commissioner Berry made the motion to approve preliminary plat, and the variance request, seconded by Commissioner Forward. Motion carried.

F. Discussion and consideration for the Preliminary Plat for Villa Event Center Subdivision being a 3.11-acre tract of land of Farm Tract 31, West and Adams

Subdivision, Hidalgo County, and Texas located on the Northeast corner of Bridge and Dolores Huerta. Possible Action.

Ms. de la Fuente stated that this item is a one (1) lot subdivision is inside the City of Weslaco city limits. This subdivision is being serviced with water by the City of Weslaco through an 8" waterline and sewer by the City of Weslaco services through an 8" sewer line. The property is within a Flood Zone "B". Staff recommends approval of preliminary plat.

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

G. Discussion and consideration for the Preliminary Plat for Airport Heights being 27.080-acre Tract of land of Farm Tract 21 & 22, Block 135, West and Adams Tract Subdivision, Hidalgo County, and Texas located approximately on the North corner of Airport and Business 83. Possible Action.

Ms. de la Fuente stated that this item is a seventy-two (72) lot subdivision is inside the City of Weslaco city limits. This subdivision is being serviced with water by the City of Weslaco through an 8" waterline and sewer by the City of Weslaco services through an 8" sewer line. The property is within a Flood Zone "X". Owner is requesting a setback variance to allow a 10 ft rear setback. Staff recommends approval of Preliminary plat approval with compliance of the ordinance on the variance.

Commissioner Summers made the motion to approve preliminary plat and the variance request, seconded by Commissioner Berry. Motion carried.

H. Discussion and consideration for the De-annexation of Mira Vista Subdivision– being 19.85 acres out of Farm Tract 102 and 9.72 acres out of Lot 11 and 12, BLK 113, West and Adams Tract Subdivision, Weslaco, Hidalgo County, Texas located approximately 2575ft. South of Bus. 83 along International Blvd. Possible Action.

Ms. de la Fuente stated that this item is a seventy-four (74) lot subdivision is the City of Weslaco city limits. This subdivision is being serviced with water by the City of Weslaco through an 8" waterline and sewer by the City of Weslaco services through a 10" sewer line. The property is within a Flood Zone "B". Staff recommends approval.

Commissioner Summers made the motion to approve the de-annexation request, seconded by Commissioner Berry. Motion carried.

I. Discussion and consideration for a six-month extension of the Final Plat for Lockheart Subdivision– being a 2.12-acre tract of land being a portion of Farm Tract 284 a West and Adams Tract Subdivision, Weslaco, Hidalgo County, Texas located approximately 310ft. South of Orlando Tijerina Rd. along Martin Morales Rd Possible Action.

Ms. de la Fuente stated that this item is a two (2) lot subdivision is outside the City of Weslaco city limits. This subdivision is being serviced with water by North Alamo Water Supply Co. through a 4" waterline and sewer by OSSF. The property is within a Flood Zone "X". Owner was granted variance for OSSF and drainage. Staff recommends approval of six-month extension.

Commissioner Summers made the motion to approve the six-month extension request, seconded by Commissioner Bullion. Motion carried.

VI. ADJOURNMENT

There being no further business to come before the Planning and Zoning Commission, Chairman Hernandez adjourned the meeting at 11:15 a.m.

Planning and Zoning Commission

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: August 5, 2020	Agenda Item No. (to be assigned by PCE): IV. A.
From: Rebekah de la Fuente, Planning Director, on behalf of Ivan Garcia P.E.	
Subject/Agenda Item: Discussion and consideration for the Preliminary Plat for Milanos Estates 2 Subdivision– being a 26.43 acres being out of and forming a portion of Farm Tract 720 and 721, West and Adams Tract Subdivision, Weslaco, Hidalgo County, Texas located on the Northeast corner of Mile 5 ½ West and Mile 6 ½ Road. Possible Action.	
Discussion/Overview: The proposed eighty-two (82) lot subdivision is 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 services through an 8” sewer line. The property is within a Flood Zone “B”. Applicant is requesting a variance for lot setbacks. Applicant must request a variance for off-site drainage.	
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 plat.	
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.	



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: MILANOS ESTATES PHASE I SUBDIVISION

Location: INTERSECTION OF MILE 5 1/2 WEST AND MILE 6 1/2 ROAD

Legal Description: BEING A 26.43 ACRES TRACT OF LAND LYING AND SITUATED IN HIDALGO COUNTY, TEXAS, SAID 26.43 ACRES TRACT BEING OUT OF AND FORMING A PART PORTION OF FARM TRACTS 720 AND 721, WEST TRACT SUBDIVISION, HIDALGO COUNTY, TEXAS, AS PER MAP OR PLAT RECORDED IN VOLUME 2, PAGE 34-37, MAP RECORDS OF HIDALGO COUNTY, TEXAS.

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: N/A

Existing Land Use: AGRICULTURAL Proposed Land Use: RESIDENTIAL

Number of Lots Proposed: 88 Gross Acreage: 26.43

Title Report Submitted: ☐ YES ☒ NO

OWNER INFORMATION

Owner's Name: VICTOR J. DANIEC Telephone: _____

Address: P.O. BOX 2604 Fax: _____

City: EDINBURG State: TX Zip: 78536 E-mail: _____

ENGINEER INFORMATION

Name: IVAN GARCIA P.E. Telephone: (956) 380-5152

Address: 921 S. 10TH AVE. Fax: (956) 380-5152

City: EDINBURG State: TX Zip: 78539 E-mail: RIODELTA2004@YAHOO.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: MAGIC VALLEY ELECTRIC COOP.

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

\$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 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

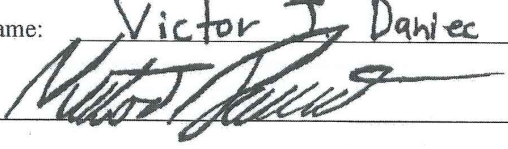
** Any revisions requested would require resubmission of plats and reduced copy reflecting changes.

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: Victor J. Daniec

Owner Signature:  Date: 7/28/2020

_____ is the authorized agent

Authorized Agent Signature:  Date: 7/29/2020

Authorized Agent Printed Name: Ivan Garza P.E., R.P.L.S.

THIS PAGE FOR STAFF USE ONLY

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

P & Z Commission Approval on Preliminary Plat: _____

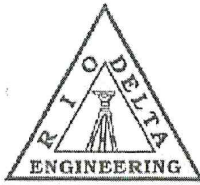
P & Z Commission Approval on Final Plat: _____

City Commission Approval on Final Plat: _____

Preconstruction Meeting Date: _____

Date Recorded: _____ Instrument No. _____

General Comments: _____



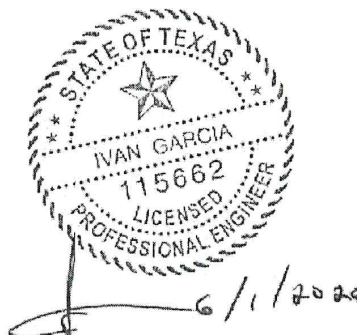
RIO DELTA ENGINEERING

CIVIL ENGINEERING • PROJECT MANAGEMENT • LAND DEVELOPMENT
TEXAS REGISTERED ENGINEERING FIRM F-7628
TEXAS LICENSED SURVEYING FIRM #10194027

MILANOS ESTATES PHASE I, II, III, AND IV MASTER PLAN DRAINAGE REPORT

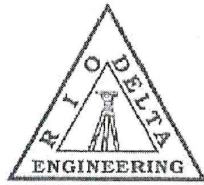
Prepared By:
Ivan Garcia P.E., R.P.L.S.

Date:
June 1, 2020



INDEX SHEET

1. COVER SHEET
2. INDEX SHEET
3. DRAINAGE REPORT
4. PROJECT LOCATION MAP
5. HYDRAULIC CALCULATIONS
6. "C" VALUES FOR METHOD
7. RAINFALL INTENSITY FOR HIDALGO COUNTY
8. FLOOD PLAIN
9. SOIL SURVEY
10. PRELIMINARY PLAT AND UTILITY & DRAINAGE LAYOUT



RIO DELTA ENGINEERING
CIVIL ENGINEERING • PROJECT MANAGEMENT • LAND DEVELOPMENT
TEXAS REGISTERED ENGINEERING FIRM F-7628
TEXAS LICENSED SURVEYING FIRM #10194027

DRAINAGE REPORT
Milanoses Estates Subdivision Phases I, II, III, and IV
Master Plan
City of Weslaco ETJ
Hidalgo County, TEXAS

Milanoses Estates Phase I, II, III, and IV Master Plan is proposed 379 lot Residential Subdivision, same being a total of 96.95 Acres comprised of the following:

- 1) Phases I, II, and III - 76.95 Acres Tract (328 proposed lots), being all of the south 38.49 acres, more or less, of Farm Tract 721, and all of Farm Tract 720 containing 38.47 Acres, more or less, West Tract Subdivision, Hidalgo County, Texas, as per map or plat thereof recorded in Volume 2, Page 34-37, Map Records of Hidalgo County, Texas.
- 2) Phase IV - 20.00 Acres Tract (51 proposed lots), being the east 20.00 acres of Farm Tract 717, West Tract Subdivision, Hidalgo County, Texas, as per map or plat thereof recorded in Volume 2, Page 34-37, Map Records of Hidalgo County, Texas.

These lots will be used for single-family homes.

The subdivision is in zone "B" of the flood insurance rate, 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, according to the FEMA's Flood Insurance Rate Map Community Panels No.: 480334 0525 B dated: January 2, 1981.

According to the Soil Survey Report prepared for Hidalgo County by the U.S.D.A. Soil Conservation Service, the site consists of 16.2 % of Hidalgo fine sandy loam (28), with 0 to 1% slopes, the soil is well drained and surface runoff is negligible, permeability is moderately high to high and the water capacity is moderate. This soil is classified as Group (B). Additionally, it consists of 17.9% of Mercedes Clay (39), with 0 to 1% slopes, the soil is moderately well drained and surface runoff is high, permeability is very low to moderately low and the water capacity is moderate. This soil is classified as Group (D). Additionally, it consists of 64.4% of Raymondville clay loam (52), with 0 to 1% slopes, the soil is moderately well drained and surface runoff is medium, permeability is moderately low to moderately high and the water capacity is moderate. This soil is classified as Group (C). Please see the attached tables for the engineering, physical and chemical properties of these soils.

This area has been identified by Hidalgo County as having flooding issues, that will need to be addressed in order to allow this site to be developed. After careful evaluation of the existing topography and features of the site, it was determined that the existing ponding issues within the southern area of the property are caused because of the lack of an outfall or connection to the existing ditch. It is assumed that this was done on purpose with the intent of capturing as much water as possible for irrigation of the lands which are used for farming. The average existing natural ground elevation of the site along the south side of the property is 74.50, which is only 1 foot below the existing average top of ditch elevation of 75.50. This small difference in elevation and the lack of an outfall/connection into the existing drain ditch along the south side of the site is enough for water to pond as shown on the pictures provided to us by Hidalgo County. There are not any low areas within the site and all runoff naturally sheet flows overland in a southerly direction.

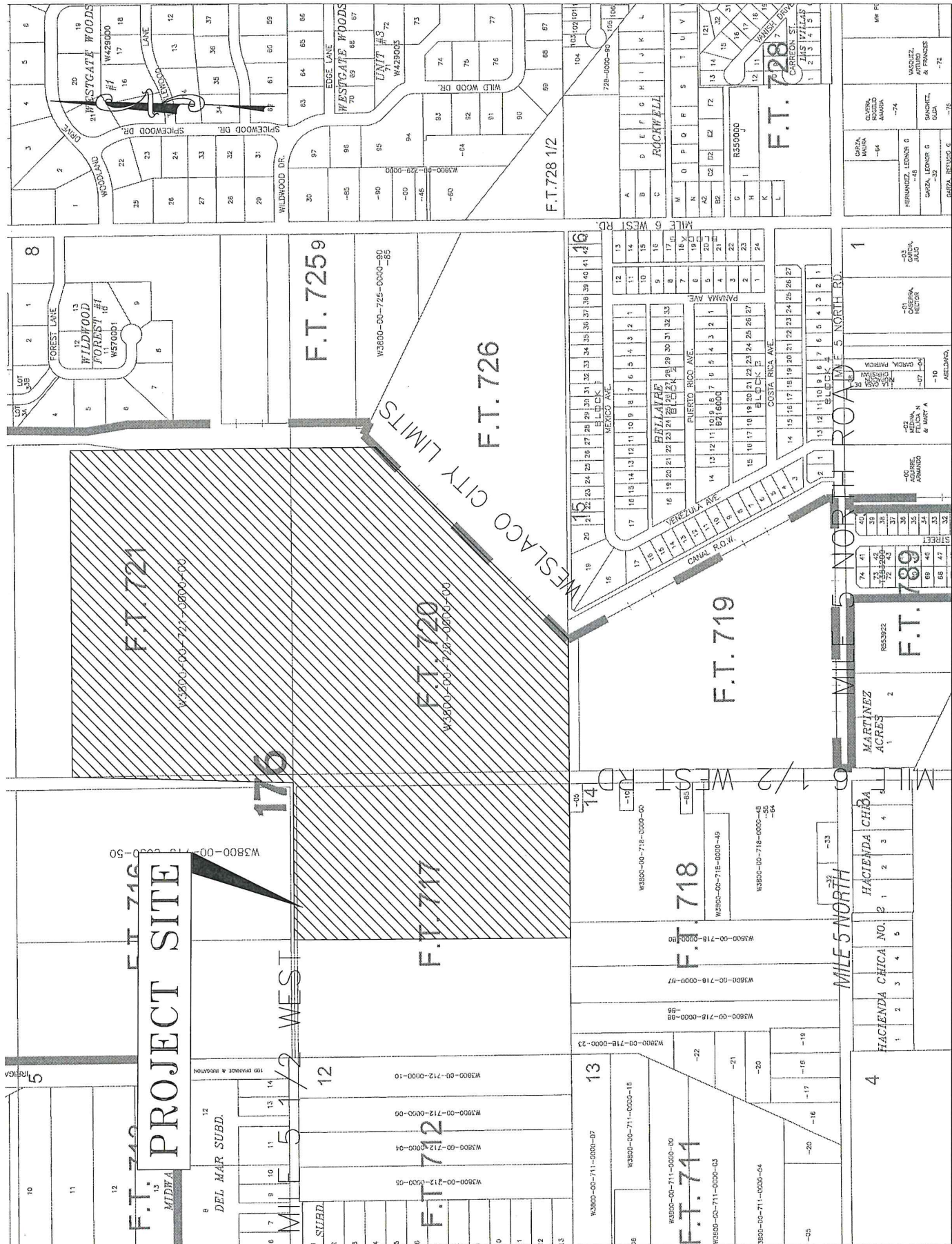
In addition, the site appears to be at the farthest upstream end of the system, which clearly indicates that if a connection was to be made to allow the water to drain into the existing ditch, the ponding issue will most likely be completely eliminated without any risk of water backing up into the site. The existing ditch flows from east to west, and the terrain elevation also drops naturally to the west to an elevation below 74.00 by the time it gets to the southwest corner of the proposed Phase IV which will ensure that no ponding will occur above that elevation unless there is a blockage on the system.

Existing runoff sheet flows overland in a southerly direction to follow the existing drainage patterns of the area in an southerly direction with outfall to the existing 39EXTA drain ditch (which belongs to Hidalgo and Cameron Counties Irrigation District 9, and maintained by Hidalgo County Drianage District 1) along the south boundary of this subdivision, then conveyed to the 39 drain ditch (which belongs to Hidalgo and Cameron Counties Irrigation District 9, and maintained by Hidalgo County Drianage District 1), then conveyed to the I.B.W.C. Floodway, and final outfall to the Laguna Madre. Using the Rational Method, we have determined that a 10-yr rainfall event will generate approximately 20.95 CFS of storm runoff. We have also used the Rational Method to determine that the improved site will generate an estimated 84.34 CFS of runoff 50-yr rainfall events respectively. The improved site will have an approximate increase of 63.39 cfs of storm runoff.

In accordance with the City of Weslaco and County's drainage requirements, we have calculated that approximately a total of 330,712 CF or 7.59 AC-FT, will need to be detained for the complete development of Phases I, II, III, and IV of the subdivision for a 50-yr rainfall event. Linear detention will be provided by improving the existing 39EXTA drain ditch section as required. Storm waters will be collected by an on-site collection system and routed to the existing 39EXTA drain ditch (which belongs to Hidalgo and Cameron Counties Irrigation District 9, and maintained by Hidalgo County Drianage District 1) along the south boundary of this subdivision, then conveyed to the 39 drain ditch (which belongs to Hidalgo and Cameron Counties Irrigation District 9, and maintained by Hidalgo County Drianage District 1), then conveyed to the I.B.W.C. Floodway, and final outfall to the Laguna Madre. Tables and calculations, are attached.



[Handwritten signature] 6/1/2020



STORM WATER DETENTION CALCULATIONS

SUMMARY SHEET

Project Name: **MILANO ESTATES PHASES 1, 2 AND 3**
City: **WESLACO ETJ**
State: **TEXAS**
County: **HIDALGO**
Total Area: **76.95** GROSS Acres
Total lots: **328**

Area already developed:	0.00	Acres	
Area unimproved:	68.83	NET Acres	
Existing Run off:	23.42	cfs	*10 year storm
Future Run off:	62.91	cfs	*25 year storm
Future Run off:	70.73	cfs	*50 year storm
Total on site detention required:	290,718	cft	*50 year storm
	6.674	Ac-ft	

*References for calculations and procedure: 1) TxDOT Hydraulic Design Manual
Revised March 2009

2) FHWA, Urban Drainage Design Manual HEC-22
Revised September 2009



I. EXISTING RUN OFF (10 YEAR STORM)

***Rational Method**

Project Name: **MILANO ESTATES PHASES 1, 2 AND 3**

City:	WESLACO ETJ	
State:	TEXAS	
	68.83	Acres Net
Highest elevation=	78.00	ft
Lowest elevation=	75.00	ft
Watercourse length, L=	2500.00	ft
Slope, S _p =	0.12	%

Average flow velocity, V= **0.24** ft/sec

$$V = K_u k S_p^{0.5}$$

K_u=3.28

k= 0.213

*From Table 3-2 - Intercept Coefficients

*For short grass pasture

Time of concentration, t_c= **172.16** min (calculated)

$$t_c = L/60V$$

172.16 min (used)

Intensity, i= **1.52** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

*From table 3-1- Intensity-Frequency-Duration

*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients

*For a recurrence interval of 10 years

e=	0.778
b=	87
d=	9.2

Area already developed= **0.00** SQFT *No area developed
0.00 ACRES

Existing Run off Coefficient: **0**

Area unimproved= **2,998,235** SQFT
68.83 NET ACRES

Existing Run off Coefficient: **0.20** *For Unimproved areas
*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient, C_w= **0.20**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q= **23.42** CFS

$$Q = C i A$$

II. FUTURE RUN OFF (25 YEAR STORM)

*Rational Method

Project Name: **MILANO ESTATES PHASES 1, 2 AND 3**

City: **WESLACO ETJ**
State: **TEXAS**
Highest elevation= **68.83** Acres Net
Lowest elevation= **78.00** ft
Watercourse length, L= **2500.00** ft
Slope, S_p = **0.12** %

Average flow velocity, V= **0.35** ft/sec

$$V = K_u k S_p^{0.5}$$

K_u=3.28

k= 0.305

*From Table 3-2 - Intercept Coefficients

*For nearly bare and untilled (overland flow)

Time of concentration, t_c= **120.23** min (calculated)

$$t_c = L/60V$$

120.23 min (used)

Intensity, i= **2.31** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

*From table 3-1- Intensity-Frequency-Duration

*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients

*For a recurrence interval of 25 years

e= 0.771

b= 98.00

d= 9.20

Area to be developed= **492,000** SQFT *1500 SF avg homes

11.29 ACRES

Future Run off Coefficient: **0.75** *MIN FOR ROOFS

*From Table 3-3 - Run off Coefficients

Area to be developed= **246,000** SQFT * 750 SF avg driveway and sidewalks area

5.65 ACRES

Future Run off Coefficient: **0.70** *MIN FOR CONCRETE SURFACE

*From Table 3-3 - Run off Coefficients

Area to be developed= **1,869,835** SQFT *Remaining green areas

42.93 ACRES

Future Run off Coefficient: **0.20** *For Unimproved areas

*From Table 3-3 - Run off Coefficients

Area to be developed= **390,400** SQFT 32' B-B STREET SECTION

8.96 ACRES

Future Run off Coefficient: **0.70** *MIN FOR ASPHALTIC/CONCRETE SURFACE

*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient, C_w= **0.35**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q= **62.91** CFS

$$Q = C i A$$

III. STORAGE CALCULATIONS (50 YEAR STORM)

*Rational Method

Project Name: **MILANO ESTATES PHASES 1, 2 AND 3**
 City: **WESLACO ETJ**
 State: **TEXAS**
 Acres Net
 Highest elevation= **68.83** ft
 Lowest elevation= **78.00** ft
 Watercourse length, L= **2500.00** ft
 Slope, S_p = **0.12** %

Average flow velocity, V= **0.35** ft/sec

$$V = K_u k S_p^{0.5}$$

K_u=3.28

k= 0.305

*From Table 3-2 - Intercept Coefficients

*For nearly bare and untilled (overland flow)

Time of concentration, t_c= **120.23** min (calculated)

$$t_c = L / 60V$$

120.23 min (used)

Intensity, i= **2.59** min

$$i = \frac{b}{(t_c + d)^e}$$

*From table 3-1- Intensity-Frequency-Duration

*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients

*For a recurrence interval of 50 years

e= 0.749

b= 99.0

d= 9.2

Area to be developed= **492,000** SQFT *1500 SF avg homes

11.29 ACRES

Future Run off Coefficient: **0.75** *MIN FOR ROOFS

*From Table 3-3 - Run off Coefficients

Area to be developed= **246,000** SQFT * 750 SF avg driveway and sidewalks area

5.65 ACRES

Future Run off Coefficient: **0.70** *MIN FOR CONCRETE SURFACE

*From Table 3-3 - Run off Coefficients

Area to be developed= **1,869,835** SQFT *Remaining green areas

42.93 ACRES

Future Run off Coefficient: **0.20** *For Unimproved areas

*From Table 3-3 - Run off Coefficients

Area to be developed= **390,400** SQFT 32' B-B STREET SECTION

8.96 ACRES

Future Run off Coefficient: **0.7** *MIN FOR ASPHALTIC/CONCRETE SURFACE

*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient, C_w= **0.35**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q= **70.73** CFS

$$Q = C i A$$

IV. STORM WATER DETENTION CALCULATIONS

*Rational Method

Duration (min)	Intensity (in/hr)	Q in (cfs)	Vol in (cft)	Q out (cfs)	V out (cft)	Storage (cft)
5	13.57	331.16	99,347	23.42	7,026	92,320
10	10.83	264.18	158,509	23.42	14,053	144,457
15	9.10	222.14	199,922	23.42	21,079	178,843
20	7.91	192.99	231,583	23.42	28,105	203,477
25	7.03	171.44	257,159	23.42	35,131	222,028
30	6.34	154.78	278,611	23.42	42,158	236,453
35	5.80	141.47	297,094	23.42	49,184	247,910
40	5.35	130.56	313,347	23.42	56,210	257,137
45	4.98	121.43	327,865	23.42	63,236	264,628
50	4.66	113.67	340,995	23.42	70,263	270,733
55	4.38	106.97	352,993	23.42	77,289	275,704
60	4.14	101.12	364,049	23.42	84,315	279,733
65	3.93	95.98	374,307	23.42	91,341	282,966
70	3.75	91.40	383,884	23.42	98,368	285,517
75	3.58	87.30	392,871	23.42	105,394	287,477
80	3.43	83.61	401,342	23.42	112,420	288,921
85	3.29	80.27	409,357	23.42	119,447	289,911
90	3.16	77.22	416,968	23.42	126,473	290,495
95	3.05	74.42	424,217	23.42	133,499	290,718
100	2.94	71.86	431,140	23.42	140,525	290,615
105	2.85	69.49	437,769	23.42	147,552	290,217
110	2.76	67.29	444,129	23.42	154,578	289,551
115	2.67	65.25	450,244	23.42	161,604	288,640
120	2.60	63.35	456,135	23.42	168,630	287,504
125	2.52	61.58	461,818	23.42	175,657	286,161
130	2.45	59.91	467,310	23.42	182,683	284,627
135	2.39	58.35	472,625	23.42	189,709	282,915
140	2.33	56.88	477,774	23.42	196,735	281,039
145	2.27	55.49	482,770	23.42	203,762	279,008
150	2.22	54.18	487,622	23.42	210,788	276,834
155	2.17	52.94	492,340	23.42	217,814	274,525

Total on site detention required= **290,718** cft
6.674 acres-ft

Duration: Duration in minutes
Intensity: Intensity for respective duration (10-year event)
Q in: Developed conditions peak discharge ($C_{dev} \times i_{50} \times \text{Area}$)
Vol in: Developed conditions run off volume ($Q_{in} \times \text{Duration} \times 60$)
Q out: Pre-developed peak discharge ($C_{pre} \times i_{10} \times \text{Area}$)
V out: (duration $\times$ Qout $\times$ 60)
Storage: Required storage ($V_{in} - V_{out}$)

Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County

Coefficient	2-year	5-year	10-year	25-year	50-year	100-year
e (in)	0.831	0.797	0.778	0.771	0.749	0.740
b	74	79	87	98	99	103
d (mins)	9.6	8.9	9.2	9.2	9.2	9.6

Reference: TxDOT Hydraulic Design Manual, (2009)

Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship

Land Cover/Flow Regime	k
Forest with 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

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

Table 3-3. Runoff Coefficients for Rational Formula

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
*Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases.	

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

STORM WATER DETENTION CALCULATIONS

SUMMARY SHEET

Project Name: **MILANO ESTATES PHASES 1, 2 AND 3**
City: **WESLACO ETJ**
State: **TEXAS**
County: **HIDALGO**
Total Area: **20.00** GROSS Acres
Total lots: **51**

Area already developed:	0.00	Acres	
Area unimproved:	16.25	NET Acres	
Existing Run off:	13.51	cfs	*10 year storm
Future Run off:	34.11	cfs	*25 year storm
Future Run off:	37.52	cfs	*50 year storm
Total on site detention required:	39,994	cft	*50 year storm
	0.918	Ac-ft	

*References for calculations and procedure: **1) TxDOT Hydraulic Design Manual**
Revised March 2009

2) FHWA, Urban Drainage Design Manual HEC-22
Revised September 2009



I. EXISTING RUN OFF (10 YEAR STORM)

***Rational Method**

Project Name: **MILANO ESTATES PHASES 1, 2 AND 3**
City: **WESLACO ETJ**
State: **TEXAS**
Highest elevation= **16.25** Acres Net
Lowest elevation= **78.00** ft
Watercourse length, L= **74.00** ft
Slope, S_p = **1300.00** %
Slope, S_p = **0.31** %

Average flow velocity, V= **0.39** ft/sec

$$V = K_u k S_p^{0.5}$$

K_u=3.28
k= 0.213 *From Table 3-2 - Intercept Coefficients
*For short grass pasture

Time of concentration, t_c= **55.91** min (calculated)

$$t_c = L/60V$$

55.91 min (used)

Intensity, i= **3.38** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

*From table 3-1- Intensity-Frequency-Duration
*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients
*For a recurrence interval of 10 years

e= 0.778
b= 87
d= 9.2

Area already developed= **0.00** SQFT *No area developed
0.00 ACRES

Existing Run off Coefficient: **0**

Area unimproved= **707,850** SQFT
16.25 NET ACRES

Existing Run off Coefficient: **0.20** *For Unimproved areas
*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient, C_w= **0.20**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q= **13.51** CFS

$$Q = CiA$$

II. FUTURE RUN OFF (25 YEAR STORM)

*Rational Method

Project Name: **MILANO ESTATES PHASES 1, 2 AND 3**

City: **WESLACO ETJ**
State: **TEXAS**
16.25 Acres Net
Highest elevation= **78.00** ft
Lowest elevation= **74.00** ft
Watercourse length, L= **1300.00** ft
Slope, S_p = **0.31** %

Average flow velocity, V = **0.55** ft/sec

$$V = K_u k S_p^{0.5}$$

K_u = 3.28

k = 0.305

*From Table 3-2 - Intercept Coefficients

*For nearly bare and untilled (overland flow)

Time of concentration, t_c = **39.04** min (calculated)

$$t_c = L / 60V$$

39.04 min (used)

Intensity, i = **4.94** in/hr

$$i = \frac{b}{(t_c + d)^e}$$

*From table 3-1- Intensity-Frequency-Duration

*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients

*For a recurrence interval of 25 years

e = **0.771**
 b = **98.00**
 d = **9.20**

Area to be developed = **127,500** SQFT *2500 SF avg homes

2.93 ACRES

Future Run off Coefficient: **0.75** *MIN FOR ROOFS

*From Table 3-3 - Run off Coefficients

Area to be developed = **127,500** SQFT * 2500 SF avg driveway and sidewalks area

2.93 ACRES

Future Run off Coefficient: **0.70** *MIN FOR CONCRETE SURFACE

*From Table 3-3 - Run off Coefficients

Area to be developed = **401,650** SQFT *Remaining green areas

9.22 ACRES

Future Run off Coefficient: **0.20** *For Unimproved areas

*From Table 3-3 - Run off Coefficients

Area to be developed = **51,200** SQFT 32' B-B STREET SECTION

1.18 ACRES

Future Run off Coefficient: **0.70** *MIN FOR ASPHALTIC/CONCRETE SURFACE

*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient, C_w = **0.35**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q = **34.11** CFS

$$Q = C i A$$

III. STORAGE CALCULATIONS (50 YEAR STORM)

*Rational Method

Project Name: **MILANO ESTATES PHASES 1, 2 AND 3**
 City: **WESLACO ETJ**
 State: **TEXAS**
 Highest elevation= **16.25** Acres Net
 Lowest elevation= **78.00** ft
 Watercourse length, L= **1300.00** ft
 Slope, S_p = **0.31** %

Average flow velocity, V= **0.55** ft/sec

$$V = K_u k S_p^{0.5}$$

K_u=3.28

k= 0.305

*From Table 3-2 - Intercept Coefficients

*For nearly bare and untilled (overland flow)

Time of concentration, t_c= **39.04** min (calculated)

$$t_c = L/60V$$

39.04 min (used)

Intensity, i= **5.43** min

$$i = \frac{b}{(t_c + d)^e}$$

*From table 3-1- Intensity-Frequency-Duration

*Coefficients for HIDALGO, County, Texas from TXDOT IDF Coefficients

*For a recurrence interval of 50 years

e= 0.749
b= 99.0
d= 9.2

Area to be developed= **127,500** SQFT *2500 SF avg homes

2.93 ACRES

Future Run off Coefficient: **0.75** *MIN FOR ROOFS

*From Table 3-3 - Run off Coefficients

Area to be developed= **127,500** SQFT * 2500 SF avg driveway and sidewalks area

2.93 ACRES

Future Run off Coefficient: **0.70** *MIN FOR CONCRETE SURFACE

*From Table 3-3 - Run off Coefficients

Area to be developed= **401,650** SQFT *Remaining green areas

9.22 ACRES

Future Run off Coefficient: **0.20** *For Unimproved areas

*From Table 3-3 - Run off Coefficients

Area to be developed= **51,200** SQFT 32' B-B STREET SECTION

1.18 ACRES

Future Run off Coefficient: **0.7** *MIN FOR ASPHALTIC/CONCRETE SURFACE

*From Table 3-3 - Run off Coefficients

Weighted Run off Coefficient, C_w= **0.35**

$$C_w = (C_1 A_1 + C_2 A_2) / A_{Total}$$

Peak flow, Q= **37.52** CFS

$$Q = C i A$$

IV. STORM WATER DETENTION CALCULATIONS

*Rational Method

Duration (min)	Intensity (in/hr)	Q in (cfs)	Vol in (cft)	Q out (cfs)	V out (cft)	Storage (cft)
5	13.57	76.20	22,859	13.51	4,052	18,807
10	10.83	60.79	36,472	13.51	8,104	28,368
15	9.10	51.11	46,001	13.51	12,157	33,844
20	7.91	44.40	53,286	13.51	16,209	37,077
25	7.03	39.45	59,171	13.51	20,261	38,910
30	6.34	35.61	64,107	13.51	24,313	39,794
35	5.80	32.55	68,360	13.51	28,365	39,994
40	5.35	30.04	72,099	13.51	32,417	39,682
45	4.98	27.94	75,440	13.51	36,470	38,970
50	4.66	26.15	78,461	13.51	40,522	37,939
55	4.38	24.61	81,222	13.51	44,574	36,648
60	4.14	23.27	83,765	13.51	48,626	35,139
65	3.93	22.08	86,126	13.51	52,678	33,448
70	3.75	21.03	88,330	13.51	56,731	31,599
75	3.58	20.09	90,397	13.51	60,783	29,615
80	3.43	19.24	92,346	13.51	64,835	27,512
85	3.29	18.47	94,191	13.51	68,887	25,304
90	3.16	17.77	95,942	13.51	72,939	23,003
95	3.05	17.12	97,610	13.51	76,991	20,619
100	2.94	16.53	99,203	13.51	81,044	18,159
105	2.85	15.99	100,728	13.51	85,096	15,632
110	2.76	15.48	102,192	13.51	89,148	13,044
115	2.67	15.01	103,599	13.51	93,200	10,399
120	2.60	14.58	104,954	13.51	97,252	7,702
125	2.52	14.17	106,262	13.51	101,304	4,957
130	2.45	13.79	107,525	13.51	105,357	2,169
135	2.39	13.43	108,748	13.51	109,409	-661

Total on site detention required= **39,994** cft
0.918 acres-ft

Duration: Duration in minutes
Intensity: Intensity for respective duration (10-year event)
Q in: Developed conditions peak discharge ($C_{dev} \times I_{50} \times \text{Area}$)
Vol in: Developed conditions run off volume ($Q_{in} \times \text{Duration} \times 60$)
Q out: Pre-developed peak discharge ($C_{pre} \times I_{10} \times \text{Area}$)
V out: (duration $\times$ Qout $\times$ 60)
Storage: Required storage ($V_{in} - V_{out}$)

Table 3-1. Rainfall Intensity-Duration-Frequency Coefficients for Hidalgo County

Coefficient	2-year	5-year	10-year	25-year	50-year	100-year
e (in)	0.831	0.797	0.778	0.771	0.749	0.740
b	74	79	87	98	99	103
d (mins)	9.6	8.9	9.2	9.2	9.2	9.6

Reference: TxDOT Hydraulic Design Manual, (2009)

Table 3-2. Intercept Coefficients for Velocity vs. Slope Relationship

Land Cover/Flow Regime	k
Forest with 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

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)

Table 3-3. Runoff Coefficients for Rational Formula

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
*Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases.	

