CITY OF ANGLETON
CITY COUNCIL AGENDA
120 S. CHENANGO STREET, ANGLETON, TEXAS 77515
TUESDAY, OCTOBER 14, 2025 AT 6:00 PM

Mayor | John Wright
Mayor Pro-Tem | Travis Townsend
Council Members | Barbara Simmons, Blaine Smith, Tanner Sartin, Christiene Daniel
Acting City Manager | Guadalupe "Lupe" Valdez
City Secretary | Michelle Perez

NOTICE IS HEREBY GIVEN PURSUANT TO V.T.C.A., GOVERNMENT CODE, CHAPTER 551, THAT THE CITY COUNCIL FOR THE CITY OF ANGLETON WILL CONDUCT A MEETING, OPEN TO THE PUBLIC, ON TUESDAY, OCTOBER 14, 2025, AT 6:00 P.M., AT THE CITY OF ANGLETON COUNCIL CHAMBERS LOCATED AT 120 S. CHENANGO STREET ANGLETON, TEXAS 77515.

DECLARATION OF A QUORUM AND CALL TO ORDER

PLEDGE OF ALLEGIANCE

INVOCATION

CITIZENS WISHING TO ADDRESS CITY COUNCIL

The Presiding Officer may establish time limits based upon the number of speaker requests, the length of the agenda, and to ensure meeting efficiency, and may include a cumulative time limit. Citizens may speak at the beginning or at the time the item comes before council in accordance with Texas Government Code Section 551.007. No Action May be Taken by the City Council During Public Comments.

CEREMONIAL PRESENTATIONS

1. Ceremonial Presentation of October 2025 Keep Angleton Beautiful Yard of the Month and Business of the Month.

CONSENT AGENDA

All of the following items on the Consent Agenda are considered to be self-explanatory by the Council and will be enacted with one motion. There will be no separate discussion of these items unless requested by the Mayor or a Council Member; in which event, the item will be removed from the consent agenda and considered separately.

2. Discussion and possible action to approve one-way traffic entering North Belle and exiting South Belle in the Plantation Oaks neighborhood on October 31, 2025, from 5:00 p.m. to 9:00 p.m.

3. Discussion and possible action to approve an amended railroad agreement with Strong Capital I, LP, a Delaware limited partnership for licenses for utilities crossing under the railroad.

4. Discussion and [possible action to approve Ordinance No. 20251014-004 amending Ordinance No. 20250909-007 due to inadvertent scrivener's error and providing for the levy and collection of the ad valorem property tax of the City of Angleton, Texas, for the year 2025; providing revenues for payment of current municipal maintenance and operating expenses and for payment of interest and principal on outstanding City of Angleton debt; providing for the date on which such taxes shall be due and payable; repealing all ordinances or parts of ordinances inconsistent or in conflict herewith; and providing for severability.

5. Discussion and possible action to approve Resolution No. 20251014-005 by the City Council of the City of Angleton, Texas, approving the "Bank Records" for the Purpose of changing the authorized persons to act as signatories on city accounts at First State Bank; providing for repeal; and providing for an effective date.

REGULAR AGENDA

6. Presentation of the Annual Collection Report by Mark Darlow, Perdue Brandon.

7. Update, discussion and possible action on King Municipal Operations Center Project by Zachery Moquin with TEAL Construction.

8. Update and discussion on Freedom Park Field expansion.

9. Update, discussion and possible action on Street Bond Phase III - Silver Saddle Improvements.

10. Discussion and possible action to adopt the 2025 Utility Master Plan and associated Capital Improvement Plan for water and wastewater improvements.

11. Discussion and possible action on the purchase of 2026 Dump Truck through Houston-Galveston Area Council (H-GAC) Buy Board, for the price of $159,975; also purchase a new Gradall XL3100 4x2 Series V with a fixed thumb gabble, for the price of $543,560.72.

12. Discussion and possible action to cast a majority vote of the governing body for a candidate on the Texas Municipal League Region 14 Board of Director election ballot.

REGULAR AGENDA

13. September Staff Reports

COMMUNICATIONS FROM MAYOR AND COUNCIL

ADJOURNMENT

If, during the course of the meeting and discussion of any items covered by this notice, City Council determines that a Closed or Executive Session of the Council is required, then such closed meeting will be held as authorized by Texas Government Code, Chapter 551, Section 551.071 - consultation with attorney; Section 551.072 - deliberation regarding real property; Section 551.073 - deliberation regarding prospective gift; Section 551.074 - personnel matters regarding the appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of a public officer or employee; Section 551.076 - deliberation regarding security devices or security audit; Section 551.087 - deliberation regarding economic development negotiations; Section 551.089 - deliberation regarding security devices or security audits, and/or other matters as authorized under the Texas Government Code. If a Closed or Executive Session is held in accordance with the Texas Government Code as set out above, the City Council will reconvene in Open Session in order to take action, if necessary, on the items addressed during Executive Session.

CERTIFICATION

I, Michelle Perez, City Secretary, do hereby certify that this Notice of a Meeting was posted on the City Hall bulletin board, a place convenient and readily accessible to the general public at all times and to the City's website, www.angleton.tx.us, in compliance with Chapter 551, Texas Government Code. The said Notice was posted on the following date and time: Tuesday, October 7, 2025, by 6:00 p.m. and remained so posted continuously for at least three business days preceding the scheduled time of said meeting.

/S/ Michelle Perez
Michelle Perez, TRMC, CMC
City Secretary

Public participation is solicited without regard to race, color, religion, sex, age, national origin, disability, or family status. In compliance with the Americans with Disabilities Act, the City of Angleton will provide reasonable modifications and/or auxiliary aids for persons with disabilities needing special accommodation to participate in this proceeding, or those requiring language assistance (free of charge) attending any City-sponsored meetings. Please contact the City's ADA Coordinator, Colleen Martin, no later than seventy-two (72) hours prior to the meeting, at 979-849-4364, extension 2132, or email cmartin@angleton.tx.us to arrange auxiliary aides or accommodations necessary.

AGENDA ITEM SUMMARY FORM

MEETING DATE: 10/14/2025

PREPARED BY: Jason O'Mara, Director of Parks and Recreation

AGENDA CONTENT: Ceremonial Presentation of October 2025 Keep Angleton Beautiful Yard of the Month and Business of the Month.

AGENDA ITEM SECTION: Ceremonial Presentation

BUDGETED AMOUNT: NA **FUNDS REQUESTED:** NA

FUND: NA

EXECUTIVE SUMMARY:

Keep Angleton Beautiful will present Yard of the Month to Russell and Johnelle Perque at 1328 Heather Street and Business of the Month to UTMB Angleton Danbury Campus at 132 E. Hospital Drive.

RECOMMENDATION:

Staff recommend City Council acknowledge the Yard of the Month and Business of the Month with a plaque, picture, and KAB gift for their beautification efforts.

THE HEART OF BRAZORIA COUNTY ANGLETON

AGENDA ITEM SUMMARY FORM

MEETING DATE: 10/14/25

PREPARED BY: Lupe Valdez

AGENDA CONTENT: Discussion and possible action to approve one-way traffic entering N. Belle and exiting S. Belle in the Plantation Oaks neighborhood on October 31, 2025, from 5:00 p.m. to 9:00 p.m.

AGENDA ITEM SECTION: Consent Agenda

BUDGETED AMOUNT: N/A **FUNDS REQUESTED:** N/A

FUND: N/A

EXECUTIVE SUMMARY:

A request was received for one-way traffic entering N. Belle and exiting S. Belle in the Plantation Oaks neighborhood on October 31, 2025, from 5:00 p.m. to 9:00 p.m.

Two police officers have been confirmed to direct traffic.

RECOMMENDATION:

Approval of the one-way traffic on Halloween night.

THE HEART OF BRAZORIA COUNTY ANGLETON

AGENDA ITEM SUMMARY FORM

MEETING DATE: October 14th, 2025

PREPARED BY: Hector Renteria

AGENDA CONTENT: Railroad Agreement

AGENDA ITEM SECTION: Consent Agenda

BUDGETED AMOUNT: N/A **FUNDS REQUESTED:** $3,154.31

FUND: Utility Fund (03)

EXECUTIVE SUMMARY: We received a letter in May from Union Pacific stated that licensing fees were past due. We inquired about the fees and discovered that the city has a past agreement for the utilities crossing under the railroad. This is necessary for the city to be able to receive a permit for maintenance of the line to work on the railroad right-of-way. Working with Railroad Management LLC, who have recently acquired these licenses from Union Pacific, we amended the agreement based on current utility crossings. All administrative fees, and late fees, have been waved. The city will incur a charge of $3,154.31. Each annual payment will be increased as stated in 2(b).

RECOMMENDATION: Staff is looking for approval of this agreement.

AMENDMENT AGREEMENT

THIS AMENDMENT AGREEMENT (this "***Amendment***") dated as of June 24, 2025 (the "***Effective Date***"), is made, entered into, executed and delivered by and between City of Angleton, Angleton, TX 77515, whose address is 121 South Velasco, Angleton, TX 77515 (hereinafter called "***Licensee***"); and Strong Capital I, LP, a Delaware limited partnership (hereinafter "***Strong***" or **"*Licensor*"**);

RECITALS

WHEREAS, Licensee and Strong, or their respective predecessors-in-interest, entered into one or more agreement(s), each as amended or supplemented prior to the date hereof and as more fully description on **Exhibit A** attached hereto and made a part hereof (collectively, the "***Agreement***");

WHEREAS, Licensee certifies to Strong that Licensee is the lawful owner of the facilities referenced in the Agreement and, if Licensee is not the original licensee under the Agreement, that Licensee succeeded to all rights granted to, and obligations assumed by, the original licensee under the Agreement;

WHEREAS, the parties desire to amend the Agreement in connection with the execution and delivery of this Amendment in order to, among other things, modify, amend and supplement certain payment (including without limitation payment amounts and other certain payment terms) and other provisions.

NOW THEREFORE, in consideration of the mutual covenants and agreements contained herein, and other good and valuable consideration in hand paid and delivered, the receipt, adequacy and legal sufficiency of which are hereby acknowledged by each of the parties, there parties do hereby agree as follows:

1. Administrative Processing Fee (WAIVED). Licensee shall pay to Strong an administrative processing fee in the amount of ZERO AND 0/100 ($0.00) upon the execution and delivery of this Amendment by check or wire transfer of immediately available funds.

2. Certain Amendments to Agreement. The Agreement is hereby amended to include the following provision(s):

The sections indicated in the "License Fee Section(s)" column of **Exhibit A** shall be deleted in their entirety and replaced with the following:

(a). As partial consideration for the permission herein given, Licensee shall pay to Strong, as an annual license fee, the sum stated in the "Annual License Fee Amount" column of **Exhibit A**, payable annually in advance and subject to annual adjustment. Acceptance by Strong (or any successor in interest) of the license fee in advance shall not be construed as a waiver by Strong (or any successors in interest) of its right to terminate the Agreement.

(b). CPI Factor Adjustment. The annual license fee amount shall automatically and without notice to Licensee, be adjusted, upwards only, on each anniversary of the Effective Date of this Amendment by the CPI Factor as indicated on the Consumer Price Index, Urban Wage Earners and Clerical Workers, U.S. City Average, All Items (1982-84=100) (the "***Consumer Price Index***"), published by the United States Department of Labor, Bureau of Labor Statistics, or any successor or substitute index published as a replacement for the Index by any United States Governmental agency, or by a minimum of three percent (3%). The "***CPI Factor***" is the percentage of adjustment stated in the Consumer Price Index

(indicated in the previous sentence) established during the last available twelve-month period immediately preceding each anniversary of the Effective Date of this Amendment, adjusted to the nearest one-tenth of one percent. If the Consumer Price Index has changed so that the base year differs from that used in this paragraph, the Consumer Price Index shall be converted in accordance with the conversion factor published by the United States Department of Labor, Bureau of Labor Statistics to the 1982-84 base. If the Consumer Price Index is discontinued or revised during the term of the Agreement, such other governmental index or computation with which it is replaced shall be used in order to obtain substantially the same results as would be obtained if Consumer Price Index had not been discontinued or revised.

(c). Late Fees and Interest. In the event Licensee fails to pay the license fee on or before the due date, Licensee shall pay a late charge equal to five percent (5%) of the unpaid amount. After thirty (30) days, all amounts due hereunder shall bear interest from the date when due until paid at a rate of eighteen percent (18%) per annum. Such interest shall be governed by the laws of Texas, without regard to conflicts of law principles, and in no event will interest exceed the maximum amount permitted by such laws.

(d). Annual License Fee Amount Contingent Upon Non-Use of Facilities. [Reserved]. [The Annual License Fee Amount fixed in this Amendment and described in Exhibit A attached hereto is contingent upon Licensee's non-use of the facilities described in the Agreement. Both parties acknowledge and agree that the Annual License Fee Amount as provided by this Amendment is contingent upon Licensee's non-use of the facilities covered under the Agreement. If at any time it is subsequently determined that the facilities are in use, all outstanding payments from the date hereof shall be recalculated at an Annual License Fee Amount equal to _____ ($_____.00) per annum as adjusted by subsection (b) above and shall become immediately due and payable with interest at the highest rate applicable by law. Strong shall thereafter have the further option, in its sole discretion, of (i) fixing a revised Annual License Fee Amount by written notice to Licensee and/or subsequent license fee increases based upon CPI or a flat percentage; or (b) entering into a new agreement with Licensee providing for a one-time fee for a fix term.]

3. Amendment to Facilities Description. [The facilities description located in the Agreement is hereby amended to delete the facilities description therein together with any associated diagrams or drawings and replace the same in its entirety with the following:

18-inch sewer pipeline crossing at S. Anderson (see exhibit B)

4. Full Force and Effect; Entire Agreement; Amendment. Except as otherwise expressly provided in this Amendment, all other terms, conditions and provision of the Agreement remain in full force and effect without amendment or modification. In the event of any conflict, inconsistency or incongruity between any provision of this Amendment and any provision of the Agreement, the provisions of this Amendment shall govern and control. This Amendment embodies the entire agreement among the parties relating to the subject matter hereof and may be amended only by an instrument in writing executed by an authorized officer of each party hereto. The parties may waive any of the conditions contained herein or any of the obligations of the other party hereunder, but any such waiver shall be effective only in writing and signed by the party waiving such condition(s) or obligation(s).

5. Severability. If any term, provision, covenant or restriction of this Amendment is held by a court of competent jurisdiction or other authority to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions of this Amendment shall remain in full force and effect and shall in no way be affected, impaired or invalidated.

6. Interpretation. Where required for proper interpretation, words in the singular shall include the plural; the masculine gender shall include the neuter and the feminine, and vice versa. The terms "successors and assigns" shall include the heirs, administrators, executors, successors, and assigns, as applicable, of any party hereto. For purposes of construction, this Amendment will be deemed to have been drafted by all parties hereto. This Amendment shall be binding and shall inure to the benefit of the parties and their respective successors and assigns; provided, however, that Licensee shall not assign the Agreement or this Amendment without the prior written consent of Licensor (or any successors in interest).

7. Acknowledgements. The Licensee hereby acknowledges the title in and to the Agreement premises to be good and agrees never to assail or resist said title. The execution of this Amendment shall be deemed Licensee's agreement that it has had an adequate opportunity to make such legal, factual and other inspections, inquiries and investigations as it deems necessary, desirable or appropriate with respect to the Agreement premises. Except as otherwise expressly set forth in this Amendment and the documents or instruments executed in connection herewith, Licensee shall not be entitled to and shall not rely upon Strong's or Strong's agents with regard to, and Strong will not make any representation or warranty with respect to the legal status of the Agreement premises, the condition of title to the Agreement premises or the nature, status and extent of any right-of-way, lease, right of redemption, possession, lien, encumbrance, license, reservation, covenant, condition, restriction, or any other matter affecting the Agreement premises.

8. Additional Terms. The parties hereto agree to the terms and conditions set forth on **Exhibit B**, attached hereto and made a part hereof.

[*Signature page follows*]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed in duplicate as of the date first above written.

Licensee: **City of Angleton**

By:_____
Name:
Title:

Strong: **Railroad Management Company, LLC**
As agent for Strong Capital I, LP

By:_____
Name:
Title:

EXHIBIT A

Agreements between Strong Capital VI, LLC and City of Angleton:

License No.	Audit No.	Folder No.	Location City	Location County	Location State	Annual License Fee Section(s)	Annual License Fee Amount	Termination Section
0024739	CA49114	137055	ANGLETON	BRAZORIA	TX	Section 1	$668.70	Section 3

EXHIBIT B

Water & Sewer Utilities
Hector Renteria
To exit full screen, press and hold Esc
18" Polyvinyl Chloride Gravity Main
Table
Edit
Get directions
Zoom to
Owned By
City of Angleton
Maintained By
City of Angleton
Diameter
18"
Material
Polyvinyl Chloride
Comments
Length (ft)
102
Last edited by doug.wilson_angleton on 2/7/2022, 3:51 PM.
South Velasco Street
South Anderson Street
East Peach Street
Esri, NASA, NGA, USGS, FEMA | Esri Community Maps Contributors, Texas Parks & Wildlife, © OpenStreetMap, Microsoft, COMMAP, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS | Map tiles © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps cont... Powered by Esri

Railroad Management Company, LLC
PO BOX 679936
Dallas, TX 75267-9936

INVOICE

Bill To: ANGLETON, CITY OF
121 S VELASCO
ANGLETON, TX 77515

Invoice Number: 526317
Invoice Date: 05/22/25
Customer ID: 95000
Due Date: 08/29/22
Date Printed: 06/24/25
Customer Document No.: SEWER SEWER

Please address inquiries regarding the payment status of this bill to Kiley Jordan at jordank@railroadmanagement.com. Please send payment to the address listed above. Any correspondence should be sent to 5910 N. Central Expy, Suite 1650, Dallas, TX 75206-5148

Location of Agreement ANGLETON, BRAZORIA, TX
Primary Purpose of Agreement

License #: 0024739
Audit #: CA49114
Folder #: 137055

Description	Period From	Period To	Amount
License Fees	08/29/22	08/28/23	611.95
		Total:	611.95
		Amount in US Dollars	

Late charges will be assessed at the maximum rate allowed by law for past due invoices.

Recipient of this invoice acknowledges that RMC utilizes rental collection systems involving direct deposit of monies received through a financial institution and or lockbox check collection, which preclude RMC's ability to exercise rejection of payments before recipient's payment is cashed. By tendering payment, recipient agrees, that as a material condition of the continuation of the license or other agreement covered by this invoice, (1) recipient waives any and all rights recipient may have under applicable law to force continuation of said license or other agreement due to RMC having accepted and cashed recipient's payment(s), or otherwise and (2) no notation of "payment in full" or words of similar import will be binding upon RMC.

RMC shall have the option of rejecting recipient's payment by refunding to recipient any payment(s) made paid by recipient, accepting any payment as a partial payment or revoking the license or other agreement (and/or pursuing any remedy provided in such license or other agreement or under applicable law, including without limitation termination).

This invoice serves as your written notice of any increase(s) reflected herein in the amount of the fees charged by Railroad Management Company, LLC.

PLEASE NOTE REMITTANCE ADDRESS

PLEASE DETACH AND RETURN THIS PORTION WITH CHECK PAYABLE TO:

Federal Tax ID #: 36-4450608

Railroad Management Company, LLC
PO BOX 679936
Dallas, TX 75267-9936

Total: 611.95
Invoice Number: 526317
Invoice Date: 05/22/25
Customer ID: 95000
Due Date: 08/29/22

Railroad Management Company, LLC
PO BOX 679936
Dallas, TX 75267-9936

INVOICE

Bill To: ANGLETON, CITY OF
121 S VELASCO
ANGLETON, TX 77515

Invoice Number: 526406
Invoice Date: 05/22/25
Customer ID: 95000
Due Date: 08/29/23
Date Printed: 06/24/25
Customer Document No.: SEWER SEWER

Please address inquiries regarding the payment status of this bill to Kiley Jordan at jordank@railroadmanagement.com. Please send payment to the address listed above. Any correspondence should be sent to 5910 N. Central Expy, Suite 1650, Dallas, TX 75206-5148

Location of Agreement ANGLETON, BRAZORIA, TX
Primary Purpose of Agreement

License #: 0024739
Audit #: CA49114
Folder #: 137055

Description	Period From	Period To	Amount
License Fees	08/29/23	08/28/24	630.31
		Total:	630.31
		Amount in US Dollars	

Late charges will be assessed at the maximum rate allowed by law for past due invoices.

Recipient of this invoice acknowledges that RMC utilizes rental collection systems involving direct deposit of monies received through a financial institution and or lockbox check collection, which preclude RMC's ability to exercise rejection of payments before recipient's payment is cashed. By tendering payment, recipient agrees, that as a material condition of the continuation of the license or other agreement covered by this invoice, (1) recipient waives any and all rights recipient may have under applicable law to force continuation of said license or other agreement due to RMC having accepted and cashed recipient's payment(s), or otherwise and (2) no notation of "payment in full" or words of similar import will be binding upon RMC.

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PLEASE NOTE REMITTANCE ADDRESS

PLEASE DETACH AND RETURN THIS PORTION WITH CHECK PAYABLE TO:

Federal Tax ID #: 36-4450608

Railroad Management Company, LLC
PO BOX 679936
Dallas, TX 75267-9936

Total: 630.31
Invoice Number: 526406
Invoice Date: 05/22/25
Customer ID: 95000
Due Date: 08/29/23

Railroad Management Company, LLC
PO BOX 679936
Dallas, TX 75267-9936

INVOICE

Bill To: ANGLETON, CITY OF
121 S VELASCO
ANGLETON, TX 77515

Invoice Number: 526495
Invoice Date: 05/22/25
Customer ID: 95000
Due Date: 08/29/24
Date Printed: 06/24/25
Customer Document No.: SEWER SEWER

Please address inquiries regarding the payment status of this bill to Kiley Jordan at jordank@railroadmanagement.com. Please send payment to the address listed above. Any correspondence should be sent to 5910 N. Central Expy, Suite 1650, Dallas, TX 75206-5148

Location of Agreement ANGLETON, BRAZORIA, TX
Primary Purpose of Agreement

License #: 0024739
Audit #: CA49114
Folder #: 137055

Description	Period From	Period To	Amount
License Fees	08/29/24	08/28/25	649.22
		Total:	649.22
		Amount in US Dollars	

Late charges will be assessed at the maximum rate allowed by law for past due invoices.

Recipient of this invoice acknowledges that RMC utilizes rental collection systems involving direct deposit of monies received through a financial institution and or lockbox check collection, which preclude RMC's ability to exercise rejection of payments before recipient's payment is cashed. By tendering payment, recipient agrees, that as a material condition of the continuation of the license or other agreement covered by this invoice, (1) recipient waives any and all rights recipient may have under applicable law to force continuation of said license or other agreement due to RMC having accepted and cashed recipient's payment(s), or otherwise and (2) no notation of "payment in full" or words of similar import will be binding upon RMC.

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PLEASE NOTE REMITTANCE ADDRESS

PLEASE DETACH AND RETURN THIS PORTION WITH CHECK PAYABLE TO:

Federal Tax ID #: 36-4450608

Railroad Management Company, LLC
PO BOX 679936
Dallas, TX 75267-9936

Total: 649.22
Invoice Number: 526495
Invoice Date: 05/22/25
Customer ID: 95000
Due Date: 08/29/24

Railroad Management Company, LLC
PO BOX 679936
Dallas, TX 75267-9936

INVOICE

Bill To: ANGLETON, CITY OF
121 S VELASCO
ANGLETON, TX 77515

Invoice Number: 526584
Invoice Date: 05/22/25
Customer ID: 95000
Due Date: 08/29/25
Date Printed: 06/24/25
Customer Document No.: SEWER SEWER

Please address inquiries regarding the payment status of this bill to Kiley Jordan at jordank@railroadmanagement.com. Please send payment to the address listed above. Any correspondence should be sent to 5910 N. Central Expy, Suite 1650, Dallas, TX 75206-5148

Location of Agreement ANGLETON, BRAZORIA, TX
Primary Purpose of Agreement

License #: 0024739
Audit #: CA49114
Folder #: 137055

Description	Period From	Period To	Amount
License Fees	08/29/25	08/28/26	668.70
		Total:	668.70
		Amount in US Dollars	

Late charges will be assessed at the maximum rate allowed by law for past due invoices.

Recipient of this invoice acknowledges that RMC utilizes rental collection systems involving direct deposit of monies received through a financial institution and or lockbox check collection, which preclude RMC's ability to exercise rejection of payments before recipient's payment is cashed. By tendering payment, recipient agrees, that as a material condition of the continuation of the license or other agreement covered by this invoice, (1) recipient waives any and all rights recipient may have under applicable law to force continuation of said license or other agreement due to RMC having accepted and cashed recipient's payment(s), or otherwise and (2) no notation of "payment in full" or words of similar import will be binding upon RMC.

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PLEASE NOTE REMITTANCE ADDRESS

PLEASE DETACH AND RETURN THIS PORTION WITH CHECK PAYABLE TO:

Federal Tax ID #: 36-4450608

Railroad Management Company, LLC
PO BOX 679936
Dallas, TX 75267-9936

Total: 668.70
Invoice Number: 526584
Invoice Date: 05/22/25
Customer ID: 95000
Due Date: 08/29/25

MP 801

Form 4940

ORIGINAL STORED IN ENVELOPE

Item 3.

PIPE LINE LICENSE AT REAR OF BATCH

THIS INSTRUMENT, executed in duplicate, August 29, 1958, Witnesseth:

The undersigned Carrier hereby grants, but on solely the herein expressed terms and conditions, and the undersigned Licensee (a municipal corporation), to be addressed at Angleton, Texas
(show whether an individual, co-partners, or corporation and state wherein incorporated)

, hereby accepts, permission to install, keep and use, for conveying sewage the Licensee's own two (number) certain proposed (proposed or existing) continuous lines of concrete and cast iron pipe s, 24" & 8" in diameter, and appurtenances, including , herein called Pipe Line, on the Carrier's property, herein called Premises. Pipe Line will be used to convey sewage.

right of way (track or right of way), ~~in~~ Pipe Line shall be located on ~~interest~~ Carrier's existing ~~of Section~~ ~~T. R.~~ , in Brazoria County (county or parish), Texas (state), at ~~near~~ Angleton (place).

Approximate location of Pipe Line is indicated by yellow lines ~~on Exhibit A attached hereto as part hereof~~. on carrier's Kingsville Division drawing dated May 26, 1958, File No. 4811-323, marked Exhibit "A", attached hereto as part hereof.

1. Licensee shall furnish or do at Licensee's own cost and responsibility any and all things and when and as from time to time required to accomplish whatsoever the Licensee attempts or is bound to do at any time hereunder. Licensee shall adjust Pipe Line to any physical change as made at any time in any of Carrier's property; at all times keeping upper surface of Pipe Line at least four and one-half feet below bottom of rail thereover. Licensee shall cause Pipe Line, before being used for anything inflammable, to conform substantially to Exhibit B attached hereto as part hereof. Said things, including the time and manner of doing any work, each shall conform to the requirements of Carrier as well as of any State, Federal or Municipal authority. Carrier may acting for Licensee furnish or do, and Licensee shall pay and bear the cost of, anything which, herein required of Licensee at any time, either shall not be furnished or done within ten days following Carrier's written request therefor or shall be undertaken by Carrier at Licensee's request; and Licensee on request shall in advance deposit with Carrier the estimated cost thereof. If deposit be less than actual cost, Licensee shall pay difference; if more, Carrier shall repay difference. ~~Licensee when returning this license (signed) shall pay to Carrier ten dollars for preparing it.~~ Any other payment shall be made within twenty days following receipt of bill. Licensee shall pay cost to Carrier for all labor, including wages of foremen, plus 10% to cover accounting and supervision, Carrier's cost price of all materials f. o. b. Carrier's rails, plus 10% to cover handling and accounting, plus freight at tariff to point of use, and excise taxes applicable to said labor and materials. Carrier may connect with and discharge sewage into Pipe Line while serving as sewer.

Licensee shall pay annually, in advance, and carrier shall accept $25.00 per annum for use by Licensee of premises pursuant hereto.

2. Licensee agrees to (a) indemnify and save harmless the Carrier from and against all claims, suits, damages, costs (including attorney's fees), losses and expenses, in any manner resulting from or arising out of the laying, maintenance, renewal, repair, use or existence of Pipe Line, including the breaking of the same or any leakage therefrom, and (b) assume all risk of loss or damage to Pipe

3. Term hereof shall begin on June 3, 1958, and continue thereafter so long as Pipe Line shall be required and used by Licensee; provided, however, the term hereof shall be concluded upon the removal of Pipe Line at any time by Licensee. In the event of removal of Pipe Line at any time by Licensee, Licensee shall restore Premises to a condition satisfactory to Carrier. Covenants herein shall inure to or bind each party's legal representatives, successors and assigns; provided; no right of Licensee shall be transferred or assigned, either voluntarily, or involuntarily, except by express agreement acceptable to Carrier. Carrier or Licensee may waive any default at any time of the other without affecting, or impairing any right arising from, any subsequent default.

WITNESSES:
R. C. League
E. K. Nutt

49114

By: R. A. Bregan
Vice President - Operation
As Carrier, first party herein.

ATTEST:
By: Neal Hinerbaugh
SECRETARY
(AFFIX SEAL)

CITY OF ANGLETON

WITNESSES:
Jas B. Howard
Madine Scruggs

By: W. S. Sargent (Seal)
Mayor
As Licensee, second party herein.

BE IT RESOLVED, by the City Council of the City of **Angleton, Texas** that said City's mayor be and he is hereby duly authorized and fully empowered to enter into and execute for and in the name of the City one certain written agreement dated **August 29**, 1958, between said City and MISSOURI PACIFIC RAILROAD COMPANY, respecting the grant by said Railroad Company and acceptance by the City of permission to install, keep and use **City's own two certain proposed continuous lines of concrete and cast iron pipes 24" & 8" in diameter, for conveying sewage,**

on said Railroad Company's premises in said City, true copy of said agreement being attached hereto as part hereof.

- 0 -

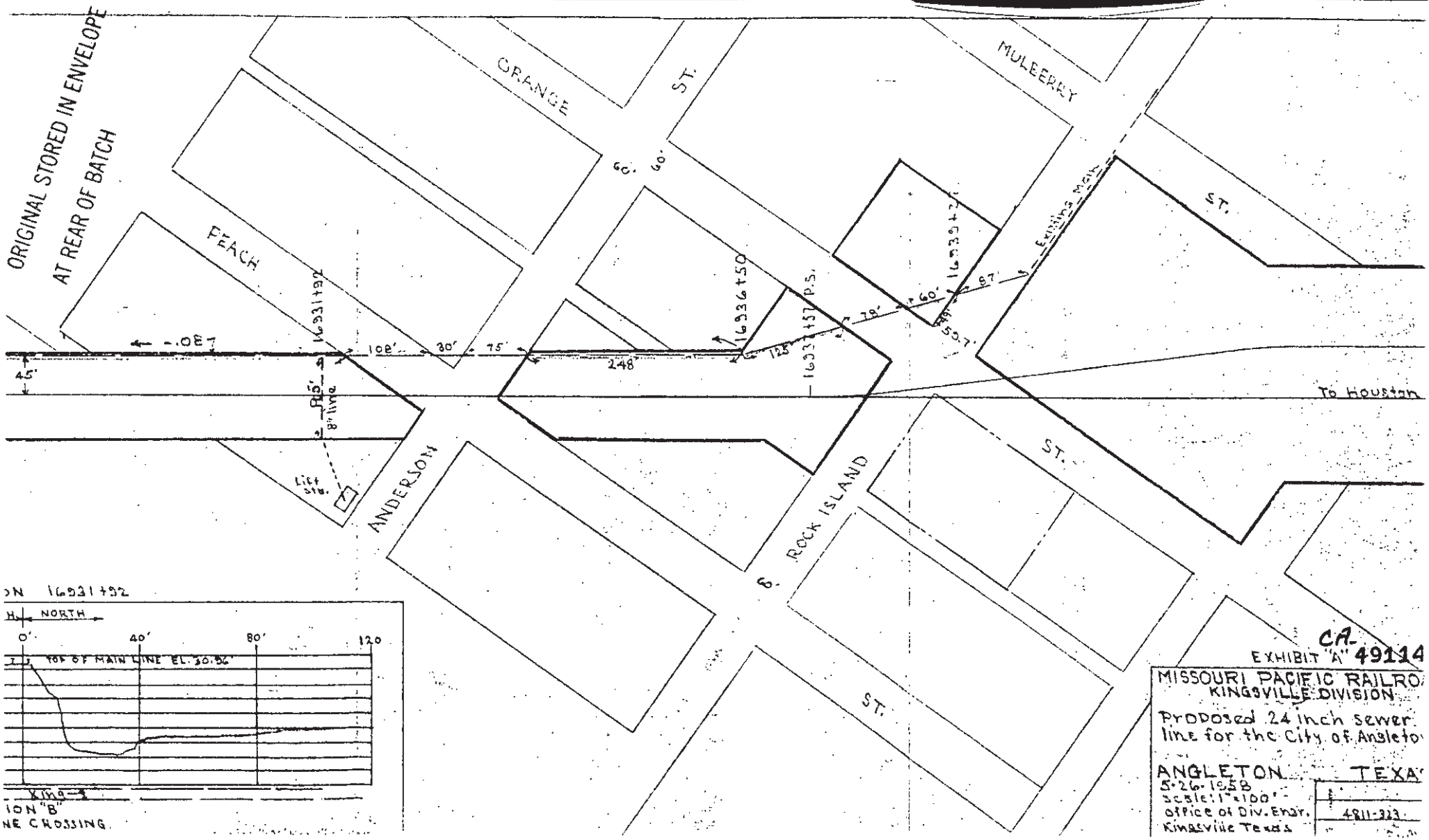
I, Neal Gruenke Jr, as Clerk of the City of **Angleton, Texas**, do hereby certify that the above and foregoing is a true copy of the Resolution duly passed, approved and adopted as by law prescribed, by and on behalf of said City by the City Council on Sept 19, 1958

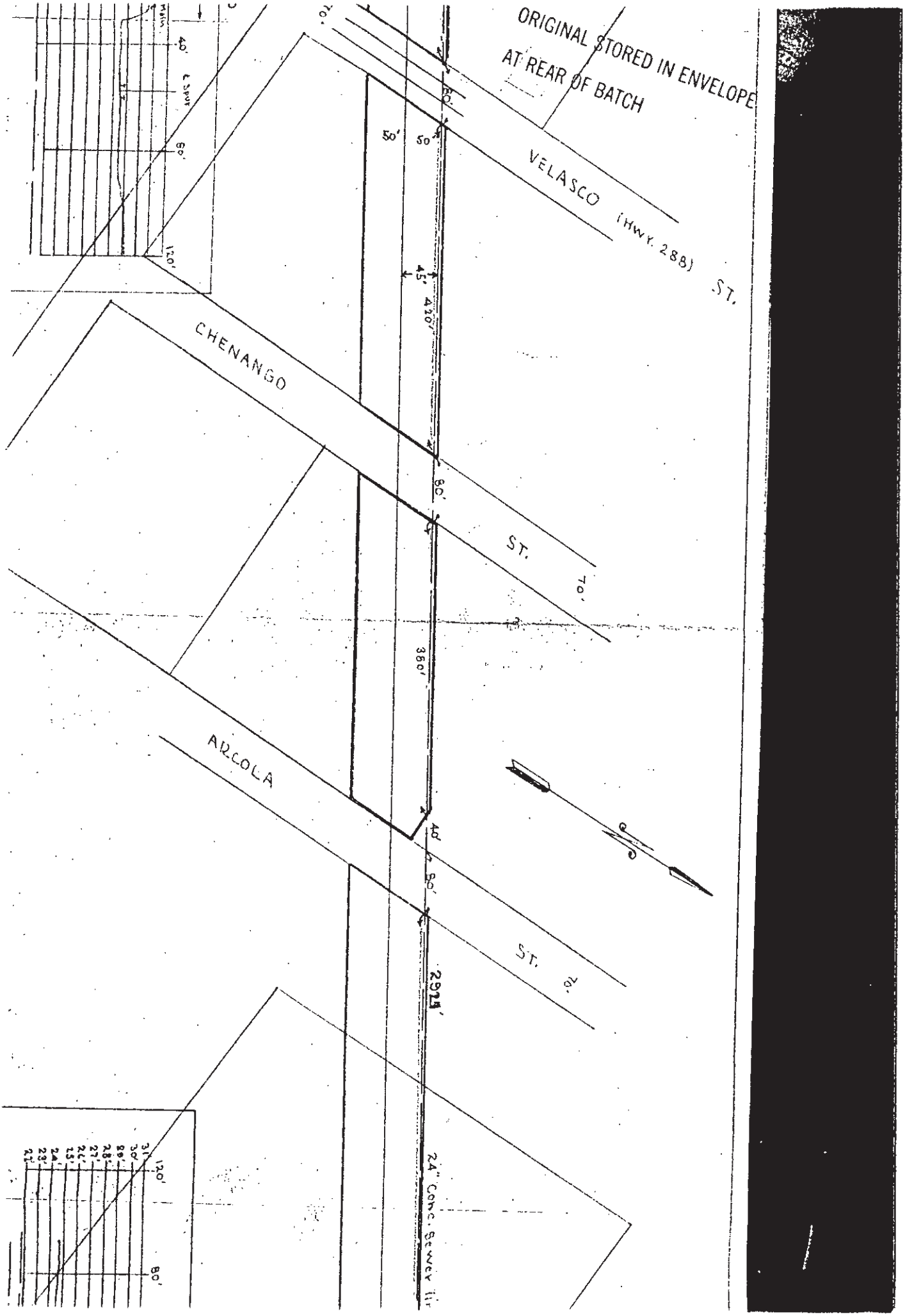
49114

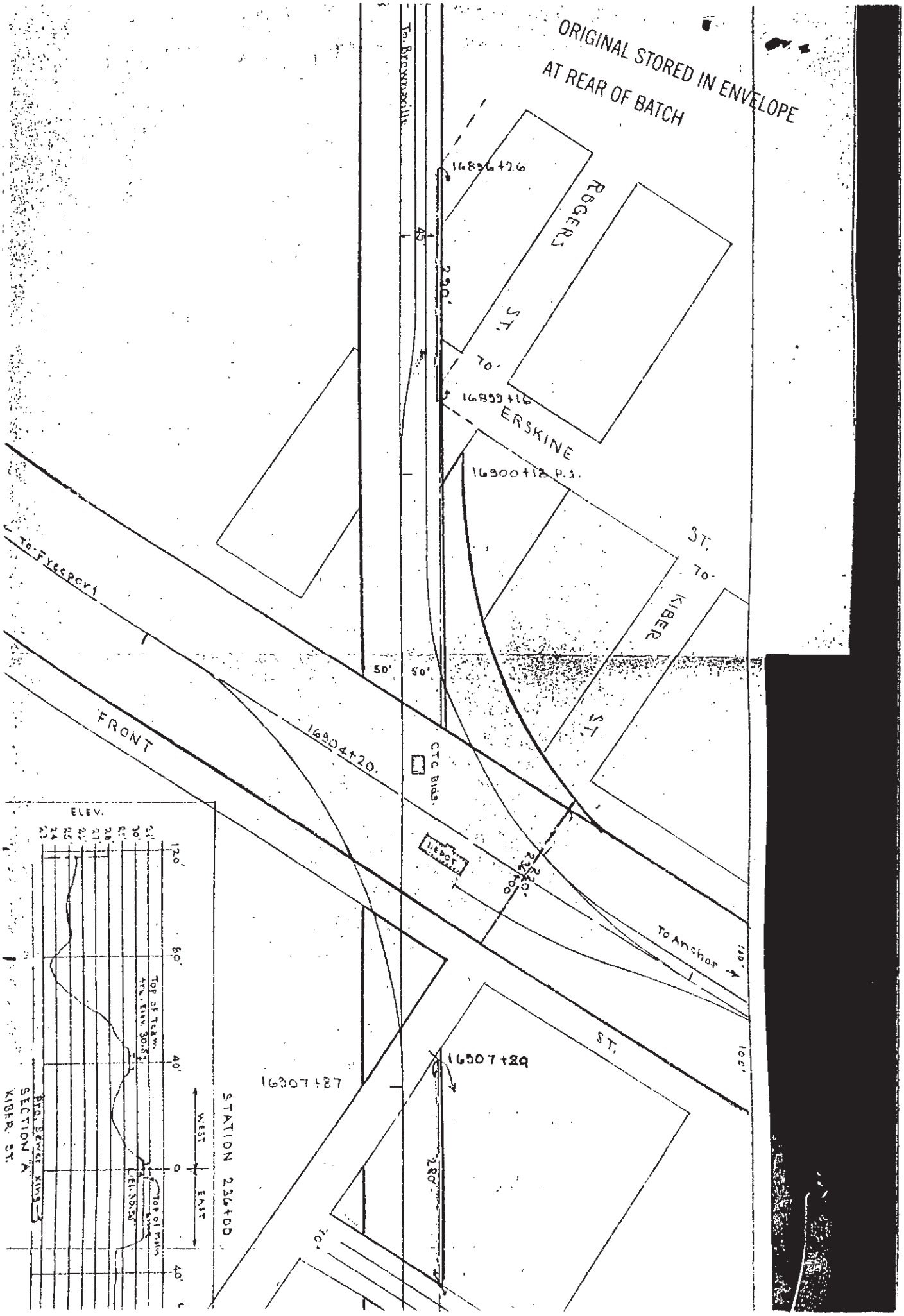
Neal Gruenke Jr
City Clerk

Affix Seal

[redacted]


ORIGINAL STORED IN ENVELOPE
AT REAR OF BATCH
GRANGE
ST.
MULBERRY
ST.
FEACH
60'
60'
Existing Main
16931+92
16933+50
16933+57 P.S.
16930+27
87'
78'
60'
69.7'
100'
30'
75'
248'
125'
45'
R.O.W.
8" line
To Houston
Lift Sta.
ANDERSON
S. ROCK ISLAND
ST.
ST.
ST.
ON 16931+92
NORTH
0'
40'
80'
120
TOP OF MAIN LINE EL. 30.86'
KING
ION "B"
NE CROSSING
CA-
EXHIBIT "A" 49114
MISSOURI PACIFIC RAILRO
KINGSVILLE DIVISION
Proposed 24 inch sewer
line for the City of Angleto
ANGLETON TEXA
5-26-1958
Scale: 1" = 100'
office of Div. Engr.
Kingsville Texas
4811-323


ORIGINAL STORED IN ENVELOPE
AT REAR OF BATCH
VELASCO (HWY. 288) ST.
CHENANGO
ST.
ARCOLA
ST.
50'
50'
60'
45'
420'
60'
70'
360'
40'
80'
70'
2914'
24" Conc. Sewer line
120'
80'


ORIGINAL STORED IN ENVELOPE
AT REAR OF BATCH
To Brownsville
16896+26
ROGERS
ST.
70'
45
290'
16899+16
ERSKINE
16900+12 P.S.
To Fyffespcvt
ST.
70'
KIBER
ST.
50'
50'
FRONT
16904+20
CTC Bldg.
DEPOT
To Anchor
100'
ST.
16907+89
16907+27
280'
STATION 236+00
ELEV.
120'
80'
40'
0
40'
WEST
EAST
Top of Track
Elev. 30.28
Top of Main
Elev. 30.58
Prop. Sewer King
SECTION A
KIBER ST.

Railroad Management Company, LLC
PO BOX 679936
Dallas, TX 75267-9936

INVOICE

Bill To: ANGLETON, CITY OF
121 S VELASCO
ANGLETON, TX 77515

Invoice Number: 526228
Invoice Date: 05/21/25
Customer ID: 95000
Due Date: 08/29/21
Date Printed: 06/24/25
Customer Document No.: SEWER SEWER

Please address inquiries regarding the payment status of this bill to Kiley Jordan at jordank@railroadmanagement.com. Please send payment to the address listed above. Any correspondence should be sent to 5910 N. Central Expy, Suite 1650, Dallas, TX 75206-5148

Location of Agreement ANGLETON, BRAZORIA, TX
Primary Purpose of Agreement

License #: 0024739
Audit #: CA49114
Folder #: 137055

Description	Period From	Period To	Amount
License Fees	08/29/21	08/28/22	594.13
		Total:	594.13
		Amount in US Dollars	

Late charges will be assessed at the maximum rate allowed by law for past due invoices.

Recipient of this invoice acknowledges that RMC utilizes rental collection systems involving direct deposit of monies received through a financial institution and or lockbox check collection, which preclude RMC's ability to exercise rejection of payments before recipient's payment is cashed. By tendering payment, recipient agrees, that as a material condition of the continuation of the license or other agreement covered by this invoice, (1) recipient waives any and all rights recipient may have under applicable law to force continuation of said license or other agreement due to RMC having accepted and cashed recipient's payment(s), or otherwise and (2) no notation of "payment in full" or words of similar import will be binding upon RMC.

RMC shall have the option of rejecting recipient's payment by refunding to recipient any payment(s) made paid by recipient, accepting any payment as a partial payment or revoking the license or other agreement (and/or pursuing any remedy provided in such license or other agreement or under applicable law, including without limitation termination).

This invoice serves as your written notice of any increase(s) reflected herein in the amount of the fees charged by Railroad Management Company, LLC.

PLEASE NOTE REMITTANCE ADDRESS

PLEASE DETACH AND RETURN THIS PORTION WITH CHECK PAYABLE TO:

Federal Tax ID #: 36-4450608

Railroad Management Company, LLC
PO BOX 679936
Dallas, TX 75267-9936

Total: 594.13
Invoice Number: 526228
Invoice Date: 05/21/25
Customer ID: 95000
Due Date: 08/29/21

AGENDA ITEM SUMMARY FORM

MEETING DATE: October 14, 2025

PREPARED BY: Susie J Hernandez, Finance Director

AGENDA CONTENT: Discussion and Possible Action on an ordinance of the City Council of the City of Angleton, Texas, amending the levying the Ad Valorem Property Tax of the City of Angleton, Texas for the year 2025 on all taxable property within the corporate limits of the city on January 1, 2025, and adopting a tax rate for 2025; providing revenues for payment of current municipal maintenance and operating expenses and for payment of interest and principal on outstanding city of Angleton debt; providing for enforcement of collections; providing for a severability clause; and providing an effective date.

AGENDA ITEM CTION : Consent

BUDGETED AMOUNT: N/A

FUNDS REQUESTED: N/A

FUND: N/A

EXECUTIVE SUMMARY:

The Council will need to adopt the amending ordinance levying the tax that corresponds with the budget ordinance.

RECOMMENDATION:

Staff recommends council approve the amended ordinance to levy the property tax revenue in the 2025-2026 Fiscal Budget with a roll call vote

ORDINANCE NO. 20251014-004

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ANGLETON, TEXAS AMENDING ORDINANCE NO. 20250909-007 DUE TO INADVERTANT SCRIVENER'S ERROR AND PROVIDING FOR THE LEVY AND COLLECTION OF THE AD VALOREM PROPERTY TAX OF THE CITY OF ANGLETON, TEXAS, FOR THE YEAR 2025; PROV1DING REVENUES FOR PAYMENT OF CURRENT MUNICIPAL MAINTENANCE AND OPERATING EXPENSES AND FOR PAYMENT OF INTEREST AND PRINCIPAL ON OUTSTANDING CITY OF ANGLETON DEBT; PROVIDING FOR THE DATE ON WHICH SUCH TAXES SHALL BE DUE AND PAYABLE; REPEALING ALL ORDINANCES OR PARTS OF ORDINANCES INCONSISTENT OR IN CONFLICT HEREWITH; AND PROVIDING FOR SEVERABILITY.

WHEREAS, the City Council of Angleton, Texas has by separate ordinance duly approved and adopted a Budget for the Operation for the City for Fiscal Year 2025-2026; and

WHEREAS, after notice of a public hearing on the tax rate was published in accordance with the laws of the State of Texas, the City Council of the City of Angleton, Texas (City) held a public hearing on September 09, 2025, on a proposal to adopt a tax rate of $0.515246 for each $100.00 of taxable value which would raise the same amount of property tax revenue for the City of Angleton from the same properties in the 2024 tax year; and the notice showing the effect of the proposed tax rate was posted on the City's Internet website and any additional notices and actions were completed, as required by law; and

WHEREAS, the proposed tax rate is the De minimis rate; and

WHEREAS, the City Council passed a resolution setting the meeting on which it would vote on the proposed tax rate and at the hearings it announced that it would vote on the tax rate at its September 09, 2025 meeting, which resolutions and announcements specified the date, time and place of this meeting in accordance with the law; and

WHEREAS, before the public hearing and before the September 09, 2025, meeting, a Notice of Public Hearing on the Proposed Tax Rate was published in accordance with the law; and

WHEREAS, the City Council deems it in the public interest to adopt a tax rate for the 2025 tax year that is the De minimis revenue tax rate and that will not exceed the voter approval tax rate; and

WHEREAS, at its September 09, 2025 meeting, the City Council voted to approve

Ordinance No. 20250909-007 adopting a tax rate of $0.515246 for each $100.00 of taxable value; and

WHEREAS, Ordinance No. 20250909-007 passed by the City Council at its September 09, 2025 meeting contained an inadvertent scrivener's error in Section 3 of the Ordinance concerning the rate value dedicated to the General Fund of the City to fund maintenance and operation expenditures of the City; and

WHEREAS, the City Council seeks to amend Ordinance No. 20250909-007 due to this inadvertent scrivener's error to provide the correct dedicated rate value stated in Section 3.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ANGLETON, TEXAS:

SECTION 1. The findings set forth in the preamble of this Ordinance are incorporated herein by reference into the body of this Ordinance as if fully set forth herein.

SECTION 2. By authority of the Charter of the City of Angleton, Texas, and the laws of the State of Texas, there is hereby levied and adopted for the tax year 2025, on all taxable property situated within the corporate limits of the City of Angleton, Texas on January 1, 2025, a tax rate of $0.515246 for each $100 of taxable value. This tax rate is expected to raise more revenue from property taxes than last year's budget by an amount of $707,397 which is a 7.59 percent increase from last year's budget. The property tax revenue tax revenue to be raised from new property added to the tax roll is $180,056.

SECTION 3. Of the total tax rate, $0.43018 for each $100 of taxable value is hereby included, adopted and shall be distributed to the General Fund of the City to fund maintenance and operation expenditures of the City in accordance with Section 26.05(a)(2) of the Texas Property Tax Code and any other applicable laws.

SECTION 4. Of the total tax rate, $0.085066 for each $100 of taxable value is hereby included, adopted and shall be distributed to pay the City's debt service as provided by Sections 26.04(e)(3)(C) and 26.05(a)(l) of the Texas Property Tax Code and any other applicable laws.

SECTION 5. For enforcement of the collection of taxes hereby levied, the City of Angleton shall have available all rights and remedies provided by law.

SECTION 6. The Motion approving this Ordinance was made and seconded.

SECTION 7. This Ordinance shall become effective immediately upon its passage and approval at a regular meeting of the City Council of the City of Angleton, Texas on this the 09th day of September, 2025, at which meeting a quorum was present and the meeting was held in accordance with the provisions of the Tex. Gov't Code, Section 551.001 *et seq.* The City Secretary is hereby directed to record this Ordinance and the vote to adopt the tax rate with majority vote as follows:

Mayor John Wright	FOR□	AGAINST□	ABSENT□	ABSTAIN□
Mayor Pro-Tem Townsend	FOR□	AGAINST□	ABSENT□	ABSTAIN□
Council Member Smith	FOR□	AGAINST□	ABSENT□	ABSTAIN□
Council Member Daniel	FOR□	AGAINST□	ABSENT□	ABSTAIN□
Council Member Sartin	FOR□	AGAINST□	ABSENT□	ABSTAIN□
Council Member Simmons	FOR□	AGAINST□	ABSENT□	ABSTAIN□

SECTION 8. *Severability*. In the event any clause, phrase, provision, sentence or part of this Ordinance or the application of the same to any person or circumstances shall for any reason be adjudged invalid or held unconstitutional by a court of competent jurisdiction, it shall not affect, impair or invalidate this Ordinance as a whole or any part or provision hereof other than the part declared to be invalid or unconstitutional; and the City Council of the City of Angleton, Texas declares that it would have passed each and every part of the same notwithstanding the omission of any part thus declared to be invalid or unconstitutional, or whether there be one or more parts.

SECTION 9. *Effective date*. That this Ordinance shall be effective and in full force immediately upon its adoption and publication as required by law.

SECTION 10. It is hereby officially found and determined that the meeting at which this Ordinance was passed was open to the public, and that public notice of the time, place and purpose of said meeting was given as required by the Open Meetings Act, Texas Government Code, Chapter 551. Notice was also provided as required by Chapter 52 of the Texas Local Government Code.

PASSED AND APPROVED THIS THE 14TH DAY OF OCTOBER 2025.

CITY OF ANGLETON, TEXAS

_____
John Wright
Mayor

ATTEST:

_____
Michelle Perez, TRMC, CMC
City Secretary

AGENDA ITEM SUMMARY FORM

MEETING DATE: October 14, 2025

PREPARED BY: Susie J Hernandez, Finance Director

AGENDA CONTENT: Discussion and Possible Action on Approving Bank Signature

AGENDA ITEM SECTION: Regular Meeting

BUDGETED AMOUNT: N/A **FUNDS REQUESTED:** N/A

FUND: N/A

EXECUTIVE SUMMARY:

A resolution by the City Council of the City of Angleton, Texas, approving the "Bank Records" for the purpose of changing the authorized persons to act as signatories on City accounts at First State Bank : Guadalupe Valdez, Acting City Manager

RECOMMENDATION:

Approving the Bank Records for the purpose of changing the authorized persons to act as signatories on City accounts at First State Bank; approving Guadalupe Valdez

RESOLUTION NO. 20251014-005

A RESOLUTION BY THE CITY COUNCIL OF THE CITY OF ANGLETON, TEXAS, APPROVING THE "BANK RECORDS" FOR THE PURPOSE OF CHANGING THE AUTHORIZED PERSONS TO ACT AS SIGNATORIES ON CITY ACCOUNTS AT FIRST STATE BANK; PROVIDING FOR REPEAL; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the official depository for City funds is First State Bank-Louise by a depository agreement executed in November 2021; and

WHEREAS, pursuant to its depository agreement with First State Bank-Louise, the governing body of the City shall appoint, or authorize, or designate, from time to time, a person or persons who may request withdrawals, orders for payment or transfer on behalf of City in accordance with the electronic funds or funds transfer agreement and addenda, and (b) make withdrawals or transfer by written instrument.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ANGLETON, TEXAS:

SECTION 1. Adding the Acting City Manager, Guadalupe Valdez identified on the "Bank Records", a true and correct copy of which is attached hereto as "Exhibit A" and made a part hereof for all purposes, is hereby designated, and authorized to act as signatories on the various accounts of the City, in accordance with the terms and conditions of the Depository Bank Services Agreement executed between the City and First State Bank-Louise in November 2021.

SECTION 2. The appointed or acting City Manager, Guadalupe Valdez, is hereby authorized and directed to cause a true and correct copy of this Resolution to be served upon First State Bank-Louise, together with the "Bank Records" attached hereto.

SECTION 3. *Repeal.* All other resolutions or parts of resolutions inconsistent or in conflict herewith are, to the extent of such inconsistency or conflict, hereby repealed.

SECTION 4. *Effective date*. This resolution shall be effective and in full force immediately upon its adoption.

PASSED, APPROVED, and ADOPTED on the 14th day of October, 2025.

[SIGNATURE PAGE TO FOLLOW]

CITY OF ANGLETON, TEXAS

_____
John Wright
Mayor

ATTEST:

_____
Michelle Perez, TRMC, CMC
City Secretary

EXHIBIT A

“CONFIDENTIAL”

AGENDA ITEM SUMMARY FORM

MEETING DATE: 10/14/25

PREPARED BY: Michelle Perez

AGENDA CONTENT: Presentation of the Annual Collection Report by Mark Darlow, Perdue Brandon.

AGENDA ITEM SECTION: Regular Agenda

BUDGETED AMOUNT: N/A **FUNDS REQUESTED:** N/A

FUND: N/A

EXECUTIVE SUMMARY:

Presentation of the Annual Collection Report by Mark Darlow, Perdue Brandon.

RECOMMENDATION:

N/A

PERDUE BRANDON FIELDER COLLINS & MOTT LLP

ATTORNEYS AT LAW

COLLECTION REPORT TO THE CITY OF ANGLETON

Submitted by: *Michael J. Darlow & Hayden P. Bartley*

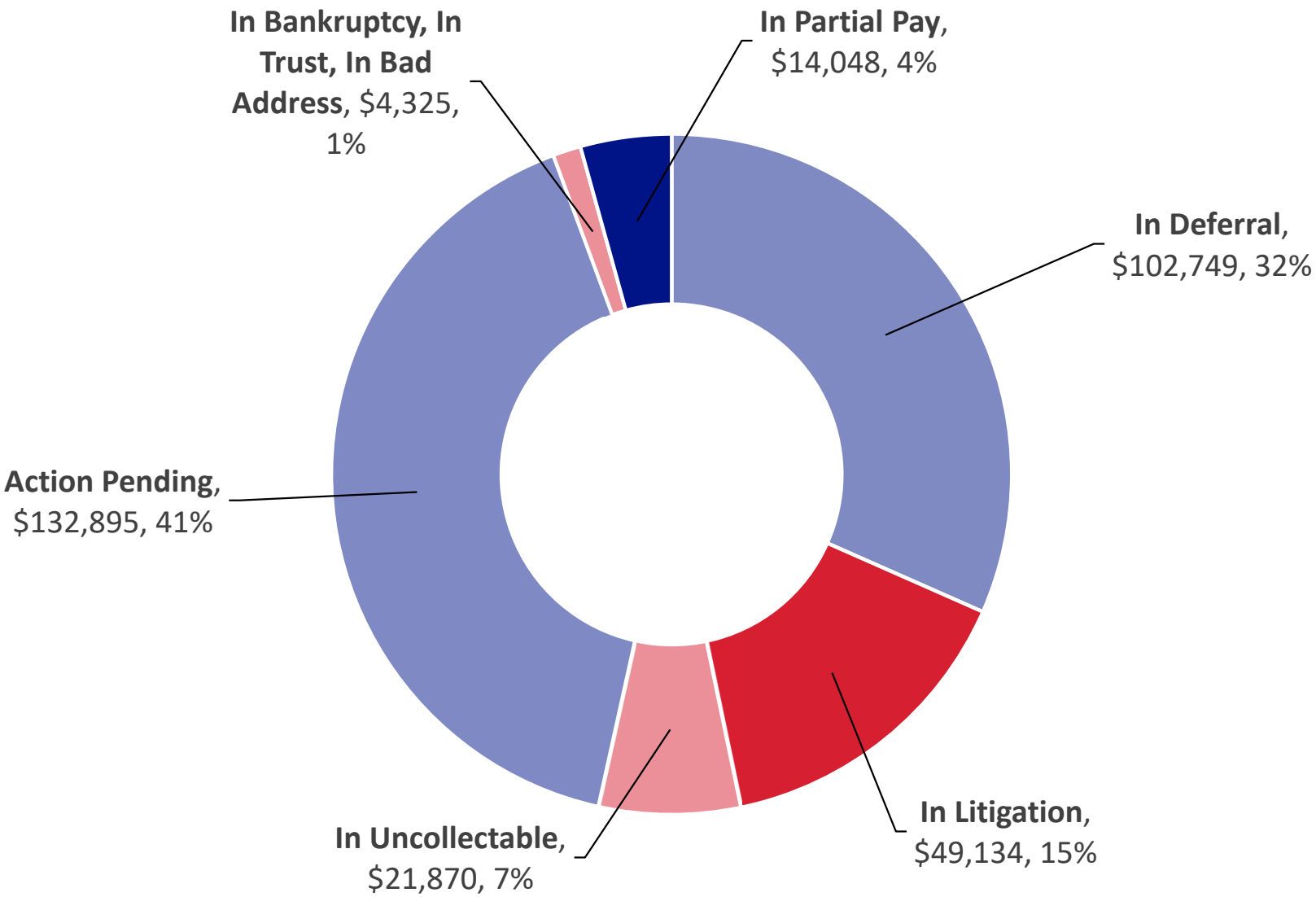
October 2025

www.pbfcm.com

ACCOUNT BREAKDOWN CHART

FOR CITY OF ANGLETON

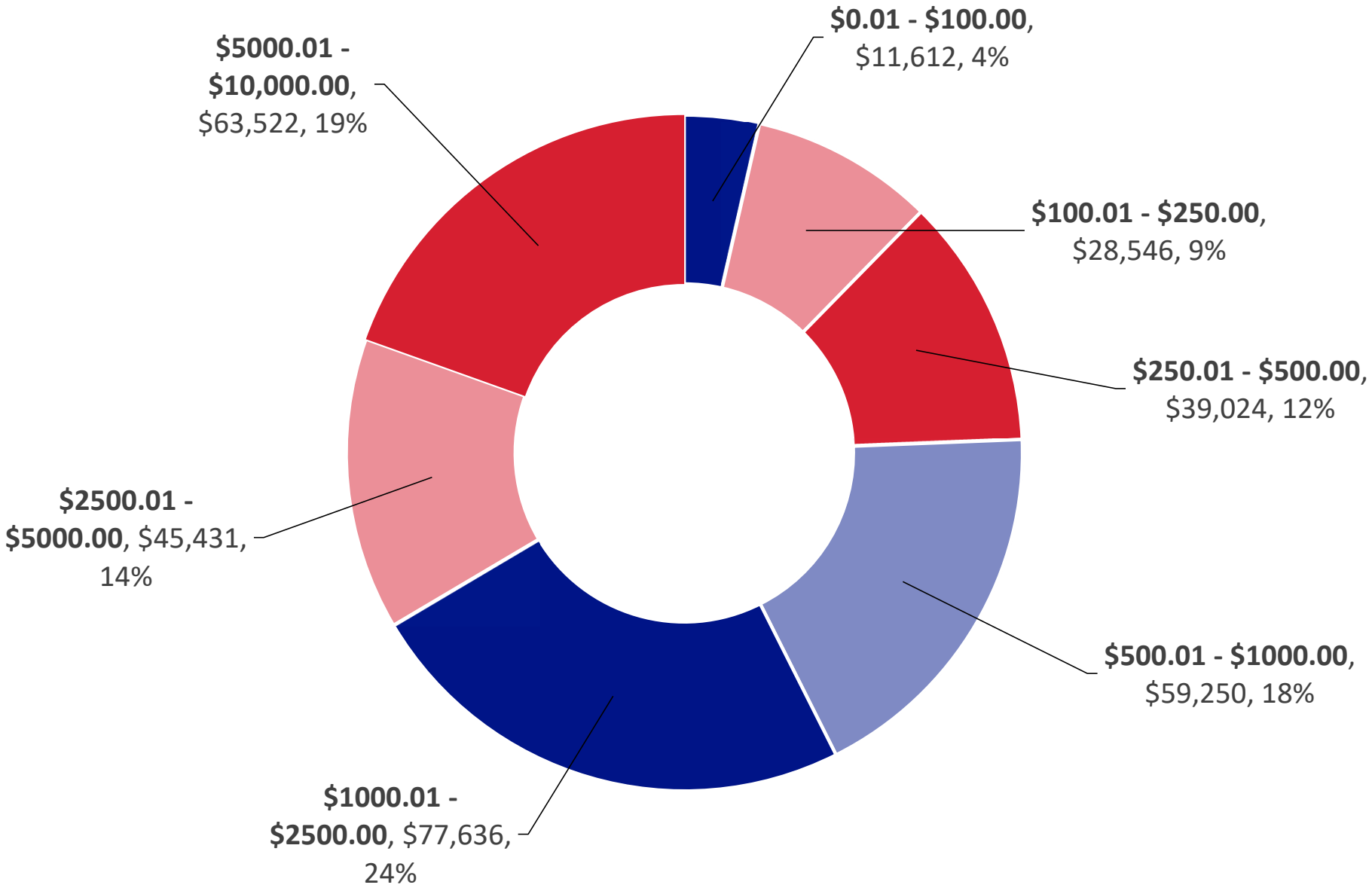
As of 10/01/2025 - Total Base Tax: $325,021



DOLLAR RANGE CHART

FOR CITY OF ANGLETON

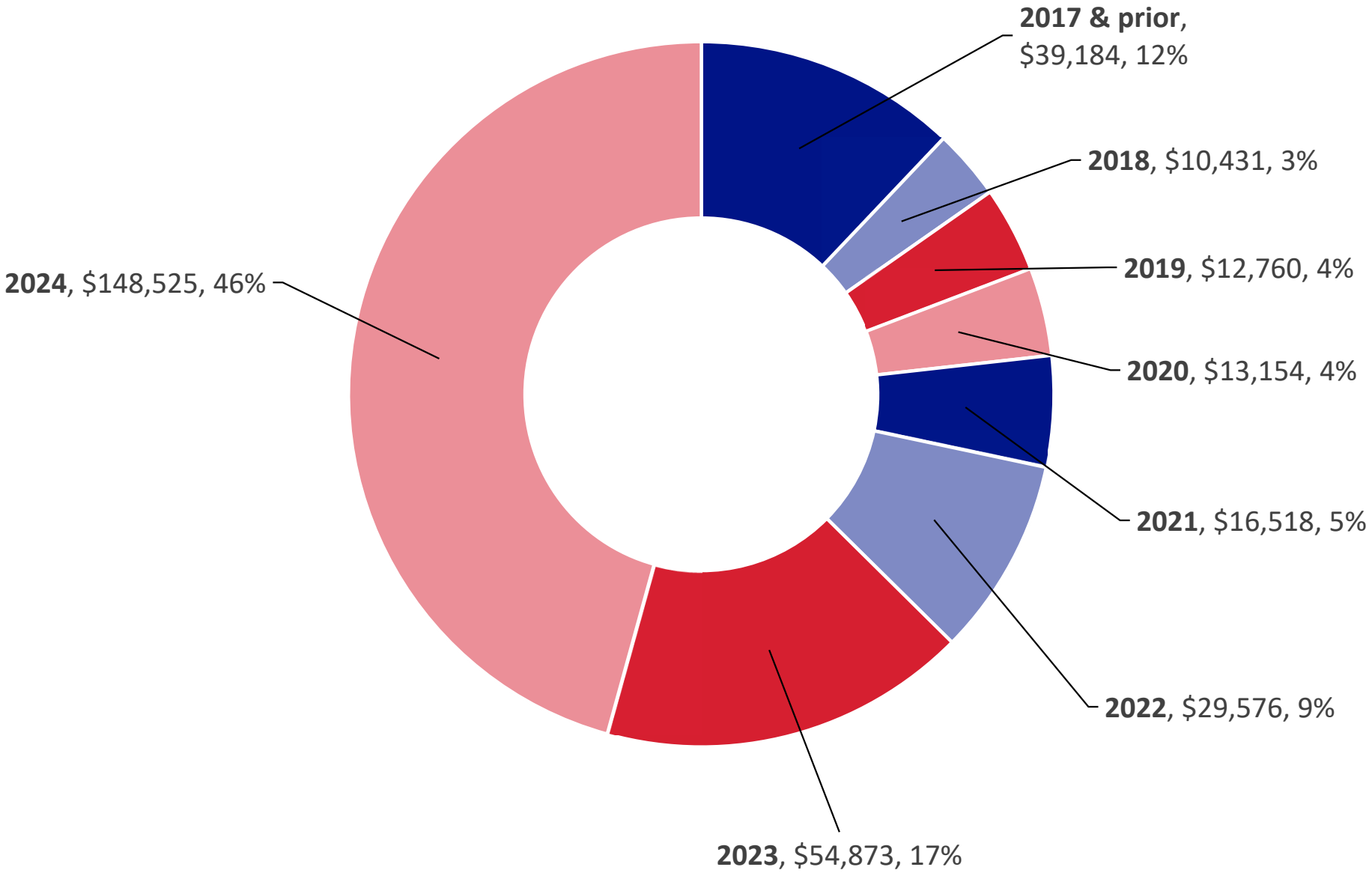
As of 10/01/2025 - Total Base Tax: $325,021



TAX YEAR CHART

FOR CITY OF ANGLETON

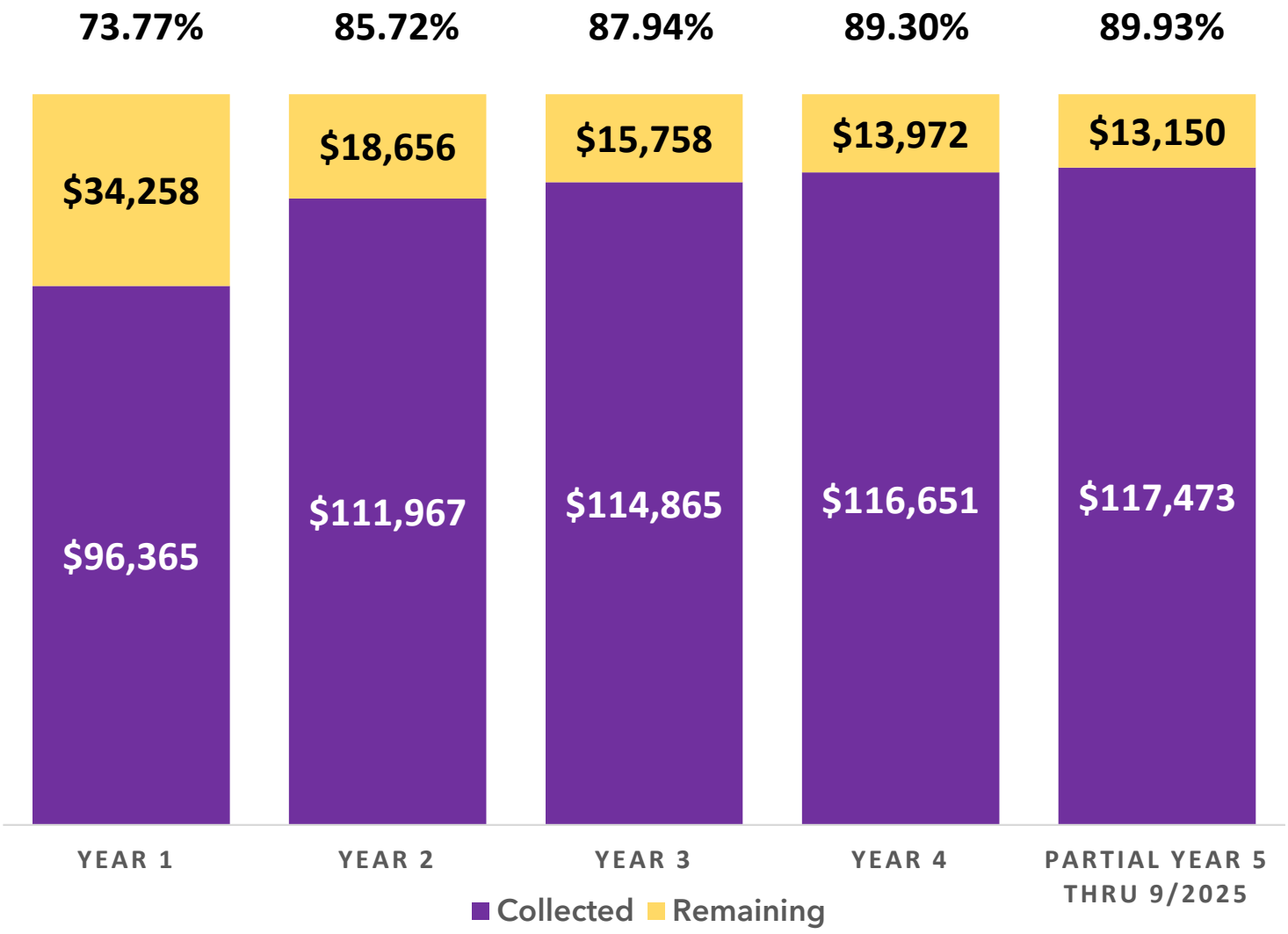
As of 10/01/2025 - Total Base Tax: $325,021



2020 PERCENTAGE OF COLLECTION

FOR CITY OF ANGLETON

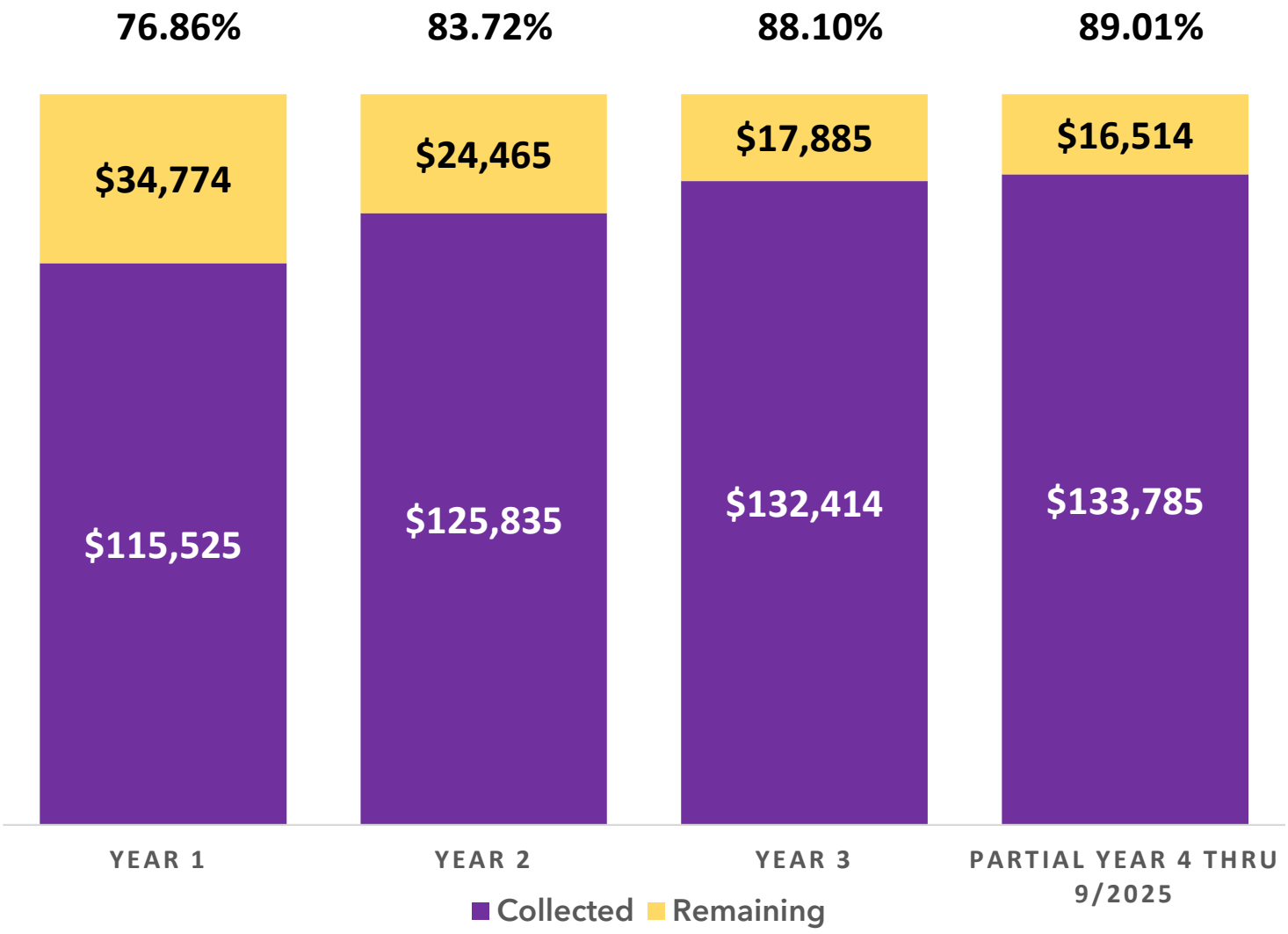
As of 07/01 – 6/30 for each year - Initial Outstanding Base Tax $130,623



2021 PERCENTAGE OF COLLECTION

FOR CITY OF ANGLETON

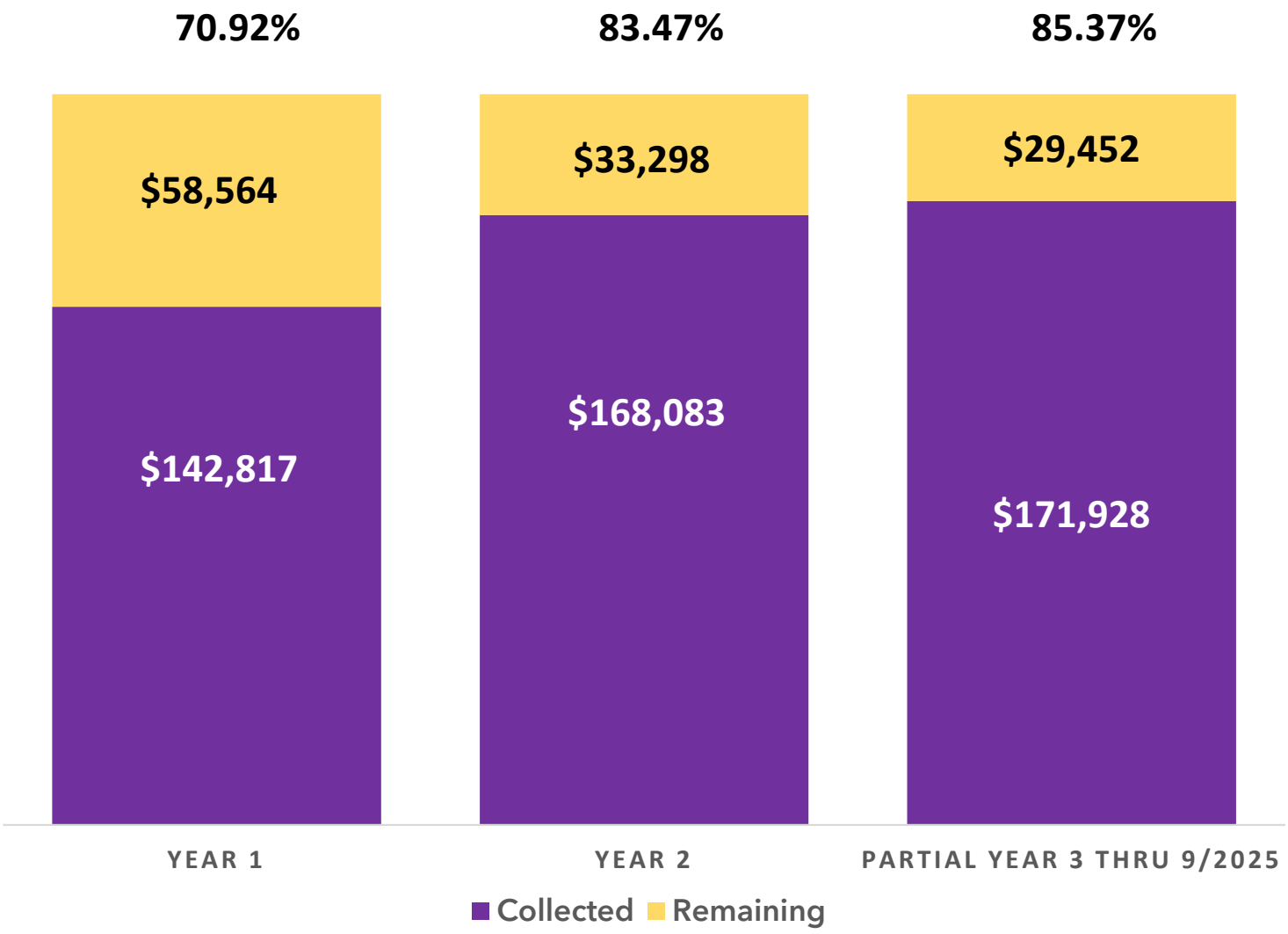
As of 07/01 – 6/30 for each year - Initial Outstanding Base Tax $150,299



2022 PERCENTAGE OF COLLECTION

FOR CITY OF ANGLETON

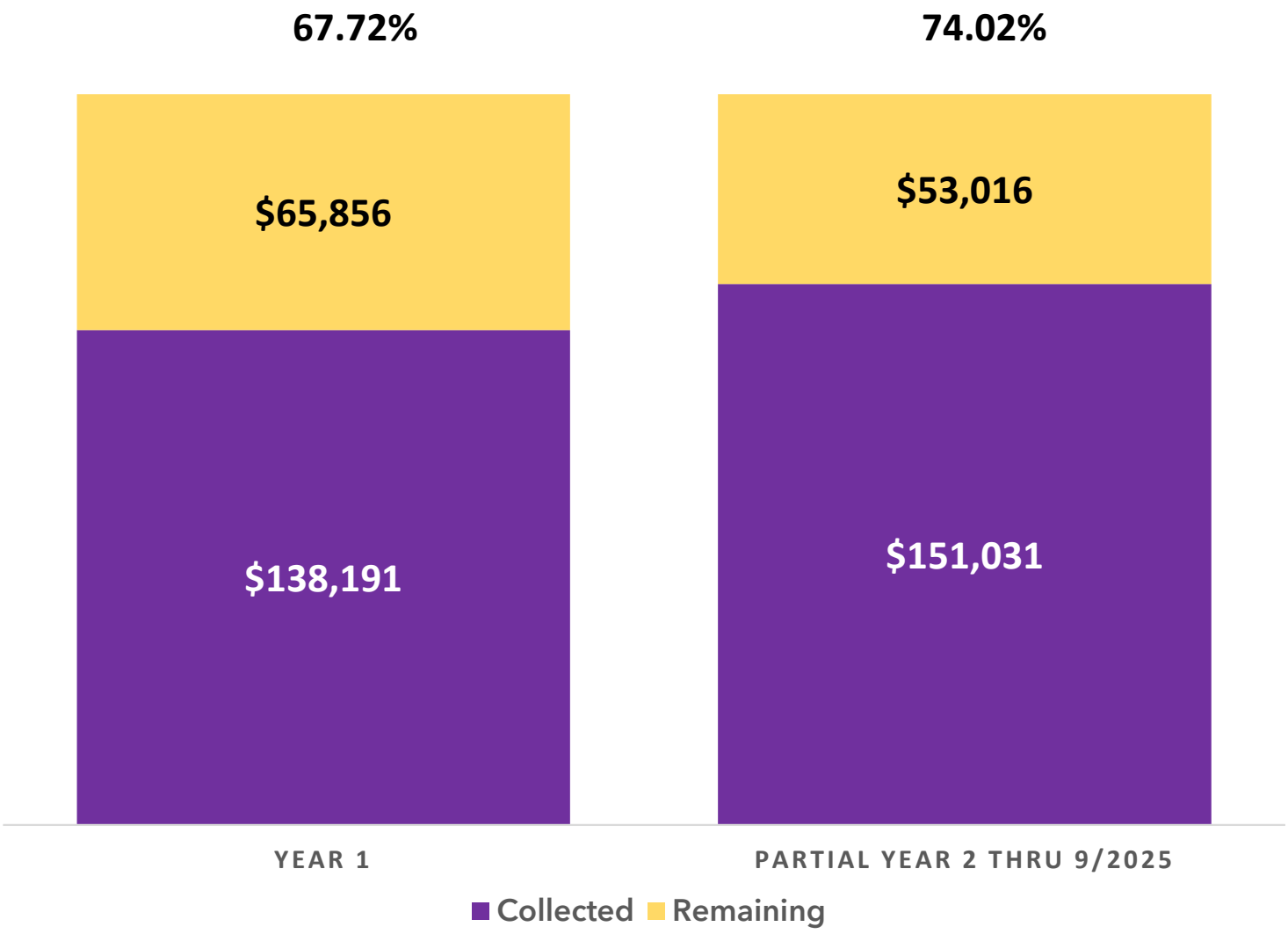
As of 07/01 – 6/30 for each year - Initial Outstanding Base Tax $201,380



2023 PERCENTAGE OF COLLECTION

FOR CITY OF ANGLETON

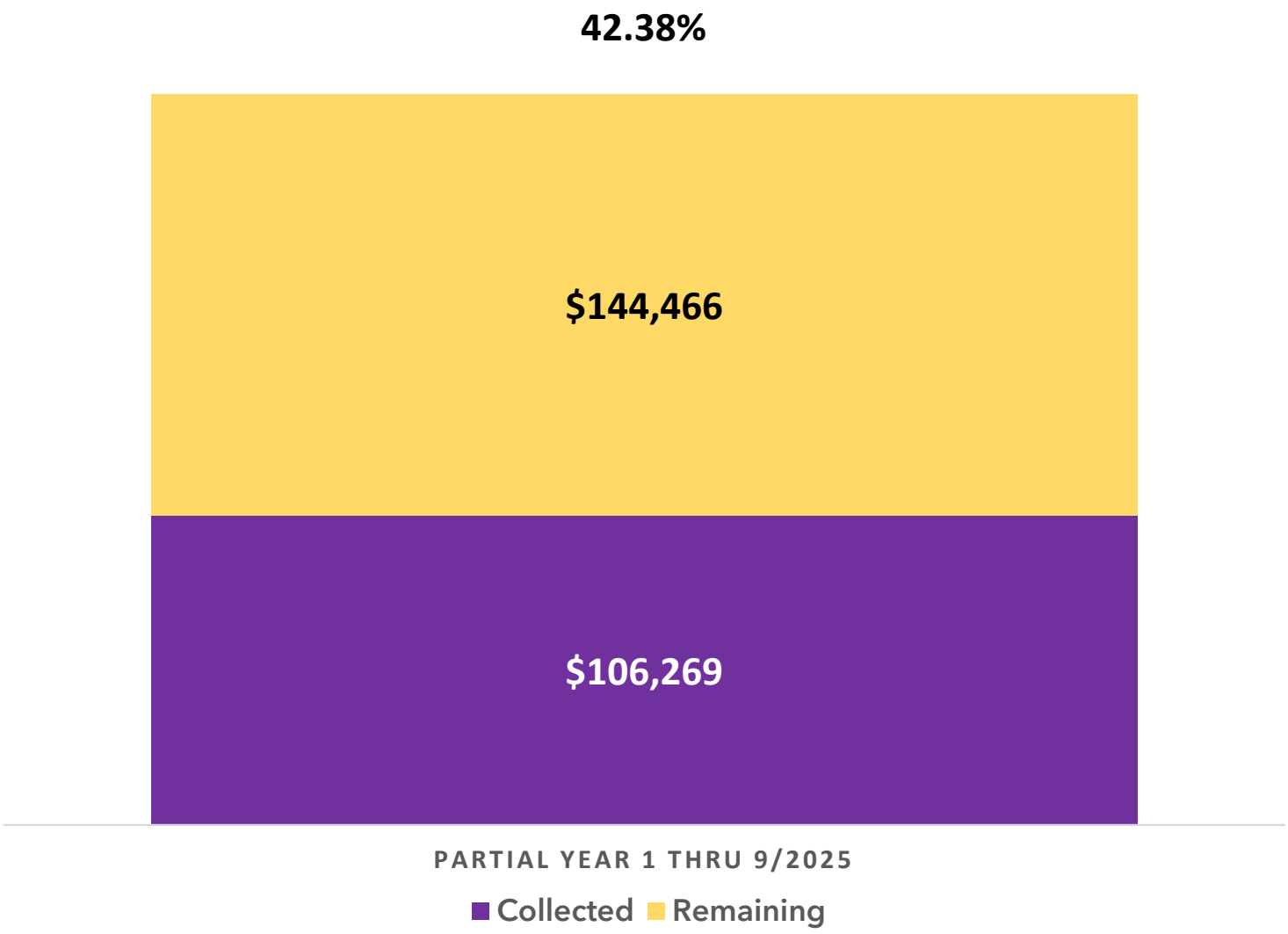
As of 07/01 – 6/30 for each year - Initial Outstanding Base Tax $204,047



2024 PERCENTAGE OF COLLECTION

FOR CITY OF ANGLETON

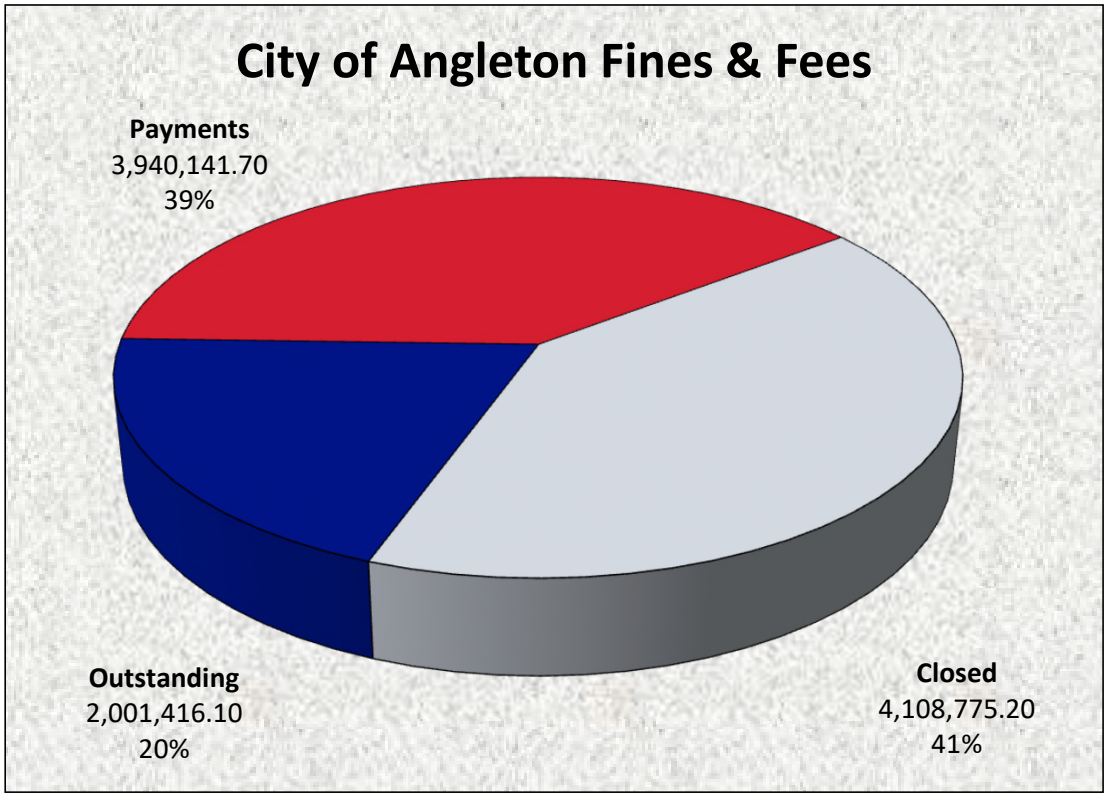
As of 07/01 – 6/30 for each year - Initial Outstanding Base Tax $250,735