Reference: FHWA, Urban drainage Design Manual HEC-22, (2009)



Soil Map—Hidalgo County, Texas

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spill Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

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 18, Sep 12, 2019

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	16.2	16.4%
39	Mercedes clay, 0 to 1 percent slopes	17.9	18.2%
52	Raymondville clay loam, 0 to 1 percent slopes	64.4	65.4%
Totals for Area of Interest		98.5	100.0%

Component Legend---Hidalgo County, Texas

Component Legend

This report presents general information about the map units and map unit components in the selected area. It shows map unit symbols and names and the components in each map unit. It also shows the percent of the components in the map units, the kind of component, and the slope range of each component.

Report—Component Legend

Component Legend—Hidalgo County, Texas							
Map unit symbol and name	Map unit acres	Pct. of map unit	Component name	Component kind	Pct. slope		
					Low	RV	High
28—Hidalgo sandy clay loam, 0 to 1 percent slopes	133,968						
		85	Hidalgo	Series	0.0	0.5	1.0
39—Mercedes clay, 0 to 1 percent slopes	9,471						
		85	Mercedes	Series	0.0	0.5	1.0
52—Raymondville clay loam, 0 to 1 percent slopes	37,287						
		85	Raymondville	Series	0.0	0.5	1.0

Data Source Information

Soil Survey Area: Hidalgo County, Texas
Survey Area Data: Version 18, Sep 12, 2019

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
Natural 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 in profile: 35 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 10.0
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

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

Minor Components

Raymondville

Percent of map unit: 7 percent
Landform: Terraces

Map Unit Description---Hidalgo County, Texas

Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Clay Loam (R083DY025TX)
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: Clay Loam (R083DY025TX)
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: dblk
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
Natural 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 in profile: 5 percent
Gypsum, maximum in profile: 10 percent
Salinity, maximum in profile: Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 12.0
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: D
Ecological site: Saline Clay (R083DY015TX)
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
Across-slope shape: Linear

Map Unit Description---Hidalgo County, Texas

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

Natural 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 in profile: 10 percent

Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 8.0

Available water storage in profile: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 2s

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: C

Ecological site: Clay Loam (R083DY025TX)

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 18, Sep 12, 2019

Chemical Soil Properties

This table shows estimates of some chemical 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.

Cation-exchange capacity is the total amount of extractable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable cations plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. It is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced saturated hydraulic conductivity and aeration, and a general degradation of soil structure.

Chemical Soil Properties—Hidalgo County, Texas

Report—Chemical Soil Properties

Chemical Soil Properties—Hidalgo County, Texas									
Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio	
	In	meq/100g	meq/100g	pH	Pct	Pct	mmhos/cm		
28—Hidalgo sandy clay loam, 0 to 1 percent slopes									
Hidalgo									
	0-17	10-18	—	7.9-8.4	1-5	0	0.0-2.0	0-4	
	17-28	10-20	—	7.9-8.4	2-15	0	0.0-3.0	2-5	
	28-38	10-20	—	7.9-8.4	10-35	0	0.0-4.0	2-6	
	38-80	10-20	—	7.9-8.4	10-35	0	0.0-4.0	4-10	
39—Mercedes clay, 0 to 1 percent slopes									
Mercedes									
	0-19	35-55	—	7.9-8.4	2-5	0-5	0.0-4.0	2-4	
	19-57	40-55	—	7.9-8.4	2-5	0-5	4.0-8.0	4-8	
	57-65	35-55	—	7.9-8.4	2-5	0-10	4.0-16.0	5-12	
52—Raymondville clay loam, 0 to 1 percent slopes									
Raymondville									
	0-15	25-40	—	7.9-8.4	1-5	0	0.0-4.0	0-2	
	15-43	25-40	—	7.9-8.4	5-10	0	0.0-4.0	0-2	
	43-65	25-40	—	7.9-8.4	5-10	0	0.0-4.0	0-8	

Data Source Information

Soil Survey Area: Hidalgo County, Texas
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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		
			In				L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H
28—Hidalgo sandy clay loam, 0 to 1 percent slopes														
Hidalgo	85	B	0-17	Sandy clay loam	CL, SC	A-6	0-0-0	0-0-0	100-100 -100	95-98-1 00	86-96-1 00	44-54- 63	25-30 -39	11-15-1 8
			17-28	Sandy clay loam, clay loam	CL, SC	A-6, A-7-6	0-0-0	0-0-0	100-100 -100	94-98-1 00	85-96-1 00	50-60- 75	30-35 -44	11-17-2 2
			28-38	Clay loam, sandy clay loam	CL, SC	A-6, A-7-6	0-0-0	0-0-0	95-97-1 00	91-94-1 00	81-93-1 00	54-68- 81	30-38 -44	11-17-2 2
			38-80	Sandy clay loam, clay loam	CL, SC	A-6, A-7-6	0-0-0	0-0-0	96-97-1 00	91-95-1 00	82-94-1 00	57-72- 84	30-38 -44	11-17-2 2
39—Mercedes clay, 0 to 1 percent slopes														
Mercedes	85	D	0-19	Clay	CH	A-7-6	0-0-0	0-1-2	85-93-1 00	80-90-1 00	80-90-1 00	75-85- 95	55-66 -76	32-41-4 9
			19-57	Clay	CH	A-7-6	0-0-0	0-1-2	85-93-1 00	80-90-1 00	80-90-1 00	75-85- 95	50-63 -76	32-41-4 9
			57-65	Clay	CH, CL	A-7-6	0-0-0	0-1-2	85-93-1 00	80-90-1 00	80-90-1 00	75-85- 95	48-62 -76	32-41-4 9

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		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H
52—Raymondville clay loam, 0 to 1 percent slopes														
Raymondville	85	C	0-15	Clay loam	CL	A-6, A-7-6	0-0-0	0-0-0	100-100 -100	100-100 -100	95-98-1 00	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	95-98-1 00	95-98-1 00	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	85-93-1 00	80-90-1 00	75-85-95	40-47-53	20-25-30

Data Source Information

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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 (oven-dry) 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.

Physical Soil Properties---Hidalgo County, Texas

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>)

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).

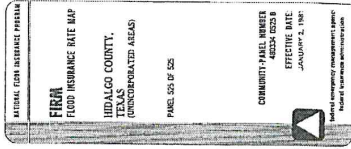
Physical Soil Properties—Hidalgo County, Texas														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
28—Hidalgo sandy clay loam, 0 to 1 percent slopes	In	Pct	Pct	Pct	g/cc	micro m/sec	In/in	Pct	Pct					
	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	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			
	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			
39—Mercedes clay, 0 to 1 percent slopes														
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			

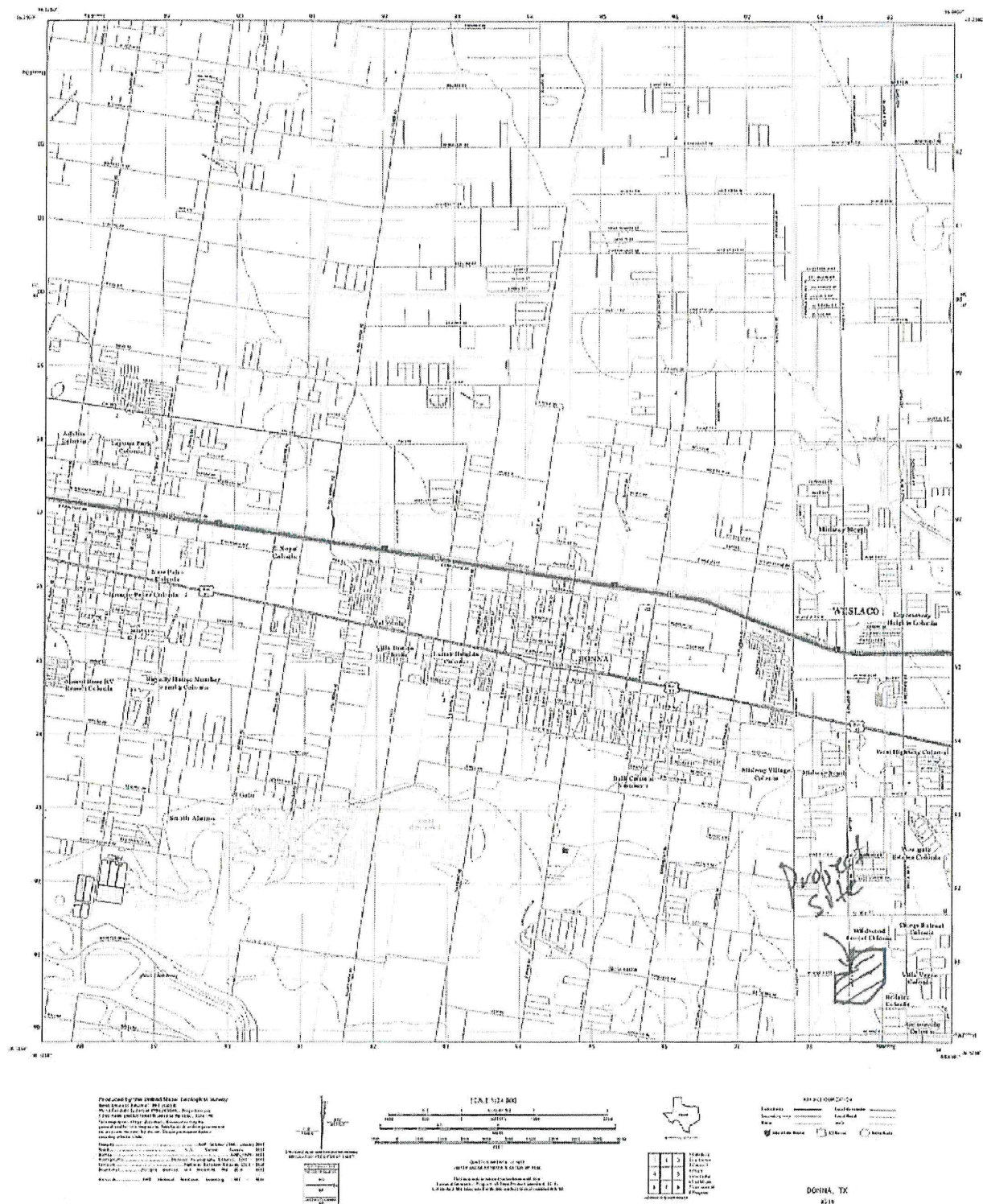
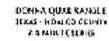
Physical Soil Properties--Hidalgo County, Texas

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	Kt	T		
	In	Pct	Pct	Pct	g/cc	micro m/sec	In/in	Pct	Pct					
52— Raymondville clay loam, 0 to 1 percent slopes														
Raymondville	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

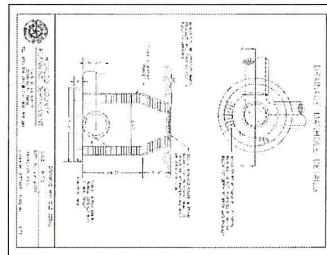
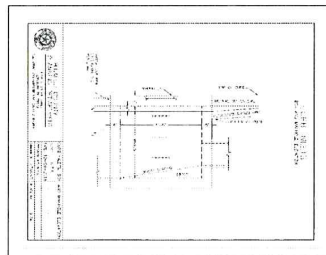
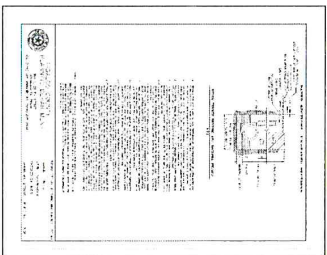
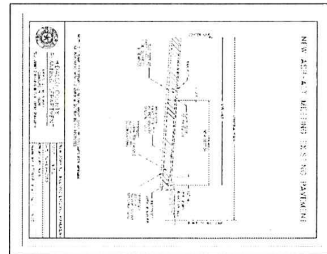
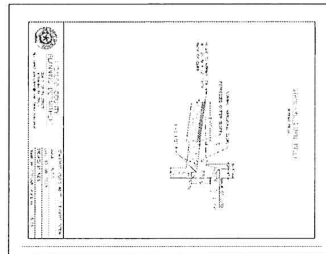
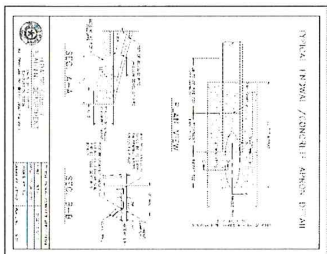
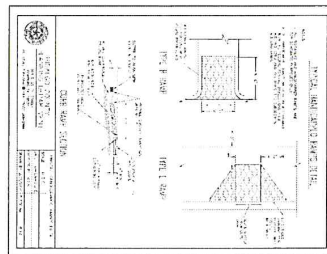
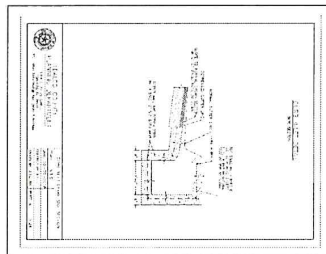
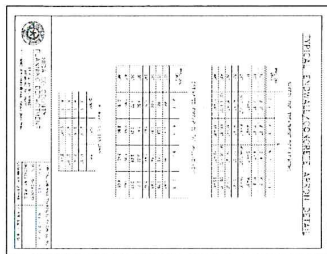
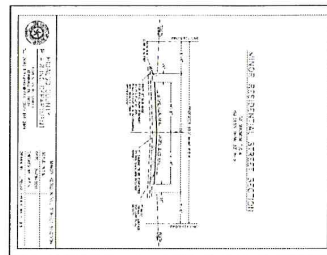
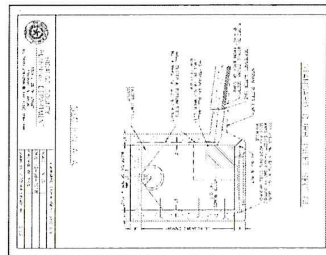
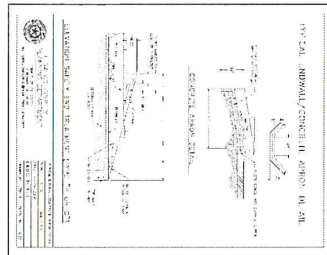
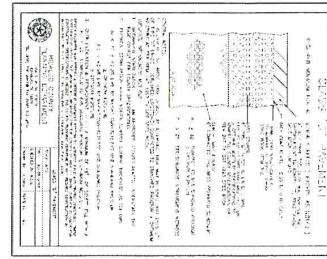
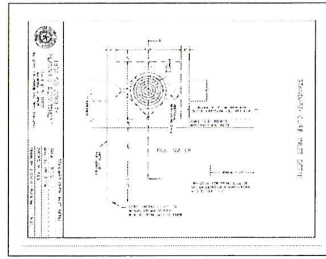
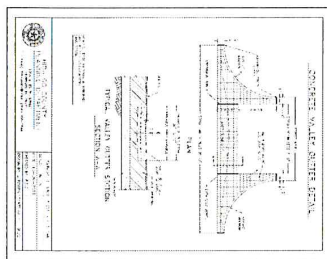
Soil Survey Area: Hidalgo County, Texas
Survey Area Data: Version 18, Sep 12, 2019











PROJECT 1

TYPICAL DETAILS

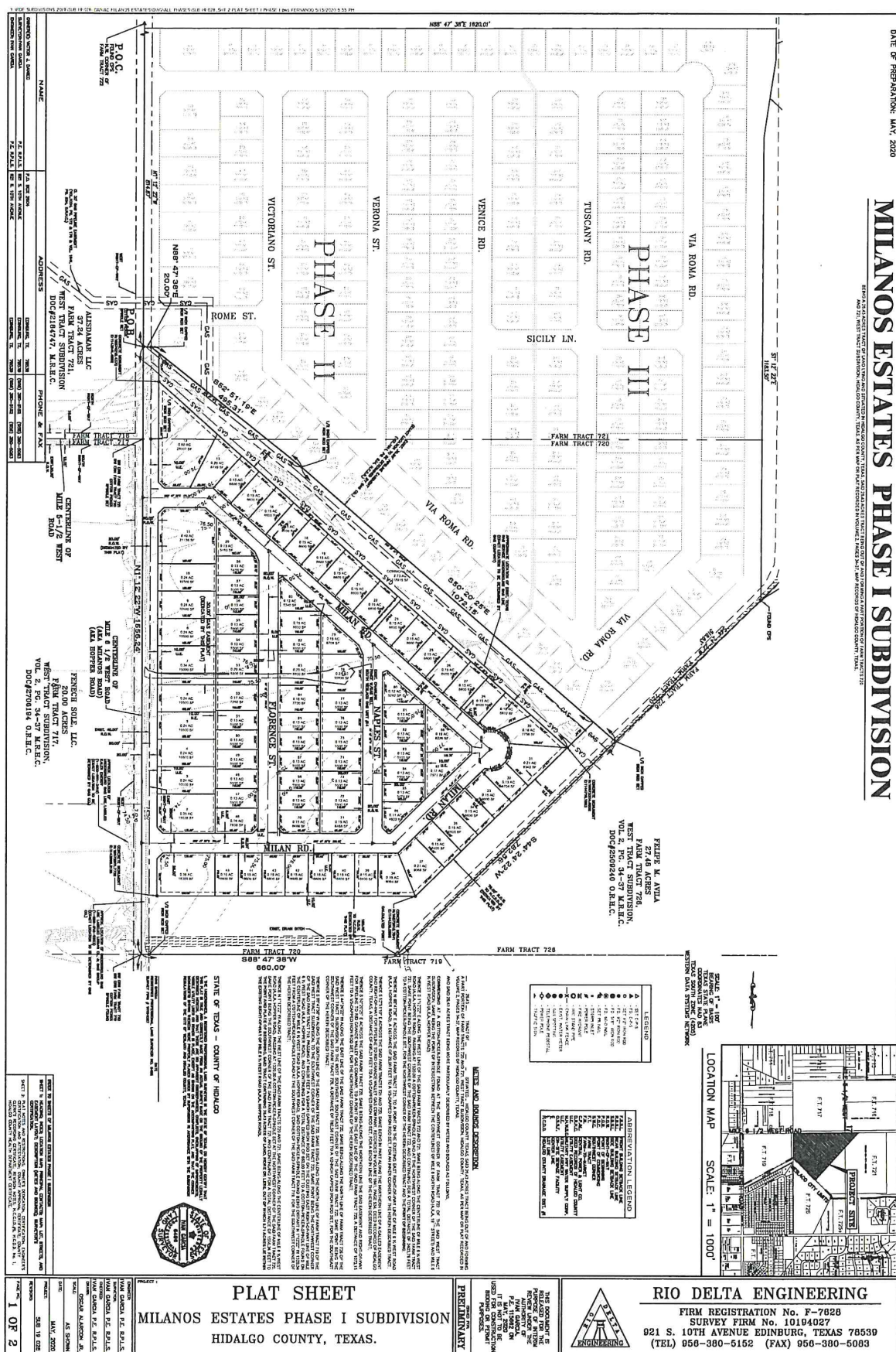
MILANOS ESTATES PHASES I, II, AND III SUBDIVISION
CITY OF WESLACO ETJ
HIDALGO COUNTY, TEXAS.

THIS DOCUMENT IS
RELEASED FOR THE
PURPOSE OF INTERIM
REVIEW UNDER THE
AUTHORITY OF
IVAN GARCIA,
P.E. 1156862 ON
APRIL 20, 2020
IT IS NOT TO BE
USED FOR CONSTRUCTION,
BIDDING OR PERMIT
PURPOSES.

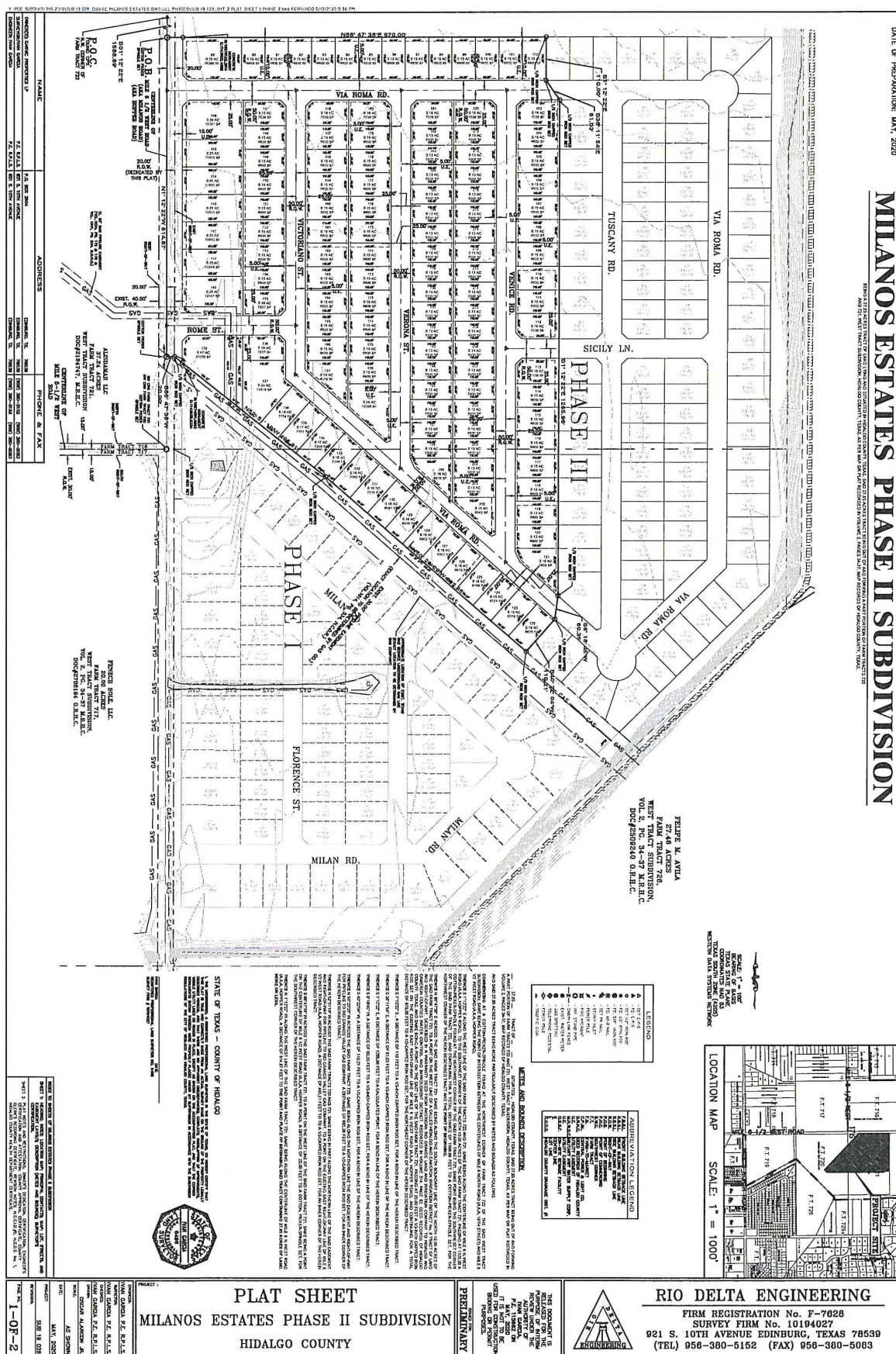


RIO DELTA ENGINEERING

FIRM REGISTRATION No. F-7628
SURVEY FIRM No. 10194027
921 S. 10TH AVENUE EDINBURG, TEXAS 78539
(TEL) 956-380-5152 (FAX) 956-380-5083



[illegible]



REMARKS: 37.5 ACRES TRACT OF LAND LYING AND SITUATED IN HIGHLAND COUNTY, TEXAS, SAID 37.5 ACRES TRACT BEING OUT OF AND FORMING A PART PORTION OF LAND TRACTS 72 AND 71, WEST TRACT SUBDIVISION, HIGHLAND COUNTY, TEXAS, AS PER MAP ON FILE RECORDED IN VOLUME 2, PAGES 36-37. MAP RECORDS OF HIGHLAND COUNTY, TEXAS.

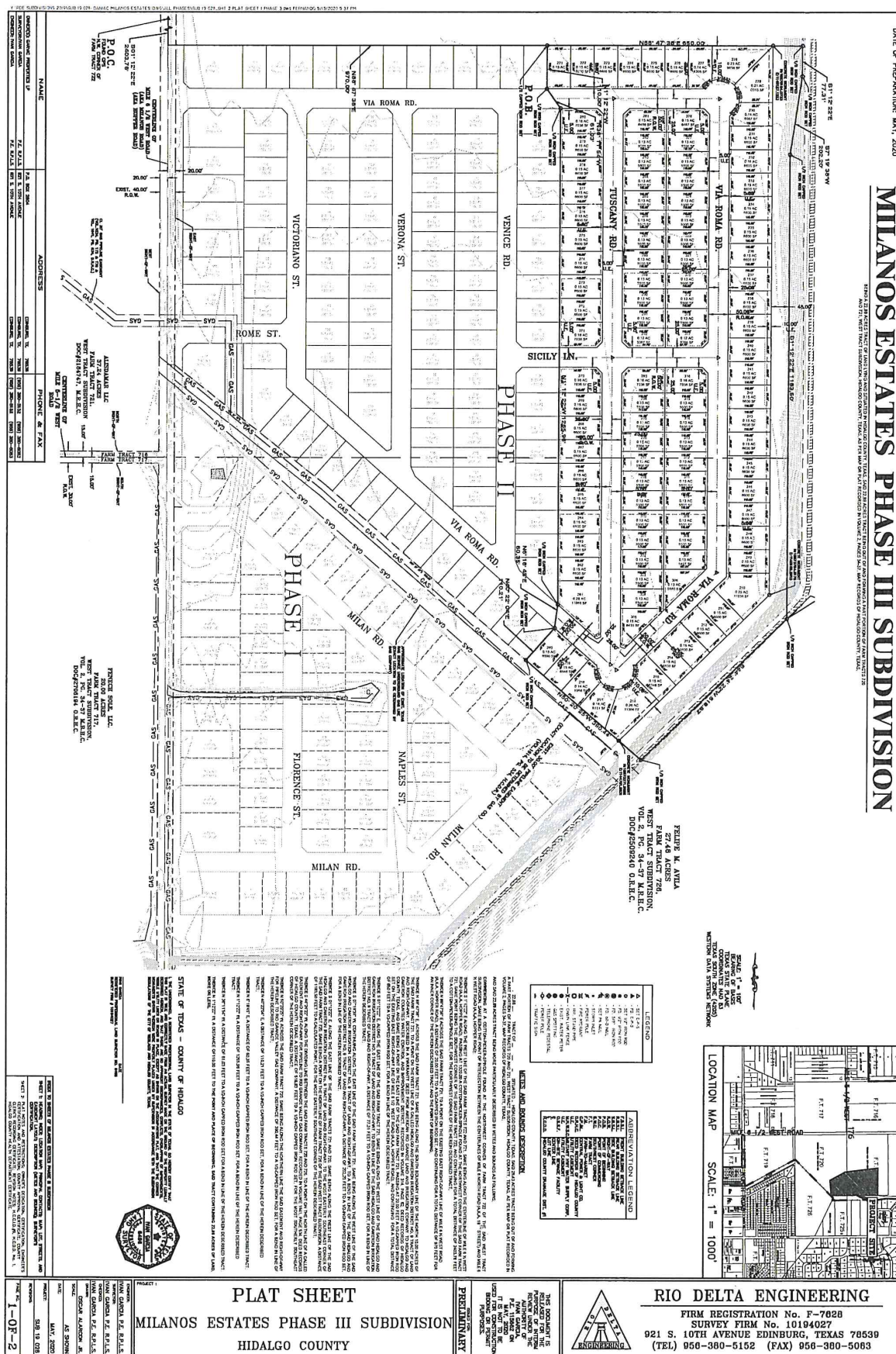
PROJECT 1

PLAT SHEET

MILANOS ESTATES PHASE II SUBDIVISION

HIDALGO COUNTY

SEARCHED	INDEXED	SERIAL	FILED
IVAN GARCIA P.E. RPLS	IVAN GARCIA P.E. RPLS	IVAN GARCIA P.E. RPLS	IVAN GARCIA P.E. RPLS
DATE	DATE	DATE	DATE
OSCAR ALARCON JR.	AS SHOWN	MAY, 2000	MAY 18 0777
RECORDS	RECORDS	RECORDS	RECORDS
2 OF 2			



AND 121, WEST TRACT SUBDIVISION, HIGHLAND COUNTY, TEXAS, AS PER MAP ON PLAT RECORDED IN VOLUME 2, PAGES 34-37, MAP RECORDS OF HIGHLAND COUNTY, TEXAS.

[illegible]

THE UNIVERSITY OF TEXAS AT AUSTIN
DEPARTMENT OF POLITICAL SCIENCE
AUSTIN, TEXAS 78712

[illegible]

**HIDALGO COUNTY
CERTIFICATE OF PLAT APPROVAL**
HIDALGO AND CAMERON COUNTIES IRRIGATION DISTRICT NO. 1

THE PLAT IS APPROVED BY THE BOARD OF CAMERON COUNTY ENGINEERS IN ACCORD WITH THE FOLLOWING:

1. TO SECURE THE BEST USE OF THE WATER.
2. TO PREVENT THE WASTAGE OF WATER.
3. TO PREVENT THE CONTAMINATION OF WATER BY FLOODING.
4. TO PREVENT THE CONTAMINATION OF WATER BY FLOODING.
5. TO PREVENT THE CONTAMINATION OF WATER BY FLOODING.
6. TO PREVENT THE CONTAMINATION OF WATER BY FLOODING.
7. TO PREVENT THE CONTAMINATION OF WATER BY FLOODING.
8. TO PREVENT THE CONTAMINATION OF WATER BY FLOODING.
9. TO PREVENT THE CONTAMINATION OF WATER BY FLOODING.
10. TO PREVENT THE CONTAMINATION OF WATER BY FLOODING.