FINE & FEE COLLECTION REPORT AS OF OCTOBER 3, 2025

FOR CITY OF ANGLETON

Court	Total Turnover	Payments and/or Partial Payments		Dismissed/Cleared		Total $ % cleared	Letters Mailed	Address Corrections	Phone # Changes	Phone Contacts	Text Contacts
	$	$	% of $	$	% of $						
City of Angleton Fines	10,050,333.00	3,940,141.70	39.20%	4,108,775.20	40.88%	80.09%	77,452	12,449	9,291	37,844	12,999



TOP 10 ACCOUNTS BY ZIP CODE

FOR CITY OF ANGLETON

1

77515 - $279303.13(314)

2

77531 - $61457.03(77)

3

77541 - $63942.41(65)

4

77566 - $64010.13(65)

5

77422 - $27739.53(37)

6

77583 - $35717.28(35)

7

77414 - $15202.72(22)

8

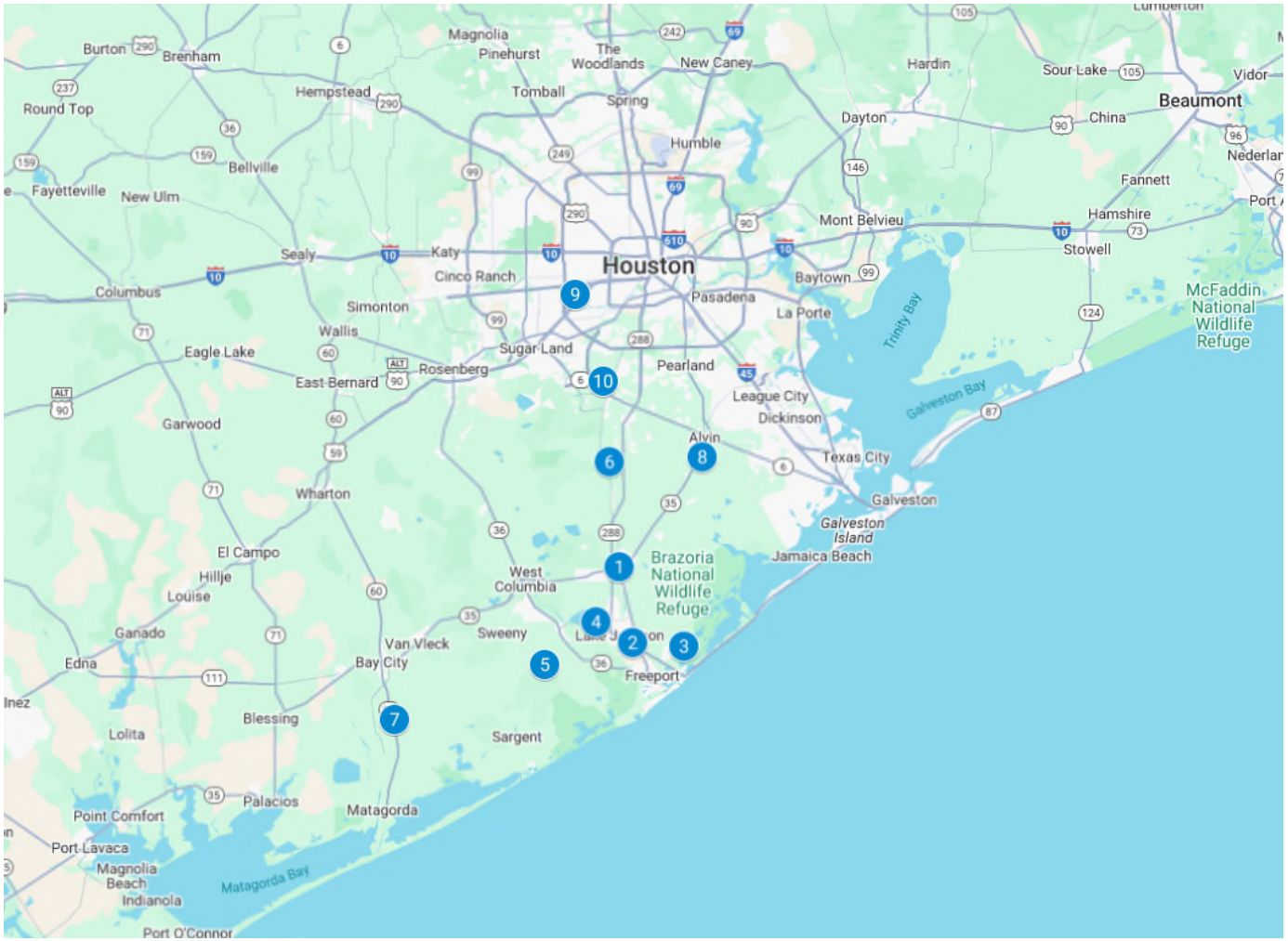
77511 - $15281.29(21)

9

77036 - $17375.22(18)

10

77545 - $16472.12(18)



TOP 10 BAD ADDRESS ACCOUNTS BY ZIP CODE

FOR CITY OF ANGLETON

1

77515 - $47618.50(61)

2

77531 - $10487.01(12)

3

77541 - $8541.20(10)

4

77566 - $6576.71(8)

5

77414 - $4031.64(5)

6

77060 - $4734.60(4)

7

77511 - $4559.36(4)

8

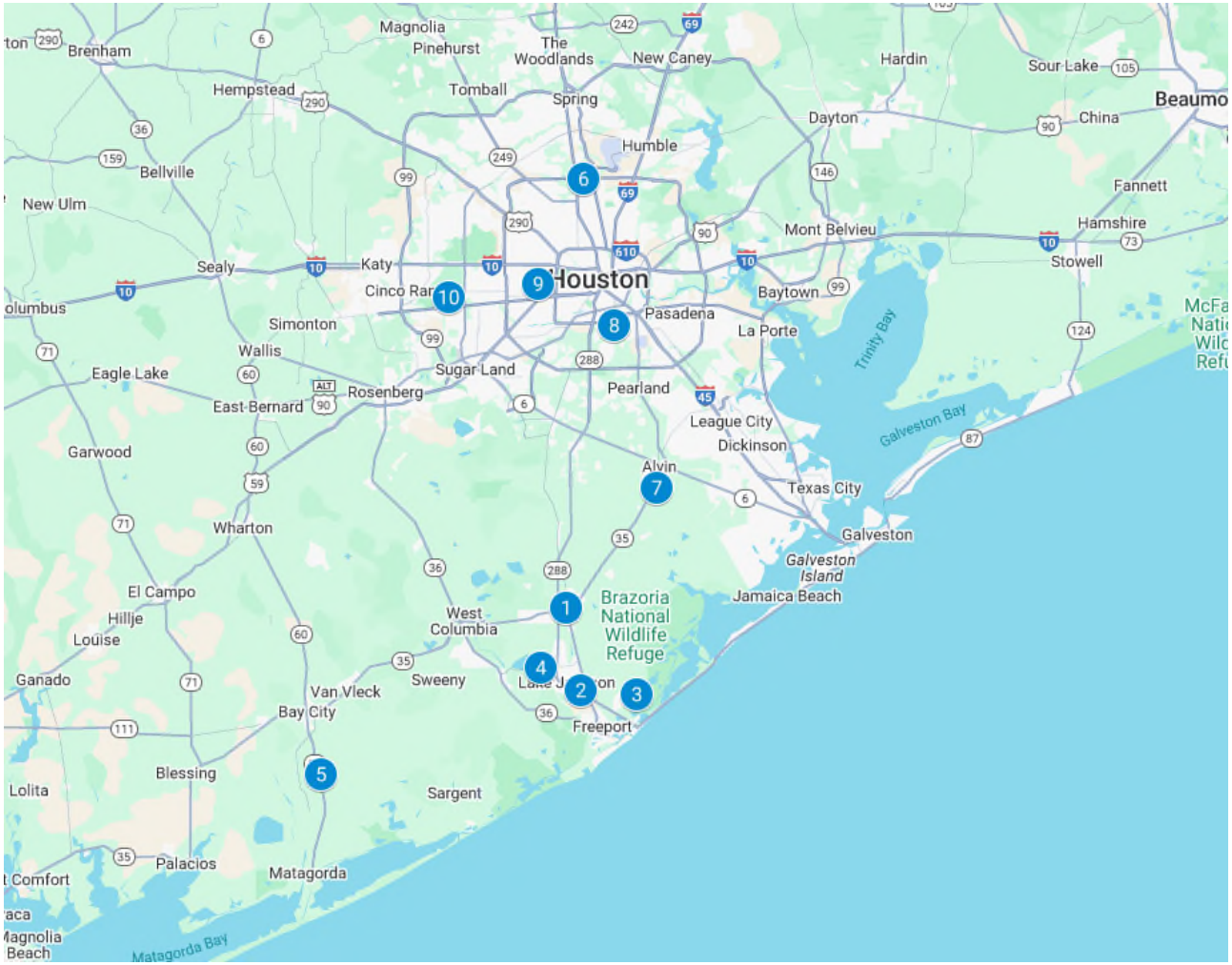
77033 - $4317.30(3)

9

77057 - $3868.67(3)

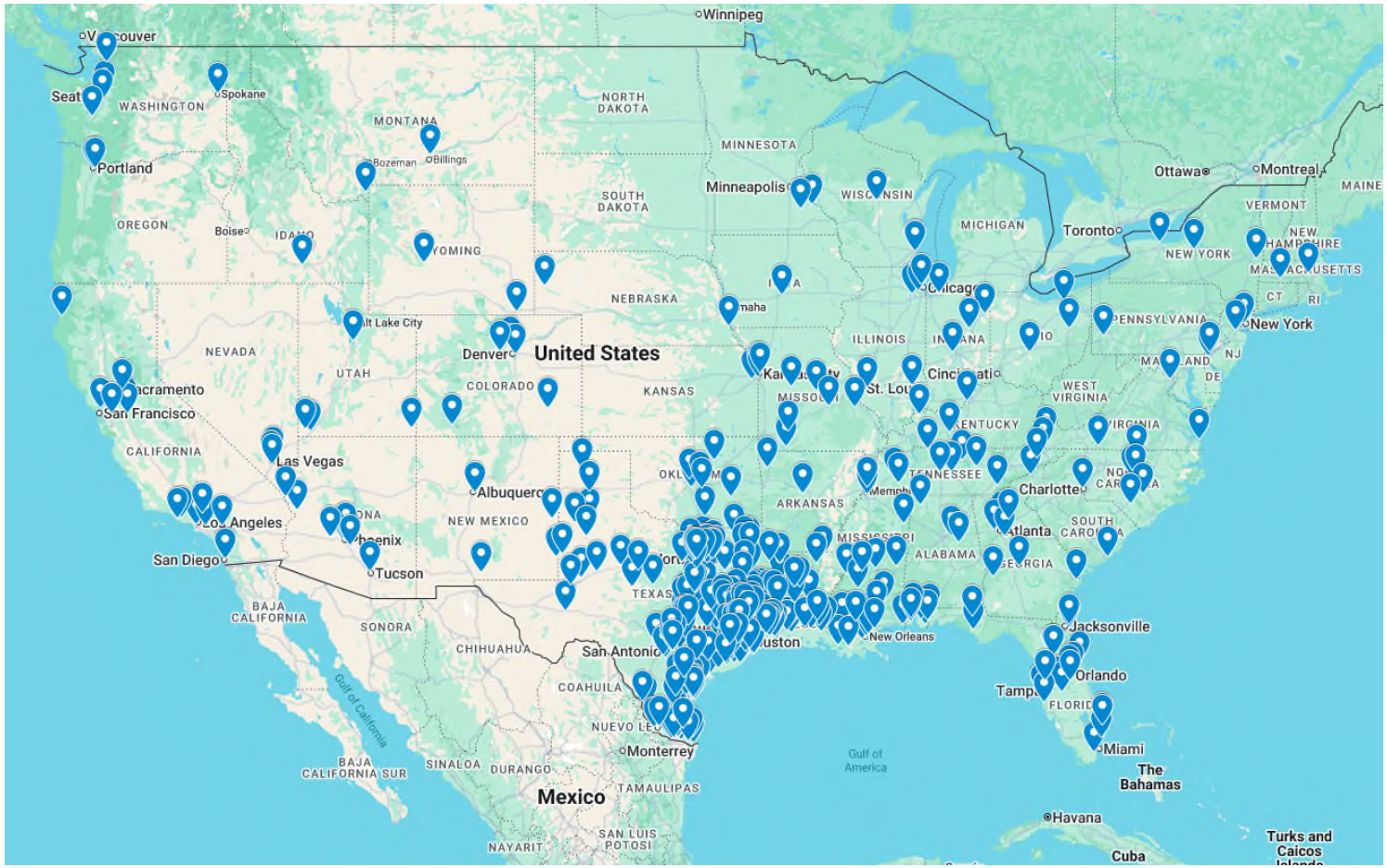
10

77082 - $4119.90(3)



ALL ACCOUNTS
FOR CITY OF ANGLETON

All items



AGENDA ITEM SUMMARY FORM

MEETING DATE: 10/14/2025

PREPARED BY: Martha Eighme

AGENDA CONTENT: Update Discussion and Possible Action on King Municipal Operations Center Project - Zachery Moquin with TEAL Construction.

AGENDA ITEM SECTION: Regular Agenda

BUDGETED AMOUNT:

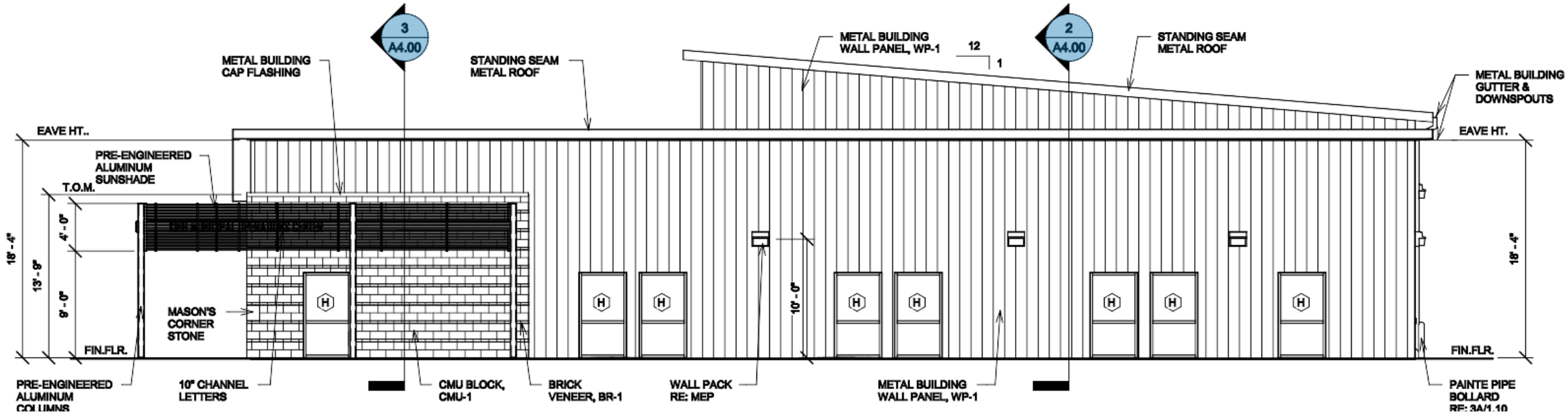
FUNDS REQUESTED:

FUND: Bond

EXECUTIVE SUMMARY:

Update and Discussion on the King Municipal Operations Center Project by Zachery Moquin with TEAL Construction.

TEAL CONSTRUCTION COMPANY



King Municipal Operations Center

Construction Progress Report – October 2025

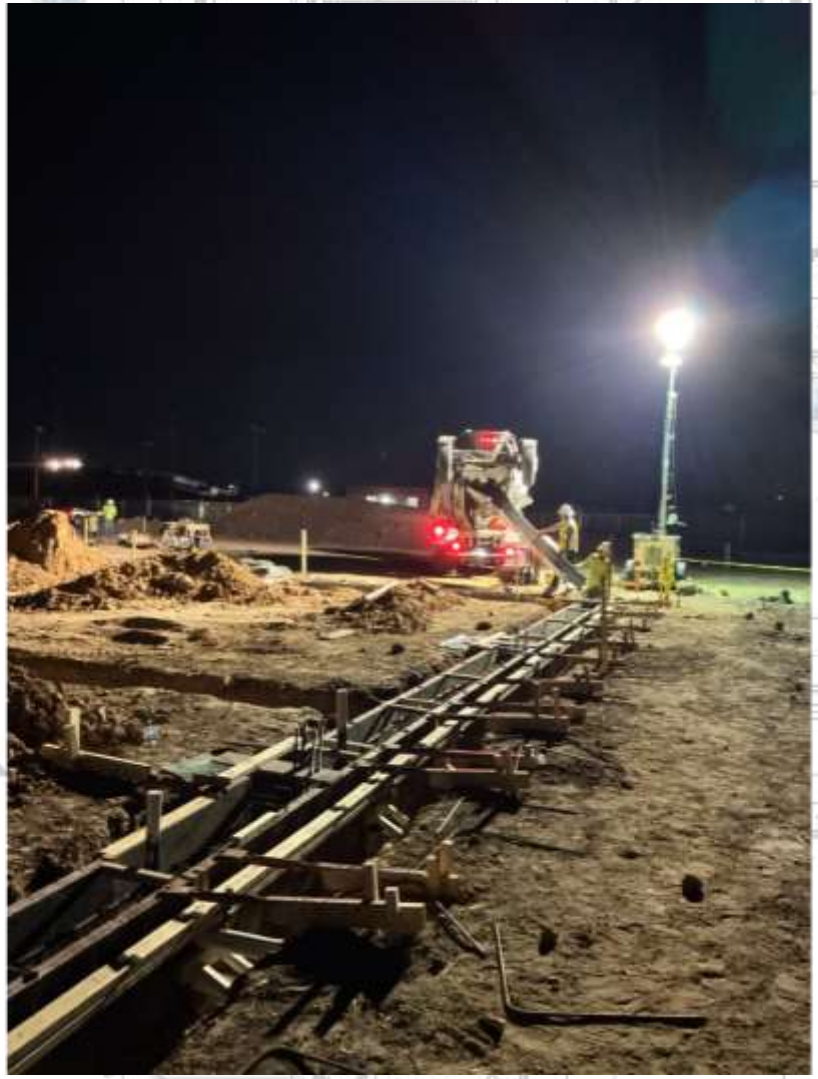
THE HEART OF BRAZORIA COUNTY ANGLETON

iA ARCHITECTS

August 2025
Sitework

- Building pad
- Site utilities
- Excavate spread footings

TEAL CONSTRUCTION COMPANY



September 2025
West Building

- Poured spread footings
- Poured grade beams
- Under slab rough-in
- Utility tie-ins

TEAL CONSTRUCTION COMPANY

September 2025
East Building

- Poured spread footings
- Poured grade beams

October 2025
Building Structure

- Forming building slab
- Pour building slab
- Deliver steel and begin erection

LEFT ENDWALL FRAMING @ FRAME LINE 1
(BLDG A)

TEAL CONSTRUCTION COMPANY

WEEK STARTING: 9/28/2025

King Municipal Operations Center

LOOK AHEAD SCHEDULE

Item	Task	ilding/Ar	Subcontractor	S 9/28	M 9/29	T 9/30	W 10/1	TH 10/2	F 10/3	S 10/4	S 10/5	M 10/6	T 10/7	W 10/8	TH 10/9	F 10/10	S 10/11	S 10/12	M 10/13	T 10/14	W 10/15	TH 10/16	F 10/17	S 10/18
1	BACKFILL	WEST	GMORAN		X	X																		
2	DENSITY TEST	WEST	TERRACON		X	X																		
3	FORM BUILDING PAD	WEST	GMORAN				X	X	X															
4	PLACE REBAR	WEST	GMORAN									X	X											
5	INSPECTION	WEST	COA/TERRACON/CEDNA										X											
6	POUR BUILDING SLAB	WEST	GMORAN												X	X								
7	INSPECTION	EAST	COA/TERRACON/CEDNA		X																			
8	POUR GRADE BEAMS	EAST	GMORAN			X																		
9	BACKFILL	EAST	GMORAN											X	X									
10	DENSITY TEST	EAST	TERRACON											X	X									
11	FIRE WATER LINE	WEST	STONE RIVER						X															
12	INSPECTION	EAST	CITY OF ANGLETON						X															
13	FORM BUILDING PAD	EAST	GMORAN													X	X		X					
14	PLACE REBAR	EAST	GMORAN																	X	X			
15	INSPECTION	EAST	COA/TERRACON/CEDNA																		X			
16	POUR BUILDING SLAB	EAST	GMORAN																			X		
17	BUILDING STEEL	E/W	ALLIANCE																				X	
18	HAUL DIRT	SITE	GMORAN																					
19	TEMP POWER	SITE	BRITAIN ELECTRIC																					
20																								
21	STORM TIE IN	SITE	STONE RIVER																					

AGENDA ITEM SUMMARY FORM

MEETING DATE: 10/14/2025

PREPARED BY: Jason O'Mara, Director of Parks & Recreation

AGENDA CONTENT: Update and discussion on Freedom Park Field expansion.

AGENDA ITEM SECTION: Regular Agenda

BUDGETED AMOUNT: $900,000.00 **FUNDS REQUESTED:** $0

FUND: 040-506-625.20

EXECUTIVE SUMMARY:

Staff will provide City Council with an update on the status of the Freedom Park Field Expansion Project. The project continues to progress on schedule per the updated Project Schedule and 90% Construction Documents prepared by Burditt Land | Place.

The Preliminary Opinion of Probable Costs (OPC), as of September 19, 2025, estimates the total base project cost between $1,153,219 and $1,268,541. Add alternates totaling $767,835 to $844,619 include artificial turf infield, additional covered seating, and field lighting.

Budget Breakdown:

- **Original Budget (ABLC Funded):** $900,000
- **Current Allocations:**
    - $99,000 – Design, construction documents, bidding, and construction administration (Burditt Land | Place)
    - $14,614 – Topographic Survey (Baker & Lawson)
    - $13,350 – Geotechnical Services (Terracon)
- **Remaining Budget:** $773,036

The project is currently in the Construction Document Phase, with the 100% submittal anticipated soon, followed by bidding. Contract approval is currently slated for December 2025, and construction is projected to begin in January 2026.

In addition, staff met with Angleton Independent School District Superintendent to discuss a potential interlocal agreement for shared use and community access. The goal is to align City and

AISD resources to expand recreational opportunities, maximize facility use, and ensure the project serves the full community, including youth programs and tournaments. Discussions are ongoing to define potential areas of collaboration such as cost-sharing, scheduling, and maintenance.

RECOMMENDATION:

Staff recommends City Council discuss project status, cost estimates, and schedule for the Freedom Park Field Expansion Project.

PROJECT LOCATION

GENERAL NOTES

1. THE CONTRACTOR SHALL VIEW ALL DRAWINGS, SPECIFICATIONS, ADDENDA, ETC. AND INFORM THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES IN THE DOCUMENTS AND OBTAIN CLARIFICATION PRIOR TO THE SUBMISSION OF THE BID.

2. EXISTING CONDITIONS AND DIMENSIONS SHOWN ON THESE DRAWINGS ARE ASSUMED BY THE LANDSCAPE ARCHITECT BASED ON AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND NOTIFY THE LANDSCAPE ARCHITECT OF ANY DEVIATION OR CONFLICTS.

3. THESE DRAWINGS SHALL NOT BE SCALED. DRAWINGS HAVE BEEN DIMENSIONED IN ORDER TO ESTABLISH THE CONTROL AND GUIDELINES FOR FIELD LAYOUT. THE CONTRACTOR IS TO REFER TO THE DIMENSIONS INDICATED OR THE ACTUAL SIZES OF CONSTRUCTION ITEMS. WHERE A DISCREPANCY EXISTS, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT.

4. DETAILS ARE KEYED WITH ASSOCIATED NOTES. THE DETAILS ARE TYPICAL FOR SIMILAR LOCATIONS. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE THE LOCATION OF ALL TYPICAL DETAILS AND INSTALL WORK ACCORDINGLY.

5. THE CONTRACTOR SHALL NOTIFY THE OWNER TEN (10) WORKING DAYS IN ADVANCE OF STARTING CONSTRUCTION AND SHALL COORDINATE NECESSARY INSPECTIONS THROUGHOUT FINAL APPROVAL AND OCCUPANCY.

6. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES.

7. ANY DAMAGE TO EXISTING FACILITIES, ELEMENTS, FEATURES, AND IMPROVEMENTS, RESULTING FROM THE CONTRACTOR'S OPERATION, SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

8. CONTRACTOR SHALL EXPOSE, VERIFY, CONNECT AND MATCH EXISTING UTILITIES AND IMPROVEMENTS, IN CONFORMANCE WITH THE INTENT OF THESE PLANS AND SPECIFICATIONS, TO PROVIDE COMPLETE AND OPERATIONAL SYSTEMS.

9. DURING THE COURSE OF THE WORK, THE CONTRACTOR SHALL COORDINATE AND ACCOMMODATE OTHER CONTRACTORS OR OPERATIONS OF THE OWNER.

10. THE CONTRACTOR SHALL EMPLOY ALL LABOR, EQUIPMENT, AND METHODS REQUIRED TO PREVENT HIS OPERATIONS FROM PRODUCING DUST IN AMOUNTS DAMAGING TO PROPERTY, CULTIVATED VEGETATION, DOMESTIC ANIMALS, AND CAUSING A NUISANCE TO PERSONS OCCUPYING BUILDINGS IN THE VICINITY OF THE JOB SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY DUST RESULTING FROM HIS OPERATIONS.

11. CONTRACTOR SHALL RESTRICT ALL OPERATIONS WITHIN THE PROJECT BOUNDARIES. ANY DISRUPTION TO LANDSCAPES, OUTSIDE OF PROJECT BOUNDARIES SHALL BE RESTORED BY THE CONTRACTOR AT NO COST TO THE OWNER.

12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT "UNDERGROUND LOCATE SERVICE" AT LEAST 48 BUSINESS-DAY HOURS PRIOR TO THE START OF CONSTRUCTION FOR THE LOCATION OF POWER, GAS, OIL, CABLE TV, DATA, AND TELEPHONE FACILITIES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR CONTRACTING THE APPROPRIATE PUBLIC AGENCY FOR THE LOCATION OF UNDERGROUND FACILITIES.

13. VERIFY IN FIELD (V.I.F.): IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY PORTIONS OF THE WORK PRIOR TO COMPLETION OF SUBMITTALS FOR FUTURE PORTIONS OF THE WORK. FAILURE TO FIELD VERIFY DIMENSIONS RESULTING IN NON-CONFORMING WORK SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.

14. ALL EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH ORANGE CONSTRUCTION FENCING PLACED AT THE DRIPLINE OF CANOPY.

15. THE CONTRACT DOCUMENTS ARE COMPREHENSIVE AS A WHOLE AND THE CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS IN DRAWINGS, SPECIFICATIONS, REGULATORY REQUIREMENTS, AND ADDENDA.

16. CORRELATION AND INTENT OF CONTRACT DOCUMENTS:

17. THE INTENT OF THE CONTRACT DOCUMENTS IS TO INCLUDE ALL ITEMS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK BY THE CONTRACTOR. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL; PERFORMANCE BY THE CONTRACTOR SHALL BE REQUIRED ONLY TO THE EXTENT CONSISTENT WITH THE CONTRACT DOCUMENTS AND REASONABLY INFERABLE FROM THEM AS BEING NECESSARY TO PRODUCE THE INDICATED RESULTS.

18. IF A CONFLICT, ERROR, OMISSION, OR LACK OF DETAILED DESCRIPTION IS DISCOVERED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT AND REQUEST CLARIFICATION. THE ARCHITECT WILL RESOLVE THE CONFLICT AND MAKE ANY CORRECTIONS OR INTERPRETATIONS NECESSARY TO FULFILL THE INTENT OF THE CONTRACT DOCUMENTS.

19. WHERE NOTES REFERENCE OTHER DISCIPLINES, SUCH AS: (RE:STRUCTURAL), (RE: CIVIL), (RE: LANDSCAPE),(RE: MEP), (RE: MECHANICAL), (RE: PLUMBING), (RE: ELECTRICAL), (RE: TECHNOLOGY), (RE: SECURITY), ETC., REFER TO ENGINEER'S DRAWINGS AND/OR SPECIFICATIONS FOR ADDITIONAL DETAILS AND INFORMATION. ITEMS SO NOTED ARE TO BE INCLUDED IN THE CONTRACT WHETHER OR NOT ENGINEER'S DRAWINGS AND SPECIFICATIONS CONTAIN ADDITIONAL INFORMATION OR REQUIREMENTS FOR EACH SPECIFIC ITEM NOTED. UPON FINDING A DISCREPENCY OR APPARENT LACK OF COORDINATING INFORMATION IN ENGINEER'S DRAWINGS OR SPECIFICATIONS. CONTRACTOR SHALL REQUEST ADDITIONAL INFORMATION FROM ARCHITECT IN ADVANCE TO AVOID COST OR TIME IMPACT.

811 Know what's below. Call before you dig.

48 HOUR NOTICE

CONTRACTOR SHALL NOTIFY THE CITY PRIOR TO COMMENCING CONSTRUCTION AND/OR BACKFILLING ANY UTILITIES. CONTRACTOR(S) TO CONTACT THE PUBLIC REVIEW DEPARTMENT.

FREEDOM PARK BASEBALL FIELD

3105 N. DOWNING
ANGLETON, TEXAS 77515

08/19/2025

INDEX OF DRAWINGS

CVR	COVER	C1.01	SITE PLAN	E0.01	ELECTRICAL SYMBOL LEGEND
DRAWING NO: 16265 TOPO	TOPOGRAPHIC SURVEY	C1.02	PROPOSED DRAINAGE PLAN	E0.02	GENERAL ELECTRICAL NOTES
L1.01	HARDSCAPE PLAN	C1.03	DRAINAGE CALCULATIONS	E1.01	ELECTRICAL SITE PLAN
L1.20	HARDSCAPE SCHEDULE	C1.04	STORMWATER POLLUTION PREVENTION PLAN	E3.01	ENLARGED ELECTRICAL PLANS
L1.21	HARDSCAPE DETAILS	C2.01	DITCH MODIFICATION PROFILE	E4.01	ELECTRICAL ON-LINE DIAGRAMS
L1.22	HARDSCAPE DETAILS	C2.02	DETENTION POND MODIFICATION PROFILE STA 6+00 TO 10+00	E5.01	ELECTRICAL SCHEDULES
L1.23	HARDSCAPE DETAILS	C2.03	DETENTION POND MODIFICATION PROFILE STA 10+00 TO 12+10		
L2.01	IRRIGATION PLAN	C3.01	DITCH MODIFICATION SECTIONS		
L2.21	IRRIGATION DETAILS	C3.02	DETENTION POND MODIFICATION SECTION		
L3.01	PLANTING PLAN	C5.01	STORMWATER POLLUTION PREVENTION PLAN DETAILS		
L3.21	PLANTING DETAILS	C5.02	MISCELLANEOUS DETAILS		

PROJECT TEAM

OWNER
CITY OF ANGLETON
JASON O'MARA
PHONE: (979) 849-4364
EMAIL: JOMARA@ANGLETON.TX.US

LANDSCAPE ARCHITECTURE
BURDITT CONSULTANTS
CLAUDIA WALKER, RLA, ASLA, CPSI
PHONE: 936-756-3041
EMAIL: CWALKER@BURDITT.COM
ADDRESS: 310 LONGMIRE ROAD
CONROE, TX 77304

CIVIL ENGINEERING
MPCE, LLC
ENGINEER, PE, CFM
PHONE: (713) 376-7085
EMAIL: michelle.patton@mpce-tx.com
ADDRESS: 20333 STATE HIGHWAY 249 SUITE 200
HOUSTON, TX 77070

ELECTRICAL ENGINEERING
DBR Engineering Consultants, Inc.
BRENT MOE, PARTNER, PE
PHONE: (713) 914-0888
EMAIL: BMoe@dbrinc.com
ADDRESS: 9990 Richmond Avenue, South Building, Suite 300 Houston, TX 77042

BURDITT Land | Place
310 Longmire Road
Conroe, TX 77304
Tel: 936.756.3041

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08/19/2025

CITY OF ANGLETON
FREEDOM PARK BASEBALL FIELD
PROJECT NO. 1514.002
3105 N. DOWNING, ANGLETON, TEXAS 77515

1 INCH
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DESIGNER | PDK, CTW
DRAWER | PDK
CHECKER | CTW

ISSUANCES & REVISIONS

NO.	DESCRIPTION	DATE
01	100% DD	05/09/2025
02	60% CD	06/13/2025
03	90% CD	08/19/2025

COVER

CVR 54

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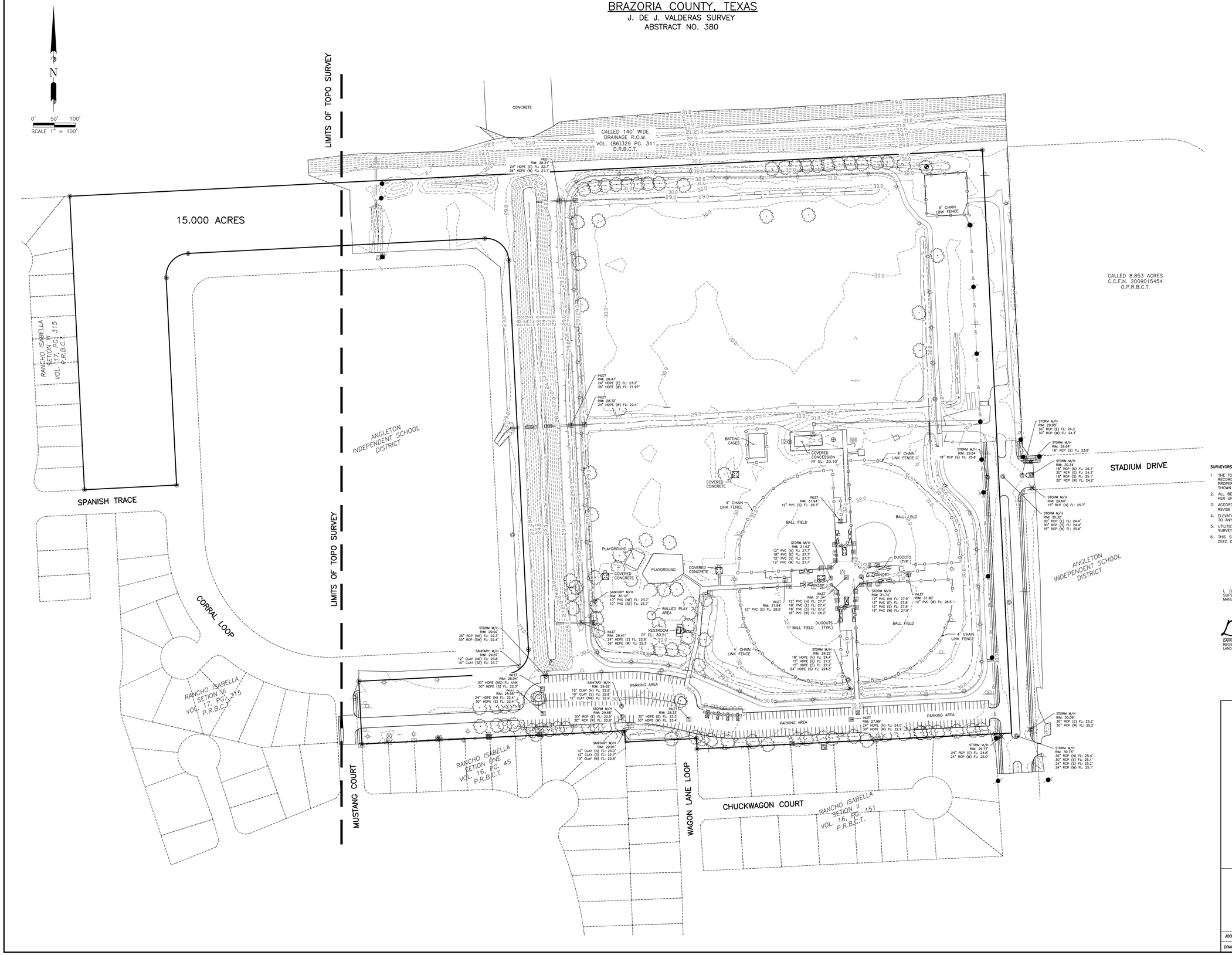
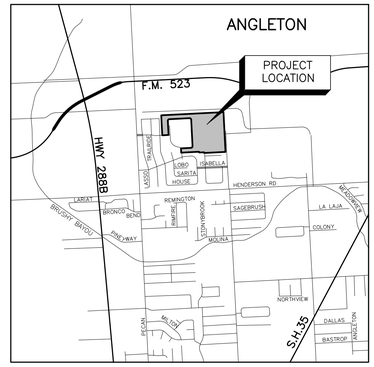
FILE PATH: Q:\SHARED DRIVES\CLIENTS_A-F\ANGLETON\FREEDOM PARK - BASEBALL FIELD\70000 CONSTRUCTION DOCUMENTS\70100 DRAWINGS\CVR - COVER.DWG | LAST SAVE DATE: 8/18/2025 3:05:13 PM | LAST SAVED BY: pkelly

BRAZORIA COUNTY, TEXAS

J. DE J. VALDERAS SURVEY
ABSTRACT NO. 380





VICINITY MAP

LEGEND

O.P.R.B.C.T.	= OFFICIAL PUBLIC RECORDS BRAZORIA COUNTY, TEXAS
D.R.B.C.T.	= DEED RECORDS BRAZORIA COUNTY, TEXAS
P.R.B.C.T.	= PLAT RECORDS BRAZORIA COUNTY, TEXAS
C.C.F.N.	= COUNTY CLERK'S FILE NUMBER
VOL., PG.	= VOLUME, PAGE
	= CLEANOUT
	= GUY
	= I.R.R VALVE
	= LIGHT POLE
	= MANHOLE
	= POWERPOLE
	= SIGN
	= TREE
	= UTILITY BOX
	= UTILITY PED
	= WATER METER
	= WATER VALVE
OH	= OVERHEAD WIRE
	= TOP BANK DITCH
	= CHAIN LINK FNC.
	= WOOD FNC.

SURVEYORS NOTES

1. THE TOPOGRAPHIC SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT OR REPORT WITH REGARD TO ANY RECORDED EASEMENTS, RIGHT-OF-WAYS, SETBACKS, RESTRICTIONS OR OTHER ENCUMBRANCES AFFECTING THE SURVEYED PROPERTY. NO ADDITIONAL RESEARCH WAS PERFORMED BY THE SURVEYOR, ANY OF THESE ITEMS MAY EXIST THAT ARE NOT SHOWN HEREON.
2. ALL BEARINGS SHOWN HEREON ARE BASED ON THE TEXAS COORDINATE SYSTEM OF 1983, (NAD83) SOUTH CENTRAL ZONE, PER GPS OBSERVATIONS.
3. ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP NO. 48039C0435K, REVISE DATE OF DECEMBER 30, 2020, THE SURVEYED PROPERTY LIES WITHIN ZONE "X", UNSHADED.
4. ELEVATIONS SHOWN HEREON ARE GPS DERIVED (NAVD88, US FOOT) BASED ON THE NGS CORS NETWORK AND ARE NOT TIED TO ANY PUBLISHED BENCHMARK.
5. UTILITIES SHOWN ARE BASED ON PHYSICAL ABOVE GROUND MARKERS (AS LOCATED BY 811 CALLS) AND IMPROVEMENTS. THE SURVEYOR WAS NOT PROVIDED ANY UNDERGROUND UTILITY MAPS AS TO THE LOCATION OF UNDERGROUND LINES.
6. THIS SURVEY IS FOR TOPOGRAPHIC PURPOSES ONLY. BOUNDARY SHOWN IS BASED ON RECORDED INFORMATION (RECORD DEED C.C.F.N. 2008041034) ONLY AND DOES NOT CONSTITUTE A BOUNDARY SURVEY.

I, DARREL HEIDRICH, DO HEREBY CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND, UNDER MY SUPERVISION AND SUBSTANTIALLY COMPLIES WITH THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS MANUAL OF PRACTICE REQUIREMENTS FOR A CATEGORY 6, CONDITION 3, TOPOGRAPHIC SURVEY.

2/6/2025

DARREL HEIDRICH
REGISTERED PROFESSIONAL LAND SURVEYOR
LAND SURVEYOR NO. 5378

STATE OF TEXAS REGISTERED DARREL HEIDRICH 5378 PROFESSIONAL LAND SURVEYOR

TOPOGRAPHIC SURVEY

OF A CALLED 43.85 ACRE TRACT AS RECORDED IN C.C.F.N. 2008041034 O.P.R.B.C.T.

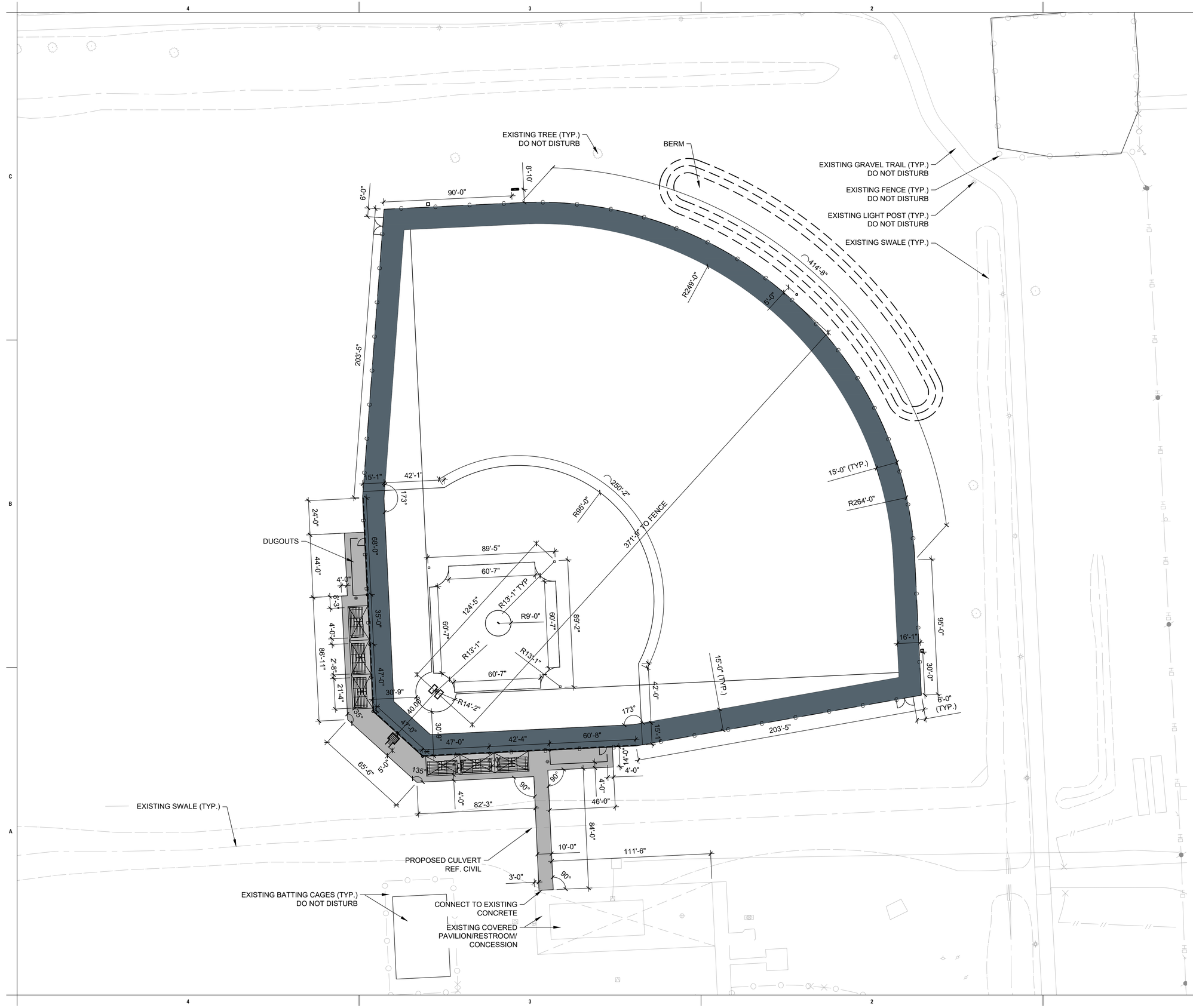
J. DE J. VALDERAS SURVEY
ABSTRACT NO. 380
BRAZORIA COUNTY, TEXAS

BAKER & LAWSON, INC.
ENGINEERS PLANNERS SURVEYORS

Baker & Lawson Inc.
4005 Technology Dr., Suite 1530
Angleton, TX 77515
Phone # 979-849-6681
www.bakerlawson.com
Licensed Surveying Firm No. 10052500

JOB NO.: 16265	SCALE: 1" = 100'	DRAWN BY: AD	CKED BY: AH
DRAWING NO.: 16265 TOPO		DATE: 2/6/25	REV. NO. 0

J:\16000\16200\16265\ENGINEERING-SURVEY\SURVEY\DWGS\16265 TOPO.DWG, PLOT DATE:6/13/2025 12:04:45 PM, dheidrich



HARDSCAPE LEGEND

CODE	DESCRIPTION
SITE FURNISHINGS	
A-1	TRASH RECEPTACLE
A-2	CANTILEVER SHADE CANOPIES
A-3	FLAG POLE
A-4	BLEACHER
A-5	FOUL POLE
A-6	SCORE BOARD
SURFACES	
B-1	SIDEWALK
B-2	ARTIFICIAL TURF - COLOR #512D6D (ADD ALTERNATE 01)
B-3	WARNING TRACK
B-4	ARTIFICIAL TURF - COLOR GREEN (ADD ALTERNATE 01)
FENCING	
C-1	40'-0" FIELD NETTING
C-2	4' FOOT FENCE
C-3	8' FOOT FENCE
C-4	DOUBLE GATE
C-5	SINGLE GATE
DRAINAGE	
E-1	TURF DRAINAGE

BURDITT
Land | Place
310 Longmire Road
Conroe, TX 77304
Tel: 936.756.3041

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UNDER THE AUTHORITY OF
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LANDSCAPE ARCHITECT No. 2987, ON 08/25/25
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08/19/2025

CITY OF ANGLETON

FREEDOM PARK BASEBALL FIELD

PROJECT NO. 1514.002

3105 N. DOWNING, ANGLETON, TEXAS 77515

1 INCH

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DESIGNER | PDK, CTW
DRAWER | PDK
CHECKER | CTW

ISSUANCES & REVISIONS

NO.	DESCRIPTION	DATE
01	100% DD	05/09/2025
02	60% CD	06/13/2025
03	90% CD	08/19/2025

SCALE AND NORTH ARROW

0 30 ft 60 ft

SCALE: 1" = 30' - 0"

N

HARDSCAPE PLAN

L1.01

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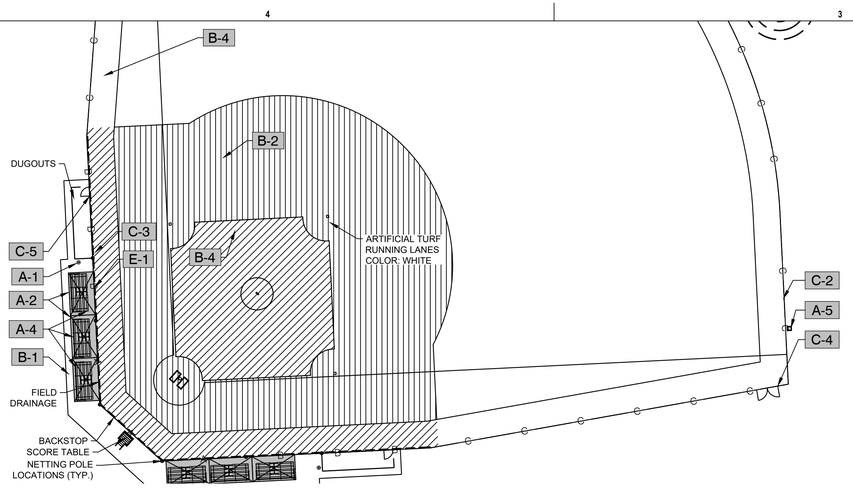
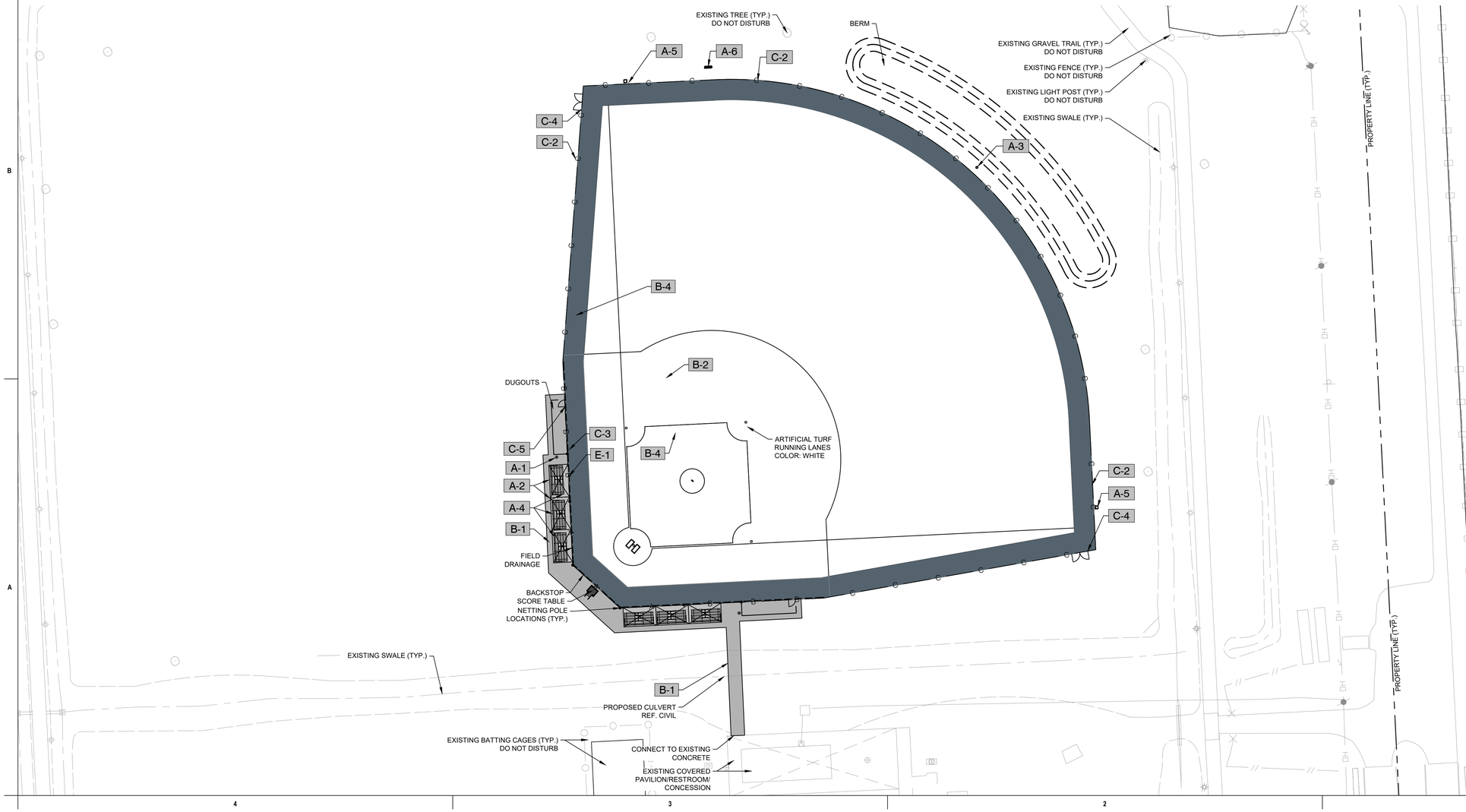
FILE PATH: Q:\SHARED DRIVES\CLIENTS_A-F\ANGLETON\FREEDOM PARK - BASEBALL FIELD\7000 CONSTRUCTION DOCUMENTS\70100 DRAWINGS\DIM - PLAN.DWG | LAST SAVE DATE: 8/26/2025 3:23:22 PM | LAST SAVED BY: avalbuena



C4 ADD ALTERNATE 01

SCALE 1" = 40'-0"



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C-2	4' FOOT FENCE
C-3	8' FOOT FENCE
C-4	DOUBLE GATE
C-5	SINGLE GATE
DRAINAGE	
E-1	TURF DRAINAGE

SCALE AND NORTH ARROW

0 40 ft 80 ft

SCALE: 1" = 40' - 0"

N

BURDITT Land | Place
310 Longmire Road
Conroe, TX 77304
Tel: 936.756.3041

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CITY OF ANGLETON

FREEDOM PARK BASEBALL FIELD

PROJECT NO. 1514.002

3105 N. DOWNING, ANGLETON, TEXAS 77515

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DESIGNER | PDK, CTW
DRAWER | PDK
CHECKER | CTW

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NO.	DESCRIPTION	DATE
01	100% DD	05/09/2025
02	60% CD	06/13/2025
03	90% CD	08/19/2025

HARDSCAPE PLAN

L1.01

57

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HARDSCAPE SCHEDULE

SYMBOL	CODE	DESCRIPTION	QTY	DETAIL	MANUFACTURER	MODEL	FINISH/COLOR	CONTACT	REMARKS
SITE FURNISHINGS									
	A-1	TRASH RECEPTACLE	2	C1/L1.22	TREETOP PRODUCTS	NORTHGATE RECEPTACLE/ 32 GAL. RAIN BONNET LID RECEPTACLE	GALVANIZED STEEL/BLACK ONYX	EMAIL: INFO@TREETOPPRODUCTS.COM PHONE: (866) 511-5642	INSTALL PER MANUFACTURER`S RECOMMENDATIONS. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.
	A-2	CANTILEVER SHADE CANOPIES	6	C2/L1.22	SUPERIOR RECREATIONAL PRODUCTS BY PLAYCORE	HANGING CANTILEVER HIP SHADE STRUCTURE 18`L X 12`W X 11`H REFERENCE NUMBER: 4148-084	FRAME COLOR: FEATHER GRAY SHADE FABRIC: MIDNIGHT	PHONE: 1-800-327-8774 WEBSITE: WWW.SRPSHADE.COM	INSTALL PER MANUFACTURER`S RECOMMENDATIONS. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.
	A-3	FLAG POLE	1	A4/L1.22	CONCORD AMERICAN FLAGPOLE	125060188 25` FLAGPOLE SENTRY SERIES	SATIN ALUMINUM	WWW.CONCORDAMERICANFLAGPOLE.COM	INSTALL PER MANUFACTURER`S RECOMMENDATIONS. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.
	A-4	BLEACHER	6	B4/L1.22	BELSON OUTDOORS	BD-0521V BLEACHER 5 ROW	ALUMINUM	EMAIL: SALES@BELSON.COM PHONE: 1-800-323-5664	INSTALL PER MANUFACTURER`S RECOMMENDATIONS. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.
	A-5	FOUL POLE	2		SPORTSFIELD SPECIALTIES	FP420PL 20`-0" HEIGHT, NO WING	POWDER COATED YELLOW	EMAIL: WWW.SPORTSFIELD.COM PHONE: 1-888-975-3343	INSTALL PER MANUFACTURER`S RECOMMENDATIONS. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.
	A-6	SCORE BOARD	1		-	-	-	-	ELECTRICAL TO PROVIDE ELECTRICAL OUTLET. REF. ELECTRICAL
SURFACES									
	B-1	SIDEWALK	6,107 sf		-	-	REF. CIVIL	REF. CIVIL	REF. CIVIL
	B-2	ARTIFICIAL TURF - COLOR #512D6D (ADD ALTERNATE 01)	23,567 sf	B1/L1.22	SYNLAWN	TXT48P	MEADOW GREEN	WWW.STRICKTLYGREENGRASS.COM	INSTALL PER MANUFACTURER`S RECOMMENDATIONS. PROVIDE CUT SHEET FOR LANDSCAPE ARCHITECT`S APPROVAL PRIOR TO INSTALLATION.
	B-3	WARNING TRACK	14,480 sf	A2/L1.22	-	-	-	-	-
	B-4	ARTIFICIAL TURF - COLOR GREEN (ADD ALTERNATE 01)	12,372 sf	B1/L1.22	SYNLAWN	TXT48P	PMS COLOR PURPLE 269C C=81 M=96 Y=26 K=13	WWW.STRICKTLYGREENGRASS.COM	INSTALL PER MANUFACTURER`S RECOMMENDATIONS. PROVIDE CUT SHEET FOR LANDSCAPE ARCHITECT`S APPROVAL PRIOR TO INSTALLATION.
FENCING									
A	C-1	40`-0" FIELD NETTING	141 lf	A2/L1.21	NETS OF TEXAS	-	BLACK	RAFAEL SANTIAGO PHONE: (936) 372-5501	INSTALL PER MANUFACTUER`S RECOMMENDATIONS. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTLLATION.
C	C-2	4` FOOT FENCE	1,013 lf	B4/L1.21	-	-	BLACK	-	INSTALL PER MANUFACTURER`S RECOMMENDATIONS. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.
B	C-3	8` FOOT FENCE	206 lf	C4/L1.21	-	-	BLACK	-	INSTALL PER MANUFACTURER`S RECOMMENDATIONS. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.
	C-4	DOUBLE GATE	2	A4/L1.21	-	-	-	-	INSTALL PER MANUFACTURER`S RECOMMENDATIONS. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.
	C-5	SINGLE GATE	2	/	-	-	-	-	INSTALL PER MANUFACTURER`S RECOMMENDATIONS. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.
DRAINAGE									
	E-1	TURF DRAINAGE	346 lf	B2/L1.22	-	-	-	-	INSTALL PER MANUFACTURER`S RECOMMENDATIONS.

BURDITT
Land | Place
310 Longmire Road
Conroe, TX 77304
Tel: 936.756.3041

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THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW, AGENCY APPROVAL, AND COMMENT UNDER THE AUTHORITY OF
CLAUDIA T. WALKER, RLA
LANDSCAPE ARCHITECT No. 2987, ON 08/26/25
THIS DOCUMENT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES

08/19/2025

CITY OF ANGLETON

FREEDOM PARK BASEBALL FIELD

PROJECT NO. 1514.002

3105 N. DOWNING, ANGLETON, TEXAS 77515

1 INCH

IF THIS LINE DOES NOT MEASURE ONE INCH THIS DRAWING IS NOT TO SCALE AND SHOULD NOT BE SCALED FOR DIMENSIONAL INFORMATION.

DESIGNER | PDK, CTW
DRAWER | PDK
CHECKER | CTW

ISSUANCES & REVISIONS

NO.	DESCRIPTION	DATE
01	100% DD	05/09/2025
02	60% CD	06/13/2025
03	90% CD	08/19/2025

HARDSCAPE SCHEDULE

L1.20

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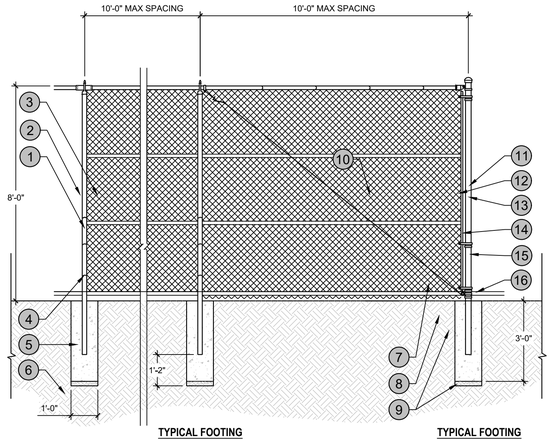
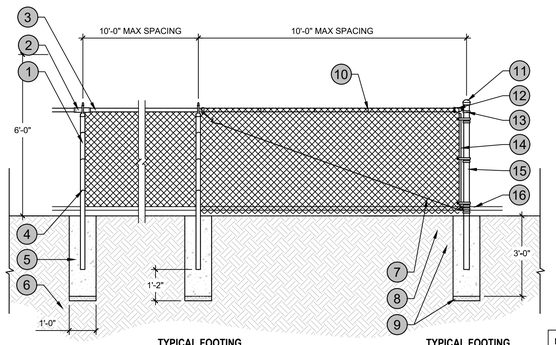
FILE PATH: Q:\SHARED DRIVES\CLIENTS_A-P\ANGLETON\FREEDOM PARK - BASEBALL FIELD\7000 CONSTRUCTION DOCUMENTS\7030 DRAWING\SHARD - PLAN.DWG | LAST SAVE DATE: 8/26/2025 3:23:54 PM | LAST SAVED BY: avalbuena



1. LINE POST 2" O.C. (TYP.) GLOSS BLACK PIPE
2. TOP RAIL CONNECTION AS SHOWN-20' O.C. (TYP.)
3. TOP RAIL 1-5/8" PIPE BLACK
4. 9 GAUGE TIE WIRE 14" INCH O.C.
5. 3500 PSI STRENGTH CONCRETE
6. COMPACTED SUBGRADE
7. 3/8" TRUSS ROD AT ALL CORNERS AND INTERSECTIONS (TYP.)
8. 12" X 12" MOW STRIP
9. 2" SAND BED, (TYP.)
10. 9 GAUGE TIE WIRE 2'-0" O.C.
11. POST CAP
12. RAIL END
13. POST BAND
14. DRAW BAR 1/4" X 3/4"
15. TERMINAL POST 2 1/2" O.D. GLOSS BLACK PIPE
16. BOTTOM RAIL 1-5/8" PIPE BLACK

NOTES
1. ALL FABRIC HARDWARE SHALL BE BLACK VINYL WRAP.
2. ALL FENCE HARDWARE SHALL BE PAINTED GLOSS BLACK.
3. FABRIC SHALL BE INSTALLED ON THE OUTSIDE.
4. CONTRACTOR MUST SUBMIT SHOP DRAWINGS FOR ALL FENCE AND GATES.

C4 8'-0" HEIGHT CHAIN LINK FENCE
3/8" = 1'-0"



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3. TOP RAIL 1-5/8" PIPE BLACK
4. 9 GAUGE TIE WIRE 14" INCH O.C.
5. 3500 PSI STRENGTH CONCRETE
6. COMPACTED SUBGRADE
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8. 12" X 12" MOW STRIP
9. 2" SAND BED, (TYP.)
10. 9 GAUGE TIE WIRE 2'-0" O.C.
11. POST CAP
12. RAIL END
13. POST BAND
14. DRAW BAR 1/4" X 3/4"
15. TERMINAL POST 2 1/2" O.D. GLOSS BLACK PIPE
16. BOTTOM RAIL 1-5/8" PIPE BLACK

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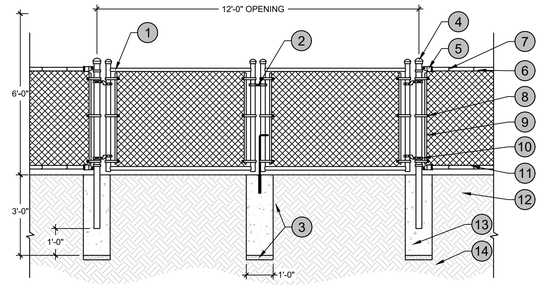
B4 6'-0" HEIGHT CHAIN LINK FENCE
3/8" = 1'-0"

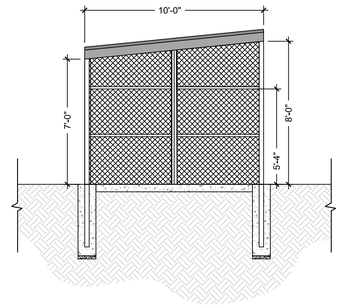


1. 1-5/8" O.C. GATE PIPE BLACK GLOSS PAINT WELDED FRAME
2. FORK LATCH WITH LOCKING CAPABILITY
3. 2" SAND BED (TYP.)
4. POST CAP
5. RAIL END
6. TOP RAIL 1-5/8" O.D. PAINTED PIPE
7. 9 GAUGE TIE WIRE 24" O.C.
8. POST BAND 1/4" O.C.
9. DRAW BAR 1/4" X 3/4"
10. GATE HINGE
11. BOTTOM RAIL 1-5/8" O.C. PAINTED PIPE
12. 12" X 12" MOW STRIP
13. 3500 PSI STRENGTH CONCRETE
14. COMPACTED SUBGRADE

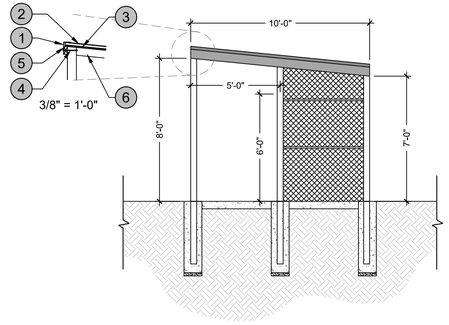
NOTES
1. ALL WIRE FABRIC HARDWARE SHALL BE BLACK VINYL WRAP.
2. ALL FENCE HARDWARE SHALL BE PAINTED GLOSS BLACK.
3. FABRIC SHALL BE INSTALLED ON THE OUTSIDE.
4. CONTRACTOR MUST SUBMIT SHOP DRAWINGS FOR ALL FENCE AND GATES.

A4 6'-0" HEIGHT DOUBLE GATE (12'-0" OPENING)
3/8" = 1'-0"

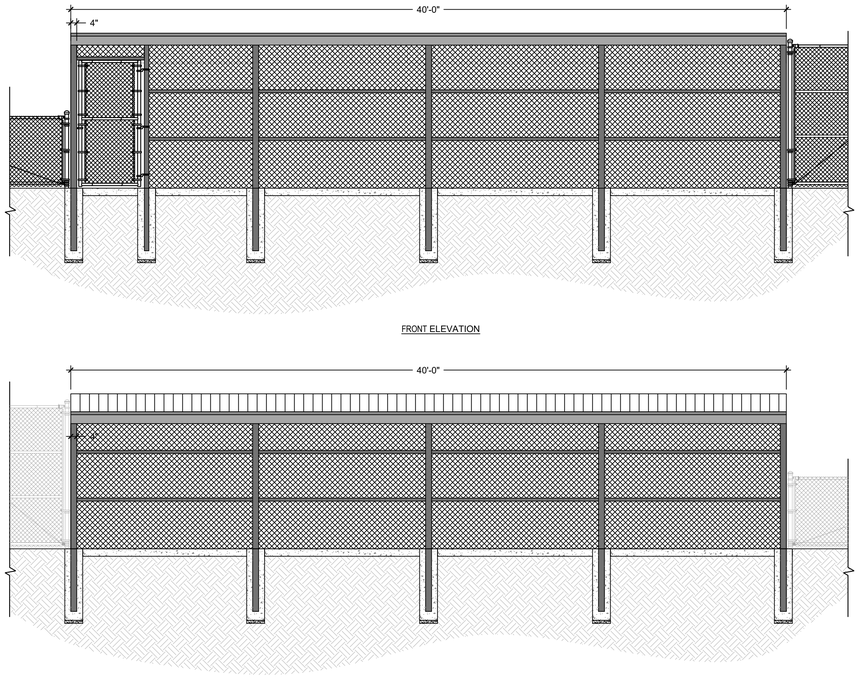
1. DRIP EDGE FLASHING
2. METAL R-PANEL ROOF. COLOR AS APPROVED
3. TREATED 1/2" PLYWOOD DECKING W/ EDGE CLIPS
4. GALV. BOLT AT EACH POST
5. 2X4 TREATED WOOD LUMBER
6. TREATED 2X4 WOOD FRAMING 16" O.C.



ELEVATION A



ELEVATION B

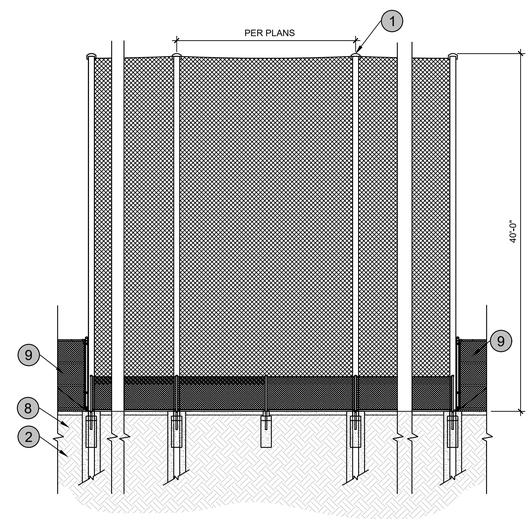


FRONT ELEVATION

BACK ELEVATION

NOTES
1. ALL FABRIC HARDWARE SHALL BE BLACK VINYL WRAP.
2. ALL FENCE HARDWARE SHALL BE PAINTED GLOSS BLACK.
3. FABRIC SHALL BE INSTALLED ON THE OUTSIDE.
4. CONTRACTOR MUST SUBMIT SHOP DRAWINGS FOR ALL FENCE AND GATES.

B2 DUGOUT DETAIL
1/4" = 1'-0"



1. 40'-0" HEIGHT NETTING POLE 8" DIAMETER BLACK POWDERCOAT
2. SUBGRADE
3. FOOTINGS REF. CIVIL
4. POST CONCRETE FOOTING WITH #4 16" O.C. FULL HEIGHT
5. 6" CONCRETE CURB
6. 4'-0" HEIGHT FENCE
7. NETTING BEGIN AT 3' HEIGHT
8. CONCRETE SLAB PER PLANS
9. 8'-0" ADJACENT CHAINLINK

A2 BACKSTOP NETTING
1/8" = 1'-0"

BURDITT Land | Place
310 Longmire Road
Conroe, TX 77304
Tel: 936.756.3041

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LANDSCAPE ARCHITECT No. 2987, ON 08/25/25
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08/19/2025

CITY OF ANGLETON

FREEDOM PARK
BASEBALL FIELD

PROJECT NO. 1514.002

3105 N. DOWNING, ANGLETON, TEXAS 77515

1 INCH

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DESIGNER | PDK, CTW
DRAWER | PDK
CHECKER | CTW

ISSUANCES & REVISIONS

NO.	DESCRIPTION	DATE
01	100% DD	05/09/2025
02	60% CD	06/13/2025
03	90% CD	08/19/2025

HARDSCAPE DETAILS

L1.21

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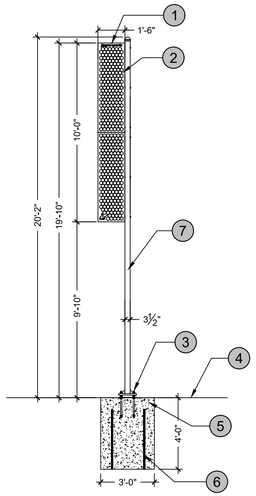
1. HEAVY DUTY 18" X 60" X 2" 11 GAUGE THICK STEEL METAL PANEL
2. ONE PIECE STEEL CONSTRUCTION W/ TOUGH POWDER COATED YELLOW OVER ZINC UNDERCOATING
3. ADJUSTABLE LEVELING PLATE
4. FIELD LEVEL
5. CONCRETE
6. REBAR BASKET BY OTHERS
7. Ø3 1/2" O.D. 3" SCH40 POLE

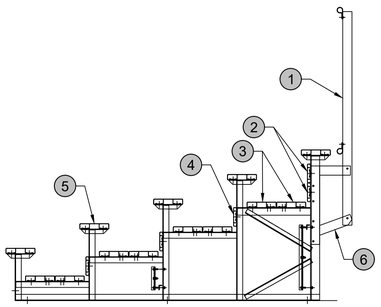
FEATURES:
SEMI-PERMANENT ONE PIECE WELDED STEEL CONSTRUCTION
HEAVY DUTY 3-1/2" STEEL O.D. SCHEDULE 40 UPRIGHT
FOUL POLE DESIGNED TO WITHSTAND UP TO 150 MPH WIND
TYPICAL FOOTING SHOWN (BASED ON 100 MPH WIND)

OPTIONAL:
FOUL POLE MAY BE DESIGNED TO INSTALL ON TOP OF A WALL, WHILE MAINTAINING OVERALL HEIGHT OF 20 FT ABOVE FIELD LEVEL.

NOTE:
THESE ARE SUGGESTED DIMENSIONS FOR AVERAGE SOIL CONDITIONS, CONSULT LOCAL BUILDING CODES.

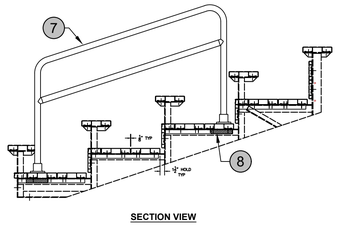


C4 FOUL POLE
1/4" = 1'-0"

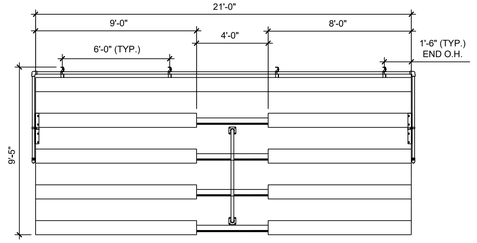


1. RP-ARV01 REAR GAURDRAIL POST
2. DBL. 1X6 MILL RISER PLANK TOP ROW ONLY
3. DBL. 2X10 MILL FOOT PLANK ROWS 2-5
4. 1X6 MILL RISER PLANK ROWS 2-4
5. 2X10 ANODIZED SEAT PLANK ALL ROWS
6. RP-ARB01 REAR GAURDRAIL BRACKET
7. AH-3STEP AISLE HANDRAIL 1 PL. PER AISLE LOCATED OVER CENTER AISLE STIFFENER
8. HANDRAIL BRACKET (AH-ANGLE) TYP. 2 UNDER EACH HANDRAIL FLANGE

ELEVATION VIEW



SECTION VIEW

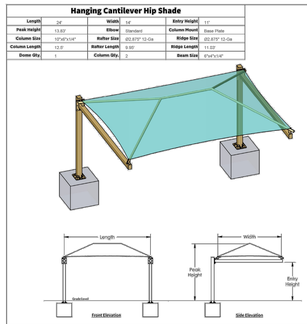


PLAN VIEW

B4 BLEACHER
N.T.S.

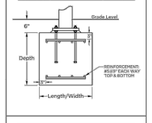
Hanging Cantilever Hip Shade

Length	24'	Width	14'
Peak Height	13.83'	Entry Height	11'
Column Size	10"x6"x1/4"	Elbow	Standard
Column Length	12.3'	Rafter Size	6"x6"x1/4"
Dome Qty	1	Rafter Length	9.95'
		Column Qty	2
		Column Mount	Base Plate
		Ridge Size	22.83"X 10-Ga
		Ridge Length	11.92'
		Beam Size	6"x4"x1/4"



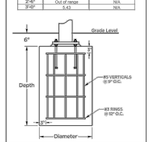
Square Footing

Column	Length & Width	Depth
Single Cap	24"	6"
Double Cap	N/A	



Auger Footing

Diameter	Single Cap Depth	Double Cap Depth
18"	4'-0"	N/A
24"	Out of range	N/A
30"	Out of range	N/A
36"	Out of range	N/A

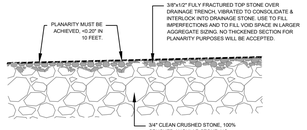


SuperiorShade	QUOTE	SHADE SIZE	SHADE STYLE
	110753	24 X 14	Hanging Cantilever Hip Shade

These drawings are for reference only and should not be used as construction details. They show the general character and rough dimensions of the structural footings. Export specs, fasteners, materials, and foundations are the responsibility of the customer and their engineer of record. Estimated footing size above is based on 1500 PSF soil bearing pressure.

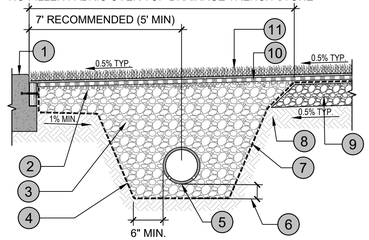
C2 CANTILEVER SHADE CANOPY
N.T.S.

1. CURB AND TURF NAILER PER PLAN
2. 3/8"x1/2" FULLY FRACTURED CLEAN CHIP TOP STONE, 100% CRUSHED & WASHED FOR PLANARITY AND LATERAL STABILITY, SEE ABOVE.
3. 3/4" CLEAN CRUSHED STONE, 100% CRUSHED ANGULAR STONE, NO ROUND SURFACES WILL BE ACCEPTED. 12" MAX LIFTS, EACH MECHANICALLY COMPACTED/CONSOLIDATED
4. NON-WOVEN GEOTEXTILE, MIRAFI 140N OR EQUAL. PERMEABLE RECOMMENDED FOR MOST SITES
5. 8" MIN. HDPE PERFORATED STORM DRAIN PIPE, SIZE AND SLOPE PER PLAN. RECOMMEND HOLES DOWN IN MOST CONDITIONS.
6. 4" ROCK BEDDING, 3/4" CLEAN CRUSHED STONE. NO ROUND SURFACES WILL BE ACCEPTED.
7. SLOPED TRENCH WALL FOR BETTER CONSOLIDATION OF DRAIN ROCK. CUT CLEANLY WITH NO IMPERFECTIONS >3/4". RE BACKFILL, COMPACT, AND RE-CUT TRENCH IF SO, AT CONTRACTORS EXPENSE.
8. SCARIFIED AND COMPACTED SUBGRADE. 90% RECOMMENDED MOST SITES
9. CEMENT TREATED BASE AND 2" LEVELING COURSE PER DETAIL A1
10. SYNTHETIC SHOCK PAD, PER PLAN & SPECS.
11. SYNTHETIC TURF, TYPE, PILE HEIGHT PER PLAN & SPECS.



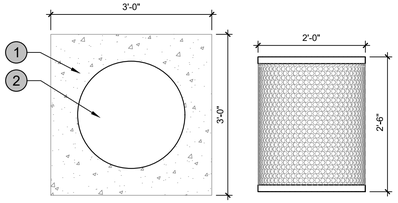
TOP STONE DETAIL
N.T.S.

NO FILLER FABRIC OVER TOP DRAINAGE TRENCH STONE



B2 TURF FIELD TRENCH DETAIL
N.T.S.

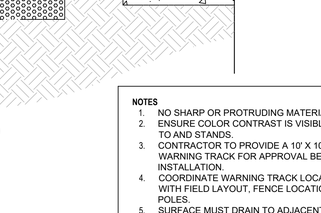
C1 TRASH RECEPTACLE
1/16" = 1'-0"



FRONT VIEW

1. ADJACENT CONCRETE
2. TRASH RECEPTACLE

NOTES
1. ALL DRAWINGS ARE PRELIMINARY ONLY, NOT TO BE USED FOR INSTALLATION OF ANY KIND.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. DO NOT SCALE DRAWING.
4. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
5. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
6. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 175-433.
7. 30" X 24" TRASH RECEPTACLE PORTABLE DESIGN. COATED WITH A 1/8" TO 1/4" THICK PLASTISOL ULTRAVIOLET STABILIZED VINYL COATING FUSED AND BAKED TO A 90% GLOSS.
8. 30" TALL X 24" DIAMETER. 32 GALLON CAN SIZE (NOT INCLUDED).
9. ALL HARDWARE IS NON CORROSIVE.
10. WEIGHT FOR THE TR32PERF IS 75 LBS.

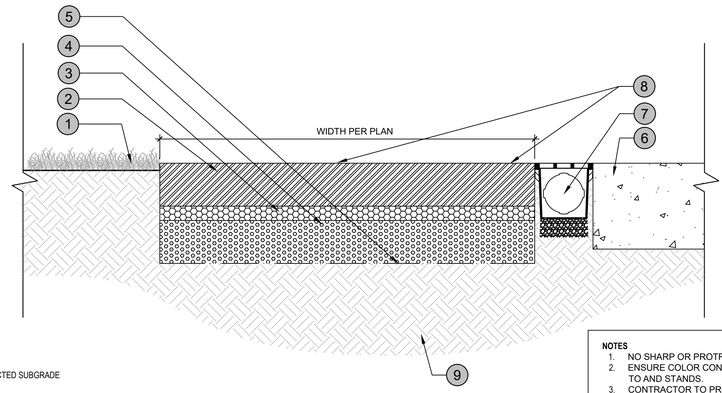


SECTION

1. COMPACT SUBGRADE
2. WARNING TRACK
3. 2" X 4" RECYCLED PLASTIC LUMBER (RPL) PERIMETER NAILER BOARD. ATTACHED TO CURB WITH A 4" EXPANSION ANCHORS EVERY 24" O.C.
4. SYNLAWN ATTACHED TO NAILER WITH 1" SS SCREWS 4" O.C. 2 LBS. PER SQUARE FOOR ENVIROFILL OR TCOOL INFILL
5. SBR CUSHION LAYER OF FALL PAD PER CRITICAL FALL HEIGHT REQUIRMENTS
6. 3" OF 3/4" CRUSHED STONE
7. NON-WOVEN GEOTEXTILE

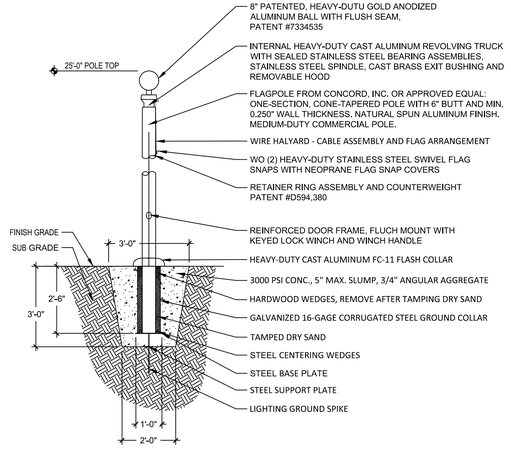
NOTES
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info
6. CLIENT TO CHOOSE TURF COLOR.

B1 ARTIFICIAL TURF (ADD ALTERNATE 01)
1/8" = 1'-0"



1. SOD
2. 3" DURATRAX COMPACTED TO 90%-95%
3. 1" INCH COMPACTED LIMESTONE FINES
4. 3" INCH COMPACTED 2A LIMESTONE
5. GEOTEXTILE FABRIC ON TOP OF COMPACTED SUBGRADE
6. ADJACENT CONCRETE
7. 9" INCH SURFACE TRENCH DRAIN
8. 1% SLOPE MIN. TO TRENCH DRAIN
9. COMPACTED SUBGRADE

NOTES
1. NO SHARP OR PROTRUDING MATERIALS ALLOWED.
2. ENSURE COLOR CONTRAST IS VISIBLE FROM PLAYING FIELD TO AND STANDS.
3. CONTRACTOR TO PROVIDE A 10' X 10' MOCK-UP SECTION OF WARNING TRACK FOR APPROVAL BEFORE FULL INSTALLATION.
4. COORDINATE WARNING TRACK LOCATION AND DIMENSIONS WITH FIELD LAYOUT, FENCE LOCATIONS, AND LIGHTING POLES.
5. SURFACE MUST DRAIN TO ADJACENT DRAINS AT A MINIMUM 1% SLOPE.



NOTES
1. SUBMIT SHOP DRAWINGS TO BURDITT CONSULTANTS FOR APPROVAL PRIOR TO ORDERING. NOT DOING SO MAY RESULT IN REJECTION OF MATERIALS AND REPURCHASING CORRECTLY SPECIFIED MATERIALS. CONTRACTOR ACCEPTS THIS RESPONSIBILITY AND ANY ASSOCIATED COSTS INCURRED.
2. XTREME SERIES - XIRW EXTREME INTERNAL REINFORCED WITH WINCH - WIRE HAYLARD CONCORD AMERICAN FLAGPOLE 25'-0" HT, 6" BUTT DIAMETER, 3.5" TOP DIAMETER, 0.250" WALL, 2'-6" SET DEPTH, 5'X8' STD. FLAG, XIRW25F61 - SAT FALG - FLG - 0508P - US

A4 FLAG POLE AND FOOTER DETAIL
3/8" = 1'-0"

A2 WARNING TRACK
1" = 5'

BURDITT Land | Place
310 Longmire Road
Conroe, TX 77304
Tel: 936.756.3041

Item 8.