THE PLAT IS APPROVED BY THE BOARD OF CAMERON COUNTY ENGINEERS IN ACCORD WITH THE FOLLOWING:

1. TO SECURE THE BEST USE OF THE WATER.
2. TO PREVENT THE WASTAGE OF WATER.
3. TO PREVENT THE CONTAMINATION OF WATER BY FLOODING.
4. TO PREVENT THE CONTAMINATION OF WATER BY FLOODING.
5. TO PREVENT THE CONTAMINATION OF WATER BY FLOODING.
6. TO PREVENT THE CONTAMINATION OF WATER BY FLOODING.
7. TO PREVENT THE CONTAMINATION OF WATER BY FLOODING.
8. TO PREVENT THE CONTAMINATION OF WATER BY FLOODING.
9. TO PREVENT THE CONTAMINATION OF WATER BY FLOODING.
10. TO PREVENT THE CONTAMINATION OF WATER BY FLOODING.

[illegible][illegible]

STATE OF TEXAS - COUNTY OF HIDALGO
PUBLIC NOTARY CERTIFICATE

Check numbers by hand and key, or enter year _____ day of _____ 2001

HIDALGO COUNTY
DEPARTMENT OF PLANT APPROVAL
HIDALGO COUNTY HEALTH DEPARTMENT
"I HEREBY CERTIFY THAT THE ABOVE IS A TRUE AND CORRECT COPY OF THE RECORDS AND APPROVED BY THE HEALTH COMMISSIONER OF HIDALGO COUNTY, TEXAS."
DATE _____

STATE OF IOWA - COUNTY OF HAWAII

I, THE UNDERSIGNED, A PERSONED RESIDENT, BEING OF THE STATE OF IOWA, DO HEREBY CERTIFY THAT THE FOREGOING INVENTION DESCRIBED HEREIN WAS MADE AND DONE BY THIS PATENT.

WITNESSED MY HAND AND SEAL OF OFFICE, AT DES MOINES, IOWA, THIS 12th DAY OF JULY, 1900.

JOHN F. MCGEE, JUDGE OF THE DISTRICT COURT OF THE DISTRICT OF HAWAII.



HIDALGO COUNTY DRAINAGE DISTRICT NO. 1 CERTIFICATE

[illegible]

HIDALGO COUNTY
CERTIFICATE OF PLAT APPROVAL
UNDER LOCAL GOVERNMENT CODE § 232.028 (A)

ATKINS
PO BOX 100000
ATLANTA, GA 30308

[illegible]

PRELIMINARY

THIS DOCUMENT IS
RELEASED FOR THE
PURPOSE OF WITHDRAW
REVIEW UNDER THE
AUTHORITY OF
IVAN GARCIA,
P.E. 115662 ON
MAY, 2020
IT IS NOT TO BE
USED FOR CONSTRUCTION
DRAWING OR PERMIT
PREPARATION



RIO DELTA ENGINEERING
FIRM REGISTRATION No. F-7028
SURVEY FIRM No. 10194027
921 S. 10TH AVENUE EDINBURG, TEXAS 78539
(TEL) 956-380-5152 (FAX) 956-380-5083

PROJECT 1

PLAT SHEET

MILANOS ESTATES PHASE III SUBDIVISION

HIDALGO COUNTY

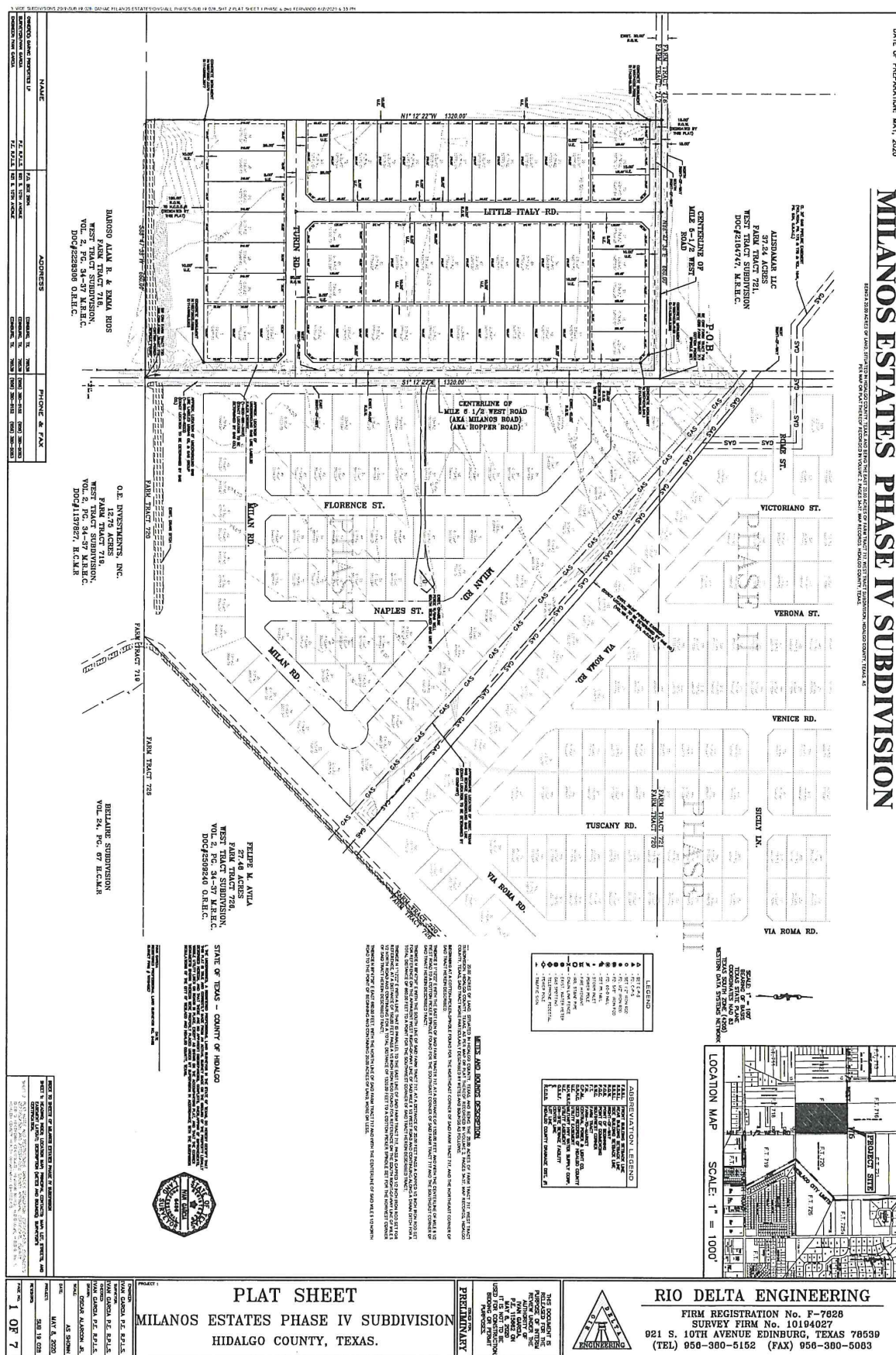
NAME	ADDRESS	PHONE & FAX
DIRECTOR VICTOR A. DAVIES	P.O. BOX 3004 CHANDLER, TX 75004	(940) 267-8142 (940) 267-6283
MANAGING DIRECTOR	CHANDLER, TX 75004	(940) 267-8142 (940) 267-6283
DIRECTOR NINA DAVIES	CHANDLER, TX 75004	(940) 267-8142 (940) 267-6283

FILED FOR RECORD IN
HAWAII COUNTY
AT
KAILUA-KUA, HAWAII
HAWAII COUNTY CLERK

ON _____ AT _____ AM/PM
INSTANTANT NUMBER _____
OF THE MAP RECORDS OF HAWAII COUNTY, TERRITORY OF HAWAII
BY _____ DEPUTY

[illegible]

NAME:	OSCAR ALARCON JR
SCALE:	AS SHOWN
DATE:	MAY, 2020
PROJECT:	SUB 10 027
REVISIONS:	
PAGE NO:	2 OF 2





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

Date of Meeting: August 5, 2020	Agenda Item No. (to be assigned by PCE): IV. B.
From: Rebekah de la Fuente, Planning Director, on behalf of SWG Engineering LLC.	
Subject/Agenda Item: Discussion and consideration for the Final Plat for Verona Subdivision– being a 20 acres out of Farm Tract 1038, West and Adams Tract Subdivision, Weslaco, Hidalgo County, Texas located approximately 1800 ft. North of mile 8 on FM 1015. Possible Action.	
Discussion/Overview: The proposed fifty (50) lot subdivision is inside the City of Weslaco city limits. This subdivision is being serviced with water by the City of Weslaco through a 12” waterline and sewer by the City of Weslaco services through a 6” sewer line. The property is within a Flood Zone “X”. Owner is requesting off-site drainage detention variance. Developer has provided letters of support and is excavating ditch for 205,000 cf.	
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 of Preliminary 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

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: Verona Subdivision

Location: 1,800 ft. North of Mile 8 and FM 1015

Legal Description: 20 Acres of Land out of Farm Tract 1038 West and Adams Tract Subdivision
Hidalgo County, Texas as recorded in Volume 2, page 34-37

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-2

Existing Land Use: Proposed detention areas Proposed Land Use: Four-Plex Subd.

Number of Lots Proposed: 50 Gross Acreage: 20 Acres

Title Report Submitted: ☐ YES ☒ NO

OWNER INFORMATION

Owner's Name: SHIVA Ventures, LLC Telephone: _____

Address: 4900 N. 10th St. Fax: _____

City: McAllen State: Tx Zip: 78504 E-mail: _____

ENGINEER INFORMATION

Name: SWG Engineering LLC Telephone: (956)968-2194

Address: 611 Bill Summers Intl. Blvd. Fax: (956) 968-8300

City: Weslaco State: Tx Zip: 78504 E-mail: jreyes@siglerwinstongreenwood.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 Weslco
- ☒ YES ☐ NO Wastewater Provision: City of Weslaco
- ☒ YES ☐ NO Electric Company: AEP

☒ YES ☐ NO Phone Utility _____	☐ 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 rhinojosa@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 rhinojosa@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
- ☐ N/A 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 could 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: _____

Owner Signature: _____ Date: _____

SWG Engineering, LLC

is the authorized agent

Authorized Agent Signature: José G. Reyes, P.E. Date: Jul. 8. 2020

Authorized Agent Printed Name: José G. Reyes, 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: _____



APPLICATION FOR SUBDIVISION VARIANCE

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: Verona Subdivision

Location: 1,800 ft. North of Mile 8 and FM 1015

Legal Description: 20 Acres of Land out of Farm Tract 1038 and Adams Tract Subdivision

Hidalgo County, Texas as recorded in Volume 2, Pages 34-37

VARIANCE TYPE:

☐ Streetlights ☐ YES ☐ NO

Describe in detail the reason for the variance request:

☐ Sanitary Sewer ☐ YES ☐ NO

Describe in detail the reason for the variance request:

☐ Fire Hydrants ☐ YES ☐ NO

Describe in detail the reason for the variance request:

☐ Setbacks ☐ YES ☐ NO

Describe in detail the reason for the variance request:

☒ Drainage ☐ YES ☐ NO

Describe in detail the reason for the variance request:

Proposing to use HCCID#9 ditch on the west side of Subdivision as a 50 year frequency flood detention pond.

☐ Minimum Lot Size ☐ YES ☐ NO

Describe in detail the reason for the variance request:

☐ Sidewalks ☐ YES ☐ NO

Describe in detail the reason for the variance request:

☐ Easement Requirements ☐ YES ☐ NO

Describe in detail the reason for the variance request:

☐ Other _____ ☐ YES ☐ NO

Describe in detail the reason for the variance request:

OWNER INFORMATION

Owner's Name: SHIVA Ventures, LLC Telephone: _____

Address: 4900 N. 10th Suite C4 Fax: _____

City: Mcallen State: Tx Zip: 78504 E-mail: _____

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: _____

Owner Signature: _____ Date: _____

SWG Engineering, LLC is the authorized agent

Authorized Agent Signature: [Signature] P.E. Date: MAY 1, 2020

Authorized Agent Printed Name: Jose G. Reyes, P.E.

THIS PAGE FOR STAFF USE ONLY

Date Received: _____ Received By: _____ Date Paid _____

P & Z Meeting _____ City Commission Mtg _____

Variance Granted: _____

General Comments: _____

CITY OF WESLACO
956-968-3181

REC#: 02631624 5/07/2020 3:04 PM
OPER: NV TERM: 039
REF#: 4365
PAID BY:

TRAN: 203.0000 SUBDIVISION INSPECT
SWG ENGINEERING
VAR
101-400-1025
SUBDIVISION INSPECT 55.00CR

TENDERED: 55.00 CHECK
APPLIED: 55.00-



SUBDIVISION REVIEW 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.

GENERAL INFORMATION

Name of Subdivision: Verona Subdivision

Location: 1,800 ft. north of Mile 8 and F.M. 1015

Legal Description: 20 Acre of Land Out of Farm tract 1038 west abd Adams tract subdivision
Hidalgo County, Texas as recorded in Volume 2, page 34-37

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 Family Dweling District

Existing Land Use: Proposed Detention Areas Proposed Land Use: Multi-Family

Number of Lots Proposed: 53 Gross Acreage: 20 Acres

Title Report Submitted: ☐ YES ☐ NO

OWNER INFORMATION

Owner's Name: SHIVA Ventures, LLC Telephone: _____

Address: 4900 N. 10th St. Suite C4 Fax: _____

City: McAllen State: TX Zip: 78504 E-mail: _____

ENGINEER INFORMATION

Name: Jose G. Reyes, P.E. Telephone: (956)968-2194

Address: 611 Bill Summers Int'l Blvd. Fax: (956)968-8300

City: Weslaco State: TX Zip: 7/8596 E-mail: jreyes@siglerwinstongreenwood.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 _____	☐ 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 SUBDIVISION REVIEW

- ☒ Seven (7) sets of preliminary plat folded and stapled (24 x 36) and forward a copy in PDF format to mhinojosa@weslacotx.gov & rdelafuente@weslacotx.gov
- ☒ \$55.00 Subdivision 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 & 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

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: _____

Owner Signature: _____ Date: _____

SWG EDEWEEBWA, LLC is the authorized agent

Authorized Agent Signature: Jose G. Reyes, P.E. Date: DEC. 12. 2019

Authorized Agent Printed Name: Jose G. Reyes, P.E.

THIS PAGE FOR STAFF USE ONLY

Date Received: _____ Received By: _____ Date Paid _____

Preliminary Subdivision Review Date: _____

General Comments: _____

City of Weslaco

"The City on the Grow"



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

Mike R. Perez, City Manager

To: Mr. Jose G. Reyes P.E.
SWG Engineering, LLC

Date: April 29th, 2020

Subject: Verona Subdivision

Dear Mr. Reyes,

This is to advise you that as per our review, the drainage calculations for the subject subdivision are approved. However, as per our drainage policy, the subdivision must provide on-site detention of the fifty-year frequency flood. This was previously conveyed to you on our review comments dated January 3, 2020. Please be reminded that you have the option of pursuing a variance for this requirement.

If you have any questions or require further clarification, please, do not hesitate to call me at (956) 969-1533 or email me at aaldana@weslacotx.gov.

Sincerely,

Albert J. Aldana P.E.
City Engineer

c: Mrs. Rebekah De La Fuente, Planning Director
Mr. Peter Hermida, E.I.T., Engineering

General Office

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

E-Mail
hccid9general@hccid9.org



RANDALL WINSTON P.E.
General Manager

JUDY BEALL
Tax Assessor-Collector

P O Box 237 Mercedes, Texas 78570

April 10th, 2020

Mr. Joe Reyes, P.E.
SWG Engineering LLC
611 Intl. Blvd
Weslaco, Texas 788596

RE: Verona Subdivision being 20.00 Acres out of FT 1038
West and Adams Tract
Drainage and Detention Requirements

Good morning Mr. Reyes:

I have received your proposed cross sections and calculations dated 3/20/2020 for the Proposed Verona Subdivision to include the 50 year detention volume in the lower portion of the drain ditch as shown on your provided cross sections.

HCCID #9 does not object to storing the mandated 50 year detention within the ditch on the proposed excavated lower level as shown on the cross sections. HCCID #9 and the City of Weslaco have an inter-local in place. As this section of the Ditch is within the City Limits of Weslaco the maintenance of it will be by their personnel. Please verify final design of Detention with Mr. Albert Aldana, P.E., City Engineer with the City of Weslaco. Lastly, please reflect the additional ditch ROW to be dedicated to the City of Weslaco on the plat.

If you have any questions, please feel free to call.

Sincerely,


Randall Winston
General Manager

HCCID #9
Mercedes, Texas
956-565-2411



Lower Rio Grande Valley Development Council

Mayor David Suarez, Weslaco President
Mayor Jim Darling, McAllen..... 1st Vice-President
Judge Aurelio "Keter" Guerra, Willacy County 2nd Vice President
Mayor Ambrosio "Amos" Hernandez, Pharr Secretary
Mayor Chris Boswell, Harlingen Treasurer
Hon. Norma G. Garcia, Member-at-Large..... Immediate Past President

BOARD MEMBERS

David A. Garza
Commissioner, Cameron County

David Fuentes
Commissioner, Hidalgo County

Pilar Garza
Commissioner, Alamo

Trey Mendez,
Mayor, Brownsville

Gilbert Enriquez
Councilman, Edinburg

Yolanda H. Cruz
Mayor Pro-tem, Los Fresnos

Rick Salinas
Commissioner, Lyford

Henry Hinojosa
Mayor, Mercedes

Norie Gonzalez Garza
Mayor Pro-tem, Mission

Dave Kusch
Mayor, Primera

Edward Gonzales
Commissioner, Raymondville

Benjamin "Ben" Gomez
Mayor, San Benito

Marco "Markie" Villegas
Mayor, San Juan

Veronica Gonzales
UT Rio Grande Valley

Paul Hernandez
South Texas College

Javier De Leon
Texas State Technical College

Troy Allen
Delta Lake Irrigation District

Ronald Mills
Willacy County Navigation District

Celeste Sanchez
Member-at-Large

Commissioner Jesse Zuniga
Member-at-Large

Christina Patiño Houle
Grassroots Organizations

INTERIM-EXECUTIVE DIR
Kenneth N Jones, Jr

June 5, 2020

Jose Reyes
SWG Engineering, LLC
611 S International Blvd
Weslaco, TX 78596

The LRGVDC E-Comms/9-1-1 Department acknowledges the notification on the following **PROPOSED NAMES**:

**MARIA JOSE DR
VANI DR
DANIELA T DR
MARCELA DR
PETRI DR
LORE DR**

to be part of **VERONA SUBDIVISION** in the Weslaco community.

A query was done on the state 9-1-1 database and found no conflict for the proposed name to be used.

ACKNOWLEDGED ON: June 5, 2020
RESEARCHED BY: Jose Hernandez
TITLE: Program Specialist

SIGLER, WINSTON, GREENWOOD & ASSOCIATES

DRAINAGE REPORT FOR Verona Subdivision WESLACO, TEXAS

Prepared By:

SWG Engineering, LLC

611 Bill Summers Intl. Blvd.

Weslaco, Texas 78596

Tel: 956-968-2194

Fax: 956-968-8300

jreyes@siglerwinstongreenwood.com



[Handwritten signature] P.E.
MAY 5. 2020

COVER SHEET	1
INDEX	2
PROJECT LOCATION	3
FLOOD PLAIN	3
SOIL CONDITIONS	3
EXISTING CONDITIONS	4
PROPOSED CONDITIONS	4
"C" VALUES FOR RATIONAL METHOD	5
ATTACHMENTS	6

DRAINAGE STATEMENT

Verona Subdivision

Project Location

This project involves the development of a 20 acre tract of land, with a Property ID of 108393. This site is located approximately 1,815 feet north of the corner of North F.M 1015 (International Boulevard) and Mile 8 in Weslaco, TX. The proposed subdivision is comprised of 50 Lots for a total of 20 acres.

Flood Plain

The subject tract of land resides in flood zone X, shades areas of 500-year flooding; areas of 100-year flood with average depths less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood. Area is determined by FEMA Flood Insurance Rate Map, Community Panel No. 480334 0450 C, revised date June 6, 2000. Revised to Reflect LOMR on May 3, 2002.

Soil Conditions

The Soil survey of Hidalgo County indicates that the subject property lies in two soil units.

(28) Hidalgo Sandy Clay Loam, 0 to 1 percent slopes. Typically, the surface layer is dark grayish brown sandy clay loam about 17 inches thick. The next layer, from 17 to 28 inches, is brown sandy clay loam. The next layer, from 28 to 38 inches is pale brown clay loam. The next layer extending 38 to 80 inches is very pale brown sandy clay loam. The soil is calcareous throughout. The soil is well drained. Surface runoff is slow, and permeability is moderate. Potential is high for nonirrigated and irrigated pasture grasses. The main limitations are shrinking and swelling of the soil and high corrosivity to uncoated steel. The soil is listed in Hydrologic Group B. It is also classified under unified classification as sandy clay loam (SC, CL). (see excerpts from "Soil Survey of Hidalgo County, Texas)

(52) Raymondville Clay Loam, 0 to 1 percent slopes. Typically, the surface layer is dark brown clay loam about 15 inches thick. The next layer, from 15 to 45 inches, is brown clay loam. The next layer 45 to 65 is brown clay. The soil is calcareous throughout. The soil is moderately well drained. Surface flow is moderate, and permeability is low. Potential is high for nonirrigated and irrigated pasture grasses. The main limitations are shrinking and swelling of the soil and high corrosivity to uncoated steel. The soil is listed in Hydrologic Group C. It is also classified under unified classification as clay loam (CL). (see excerpts from "Soil Survey of Hidalgo County, Texas)

Existing Conditions

The subject property currently undeveloped. The existing surface runoff is by surface flow. The runoff travels in a westward direction and is ultimately captured by drainage ditch, 17A121, on the west side of the property. The site topography elevations range from 0 to 1 in some areas. In accordance with the drainage policies of City of Weslaco and County of Hidalgo, the rational method, 10-year frequency storm event was utilized to determine the existing storm runoff site. The total contributing 10-year storm water runoff from this site is approximately **12.211 cfs**, as per attached calculations.

Proposed Conditions

The proposed conditions for this subject tract will consist of a 50 Lot Subdivision. Development will consist of proposed quadruplexes on each lot. Storm water runoff will be captured by proposed curb and gutter on streets in future development. In accordance with the drainage policies of City of Weslaco, Rational Method, 50-year frequency storm event was utilized to determine the proposed runoff from this site. The total contributing 50-year existing storm water runoff from this site is approximately **22.637 cfs**.

The peak rate run off will increase during the 50-year frequency storm event due to proposed conditions. Flow rate will increase **10.426 cfs**. Therefore, as per attached calculations, **95,526.09 ft³ or 2.1930 Acre-ft** of storm water shall be required to detain. Post-development runoff shall be sheet flow to the proposed curb and gutter; that will carry water to the proposed storm sewer inlets. The proposed storm system will carry the storm water to the drain ditch, 17A121, on the Westside of the property via 24 inch storm sewer pipes. The said drain ditch is proposed to be expanded to have an additional detention volume of **205,875 ft³**. The drain ditch is owned by HCIDD 9, which has a 50 foot R.O.W. from centerline. A 25 ft R.O.W. will be dedicated by this plat to City of Weslaco. A drainage plan shall be approved by Weslaco at the time of issuance of building permit.



By: Jose G. Reyes, P.E. MAY 5, 2020
Jose G. Reyes, P.E. Date

Sonia and Orlando Garcia Subdivision

Hidalgo County Drainage District No. 1 "C" Values for Rational Method

Type of Drainage Area	Runoff Coefficient
Residential Districts:	
Single Family (Lots less than ¼ acre)	0.30 – 0.50
Multi - Family (Less than 20 DU/AC)	0.40 – 0.60
Multi - Family (Greater than 20 DU/AC)	0.60 – 0.75
Business District:	
Downtown areas	0.70 – 0.95
Neighborhood areas	0.30 – 0.70
Industrial Districts:	
Light Areas	0.30 – 0.80
Heavy Areas	0.60 – 0.90
Railroad Yard Areas:	0.30 – 0.40
Park:	0.10 – 0.25
Unimproved Areas:	
Sand or sandy loam soil, 0-3%	0.15 – 0.20
Sand or sandy loam soil, 3-5%	0.20 – 0.25
Black or loessial soil, 0-3%	0.18 – 0.25
Black or loessial soil, 3-5%	0.25 – 0.30
Black or loessial soil, >5%	0.70 – 0.80
Deep sand area	0.05 – 0.15
Steep grassed slopes	0.70
Street:	
Asphalt	0.85 – 0.95
Concrete	0.90 – 0.95
Drives & Walks:	
Concrete	0.75 – 0.95

DRAINAGE CALCULATIONS (50-year)

PROJECT NAME: Verona Subdivision
PROJECT LOCATION: FM 1015
Weslaco, TX
DATE: May 5, 2020

EXISTING CONDITION

Total Area

A= 871200.00 ft²
20.000 ac

Existing Runoff Coefficient (Weighted)

C_{ex} = 0.20

Time of Concentration

T_c = $\frac{L}{60V}$ 55 min grassed waterway

where:

L= 1700 ft

V= $Ku \cdot k \cdot S^{\frac{1}{2}}$ 0.519 feet/second

where:

Ku= 3.28

k= 0.457 Grassed Waterway

Slope= 0.12 %

Rainfall Intensity

I= $\frac{b}{(T_c + d)^e}$ 3.05 in/hr

where:

IDF Coefficients for Hidalgo County (10-year)

b= 116.24

d= 14.33

e= 0.8599

Q_{ex} = (C_{ex})IA 12.211 cfs

FUTURE CONDITION (50-Year)

Area

A= 871200.00 ft²
20.000 ac

Time of Concentration

$$T_c = \frac{L}{60V} \quad 2 \text{ min} \quad \text{Pavement}$$

where:

$$L = 1700 \text{ ft}$$

$$V = 1.112 \text{ feet/second}$$

Time of Concentration (Total - Developed)

$$T_c = 10 \text{ min}$$

10 min (Minimum)

Future Runoff Coefficient (Estimated)

$$C_{fut} = 0.40$$

IDF Coefficients for Hidalgo County (50-year)

$$b = 170.66$$

$$d = 16.71$$

$$e = 0.8613$$

Calculations for Vmax:

Dur	I	Qfut	Vfut	Qex	Vex	Vmax
10	10.077	80.617	48370.2975	12.211	7326.68	41043.6163
20	7.663	61.302	73562.1111	12.211	10990	62572.0892
30	6.227	49.815	89666.7677	12.211	14653.4	75013.4052
40	5.269	42.150	101159.323	12.211	18316.7	82842.6202
50	4.581	36.648	109942.935	12.211	21980	87962.891
60	4.062	32.494	116977.199	12.211	25643.4	91333.8141
70	3.655	29.239	122803.863	12.211	29306.7	93497.138
80	3.327	26.616	127754.575	12.211	32970.1	94784.5098
90	3.057	24.453	132045.139	12.211	36633.4	95411.7328
100	2.830	22.637	135822.837	12.211	40296.7	95526.0904
110	2.636	21.090	139192.118	12.211	43960.1	95232.0305
120	2.469	19.754	142229.421	12.211	47623.4	94605.9923
130	2.324	18.589	144992.179	12.211	51286.8	93705.4102
140	2.195	17.562	147524.522	12.211	54950.1	92574.413
150	2.081	16.651	149861.014	12.211	58613.5	91247.5641

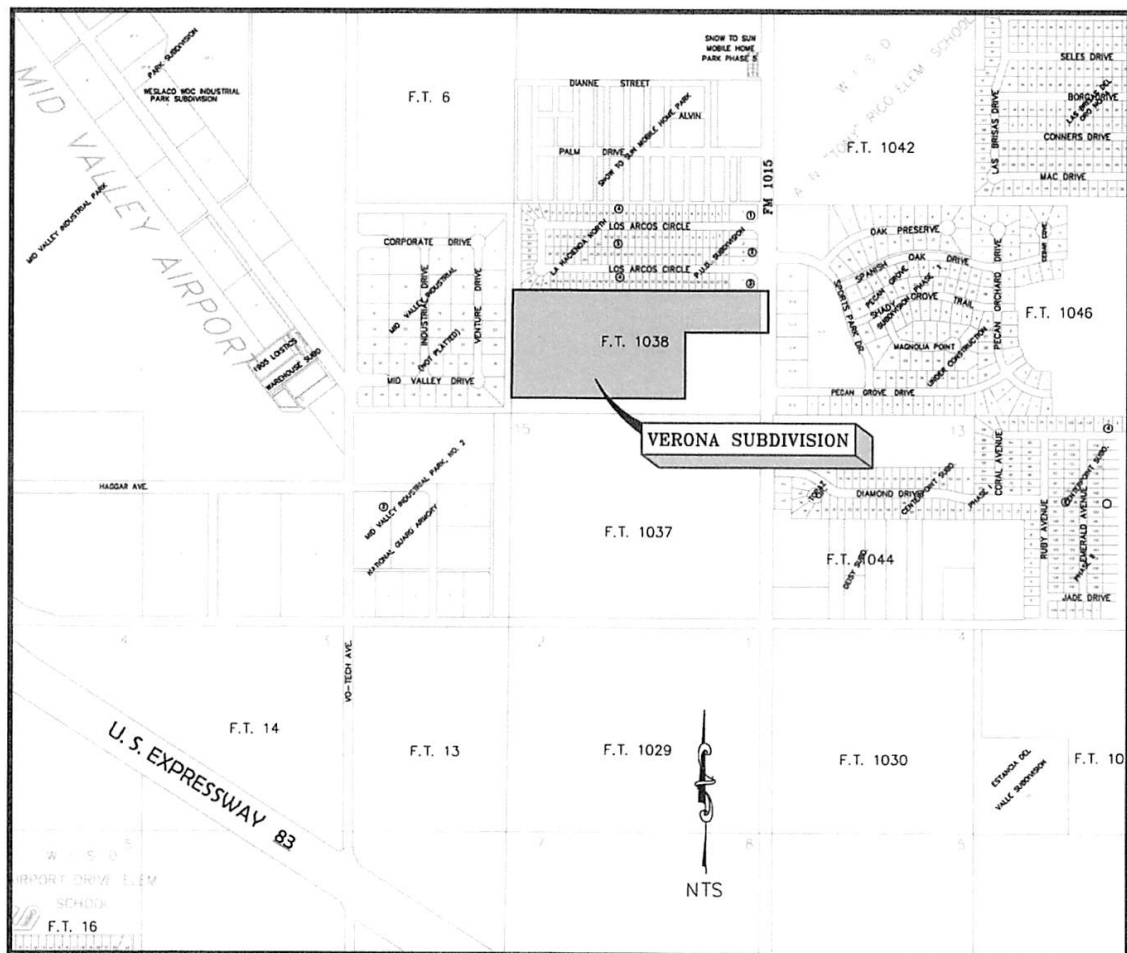
Storage Required (50-yr) 95526.09 ft³

w/ release rate of (10-yr) \$ 12.211 ft³/s

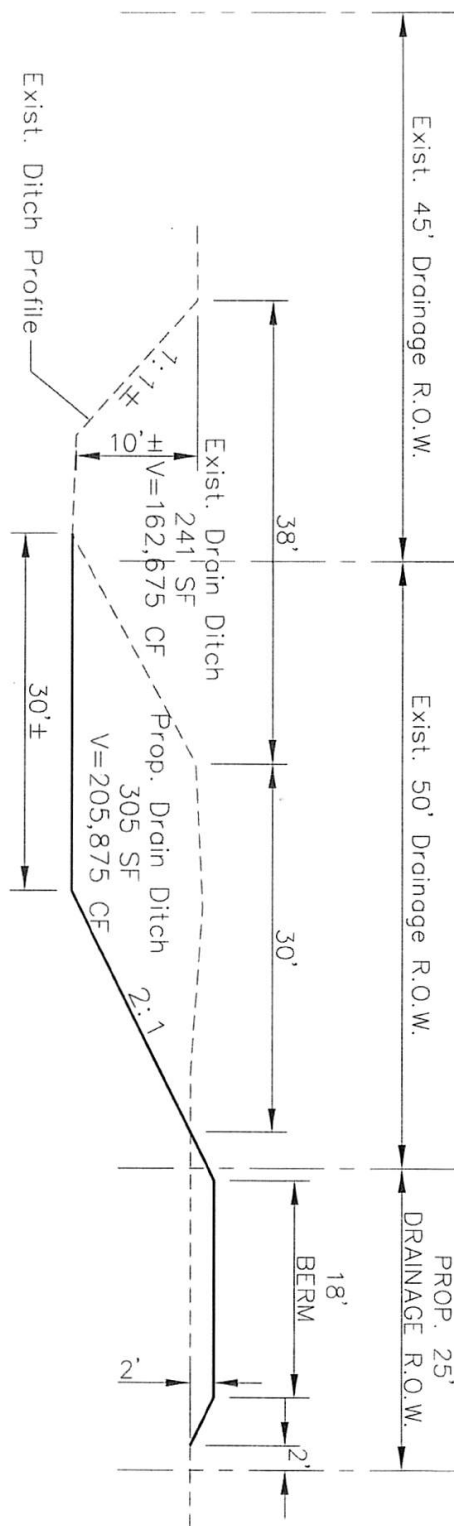


[Handwritten Signature] P.E.
MAY 5, 2020

Attachments



LOCATION MAP



PROPOSED DRAIN DITCH EXPANSION

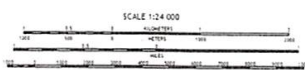
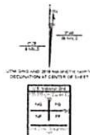
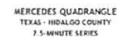
VERONA SUBDIVISION

20.00 ACRES OF LAND
OUT OF FARM TRACT 1038
WEST AND ADAMS TRACT SUBDIVISION
RECORDED IN VOLUME 2, PAGE 34-37 MAP RECORDS
OF HIDALGO COUNTY, TEXAS



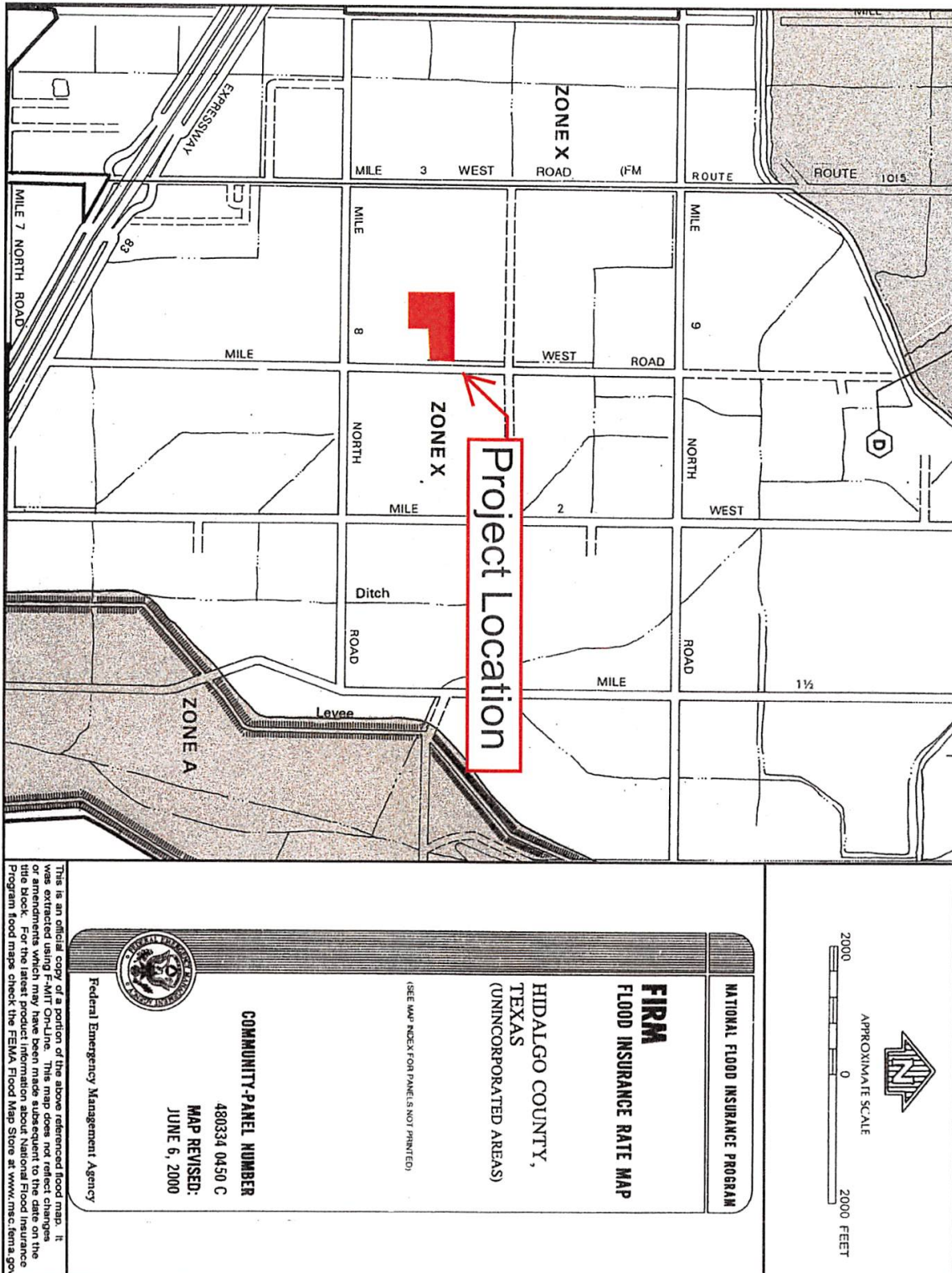
2:\064\PROJ\VERONA\VERONA SUBD - COPY\VERONA SUBD.DWG 5/5/2020 1:30 PM

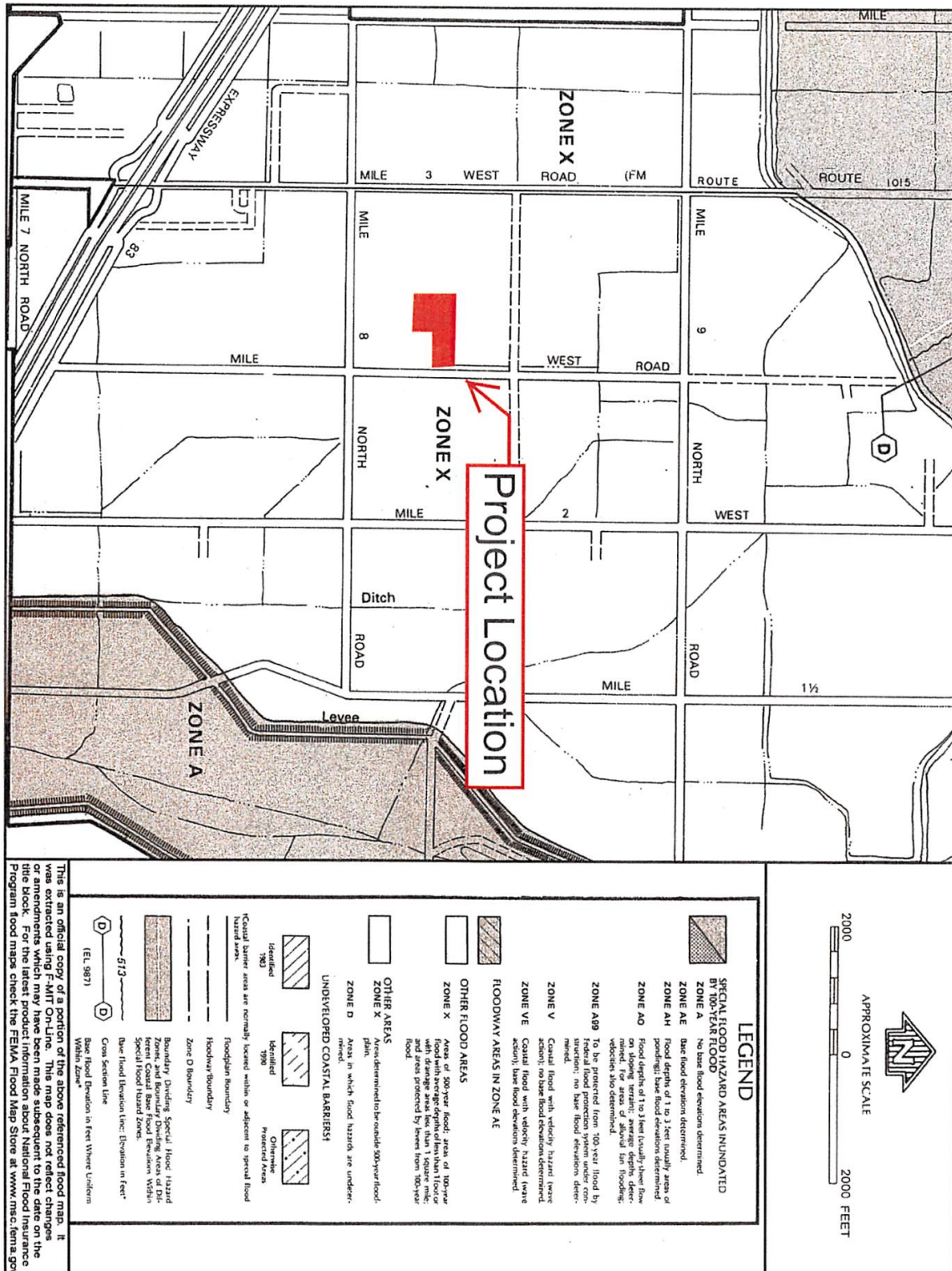




MERCEDES, TX
2019









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**



October 1, 2019

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

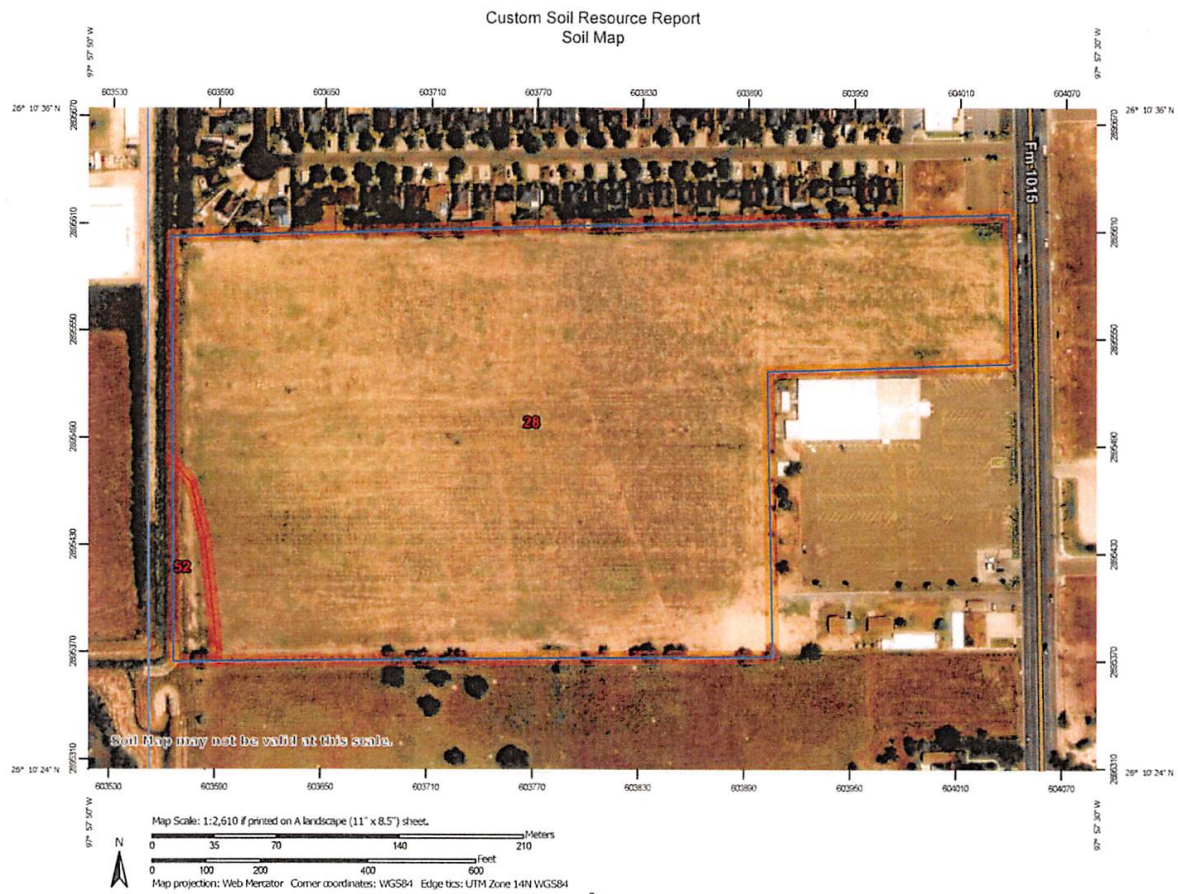
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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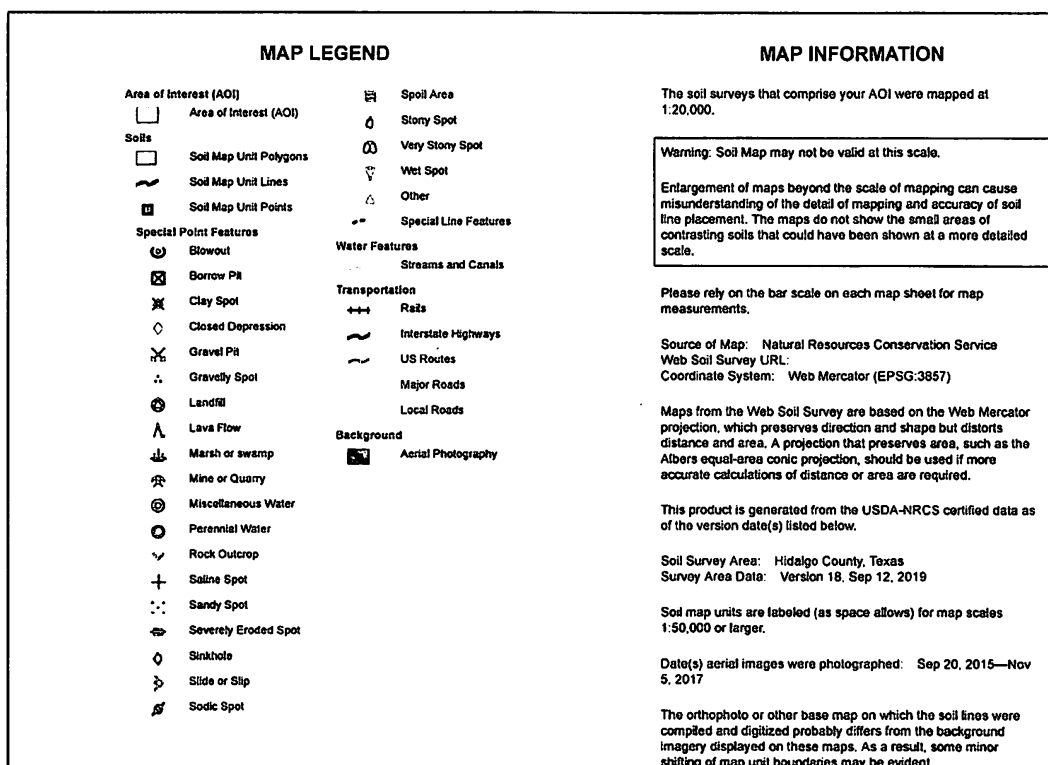
identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



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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	22.6	97.9%
52	Raymondville clay loam, 0 to 1 percent slopes	0.5	2.1%
Totals for Area of Interest		23.1	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 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,

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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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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
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
Natural 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 in profile: 35 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 10.0
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

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

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Minor Components

Raymondville

Percent of map unit: 7 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Clay Loam (R083DY025TX)
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: Clay Loam (R083DY025TX)
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

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
Across-slope shape: Linear
Parent material: Calcareous clayey alluvium

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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
Natural 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 in profile: 10 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 8.0
Available water storage in profile: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: C
Ecological site: Clay Loam (R083DY025TX)
Hydric soil rating: No

Minor Components

Unnamed

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

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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		
	<u>in</u>								<u>Pct</u>	
45,* 46,* 47.* Pits										
48, 49----- Racombe	0-13	Sandy clay loam	CL, SC	A-4, A-6	100	100	95-100	45-65	27-35	8-15
	13-49	Sandy clay loam, clay loam.	CL, SC	A-6, A-7	100	95-100	90-100	45-65	34-43	15-22
	49-72	Sandy clay loam, clay loam.	CL, SC	A-6	90-100	80-100	80-95	40-65	30-40	11-20
50----- Ramadero	0-21	Sandy clay loam	CL, SC	A-6, A-4	100	100	95-100	45-65	27-39	9-18
	21-65	Sandy clay loam, clay loam.	CL, SC	A-6, A-7	100	95-100	90-100	45-65	32-42	13-21
51: * 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, sandy 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-----	---	---	---	---	---	---	---	---
Cuevitas-----	0-8	Fine sandy loam	SM, SM-SC, SC	A-2-4	80-100	80-100	80-100	20-35	<28	NP-9
	8-60	Cemented-----	---	---	---	---	---	---	---	---
52, 53----- Raymondville	0-15	Clay loam-----	CL	A-6, A-7-6	100	100	95-100	51-85	37-50	18-30
	15-43	Clay, clay loam	CL, CH	A-6, A-7-6	100	95-100	95-100	75-95	38-55	19-35
	43-65	Clay, clay loam	CL, CH	A-7-6	100	85-100	80-100	75-95	40-53	20-30
54: * Raymondville----	0-15	Clay loam-----	CL	A-6, A-7-6	100	100	95-100	51-85	37-50	18-30
	15-43	Clay, clay loam	CL, CH	A-6, A-7-6	100	95-100	95-100	75-95	38-55	19-35
	43-65	Clay, clay loam	CL, CH	A-7-6	100	85-100	80-100	75-95	40-53	20-30
Urban land.										
55, 56----- Reynosa	0-15	Silty clay loam	CL, CL-ML	A-6, A-4, A-7-6	100	100	95-100	80-100	25-45	7-25
	15-48	Silty clay loam, silt loam.	CL	A-6, A-4, A-7-6	100	100	95-100	80-100	28-44	9-23
	48-65	Stratified silty clay loam to silt loam.	CL, CL-ML	A-6, A-4, A-7-6	100	100	90-100	70-100	20-49	4-29
57: * Reynosa-----	0-15	Silty clay loam	CL, CL-ML	A-6, A-4, A-7-6	100	100	95-100	80-100	25-45	7-25
	15-48	Silty clay loam, silt loam.	CL	A-6, A-4, A-7-6	100	100	95-100	80-100	28-44	9-23
	48-65	Stratified silty clay loam to silt loam.	CL, CL-ML	A-6, A-4, A-7-6	100	100	90-100	70-100	20-49	4-29
Urban land.										
58, 59----- Rio	0-12	Fine sandy loam	SC, SM-SC	A-2-4, A-4	95-100	95-100	95-100	30-48	<30	5-10
	12-38	Clay loam, clay	CL, CH	A-7-6	95-100	95-100	95-100	75-95	43-57	21-32
	38-63	Clay loam, sandy clay, sandy clay loam.	CL	A-7-6	95-100	95-100	85-95	55-80	41-50	20-27

See footnote at end of table.

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Soil survey

TABLE 16.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit Pct	Plas- ticity index
			Unified	AASHTO	4	10	40	200		
	<u>In</u>									
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, sandy 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	Sandy clay loam	SC, CL	A-6	100	95-100	95-100	40-55	30-40	11-20
	63-80	Sandy 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	90-100	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	30-44	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
Urban land.										

See footnote at end of table.

Hidalgo County, Texas

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TABLE 18.--SOIL AND WATER FEATURES--Continued

Map symbol and soil name	Hydro-logic group	Flooding			High water table			Cemented pan		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hard-ness	Uncoated steel	Concrete
					Ft			In			
32:* Quemado-----	C	None-----	---	---	>6.0	---	---	10-20	Thin	Moderate	Low.
33----- Laredo	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 Olmite	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----- Ramadero	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.
Urban land.											
55----- Reynosa	B	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
56----- Reynosa	B	None-----	---	---	1.5-4.5	Apparent	Sep-May	---	---	High-----	Low.
57:* Reynosa-----	B	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
Urban land.											
58** Rio	D	Frequent-----	Long-----	Sep-May	+2-6.0	Apparent	Sep-May	---	---	High-----	Low.
59** Rio	D	Frequent-----	Long-----	Sep-May	+2-4.5	Apparent	Sep-May	---	---	High-----	Low.

See footnotes at end of table.

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Soil survey

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	Hydro-logic group	Flooding			High water table			Cemented pan		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hard-ness	Uncoated steel	Concrete
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-----	---	---	>6.0	---	---	---	---	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	Moderate	Low.
14----- Falfurrias	A	None-----	---	---	>6.0	---	---	---	---	Low-----	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----- Urban land.	D	None to rare	---	---	>6.0	---	---	---	---	High-----	Low.
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----- Urban land.	B	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
32:* Jimenez-----	C	None-----	---	---	>6.0	---	---	7-20	Thin	High-----	Low.

See footnotes at end of table.

Hidalgo County, Texas

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TABLE 15.--WATER MANAGEMENT--Continued

Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
45, # 46, # 47. # Pits						
48----- Racombe	Moderate: seepage.	Slight-----	Favorable-----	Favorable-----	Favorable-----	Favorable.
49----- Racombe	Moderate: seepage.	Severe: wetness, excess salt.	Excess salt----	Wetness, droughty, excess salt.	Wetness-----	Excess salt, droughty.
50----- Ramadero	Moderate: seepage.	Moderate: piping.	Floods-----	Floods-----	Favorable-----	Favorable.
51: # Randado-----	Severe: cemented pan, seepage.	Severe: thin layer.	Cemented pan----	Cemented pan----	Cemented pan----	Cemented pan.
Cuevitas-----	Severe: cemented pan, seepage.	Severe: thin layer.	Cemented pan----	Cemented pan----	Cemented pan----	Cemented pan.
52----- Raymondville	Slight-----	Moderate: hard to pack.	Peres slowly----	Slow intake, peres slowly.	Peres slowly----	Peres slowly.
53----- Raymondville	Slight-----	Severe: excess salt.	Peres slowly, excess salt.	Wetness, droughty, excess salt.	Wetness, peres slowly.	Excess salt, droughty, peres slowly.
54: # Raymondville-----	Slight-----	Moderate: hard to pack.	Peres slowly----	Slow intake, peres slowly.	Peres slowly----	Peres slowly.
Urban land.						
55----- Reynosa	Severe: seepage.	Moderate: thin layer, piping.	Favorable-----	Erodes easily	Erodes easily	Erodes easily.
56----- Reynosa	Severe: seepage.	Moderate: piping, wetness, excess salt.	Excess salt----	Wetness, excess salt, erodes easily.	Erodes easily, wetness.	Excess salt, erodes easily, droughty.
57: # Reynosa-----	Severe: seepage.	Moderate: thin layer, piping.	Favorable-----	Erodes easily	Erodes easily	Erodes easily.
Urban land.						
58----- Rio	Slight-----	Severe: ponding.	Ponding, peres slowly, floods.	Ponding, peres slowly, floods.	Ponding, peres slowly.	Wetness, peres slowly.
59----- Rio	Slight-----	Severe: ponding, excess salt.	Ponding, peres slowly, floods.	Ponding, droughty, peres slowly.	Ponding, peres slowly.	Wetness, excess salt, droughty.
60----- Rio	Slight-----	Severe: ponding.	Ponding, peres slowly, floods.	Ponding, peres slowly, floods.	Ponding, peres slowly.	Wetness, peres slowly.
61----- Rio	Slight-----	Severe: ponding, excess salt.	Ponding, peres slowly, floods.	Ponding, droughty, peres slowly.	Ponding, peres slowly.	Wetness, excess salt, droughty.
62, 63----- Rio Grande	Severe: seepage.	Severe: piping.	Floods-----	Erodes easily, floods.	Erodes easily	Erodes easily.

See footnote at end of table.

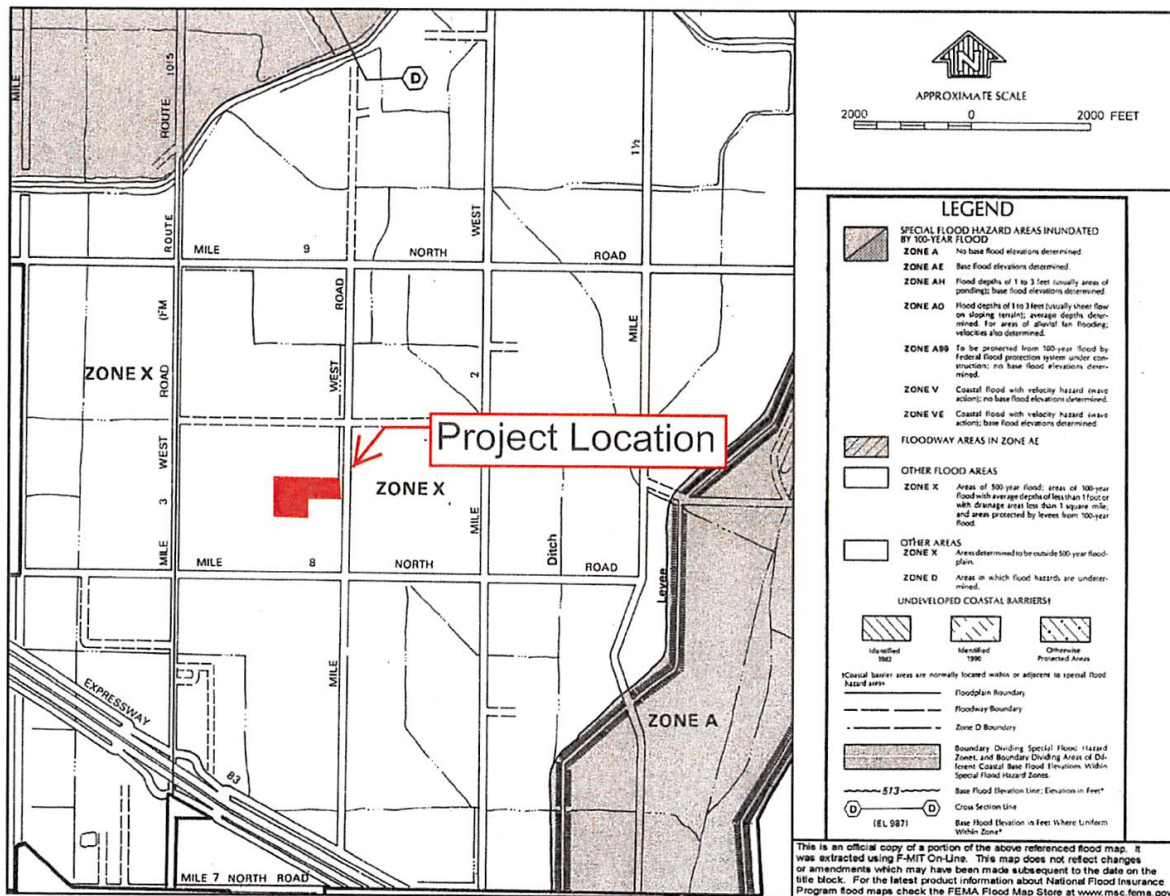
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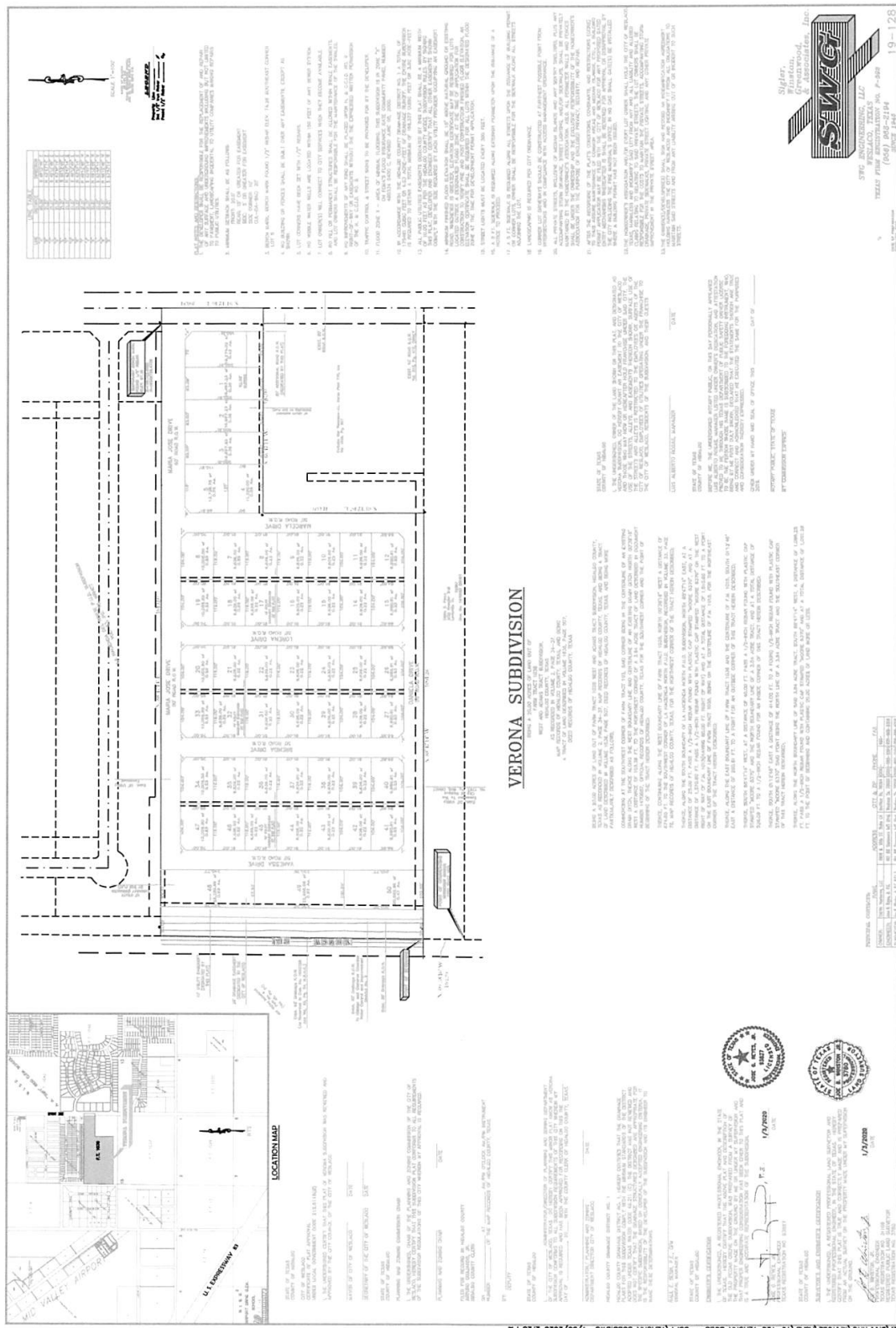
Soil survey