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LANDSCAPE ARCHITECT No. 2987, ON 08/26/25
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08/19/2025

CITY OF ANGLETON

FREEDOM PARK BASEBALL FIELD

PROJECT NO. 1514.002

3105 N. DOWNING, ANGLETON, TEXAS 77515

1 INCH
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DRAWER | PDK
CHECKER | CTW

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03	90% CD	08/19/2025

HARDSCAPE DETAILS

L1.22

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BURDITT
Land | Place
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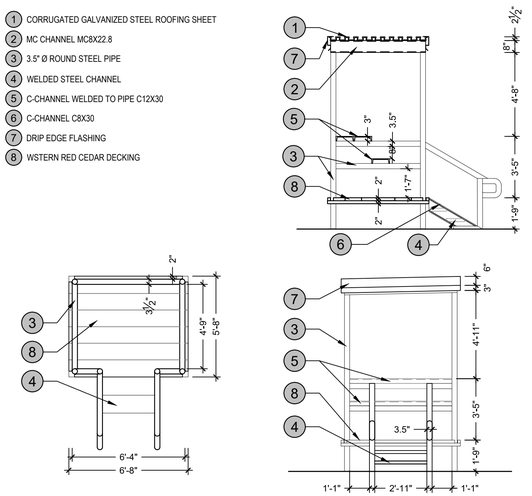
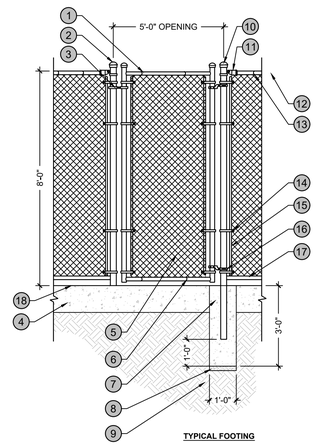
1. CORRUGATED GALVANIZED STEEL ROOFING SHEET
2. MC CHANNEL MC8X22.8
3. 3.5" Ø ROUND STEEL PIPE
4. WELDED STEEL CHANNEL
5. C-CHANNEL WELDED TO PIPE C12X30
6. C-CHANNEL C8X30
7. DRIP EDGE FLASHING
8. WSTERN RED CEDAR DECKING



A2 SCORE TABLE
1/4" = 1'-0"

1. 1-5/8" O.C. GATE PIPE GALVANIZED WELDED FRAME
2. GATE POST 2-1/2" O.D. GALVANIZED PIPE
3. FORK LATCH WITH LOCKING CAPABILITY
4. CONCRETE SLAB PER PLANS
5. VINYL WRAPPED CHAIN LINK (BLACK)
6. 9 GAUGE TIE WIRE TOP AND BOTTOM
7. 3500 PSI STREGTH CONCRETE
8. 2" SAND BED
9. COMPACTED SUBGRADE
10. POST CAP
11. RAIL END
12. TOP RAIL 1-5/8" O.D. BLACK GALVANIZED PIPE
13. 9 GAUGE TIE WIRE 24" O.C.
14. POST BAND 1/4" O.C.
15. DRAW BAR 1/4" X 3/4"
16. GATE HINGE
17. BOTTOM RAIL 1-5/8" PIPE BLACK
18. FINISH GRADE



TYPICAL FOOTING

A1 TYPICAL SWING GATE
3/8" = 1'-0"

MU-AN-HAR-26

1 INCH

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HARDSCAPE DETAILS

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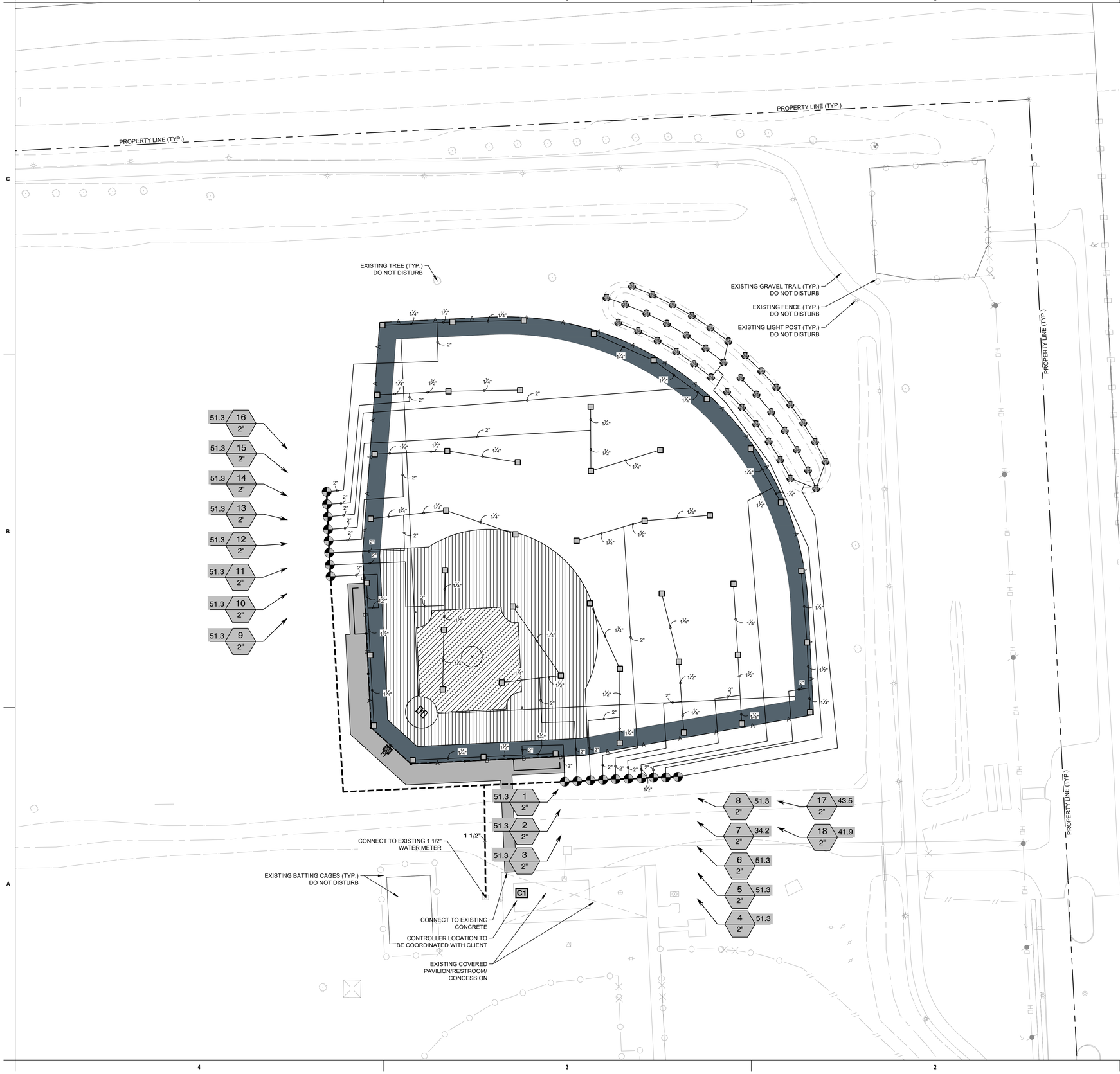

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	PSI	GPM
	RAINBIRD R-VAN24 1800 RV-24	45	
	RAINBIRD R-VAN24 1800 RV-24F	45	3.48
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI	GPM
	Rain Bird 6504-PC, FC-SS (2) 18 Turf Rotor, 4in. Pop-Up, Stainless Steel Riser, Adjustable and Full Circle. With Removable Seal-A-Matic Check Valve, 1in. Female Threaded Inlet.	60	17.1
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION		
	Rain Bird PEB 1in., 1-1/2in., 2in., 3in. Plastic Industrial Remote Control Valve. Low Flow Operating Capability, Globe Configuration.		
C1	Rain Bird ESP4ME3 with (3) ESP-SM6 22 Station, Hybrid Modular Outdoor Controller. For Residential or Light Commercial Use. LNK WiFi Module and Flow Sensor Ready.		
	Irrigation Lateral Line: PVC Class 200 SDR 21		
	Irrigation Mainline: PVC Schedule 40		

Valve Callout
Valve Number
Valve Flow
Valve Size

ZONE SCHEDULE

ZONE	HEAD TYPE	GPM
1	Turf Rotor	51.3
2	Turf Rotor	51.3
3	Turf Rotor	51.3
4	Turf Rotor	51.3
5	Turf Rotor	51.3
6	Turf Rotor	51.3
7	Turf Rotor	34.2
8	Turf Rotor	51.3
9	Turf Rotor	51.3
10	Turf Rotor	51.3
11	Turf Rotor	51.3
12	Turf Rotor	51.3
13	Turf Rotor	51.3
14	Turf Rotor	51.3
15	Turf Rotor	51.3
16	Turf Rotor	51.3
17	Shrub Rotary	43.5
18	Shrub Rotary	41.9

SCALE AND NORTH ARROW

0 40 ft 80 ft

SCALE: 1" = 40' - 0"

N

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Conroe, TX 77304
Tel: 936.756.3041

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08/19/2025

CITY OF ANGLETON

FREEDOM PARK BASEBALL FIELD

PROJECT NO. 1514.002

3105 N. DOWNING, ANGLETON, TEXAS 77515

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IRRIGATION PLAN

L2.01

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IRRIGATION NOTES

1. AN AUTOMATIC IRRIGATION SYSTEM SHALL BE INSTALLED. ALL AUTOMATIC IRRIGATION SYSTEMS SHALL BE EQUIPPED WITH AN ELECTRONIC CONTROLLER CAPABLE OF DUAL OR MULTIPLE PROGRAMMING.
2. CONTROLLER(S) SHALL HAVE MULTIPLE CYCLE START CAPACITY AND A FLEXIBLE CALENDAR PROGRAM, INCLUDING THE CAPABILITY OF BEING SET TO WATER EVERY FIVE DAYS.
3. ALL AUTOMATIC IRRIGATION SYSTEMS SHALL BE EQUIPPED WITH A RAIN AND FREEZE SENSOR SHUT-OFF DEVICE.
4. THE IRRIGATION SYSTEM SHALL BE DESIGNED BY A LICENSED IRRIGATOR.
5. IRRIGATED TURF GRASS AREA IS LIMITED TO 33% OF THE TOTAL LANDSCAPE AREA PROVIDED.
6. TREE IRRIGATION ZONES SHALL NOT SHARE THE SAME IRRIGATION ZONES, INCLUDING VALVES AND CIRCUITS, AS SHRUBS AND PLANT DUE TO DIFFERENT WATERING REQUIREMENTS.
7. A MINIMUM OF ONE (1) BUBBLER SHALL BE PROVIDED FOR ALL NEWLY PLANTED TREES. TREES LARGER THAN THREE INCHES IN CALIPER SIZE SHALL HAVE TWO (2) BUBBLERS. THE BUBBLER(S) SHALL BE INSTALLED AT EACH TREE, LOCATED 12 - 18 INCHES FROM THE TRUNK, AND SHALL OPERATE ON VALVES SEPARATE FROM THE SPRAY ZONES.
8. NO TRENCHING OR BORING SHALL OCCUR WITHIN THE TREE PROTECTION FENCING OR CRZ WITHOUT PRIOR APPROVAL FROM THE CITY ARBORIST OR ADMINISTRATOR.
9. IRRIGATION SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH SUBCHAPTER 11 OF THE UNIFIED DEVELOPMENT CODE AND CHAPTER 113: IRRIGATORS.
10. IRRIGATION PLANS SHALL BE SUBMITTED AND APPROVED PRIOR TO IRRIGATION INSTALLED AND FINAL SITE INSPECTION.
11. THE IRRIGATION CONTRACTOR SHALL TEST EXISTING STATIC WATER PRESSURE ONSITE PRIOR TO CONSTRUCTION. STATIC WATER PRESSURE FOR THE SITE WAS NOT GIVEN AT THE TIME OF THIS DESIGN. THE IRRIGATION SYSTEM FOR THIS SITE IS DESIGNED TO OPERATE WITH THE A PRESSURE WITH SIXTY (60 PSI) POUNDS PER SQUARE INCH. SHOULD DESIGN PRESSURD FOR THE IRRIGATION SYSTEM BE HIGHER THAN THE EXISTING PRESSURE OF THE SITE, THE IRRIGATION CONTRACTOR SHALL NOTIFY THE IRRIGATION DESIGNER.
12. LOCATE ALL UTILITIES AND SITE LIGHTING CONDUITS BEFORE IRRIGATION INSTALLATION BEGINS.
13. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS, WHEN IT IS OBVIOUS THAT FIELD OBSTRUCTIONS, UNKNOWN TO THE DESIGNER, MAY NOT HAVE BEEN CONSIDERED IN THE DESIGN. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY THE IRRIGATION DESIGNER OF THE CONDITIONS, OR ASSUME FULL IRRESPONSIBLE TO NOTIFY THE IRRIGATION DESIGNER OF THE SITE CONDITIONS, OR ASSUME FULL RESPONSIBILITY FOR ANY AND ALL REVISIONS NECESSARY.
14. PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS OF LARGER PIPE SIZES MAY BE APPROVED.
15. THE FOLLOWING RAIN-BIRD IVM-SERIES FIELD DEVICES SHALL BE INSTALLED ON THESE IRRIGATION COMPONENTS. LXIVMSD (SURGE DEVICE) SHALL BE INSTALLED WITH GROUND ROD OR PLATE EVERY 500' OR 15 FIELD DEVICES ALONG THE 2-WIRE PATH.
16. THE CONTRACTOR SHALL BE A REGISTERED LICENSED IRRIGATOR OF GOOD STANDING IN THE STATE OF TEXAS.
17. IRRIGATION CONTRACTOR SHALL PROCURE ALL PERMITS, LICENSES, AND GIVE ALL NECESSARY NOTICES THROUGHOUT THE DURATION OF THE PROJECT.
18. ALL ASPECTS OF THE IRRIGATION INSTALLATION SHALL CONFORM WITH GOVERNING AUTHORITIES, CODES, AND ORDINANCES.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PLANT MATERIAL UPON ACCEPTANCE AND THROUGH THE WARRANTY PERIOD FOR DAMAGE DUE TO IRRIGATION SYSTEM FAILURES.
20. DISTURBED AREAS IN NEED OF TURF ESTABLISHMENT MAY EXIST BEYOND THE COVERAGE LIMITS OF THE PERMANENT IRRIGATION SYSTEM. IN THOSE DISTURBED AREAS, THE CONTRACTOR SHALL DETERMINE THE TEMPORARY MEANS TO GERMINATE/ESTABLISH NECESSARY TURF. THE GENERAL CONTRACTOR IS ENCOURAGED TO BEGIN TURF ESTABLISHMENT IMMEDIATELY UPON FINAL GRADE IN ACCORDANCE WITH AND TO SATISFY THE SWPPP.
21. LOCATION OF MAINLINE AND VALVES ON THIS PLAN MAY BE SHOWN IN THE ROAD FOR CLARITY ONLY. CONTRACTOR IS TO PLACE ALL PIPES AND VALVES BEHIND THE CURB IN LANDSCAPE AREAS WHENEVER POSSIBLE.
22. IRRIGATION CONTRACTOR IS TO COORDINATE LOCATION AND PLACEMENT OF ALL IRRIGATION ITEMS WITH THE GENERAL CONTRACTOR. CONTRACTOR IS TO USE EXTREME CAUTION IN TRENCHING TO AVOID EXISTING AND PROPOSED UTILITIES.
23. PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS OF LARGER PIPE SIZES MAY BE APPROVED.
24. TAPPING AND IMPACT FEES: CONTRACTOR SHALL PAY FOR ALL FEES ASSOCIATED WITH TAPPING INTO MUNICIPAL UTILITY MAINS, INCLUDING SANITARY SEWER, NATURAL GAS AND DOMESTIC WATER. IMPACT FEES WILL BE PAID FOR BY THE OWNER.
25. SYSTEM TO USE **ALL PURPLE COMPONENTS**.

STATEMENT OF COVERAGE NOTE

1. THE IRRIGATION LAYOUT IS INTENDED TO SUPPLY LOW-VOLUME DRIP IRRIGATION TO PLANTED BED AREAS AND NARROW TURF SECTIONS. BUBBLERS WILL BE INSTALLED FOR NEWLY PLANTED TREES, WHILE SPRAY HEADS OR ROTORS WILL IRRIGATE THE REMAINING LAWN AREAS. THIS PLAN DOES NOT INCLUDE IRRIGATION COVERAGE BEYOND WHAT IS SPECIFIED.

COORDINATION WITH EXISTING TREES NOTES

1. MECHANICAL TRENCHING IS NOT ALLOWED WITHIN THE ROOT ZONES OF EXISTING TREES. EXCAVATION IN THESE AREAS MUST BE PERFORMED MANUALLY. ROOTS WITH A DIAMETER GREATER THAN 1 INCH MUST REMAIN UNDISTURBED. MARK ALL PROPOSED TRENCH LOCATIONS NEAR EXISTING TREES AND OBTAIN APPROVAL FROM THE LANDSCAPE ARCHITECT BEFORE STARTING ANY DIGGING.

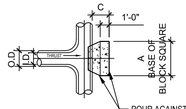
IRRIGATION SLEEVE NOTES

1. PIPING AND CONTROL WIRES SHALL BE INSTALLED IN SEPARATE SLEEVES UNDER PAVING. REFER TO THE IRRIGATION PLANS FOR SLEEVE SIZE AND LOCATION.
2. SLEEVE ELEVATION SHALL BE TWELVE (12") INCHES BELOW TOP OF PAVEMENT.
3. SLEEVES SHALL EXTEND ONE (1') FOOT BEYOND THE EDGE OF PAVEMENT AND BE STAKED FOR LOCATION.
4. ALL SLEEVES SHALL BE SCHEDULE 40 PVC PIPE, CAPPED ON BOTH ENDS, AND SIZED AT LEAST TWO TIMES LARGER THAN THE DIAMETER OF THE PIPE INSIDE THE SLEEVE. SLEEVE LOCATIONS SHALL BE MARKED ONTO THE TOP OF CURB WITH A SAW-CUT OF TWO PARALLEL LINES THAT ARE TWO (2") INCHES LONG AND ONE (1") INCH APART.
5. THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION OF SLEEVES WITH GENERAL CONTRACTOR. THE IRRIGATION CONTRACTOR IS ALSO RESPONSIBLE FOR LOCATIONS ANY SLEEVE WHICH CANNOT BE FOUND DURING INSTALLATION OF IRRIGATION SYSTEM.

B4 IRRIGATION GENERAL NOTES

N.T.S.

NOTE:
1. USE POLYETHYLENE WRAP OR EQUAL BETWEEN CONCRETE AND PLUG TO PREVENT CONCRETE FROM STICKING TO PLUG.



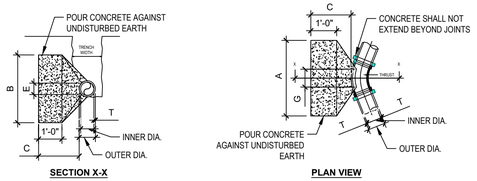
TEE THRUST BLOCK

TEE SCHEDULE				
ID (IN)	THRUST (TONS)	C(FT)	A (FT)	VOLUME (C.Y.)
4,6,8	5.1	1.5	2.5	0.3
10,12	11.3	1.5	3.5	0.6

THRUST BLOCK NOTES:
1. ALL CALCULATIONS ARE BASED ON INTERNAL PRESSURE 200 PSI. FOR 24" AND SMALLER INNER DIAMETER PIPE.
2. ALL BEARING SURFACES OF THRUST BLOCKS SHALL BE PLACED AGAINST UNDISTURBED EARTH OR ROCK.
3. CONCRETE FOR BLOCKING SHALL BE 2000 PSI.
4. DIMENSIONS MAY BE VARIED AS REQUIRED BY FIELD AND AS DIRECTED BY THE ENGINEER. THE VOLUME OF THE CONCRETE BLOCKING SHALL NOT BE LESS THAN SHOWN HERE.
5. WATER MAIN SHALL NOT BE PRESSURIZED UNTIL ALL CONCRETE BLOCKING HAS REACHED 1500 PSI.

HORIZONTAL THRUST BLOCK SCHEDULE							
BEND	SIZE	A (FT.)	B (FT.)	C (FT.)	E (FT.)	G (FT.)	VOLUME
90°	6,8"	5.0	1.5	1.5	0.9	2.7	0.4
	10,12"	8.5	2.5	1.5	1.2	4.0	1.0
45°	6,8"	2.0	2.0	1.5	0.9	1.5	0.2
	10,12"	3.5	2.5	1.5	1.2	2.2	0.5
22.5°	6,8"	1.5	1.5	1.5	0.9	0.8	0.1
	10,12"	2.0	2.5	1.5	1.2	1.1	0.3
11.25°	6,8"	1.0	1.5	1.5	0.9	0.4	0.1
	10,12"	1.5	1.5	1.5	1.2	0.6	0.1

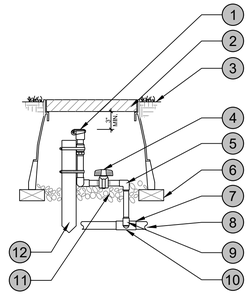
THRUST BLOCK DETAILS



A4 TYPICAL HORIZONTAL THRUST BLOCK

N.T.S.

1. QUICK COUPLING VALVE.
2. PLASTIC VALVE BOX.
3. FINISH GRADE.
4. BALL VALVE (SIZED PER VALVE.)
5. PVC SCH. 40 ELL.
6. BRICK (1 OF 4.)
7. PVC SCH. 80 NIPPL (LENGTH AS REQURED.)
8. PVC MAINLINE PIPE.
9. SCH. 80 NIPPLE & SCH. 40 ELL.
10. PVC SCH. 40 TEE OR ELL.
11. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL.
12. 2"X2" TRD. PINE STAKE W/ STAINLESS STEEL GEAR CLAMPS OR EQUIVALENT SUPPORT SYSTEM.

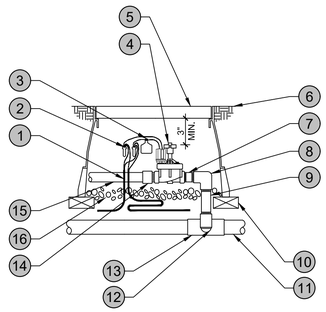


NOTES
1. FURNISH NOMINALLY SIZED BALL VALVE WITHIN SAME BOX & PRIOR TO MAINLINE TEE.
2. FURNISH FITTINGS & PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.

C3 QUICK COUPLER

N.T.S.

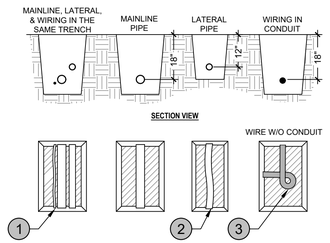
1. 30-INCH LENGTH OF WIRING.
2. WATERPROOF CONNECTION RAINBIRD WC20 (TWO REQUIRED.)
3. ID TAG: RAINBIRD VID SERIES.
4. REMOTE CONTROL VALVE: RAINBIRD PEB
5. PLASTIC VALVE BOX WITH PURPLE LOCKING COVER.
6. FINISH GRADE/ TOP OF MULCH.
7. PVC SCH 80 NIPPLE (CLOSE.)
8. PVC SCH 40 ELL.
9. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED.)
10. BRICK (1 OF 4.)
11. PVC MAINLINE PIPE.
12. SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND SCH 40 ELL.)
13. PVC SCH 40 TEE OR ELL.
14. PVC SCH 40 MALE ADAPTER.
15. PVC LATERAL PIPE.
16. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL.



B3 REMOTE CONTROL VALVE

N.T.S.

1. RUN WIRING BENEATH & BESIDE MAINLINE. TAPE & BUNDLE AT 10-FOOT INTERVALS.
2. ALL SOLVENT WELD PLASTIC PIPING TO BE SNAKED IN TRENCH AS SHOWN.
3. TIE 24-INCH LOOP IN ALL WIRING AT CHANGES OF DIRECTION OF 30 OR GREATER. UNTIE AFTER ALL CONNECTIONS HAVE BEEN MADE.



SECTION VIEW

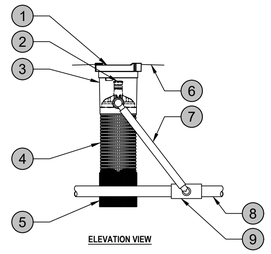
PLAN VIEW

NOTES
1. SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH SCH. 40 PVC TO BE TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.
2. PIPE AND WIRE DEPTHS TO BE A MINIMUM OF 12" DEPTH. SEE SPECIFICATIONS.
3. BACKFILL AND COMPACT TRENCHES TO THEIR ORIGINAL GRADE.

A3 PIPE AND WIRE TRENCHING

N.T.S.

1. 4" (10.2 CM) LOCKING GRATE (INCLUDED)
2. BUBBLER: RAINBIRD 1402 0.5 GPH (1.9 L/M) (INCLUDED)
3. RAINBIRD RWS-M-B-C-1402 (INCLUDES RETAINER, 18") (45.7 CM) TUBE, 0.5 GPM (1.9 L/M) BUBBLER, 4" (10.2 CM) GRATE, 1/2" (1.3 CM) M NPT INLET SPIRAL BARB ELBOW.)
4. 4" (10.2 CM) WIDE X 18" (45.7 CM) LONG RIGID BASKET WEAVE CANISTER (INCLUDED)
5. OPTIONAL SOCK (RWS-SOCK) FOR SANDY SOILS
6. FINISH GRADE/TOP OF MULCH
7. 1/2" (1.3 CM) SWING ASSEMBLY: RAINBIRD SA-125050 OR 1/2" (1.3 CM) SWING PIPE: RAINBIRD SP SERIES WITH 1/2" (1.3 CM) MALE NPT X 0.490" BARB ELBOW: RAINBIRD SBE-050.
8. PVC OR POLYETHYLENE LATERAL PIPE
9. PVC SCH. 40 TEE OR EL

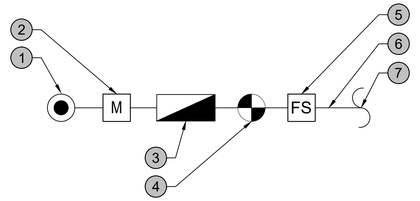


ELEVATION VIEW

NOTES
1. 4" (10.2 CM) GRATE IS BLACK (RWSGRATE)
2. INSTALL PRODUCT SO THAT THE GRATE IS EVEN WITH FINISH GRADE.
3. OPTIONAL SAND SOCK (RWS-SOCK) IS 34" (86.4 CM) IN LENGTH, CUT TO LENGTH NEEDED TO COVER MESH BASKET AREA.
4. WHEN INSTALLING IN EXTREMELY HARD OR CLAY SOILS, ADD 3/4" (1.9 CM) GRAVEL UNDER AND AROUND THE UNIT TO ALLOW FASTER WATER INFILTRATION AND ROOT PENETRATION.
5. ONCE RWS HAS BEEN INSTALLED FILL THE BASKET WITH PEA GRAVEL BEFORE LOCKING LID.
6. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

C2 BUBBLER: ROOT WATERING SYSTEM

N.T.S.



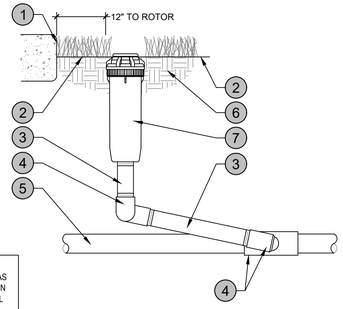
1. POINT OF CONNECTION. VERIFY LOCATION IN FIELD
2. WATER METER AS APPROVED PER CITY REQUIEMENTS.
3. BACKFLOW PREVENTION DEVICE AS APPROVED PER CITY REQUIREMENTS.
4. MASTER VALVE.
5. FLOW SENSOR.
6. IRRIGATION MAINLINE (SEE LEGEND FOR SIZE.)
7. TO VALVES.

NOTES
1. SEE IRRIGATION SCHEDULE FOR FULL DETAILS, SIZING, AND REQUIREMENTS.

B2 POINT OF CONNECTION

N.T.S.

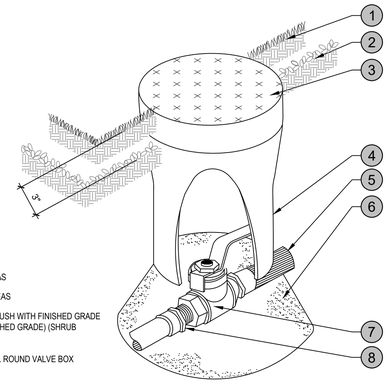
1. EDGE OF PAVEMENT
2. FINISH GRADE.
3. PVC SCH. 80 NIPPLE (LENGTH AS REQUIRED)
4. PVC SCH. 40 STREET ELL
5. PVC LATERAL PIPE
6. SUB-GRADE
7. RAINBIRD ROTOR BODY AND NOZZLE AS INDICATED ON PLAN.



NOTES
1. MAY NOT BE USED IN LANDSCAPE AREAS LESS THAN FORTY-EIGHT INCHES (48") IN LENGTH OR WIDTH (VERIFY WITH LOCAL CITY ORDINANCE.)
2. IN AREAS WITH ELEVATION CHANGES, CONTRACTOR SHALL SPECIFY SEAL-A-MATIC (SAM) ON THE ZONES LOWEST HEADS.

A2 ROTOR POP-UP HEAD

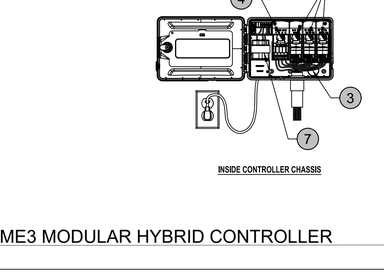
N.T.S.



1. FINISHED GRADE LAWN AREAS
2. FINISHED GRADE SHRUB AREAS
3. TOP OF VALVE BOX TO BE FLUSH WITH FINISHED GRADE (TURF AREAS 3" ABOVE FINISHED GRADE) (SHRUB AREAS)
4. CARSON 910 10" DIA. 18" TALL ROUND VALVE BOX
5. MAINLINE
6. 3/4" WASHED GRAVEL 6" DEEP MINIMUM
7. NIBCO BRASS FULL PORT QUARTER TURN BALL VALVE NO. T-FP-600A-LF
8. SCH. 80 PVC MALE ADAPTER

C1 BALL VALVE

N.T.S.



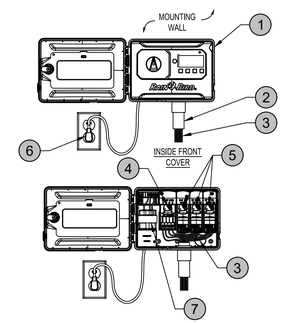
1. 14"X19" RECTANGULAR VALVE BOX WITH PURPLE COVER AND 6" EXTENSIONS AS REQUIRED (TYP.) STAMP VALVE BOX WITH 'FS' AND 'MV' PER SPECIFICATIONS.
2. WATERPROOF WIRE CONNECTORS, ON 18" LOOPED WIRES.
3. PVC MAINLINE FROM BACKFLOW DEVICE.
4. MASTER VALVE: RAINBIRD PESB-R WITH LXIVMSOL
5. AT BOTTOM OF EACH BOX: 1/2" WIRE CLOTH GOPHER SCREEN, WRAP UP SIDES, OVER BRICKS 4 PER BOX.
6. FINISHED GRADE.
7. DIRECT BURIAL CABLE (RE: NOTE BELOW)
8. REDUCER AS REQUIRED
9. FLOW SENSOR: RAINBIRD FS200P WITH LXIVMSEN
10. 3/4-INCH WASHED GRAVEL (TYP.)

NOTES
1. DIRECT BURIAL 1 PAIR, TWISTED SHIELDED CABLE-MINIMUM CONDUCTOR SIZE 20 AWG. DO NOT EXCEED 2,000 FEET IN LAYING DISTANCE FROM FLOW SENSOR TO IRRIGATION CONTROLLER.
2. SIZE FLOW SENSOR BASED ON REQUIRED GPM NEEDED ON PROJECT.
3. MINIMUM DISTANCES BETWEEN ANY FITTING OR VALVE AND FLOW SENSOR ARE NOTED ABOVE.

B1 MASTER VALVE AND FLOW SENSOR

N.T.S.

1. MODULAR HYBRID CONTROLLER : RAIN BIRD ESP-ME3 W/ RAIN FREEZE COMBO WR2-RFC, ATTACH TO ELECTRICAL RACK.
2. 1-INCH PVC SCH. 40 CONDUIT AND FITTINGS.
3. WIRES TO REMOTE CONTROL VALVES.
4. STANDARD MODULE FOR 4-STATION CONTROLLERS.
5. OPTIONAL MODULES FOR 22-STATION CONTROLLER.
6. STANDARD 120 V PLUG, WEATHERPROOF OUTLET.
7. 120 VAC, 60 HZ INTERNAL TRANSFORMER.



INSIDE CONTROLLER CHASSIS

A1 ESP-ME3 MODULAR HYBRID CONTROLLER

N.T.S.

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310 Longmire Road
Conroe, TX 77304
Tel: 936.756.3041

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08/19/2025

CITY OF ANGLETON

FREEDOM PARK BASEBALL FIELD

PROJECT NO. 1514.002

3105 N. DOWNING, ANGLETON, TEXAS 77515

1 INCH

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DRAWER | PDK
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03	90% CD	08/19/2025

IRRIGATION DETAILS

L2.21

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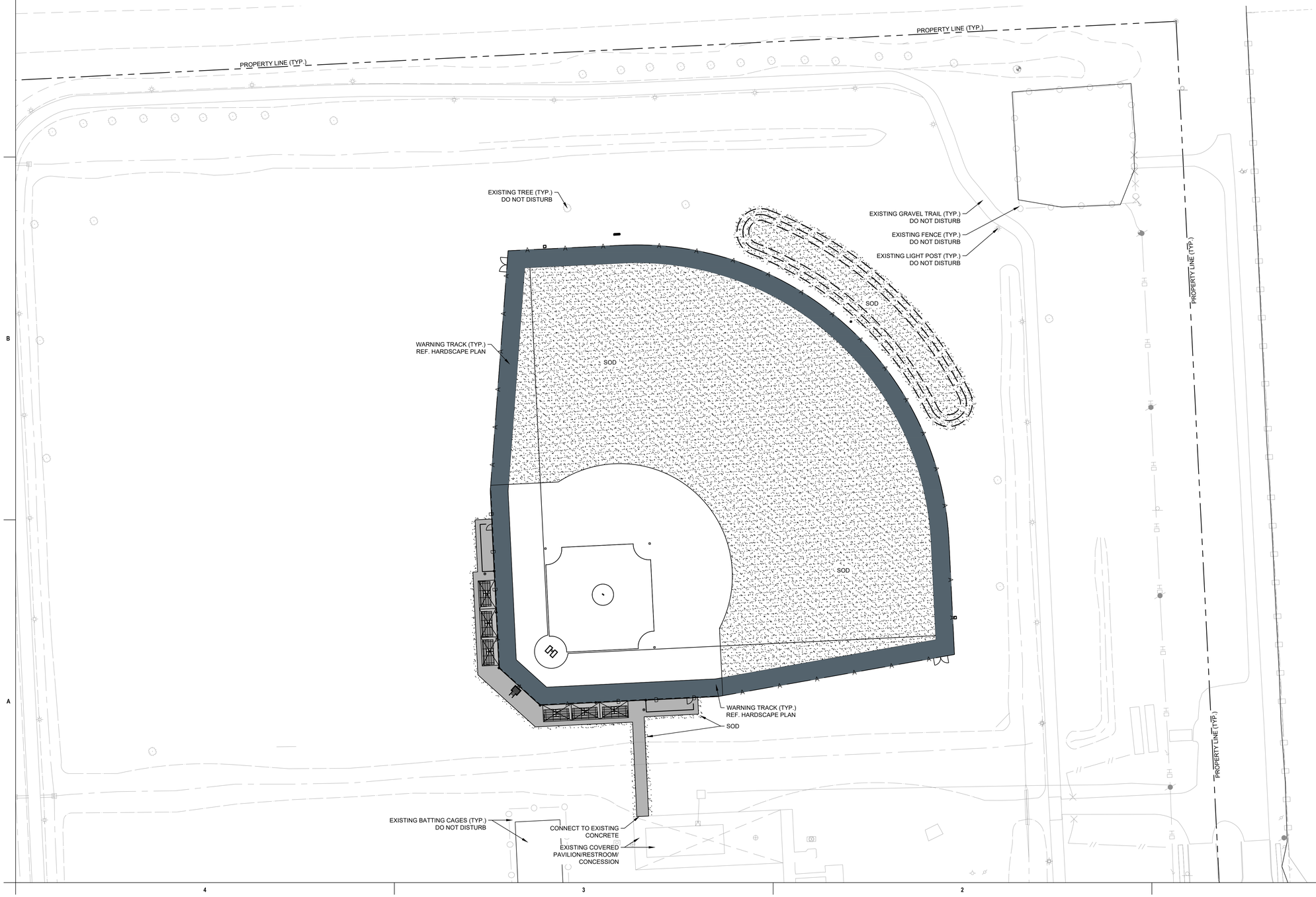
FILE PATH: Q:\SHARED DRIVES\CLIENTS_A-F\ANGLETON\FREEDOM PARK - BASEBALL FIELD\7000 CONSTRUCTION DOCUMENTS\07030 DRAWINGS\IRRI - DETAIL.DWG | LAST SAVE DATE: 8/25/2025 9:38:44 AM | LAST SAVED BY: avalbuena

PLANT_SCHEDULE					
SYMBOL	QTY	DETAIL	COMMON NAME	BOTANICAL NAME	REMARKS
SOD/HYDROSEED					
	122,000 sf	A1/L3.21	(SOD) COMMON BERMUDAGRASS	Cynodon dactylon	CLEANED OF ANY DEBRIS. FULL AND WEED FREE. SOLID SOD MINIMUM 3' WIDE ALONG ALL IMPERVIOUS AREAS UNLESS SPECIFIED ON PLANS.

NOTES:

1. HYDROSEED ALL DISTURBED AREAS WITH BERMUDAGRASS CYNODON DACTYLON.
2. SOLID SOD SHALL BE USED IN SWALES, EARTHEN BERMS OR OTHER AREAS SUBJECT TO EROSION.



SCALE AND NORTH ARROW

0 40 ft 80 ft

SCALE: 1" = 40' - 0"

N

BURDITT
Land | Place
310 Longmire Road
Conroe, TX 77304
Tel: 936.756.3041

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PROJECT NO. 1514.002

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PLANTING PLAN

L3.01

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CITY OF ANGLETON

FREEDOM PARK BASEBALL FIELD

PROJECT NO. 1514.002

3105 N. DOWNING, ANGLETON, TEXAS 77515

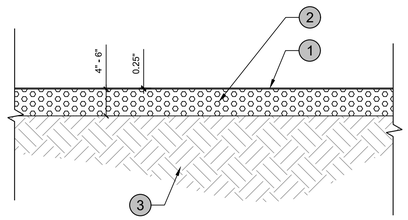
LANDSCAPE NOTES

1. NOTIFY LANDSCAPE ARCHITECT OR DESIGNATED REPRESENTATIVE OF ANY LAYOUT DISCREPANCIES OR ANY CONDITION WHICH MAY PROHIBIT THE INSTALLATION AS SHOWN.
2. VERIFY AND LOCATE ALL UTILITIES AND SITE LIGHTING CONDUITS BEFORE LANDSCAPE CONSTRUCTION BEGINS. PROTECTION OF ALL UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
3. ALL LANDSCAPE PLANTING AREAS: TO OBTAIN FINAL GRADE, EXCAVATION MAY BE NECESSARY TO ACCEPT THE REQUIRED DEPTH OF TOPSOIL/COMPOST MIX WITH SURFACE DRESSING OR MULCH. ALL BEDS SHALL BE CROWNED TO ANTICIPATE SETTLEMENT AND ENSURE DRAINAGE WITHOUT DISRUPTING SURROUNDING PLANNED DRAINAGE PATHS. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE PROJECT SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
4. ALL NEWLY PLANTED LANDSCAPED AREAS WILL BE IRRIGATED WITH AN UNDERGROUND AUTOMATIC SYSTEM.
5. QUANTITIES SHOWN ON THESE PLANS ARE FOR REFERENCE ONLY. PLANT SPACING IS AS INDICATED IN THE PLANT MATERIAL LIST UNLESS OTHERWISE NOTED. THE CONTRACTOR HAS FULL RESPONSIBILITY TO PROVIDE COVERAGE IN ALL PLANTING AREAS AS SPECIFIED.
6. ALL TREES, SHRUBS, AND GROUNDCOVERS SHALL BE INSTALLED PER PLANTING DETAILS.

PLANTING NOTES

7. FOR EROSION CONTROL THROUGHOUT THE PROJECT AND THE MAINTENANCE PERIOD FOR TURFGRASS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE TOPSOIL IN PLACE AT SPECIFIED GRADES. TOPSOIL AND TURFGRASS LOSSES DUE TO EROSION WILL BE REPLACED BY THE CONTRACTOR UNTIL ESTABLISHMENT AND ACCEPTANCE IS ACHIEVED.
8. CONTRACTOR TO HYDROSEED ALL DISTURBED AREAS.
9. FOR SOIL PREPARATION ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION, EXCEPT THOSE OCCUPIED BY BUILDINGS, STRUCTURES, OR PAVING SHALL BE GRADED SMOOTH AND FOUR INCHES (4") OF TOPSOIL APPLIED. IF ADEQUATE TOPSOIL IS NOT AVAILABLE ONSITE, THE CONTRACTOR SHALL PROVIDE TOPSOIL AS APPROVED BY THE OWNER. THE AREA SHALL BE DRESSED TO TYPICAL SECTIONS AND PLOWED TO A DEPTH OF FIVE INCHES (5"). SOIL SHALL BE FURTHER PREPARED BY THE REMOVAL OF DEBRIS, WEEDS AND STONES LARGER THAN 3/4 INCH IN DIAMETER. AFTER TILLAGE AND CLEANING, ALL AREAS TO RECEIVE TURF SHALL BE LEVELED, FINE GRADED, AND DRUG WITH A WEIGHTED SPIKE HARROW OR FLOAT DRAG.
10. TURFGRASS SOD SHALL BE AS PER LANDSCAPE PLAN. SOD SHALL CONSIST OF STOLONS, LEAF BLADES, RHIZOMES AND ROOTS WITH A HEALTHY, VIRILE SYSTEM OF DENSE, THICKLY MATTED ROOTS THROUGHOUT THE SOIL OF THE SOD FOR A THICKNESS NOT LESS THAN THREE-QUARTERS (3/4") INCH. SOD SHALL BE ALIVE, HEALTHY, VIGOROUS, FREE OF INSECTS, DISEASE, STONES, AND UNDESIRABLE FOREIGN MATERIALS AND GRASSES. THE GRASS SHALL HAVE BEEN MOWED PRIOR TO SOD CUTTING SO THAT THE HEIGHT OF GRASS SHALL NOT EXCEED TWO INCHES (2"). SOD SHALL HAVE BEEN PRODUCED ON GROWING BEDS OF CLAY-LOAM TOPSOIL. SOD SHALL NOT BE HARVESTED OR PLANTED WHEN ITS MOISTURE CONDITION IS SO EXCESSIVELY WET OR DRY THAT ITS SURVIVAL WILL BE AFFECTED. ALL SOD IS TO BE HARVESTED, DELIVERED, AND PLANTED WITHIN A THIRTY-SIX (36) HOUR PERIOD OF TIME. SOD SHALL BE PROTECTED FROM EXPOSURE TO WIND, SUN, AND FREEZING. SHOULD INSTALLATION OCCUR BETWEEN NOVEMBER AND MARCH, SOD SHALL INCLUDE AN OVER-SEED OF ANNUAL RYE FOR A GROWN-IN APPEARANCE.
11. IN THE ABSENCE OF AN IRRIGATION SYSTEM OR AREAS BEYOND THE COVERAGE LIMITS OF A PERMANENT IRRIGATION SYSTEM, CONTRACTOR SHALL WATER SOD TEMPORARILY TO DEVELOP ADEQUATE GROWTH AND ESTABLISHMENT BEFORE REGULAR MAINTENANCE BEGINS. TURF SHALL BE WATERED UNTIL FIRMLY ESTABLISHED.
12. WATER SHALL BE FURNISHED BY THE CONTRACTOR WITH MEANS AND METHODS AVAILABLE TO ACHIEVE ACCEPTABLE TURF. THE WATER SOURCE SHALL BE CLEAN AND FREE OF INDUSTRIAL WASTES OR OTHER SUBSTANCES HARMFUL TO THE GROWTH OF THE TURF.
13. VEGETATION SHOULD BE INSPECTED REGULARLY TO ENSURE THAT PLANT MATERIAL IS ESTABLISHED PROPERLY AND REMAINS HEALTHY. MOWING, TRIMMING AND SUPERVISION OF WATER APPLICATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL THE OWNER OR OWNER'S REPRESENTATIVE ACCEPTS AND ASSUMES REGULAR MAINTENANCE.
14. TOPSOIL SALVAGED FROM THE SITE MAY BE USED PROVIDED IT MEETS THE BELOW SPECIFICATIONS AS DESCRIBED.
15. TOPSOIL SHALL BE A CLEANED SANDY LOAM. TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SOILS AND SHALL CONTAIN NO ROOTS, GRAVEL, ROCKS, AND UNDESIRABLE OBJECTS.
16. THE SUBSOIL SHALL BE TILLED TO A MINIMUM DEPTH OF SIX INCHES (6") BEFORE PLACEMENT OF TOPSOIL.
17. MAINTAIN EROSION AND SEDIMENT CONTROL PRACTICES DURING TOPSOILING AND AFTER UNTIL ESTABLISHMENT OF GRASS.
18. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4 INCHES.
19. ANY IRREGULARITIES IN THE SURFACE SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS.
20. TOPSOIL SHALL NOT BE PLACED WHILE TOPSOIL IS IN A FROZEN OR MUDDY CONDITION AND WHILE SUBSOIL IS EXCESSIVELY WET.

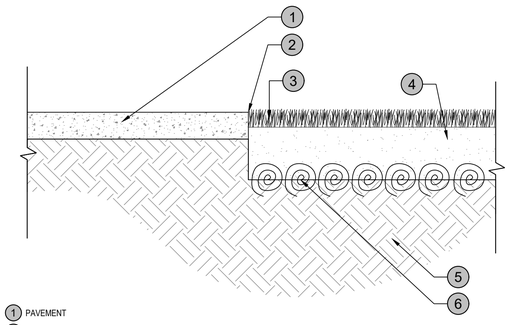
A2 PLANTING GENERAL NOTES



1. HYDROSEED SLURRY LAYER (SEED + MULCH + BINDER)
2. PREPARE TOPSOIL (4" - 6" DEPTH, FINE GRADED AND COMPACTED
3. SUBGRADE

NOTES
1. GRADE SMOOTH, FIRM, AND FREE OF RUTS. ENSURE POSITIVE DRAINAGE.

B1 HYDROSEED DETAIL
1/16" = 1'-0"



1. PAVEMENT
2. TOP OF SOD TO BE FLUSH
3. GRASS SOD
4. TOPSOIL
5. SUBSOIL
6. TILL SUBSOIL TO A DEPTH OF 6"

A1 SOD DETAIL
1/16" = 1'-0"

1 INCH
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CHECKER | CTW

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03	90% CD	08/19/2025

PLANTING DETAILS

L3.21

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1. ACCESSIBLE ROUTE MAY NOT EXCEED 1:20 IN DIRECTION OF TRAVEL NOR EXCEED 1:50 IN CROSS SLOPE.
2. ACCESSIBLE PARKING AND ACCESSIBLE AISLE MAY NOT EXCEED 1:50 IN ANY DIRECTION
3. BASEBALL FIELD GRADE SHALL BE BETWEEN 0.5% AND 1%

4½" CONCRETE SIDEWALK SEE DETAIL SHEET C5.02

PROPOSED CONTOUR

DIRECTION OF GRADE

KEY MAP

SCALE AND NORTH ARROW

0 30' ft 60' ft

SCALE: 1" INCH = 30' FEET

N

SITE PLAN

C 1.01

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Conroe, TX 77304
Tel: 936.756.3041

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TEXAS #90252
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08/19/2025

MPCE, LLC
20333 SH 249, SUITE 200
HOUSTON, TX 77070
F-22744

CITY OF ANGLETON

FREEDOM PARK BASEBALL FIELD

PROJECT NO. 1514.002

3105 N. DOWNING, ANGLETON, TEXAS 77515

1 INCH

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DESIGNER | MAP
DRAWER | MAP
CHECKER | MAP

ISSUANCES & REVISIONS		
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DRAINAGE R.O.W.
VOL. (86)329 PG. 341
D.R.B.C.T.

INLET
RIM: 28.31'
24" HDPE (E) FL: 22.7'
36" HDPE (W) FL: 21.1'

6' CHAIN LINK FENCE

PROPOSED DETENTION POND EXPANSION
SEE SHEET 3.02

A
1.72
2.92

B
2.05
3.47

C
3.28
8.59

INLET
RIM: 28.47'
24" HDPE (E) FL: 23.2'
36" HDPE (W) FL: 21.97'

INLET
RIM: 28.72'
24" HDPE (W) FL: 23.4'

PROPOSED 2-24" RCP

PROPOSED DITCH B MODIFICATION
SEE SHEET 3.01

BATTING CAGES

COVERED CONCESSION
FF EL: 33.10'

4' CHAIN LINK FENCE

STORM M/H
RIM: 29.84'
18" RCP (E) FL: 25.8'

SITE IS LOCATED IN ZONE X, AREA OF MINIMAL FLOOD HAZARD ON FEMA FIRM 48039C0435K EFFECTIVE 12/30/2020

Ditch Cross-sections

Area (sf)	$A := 17.23$
Perimeter (ft)	$P := 34$
Hydraulic Radius (ft/ft)	$R := \frac{A}{P} = 0.507$
Slope (ft/ft)	$S := .003$
Manning's Number	$n := 0.04$
Design Flow Capacity (cfs)	$Q := \left(\frac{1.49}{n}\right) \cdot A \cdot (R)^{\left(\frac{2}{3}\right)} \cdot \sqrt{S} = 22.345$

PROPOSED CONTOUR
DIRECTION OF FLOW
DRAINAGE BOUNDARY
ID
AC
CFS
DRAINAGE AREA
AREA (AC)
RUNOFF (CFS)

KEY MAP

SCALE AND NORTH ARROW

0 40' ft 80' ft

SCALE: 1" INCH = 40' FEET

N

BURDITT Land | Place
310 Longmire Road
Conroe, TX 77304
Tel: 936.756.3041

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MPCE, LLC
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HOUSTON, TX 77070
F-22744

CITY OF ANGLETON

FREEDOM PARK BASEBALL FIELD

PROJECT NO. 1514.002

3105 N. DOWNING, ANGLETON, TEXAS 77515

1 INCH

IF THIS LINE DOES NOT MEASURE ONE INCH THIS DRAWING IS NOT TO SCALE AND SHOULD NOT BE SCALED FOR DIMENSIONAL INFORMATION.

DESIGNER | MAP
DRAWER | MAP
CHECKER | MAP

ISSUANCES & REVISIONS

NO.	DESCRIPTION	DATE
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PROPOSED DRAINAGE PLAN

C 1.02

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Freedom Park
Stormwater Detention Storage Volume Calculations

3105 N. Downing, Angleton Texas
Brazoria County Region 1

Existing Conditions

East Side		IDF Coefficients
Area (ac)	$C1 = 0.20$	i_{100} (in/hr)
C coefficient	$S1 = .0051$	$e = 0.533$
Slope (ft/ft)		
Overland Flow Path (ft)	$C2 = 376$	$b = 46.316$
Channelized Flow Path (ft)	$C3 = 0$	$d = 1.555$

T_o (min) $\quad To1 = 0.828 \cdot (C1 \cdot 0.40)^{0.467} \cdot (S1)^{-0.238} = 29.753$

V (ft/s) $\quad V1 = 6.962 \cdot \sqrt{.0051} = 0.497$

T_a (min) $\quad Ta1 = \frac{C3}{(60 \cdot V)} = 0$

T_c (min) $\quad Tc1 = To1 + Ta1 = 29.753$

$i = \frac{b}{(d + Tc)^e} = 7.388$ Adjustment Factor $Cf = 1.25$

$Aeast$

3.42

$Qeast = Cf \cdot C1 \cdot i \cdot Aeast = 6.317$

Freedom Park
Stormwater Detention Storage Volume Calculations

West Side		IDF Coefficients
Area (ac)	$C0 = 0.20$	i_{100} (in/hr)
C coefficient	$S0 = .0032$	$e = 0.533$
Slope (ft/ft)		
Overland Flow Path (ft)	$C2 = 359$	$b = 46.316$
Channelized Flow Path (ft)	$C3 = 0$	$d = 1.555$

T_o (min) $\quad To0 = 0.828 \cdot (C0 \cdot 0.40)^{0.467} \cdot (S0)^{-0.238} = 32.487$

V (ft/s) $\quad V0 = 6.962 \cdot \sqrt{.0032} = 0.394$

T_a (min) $\quad Ta0 = \frac{C3}{(60 \cdot V)} = 0$

T_c (min) $\quad Tc0 = To + Ta = 32.487$

$i = \frac{b}{(d + Tc)^e} = 7.066$ Adjustment Factor $Cf = 1.25$

$Awest$

3.25

$Qwest = Cf \cdot C \cdot i \cdot Awest = 5.741$

$Qa = Qeast + Qwest = 12.058$

$Aa = Aeast + Awest = 6.67$

Freedom Park
Stormwater Detention Storage Volume Calculations

Existing Hydrograph

Rainfall P (in) $\quad P = 17$

Volume V (cf) $\quad V = \left(\frac{P}{12}\right) \cdot Aa \cdot 43560 \cdot C = 82321.14$

Time to Peak (sec) $\quad Tp = \frac{V}{(1.39 \cdot Qa)} = 4911.544$

$t = 0, 1000 .. 86400$

$$\begin{bmatrix} 0 \\ 1 \cdot 10^3 \\ 2 \cdot 10^3 \\ 3 \cdot 10^3 \\ 4 \cdot 10^3 \\ 5 \cdot 10^3 \\ 6 \cdot 10^3 \\ 7 \cdot 10^3 \\ 8 \cdot 10^3 \\ 9 \cdot 10^3 \\ 1 \cdot 10^4 \\ 1.1 \cdot 10^4 \\ \vdots \end{bmatrix}$$

$f(t) = \left(\frac{Qa \cdot t}{2}\right) \cdot \left[1 - \cos\left(\frac{(t - s)}{Tp}\right)\right]$

$q(t) = 6.34 \cdot Qa \cdot t \cdot \exp\left(-1.30 \cdot \left(\frac{t}{Tp}\right)\right)$

$q(t) = if(t \le 1.25 \cdot Tp, f(t), q(t))$

$V.pre = \int_{s}^{main} q(t)\,dt = 82612.666 \quad ...cf$

Freedom Park
Stormwater Detention Storage Volume Calculations

Proposed Conditions

Area A		
Area (ac)	$Aa = 1.72$	IDF Coefficients
Area Impervious (ac)	$Aparea = 0.03$	i_{100} (in/hr)
C coefficient pavement	$Cparea = 0.90$	$e = 0.533$
Area grass (ac)	$Agrass = Aa - Aparea = 1.69$	$b = 46.316$
C coefficient grass	$Cgrass = 0.20$	$d = 1.555$
C coefficient developed	$Cdev_a = \frac{(Cparea \cdot Agrass + Cparea \cdot Aparea)}{Aa} = 0.212$	
Slope (ft/ft)	$Sa = .001$	
Overland Flow Path (ft)	$Ca = 302$	
Channelized Flow Path (ft)	$Ca = 0$	

T_o (min) $\quad Toa = 0.828 \cdot (Cv \cdot 0.40)^{0.467} \cdot (Sa)^{-0.238} = 39.387$

V (ft/s) $\quad Va = 16.135 \cdot \sqrt{Sa} = 0.51$ $\quad Cf = 1.25$

T_a (min) $\quad Tfa = \frac{Ca}{(60 \cdot V)} = 0$

T_c (min) $\quad Tca = Toa + Tfa = 39.387$

$i = \frac{b}{(d + Tc)^e} = 6.404$ Adjustment Factor

$Qa = Cf \cdot Cdev_a \cdot i \cdot Aa = 2.922$

Freedom Park
Stormwater Detention Storage Volume Calculations

Area B		
Area (ac)	$Ab = 2.05$	IDF Coefficients
Area Impervious (ac)	$Aparea = 0.03$	i_{100} (in/hr)
C coefficient pavement	$Cparea = 0.90$	$e = 0.533$
Area grass (ac)	$Agrass = Ab - Aparea = 2.02$	$b = 46.316$
C coefficient grass	$Cgrass = 0.20$	$d = 1.555$
C coefficient developed	$Cdev_b = \frac{(Cparea \cdot Agrass + Cparea \cdot Aparea)}{Ab} = 0.21$	
Slope (ft/ft)	$Sb = .001$	
Overland Flow Path (ft)	$Cb = 295$	
Channelized Flow Path (ft)	$Cb = 0$	

T_o (min) $\quad Tob = 0.828 \cdot (Cv \cdot 0.40)^{0.467} \cdot (S)^{-0.238} = 38.958$

V (ft/s) $\quad Vb = 16.135 \cdot \sqrt{S} = 0.51$ $\quad Cf = 1.25$

T_a (min) $\quad Tfb = \frac{Cb}{(60 \cdot V)} = 0$

T_c (min) $\quad Tcb = To + Tfb = 38.958$

$i = \frac{b}{(d + Tc)^e} = 6.44$ Adjustment Factor

$Qb = Cf \cdot C \cdot Cdev_b \cdot i \cdot Ab = 3.47$

Freedom Park
Stormwater Detention Storage Volume Calculations

Area C		
Area (ac)	$Ac = 3.28$	IDF Coefficients
Area Impervious (ac)	$Aparea = 0.66$	i_{100} (in/hr)
C coefficient pavement	$Cparea = 0.90$	$e = 0.533$
Area grass (ac)	$Agrass = Ac - Aparea = 2.62$	$b = 46.316$
C coefficient grass	$Cgrass = 0.20$	$d = 1.555$
C coefficient developed	$Cdev_c = \frac{(Cparea \cdot Agrass + Cparea \cdot Aparea)}{Ac} = 0.341$	
Slope (ft/ft)	$Sc = .001$	
Overland Flow Path (ft)	$Cc = 359$	
Channelized Flow Path (ft)	$Cb = 0$	

T_o (min) $\quad Toc = 0.828 \cdot (Cv \cdot 0.40)^{0.467} \cdot (S)^{-0.238} = 42.699$

V (ft/s) $\quad Vc = 16.135 \cdot \sqrt{S} = 0.51$ $\quad Cf = 1.25$

T_a (min) $\quad Tfc = \frac{Cb}{(60 \cdot V)} = 0$

T_c (min) $\quad Tcc = To + Tfb = 42.699$

$i = \frac{b}{(d + Tc)^e} = 6.144$ Adjustment Factor

$Qc = Cf \cdot C \cdot Cdev_c \cdot i \cdot Ac = 8.586$

$Qd = Qa + Qb = Qc = 14.977$

$Adev = Aa + Ab + Ac = 7.05$

$Cdev = \frac{(Cparea \cdot Adev + Cparea \cdot 0.841)}{Adev} = 0.307$

Freedom Park
Stormwater Detention Storage Volume Calculations

Proposed Hydrograph

Rainfall P (in) $\quad P = 17$ 100 Year, 24 Hour, Rainfall

Volume V (cf) $\quad V = \left(\frac{P}{12}\right) \cdot Adev \cdot 43560 \cdot Cdev = 133963.86$

Time to Peak (sec) $\quad Tpdev = \frac{V}{(1.39 \cdot Qd)} = 6420.179$

$t = 0, 1000 .. 86400$

$$\begin{bmatrix} 0 \\ 1 \cdot 10^3 \\ 2 \cdot 10^3 \\ 3 \cdot 10^3 \\ 4 \cdot 10^3 \\ 5 \cdot 10^3 \\ 6 \cdot 10^3 \\ 7 \cdot 10^3 \\ 8 \cdot 10^3 \\ 9 \cdot 10^3 \\ 1 \cdot 10^4 \\ 1.1 \cdot 10^4 \\ \vdots \end{bmatrix}$$

$f(t) = \left(\frac{Qd \cdot t}{2}\right) \cdot \left[1 - \cos\left(\frac{(t - s)}{Tpdev}\right)\right]$

$q(t) = 6.34 \cdot Qd \cdot t \cdot \exp\left(-1.30 \cdot \left(\frac{t}{Tpdev}\right)\right)$

$qd(t) = if(t \le 1.25 \cdot Tpdev, f(t), q(t))$

$Vdev = \int_{s}^{main} qd(t)\,dt = 138138.164 \quad ...cf$

Freedom Park
Stormwater Detention Storage Volume Calculations

$Z(t) = \{qd(t) - q(t)\} \cdot 1$

$v(t) = if(f(t) > 0, f(t), 0)$

$Vstore = \frac{\int_{s}^{main} v(t)\,dt}{43560} = 1.359 \quad ac - ft$

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F-22744

CITY OF ANGLETON

FREEDOM PARK BASEBALL FIELD

PROJECT NO. 1514.002

3105 N. DOWNING, ANGLETON, TEXAS 77515

1 INCH

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DESIGNER | MAP
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CHECKER | MAP

ISSUANCES & REVISIONS

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KEY MAP

SCALE AND NORTH ARROW

DRAINAGE CALCULATIONS

C 1.03

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CALLED 140' WIDE
DRAINAGE R.O.W.
VOL. (86)329 PG. 341
D.R.B.C.T.

INLET
RIM: 28.31'
24" HDPE (E) FL: 22.7'
36" HDPE (W) FL: 21.1'

INLET
RIM: 28.47'
24" HDPE (E) FL: 23.2'
36" HDPE (W) FL: 21.97'

INLET
RIM: 28.72'
24" HDPE (W) FL: 23.4'

6' CHAIN LINK FENCE

BATTING CAGES

COVERED CONCESSION
FF EL: 33.10'

COVERED CONCRETE

4' CHAIN LINK FENCE

STORM M/H
RIM: 29.84'
18" RCP (E) FL: 25.8'

SCF — SEDIMENT CONTROL FENCE

IPB — INLET PROTECTION BARRIER PHASE I

IPB-II — INLET PROTECTION BARRIER PHASE II

RFD-TYPE — ROCK FILTER DAM

CTW — CONCRETE TRUCK WASHOUT

CE-1 — CONSTRUCTION ENTRANCE

TFA — TEMPORARY FUELING AREA

BSA — BARREL STORAGE AREA

KEY MAP

SCALE AND NORTH ARROW

0 40' ft 80' ft

SCALE: 1" INCH = 40' FEET

N

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CITY OF ANGLETON

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PROJECT NO. 1514.002

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STORMWATER POLLUTION PREVENTION PLAN

C1.04

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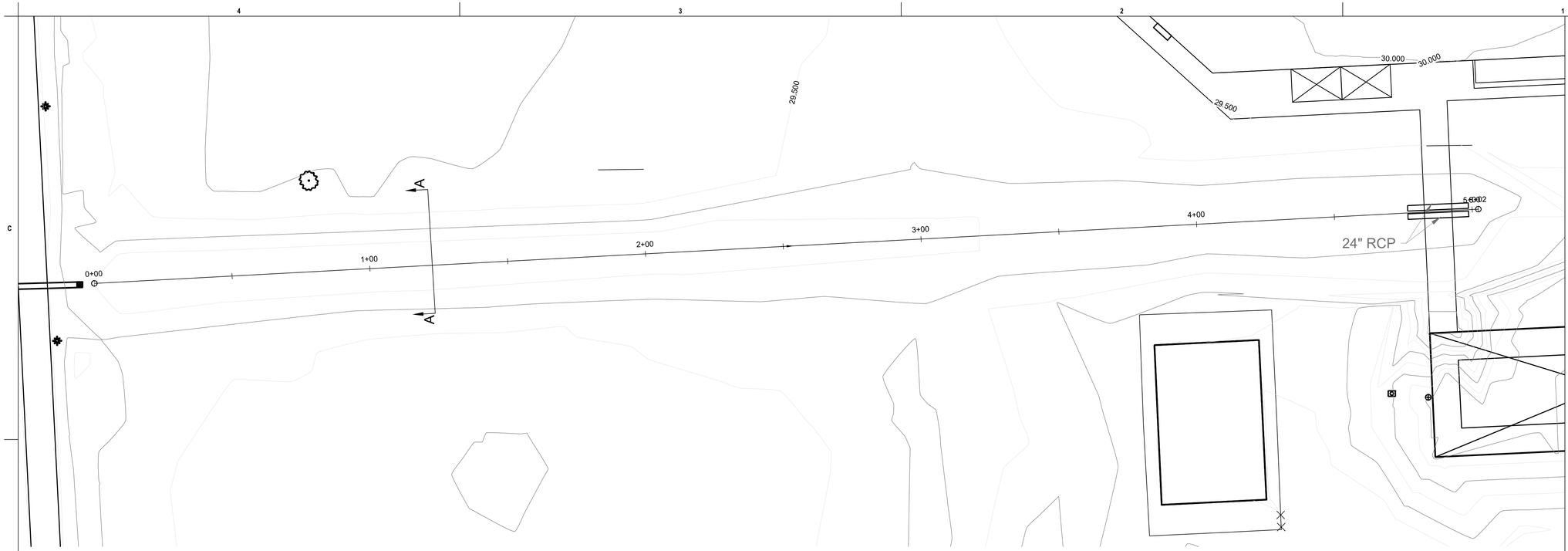
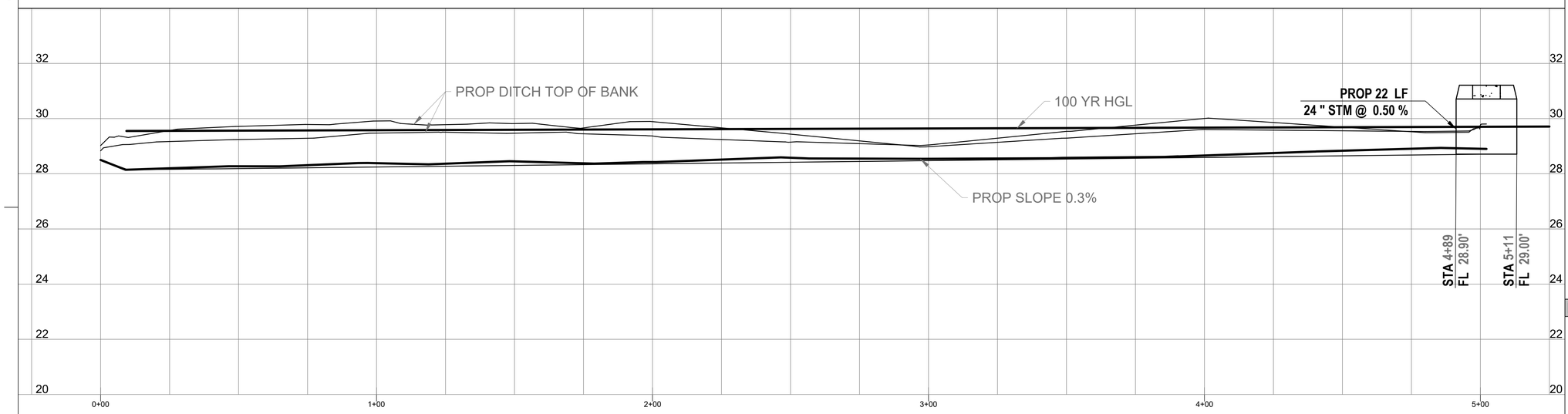
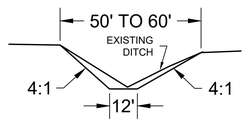


DITCH MODIFICATION
1:20 HORIZONTAL 1:2 VERTICAL





SECTION A-A
DITCH MODIFICATION
N.T.S.

KEY MAP

SCALE AND NORTH ARROW

0 20' 40'
SCALE 1" = 20'-0"
NORTH

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CITY OF ANGLETON

FREEDOM PARK BASEBALL FIELD

PROJECT NO. 1514.002

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1 INCH

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DESIGNER | MAP
DRAWER | MAP
CHECKER | MAP

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DITCH MODIFICATION PROFILE

C2.01

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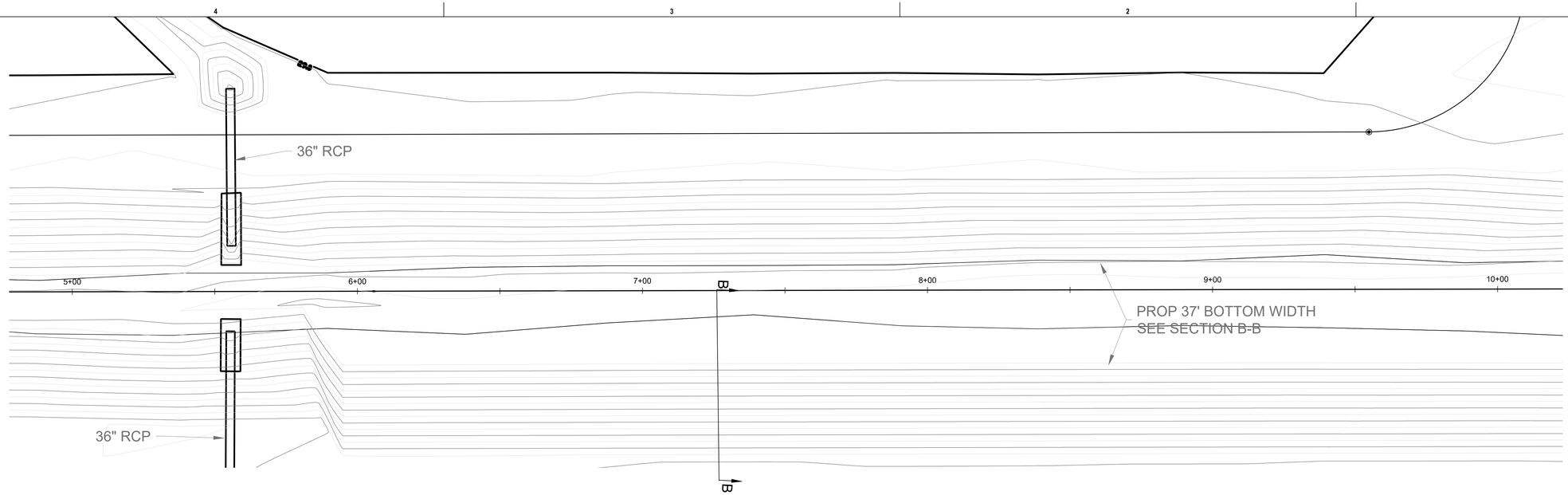

DETENTION POND MODIFICATION
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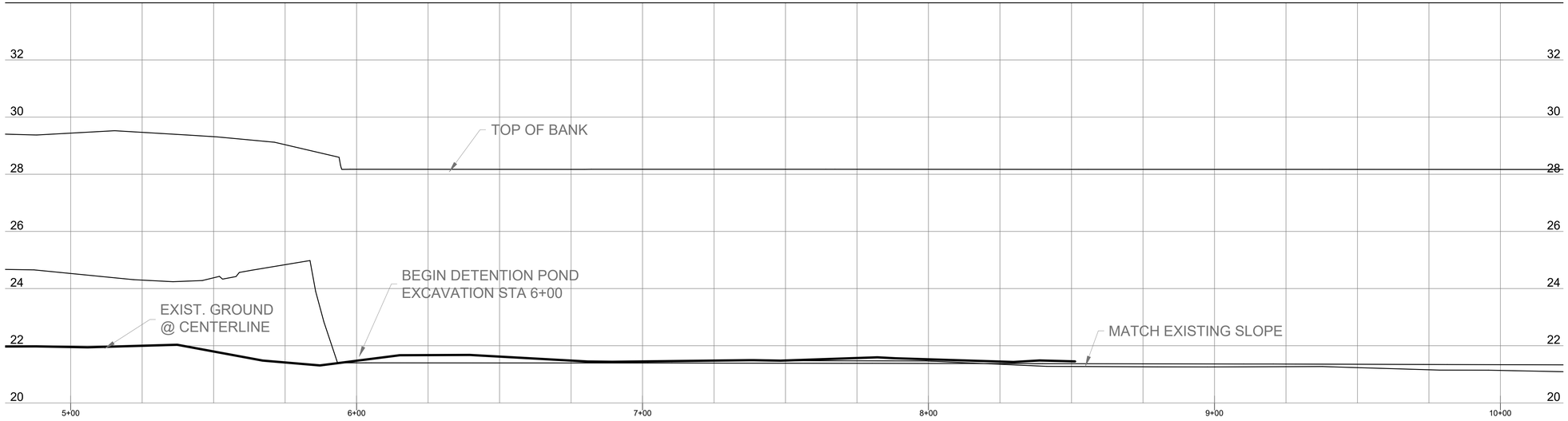

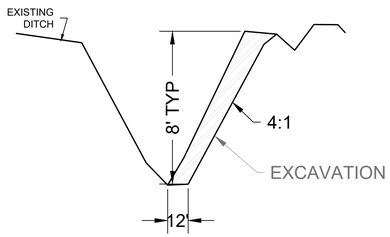

SECTION B-B
DETENTION POND MODIFICATION
N.T.S.

KEY MAP

SCALE AND NORTH ARROW

0 20' 40'
SCALE 1" = 20'-0"
NORTH

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CITY OF ANGLETON

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PROJECT NO. 1514.002

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DESIGNER | MAP
DRAWER | MAP
CHECKER | MAP

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03	90% CD	08/19/2025

DETENTION POND MODIFICATION PROFILE STA 6+00 TO 10+00

C2.02

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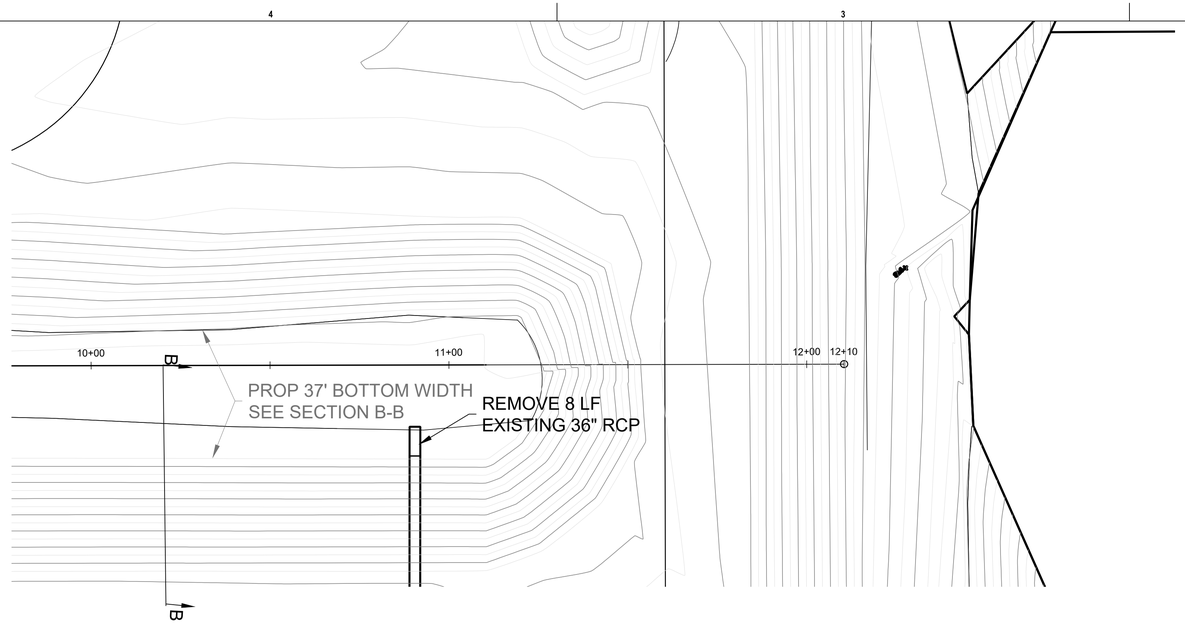

DETENTION POND MODIFICATION
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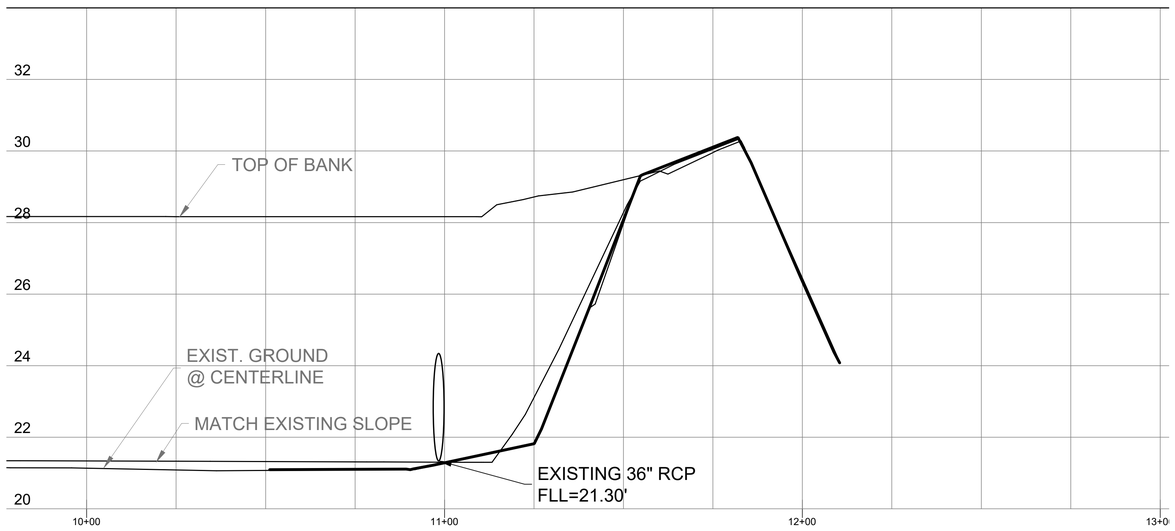

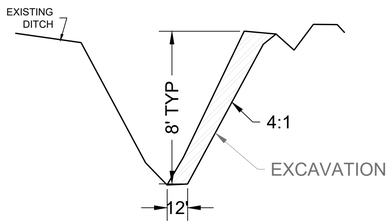

SECTION B-B
DETENTION POND MODIFICATION
N.T.S.

KEY MAP

SCALE AND NORTH ARROW

0 20' 40'
SCALE 1" = 20'-0"
NORTH

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HOUSTON, TX 77070
F-22744

CITY OF ANGLETON

FREEDOM PARK BASEBALL FIELD

PROJECT NO. 1514.002

3105 N. DOWNING, ANGLETON, TEXAS 77515

1 INCH

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DESIGNER | MAP
DRAWER | MAP
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ISSUANCES & REVISIONS

NO.	DESCRIPTION	DATE
01	100% DD	05/09/2025
02	60% CD	06/13/2025
03	90% CD	08/19/2025

DETENTION POND MODIFICATION PROFILE STA 10+00 TO 12+10

C2.03

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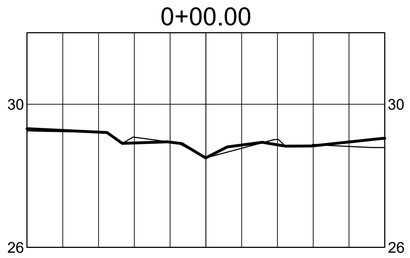

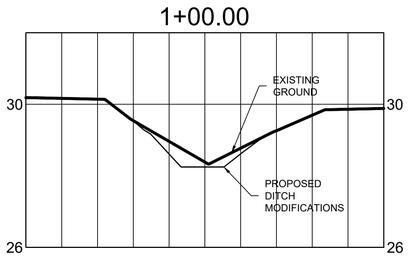

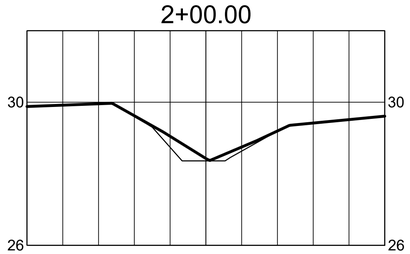

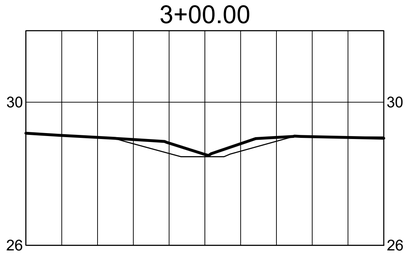

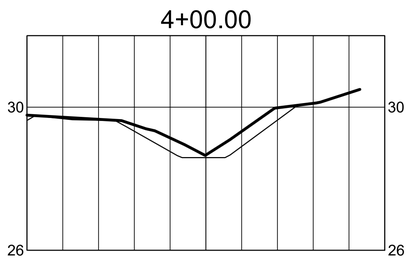

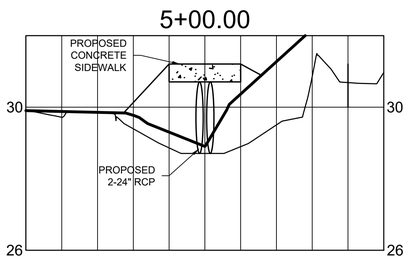

KEY MAP

SCALE AND NORTH ARROW

0 20' 40'

SCALE 1" = 20'-0"

NORTH

BURDITT Land | Place
310 Longmire Road
Conroe, TX 77304
Tel: 936.756.3041

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08/19/2025

MPCE, LLC
20333 SH 249, SUITE 200
HOUSTON, TX 77070
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DITCH MODIFICATION SECTIONS

C3.01

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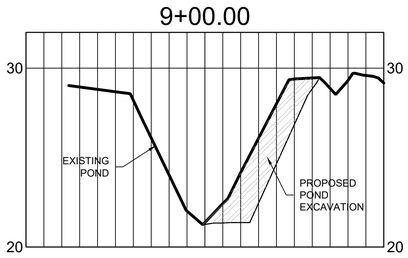

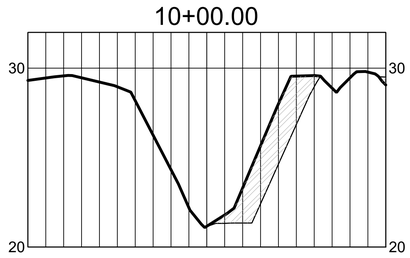

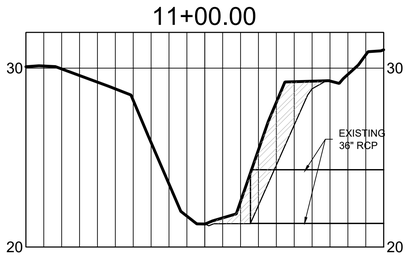

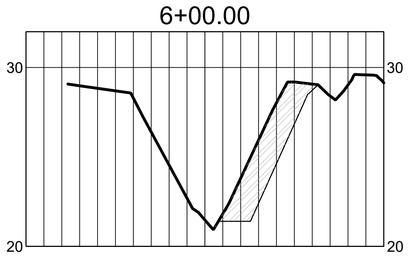

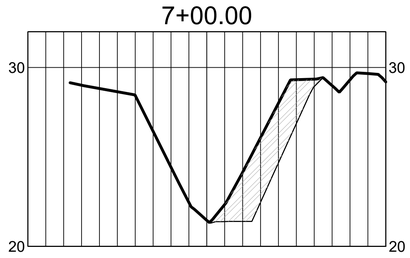

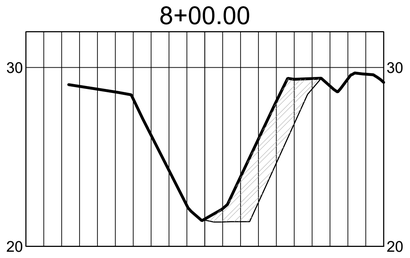

REQUIRED DETENTION VOLUME: 1.26 AC-FT=2031 CY
DETENTION VOLUME PROVIDED: 1.654 AC-FT=2668 CY
SEE SHEET 1.03 FOR CALCULATIONS

Total Volume Table

Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol	Net Vol
0+00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1+00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2+00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3+00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4+00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5+00.00	0.00	0.02	0.00	0.03	0.00	0.03	-0.03
6+00.00	125.42	0.00	232.26	0.03	232.26	0.06	232.20
7+00.00	137.50	0.00	486.89	0.00	719.16	0.06	719.09
8+00.00	135.24	0.00	505.08	0.00	1224.23	0.06	1224.17
9+00.00	141.40	0.00	512.30	0.00	1736.53	0.06	1736.47
10+00.00	124.11	0.93	491.69	1.72	2228.22	1.79	2226.43
11+00.00	113.55	0.00	440.13	1.72	2668.35	3.51	2664.83

BURDITT
Land | Place
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NORTH

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DETENTION POND MODIFICATION SECTIONS

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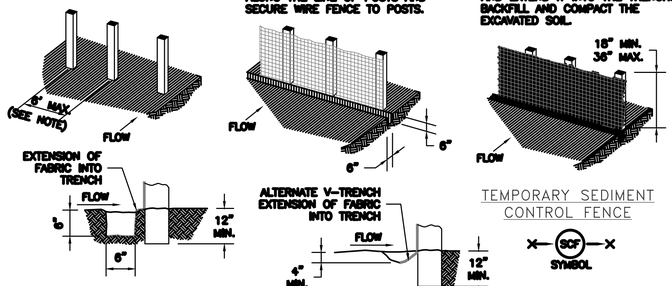
1. SET POSTS AT REQUIRED SPACING
2. EXCAVATE A 6"x6" TRENCH UPSTREAM ALONG THE LINE OF POSTS AND SECURE WIRE FENCE TO POSTS.
3. ATTACH FILTER FABRIC TO POSTS AND EXTEND IT INTO THE TRENCH. BACKFILL AND COMPACT THE EXCAVATED SOIL.

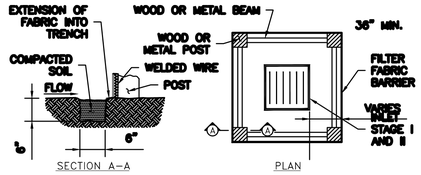


TEMPORARY SEDIMENT CONTROL FENCE

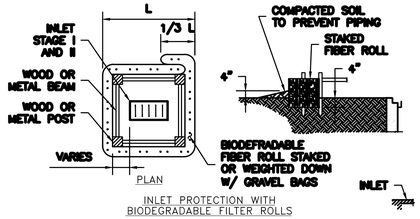
SCF — SYMBOL

GENERAL NOTES:

1. SECURELY FASTEN MESH FENCING TO POSTS WITH STAPLES, TIE WIRES, OR RINGS.
2. SECURELY FASTEN FILTER FABRIC TO MESH FENCING.
3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, OVERLAP 6 INCHES AT A POST, FOLD TOGETHER, AND ATTACH TO A POST.
4. REMOVE SEDIMENT DEPOSITS WHEN SILT REACHES ONE-THIRD OF THE HEIGHT OF THE FENCE IN DEPTH.



INLET PROTECTION WITH SEDIMENT CONTROL FENCE



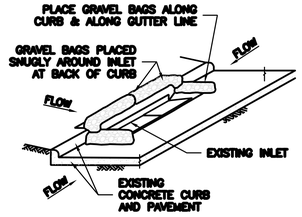
INLET PROTECTION WITH BIODEGRADABLE FILTER ROLLS

GENERAL NOTES:

1. BIODEGRADABLE FIBER ROLLS WILL BE UTILIZED ONLY WHEN SITE CONDITIONS DO NOT PERMIT THE USE OF FILTER FABRIC BARRIER AND AS APPROVED BY THE ENGINEER.

INLET PROTECTION BARRIERS FOR STAGE I INLETS

IPB — SYMBOL

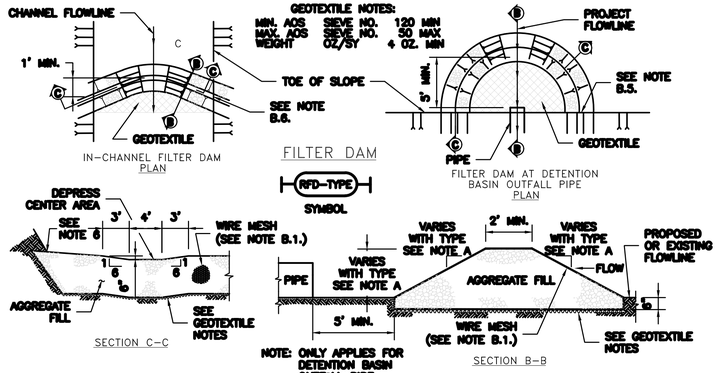


INLET PROTECTION BARRIERS FOR STAGE II INLETS

IPB-II — SYMBOL

GENERAL NOTES:

1. REMOVE SEDIMENT DEPOSIT WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE BARRIER.
2. GRAVEL BAGS SHALL NOT BLOCK THROAT OF INLET UNLESS DIRECTED BY ENGINEER.



FILTER DAM

RFD-TYPE — SYMBOL

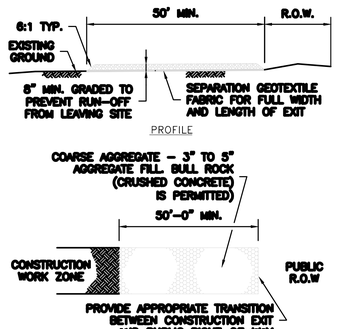
NOTE: ONLY APPLIES FOR DETENTION BASIN OUTFALL PIPE PROTECTION.

A. TYPES OF FILTER DAMS

1. TYPE 1 (NON-REINFORCED)
   a. HEIGHT – 18-24 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
   b. TOP WIDTH – 2 FEET (MINIMUM)
   c. SLOPES – 2:1 (MAXIMUM).
2. TYPE 2 (REINFORCED).
   a. HEIGHT – 18-36 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
   b. TOP WIDTH – 2 FEET (MINIMUM).
   c. SLOPES – 2:1 (MAXIMUM).
3. TYPE 3 (REINFORCED)
   a. HEIGHT – 36-48 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
   b. TOP WIDTH – 2 FEET (MINIMUM).
   c. SLOPES – 3:1 (MAXIMUM).
4. TYPE 4 (GABION)
   a. HEIGHT – 30 INCHES (MINIMUM). MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
   b. TOP WIDTH – 2 FEET (MINIMUM).
5. TYPE 5. AS SHOWN ON THE PLANS.

B. CONSTRUCT FILTER DAMS ACCORDING TO THE FOLLOWING CRITERIA UNLESS SHOWN OTHERWISE ON THE PLANS.

1. TYPE 2 AND 3 FILTER DAMS: SECURE WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1 INCH DIAMETER HEXAGONAL OPENINGS.
2. PLACE AGGREGATE FILL ON THE WIRE MESH TO HEIGHT AND SLOPES SHOWN ON PLANS OR AS SPECIFIED BY THE ENGINEER.
   a. 3-5 INCHES FOR ROCK FILTER DAM TYPES 1, 2 AND 4.
   b. 4-8 INCHES FOR ROCK FILTER DAM TYPE 3.
3. FOLD WIRE MESH AT UPSTREAM SIDE OVER AGGREGATE FILL AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR RINGS.
4. IN STREAMS: SECURE OR STAKE MESH TO STREAM BED PRIOR TO AGGREGATE PLACEMENT.
5. EMBED ONE FOOT MINIMUM INTO SLOPE AND RAISE ONE FOOT HIGHER THAN CENTER OF DEPRESSED AREA AT SLOPE.

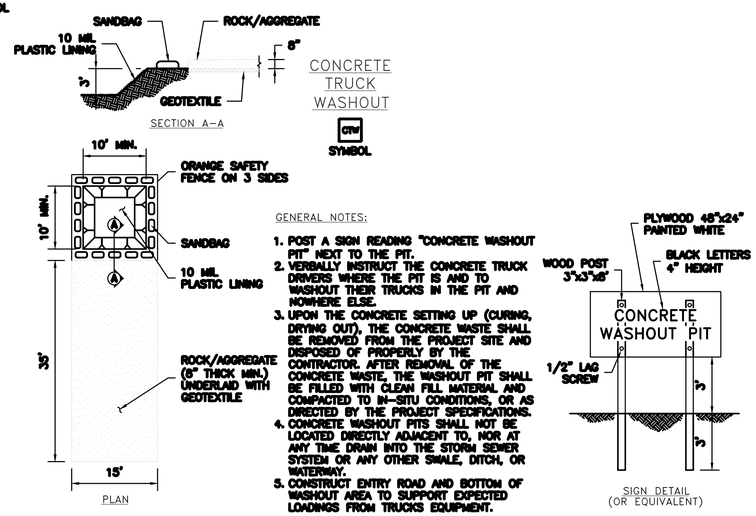


CONSTRUCTION EXIT

GE-1 — SYMBOL

GENERAL NOTES:

1. MINIMUM LENGTH IS AS SHOWN ON CONSTRUCTION DRAWINGS OR 50 FEET, WHICHEVER IS MORE.
2. CONSTRUCT AND MAINTAIN CONSTRUCTION EXIT WITH CONSTANT WIDTH ACROSS ITS LENGTH, INCLUDING ALL POINTS OF INGRESS OR EGRESS.
3. UNLESS SHOWN ON THE CONSTRUCTION DRAWINGS, STABILIZATION FOR OTHER AREAS WILL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE CONSTRUCTION EXIT.
4. WHEN SHOWN ON THE CONSTRUCTION DRAWINGS, WIDEN OR LENGTHEN STABILIZED AREA TO ACCOMMODATE A TRUCK WASHING AREA. PROVIDE OUTLET SEDIMENT TRAP FOR THE TRUCK WASHING AREA.
5. PROVIDE PERIODIC TOP DRESSING WITH ADDITIONAL COARSE AGGREGATE TO MAINTAIN THE REQUIRED DEPTH OR WHEN SURFACE BECOMES PACKED WITH MUD.
6. PERIODICALLY TURN AGGREGATE TO EXPOSE A CLEAN DRIVING SURFACE.
7. MINIMUM 14 FEET WIDTH FOR ONE WAY TRAFFIC AND 20 FEET WIDTH FOR TWO WAY TRAFFIC.