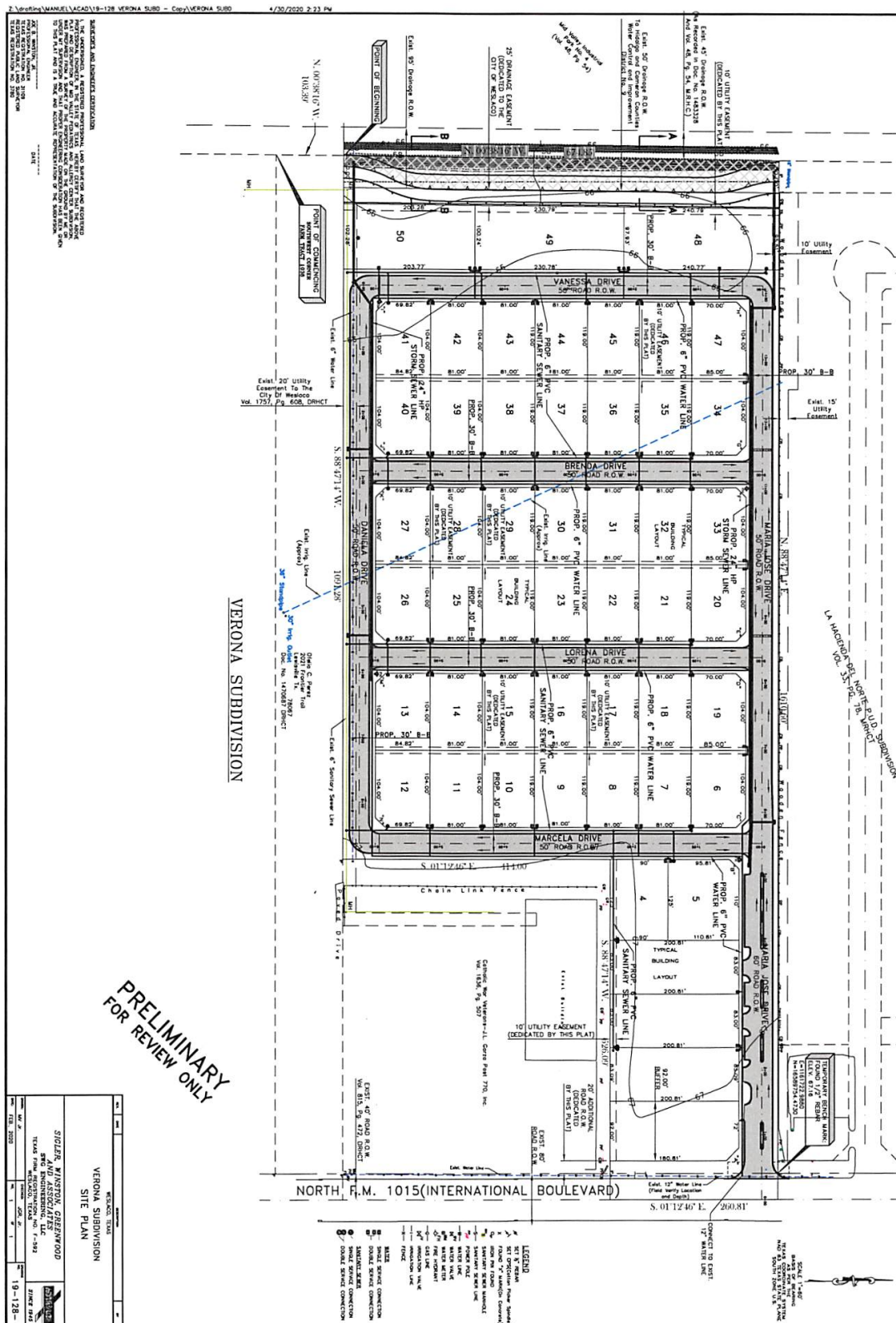
TABLE 15.--WATER MANAGEMENT--Continued

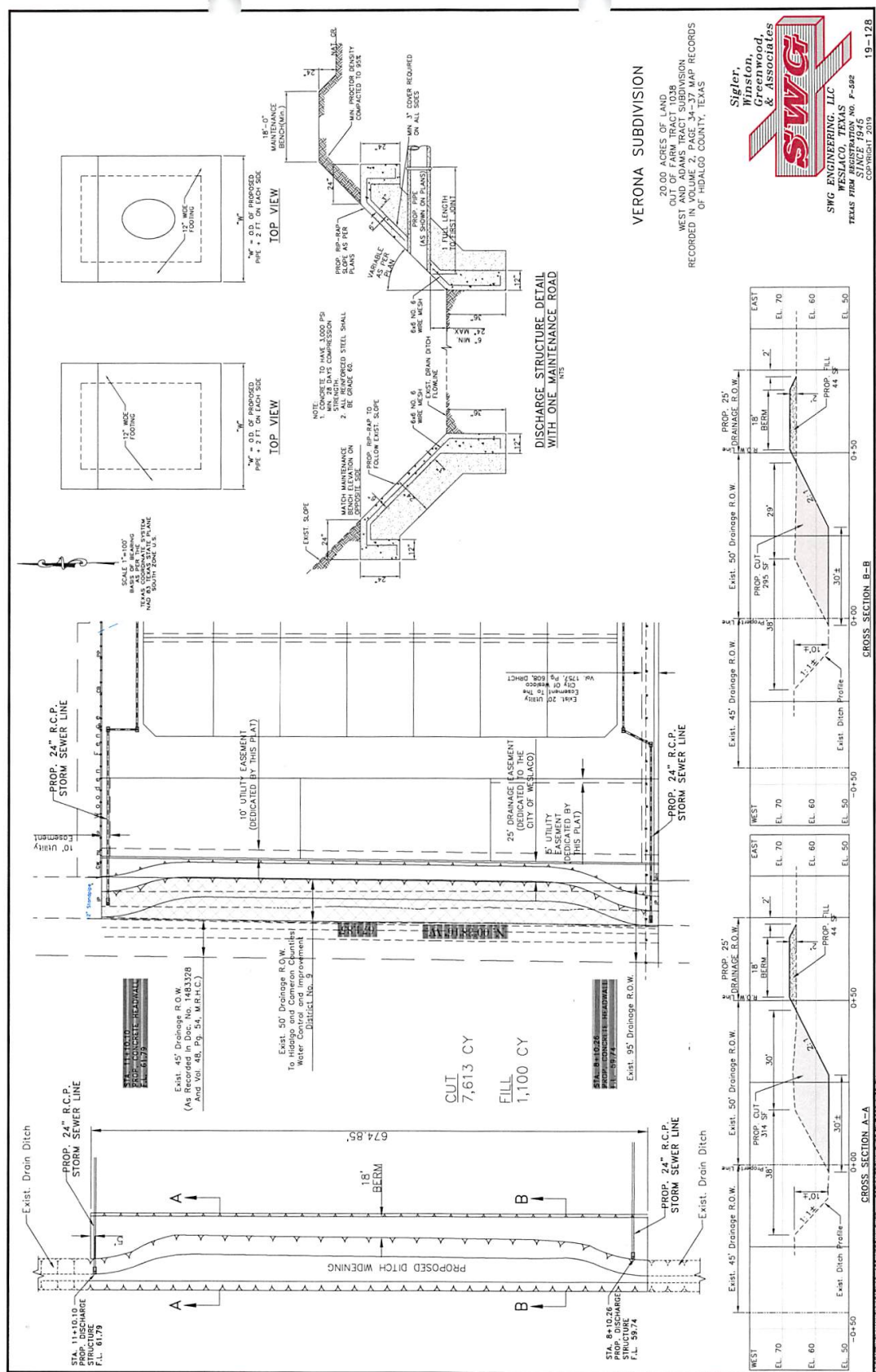
Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
22, 23, 24----- Hebbronville	Severe: seepage.	Moderate: piping.	Favorable-----	Favorable-----	Soil blowing---	Favorable.
25, 26----- Hidalgo	Moderate: seepage.	Moderate: piping.	Favorable-----	Favorable-----	Favorable-----	Favorable.
27----- Hidalgo	Moderate: seepage, slope.	Moderate: piping.	Slope-----	Slope-----	Favorable-----	Favorable.
28, 29----- Hidalgo	Moderate: seepage.	Moderate: piping.	Favorable-----	Favorable-----	Favorable-----	Favorable.
30----- Hidalgo	Moderate: seepage.	Moderate: piping, wetness, excess salt.	Excess salt---	Wetness, excess salt.	Wetness-----	Excess salt, droughty.
31: * Hidalgo----- Urban land.	Moderate: seepage.	Moderate: piping.	Favorable-----	Favorable-----	Favorable-----	Favorable.
32: * Jimenez-----	Severe: cemented pan.	Severe: thin layer.	Cemented pan---	Droughty, cemented pan, slope.	Large stones, cemented pan.	Large stones, droughty.
Quemado-----	Severe: cemented pan.	Severe: seepage.	Cemented pan---	Droughty, cemented pan, slope.	Large stones, cemented pan.	Large stones, droughty, cemented pan.
33----- Laredo	Severe: seepage.	Moderate: piping.	Favorable-----	Erodes easily	Erodes easily	Erodes easily.
34----- Matamoros	Slight-----	Moderate: hard to pack.	Percs slowly, floods.	Slow intake, percs slowly, floods.	Percs slowly---	Percs slowly.
35, 36, 37, 38---- McAllen	Moderate: seepage.	Moderate: piping.	Favorable-----	Favorable-----	Favorable-----	Favorable.
39----- Mercedes	Slight-----	Severe: hard to pack.	Percs slowly---	Slow intake, percs slowly.	Percs slowly---	Percs slowly.
40----- Mercedes	Slight-----	Severe: hard to pack.	Percs slowly---	Slow intake, percs slowly, excess salt.	Percs slowly---	Excess salt, droughty, percs slowly.
41----- Mercedes	Slight-----	Severe: hard to pack.	Percs slowly---	Slow intake, percs slowly.	Percs slowly---	Percs slowly.
42----- Nueces	Moderate: seepage.	Severe: seepage, piping.	Cutbanks cave	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
43: * Nueces-----	Moderate: seepage.	Severe: seepage, piping.	Cutbanks cave	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
Sarita-----	Severe: seepage.	Severe: seepage, seepage.	Cutbanks cave	Droughty, fast intake.	Too sandy-----	Droughty.
44----- Olmito	Slight-----	Moderate: hard to pack.	Percs slowly---	Slow intake, percs slowly.	Percs slowly---	Percs slowly.

See footnote at end of table.











Planning & Zoning Commission Standardized Agenda Request Form

Date of Meeting: August 5, 2020	Agenda Item No. (to be assigned by PCE): IV. C.
From: Rebekah de la Fuente, Planning Director, on behalf of David Salinas.	
Subject/Agenda Item: Discussion and consideration for the Final Plat for Moonlight Subdivision– being a 4.00 acres out of Farm Tract 175, West and Adams Tract Subdivision, Weslaco, Hidalgo County, Texas located approximately 330' north of Mile 10N along the Westside of F.M. 88. Possible Action.	
Discussion/Overview: The proposed two (2) lot subdivision is outside the City of Weslaco. This subdivision is being serviced with water by the North Alamo Water Supply Company through a 4" waterline and sewer by OSSF. The property is within a Flood Zone "X". Applicant has requested variance for OSSF.	
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 with compliance of the ordinance on the variance.	
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.	



SUBDIVISION PLATTING APPLICATION

RECEIVED

JUN 09 2020

Planning &
Code Enforcement Dept.

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

FILE NO. _____

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

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: Moon Light Subd.

Location: 330' NORTH OF MILE 10 N. ALONG WESTSIDE F.M. 88

Legal Description: 4.0 AC GROSS o/o F.T. 175, WEST AND ADAMS TRACT SUBD.

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: N/A

Existing Land Use: OPEN/SINGLE FAM. RM. Proposed Land Use: SINGLE FAM. HOME

Number of Lots Proposed: 2 Gross Acreage: 4.0

Title Report Submitted: ☐ YES ☒ NO

OWNER INFORMATION

Owner's Name: PANA VILLANUEVA Telephone: 956-336-6022

Address: 414 W. MILE 10 N. Fax: _____

City: WESLACO State: TX Zip: 78599 E-mail: PANA.VILLANUEVA@MSN.COM

ENGINEER INFORMATION

Name: DAN SALINAS Telephone: 682-9081

Address: 2221 ASPEN ME Fax: 682-1489

City: MALE State: TX Zip: 78501 E-mail: dsalinas@salinasengineering.com

255 S. KANSAS AVE. ■ WESLACO, TEXAS 78596-5285 ■ 956-447-3401 ■ (Fax) 956-973-3128 ■ WWW.WESLACOTX.GOV

UTILITY PROVISIONS

Will proposed subdivision connect to:

☒ YES ☐ NO Water Provision: NAWSC
☒ YES ☐ NO Wastewater Provision: SEPTIC TANK
☒ YES ☐ NO Electric Company: AEP

☒ 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 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: Paula Villanueva

Owner Signature: Paula Villanueva Date: 6/9/20

_____ is the authorized agent
Authorized Agent Signature: [Signature] Date: 6/8/20

Authorized Agent Printed Name: DAVID O. SALINAS

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: _____

General Comments: _____

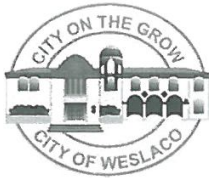
CITY OF WESLACO
956-968-3181

REC#: 02641651 6/09/2020 11:57 AM
OPER: NV TERM: 039
REF#: _____
PAID BY: _____

TRAN: 203.0000 SUBDIVISION INSPECT
MOON LIGHT SUBDIVISION
101-400-1025
SUBDIVISION INSPECT 430.00CR

TENDERED: 430.00 CASH
APPLIED: 430.00-

CHANGE: 0.00



APPLICATION FOR SUBDIVISION VARIANCE

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: MOONLIGHT GLOW SUBD.

Location: 4- 330' NORTH OF MILE 10 N. ROAD ALONG W. SIDE OF

Legal Description: 4.0 AC. 9/16 F.T. 175', THE WEST

AND ADAMS TRACT SUBD., 12-C.T.

VARIANCE TYPE:

☐ Streetlights ☐ YES ☒ NO

Describe in detail the reason for the variance request:

☐ Sanitary Sewer ☒ YES ☐ NO

Describe in detail the reason for the variance request:

SEPTIC TANK USE - CITY SEW. NOT AVAILABLE
AT THIS LOCATION

☐ Fire Hydrants ☐ YES ☒ NO

Describe in detail the reason for the variance request:

☐ Setbacks ☐ YES ☒ NO

Describe in detail the reason for the variance request:

☐ Drainage ☐ YES ☒ NO

Describe in detail the reason for the variance request:

☐ Minimum Lot Size ☐ YES ☒ NO

Describe in detail the reason for the variance request:

☐ Sidewalks ☐ YES ☒ NO

Describe in detail the reason for the variance request:

☐ Easement Requirements ☐ YES ☒ NO

Describe in detail the reason for the variance request:

☐ Other _____ ☐ YES ☐ NO

Describe in detail the reason for the variance request:

OWNER INFORMATION

Owner's Name: PAULA VILLANUEVA Telephone: 356-6022
Address: 414 W. MILE 10 ROAD Fax: _____
City: Weslaco State: TX Zip: 78599 E-mail: PAULA LOPEZ VILLANUEVA @
MSN.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: Paula Villanueva, Sr

Owner Signature: Paula Villanueva Date: 7/29/20

Authorized Agent Signature: [Signature] is the authorized agent Date: 7/29/20

Authorized Agent Printed Name: Don D. O. Silvers, P.E.

THIS PAGE FOR STAFF USE ONLY

Date Received: _____ Received By: _____ Date Paid _____

P & Z Meeting _____ City Commission Mtg _____

Variance Granted: _____

General Comments: _____

Rebekah M. De La Fuente

From: Rebekah M. De La Fuente
Sent: Tuesday, June 2, 2020 1:27 PM
To: David Salinas
Subject: RE: For your review - Moonlight Glow Subd. (Plat & 2nd Sht - PDF's)

Good Afternoon:

The departments have approved your subdivision plat and the development is not cleared to move forward to Subdivision Platting. Please include in your packets the following item: Subdivision Application, \$355.00 application fee, \$75.00 fire review fee, 12 set of plats full size, and latest copy of the drainage report.

Fire marshal:
Approved, as long as the "fill station" is a fire hydrant.

Planning:
Approved

Engineering:
Approved

Thank you,
Rebekah de la Fuente, CFM
Planning Director

City of Weslaco
255 S. Kansas Avenue
Weslaco, TX 78596
Ph: (956) 447-3401
Fax: (956) 973-3128
rdelafuente@weslacotx.gov



From: David Salinas <dsalinas@salinasengineering.com>
Sent: Wednesday, May 27, 2020 12:29 PM
To: Rebekah M. De La Fuente <rdelafuente@weslacotx.gov>
Subject: Fw: For your review - Moonlight Glow Subd. (Plat & 2nd Sht - PDF's)

As per your request

thank you,

David Omar Salinas, P.E., RPLS, MSEE, CFM

SALINAS ENGINEERING & ASSOCIATES

2221 Daffodil Ave.

McAllen, Texas, 78501

(956) 682-9081

(956) 686-1489 Fax

(956) 648-8899 Cell

dsalinas@salinasengineering.com

----- Forwarded Message -----

From: Arnol Escalante <aescalante@salinasengineering.com>
To: "dsalinas@salinasengineering.com" <dsalinas@salinasengineering.com>
Cc: "mguerra@salinasengineering.com" <mguerra@salinasengineering.com>
Sent: Thursday, May 7, 2020, 02:29:26 PM CDT
Subject: Fw: For your review - Moonlight Glow Subd. (Plat & 2nd Sht - PDF's)

----- Forwarded Message -----

From: Arnol Escalante <aescalante@salinasengineering.com>
To: David Salinas <dsalinas@salinasengineering.com>
Cc: Monica Guerra <mguerra@salinasengineering.com>
Sent: Thursday, April 30, 2020, 08:53:43 PM CDT
Subject: For your review - Moonlight Glow Subd. (Plat & 2nd Sht - PDF's)

Please Review.

The Plat did not change because the notes regarding the street light and sidewalks were already there from the last time the plans were submitted.

I don't know if the City of Weslaco overlooked them in their last review or if they want the notes written in a different way.

They are not specific as to how they want the notes written.

In the same way, the street light was already shown on the 2nd Sheet (Utility) and is probably why they did not say to show it.

They do make a comment about the monuments not being "marked."

I think they mean the monuments have not been set "on the ground."

The plat already showed monuments with elevations as being set on the block corners.

This needs to be clarified.

The only thing new is the provision of one N.A.W.S.C. fill station near the northeast corner of Lot 2 along F.M. 88.

I have added below the comments sent to us by Rebekah of the City of Weslaco for you to review.

If you approve of the plans, you can forward them the PDF's to the City of Weslaco as they are.

Thanks.

On Thursday, March 5, 2020, 10:59:47 AM CST, Rebekah M. De La Fuente <rdelafuente@weslacotx.gov> wrote:

Good Morning,

Please see pending comments below. Once addressed re-submit a pdf copy of re-review and approval by staff.

Planning Comments:

- A plat note must be added for both the street lights and the sidewalk as per City code. It is the responsibility of county of weather or not to enforce the requirement.

Fire Comments:

- Hydrant must be installed as a fill station
- Hydrant must be painted black as per NAWSC requirements.

Engineering Comments:

- . Location Map Scale to be 1" = 1000' Item has been Addressed
- . City Limits on location map needs to be updated. Item has been Addressed
- . All Block Corners shall have a concrete monument with noted elevation. Block Corners are not marked with Concrete Monuments per Sec. 26-33-(a)
- . FEMA Designation is correct, and Drainage is good on our end. Item has been Addressed
- . Meets and Bounds are correct. Item has been Addressed
- . 1" WTR Service "Tough Tubing" with 5/8 Angle Stop Item has been Addressed

Rebekah de la Fuente, CFM
Planning Director
City of Weslaco
255 S. Kansas Avenue
Weslaco, TX 78596
Ph: (956) 447-3401
Fax: (956) 973-3128
rdelafuente@weslacotx.gov

Onsite Sewage Facility Site Evaluation

Applicant Information

Name: Santo Villanueva
Address: 414 W Mile 10 N. Rd
City: Weslaco State: Zipcode:

Property Location:

Subdivision: Moonlight Glow
Lot: 1 Block:
Street Address: 414 W Mile 10 N Rd
City: Weslaco Zipcode: 78596

Site Evaluator Information

Name: Luz Gomez
Company: Gomez Backhoe Service
City: Mission State: TX Zipcode: 78574

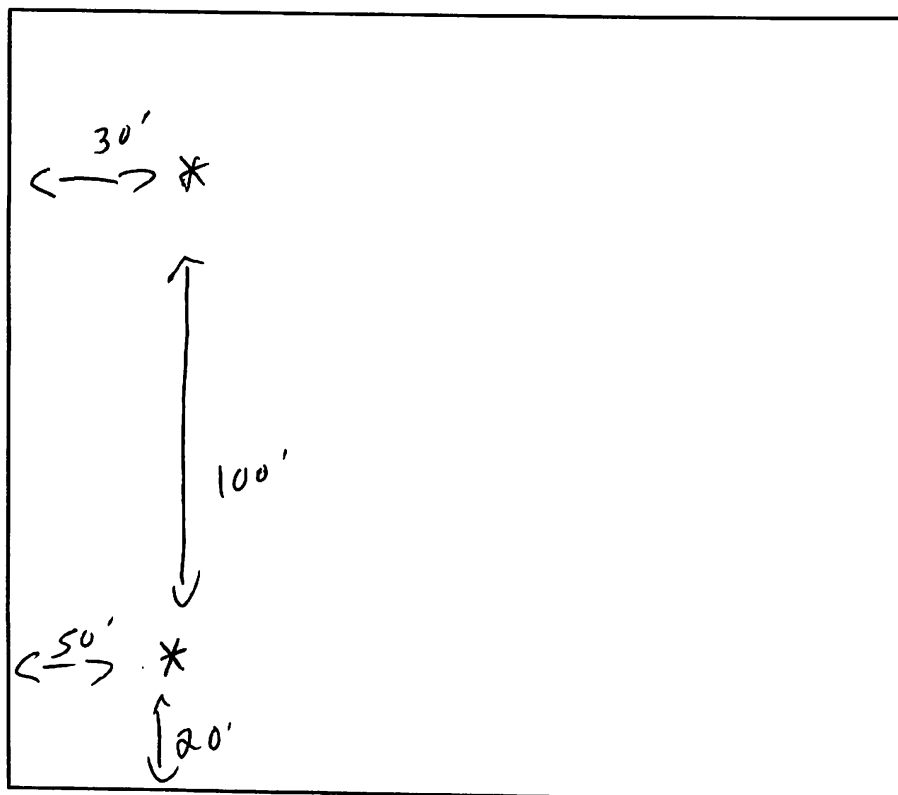
Installer Information:

Name: Sergio Rodriguez
Company: Ro-cha Septic
City: Mission State: TX Zipcode: 78574

Schematic of Lot or Tract

Show:

Compass North, adjacent streets, property dimensions, location of buildings, easements, swimming pools, water lines, and other surface improvements where known (drainage, patios, sidewalks).
Location of existing or proposed water wells within 150 ft of property.
Indicate slope or provide contour lines from structure to the farthest location of the proposed soil absorption or irrigated area.
Location of soil boring or dug pits
Location of natural, constructed, or proposed drainage ways (streams, ponds, lakes, rivers, high tide of salt water bodies) water impoundment areas, cut or fill bank, sharp slopes and breaks.



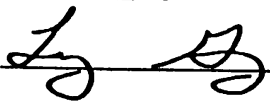
Lot Size: 1 acres

Scale Inch = ft

Presence of 100 year flood zone
Presence of adjacent ponds, streams, water impoundments
Existing or proposed water well in nearby area
Organized sewage service available to lot or tract

Yes No ✓
Yes No ✓
Yes No ✓
Yes No ✓

Site Evaluator

Name: Luz Gomez Signature:  License No.: OS 0033117

**On-Site Sewage Facility
Soil Evaluation Report Information**

Date Soil Survey Performed: 1/20/2020 County: Hidalgo

Subdivision: Moonlight Glow Lot: 1 Block:

Name of Site Evaluator: Luz Gomez Registration Number: OS 0033117

Requirements:

At least two soil excavations must be performed on the site, at opposite ends of the proposed disposal area.

For subsurface disposal, soil evaluation must be performed to a depth of at least two feet below the proposed excavation depth.

For surface disposal, the surface horizon must be evaluated.

Describe each soil horizon and identify any restrictive features on the form. Indicated depths where features appear.

Soil Boring 1

Depth (Feet)	Texture Class	Soil Texture	Structure (For Class III blocky, platy or massive)	Drainage (Mottles/ Water Table)	Restrictive Horizon	Observations
1	↓	↓	N/A	None	None	None
2						
3						
4						
5						
6	III	Sandy Clay Loam				

Soil Boring 2

Depth (Feet)	Texture Class	Soil Texture	Structure (For Class III blocky, platy or massive)	Drainage (Mottles/ Water Table)	Restrictive Horizon	Observations
1	↓	↓	N/A	None	None	None
2						
3						
4						
5						
6	III	Sandy Clay Loam				

I certify that the findings of this report are based on my field observations and are accurate to the best of my ability.


Signature of Site Evaluator

1/20/2020

Date:

Onsite Sewage Facility Site Evaluation

Applicant Information

Name: Santo Villanueva
Address: 414 W Mile 10 N. Rd
City: Weslaco State: TX Zipcode: 78596

Property Location:

Subdivision: Moonlight Glow
Lot: 2 Block:
Street Address: 414 W Mile 10 N Rd
City: Weslaco Zipcode: 78596

Site Evaluator Information

Name: Luz Gomez
Company: Gomez Backhoe Service
City: Mission State: TX Zipcode: 78574

Installer Information:

Name: Sergio Rodriguez
Company: Ro-cha Septic
City: Mission State: TX Zipcode: 78574

Schematic of Lot or Tract

Show:

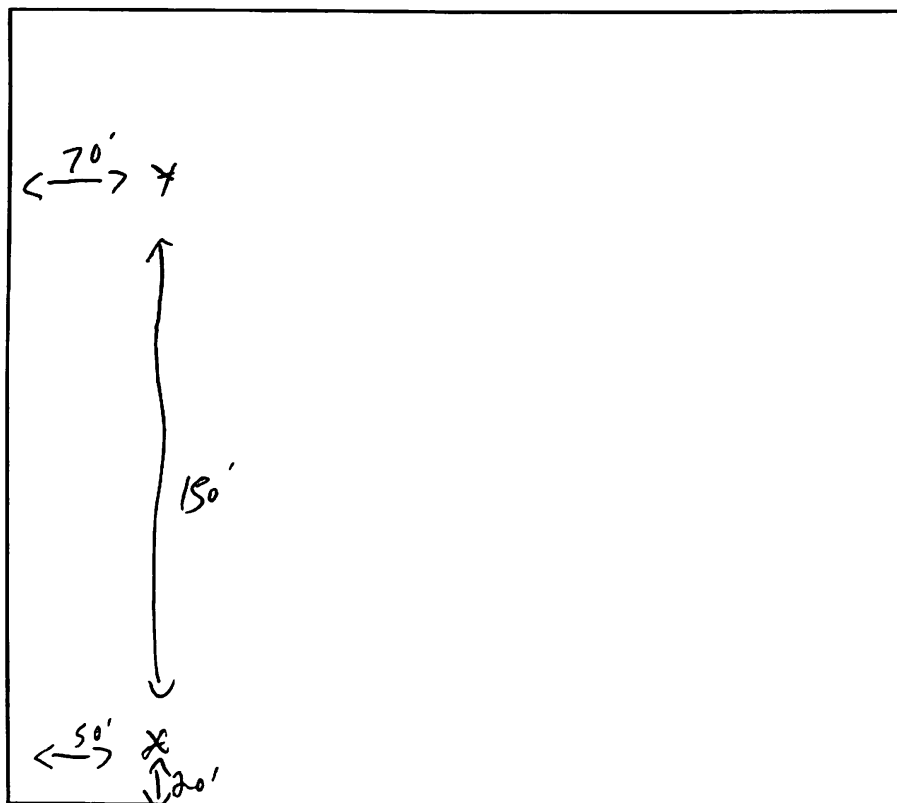
Compass North, adjacent streets, property dimensions, location of buildings, easements, swimming pools, water lines, and other surface improvements where known (drainage, patios, sidewalks).

Location of existing or proposed water wells within 150 ft of property.

Indicate slope or provide contour lines from structure to the farthest location of the proposed soil absorption or irrigated area.

Location of soil boring or dug pits

Location of natural, constructed, or proposed drainage ways (streams, ponds, lakes, rivers, high tide of salt water bodies) water impoundment areas, cut or fill bank, sharp slopes and breaks.



Lot Size: 1 acres

Scale inch = ft

Presence of 100 year flood zone
Presence of adjacent ponds, streams, water impoundments
Existing or proposed water well in nearby area
Organized sewage service available to lot or tract

Yes	No
☐	☒
Yes	No
☐	☒
Yes	No
☐	☒
Yes	No
☐	☒

Site Evaluator

Name: Luz Gomez Signature: [Signature] License No.: OS 0033117

On-Site Sewage Facility Soil Evaluation Report Information

Date Soil Survey Performed: 1/20/2020 County: Hidalgo

Subdivision: Moonlight Glow Lot: 2 Block:

Name of Site Evaluator: Luz Gomez Registration Number: OS 0033117

Requirements:

At least two soil excavations must be performed on the site, at opposite ends of the proposed disposal area.

For subsurface disposal, soil evaluation must be performed to a depth of at least two feet below the proposed excavation depth.

For surface disposal, the surface horizon must be evaluated.

Describe each soil horizon and identify any restrictive features on the form. Indicated depths where features appear.

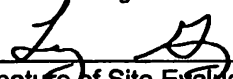
Soil Boring 1

Depth (Feet)	Texture Class	Soil Texture	Structure (For Class III blocky, platy or massive)	Drainage (Mottles/ Water Table)	Restrictive Horizon	Observations
1	↓	↓	N/A	None	None	None
2						
3						
4						
5						
6	III	Sandy Clay Loam				

Soil Boring 2

Depth (Feet)	Texture Class	Soil Texture	Structure (For Class III blocky, platy or massive)	Drainage (Mottles/ Water Table)	Restrictive Horizon	Observations
1	↓	↓	N/A	None	None	None
2						
3						
4						
5						
6	III	Sandy Clay Loam				

I certify that the findings of this report are based on my field observations and are accurate to the best of my ability.



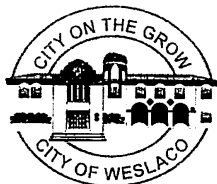
Signature of Site Evaluator

1/20/2020

Date:

City of Weslaco

"The City on the Grow"



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

Mike R. Perez, City Manager

INTERNAL MEMO

DATE: January 20, 2020

TO: Albert Aldana/ Peter Hermida, Engineer III
Pete Garcia, Public Works Director/ Marcelo Cosme
Chris Sanchez, Fire Marshal/Mike Swinnea
Rolando Gonzalez, Building Official
Police Chief Joel Rivera, Police Department/ Eric Hernandez

FROM: Rebekah de la Fuente, Planning & Code Enforcement Director 

SUBJECT: Subdivision Review Meeting

A subdivision review meeting will be held on **Thursday, January 23, 2020** in the Planning Department Conference Room B. It is imperative that you attend. Listed below is the subdivision that will be discussed:

➤ **Moonlight Glow Subdivision- 9:30 a.m.**

Please make every effort to attend or send a representative, if you or a representative is unable to attend, submit your comments in writing. **Be advised that all comments must be received before the scheduled meeting in order to avoid delays of construction.**

Should you have any questions, please call 447-3401.

DRAINAGE REPORT

MOONLIGHT GLOW SUBDIVISION

WESLACO ETJ, HIDALGO COUNTY, TEXAS

PREPARED BY:

David Omar Salinas, P.E., R.P.L.S.
Salinas Engineering & Associates
(TBE F-6675)
2221 Daffodil Ave.
McAllen, Texas, 78501
(956) 682-9081
(956) 686-1489 Facsimile
(956) 648-8899 Cell
dsalinas@salinasengineering.com

JANUARY 10, 2020

SEA



INDEX

Drainage Report Narrative: Pages 2. – 3.

- A. Hydrograph: Dated 01/10/20 Attached
- B. Plat reduction of Moonlight Glow Subdivision, H.C.T.
- C. Copy of FIRM – CPN 480334 0450 C, June 06, 2000

DRAINAE DGE REPORT NARRATIVE

Proposed Moonlight Glow Subdivision is a two lot residential plat containing 4.0 Gross Acres of land out of F.T. 175, West and Adams Tract Subdivision, as per the map or plat thereof recorded in Volume 02, Pages 34-37, Map records of Hidalgo County, Texas, and, located along the west side of F.M. 88 approximately ¼ Mile North of Mile 10 North Road in the City of Weslaco ETJ. The proposed residential plat is located in Zone “X” as per the FIRM Community Panel No. 480334 0450 C, dated 06/06/2000 (revised to reflect LOMR dated 5/30/02). Zone “X” areas are defined as areas determined to be outside of the 500-year flood plain. The entire frontage is along F.M. 88 - a paved curb & gutter section of roadway complete with underground storm sewer.

It is noted that residential improvements complete with driveways already exist on Lot 1 – no additional improvements are planned for Lot 1. The purpose of this plat is to obtain a building permit for new residential construction on Lot 2.

Soils of this proposed plat consist of a Hidalgo sandy clay loam with moderate permeabilities and slow surface runoff. This Hidalgo soil is in capability subclass IIc non-irrigated and in Class I, irrigated; it is in the Gray Sandy Loam range site as per Sheet 105 of the Soil Survey of Hidalgo County, Texas.

Cross section elevations within this property reveal that overall drainage is westerly away from F.M. 88 and waters flow to the rear (to the back or west of the subject property). Elevations indicate an average slope of 0.20% over an average drainage run of 750.0 feet. The pre-development storm water runoff coefficient (C_{ex}) for this hydrograph and drainage report is 0.20 while the estimated C_(fut) is 0.30 that accounts for the existing and future impervious residential home improvements.

Using the Rational Method and a 50-year storm event, the post-development (construction of one single family home on Lot 2) runoff is 5.94 CFS – an increase of 0.98 CFS from the existing condition of 4.66 CFS (See Attached hydrograph).

In accordance with the drainage policies of the City of Weslaco and County of Hidalgo drainage policies, the subdivider shall be require to provide for an onsite total detention of 4,465 Cu. Ft., and, pro-rated per lot - 1,810.0 Cu. Ft. for Lot 1 and 2,655.0 Cu. Ft. for Lot 2.

The subdivider is proposing two no-discharge swales at the rear of these two lots and will be located in the general direction of where the drainage waters flow naturally. The swales shall be non-discharging type with a 12" gravel bottoms – gravel of ¾" to 1" with a silt fabric. Each swale will have a dry volume capacity of 2,700 Cu. Ft. that will capture and hold more than the required dry volume required by each of the two swales. The swales shall be located inside two 20.0 foot drainage swale easements that will be provided on the plat on each of the two lots.

SWALE VOLUME: $((3.0' \times 3') + (6' \times 3')) \times 100' = 2,700 \text{ Cu. Ft. Dry Volume} >$
1,800.0 (Lot 1) and 2,655 Cu. Ft. (Lot 2)

The outfall for the swale is the gravel bed that permits drainage waters collected to slowly percolate downward into the ground. Upon reaching a saturated condition drainage waters in the swale may flow away from the swale per the natural contours of the land but if this occurs the swale will have already held or provided for the minimum detention of drainage waters. The maintenance of the detention pond shall lie with the property owner.

Date: January 10, 2020

By: David Omar Salinas, P.E.

Attachment: Hydrograph and Other Required Drainage Report Information xc:
n:\subdivisionplats\moonlightglow.sub\drainagereport.011020



MOONLIGHT GLOW SUBDIVISION

9-Jan-20

EXISTING DATA

Total Area 3.700 Net Acres
Intercept Coefficient - "K" 0.213 Table 3-2 *
"K_u" 3.28
Overland Flow Length - "L" 750.00 Ft.
Overland Slope - "S_p" 0.2000 %
Velocity - "V" 0.31
Existing Time of Concentration - "T" 40 min.
Existing Runoff Coefficient - "C" 0.30
Intensity of Rainfall - "I" 4.20 in/hr (10 year event)
Existing - "Q_{10yr}" 4.66 ft³/s

Flood Zone	X
Single Family Use	

PROPOSED IMPROVEMENTS

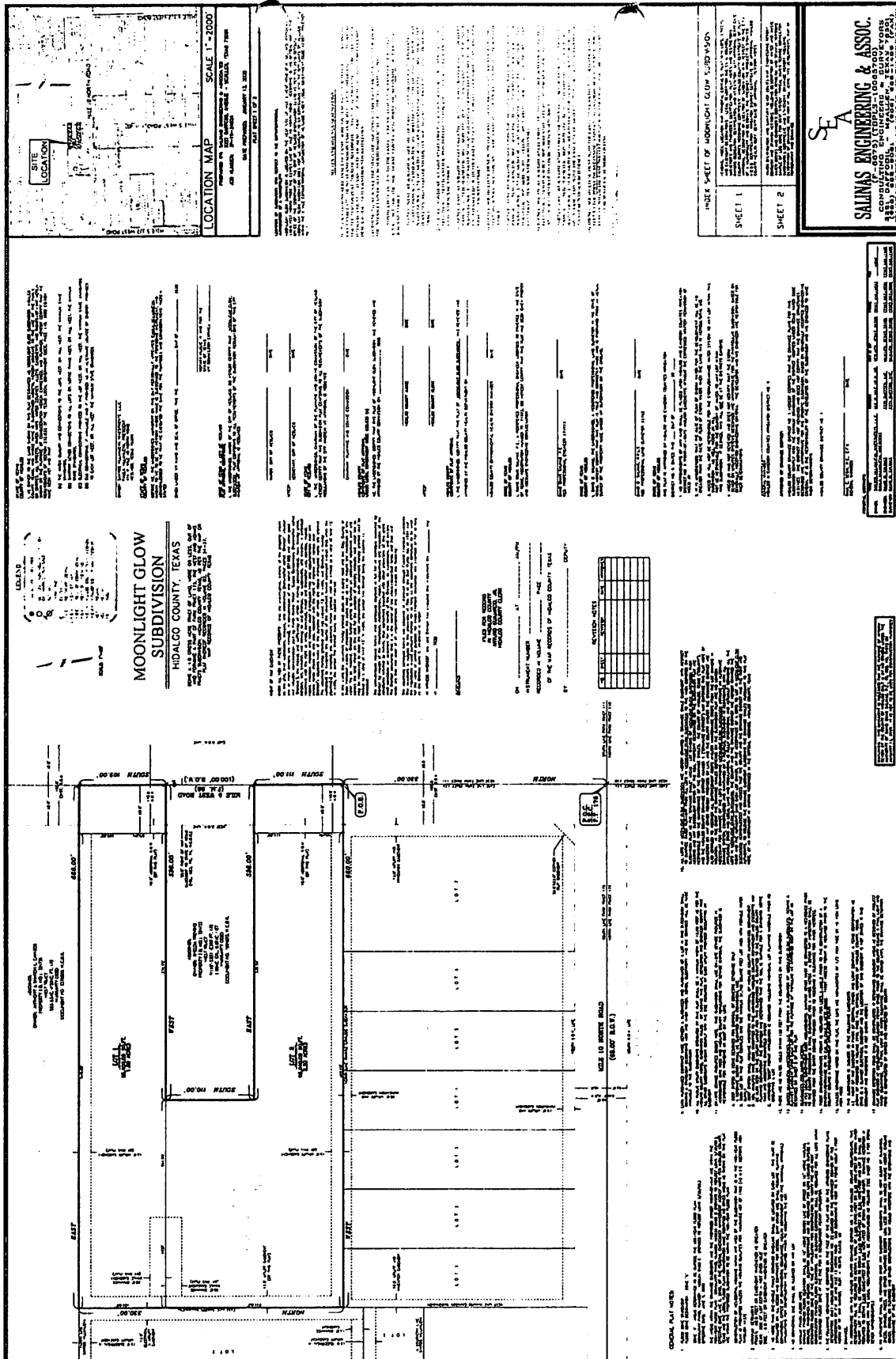
Proposed Runoff Coefficient - "C" 0.30 Table 3-3 *
Proposed Time of Concentration - "T" 30 min.
Proposed Intensity - "I" 6.34 in/hr (50 year event)
Proposed - "Q_{50yr}" 7.04 ft³/s

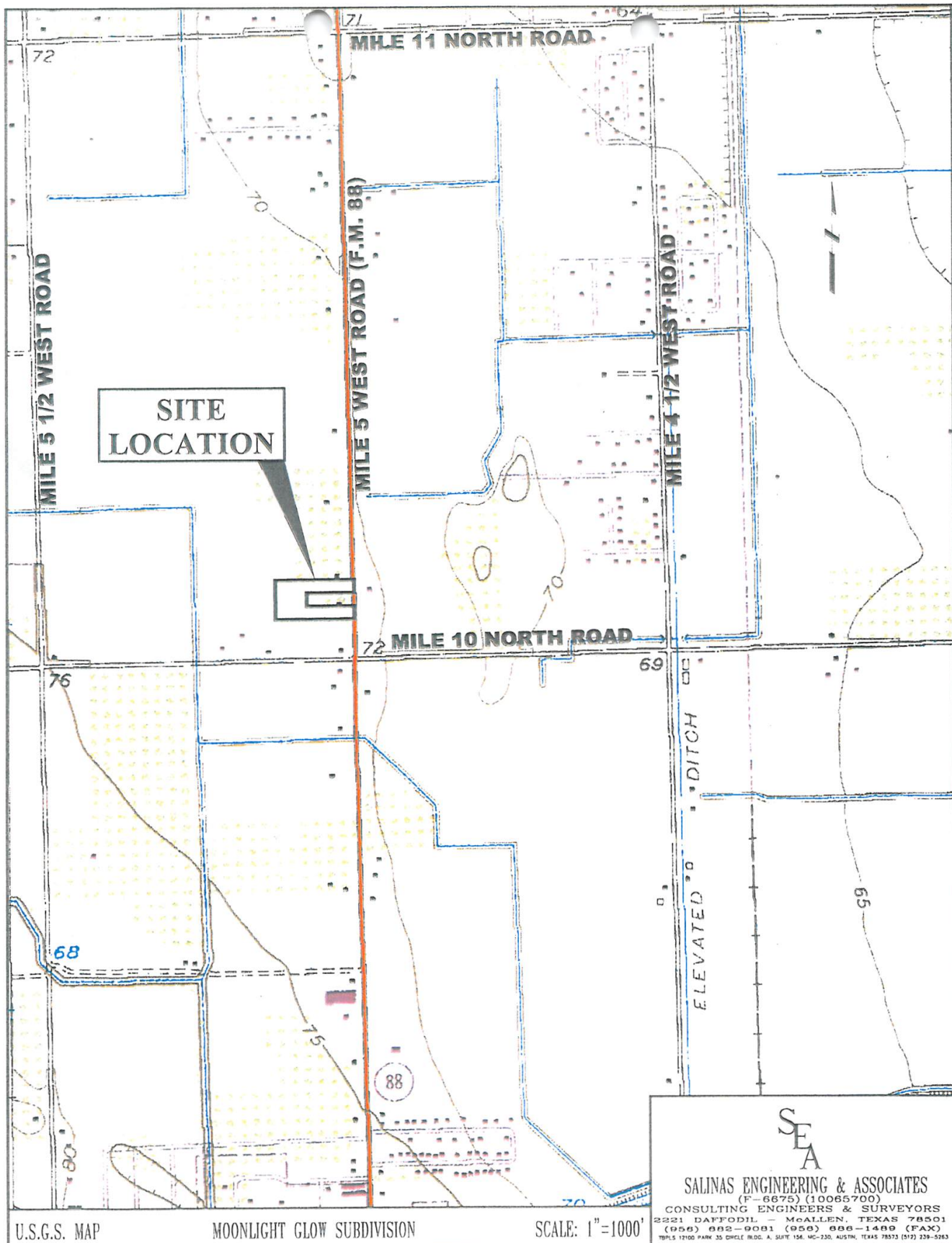
Time		I _{50yr}	Q _{50yr} in	V in	Q _{10yr} out	V out	Req'd V	Req'd V
min	hr	in/hr	ft ³ /s	ft ³	ft ³ /s	ft ³	ft ³	ac-ft
30.00	0.50	6.34	7.04	12672	4.66	8389	4283	0.10
31.00	0.52	6.22	6.91	12850	4.66	8529	4321	0.10
32.00	0.53	6.11	6.78	13023	4.66	8669	4354	0.10
33.00	0.55	6.00	6.66	13191	4.66	8809	4382	0.10
34.00	0.57	5.90	6.55	13354	4.66	8948	4406	0.10
35.00	0.58	5.80	6.43	13513	4.66	9088	4425	0.10
36.00	0.60	5.70	6.33	13668	4.66	9228	4440	0.10
37.00	0.62	5.61	6.23	13820	4.66	9368	4452	0.10
38.00	0.63	5.52	6.13	13967	4.66	9508	4460	0.10
39.00	0.65	5.43	6.03	14111	4.66	9647	4464	0.10
40.00	0.67	5.35	5.94	14252	4.66	9787	4465	0.10
41.00	0.68	5.27	5.85	14390	4.66	9927	4463	0.10
42.00	0.70	5.19	5.76	14525	4.66	10067	4458	0.10
43.00	0.72	5.12	5.68	14657	4.66	10207	4450	0.10
44.00	0.73	5.05	5.60	14786	4.66	10347	4440	0.10
45.00	0.75	4.98	5.52	14913	4.66	10486	4426	0.10
46.00	0.77	4.91	5.45	15037	4.66	10626	4411	0.10
47.00	0.78	4.84	5.38	15158	4.66	10766	4392	0.10
48.00	0.80	4.78	5.30	15278	4.66	10906	4372	0.10
49.00	0.82	4.72	5.24	15395	4.66	11046	4349	0.10
50.00	0.83	4.66	5.17	15510	4.66	11185	4325	0.10
51.00	0.85	4.60	5.11	15623	4.66	11325	4298	0.10
52.00	0.87	4.54	5.04	15734	4.66	11465	4269	0.10

High Point

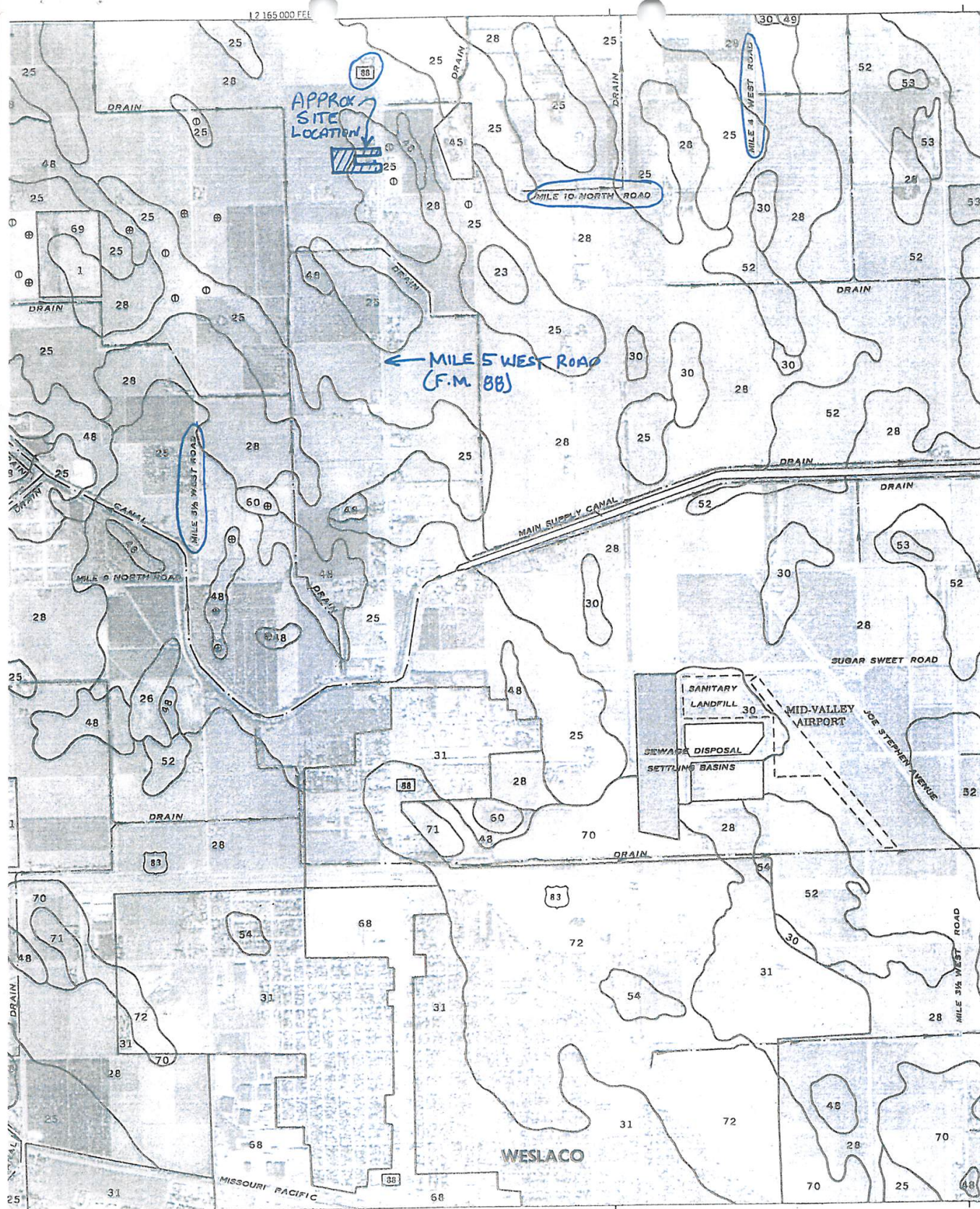
* "City of McAllen, Texas - Drainage Policy 2006"; Standard Design Guide for Subdivision Improvements & Capital Improvements; October 2006







HIDALGO COUNTY, TEXAS — SHEET



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Soil survey

TABLE 15.--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	#	10	40	200		
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, sandy 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	Sandy clay loam	SC, CL	A-6	100	95-100	95-100	40-55	30-40	11-20
	63-80	Sandy 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	90-100	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	30-44	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
Urban land.										

See footnote at end of table.

166

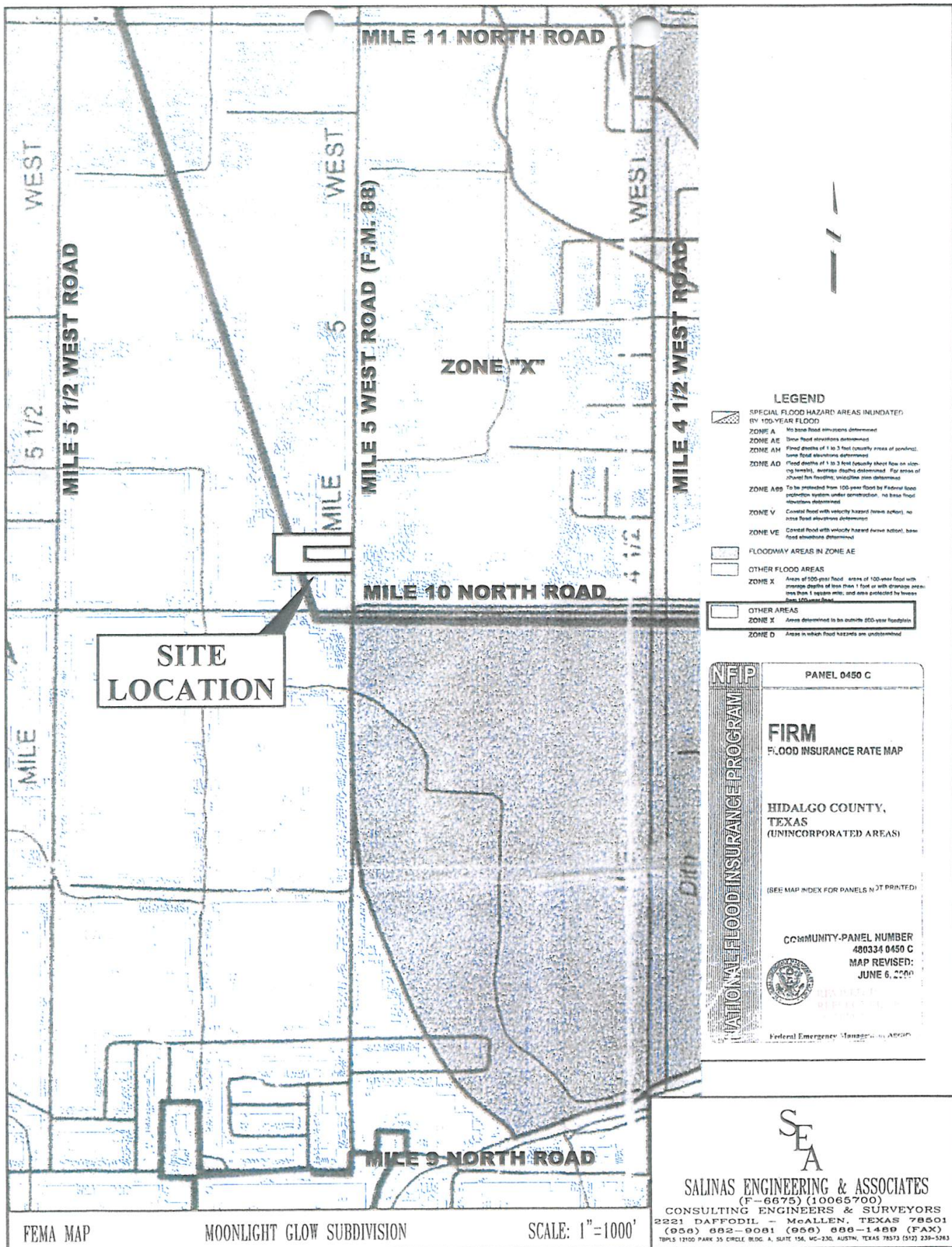
Soil survey

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	Hydro-logic group	Flooding			High water table			Cemented pan		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hard-ness	Uncoated steel	Concrete
1. # Arents					<u>Ft</u>			<u>In</u>			
2----- Benito	D	Occasional	Long-----	Sep-May	4.0-6.0	Apparent	Sep-May	---	---	High-----	Low.
3, 4----- Brennan	B	None-----	---	---	>6.0	---	---	---	---	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	Moderate	Low.
14----- Falfurrias	A	None-----	---	---	>6.0	---	---	---	---	Low-----	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----- Urban land.	D	None to rare	---	---	>6.0	---	---	---	---	High-----	Low.
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----- Urban land.	B	None-----	---	---	>6.0	---	---	---	---	High-----	Low.
32: # Jimenez-----	C	None-----	---	---	>6.0	---	---	7-20	Thin	High-----	Low.

See footnotes at end of table.





Planning & Zoning Commission Standardized Agenda Request Form

Date of Meeting: August 5, 2020	Agenda Item No. (to be assigned by PCE): IV. D.
From: Rebekah de la Fuente, Planning Director, on behalf of Reynaldo Robles Jr.	
Subject/Agenda Item: Discussion and consideration for the Final Plat for Professional & Medical ph. 2 Subdivision—being 5.474 acres out of Farm Tract 17, West and Adams Tract Subdivision, Weslaco, Hidalgo County, Texas located approximately 420' south of U.S Expressway 83 on Professional Drive. Possible Action.	
Discussion/Overview: The proposed two (2) lot subdivision is inside the City of Weslaco city limits. This subdivision is being serviced with water by the City of Weslaco through an 8" waterline and sewer by the City of Weslaco through a 6" sewer line. The property is within a Flood Zone "X".	
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.	
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: Professional & Medical Complex Ph 2

Location: Professional Drive & Gemstone

Legal Description: 5.474 ac. F.T. 17, West Tract Subd.

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-2 Secondary & Highway district

Existing Land Use: open Proposed Land Use: Commercial

Number of Lots Proposed: 2 Gross Acreage: 5.474

Title Report Submitted: ☐ YES ☐ NO

OWNER INFORMATION

Owner's Name: Fred Perez Telephone: 956 464 8888

Address: P.O. Box 8 Fax: _____

City: Weslaco State: TX Zip: 78599 E-mail: fred@kingcarriers.com

ENGINEER INFORMATION

Name: Reynaldo Robles Jr Telephone: 956 968 2422

Address: 107 W Huesache St. Fax: _____

City: Weslaco State: TX Zip: 78596 E-mail: reyr@roblesengineering.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: ACP

☐ YES ☐ NO Phone Utility <u>At 1st</u>	☐ 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 mbhinojosa@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 mbhinojosa@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

- _____ 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 red 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: Fred Perez

Owner Signature: [Signature] Date: 6-16-20

Reynaldo Robles Jr. is the authorized agent

Authorized Agent Signature: [Signature] Date: 6-16-20

Authorized Agent Printed Name: Reynaldo Robles Jr.

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: _____



ROBLES
ENGINEERING, LLC

FIRM NO. F-17391

Office: (956) 968-2422

Fax: (956) 969-2011

PO Box 476

Weslaco, TX 78599

DRAINAGE STATEMENT

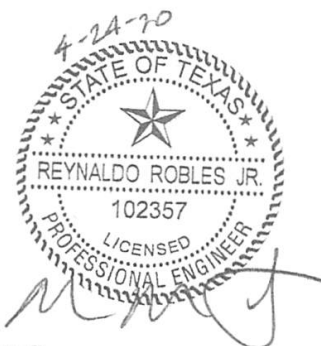
FOR

**PROFESSIONAL AND MEDICAL
COMPLEX SUBDIVISION PHASE 2**

CITY OF WESLACO
HIDALGO COUNTY, TEXAS

April 24, 2020

Prepared By:



Reynaldo Robles, Jr., P.E.



ROBLES
ENGINEERING, LLC

FIRM NO. F-17391

Office: (956) 968-2422

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Index

Page 1 – Cover Sheet

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Page 3 – Drainage Statement (Flood Zone Designation,
Existing Soils, Existing Conditions, Future Conditions)

Page 4 – Location Map

Page 5- USGS Map

Page 6 – Drainage Calculations

Page 7-8 – Coefficient Reference Table

Pages 9-10 – FEMA FIRM Map

Pages 11-13 – USDA Soil Map and Legend

Page 14 – USDA Soil Report: Engineering Properties

Pages 15-16 – Subdivision Plat Sheets 1 & 2

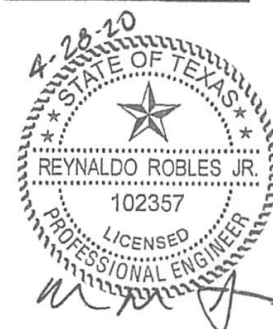


ROBLES
ENGINEERING, INC.
FIRM NO. F-17391

☐ 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 5/5/2020



Office: (956) 968-2422
Fax: (956) 969-2011
PO Box 476
Weslaco, TX 78599



DRAINAGE STATEMENT
For
Professional and Medical Complex Subdivision Phase 2
CITY OF WESLACO
HIDALGO COUNTY, TEXAS

Professional and Medical Complex Subdivision Phase 2 is located on the southwest corner of the intersection of Professional Drive and Gemstone Street in the City of Weslaco, Hidalgo County, Texas and is described as follows: 5.474 acres of land being 4.615 acres out of Farm Tract 17, West Tract Subdivision, Hidalgo County, Texas, according to the plat thereof recorded in Volume 2, Pages 34-37 of the Hidalgo County Map Records and Lot 2, Professional and Medical Complex Subdivision Phase 2, Hidalgo County, Texas, according to the plat thereof recorded in Document No.2010-2108095 of the Hidalgo County Map Records.

Flood Zone Designation:

By graphical plotting this property falls in Flood Zone "X" (unshaded), which is described as areas determined to be outside 500-year floodplain, as per F.E.M.A. flood insurance rate map with community panel No. 480334 0450 C, revised to reflect LOMR dated May 30, 2002.

Existing Soils:

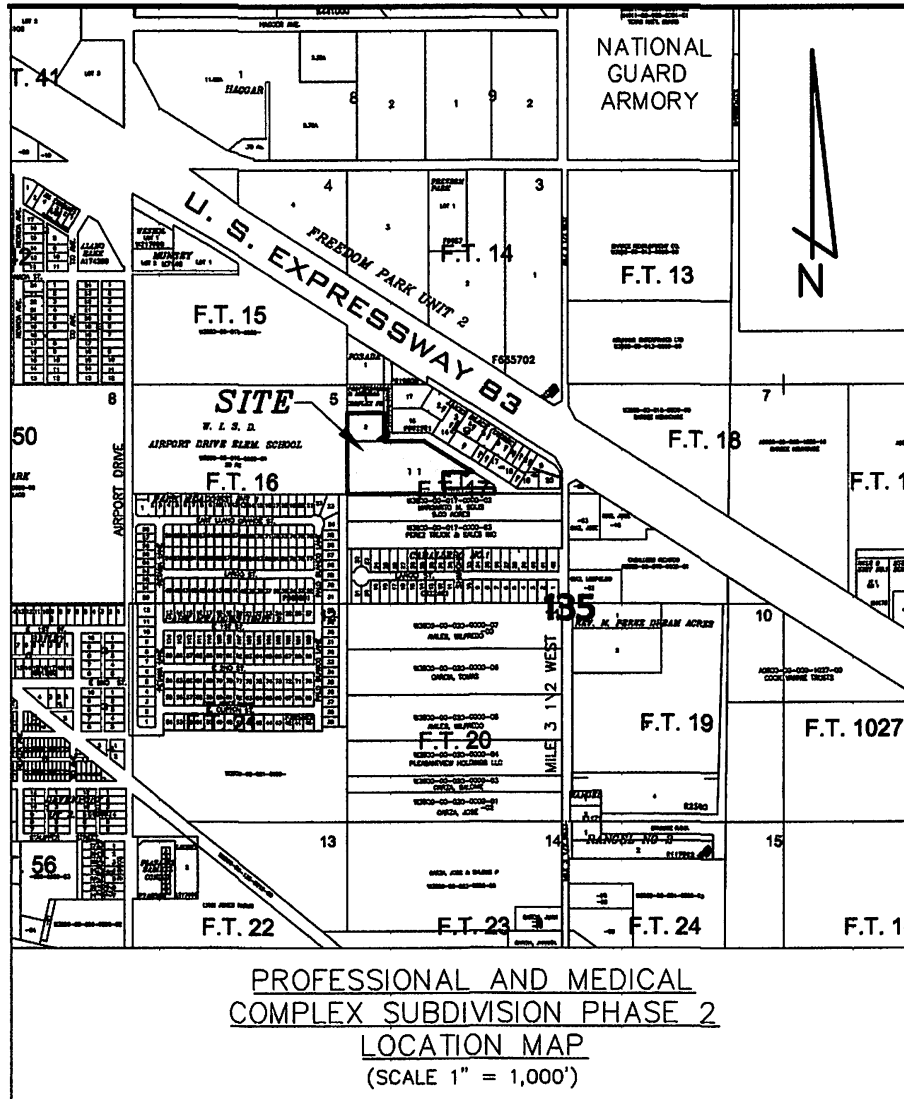
Per the USDA Soil Survey of Hidalgo County, the soils in this area consist predominantly of Hidalgo sandy clay loam (28) and Willacy fine sandy loam (70). Hidalgo fine sandy loam and Willacy fine sandy loam are listed in hydrologic group B, which consists of well drained soils with a moderate infiltration rate.