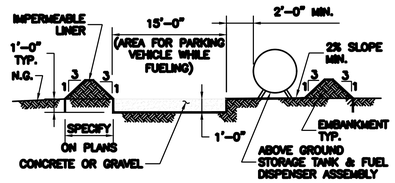


CONCRETE TRUCK WASHOUT

CW — SYMBOL

GENERAL NOTES:

1. POST A SIGN READING "CONCRETE WASHOUT PIT" NEXT TO THE PIT.
2. VERBALLY INSTRUCT THE CONCRETE TRUCK DRIVERS WHERE THE PIT IS AND TO WASHOUT THEIR TRUCKS IN THE PIT AND NOWHERE ELSE.
3. UPON THE CONCRETE SETTING UP (CURING, DRYING OUT), THE CONCRETE WASTE SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF PROPERLY BY THE CONTRACTOR. AFTER REMOVAL OF THE CONCRETE WASTE, THE WASHOUT PIT SHALL BE FILLED WITH CLEAN FILL MATERIAL AND COMPACTED TO IN-SITU CONDITIONS, OR AS DIRECTED BY THE PROJECT SPECIFICATIONS.
4. CONCRETE WASHOUT PITS SHALL NOT BE LOCATED DIRECTLY ADJACENT TO, NOR AT ANY TIME DRAIN INTO THE STORM SEWER SYSTEM OR ANY OTHER SWALE, DITCH, OR WATERWAY.
5. CONSTRUCT ENTRY ROAD AND BOTTOM OF WASHOUT AREA TO SUPPORT EXPECTED LOADINGS FROM TRUCKS EQUIPMENT.

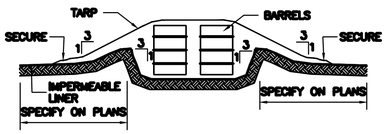


ABOVE GROUND TEMPORARY VEHICLE AND EQUIPMENT FUELING AREA WITH TANK

TFA — SYMBOL

GENERAL NOTES:

1. THE SIZE OF TANK FOUNDATION AREA DEPENDS ON THE SIZE OF ABOVE GROUND STORAGE TANK AND DISPENSER ASSEMBLY.
2. PROVIDE A MINIMUM SLOPE OF 2% TOWARD THE SUMP PIT.
3. INSTALL IMPERMEABLE LINER AS PER MANUFACTURER'S RECOMMENDATIONS.



BARREL STORAGE AREA

BSA — SYMBOL

GENERAL NOTES:

1. ALTERNATIVELY, STORE BARRELS IN AN ENCLOSED BUILDING OR SHED.
2. INSTALL IMPERMEABLE LINER AS PER MANUFACTURER'S RECOMMENDATIONS. 60 mil MINIMUM.
3. CONSTRUCT BERMED AREA WITH VOLUME GREATER THAN OR EQUAL TO 110% VOLUME OF BARRELS.

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STORMWATER POLLUTION PREVENTION PLAN DETAILS

C5.01

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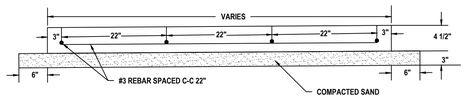
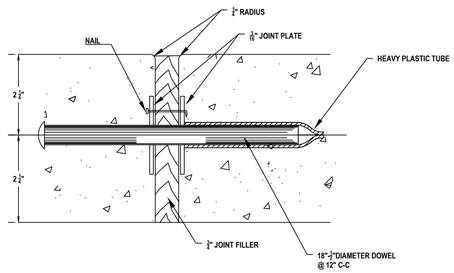


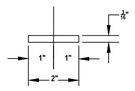
CONCRETE SIDEWALK

1. REINFORCING STEEL SHALL BE fC'=2,500 PSI fr=60,000 PSI
2. 6X6-W2.9XW2.9 WELDED WIRE FABRIC MAY BE USED IN LIEU OF REINFORCING STEEL.
3. EXPANSION JOINTS SPACED AT 40 FEET MAXIMUM OR AS SHOWN ON PLANS.
4. SIDEWALK CROSS SLOPE SHALL BE 1:50 MAXIMUM. SEE GRADING PLAN FOR DIRECTION OF CROSS SLOPE.
5. CONSTRUCT SIDEWALK TO MAINTAIN DRAINAGE AWAY FROM PROPOSED BUILDINGS.

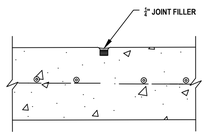
DETAIL PROVIDED FOR REPAIR OF AIRPORT ROAD



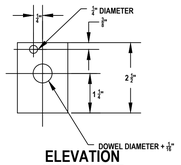
SIDEWALK EXPANSION JOINT



PLAN JOINT PLATE



CONTRACTION JOINT



ELEVATION JOINT PLATE

1. STEEL SHALL MEET ASTM STANDARDS
2. EXPANSION JOINT SHALL BE PLACED AT CURB RADIUS
3. EXPANSION JOINT SHALL BE SPACED A MAXIMUM OF 24 FEET
4. CONTRACTION JOINTS SHALL BE SPACED A MAXIMUM OF 12 FEET
5. DOWEL SHALL BE CENTERED HORIZONTALLY ON THE JOINT
6. DOWEL SHALL BE CENTERED VERTICALLY IN CONCRETE WITH A MINIMUM 2" COVER

BURDITT Land | Place
310 Longmire Road
Conroe, TX 77304
Tel: 936.756.3041

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08/19/2025

MPCE, LLC
20333 SH 249, SUITE 200
HOUSTON, TX 77070
F-22744

CITY OF ANGLETON

FREEDOM PARK BASEBALL FIELD

PROJECT NO. 1514.002

3105 N. DOWNING, ANGLETON, TEXAS 77515

KEY MAP

SCALE AND NORTH ARROW

1 INCH

IF THIS LINE DOES NOT MEASURE ONE INCH THIS DRAWING IS NOT TO SCALE AND SHOULD NOT BE SCALED FOR DIMENSIONAL INFORMATION.

DESIGNER | MAP
DRAWER | MAP
CHECKER | MAP

ISSUANCES & REVISIONS

NO.	DESCRIPTION	DATE
01	100% DD	05/09/2025
02	60% CD	06/13/2025
03	90% CD	08/19/2025

MISCELLANEOUS DETAILS

C5.02

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Item 8.

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ABBREVIATIONS

A

A	AMPERES
ABV	ABOVE
A/C	AIR CONDITIONING
AC	ALTERNATING CURRENT, AIR COMPRESSOR, ABOVE COUNTER
ACC	AIR COOLED CHILLER
ACCU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR
ADA	AMERICANS WITH DISABILITIES ACT
AF	AMPERE FUSE, AMPERE FRAME
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPT CAPACITY
AL	ALUMINUM
AM	AMMETER
AMP	AMPLIFIER
ANN	ANNUNICATOR
AP	ACCESS PANEL, ALARM PANEL
ARCH	ARCHITECT, ARCHITECTURAL
ASC	AMPERES SHORT CIRCUIT
AT	AMPERE TRIP RATING
ATS	AUTOMATIC TRANSFER SWITCH
AVG.	AVERAGE
AUX.	AUXILIARY
AWG.	AMERICAN WIRE GAUGE

B

BAS	BUILDING AUTOMATION SYSTEM
BC	BELOW COUNTER
BKR	BREAKER
BLDG.	BUILDING

C

C	CONDUIT, CELSIUS
CATV	CABLE TELEVISION SYSTEM
CCTV	CLOSED CIRCUIT TELEVISION
CWP	CONDENSER WATER PUMP
CH	CHILLER
CHP	CHILLED WATER PUMP
CIRC	CIRCULATING
CKT	CIRCUIT
CL	CENTERLINE
CLG.	CEILING
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT.	CONTINUOUS,CONTINUATION
CONTR.	CONTROLLER, CONTRACTOR
CP.	CIRCULATING PUMP
CPUC	CPU CHILLER
CR	CARD READER, CORD REEL
CRU	CONDENSATE RETURN UNIT
CT	CURRENT TRANSFORMER, COOLING TOWER
CTR	CENTER
CU	COPPER

D

dB	DECIBEL
DC	DIRECT CURRENT
DDC	DIRECT DIGITAL CONTROL
DTL	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DISC	DISCONNECT
DN	DOWN
DP	DISTRIBUTION PANEL
DPDT	DOUBLE-POLE, DOUBLE-THROW
DPST	DOUBLE-POLE, SINGLE-THROW
DR	DROPPED RECEPTACLE
DS	DAYLIGHT SENSOR
DW	DISHWASHER
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DWP	DOMESTIC WATER PUMP
DZ	DAYLIGHT ZONE

E

(E)	EXISTING
EA	EACH
EC	ELECTRICAL CONTRACTOR
E.C.	EMPTY CONDUIT
EDF	ELECTRIC DRINKING FOUNTAIN
EF	EXHAUST FAN
EFF	EFFICIENCY
EHC	ELECTRIC HEATING COIL
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC.	ELECTRICAL
ELEV.	ELEVATOR
EMCS	ENERGY MANAGEMENT AND CONTROLS SYSTEM
EMERG	EMERGENCY
EMS	ENERGY MANAGEMENT SYSTEM
ENCL.	ENCLOSURE
ENGR.	ENGINEER
EPO	EMERGENCY POWER OFF
EQUIP	EQUIPMENT
(ER)	EXISTING TO REMAIN
EUH	ELECTRIC UNIT HEATER
EWH	ELECTRIC WATER HEATER
EXH	EXHAUST

F

F	FAHRENHEIT, FAN, FIRE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FCU	FAN COIL UNIT
FF	FURNITURE FEED
FIXT	FIXTURE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FLUOR	FLUORESCENT
FP	FIRE PUMP, FAN POWERED
FPTB	FAN POWERED TERMINAL BOX
FRZR	FREEZER
FS	FUSED SWITCH, FLOW SWITCH
FSD	MOTORIZED FIRE SMOKE DAMPER

F

FT	FOOT, FEET
FTL	FEED-THRU LUGS
FUT	FUTURE
FVNR	FULL-VOLTAGE, NON-REVERSING

G

GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GTD	GENERATOR TRANSFER DEVICE
GUH	GAS UNIT HEATER

H

HACR	HEATING, AIR CONDITIONING RATED CIRCUIT BREAKER
HD	ELECTRIC HAND DRYER
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTOMATIC
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HS	HAND SET
HSC	HAND SCANNER
HTG	HEATING
HTR	HEATER
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HVU	HEATING/ VENTILATING UNIT
HWB	HOT WATER BOILER
HWC	HOT WATER CIRCULATOR
HWP	HEATING WATER PUMP
HZ	HERTZ

I

ID	INSIDE DIAMETER
IG	ISOLATED GROUND
IN	INCH
INCAND	INCANDESCENT
INT	INTERNAL, INTERIOR

J

JB	JUNCTION BOX
JP	JOCKEY PUMP

K

KEC	KITCHEN EQUIPMENT CONTRACTOR
KO	KNOCKOUT
kVA	KILOVOLT- AMPS
kW	KILOWATT
kWH	KILOWATT-HOUR

L

LED	LIGHT EMITTING DIODE
LF	LINEAR FEET
LRA	LOCKED ROTOR AMPS
LTG	LIGHTING
LV	LOW VOLTAGE TRANSFORMER
LVL	LEVEL

M

M	METER
MAP	MASTER ALARM PANEL
MATV	MASTER ANTENNA TELEVISION SYSTEM
MAX.	MAXIMUM
MC	METAL CLAD CABLE
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MDP	MAIN DISTRIBUTION PANEL
MECH.	MECHANICAL
MFR	MANUFACTURER
MH	METAL HALIDE
MIC	MICROPHONE
MIN.	MINIMUM
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVER-CURRENT PROTECTION
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
MV	MERCURY VAPOR

N

N3R	NEMA 3R ENCLOSURE
N4X	NEMA 4X ENCLOSURE
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NF	NON-FUSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NFS	NON-FUSED SWITCH
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
N.O.	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE

O

OAF	OUTSIDE AIR FAN
OAHU	OUTSIDE AIR HANDLING UNIT
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHE	OVERHEAD ELECTRICAL
OPG	OPENING

P

P	POLE, PUMP
PB	PUSHBUTTON
PC	PHOTOCELL
PH	PHASE
PL	PILOT LIGHT
PLBG	PLUMBING
PNEU	PNEUMATIC
PNL	PANEL
POS	POINT OF SALE
PP	POWER POLE
PR	PAIR
PRI	PRIMARY
PS	PHOTOSENSOR
PVC	POLYVINYL CHLORIDE
PWR	POWER

Q

QTY	QUANTITY

R

R	EXISTING TO BE REMOVED
RA	RETURN AIR
RAD	REFRIGERATED AIR DRYER
RAF	RETURN AIR FAN
RC	RECONNECT EXISTING DEVICE TO CIRCUIT INDICATED
RCP	REFLECTED CEILING PLAN
RCPT	RECEPTACLE
RE	REFERENCE, REFER
REC	RECEPTACLE
REFR	REFRIGERATOR
REINF	REINFORCING
REL	EXISTING TO BE RELOCATED
REL/EX	NEW LOCATION OF RELOCATED EQUIPMENT
REQD	REQUIRED
REV	REVISION, REVISE
RGS	RIGID GALVANIZED STEEL
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
RR	REMOVE AND REPLACE
RTU	ROOFTOP UNIT

S

SA	SUPPLY AIR
SAF	SUPPLY AIR FAN
SCHED	SCHEDULE
SE	SEWAGE EJECTOR
SEC	SECONDARY
SECT	SECTION
SF	SQUARE FEET
SHT	SHEET
SIM	SIMILAR
SKVA	STARTING KILOVOLT-AMPS
SKW	STARTING KILOWATTS
SP	SUMP PUMP
SPEC	SPECIFICATION
SPF	STAIR PRESSURIZATION FAN
SPKR	SPEAKER
SPD	SURGE PROTECTION DEVICE
SPDT	SINGLE-POLE, DOUBLE-THROW
SPST	SINGLE-POLE, SINGLE-THROW
SQ.	SQUARE
SRF	SMOKE REMOVAL FAN
SS	START-STOP PUSH BUTTON
SSSC	SOLID STATE SPEED CONTROL
ST	SHUNT TRIP
STB	STEAM BOILER
STD	STANDARD
STL	STEEL
SURF	SURFACE
SW	SWITCH
SWBD	SWITCHBOARD

T

TC	TEMPERATURE CONTROL
TEL	TELEPHONE
TF	TRANSFER FAN
TL	TWIST-LOCK
TOC	TOP OF CURB
TOS	TOP OF STEEL
TP	CHILD TAMPER PROOF DEVICE
TSTAT	THERMOSTAT
TTB	TELEPHONE TERMINAL BOARD
TTC	TELEPHONE TERMINAL CABINET
TU	TERMINAL UNIT
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL

U

UG	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES, INC.
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTABLE POWER SYSTEM

V

V	VOLT
VA	VOLT-AMPERE
VAV	VARIABLE AIR VOLUME
VC	VOLUME CONTROL
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VP	VACUUM PUMP
VM	VOLT METER

W

W	WATT, WIRE, WIDTH
WG	WIREGUARD
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
WS	WATER SOFTENER
WT	WATERTIGHT, WEIGHT
WWF	WELDED WIRE FABRIC
W/FT²	WATTS PER SQUARE FOOT

X

XFMR	TRANSFORMER

Z

Z	ZONE

ELECTRICAL SYMBOLS

MOTORS AND CONTROLS

- MOTOR RATED SWITCH WITH THERMAL OVERLOADS
- SINGLE OR THREE PHASE MOTOR NUMBER INDICATES HORSE POWER
- ELECTRIC DUCT HEATER
- DISCONNECT (SAFETY) SWITCH "200/3/150" DENOTES AMPERES/POLE/FUSE. "NF" DENOTES NON-FUSED "N3R" DENOTES NEMA 3R
- ENCLOSED CIRCUIT BREAKER- "200/3/150" DENOTES AMPERES/POLE/TRIP.
- MOTOR STARTER FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26.
- COMBINATION DISCONNECT (SAFETY) SWITCH AND MOTOR STARTER, "30/3/15/#0" DENOTES AMPERES/POLES/FUSE/ STARTER SIZE, "NF" DENOTES NON-FUSED, FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26.
- VFD — VARIABLE FREQUENCY DRIVE PROVIDED BY DIVISION 23 AND INSTALLED BY DIVISION 26.
- EPO — EMERGENCY POWER OFF BUTTON.

RECEPTACLES AND OUTLETS

ALL RECEPTACLES SHALL BE MOUNTED 18" ABOVE FINISHED FLOOR TO CENTER OF DEVICE UNLESS NOTED OTHERWISE.

- SIMPLEX WALL RECEPTACLE, NEMA 5-20R, 20A, 125V.
- DUPLEX WALL RECEPTACLE, NEMA 5-20R, 20A, 125V.
  - "GFCI" DENOTES GROUND FAULT INTERRUPTER,
  - "WP" DENOTES WEATHERPROOF,
  - "IG" DENOTES ISOLATED GROUND,
  - "TP" DENOTES SAFETY TYPE, (TAMPER PROOF)
  - "DR" DENOTES DROPPED RECEPTACLE,
  - "USB" DENOTES RECEPTACLE WITH UNIVERSAL SERIAL BUS,
  - "AC" DENOTES ABOVE COUNTER MOUNTING, SEE
  - "UC" DENOTES UNDER COUNTER MOUNTING, SEE
  - "H" DENOTES HORIZONTALLY ORIENTED RECEPTACLE, SEE ARCHITECTURAL PLANS FOR EXACT MOUNTING HEIGHT.
- DUPLEX WALL RECEPTACLE ON EMERGENCY CIRCUIT, RED COLOR.
- DUPLEX WALL RECEPTACLE ON A CIRCUIT DEDICATED TO DATA PROCESSING, GRAY COLOR. PROVIDE ISOLATED GROUND TYPE RECEPTACLES WHERE NOTED.
- SPLIT WIRED RECEPTACLE. TOP RECEPTACLE SHALL BE SWITCHED ACCORDING TO PLANS, AND BOTTOM SHALL REMAIN UNSWITCHED.
- SP — CONTROLLED DUPLEX WALL RECEPTACLE, NEMA 5-20R, 20A, 125V. "SP" DENOTES SPLIT WIRED
- FOURPLEX (DOUBLE DUPLEX) WALL RECEPTACLE. NEMA 5-20R, 20A, 125V.
- FOURPLEX WALL RECEPTACLE ON EMERGENCY CIRCUIT, RED COLOR.
- CONTROLLED FOURPLEX (DOUBLE DUPLEX) WALL RECEPTACLE. NEMA 5-20R, 20A, 125V.
- SPECIAL RECEPTACLE, NEMA CONFIGURATION AS NOTED.
- TWO-GANG FLOOR OUTLET
- THREE-GANG FLOOR OUTLET
- MULTI-OUTLET SURFACE RACEWAY. SEE ARCHITECTURAL DRAWINGS FOR EXACT MOUNTING HEIGHTS.
- J — JUNCTION BOX
  - "MD" DENOTES MOTOR DAMPER,
  - "CR" DENOTES CORD REEL,
  - "D" DENOTES DROP CORD RECEPTACLE,
- DUPLEX RECEPTACLE WITH HOMERUN
- DUPLEX RECEPTACLE (PEDESTAL MOUNTED)
- TWO-GANG CEILING OUTLET
- FLUSH ELECTRICAL FLOOR OUTLET, "P" DENOTES POKE-THRU. "D" INDICATES DUPLEX RECEPTACLE, "R" INDICATES RED RECEPTACLE ON EMERGENCY POWER. REFER TO FLOOR BOX SCHEDULE, FIRE RATED POKE-THROUGH SCHEDULE AND KEYED NOTES.
- PP — POWER POLE
- DIRECT CONNECTION TO EQUIPMENT
- P — PULL BOX (OVER 4" SQUARE)
- (C)(2) — CLOCK RECEPTACLE SHALL BE MOUNTED 12" BELOW FINISHED CEILING. (2) DENOTES DOUBLE SIDED CLOCK.

LIGHTING

LETTER(S) DENOTE TYPE- SEE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.

- 2' X 4' LIGHTING FIXTURE.
- 2' X 2' LIGHTING FIXTURE.
- 1' X 4' LIGHTING FIXTURE.
- 1' X 2' LIGHTING FIXTURE.
- 1' X 1' LIGHTING FIXTURE.
- STRIP LIGHTING FIXTURES.
- STAGGERED STRIP LIGHTING FIXTURE.
- ROUND DOWNLIGHT FIXTURE.
- SQUARE DOWNLIGHT FIXTURE.
- WALL MOUNTED LIGHTING FIXTURE.
- TRACK LIGHTING FIXTURE. MOUNTED AS SHOWN ON LIGHTING FIXTURE SCHEDULE.
- CEILING MOUNTED EXIT SIGN; ARROWS AS INDICATED. SHADED AREA DENOTES FACE.
- WALL MOUNTED EXIT SIGN; ARROWS AS INDICATED. SHADED AREA DENOTES FACE.
- EMERGENCY WALL MOUNTED LIGHTING FIXTURE. BATTERY OPERATED UNLESS NOTED OTHERWISE.
- SECURITY WALL PACK
- SITE LIGHTING FIXTURE.
- POST-TOP FIXTURE/ACORN FIXTURE BRACKET ARM INDICATES WALL MOUNT WITH ARM
- EMERGENCY LIGHT FIXTURE WITH BATTERY PACK. PROVIDE WITH UNSWITCHED HOT FOR LOSS OF VOLTAGE AND CHARGING (SAME CIRCUIT AS NORMAL POWER LIGHTING). FIXTURES SHALL BE WIRED IN A MANNER AS TO ALLOW SWITCHING OF FIXTURES WITHOUT DISCHARGING THE EMERGENCY BATTERY. BATTERY PACK IS TO ONLY OPERATE IN THE EVENT OF A POWER OUTAGE.
- EM CIRCUIT — LIGHT FIXTURE ON EMERGENCY BRANCH CIRCUIT, CIRCUIT NUMBER ADJACENT TO FIXTURE INDICATES EMERGENCY CIRCUIT CONNECTED TO FIXTURE. PROVIDE UNSWITCHED HOT, NEUTRAL AND GROUND FOR ALL EMERGENCY LIGHTING ORIGINATING FROM THE EMERGENCY CIRCUIT SHOWN.
- NL — EMERGENCY "NIGHT LIGHT" LIGHT FIXTURE. LIGHT FIXTURE IS UNSWITCHED AND INTENDED FOR 24 HOUR OPERATION. FEED VIA UNSWITCHED HOT.

DAYLIGHT ZONE/PRIMARY DAYLIGHT ZONE

SECONDARY DAYLIGHT ZONE

GENERAL NOTES:

A. NOT ALL SYMBOLS SHOWN ON THIS SYMBOL LIST ARE USED IN THE CONTRACT DOCUMENTS.

RACEWAYS AND WIRING

- CAP AND STAKE
- CONDUIT CONCEALED IN WALL OR CEILING
- CONDUIT UNDERSLAB OR UNDERGROUND
- EM — EMERGENCY CONDUIT
- EXPOSED CONDUIT
- DB — UNDERGROUND CONDUIT, "DB" DENOTES DUCTBANK ENCASED IN CONCRETE
- OHE — OVERHEAD ELECTRIC PRIMARY UTILITY POWER LINE
- CONDUIT TURNED UP
- CONDUIT TURNED DOWN
- HASH MARKS INDICATE NUMBER OF CONDUCTORS. LEFT TO RIGHT:PHASE/NEUTRAL/SWITCH LEG/GROUND/ISOLATED GROUND. NO HASH MARKS INDICATES 2# 12, PLUS GROUND, UNLESS NOTED OTHERWISE.
- 1LA-2,4 — HOMERUN TO PANEL WITH CIRCUIT NUMBER(S) AS INDICATED.
- PARTIAL CIRCUIT HOMERUN TO PANEL.
- (ON)1LA-6
- T — COMMUNICATIONS CONDUIT OR CABLE:
  - "CL" DENOTES MASTER CLOCK,
  - "CR" DENOTES CASH REGISTER
  - "D" DENOTES DATA,
  - "FA" DENOTES FIRE ALARM,
  - "I" DENOTES INTERCOM,
  - "OHE" DENOTES OVERHEAD ELECTRICAL LINE.
  - "PA" DENOTES PAGING,
  - "S" DENOTES SECURITY,
  - "T" DENOTES TELEPHONE,
  - "V" DENOTES VIDEO,
- TELECOMMUNICATIONS CABLE TRAY TO BE CONCEALED ABOVE ACCESSABLE CEILING.

ELECTRICAL EQUIPMENT

- DISTRIBUTION PANEL
- MSB — SWITCHBOARD, MAIN DISTRIBUTION PANEL OR MOTOR CONTROL CENTER
- PANELBOARD (FLUSH/SURFACE MOUNT)
- FLOOR MOUNTED DRY-TYPE TRANSFORMER
- SUSPENDED OR WALL MOUNTED TRANSFORMER
- ATS — AUTOMATIC TRANSFER SWITCH
- FIRE RATED PLYWOOD TERMINAL BOARD, TYPE AS NOTED, 4' X 8' X 3/4" UNLESS NOTED OTHERWISE
- TERMINAL CABINET (FLUSH/SURFACE MOUNT), TYPE AS NOTED, 24" X 48" X 3-1/2" UNLESS NOTED OTHERWISE.
- BAT — BATTERY/INVERTER UNIT
- LV — LOW VOLTAGE TRANSFORMER.

COMMUNICATIONS

ALL OUTLET BOXES SHALL BE MOUNTED 18" ABOVE FINISHED FLOOR TO CENTER OF DEVICE UNLESS NOTED OTHERWISE.

THE FOLLOWING NOTATIONS REFER TO ALL COMMUNICATIONS OUTLETS:
"FAX" DENOTES OUTLET DEDICATED FOR A FAX,
"W" DENOTES WALL PHONE SHALL BE MOUNTED AT 42" A.F.F.
"PAY" DENOTES PAY PHONE SHALL BE MOUNTED 42" A.F.F.

- HS — SCHOOL INTERCOMMUNICATION SYSTEM HANDSET.
- TV — TV ROUGH-IN: 3-GANG RECESSED TV BOX, CONTAINING 1 DUPLEX RECEPTACLE, 1 GANG FOR AV, 1 GANG FOR DATA
- INDICATES THE LOCATION OF A NEW TECHNOLOGY WALL OUTLET, PROVIDE DUAL GANG BACK BOX. REFERENCE TECHNOLOGY SHEET FOR CONTENT.
- M(W) — MICROPHONE FLOOR OUTLET, "W" INDICATES WALL MOUNTED, "F" INDICATES FLOOR MOUNTED, "H" INDICATES HANGING MOUNTED
- S(VC) — CEILING MOUNTED SPEAKER. "VC" INDICATES VOLUME CONTROL ON SPEAKER.
- S(L) — WALL MOUNTED SPEAKER. "L" INDICATED LOCAL SOUND REINFORCEMENT
- CB — SCHOOL INTERCOMMUNICATION SYSTEM CALL-IN. PUSH BUTTON
- BELL, BUZZER OR CHIME AT 80+ A.F.F.
- VC — VOLUME CONTROL - WALL MOUNTED
- AUXILIARY INPUT JACK. "W" INDICATES WALL MOUNTED, "F" INDICATES FLOOR MOUNTED, "H" INDICATES HANGING MOUNTED
- AVO — "HIGH" PORTION OF "HIGH/LOW" OUTLETS, REFER TO OUTLET DETAIL.
- AVI — "LOW" PORTION OF "HIGH/LOW" OUTLETS, REFER TO OUTLET DETAIL.
- C(2) LV — LOW VOLTAGE CLOCK SHALL BE MOUNTED 12" BELOW FINISHED CEILING. (2) DENOTES DOUBLE SIDED CLOCK.

REFERENCE TECHNOLOGY/SECURITY SHEET FOR ADDITIONAL INFORMATION.

ONE LINE AND RISER DIAGRAMS

- TRANSFORMER, TYPE AND RATINGS AS NOTED
- 800A/3P — SWITCH, RATING AS SHOWN
- 400A — FUSE, RATING AS SHOWN
- CL — CIRCUIT BREAKER, RATING AS SHOWN, 3 POLE UNLESS NOTED OTHERWISE. "CL" DENOTES CURRENT LIMITING
- DRAWOUT CIRCUIT BREAKER, RATINGS AS SHOWN, 3 POLE UNLESS NOTED OTHERWISE
- ST — SHUNT TRIP
- GFI — GROUND FAULT RELAY
- K — KIRK-KEY INTERLOCK
- M — DIGITAL METER
- A 0-2000 — AMMETER, RANGE AS SHOWN
- AS — AMMETER SWITCH
- V 0-600 — VOLTMETER, RANGE AS SHOWN
- VS — VOLTMETER SWITCH
- WH D-15 — WATT-HOUR METER, "D" DENOTES DEMAND REGISTER "15" DENOTES MINUTES OF DEMAND INTERVAL
- 1200/5 — CURRENT TRANSFORMER, RATED AS SHOWN
- 12.47KV/120V — POTENTIAL TRANSFORMER, RATING AS SHOWN
- GROUND CONNECTION
- LIGHTING ARRESTOR
- G — GENERATOR SET
- AUTOMATIC TRANSFER SWITCH
- BUS DUCT PLUG
- TVSS — TRANSIENT VOLTAGE SURGE SUPPRESSOR
- M — ELECTRICAL METER
- SPD — SURGE PROTECTION DEVICE

MISCELLANEOUS

- F — SHADED SYMBOLS INDICATE EXISTING DEVICES TO REMAIN, UNLESS OTHERWISE NOTED.
- INDICATES WALL-MOUNTED WHEN ATTACHED TO ANY SYMBOL
- 1 — DRAWING NOTE REFERENCE
- 1 — STARTER/DISCONNECT SCHEDULE REFERENCE
- 1 — FEEDER SCHEDULE REFERENCE
- LC — LIGHTING CONTACTOR
- TS — TIME SWITCH
- PC — PHOTOCELL
- PUSH BUTTON/DOOR BELL
- TC — TIMECLOCK
- R — RELAY
- SOS — AREA OF RESCUE ASSISTANCE
- B — BELL

FIRE ALARM

- W — WATER FLOW SWITCH
- SP — SUPERVISORY SWITCH
- S — SMOKE DETECTOR - MULTI CRITERIA DETECTOR
- S/# — SMOKE DETECTOR - "SB" INDICATES IN INTEGRAL SOUNDER BASE, "D" INDICATES DUCT TYPE, "R" INDICATES 120 VOLT RESIDENTIAL TYPE
- H — HEAT DETECTOR
- S BT — BEAM DETECTOR TRANSMITTER, HIGH IN CEILING WALL DIRECT LINE OF SIGHT.
- S BR — BEAM DETECTOR RECEIVER, HIGH IN CEILING WALL DIRECT LINE OF SIGHT.
- S — FIRE ALARM SPEAKER STROBE / CEILING MOUNTED
- S — FIRE ALARM SPEAKER STROBE / WALL MOUNTED
- S — FIRE ALARM SPEAKER / CEILING MOUNT.
- S — FIRE ALARM SPEAKER / WALL MOUNTED
- DH — MAGNETIC DOOR HOLDER
- R — AUXILIARY CONTROL RELAY
- FH — FIRE FIGHTER HANDSET
- F — FIRE ALARM PULL STATION +42" AFF
- F — FIREMAN'S TELEPHONE JACK +42" AFF
- AUDIO VISUAL FIRE ALARM HORN STROBE +80" AFF- 15/75cd U.N.O.
- VISUAL FIRE ALARM (STROBE) CEILING MOUNT - 15/75cd U.N.O.
- VISUAL FIRE ALARM (STROBE) WALL MOUNT +80" AFF- 15/75cd U.N.O.
- AUDIO FIRE ALARM HORN +80" AFF
- FACP — FIRE ALARM CONTROL PANEL
- ANN — REMOTE FIRE ALARM ANNUNCIATOR PANEL
- RPS — REMOTE POWER SUPPLY FOR AUDIO/VISUAL FIRE ALARM DEVICES.
- FSD — FIRE SMOKE DAMPER
- REMOTE LED INDICATOR LIGHT

SECURITY

- KP — KEYPAD
- GB — GLASS BREAK SENSOR
- H — HOLD UP BUTTON
- DS — INTERCOM DOOR STATION
- MS — INTERCOM MASTER STATION
- M — LONG RANGE MOTION DETECTOR
- M — WALL MOUNTED MOTION DETECTOR
- M — CEILING MOUNTED MOTION DETECTOR
- IDP — INTRUSION DETECTION PANEL
- DC — DOOR CONTACT
- PB — ADA AUTO DOOR OPEN BUTTON
- DR — DOOR RELEASE BUTTON
- CR — CARD READER
- CR — WALL MOUNTED CARD READER

REFERENCE TECHNOLOGY/SECURITY SHEET FOR ADDITIONAL INFORMATION.

SWITCHES AND LIGHTING CONTROL DEVICES

ALL SWITCH TYPES AND SENSORS TYPES FOUND ON 'LIGHTING CONTROL DEVICE SCHEDULE' LOCATED ON ELECTRICAL SCHEDULE SHEETS

SWITCH ANNOTATION AS FOLLOWS:

$x,a,b,c — TYPE, PER SCHEDULE; NO TYPE INDICATES SINGLE POLE TOGGLE SWITCH; SWITCH LEGS, PER PLAN, SHOWN HERE AS 3 (a,b,c)

OCCUPANCY SENSOR ANNOTATION, AS FOLLOWS:

OCx — OCCUPANCY / VACANCY SENSOR 'x' INDICATES TYPE, PER SCHEDULE; CEILING SENSOR; WITH BRACKET INDICATES WALL / CORNER MOUNT

LIGHT SENSOR ANNOTATION, AS FOLLOWS:

- PC — DIGITAL PHOTOSENSOR
- DS — DAYLIGHT HARVESTING SENSOR

DRAWING/DETAIL REFERENCE KEY

RE: 1 /E3-2 — REFER TO DRAWING/DETAIL NUMBER; SHEET NUMBER

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CITY OF ANGLETON

FREEDOM PARK BASEBALL FIELD

PROJECT NO.: 1514.002

3105 N. DOWNING, ANGLETON, TEXAS 77515

DESIGNER | Designer
DRAWER | DBR
CHECKER | DBR

NO.	DESCRIPTION	DATE

ELECTRICAL SYMBOL LEGEND

E0.01

GENERAL DEMOLITION SCOPE NOTES:

A. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRESENT ON SITE PRIOR TO BIDDING, AND SHALL BE EXPECTED TO PERFORM DEMOLITION AND INSTALL NEW AS SHOWN ON THE DOCUMENTS, INCLUDING SCOPE THAT MAY NOT FEASIBLY BE INDICATED ON PLAN.

B. CONTRACTOR SHALL VERIFY AND DOCUMENT EXISTING CONDITIONS OF ALL OUTLETS (AS DEFINED BY NEC) THAT ARE INDICATED OR REQUIRED TO BE REMOVED AND REINSTALLED TO FACILITATE THE WORK REQUIRED BY ALL TRADES. WHERE OUTLETS ARE REINSTALLED IN NON-OPERABLE CONDITION, THE CONTRACTOR SHALL REPLACE AT NO COST TO THE OWNER. DOCUMENT OUTLETS IN NON-WORKING CONDITION PRIOR TO REMOVE AND NOTIFY THE OWNER.

C. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL TO ALL REMOVED MATERIALS. CONTRACTOR SHALL COORDINATE WITH OWNER FOR LOCATION TO RETURN ANY AND ALL MATERIAL FOR OWNER STORAGE. FAILURE TO TURN OVER REMOVED MATERIAL TO OWNER MAY REQUIRE CONTRACTOR TO REPLACE EQUIPMENT REMOVED WITH NEW.

D. REMOVE ALL ELECTRICAL DEVICES WITHIN DEMOLISHED WALLS INCLUDING RECEPTACLES, SWITCHES, DATA/TELEPHONE DROPS, FIRE ALARM DEVICES, P/A DEVICES, CONDUIT, AND WIRING. REMOVE CONDUIT AND WIRING BACK TO PANEL OR LAST ACTIVE JUNCTION BOX. REFER TO ARCHITECTURAL DEMO PLAN. THIS SCOPE MAY NOT BE DIRECTLY IMPLIED BY NOTES ON DEMO PLANS AS IT IS ASSUMED THIS SCOPE EXISTS BASED ON ARCHITECTURAL DEMOLITION PLANS.

E. REFERENCE FIRE ALARM GENERAL NOTES FOR ASSOCIATED FIRE ALARM SCOPE OF WORK.

F. ALL ABANDONED CONDUIT AND BOXES FOUND IN CRAWLSPACES, CEILINGS SPACES, CHASES, OR UTILITY SPACES SHALL BE REMOVED. ANY EXISTING CONDUIT THAT IS UNDERGROUND MAY BE ABANDONED.

G. CONTRACTOR SHALL REVIEW DEMO AND NEW WORK PLANS SIMULTANEOUSLY TO IDENTIFY SCOPE THAT IS TO BE MODIFIED FOR REUSE WITH NEW SCOPE.

GENERAL ELECTRICAL SITE PLAN NOTES:

A. ALL EQUIPMENT LOCATIONS ARE APPROXIMATE. COORDINATE WITH ARCHITECT/CIVIL PRIOR TO INSTALLATION FOR EXACT EQUIPMENT LOCATION.

B. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN EXCAVATING TO AVOID DAMAGE TO EXISTING POWER, COMMUNICATIONS, SEWER/SANITARY, WATER AND/OR GAS LINES, THAT MAY BE BURIED IN AREA OF NEW CONSTRUCTION OR WHEN DIGGING NEW TRENCH FOR NEW FEEDERS.

C. COORDINATE ALL WORK WITH ARCHITECTURAL AND CIVIL PLANS BEFORE INSTALLATION OF ALL ELECTRICAL EQUIPMENT GEAR.

D. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL PULL STRINGS TO ALL UNDERGROUND EMPTY CONDUITS.

E. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH DATA/COMM TECHNOLOGY INSTALLER FOR EXACT NUMBER OF EMPTY CONDUITS AND SIZES OF ALL THE UNDERGROUND DATA/COMM CONDUITS.

F. REFERENCE SPECIFICATIONS FOR MATERIALS AND METHODS.

G. WHERE CONDUIT PATH CROSSES UNDER EXISTING PAVEMENT, CONTRACTOR SHALL BORE UNDER PAVEMENT.

H. CONTRACTOR SHALL PROVIDE FLUSH WITH GRADE PULL-BOXES AS REQUIRED EVERY 250' MAXIMUM FOR DIVISION 26 AND 150' FOR DIVISION 27/28. SERVICE LATERAL PULL-BOXES SHALL BE COORDINATED WITH THE POWER COMPANY AND THEIR SPECIFICATIONS.

GENERAL LIGHTING DEMOLITION NOTES

A. ALL FIXTURES REMOVED AND REINSTALL SHALL BE CLEANED PRIOR TO REINSTALLATION.

B. ALL EXISTING SWITCHING ZONES SHALL REMAIN UNCHANGED UNLESS DIRECTED OTHER ON PLANS.

C. ALL LIGHT CIRCUIT SHALL BE DEMOLISHED AS REQUIRED BY THE DEMOLITION SCOPE ON THE DOCUMENTS. REPAIR ANY CIRCUITS THAT ARE PARTIALLY DEMOLISHED AND CONTAIN OUTLETS THAT ARE 'NOT IN SCOPE' OR OUTSIDE OF THE LIMITS OF CONSTRUCTION TO WORKING CONDITION. PROVIDE CONDUIT AND BOXES AS NEEDED.

D. MODIFIED LIGHTING CIRCUITS SHALL NOT EXCEED 80% CIRCUIT LOAD BASED ON CIRCUIT AMPACITY.

E. ALL REMOVED AND REINSTALLED LIGHT FIXTURES MUST BE CLEANED, RELAMPED AS REQUIRED AND TOUCHED UP WITH PAINT. ALL DAMAGED PARTS MUST BE REPLACED. THE FIXTURES SHALL THEN BE REINSTALLED AS REQUIRED. PROVIDE NEW DRIVERS AS REQUIRED.

F. ALL EXISTING INTERCOM/SPEAKERS SHALL BE REMOVED AND REINSTALLED AS REQUIRED TO FACILITATE RENOVATION. SUBJECT TO EXISTING EQUIPMENT OPERATION CONDITION VERIFICATION.

GENERAL POWER DEMOLITION NOTES:

A. GENERAL DEMOLITION NOTES APPLY TO ALL DEMO/REMODELING SCOPE.

B. WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF THE CONDUIT BACK TO THE NEAREST REMAINING BOX OR CABINET. EXPOSED CONDUIT THAT HAS BEEN ABANDONED MUST BE REMOVED.

C. RE-ESTABLISH SERVICE TO ALL OUTLETS THAT MAY BE INTERRUPTED DUE TO REMODELING WORK.

D. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.

E. EXISTING CIRCUITS MODIFIED IN FIELD SHALL NOT EXCEED 80% CAPACITY BASED ON AMP-RATING OF CIRCUIT.

F. DO NOT LEAVE ABANDONED CONDUIT, BOXES, EQUIPMENT, OR ENCLOSURES AFTER DEMOLITION. ALL ABANDONED MATIERAL MUST BE REMOVED.

G. IDENTIFICATION AND LABELING SHALL BE PROVIDED IN ACCORDANCE WITH SPECIFICATIONS AND/OR NEW-WORK GENERAL ELECTRICAL NOTES.

H. CIRCUIT NUMBERS ARE FOR PLAN REFERENCE ONLY. CONTRACTOR SHALL RELABEL ALL CIRCUIT DIRECTORIES WITH LOAD NAMES FOR ALL EXISTING AND NEW PANELS THAT WERE MODIFIED WITHIN THIS PROJECT.

I. EXISTING CIRCUIT BREAKERS VACATED DUE TO REMODELING WORK SHALL REMAIN AS SPARE BREAKERS AND TURNED TO THE 'OFF' POSITION.

J. WHERE INDICATED OR REQUIRED BY OTHER TRADES, CONTRACTOR SHALL REMOVE ALL ELECTRICAL CONNECTIONS TO EXISTING PREWIRED FURNITURE. REMOVE CONDUIT AND WIRING BACK TO LAST ACTIVE JUNCTION. ALL DATA CABLING SHALL BE REMOVED BACK TO LAST ACTIVE JUNCTION AND SALVAGED FOR REINSTALLATION.

GENERAL ELECTRICAL NOTES:

A. ELECTRICAL DEVICES SHOWN ARE NOT EXACT. ALL DEVICE LOCATIONS SHALL BE VERIFIED WITH ARCHITECTURAL MILLWORK, CASEWORK, AND GENERAL ELEVATION VIEWS.

B. ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, OUTLET BOXES, JUNCTION BOXES FOR ALL TECHNOLOGY, LOW VOLTAGE, ACCESS CONTROL SECURITY, SURVEILLANCE, AND OTHER DIVISION 27/28 SCOPE. REFER TO DIVISION 27/28 DRAWINGS AND SPECIFICATIONS FOR ALL WORK REQUIRED. OMISSION OF THIS SCOPE FROM DIV 26 SCOPE OF WORK IS PROHIBITED.

C. HVAC AND PLUMBING EQUIPMENT LOCATIONS ARE NOT EXACT, AND THE EXACT POINT OF CONNECTION TO EQUIPMENT MAY VARY. COORDINATE EXACT ROUGH-IN REQUIREMENTS IN FIELD AND WITH FINAL SUBMITTALS FOR ALL DIV. 21/22/23 EQUIPMENT.