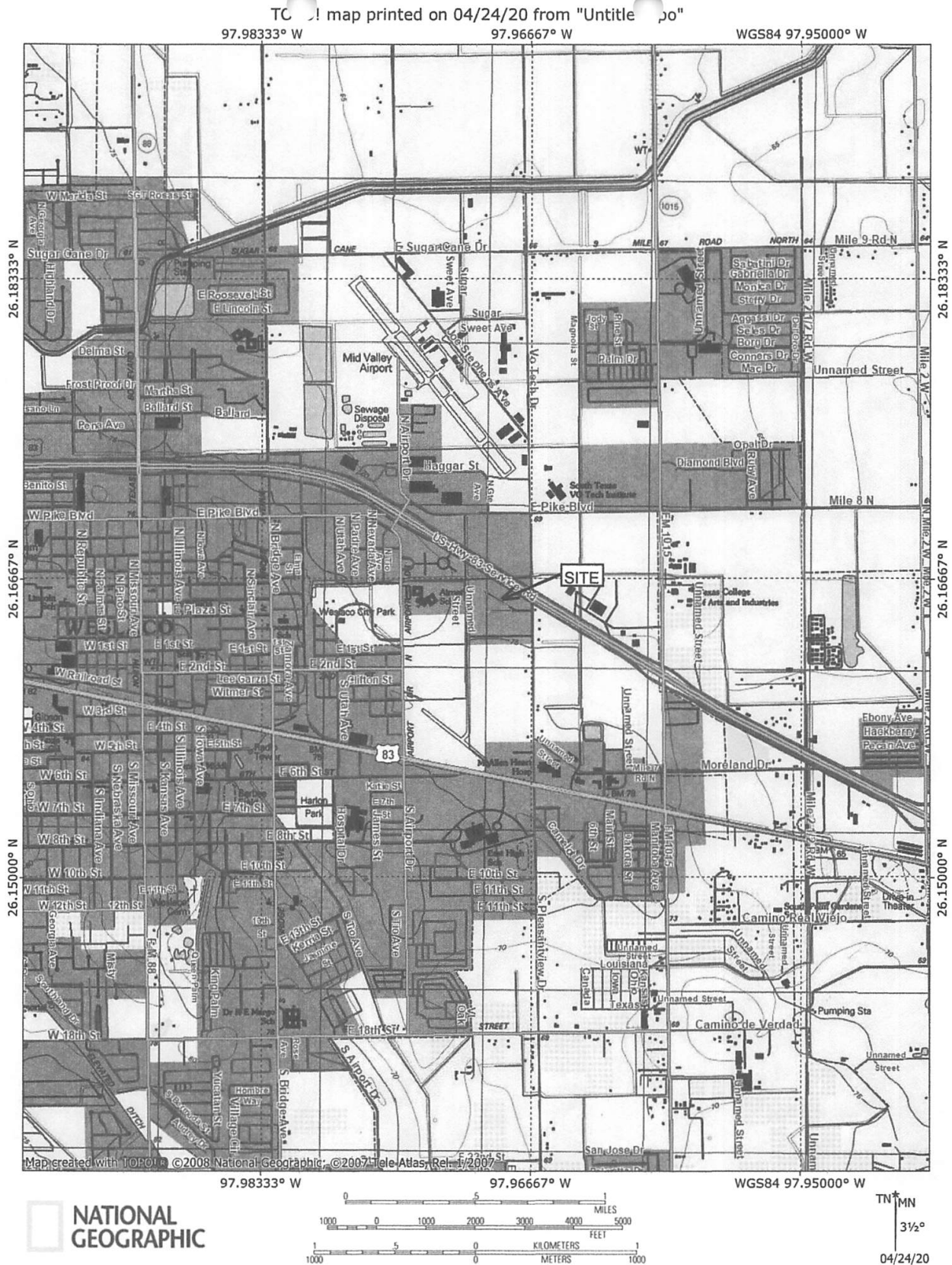
Pre-development Conditions:

The land comprising the Professional and Medical Complex Subdivision Phase 2 is currently commercial zoned open land. Topographic information of the site reveals the subdivision site has a predevelopment grade of approximately 0.27% in a northerly direction with a predevelopment runoff of 4.04 CFS. The runoff from the existing site flows into a drain ditch along the west side of the property owned by the City of Weslaco and towards Professional Drive where it makes its way into the existing storm sewer system and discharges into said drain ditch via a 42" RCP.

Future Conditions:

Expected future use for this subdivision will be for commercial use. The development will consist of two commercial lots. Drainage calculations for a pre-development 10-year frequency storm versus a post-development 50-year frequency storm using the modified rational formula reveal total maximum volume of additional run-off of 43,903 cubic feet (1.008 acre-ft), and a future Q of 13.66 CFS for an increase Q of 9.62 CFS. This runoff will be detained within designated detention areas and discharge into the existing storm sewer system along Professional Drive where it will make its way into the drain ditch along the west side of the subdivision owned by the City of Weslaco. A drainage plan is to be approved by the City of Weslaco at the time of issuance of a building permit.







ROBLES ENGINEERING, LLC

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Weslaco, TX 78599

Detention Volume

Professional and Medical Complex Subdivision Phase 2

Using Modified Rational Method:
Maximum Additional Runoff Volume for 10-Year Undeveloped VS 50-Year Developed to determine required detention Volume.

For the existing Subdivision site:

Area = 5.474 ac.
Runoff Length = 550 ft
Slope = 0.27 %
Cex = 0.15
 $V = K \cdot K_s \cdot S_p^{0.5} = 0.36 \text{ ft/s}$
 $t_t = L / 60V = 25.25 \text{ min.}$
 $I = b / (t_t + d)^a = 4.92 \text{ in./hr.}$

Where $Q = CIA = 4.04 \text{ cfs}$

10- Yr	b= Intensity-Frequency	116.24
	d= Duration Coefficients for	14.33
	e= Hidalgo County, TX	0.8599

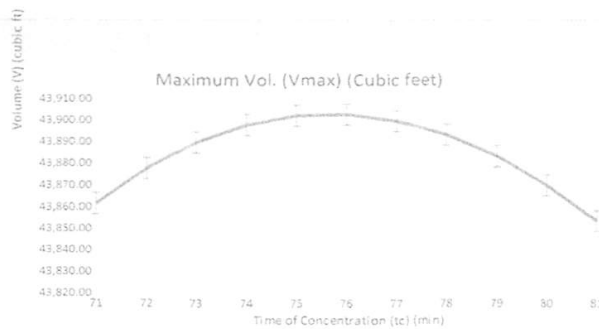
For the future developed subdivision:

	Area %	C	Weighted C
DRAIN DITCH R.O.W.	15	0.15	0.02
LOT 1	47	0.83	0.39
LOT 2	38	0.83	0.31
	100		0.72

Cfut = 0.72

50- Yr	b= Intensity-Frequency	170.66
	d= Duration Coefficients for	16.71
	e= Hidalgo County, TX	0.8613

Tc	Qfut	Vfut	Qex	Vex	Vmax
71	14.33	61,059.62	4.04	17,198.23	43,861.39
72	14.19	61,317.96	4.04	17,440.46	43,877.50
73	14.06	61,572.25	4.04	17,682.69	43,889.56
74	13.92	61,822.60	4.04	17,924.92	43,897.69
75	13.79	62,069.14	4.04	18,167.14	43,902.00
76	13.66	62,311.96	4.04	18,409.37	43,902.59
77	13.54	62,551.17	4.04	18,651.60	43,899.57
78	13.42	62,786.87	4.04	18,893.83	43,893.04
79	13.30	63,019.15	4.04	19,136.06	43,883.09
80	13.18	63,248.10	4.04	19,378.29	43,869.81
81	13.06	63,473.80	4.04	19,620.52	43,853.29



Total Required Detention Volume: 43,903 cfs =
1.008 ac-ft



Table 3-1. Runoff Coefficients for Rational Formula.⁽¹⁴⁾	
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
*Higher values are usually appropriate for steeply sloped areas and longer return periods because infiltration and other losses have a proportionally smaller effect on runoff in these cases.	

Rainfall Intensity-Duration-Frequency Coefficients for Texas

Based on United States Geological Survey (USGS) Scientific Investigations Report 2004-5041

"Atlas of Depth-Duration Frequency of Precipitation Annual Maxima for Texas"

1. Select English or SI Units

English

2. Select or Enter a County

Hidalgo

3. Enter a Time of Conc.

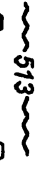
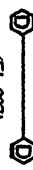
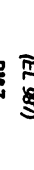
Select Units

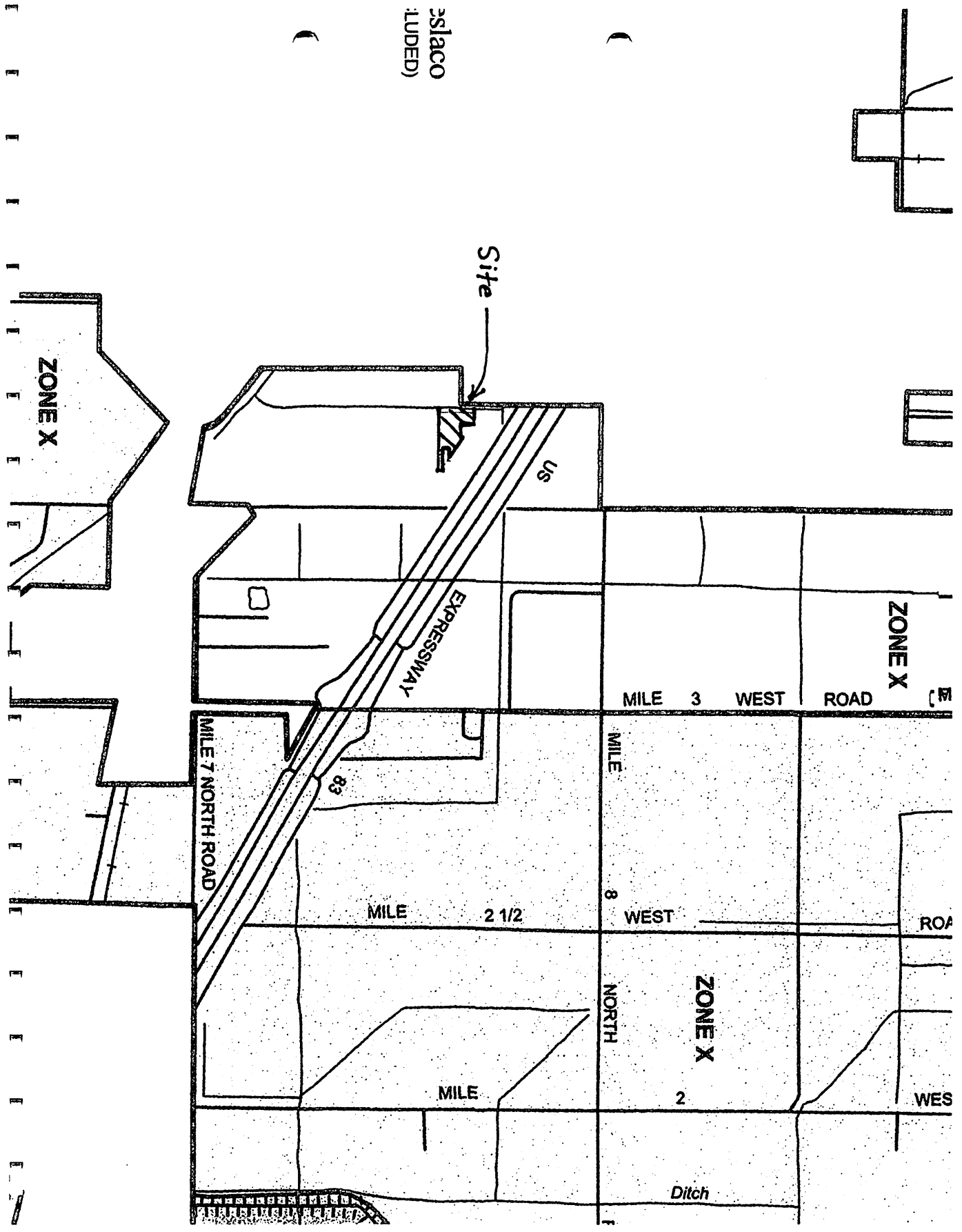
15 min

Coefficient	50% (2-year)	20% (5-year)	10% (10-year)	4% (25-year)	2% (50-year)	1% (100-year)
e	0.8645	0.8647	0.8599	0.8572	0.8613	0.8619
b (in.)	72.40	100.21	116.24	140.47	170.66	201.07
d (min)	12.92	13.90	14.33	15.32	16.71	18.00
Intensity (in./hr)	4.07	5.47	6.36	7.54	8.69	9.88

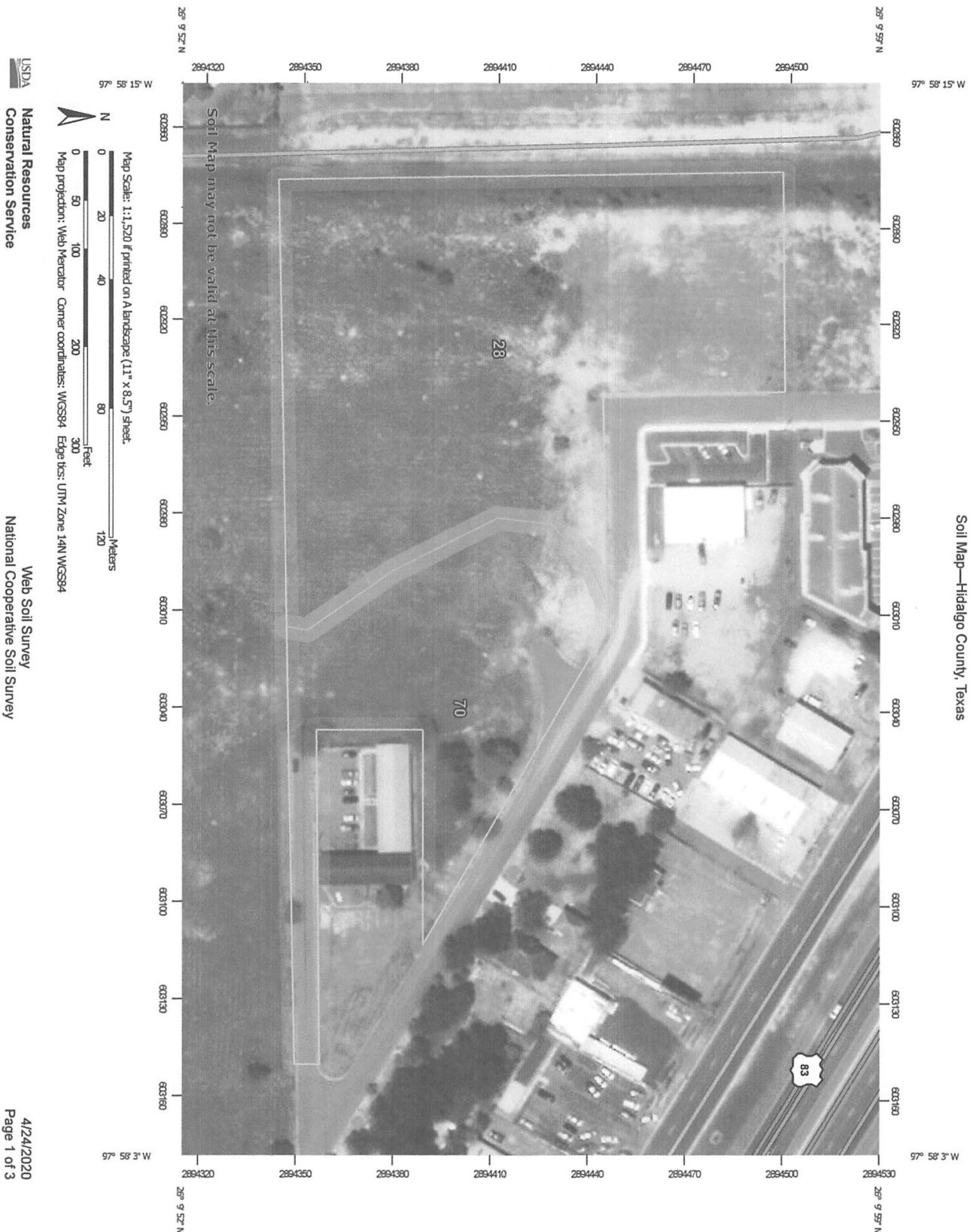
(Spreadsheet Release Date: August 31, 2015; data table reshuffle by Asquith July 14, 2016)

	
PANEL 0450 C	
FIRM FLOOD INSURANCE RATE MAP	
HIDALGO COUNTY, TEXAS (UNINCORPORATED AREAS)	
(SEE MAP INDEX FOR PANELS NOT PRINTED)	
COMMUNITY-PANEL NUMBER 480334 0450 C MAP REVISED: JUNE 6, 2000	
REVISED TO REFLECT DATED 6/6/2002	
Federal Emergency Management Agency	

LEGEND	
	SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD
	ZONE A No base flood elevations determined.
	ZONE AE Base flood elevations determined.
	ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
	ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial flooding, velocities also determined.
	ZONE A99 To be protected from 100-year flood by Federal flood protection system under construction; no base flood elevations determined.
	ZONE V Coastal flood with velocity hazard (wave action); no base flood elevations determined.
	ZONE VE Coastal flood with velocity hazard (wave action); base flood elevations determined.
	FLOODWAY AREAS IN ZONE AE
	OTHER FLOOD AREAS Areas of 500-year flood, areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and area protected by levees from 100-year flood.
	OTHER AREAS Areas determined to be outside 500-year floodplain.
	ZONE X Areas in which flood hazards are undetermined.
	ZONE D Areas in which flood hazards are undetermined.
UNDEVELOPED COASTAL BARRIERS	
	Barrier 1500
	Barrier 1000
	Barrier 500
Coastal barrier areas are normally located within or adjacent to special flood hazard areas.	
	Floodplain Boundary
	Floodway Boundary
	Zone D Boundary
	Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.
	Base Flood Elevation line, Elevation in Feet*
	cross Section Line
	Base Flood Elevation in Feet Where Uniform Within Zone*
	Elevation Bench Mark. (See notes below)



aslaco
LUDED)



MAP LEGEND

Area of Interest (AOI)	Area of Interest (AOI)	Spot Area
Area of Interest (AOI)	Area of Interest (AOI)	Stony Spot
Soils	Soil Map Unit Polygons	Very Stony Spot
Soil Map Unit Lines	Soil Map Unit Lines	Wet Spot
Soil Map Unit Points	Soil Map Unit Points	Other
Special Point Features	Special Line Features	Special Line Features
Blowout	Streams and Canals	Water Features
Borrow Pit	Streams and Canals	Streams and Canals
Clay Spot	Transportation	Transportation
Closed Depression	+++ Rails	+++ Rails
Gravel Pit	Interstate Highways	Interstate Highways
Gravelly Spot	US Routes	US Routes
Landfill	Major Roads	Major Roads
Lava Flow	Local Roads	Local Roads
Marsh or swamp	Background	Background
Mine or Quarry	Aerial Photography	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: <http://websoilsurvey.sc.egov.usda.gov>
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 18, Sep 12, 2019

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	3.9	69.5%
70	Willacy fine sandy loam, 0 to 1 percent slopes	1.7	30.5%
Totals for Area of Interest		5.6	100.0%

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).

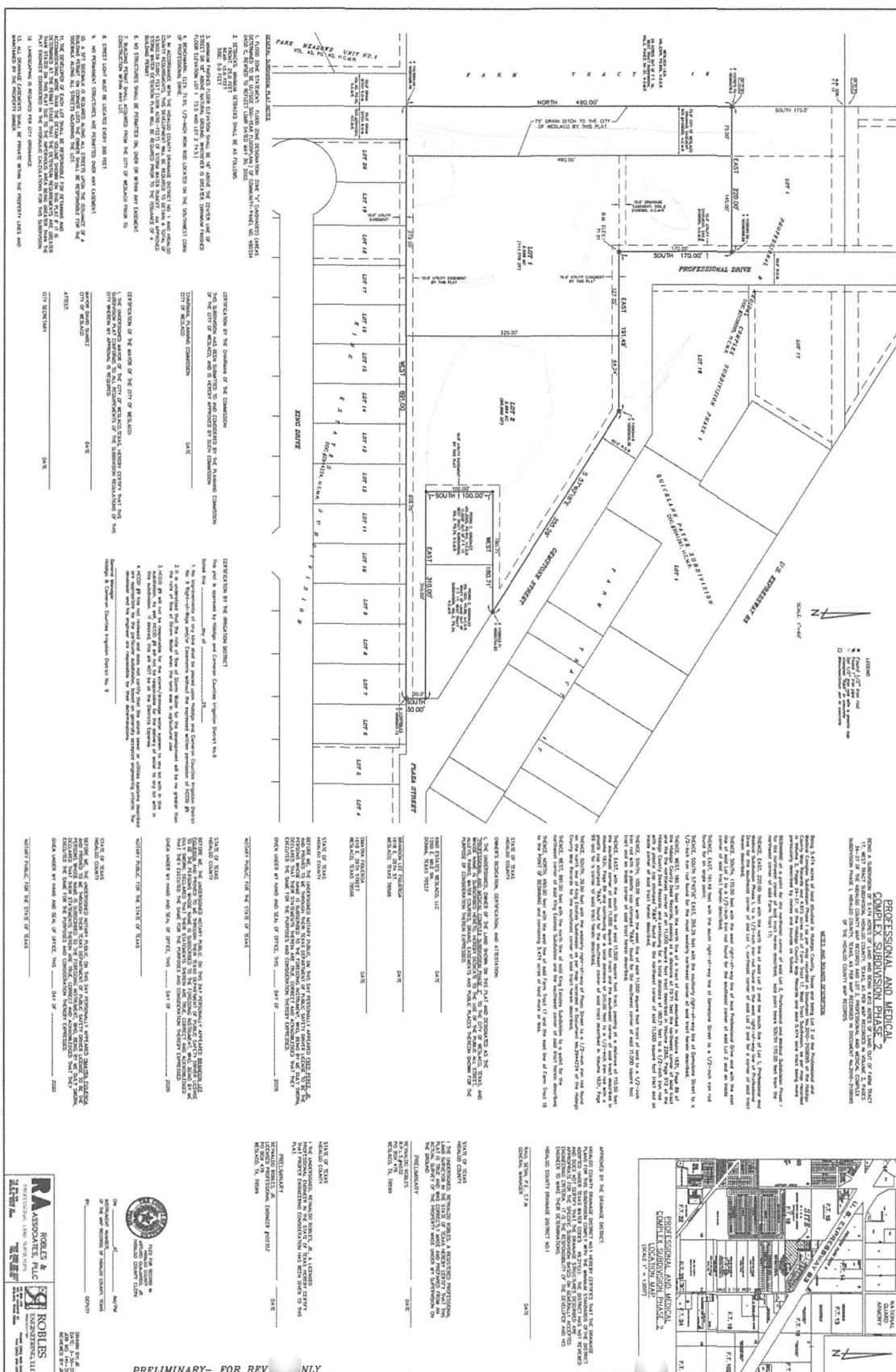
Engineering Properties—Hidalgo County, Texas														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
28—Hidalgo sandy clay loam, 0 to 1 percent slopes			In				L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H		
Hidalgo	85	B	0-17	Sandy clay loam	CL, SC	A-6	0-0-0	0-0-0	100-100 -100	95-98-1 00	86-96-1 00	44-54- 63	25-30 -39	11-15-1 8
			17-28	Sandy clay loam, clay loam	CL, SC	A-6, A-7-6	0-0-0	0-0-0	100-100 -100	94-98-1 00	85-96-1 00	50-60- 75	30-35 -44	11-17-2 2
			28-38	Clay loam, sandy clay loam	CL, SC	A-6, A-7-6	0-0-0	0-0-0	95-97-1 00	91-94-1 00	81-93-1 00	54-68- 81	30-38 -44	11-17-2 2
			38-80	Sandy clay loam, clay loam	CL, SC	A-6, A-7-6	0-0-0	0-0-0	96-97-1 00	91-95-1 00	82-94-1 00	57-72- 84	30-38 -44	11-17-2 2
70—Willacy fine sandy loam, 0 to 1 percent slopes														
Willacy	85	B	0-14	Fine sandy loam	SC, SC-SM, SM	A-2-4, A-4	0-0-0	0-0-0	100-100 -100	100-100 -100	95-98-1 00	30-38- 45	20-25 -30	3-7-10
			14-72	Sandy clay loam, fine sandy loam	CL, CL-MI, SC, SC-SM	A-4, A-6	0-0-0	0-0-0	95-98-1 00	90-95-1 00	90-95-1 00	36-51- 65	25-33 -40	6-13-20

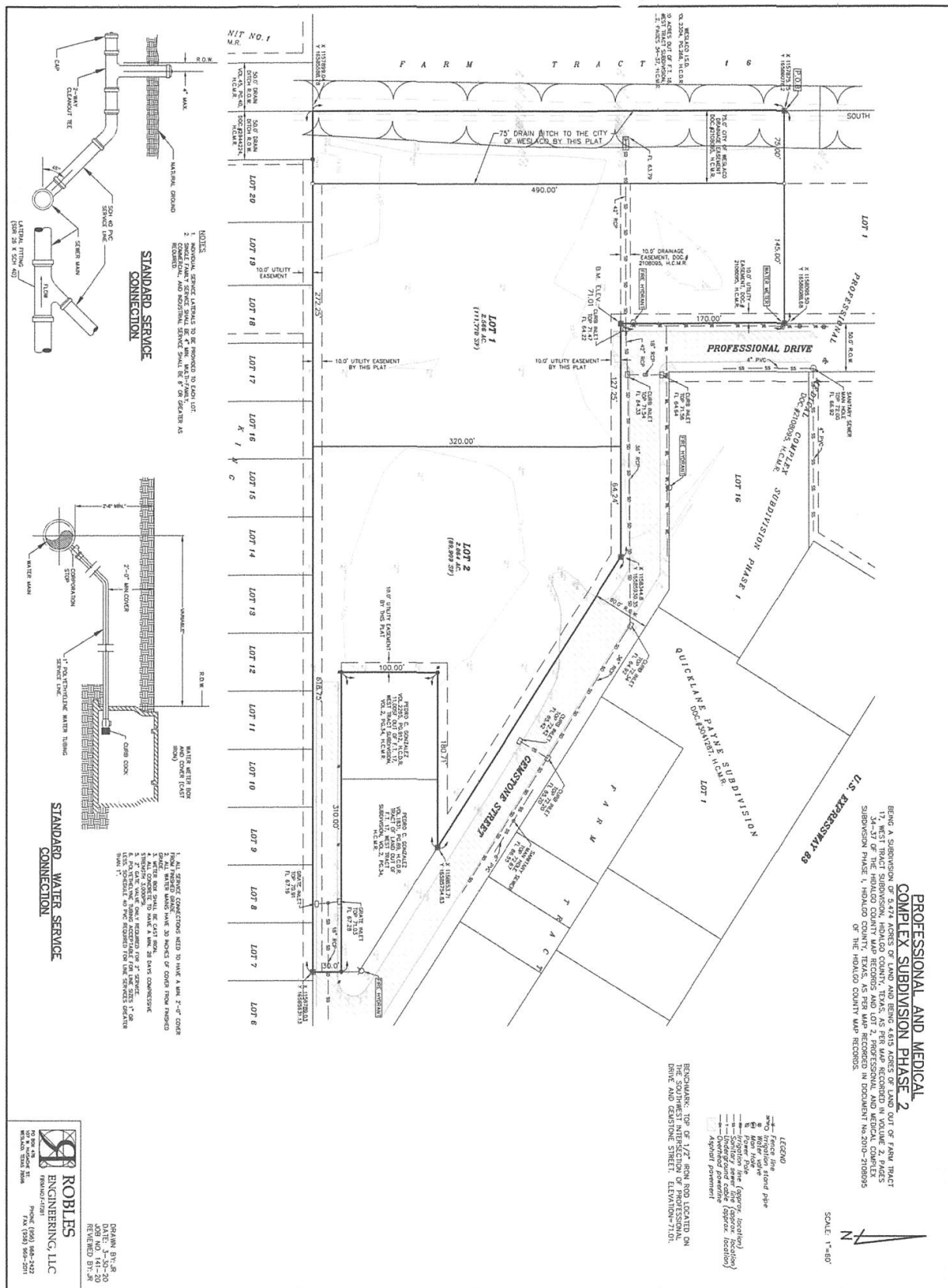
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(H) *Digitaria* (L.) *Swartzia* *Swartzia*

SECRET

2000. *Journal of Applied Behavior Analysis*, 33, 1-12.







Planning & Zoning Commission Standardized Agenda Request Form

Date of Meeting: August 5, 2020	Agenda Item No. (to be assigned by PCE): IV. E.
From: Rebekah de la Fuente, Planning Director, on behalf of Manuel Alejandro Villa.	
Subject/Agenda Item: Discussion and consideration for the Final Plat for Villa Event Center Subdivision being a 3.11 acre tract of land of Farm Tract 31, West and Adams Subdivision, Hidalgo County, and Texas located on the Northeast corner of Bridge and Dolores Huerta. Possible Action.	
Discussion/Overview: The proposed one (1) lot subdivision is inside the City of Weslaco city limits. This subdivision is being serviced with water by the City of Weslaco through an 8" waterline and sewer by the City of Weslaco services through an 8" sewer line. The property is within a Flood Zone "B".	
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.	
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.	



SUBDIVISION REVIEW 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. _____

RECEIVED

MAR 06 2020

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.

GENERAL INFORMATION

Name of Subdivision: Villa Subdivision

Location: Northeast corner of Bridge Rd. and Dolores Huerta Ave.

Legal Description: A 3.11 acre tract of land located in a part of the West 10 acres of the south 20 acres of farm tract 31, WEST AND ADAMS TRACT SUBDIVISION, Llano Grande Grant, City of Weslaco, Hidalgo County, Texas

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: Parcels (Future Land use 2040: Commercial)

Existing Land Use: Vacant Proposed Land Use: Commercial

Number of Lots Proposed: 1 Gross Acreage: 3.11

Title Report Submitted: ☐ YES ☒ NO

OWNER INFORMATION

Owner's Name: Manuel Alejandro Villa Telephone: (956) 458-5566

Address: 204 E. Newcombe Ave. Fax: _____

City: Pharr State: TX Zip: 78577 E-mail: manuelvilla88@gmail.com

ENGINEER INFORMATION

Name: Ruben Alfaro Telephone: (956) 207-6072

Address: 7800 N. 1st St. Fax: _____

City: McAllen State: TX Zip: 78504 E-mail: ruben.alfaro@achc-engineering.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 Texas

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

Proposed subdivision is in the following districts:

☒ YES ☐ NO Drainage District <u>HCDD No. 1</u>	☒ YES ☐ NO Irrigation District <u>HCCID No. 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 SUBDIVISION REVIEW

- ☒ Seven (7) sets of preliminary plat **folded and stapled** (24 x 36) and forward a copy in PDF format to mhinojosa@weslacotx.gov & rdelafuente@weslacotx.gov
- ☒ \$55.00 Subdivision 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 & 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

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: Manuel Alejandro Villa

Owner Signature: [Signature] Date: 03-06-2020

Ruben Alfaro Carrillo, P.E. is the authorized agent

Authorized Agent Signature: Ruben Alfaro Date: 03-06-2020

Authorized Agent Printed Name: Ruben Alfaro Carrillo, P.E.

THIS PAGE FOR STAFF USE ONLY

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

Preliminary Subdivision Review Date: _____

General Comments: _____

CITY OF WESLACO
956-968-3181

REC#: 02612714 3/06/2020 1:16 PM
OPER: MDLDP TERM: 036
REF#: 2447
PAID BY:

TRAN: 203.0000 SUBDIVISION INSPECT
VILLA SUBDIVISION
2447
101-400-1025
SUBDIVISION INSPECT 55.00CR

TENDERED: 55.00 CHECK
APPLIED: 55.00-

CHANGE: 0.00

Rebekah M. De La Fuente

From: Rebekah M. De La Fuente
Sent: Monday, June 15, 2020 2:54 PM
To: Ruben Alfaro
Subject: RE: Villa Event Center Subdivision (Previously Villa, Villa Baez Subdivision)

Good Afternoon:

The subdivision identified above has been accepted and approved by all the departments.

Planning Comments: Approved

- Informational only- Indicate location and size of sidewalk on paving sheet

Engineering Comments: Approved

- The subdivision will be approved as noted, the engineer must move the Set Iron Rod and Concrete Monument in line with the proposed property boundaries. Concrete Monument must be called out or made reference to in the Plan view of the Plat.

Please submit you subdivision platting application, \$355.00 application fee, \$75.00 fire review fee, 12 sets of plats and most recent drainage report.

Thank you

Rebekah de la Fuente, CFM
Planning & Code Enforcement Director

City of Weslaco
255 S. Kansas Avenue
Weslaco, TX 78596
Ph: (956) 447-3401
Fax: (956) 973-3128
rdelafuente@weslacotx.gov



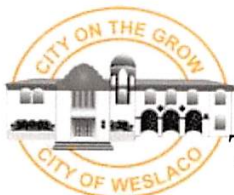
From: Ruben Alfaro <ruben.alfaro@achc-engineering.com>
Sent: Monday, June 1, 2020 11:10 PM
To: Rebekah M. De La Fuente <rdelafuente@weslacotx.gov>
Subject: Villa Event Center Subdivision (Previously Villa, Villa Baez Subdivision)

Hello Rebekah,

Attached please find the updated plat and utility layout with the remaining of the comments addressed. Please note that the subdivision name was changed as requested by the county. Please let me know if this works for you all as well.

Thanks!

Ruben Alfaro



**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: Villa Event Center Subdivision
Location: NE corner of Bridge Ave. and Dolores Huerta Ave.
Applicant: Manuel Alejandro Villa ☒ Owner ☐ Agent
Address: _____ Phone Number: (956) 458-5566

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			
	Event Center	3.31	29,250	2	180	180	360

Comments: Event Center will mainly produce trips during weekend events
Prepared by: Ruben Alfaro, P.E. Date: _____
Address: 7800 N. 1st St. Phone Number: (956) 207-6072

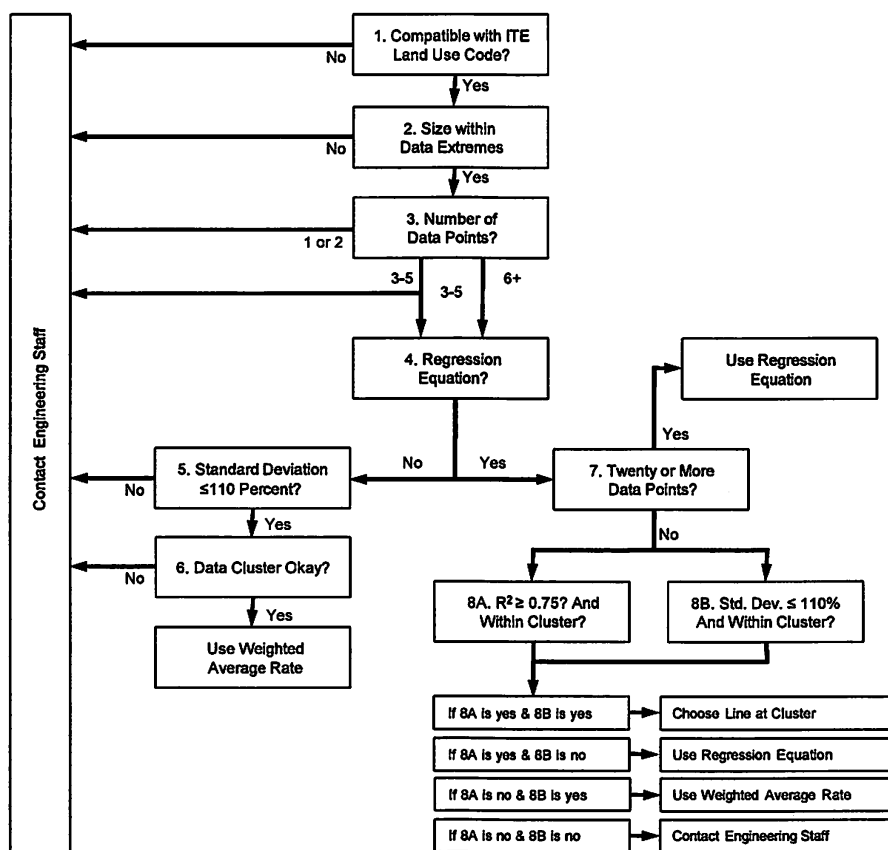
(For Official Use Only, Do Not Write In This Box)

_____ 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)

Proposed Villa Event Center Subdivision Weslaco, Texas

DRAINAGE REPORT

Prepared For:

**Hidalgo County Drainage District
902 N. Doolittle
Edinburg, Texas, 78541**

Prepared By:

Ruben Alfaro, P.E.



Reg. Engineering No. F-21299

**ACHC ENGINEERING
7800 N. 1st Street
McAllen, Texas 78504
(956) 207-6072**

May 2020

TABLE OF CONTENTS

DRAINAGE REPORT

ATTACHMENTS

LOCATION MAP

SUBDIVISION PLAT

SITE PLAN

DETENTION PLAN

FLOOD INSURANCE RATE MAP

DRAINAGE CALCULATIONS.

RUNOFF COEFFICIENT, C VALUES

DETENTION STORAGE CALCULATIONS

SOIL PROPERTIES

SOIL MAP

MAP UNIT DESCRIPTION

PHYSICAL SOIL PROPERTIES

ENGINEERING PROPERTIES

DRAINAGE REPORT
Villa Event Center Subdivision
Weslaco, Texas

Introduction:

The proposed Villa Event Center Subdivision (intended for commercial use) is a 3.11 acre one lot subdivision out West Tract Subdivision in the city of Weslaco, Hidalgo County, Texas. This report is intended to fulfill the drainage requirements of Villa Subdivision. Please see the attached Plat for more details.

This property is located on the corner of N Bridge Ave and Dolores Huerta Ave, within the City limits of Weslaco, Texas. Currently, there is no construction located on the site. Residential developments are adjacent to the subdivision to the West, commercial development to the North and North West, a vacant lot to the South. Please see the attached Location Map and Plat for reference.

FEMA:

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, the subdivision is located in "*Zone B*" Community Panel Number 480349 0005 B Map Effective March 4, 1980. "*Zone B*" are 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. Please see the attached FEMA Maps for reference. The QUAD Maps has also been included in Attachments.

Soil:

According to the Soil Survey Report prepared for Hidalgo County by the U.S.D.A. Soil Conservation Services, the site consists of two soil types; (25)-Hidalgo fine sandy loam, with 0 to 1 percent slopes and (28)-Hidalgo sandy clay loam with 0 to 1 percent slopes. Both Soil types belong to soil group B; **Soil Group B** defined as 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.

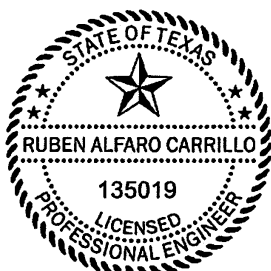
Existing Drainage Conditions:

Existing storm runoff within this property currently flows overland in a southeasterly direction. Runoff currently travels Dolores Huerta Avenue into an existing storm system located along Dolores Huerta Avenue.

Drainage Requirements:

The existing peak runoff from a 10-year storm determined using the rational method is 5.43 cfs and the anticipated peak runoff after development is calculated to be 24.00 cfs for a 50-year return frequency.

In accordance with the County's drainage requirements of not increasing the amount of existing runoff, we have calculated that 21,702 cubic feet of storm runoff to be detained within the property through detention ponds and will be released into an existing city of Weslaco storm inlet located at Dolores Huerta Avenue.



Ruben Alfaro
Ruben Alfaro, P.E.
ACHC Engineering F#-21299

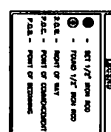
☐ REJECTED	
☒ APPROVED FOR SUBMITTAL	
☐ TO H.C. PLANNING DEPT.	
☐ TO CITY	
☒ DISCHARGE PERMIT REQUIRED	
☐ DISTRICT FACILITY	
☒ CITY FACILITY	
☐ OTHER	
H.C.D.D. NO. <u>1</u>	DATE <u>6/23/2021</u>



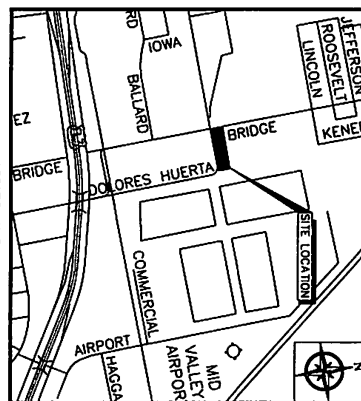
BOOK 20 INDEX TO PLAT 22, WEST AND SECOND STREET SUBDIVISION, LINDEN DISTRICT, CITY OF WHEELING, HOLLAND COUNTY, TEXAS, AS PER MAP OR PLAT SHOWED RECORDED IN VOLUME 2, PAGE 24, HOLLAND COUNTY MAP RECORDS (PLAT 22)



PROS: • Proven track record
• Strong financial position
• Excellent customer service
• Wide range of products
• Competitive pricing



SCALE: 1"=1000'



ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED
DATE 05-11-2010 BY 60322 UCBAW

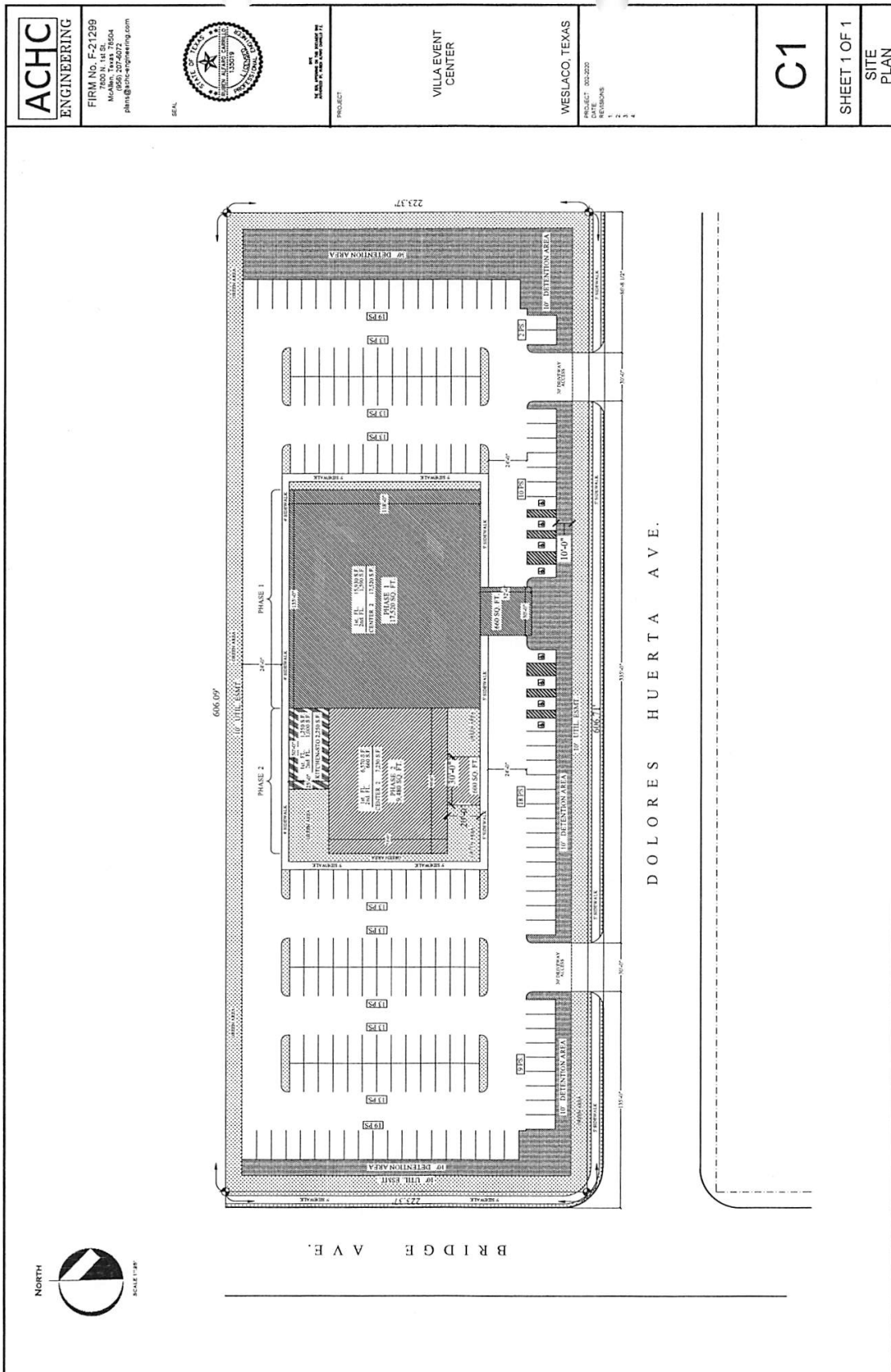
NO.	SHEET	REVISION	DATE	APPROVED

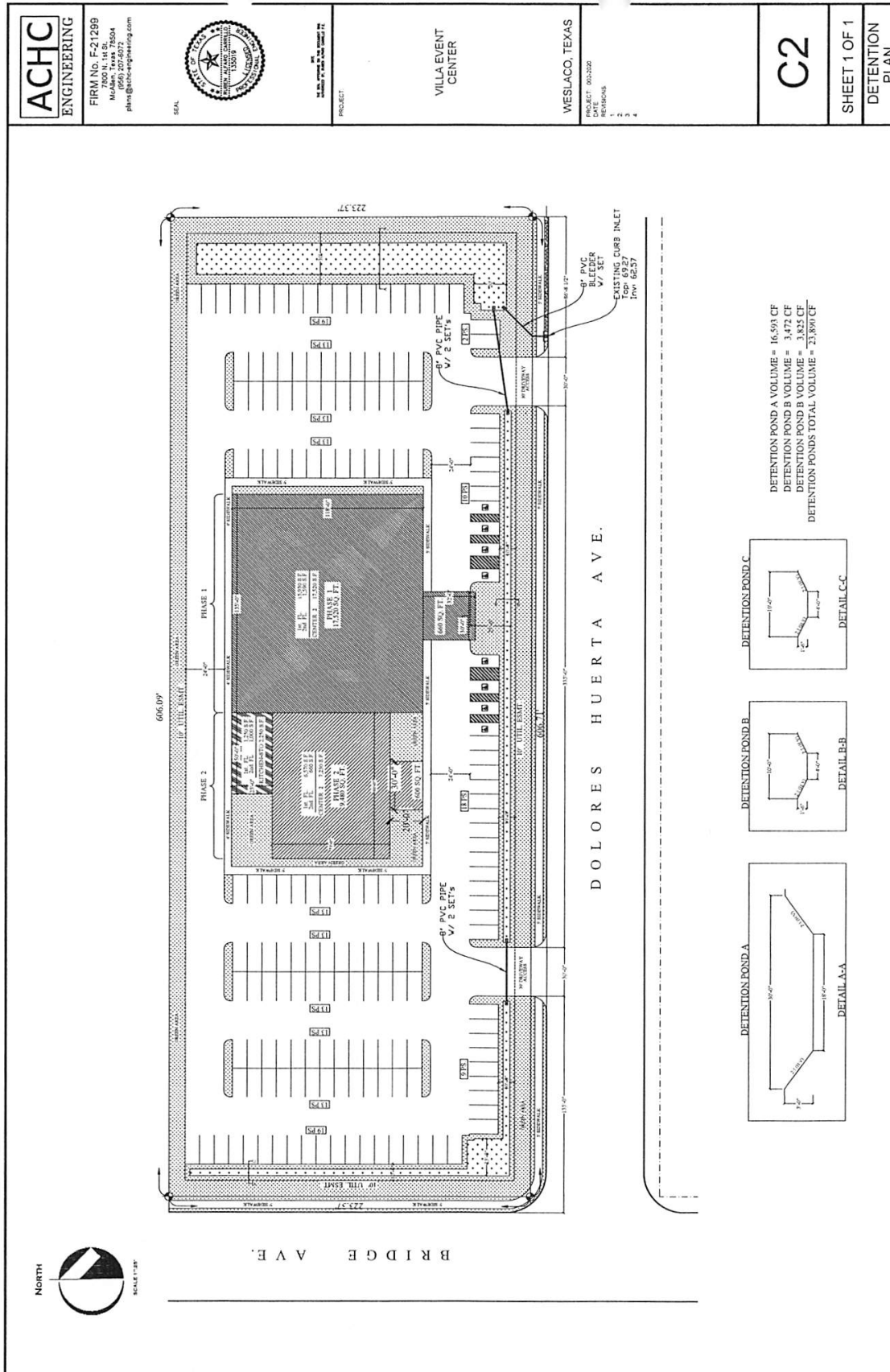
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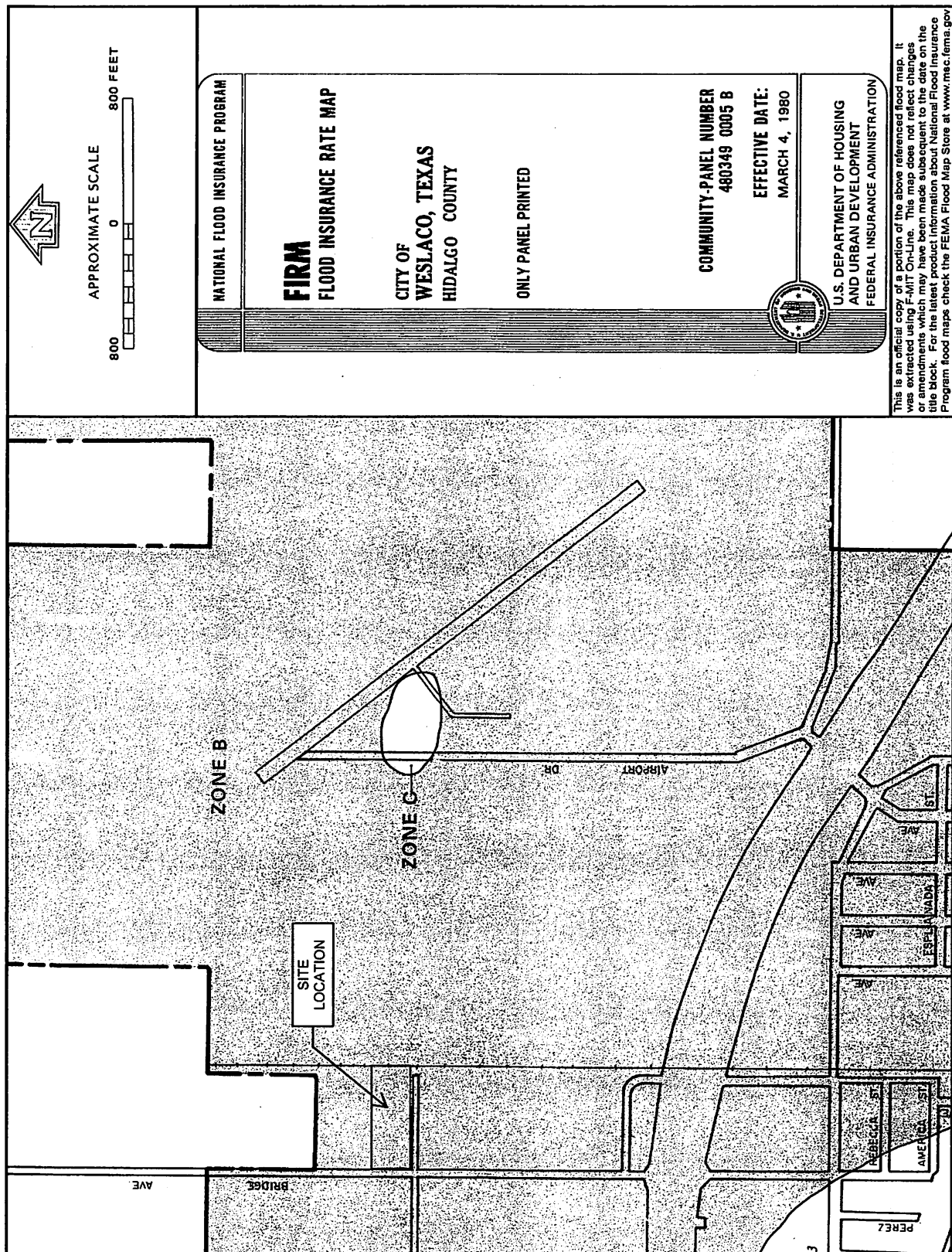
ACHC
ENGINEERING
PHRM NO. 7-2789

7200 N. 141 St.
Mukwonago, Texas 75064

6569 337-6272
achc@achc-engineering.com







ACHC ENGINEERING
FIRM REGISTRATION NO. F-21299
7800 N. 1ST ST.
McALLEN, TEXAS 78504
PHONE (956) 207-6072

EXHIBIT A
Drainage Calculations, Area 1

Project Name: Villa Event Center Subdivision Weslaco, TX
Project No.: 002-2020

I. General Information

1. Governing Equation: $Q=CIA$ (Ratnl. Method), TxDOT IDF Curves for **Hidalgo County** & Mannings Equation (normal depth calculations)

2. TxDOT Intensity Constants for $I=b/(Tc+d)^e$		Velocity Constants			
Undeveloped	Developed	Slope =	0.21 %	proposed	Length = 240 ft
10 year storm	50 year storm	Slope =	0.21 %	existing	Length = 240 ft
b= 87	b= 99	k =	0.213	grassed waterway	Drop = 6 in
e= 0.778	e= 0.749	k =	0.619	paved area	Drop = 6 in
d= 9.2	d= 9.2	Ku =	3.28		

where Tc , is calculated with an average overland flow velocity (0-10% slopes):

$$V = (Ku)(k)(Sp)^{1/2}$$

- a) existing unimproved conditions: vel = 0.32 ft/sec
b) proposed commercial conditions: vel = 0.93 ft/sec

3) Accepted Runoff Coefficients

a) Building/Roofs	c = 0.90	Runoff Description Coeff.
b) Asphalt	c = 0.90	
c) Detention/Trench Trough	c = 0.20	
d) Concrete	c = 0.90	
e) Unimproved area (grass)	c = 0.20	
4) Total Area =	3.110 ac	0.71 Cumulative Areas
Area 1	0.581 ac	0.90 Building/Roofs
Area 2	1.697 ac	0.90 Asphalt
Area 3	0.321 ac	0.20 Detention/Trench Trough
Area 4	0.511 ac	0.20 Unimproved area (grass)

II. Existing Conditions

A) Drainage area		240 ft
Length of runoff =		240 ft
$Tc =$	$240 / (V \text{ ft/sec} \times 60 \text{ sec}) =$	12.5 min.
$I (10 \text{ yr}) = b/(Tc+d)^e =$		8.73 in/hr
$Q=CIA =$	$0.20 \times 8.73 \times 3.11 =$	5.43 cfs
		Use 10.0 min

III. Ultimate Developed Conditions

Weighted Runoff Coefficient		
$C = (C1A1+C2A2+C3A3+C4A4+...)/A_{total} =$		0.71
A) Drainage area		240 ft
Length of runoff =		3.11 ac
$Tc =$	$240 / (V \text{ ft/sec} \times 60 \text{ sec}) =$	4.3 min.
$I (50 \text{ yr}) = b/(Tc+d)^e =$		10.83 in/hr
$Q=CIA =$	$0.71 \times 10.83 \times 3.11 =$	24.00 cfs
		Use 10.0 min

IV. Comments

$Q_{dev} = 24.00 \text{ cfs}$
 $Q_{exist} = 5.43 \text{ cfs}$
Difference = 18.56 cfs

ACHC ENGINEERING

FIRM REGISTRATION NO. F-21299

7800 N. 1ST ST.

McALLEN, TEXAS 78504

PHONE (956) 207-6072

Exhibit B Detention Storage Requirements

PROJECT NAME: VILLA EVENT CENTER SUBDIVISION
WESLACO, TEXAS

Prop. Runoff C = 0.71

Area = 3.11

Post Dev. Tc = 10 min

Exist Runoff C = 0.2

Exist. Intensity = 8.73

Time (minutes)	I 50 yrs (in./hr.)	Q (c.f.s.)	Vol. (c.f.)	Qexist. (c.f.s.)	Vol. exist. (c.f.)	Vol. stored (c.f.)
5	13.57	29.96	8,989	5.43	2,444	6,545
10	10.83	23.90	14,342	5.43	3,258	11,084
15	9.10	20.10	18,089	5.43	4,073	14,017
20	7.91	17.46	20,954	5.43	4,887	16,067
25	7.03	15.51	23,268	5.43	5,702	17,566
30	6.34	14.00	25,209	5.43	6,516	18,693
35	5.80	12.80	26,881	5.43	7,331	19,551
40	5.35	11.81	28,352	5.43	8,145	20,207
45	4.98	10.99	29,666	5.43	8,960	20,706
50	4.66	10.28	30,854	5.43	9,774	21,080
55	4.38	9.68	31,939	5.43	10,589	21,351
60	4.14	9.15	32,939	5.43	11,403	21,536
65	3.93	8.68	33,868	5.43	12,218	21,650
70	3.75	8.27	34,734	5.43	13,032	21,702
75	3.58	7.90	35,547	5.43	13,847	21,701
80	3.43	7.57	36,314	5.43	14,661	21,653
85	3.29	7.26	37,039	5.43	15,476	21,563
90	3.16	6.99	37,728	5.43	16,290	21,438
95	3.05	6.73	38,384	5.43	17,105	21,279
100	2.94	6.50	39,010	5.43	17,919	21,091
105	2.85	6.29	39,610	5.43	18,734	20,876
110	2.76	6.09	40,185	5.43	19,548	20,637
115	2.67	5.90	40,739	5.43	20,363	20,376
120	2.60	5.73	41,272	5.43	21,177	20,094



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

Site Location



February 5, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

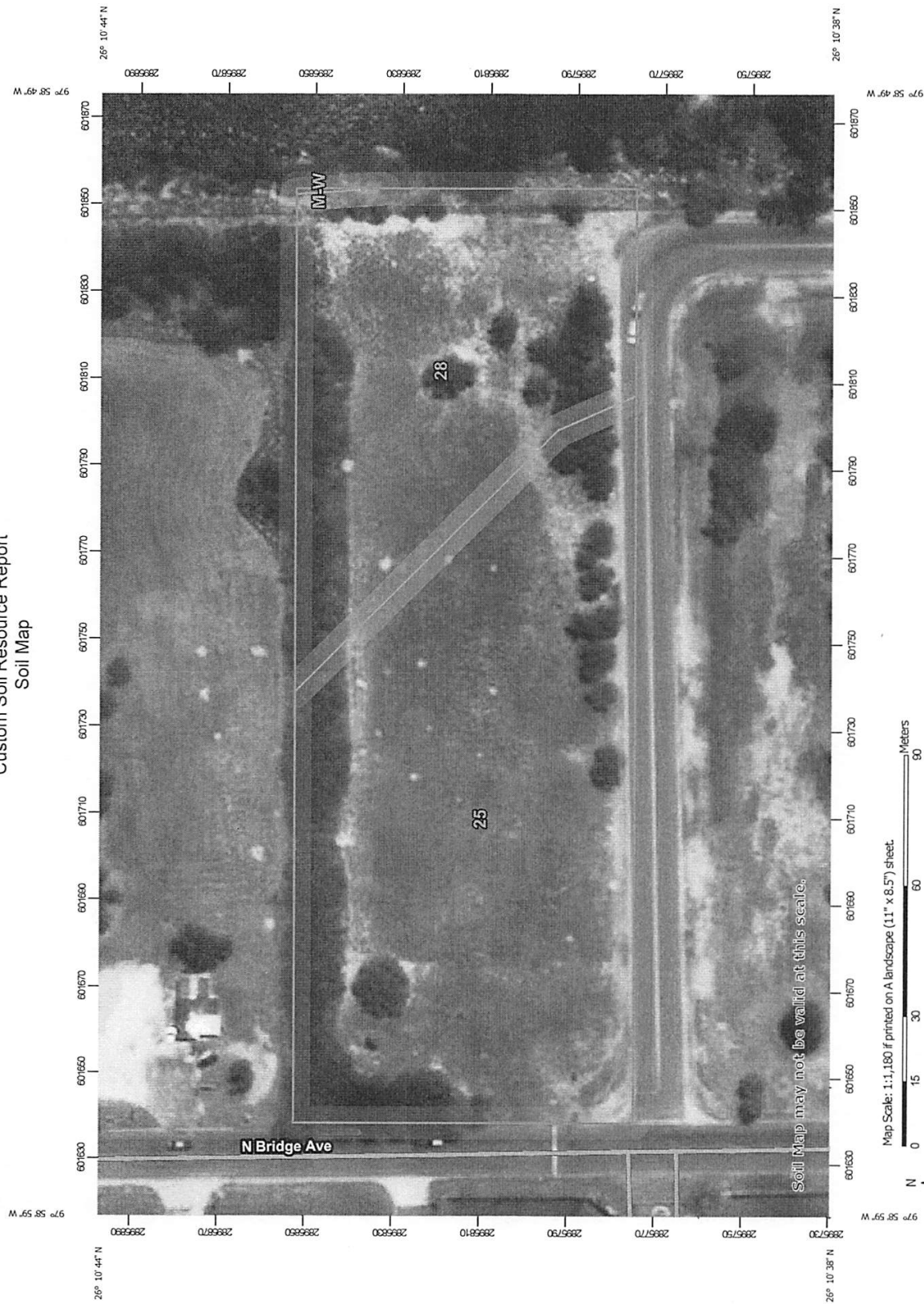
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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

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Soil Map



MAP LEGEND

Area of Interest (AOI)	Area of Interest (AOI)	Area of Interest (AOI)	Area of Interest (AOI)
Soils	Soils	Soils	Soils
Soil Map Unit Lines	Soil Map Unit Lines	Soil Map Unit Lines	Soil Map Unit Lines
Soil Map Unit Points	Soil Map Unit Points	Soil Map Unit Points	Soil Map Unit Points
Special Point Features	Special Point Features	Special Point Features	Special Point Features
Blowout	Blowout	Blowout	Blowout
Borrow Pit	Borrow Pit	Borrow Pit	Borrow Pit
Clay Spot	Clay Spot	Clay Spot	Clay Spot
Closed Depression	Closed Depression	Closed Depression	Closed Depression
Gravel Pit	Gravel Pit	Gravel Pit	Gravel Pit
Gravelly Spot	Gravelly Spot	Gravelly Spot	Gravelly Spot
Landfill	Landfill	Landfill	Landfill
Lava Flow	Lava Flow	Lava Flow	Lava Flow
Marsh or swamp	Marsh or swamp	Marsh or swamp	Marsh or swamp
Mine or Quarry	Mine or Quarry	Mine or Quarry	Mine or Quarry
Miscellaneous Water	Miscellaneous Water	Miscellaneous Water	Miscellaneous Water
Perennial Water	Perennial Water	Perennial Water	Perennial Water
Rock Outcrop	Rock Outcrop	Rock Outcrop	Rock Outcrop
Saline Spot	Saline Spot	Saline Spot	Saline Spot
Sandy Spot	Sandy Spot	Sandy Spot	Sandy Spot
Severely Eroded Spot	Severely Eroded Spot	Severely Eroded Spot	Severely Eroded Spot
Sinkhole	Sinkhole	Sinkhole	Sinkhole
Slide or Slip	Slide or Slip	Slide or Slip	Slide or Slip
Sodic Spot	Sodic Spot	Sodic Spot	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 or 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 18, Sep 12, 2019

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.

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
25	Hidalgo fine sandy loam, 0 to 1 percent slopes	2.6	63.8%
28	Hidalgo sandy clay loam, 0 to 1 percent slopes	1.5	36.1%
M-W	Miscellaneous water	0.0	0.1%
Totals for Area of Interest		4.1	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 pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

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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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Hidalgo County, Texas

25—Hidalgo fine sandy loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2sxn
Elevation: 20 to 500 feet
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: Prime farmland if irrigated

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: fine sandy 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
Natural 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 in profile: 35 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 10.0
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

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

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Minor Components

Willacy

Percent of map unit: 10 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Brennan

Percent of map unit: 5 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Sandy Loam (R083EY023TX)
Hydric soil rating: No

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

Map Unit Setting

National map unit symbol: 2sxxv
Elevation: 20 to 500 feet
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

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Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural 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 in profile: 35 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 10.0
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

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

Minor Components

Raymondville

Percent of map unit: 7 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Clay Loam (R083DY025TX)
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: Clay Loam (R083DY025TX)
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

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M-W—Miscellaneous water

Map Unit Composition

Water, miscellaneous: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

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