D. PROVIDE LABELING OF ALL DEVICES, CONDUIT, PANELS, AND JUNCTION BOXES IN ACCORDANCE WITH ELECTRICAL SPECIFICATIONS.

E. MINIMIZE ROOF PENETRATIONS. WHERE ABLE, ROUTE ALL CONDUIT FOR ROOF MOUNTED EQUIPMENT THROUGH ROOF CURB. CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING NECESSARY WATER PROOFING AROUND ROOF PENETRATIONS WITH ROOFING INSTALLER.

F. ALL RECEPTACLES LOCATED IN APPARATUS BAY, RESTROOMS, JANITOR CLOSETS, MECHANICAL ROOMS, ELEVATOR PITS OR SHAFTS, ELEVATOR EQUIPMENT ROOMS, SERVING ELECTRIC DRINKING FOUNTAINS OR VENDING MACHINES, LOCATED WITHIN 6' OF A SINK, LOCATED ABOVE A WET COUNTERTOP OR IN A KITCHEN OR COFFEE BAR SHALL BE GFCI. FEED-THRU GFCI/GFI IS PROHIBITED, ALL GFCI/GFI DEVICES SHALL BE PROVIDED WITH INDIVIDUAL TEST/RESET FEATURES.

G. MULTI-WIRE HOME RUNS SHALL NOT BE ALLOWED. PROVIDE DEDICATED NEUTRALS FOR ALL CIRCUITS. SHARING CONDUIT IS PERMISSIBLE WHERE TOTAL CONDUCTOR AMPACITY DERATING HAS BEEN PERFORMED BY ELECTRICAL CONTRACTOR. THE NEUTRAL IS CONSIDERED CURRENT-CARRYING.

H. ALL RECEPTACLES SHALL BE TAMPER RESISTANT TYPE. CONTRACTOR MAY PROVIDE NON-TAMPER-RESISTANT RECEPTACLES WHERE NOT REQUIRED PER CURRENT NEC ARTICLE 406.

I. LABEL ALL CIRCUITS AT ALL JUNCTION BOXES AND OUTLETS (AS DEFINED BY NEC) WITH TYPE-WRITTEN LABEL IDENTIFYING CIRCUIT ON THE BACK OF DEVICE COVER PLATES AND ON COVER OF JUNCTION BOX. IF A BOX HAS MULTIPLE CIRCUITS WITHIN, LABEL ALL CIRCUITS.

J. PROVIDE TIME DELAY RELAY FOR EACH FAN COIL UNIT (FCU) AND AIR COOLED CONDENSING UNIT (ACCU) TO ALLOW THEM TO START UP IN 30 SECOND INTERVALS IN THE EVENT OF A POWER LOSS.

K. ALL VFDS, MOTOR STARTERS, OR DISCONNECT SWITCHES SHALL BE SUPPLIED BY DIVISION 23 AND INSTALLED BY DIVISION 26 UNLESS NOTED OTHERWISE. ELECTRICAL CONNECTIONS SHALL BE PROVIDED BY DIVISION 26. DIVISION 26 SHALL COORDINATE WITH DIVISION 23 PRIOR TO ROUGH-IN.

L. FEED-THRU GFCI/GFI IS PROHIBITED, ALL GFCI/GFI DEVICES SHALL BE PROVIDED WITH INDIVIDUAL TEST/RESET FEATURES.

M. DRAWINGS ARE DIAGRAMMATIC AND NOT INTENDED TO SHOW EVERY CONNECTION IN DETAIL OR THEIR EXACT LOCATION. THE CONTRACTOR SHALL COORDINATE WITH THE VARIOUS TRADES TO AVOID INTERFERENCE BETWEEN DEVICES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE A COMPLETE WORKING SYSTEM WHICH WILL COMPLY WITH ALL APPLICABLE CODES, SPECIFICATIONS, AND AHJ.

N. BRANCH CIRCUITS SHALL NOT BE ROUTED UNDER SLAB EXCEPT AS SHOWN. FEEDERS SERVING SWITCHGEAR, DISTRIBUTION PANELS, LIGHTING CLASS PANELBOARDS AND MECHANICAL EQUIPMENT MAY BE INSTALLED UNDER SLAB. FEEDER TO BE ROUTED UNDER SLAB ARE SHOWN AS DASHED LINES, AND OVERHEAD FEEDERS ARE SHOWN AS SOLID, CONTINUOUS LINES. REFER TO FLOOR PLANS AND ELECTRICAL SYMBOLS LEGEND.

O. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR FOR ALL EXHAUST FAN CONTROLS. PROVIDE A FAN SWITCH IF INDICATED BY MECHANICAL.

P. CONTRACTOR SHALL ARRANGE ELECTRICAL EQUIPMENT TO PROVIDE CLEARANCE PER NEC 110.26.

Q. ALL ELECTRICAL CONDUITS SHALL RUN PERPENDICULAR OR PARALLEL TO THE WALLS, BEAMS, ETC. AND SHALL BE COORDINATED WITH ARCHITECT PRIOR TO ROUTING. ALL CONDUITS SHALL BE PAINTED AS DIRECTED BY ARCHITECT.

R. ALL RECEPTACLES DENOTED AS WEATHERPROOF RECEPTACLES SHALL BE WEATHERPROOF WHILE IN USE RECEPTACLES WITH AN OUTLET BOX HOOD LISTED AS "EXTRA DUTY" PER NEC 2020 406.9(B)(1).

S. CONTRACTOR SHALL INSTALL EQUIPMENT GROUNDING CONDUCTOR IN ALL RACEWAYS. INSTALL GROUNDING BUSHINGS WHERE CONCENTRIC OR ECCENTRIC KNOCKOUTS OR REDUCING BUSHINGS ARE USED. BOND ALL BOXES TO EQUIPMENT GROUNDING CONDUCTOR.

T. NO MORE THAN SIX PHASE CONDUCTORS SHALL BE INSTALLED IN A SINGLE RACEWAY. ANY COMBINATION OF PHASE CONDUCTORS AND GROUNDED (NEUTRAL) CONDUCTORS AND EQUIPMENT GROUND CONDUCTORS IN ANY RACEWAY SHALL NOT EXCEED SEVEN.

U. ALL CONDUCTORS SHALL BE COPPER; ALUMINUM IS NOT ACCEPTABLE.

LIGHTING GENERAL NOTES:

A. LIGHTING CONTROL DEVICES SHALL BE PROVIDED IN ACCORDANCE WITH PERFORMANCE DESCRIPTION INDICATED IN THE LIGHTING CONTROL DEVICE SCHEDULE FOUND ON SCHEDULE SHEETS.

B. MULTIPLE SWITCHES SHOWN TOGETHER SHALL BE GANGED UNDER A COMMON COVER PLATE.

C. PROVIDE LABELING OF ALL CONTROL DEVICES, SWITCH PACKS, LIGHT FIXTURES, JUNCTION BOXES, ETC IN ACCORDANCE WITH ELECTRICAL SPECIFICATIONS.

D. LIGHTING FIXTURE LOCATIONS SHOWN TAKE PRECEDENT IN CEILING LOCATION TO ALL OTHER TRADES. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ENSURING OTHER TRADES DO NOT IMPACT SPACING AND/OR OVERLAYMENT OF OTHER DEVICES WHERE LIGHT FIXTURES MUST BE INSTALLED.

E. REFERENCE SYMBOLS LEGEND FOR LIGHT SWITCH DEVICE NOMENCLATURE AND SWITCH-LEG ASSOCIATIONS.

F. ALL 2X2, 2X4 FIXTURES INSTALLED IN SUSPENDED GRID CEILING SHALL BE PROVIDED WITH (2) SECONDARY SUPPORT WIRES ANCHORED DIRECTLY TO STRUCTURE.

EMER. LIGHTING GENERAL NOTES:

A. PROVIDE ALL EMERGENCY LIGHT FIXTURES WITH UNSWITCHED HOT LEG AS DEFINED IN NEC 700.12

B. ROUTE AN UNSWITCHED HOT LEG TO ALL LIGHT FIXTURES DESIGNATED AS EMERGENCY FIXTURES. HOT LEG SHALL ORIGINATE FROM CIRCUIT SERVING NORMAL LIGHTING FIXTURES IN THAT SPACE. UNSWITCHED HOT LEG SHALL CONNECT TO THE NORMAL POWER SENSING LUG ON THE EMERGENCY BATTERY PACK.

C. PROVIDE UN-SWITCHED CIRCUIT TO ALL EXIT SIGNS. PROVIDE LOCK-ON DEVICE FOR BRANCH CIRCUIT BREAKER PER NEC.

FIRE ALARM GENERAL NOTES:

A. ALL CEILING MOUNTED DEVICES SHALL BE CENTERED IN THE CEILING TILE.

B. ALL FIRE ALARM VISUAL AND AUDIO/VISUAL DEVICES SHALL BE CONFIGURED TO PROVIDE CANDELA RATINGS IN ACCORDANCE WITH ADA & NFPA COVERAGES.

C. ALL WIRING FOR DEVICES IN EXPOSED STRUCTURE AREAS SHALL BE ROUTED WITHIN CONDUIT. NO WIRING SHALL BE ROUTED EXPOSED.

D. CONTRACTOR SHALL PROVIDE CONDUIT PATHWAYS FOR FIRE ALARM PLENUM CONDUCTORS WHERE REQUIRED TO TRANSIT HARD CEILING AREAS. CONDUIT RACEWAYS SHALL ALLOW ACCESS TO CONDUIT AT EACH END IN ACCESSIBLE LOCATIONS ABOVE CEILINGS.

E. CONTRACTOR SHALL PROVIDE ADDITIONAL DEVICES AS REQUIRED BY FIRE ALARM SHOP DRAWINGS TO MEET CODE-MINIMUM DEVICE COVERAGE.

L. ALERTING SYSTEM SHALL BE PROVIDED BY OWNER.

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CITY OF ANGLETON

FREEDOM PARK BASEBALL FIELD

PROJECT NO. | 1514.002

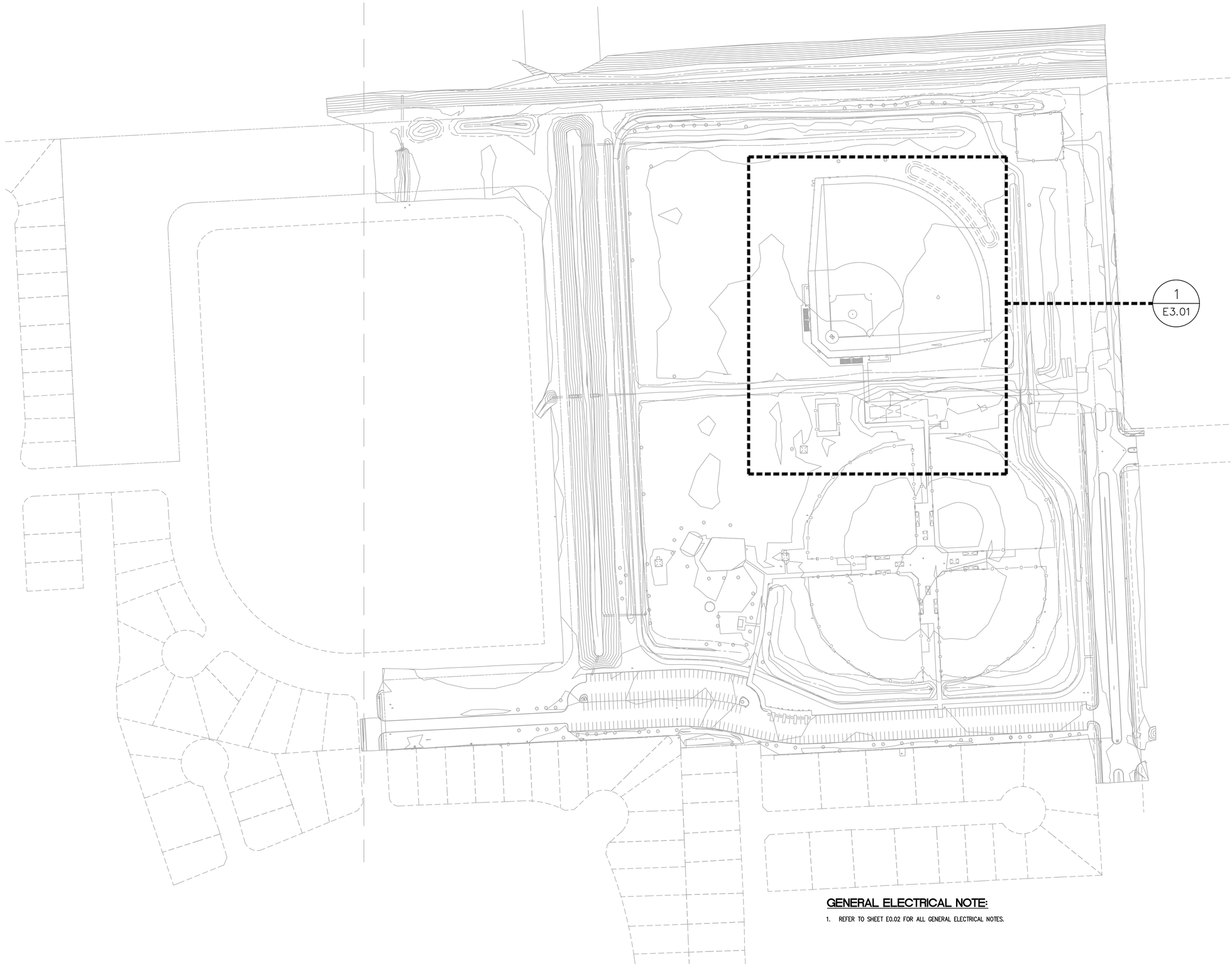
3105 N. DOWNING, ANGLETON, TEXAS 77515

DESIGNER | Designer
DRAWER | DBR
CHECKER | DBR

NO.	DESCRIPTION	DATE

GENERAL ELECTRICAL NOTES

E0.02



GENERAL ELECTRICAL NOTE:

1. REFER TO SHEET E0.02 FOR ALL GENERAL ELECTRICAL NOTES.

1 E1.01 **ELECTRICAL SITE PLAN**
1/8" = 1'-0"

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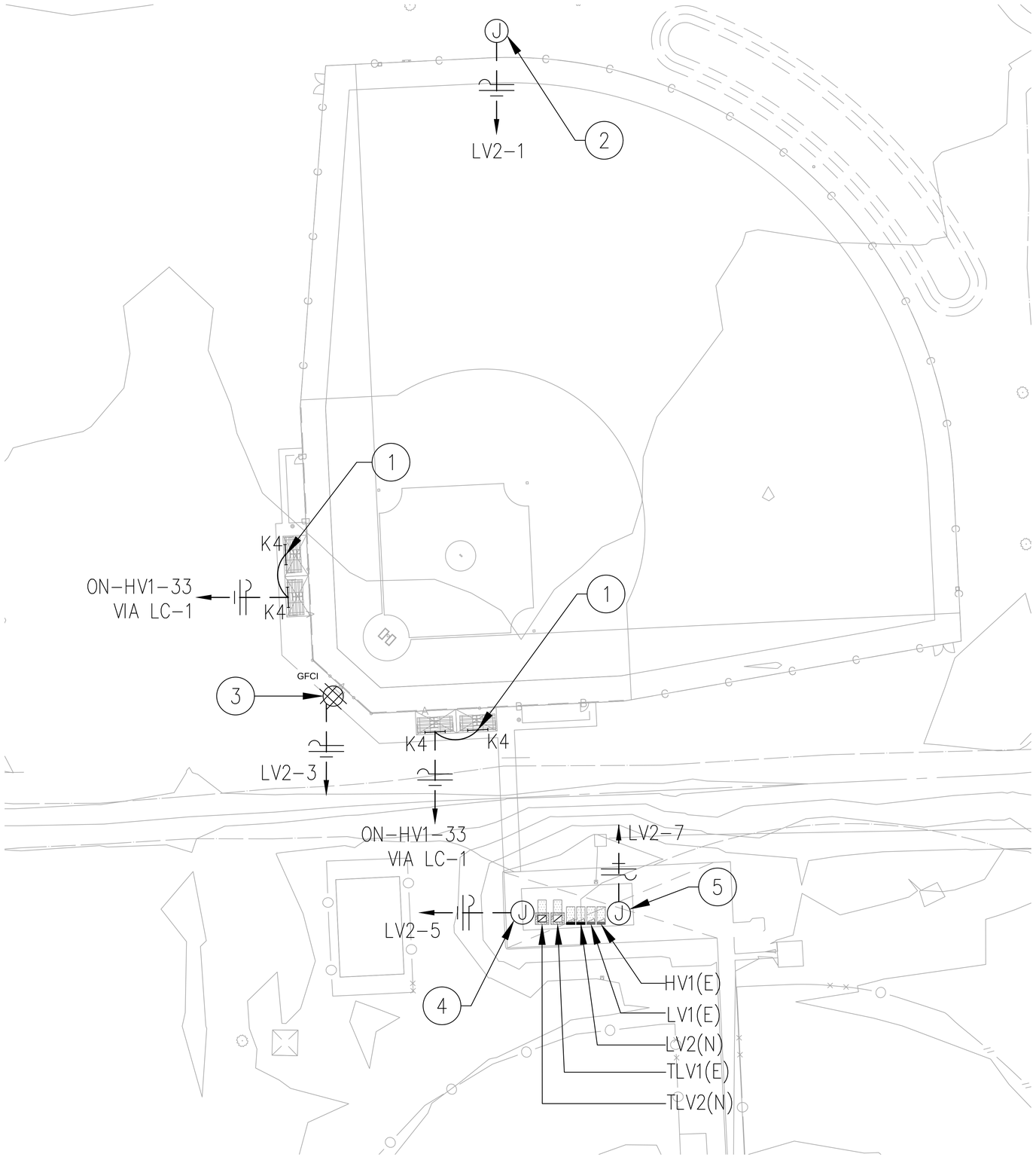
ELECTRICAL SITE PLAN

E1.01



1 / E3.01 ENLARGED ELECTRICAL PLAN - FREEDOM PARK
CUSTOM

GENERAL ELECTRICAL NOTE:

1. REFER TO SHEET E0.02 FOR ALL GENERAL ELECTRICAL NOTES.

ELECTRICAL KEYNOTES (#)

1. LOCATE REMOTE DRIVER(S) FOR LIGHTING FIXTURES IN CONCESSIONS BUILDING. UPSIZE GAGE IF 50 FEET IS EXCEEDED. FIELD COORDINATE WITH ARCHITECT/OWNER PRIOR TO ROUGH-IN. TYPICAL.
2. PROVIDE 120V POWER FOR NEW SCOREBOARD. CONFIRM ADDITIONAL REQUIREMENTS WITH FINAL SELECTED EQUIPMENT. CONTRACTOR SHALL FIELD COORDINATE EXACT LOCATION AND INSTALLATION DETAILS WITH OWNER AND ARCHITECT PRIOR TO ROUGH-IN.
3. PROVIDE LOCKABLE QUADRUPLEX RECEPTACLE AT APPROXIMATE LOCATION. CONFIRM ADDITIONAL REQUIREMENTS WITH FINAL SELECTED EQUIPMENT. CONTRACTOR SHALL FIELD COORDINATE EXACT LOCATIONS AND INSTALLATION DETAILS WITH OWNER AND ARCHITECT PRIOR TO ROUGH-IN
4. PROVIDE 120V POWER FOR IRRIGATION CONTROLLER. CONFIRM ADDITIONAL REQUIREMENTS WITH FINAL SELECTED EQUIPMENT. CONTRACTOR SHALL FIELD COORDINATE EXACT LOCATION AND INSTALLATION DETAILS WITH OWNER AND ARCHITECT PRIOR TO ROUGH-IN.
5. PROPOSED LOCATION OF INTERMATIC ET90000 SERIES ASTRONOMICAL TIME CLOCK WITH AUTOMATIC DAYLIGHT SAVINGS ADJUSTMENT, 24 HOUR 7 DAY PROGRAMMING AND PROGRAMMING BACK UP CAPABILITIES. PROVIDE CONTACTOR OVERRIDE SWITCH AND CONFIRM OVERRIDE SWITCH LOCATION WITH OWNER. PROVIDE 120V POWER AS REQUIRED. CONFIRM ADDITIONAL REQUIREMENTS WITH FINAL SELECTED EQUIPMENT. CONTRACTOR SHALL FIELD COORDINATE EXACT LOCATION AND INSTALLATION DETAILS WITH OWNER AND ARCHITECT PRIOR TO ROUGH-IN.

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ENLARGED ELECTRICAL PLANS

E3.01

1-PHASE 3-WIRE FEEDER SCHEDULE
COPPER ONLY

RATING	SETS	CONDUCTOR SIZE	CONDUIT
30A	1	3#10, 1#10 G.	3/4"
40A	1	3#8, 1#10 G.	3/4"
50A	1	3#8, 1#10 G.	3/4"
60A	1	3#6, 1#10 G.	1"
70A	1	3#4, 1#8 G.	1"
80A	1	3#4, 1#8 G.	1"
90A	1	3#3, 1#8 G.	1 1/4"
100A	1	3#3, 1#8 G.	1 1/4"
125A	1	3#1, 1#6 G.	1 1/4"
150A	1	3#1/0, 1#6 G.	1 1/2"
175A	1	3#2/0, 1#6 G.	1 1/2"
200A	1	3#3/0, 1#6 G.	2"
225A	1	3#4/0, 1#4 G.	2"
250A	1	3#250, 1#4 G.	2 1/2"
300A	1	3#350, 1#4 G.	2 1/2"
350A	1	3#500, 1#3 G.	3"
400A	1	3#600, 1#3 G.	3 1/2"
450A	2	3#4/0, 1#2 G.	2"
500A	2	3#250, 1#2G.	2 1/2"
600A	2	3#350, 1#1G.	3"
700A	2	3#500, 1#1/0G.	3 1/2"
800A	2	3#600, 1#1/0G.	3 1/2"
1000A	3	3#500, 1#2/0G.	3"
1200A	4	3#350, 1#3/0G.	3"
1600A	4	3#600, 1#4/0G.	3 1/2"
	5	3#500, 1#4/0G.	3"
2000A	5	3#600, 1#250G.	3 1/2"
	6	3#500, 1#250G.	3"
2500A	6	3#600, 1#350G.	3 1/2"
	7	3#500, 1#350G.	3 1/2"
3000A	8	3#500, 1#400G.	3 1/2"
3500A	9	3#600, 1#500G.	3 1/2"
	10	3#500, 1#500G.	3 1/2"
4000A	10	3#600, 1#500G.	3 1/2"
	11	3#500, 1#500G.	3 1/2"

1. ELECTRICAL CONTRACTOR SHALL PROVIDE THE NUMBER OF LUGS AND PROPER LUG SIZES TO ACCEPT CONDUCTOR SIZES SHOWN.
2. GROUND NOT REQUIRED AT SERVICE LATERAL.

TRANSFORMER FEEDER SCHEDULE - GENERAL PURPOSE - 3 PHASE

PRIMARY VOLTAGE				SECONDARY VOLTAGE			
480V, THREE PHASE				120/208V, THREE PHASE, FOUR WIRE			
KVA	FEEDER	CONDUIT	BREAKER	FEEDER	CONDUIT	BREAKER	GND. ELEC. SIZE
3	3#12, 1#12G.	3/4"	15A/3P	4#12, 1#8G.	3/4"	15A/3P	#8
6	3#12, 1#12G.	3/4"	15A/3P	4#10, 1#8G.	3/4"	25A/3P	#8
9	3#12, 1#12G.	3/4"	15A/3P	4#10, 1#8G.	3/4"	30A/3P	#8
15	3#10, 1#10G.	3/4"	25A/3	4#6, 1#8G.	1"	60A/3P	#8
30	3#8, 1#10G.	1"	45A/3P	4#3, 1#8G.	1 1/4"	100A/3P	#8
45	3#4, 1#8G.	1"	70A/3P	4#1/0, 1#6G.	1 1/2"	150A/3P	#6
75	3#1, 1#6G.	1 1/4"	125A/3P	4#250, 1#2G.	2 1/2"	250A/3P	#2
75	3#3, 1#8G.	1"	100A/3P	4#4/0, 1#2G.	2 1/2"	225A/3P	#2
112.5	3#2/0, 1#6G.	1 1/2"	175A/3P	4#600, 1#1/0G.	4"	400A/3P	#1/0
150	3#4/0, 1#4G.	2"	225A/3P	(2) SETS OF 4#250, 1#1/0G.	2 1/2"	500A/3P	#1/0
225	3#500, 1#3G.	3"	350A/3P	(2) SETS OF 4#600, 1#3/0G.	4"	800A/3P	#3/0
300	(2) SETS OF 3#4/0, 1#2G.	2 1/2"	450A/3P	(3) SETS OF 4#500, 1#3/0G.	3 1/2"	1000A/3P	#3/0
400	(2) SETS OF 3#350, 1#1G.	2 1/2"	600A/3P	(4) SETS OF 4#500, 1#250G.	4"	1600AF/1400AT/3P	#3/0
500	(2) SETS OF 3#500, 1#1/0G.	3"	800A/3P	(5) SETS OF 4#500, 1#350G.	4"	2000AF/1800AT/3P	#3/0

NOTE:
-ALL CONDUCTORS SHALL BE COPPER

TRANSFORMER SCHEDULE

MARK	KVA	PRI. VOLTAGE	SECONDARY VOLTAGE	MOUNTING	ENCLOSURE	REMARKS
TLV2	45	480V, 3ø	120Y/208V, 3ø, 4 W	FLOOR	3R	GENERAL PURPOSE TRANSFORMER.

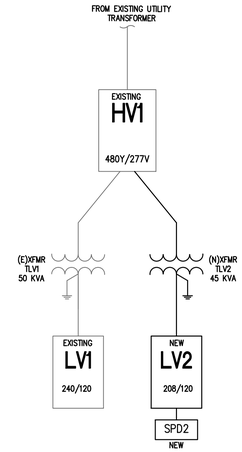
SURGE PROTECTION DEVICE (SPD) SCHEDULE

MARK	MANUFACTURER	MODEL	VOLTAGE	PHASE	SURGE RATING PER MODE	BREAKER SIZE	TIERGUIDE CABLE SIZE
SPD-2	SOUTHERN TIER TECHNOLOGIES	T45120Y100AWAJ2S	208/120	3	100/200KA	30A/3P	INCLUDED

*ALL T45 SERIES SPD ENCLOSURES INSTALLED IN FOOD SERVICE AREAS (IE. KITCHENS, SNACK BARS, FOOD LABS, CULINARY ARTS ROOMS AND LIFE SKILLS ROOMS) SHALL BE RECESSED IN THE WALL. PROVIDE RECESSED WALL KIT #RKSS.

Peak KVA Load Analysis -
480`/ 277`, 3`-PHASE, 4 -WIRE — Date: 8/15/2025

DESCRIPTION					NEC	KVA
EXISTING LOAD:						
PEAK KVA FROM CPE =	0	VA	X	125%	220.87	0.0
REMOVED LOAD:						
EQUIPMENT:						
LIGHTING:	0	VA			220.12	0.0
ADDED LOAD:						
LIGHTING:						
INTERIOR & EXTERIOR =	0	VA	X	125% = #DIV/0! W/SF	220.12	0.0
POWER:						
RECEPTACLES =	0	VA		= #DIV/0! W/SF	220.44	
First	10,000	VA	X	100%		10.0
Remaining	(10,000)	VA	X	50%		-5.0
MISCELLANEOUS=	0	VA				0.0
KITCHEN =	0	VA	X	65%	220.56	0.0
HVAC:						
HEATING & COOLING =	0	VA	X	100%		0.0
FANS =	0	VA				0.0
LARGEST MOTOR =	0	VA	X	125%	220.50	0.0
WATER HEATER =	0	VA	X	100%		0.0
					TOTAL =	5
TOTAL SQ. FOOTAGE = 0					TOTAL AMPS:	6
					SERVICE SIZE:	500
					SPARE AMPACITY:	494



1 E401 ELETRICAL ONE-LINE DIAGRAM
NOT TO SCALE

Panelboard HV1

AIC Rating: X Existing / New

277/480 Volt,3-Phase,4-Wire; 1 Section; 1 -Nema Rating | X MCB / MLO | 500 AMP MCB; 500 AMP BUS (Copper); ISO. GRND. BUS | X Single / Double Feed - Thru | Mounting: X Surface / Flush

Notes	Load (VA)	Description	Type	Wire	CB	CKT #	PH	CKT #	CB	Wire	Type	Description	Load (VA)	Notes
1	5000	EXISTING LOAD	L	8	40/3	1	A	2	40/3	8	L	EXISTING LOAD	5000	1
1	5000	EXISTING LOAD	L	8	I	3	B	4	I	8	L	EXISTING LOAD	5000	1
1	5000	EXISTING LOAD	L	8	I	5	C	6	I	8	L	EXISTING LOAD	5000	1
1	5000	EXISTING LOAD	L	8	40/3	7	A	8	40/3	8	L	EXISTING LOAD	5000	1
1	5000	EXISTING LOAD	L	8	I	9	B	10	I	8	L	EXISTING LOAD	5000	1
1	5000	EXISTING LOAD	L	8	I	11	C	12	I	8	L	EXISTING LOAD	5000	1
1	5000	EXISTING LOAD	L	8	40/3	13	A	14	40/3	8	L	EXISTING LOAD	5000	1
1	5000	EXISTING LOAD	L	8	I	15	B	16	I	8	L	EXISTING LOAD	5000	1
1	5000	EXISTING LOAD	L	8	I	17	C	18	I	8	L	EXISTING LOAD	5000	1
1	5000	EXISTING LOAD	L	8	40/3	19	A	20	40/3	8	L	EXISTING LOAD	5000	1
1	5000	EXISTING LOAD	L	8	I	21	B	22	I	8	L	EXISTING LOAD	5000	1
1	5000	EXISTING LOAD	L	8	I	23	C	24	I	8	L	EXISTING LOAD	5000	1
1	500	EXISTING LOAD	M	12	20/1	25	A	26	30/3	10	L	EXISTING LOAD	5000	1
1	500	EXISTING LOAD	M	12	15/2	27	B	28	I	10	L	EXISTING LOAD	5000	1
1	500	EXISTING LOAD	M	12	I	29	C	30	I	10	L	EXISTING LOAD	5000	1
1	1000	EXISTING LOAD	M	8	40/1	31	A	32				SPACE		
2	720	LIGHTING	L	12	20/1	33	B	34				SPACE		
		SPACE				35	C	36				SPACE		
		SPACE				37	A	38	70/3	4	SP	TLV2	1220	2
		SPACE				39	B	40	-	4	SP	-	720	2
		SPACE				41	C	42	-	4	SP	-	500	2
	63,220	Subtotal										Subtotal	77,440	

N.E.C. (2002)	Load Type	Conn.	Fct.	Diversity	N.E.C. (2002)		Conn.	Fct.	Diversity
220-13	(R) Recept.	0		0	210-20(a)	(L) Lighting	135,720	125%	169,650
220-20	(K) Kitchen	0	100%	0		(EL) Ext. Ltg.	0	125%	0
220-21	(C) Cooling	0	0%	0	620-14	(E) Elevators	0	100%	0
220-21	(H) Heating	0	0%	0		(WH) Water Ht.	0	100%	0
220-21	(F) Fans	0	100%	0	220-14	(MT) Lrg. Mot.	0	125%	0
	(M) Misc.	2,500	100%	2,500		(SP) Sub Panel	2,440	100%	2,440

Total Connected Load 140,660 VA = 169.3 AMPS
Total Load (Diversified 174,590 VA = 210.1 AMPS
Location of Panel:

Lighting Class Panelboard LV2

10,000 AIC Rating: Existing / X New

120/208 Volt,3-Phase,4-Wire; 1 Section; 1 -Nema Rating | X MCB / MLO | 150 AMP MCB; 225 AMP BUS (Copper); ISO. GRND. BUS | X Single / Double Feed - Thru | Mounting: X Surface / Flush

Notes	Load (VA)	Description	Type	Wire	CB	CKT #	PH	CKT #	CB	Wire	Type	Description	Load (VA)	Notes
	720	SCOREBOARD	M	8	20/1	1	A	2	20/1	12		SPARE		
	720	SCORE/TABLE	M	10	20/1	3	B	4	20/1	12		SPARE		
	500	IRRIGATION CTRL	M	12	20/1	5	C	6	20/1	12		SPARE		
	500	TIMECLOCK	M	12	20/1	7	A	8	20/1	12		SPARE		
		SPARE		12	20/1	9	B	10	20/1	12		SPARE		
		SPARE		12	20/1	11	C	12	20/1	12		SPARE		
		SPARE		12	20/1	13	A	14	20/1	12		SPARE		
		SPARE		12	20/1	15	B	16	20/1	12		SPARE		
		SPARE		12	20/1	17	C	18	20/1	12		SPARE		
		SPARE		12	20/1	19	A	20	20/1	12		SPARE		
		SPARE		12	20/1	21	B	22	20/1	12		SPARE		
		SPARE		12	20/1	23	C	24	20/1	12		SPARE		
		SPARE		12	20/1	25	A	26	20/1	12		SPARE		
		SPARE		12	20/1	27	B	28	20/1	12		SPARE		
		SPARE		12	20/1	29	C	30	20/1	12		SPARE		
		SPARE		12	20/1	31	A	32	20/1	12		SPARE		
		SPARE		12	20/1	33	B	34	20/1	12		SPARE		
		SPARE		12	20/1	35	C	36	20/2	12		SPARE		
		SPARE		12	20/1	37	A	38	30/1	10		SPD2		
		SPARE		12	20/1	39	B	40	I	10		I		
		SPARE		12	20/1	41	C	42	I	10		I		
	2,440	Subtotal										Subtotal	0	

N.E.C. (2002)	Load Type	Conn.	Fct.	Diversity	N.E.C. (2002)		Conn.	Fct.	Diversity
220-13	(R) Recept.	0		0	210-20(a)	(L) Lighting	0	125%	0
220-20	(K) Kitchen	0	100%	0		(EL) Ext. Ltg.	0	125%	0
220-21	(C) Cooling	0	0%	0	620-14	(E) Elevators	0	100%	0
220-21	(H) Heating	0	0%	0		(WH) Water Ht.	0	100%	0
220-21	(F) Fans	0	100%	0	220-14	(MT) Lrg. Mot.	0	125%	0
	(M) Misc.	2,440	100%	2,440		(SP) Sub Panel	0	100%	0

Total Connected Load 2,440 VA = 6.8 AMPS
Total Load (Diversified 2,440 VA = 6.8 AMPS
Location of Panel:

ONE-LINE DIAGRAM GENERAL NOTES:

A. ALL EQUIPMENT IS EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
B. ALL EQUIPMENT FEEDER WIRING IS EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
C. CONTRACTOR SHALL REPORT ANY DAMAGED DEVICES THAT ARE SHOWN AS EXISTING TO REMAIN TO THE OWNER BEFORE STARTING WORK. ALL DEVICES FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION THAT ARE NOT REPORTED PRIOR TO STARTING WORK SHALL BE REPLACED BY THE CONTRACTOR AT HIS COST.
D. ALL CONDUCTORS SHALL BE COPPER UNLESS OTHERWISE SCHEDULED.
E. CONTRACTOR SHALL INSTALL FEEDERS BASED ON THE OVERCURRENT DEVICE RATING UNLESS OTHERWISE NOTED. CONTRACTOR SHALL REFER TO THE FEEDER SCHEDULE FOR ALL CONDUCTOR AND CONDUIT SIZING.
F. PRIOR TO INSTALLATION OF UNDERGROUND FEEDERS, THE ELECTRICAL CONTRACTOR SHALL SUBMIT AN UNDERGROUND ROUTING PLAN TO THE ENGINEER OF RECORD INDICATING THE EXACT ROUTING PATH FOR ALL UNDERGROUND CONDUIT. INDICATE STUB-UP LOCATIONS, SIZE AND QUANTITY OF CONDUIT. ALL ELECTRICAL PANELS AND EQUIPMENT SHALL BE SHOWN ON THIS PLAN FOR REFERENCE OF CONDUIT TERMINATION.
G. A PERMANENTLY AFFIXED LABEL SHALL BE APPLIED WITH THE AVAILABLE FAULT CURRENT AT THE TIME OF INSTALLATION AND CALCULATION. THE LABEL SHALL BE 2 X 3 IN SIZE AND SHALL BE BLUE LETTERING ON A CONTRASTING BACKGROUND. THIS LABEL SHALL ALSO INCLUDE THE DATE OF THE CALCULATION.
H. CONTRACTOR SHALL FIELD COORDINATE AND BECOME FAMILIAR WITH EXISTING ELECTRICAL EQUIPMENT AND EXISTING ELECTRICAL PROVISIONS PRIOR TO STARTING ANY WORK.

PANEL SCHEDULE GENERAL NOTES:

A. ALL CIRCUIT NUMBERS ON EXISTING ELECTRICAL PANELS ARE FOR PLAN REFERENCE ONLY. CONTRACTOR SHALL FIELD VERIFY AVAILABILITY OF BREAKERS. CONTRACTOR SHALL UTILIZE SPARE BREAKERS MADE AVAILABLE FROM DEMOLITION PHASE.

PANEL SCHEDULE NOTES:

1. EXISTING LOAD SHALL REMAIN.
2. PROVIDE NEW CIRCUIT AND NEW BREAKER IN EXISTING PANEL.

310 Longmire Road
Conroe, TX 77304
Tel: 936.756.3041

THIS PROJECT & THE IDEAS HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF THE ARCHITECT & IS NOT TO BE USED IN WHOLE OR IN PART, WHITHOUT THE AUTHORIZATION OF BURDITT CONSULTANTS, LLC.

Renovation

3/31/2025

SEAL:

NOT FOR CONSTRUCTION OR PERMITTING; PRINTED FOR REVIEW ONLY.
08/15/2025
BRENT MOE, P.E.
TEXAS # 117260

DBR
O: 713.914.0888
https://www.dbrinc.com
TBPE Firm Registration No. 2234
DBR Project# 250247.000

BM	–	LB	–	–

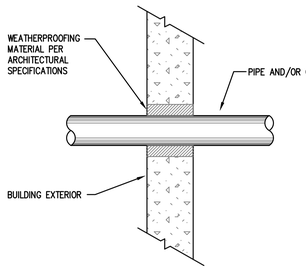
CITY OF ANGLETON
FREEDOM PARK
BASEBALL FIELD
PROJECT NO. | 1514.002
3105 N. DOWNING, ANGLETON, TEXAS 77515

DESIGNER | Designer
DRAWER | DBR
CHECKER | DBR

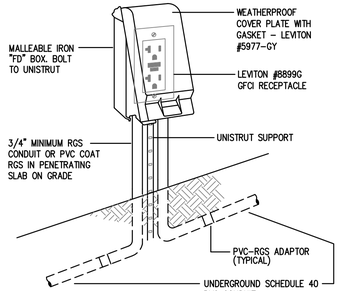
NO.	DESCRIPTION	DATE

ELECTRICAL ONE-LINE DIAGRAMS

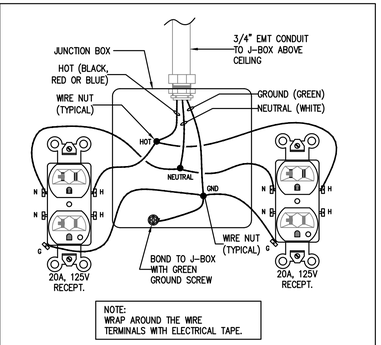
E4.01



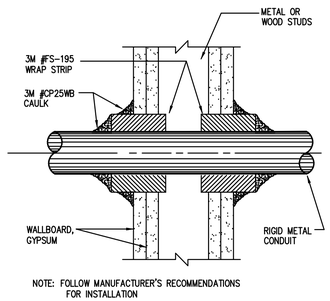
9 PIPE AND/OR CONDUIT PENETRATION
NOT TO SCALE E10018



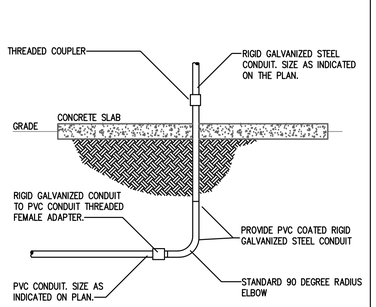
5 RECEPTACLE MOUNTING DETAIL
NOT TO SCALE E13027



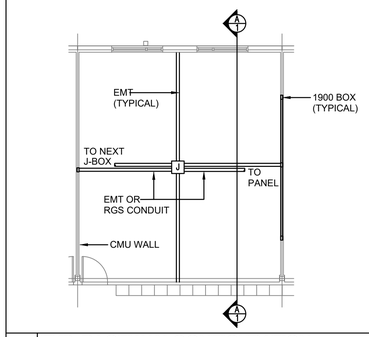
1 20A,125V. RECEPTACLE WIRING DETAIL
NOT TO SCALE E13029



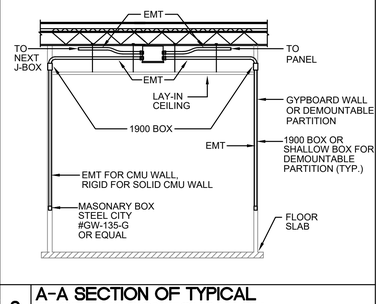
6 2 HR. GYPSUM/WALLBOARD PIPE PENETRATION
NOT TO SCALE E10017



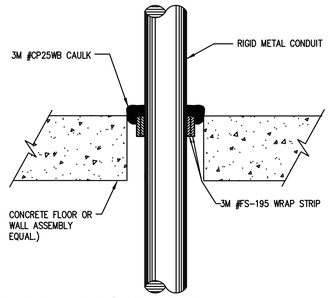
2 CONDUIT STUB-UP DETAIL
NOT TO SCALE E10011



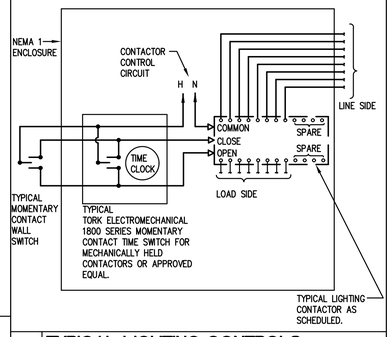
7 TYP. RACEWAY CONFIGURATION
NOT TO SCALE E20006



3 A-A SECTION OF TYPICAL RACEWAY CONFIGURATION
NOT TO SCALE E20007



8 2, 3 AND 4 HR. PENETRATIONS FOR CONCRETE
NOT TO SCALE E10019



4 TYPICAL LIGHTING CONTROLS
NOT TO SCALE E14030

IECC 2015 STANDARD SEQUENCE OF OPERATIONS

ROOM TYPE	OCCUPANCY SENSOR	TIME SWITCH	DAYLIGHT CONTROL	LT REDUCT	MANUAL CONTROL	SEQUENCE OF OPERATION
	AUTO ON[1] · MANUAL ON (VACANCY) · AUTO OFF (30MIN MAX) · PARTIAL OFF AT NORMAL HOURS[2] · AUTO OFF AFTER HOURS (30MIN MAX)	TIME ON · TIME OFF · ASTRONOMIC or PHOTOCELL ON/OFF	AUTO STEP CONTROL WITH OFF[4] · AUTO CONTINUOUS DIM WITH OFF[4,5]	MANUAL BI-LEVEL REDUCTION CONTROL[6] · MANUAL CONTINUOUS DIM CONTROL[6]	MANUAL ON/OFF SWITCH · MANUAL DIMMER SWITCH · DISPLAY, ACCENT, TASK CONTROL[7]	
Building Façade / Landscape		open close ●				Dusk Auto On with astronomical time switch or photocell; Evening Time Auto Off as a function of close time. Morning Time On as a function of open time; Dawn Auto Off.
Exterior / Parking Lots / Site Lighting		6AM[3] 12:00 AM[3] ●				Dusk Auto On with astronomical time switch or photocell; Reduce at least 30% from midnight or up to one hour after business close. Auto On to full at 6:00AM or up to one hour before business open. Dawn Auto Off.

v4.2 - 022917

●= Designation for code compliant default control design for spaces without daylighting control
D = Where daylighting control is required, "D" designation indicates controls required in the space for code compliance design
CK = Captive Key Switch system for use in Hotel/Motel and Guest Suites

NOTES:

[1] Lighting may be Manual On or Auto Partial On to ≤50%. Full Auto On to 100% is only permitted in Public Corridors, Stairways, Primary Entrances, Lobbies, Restrooms and where Manual On endangers safety or security
[2] Partial Auto Off must reduce lighting by ≥50% during normal operating hours in warehouse aisles and warehouse open areas. Each aisle must be independently controlled. Full Auto Off would comply with Partial Auto Off.
[3] Exterior / Parking / Site lighting must Auto Off during daylight hours, reduce by at least 30% between the hours of midnight and 6AM or from one hour after business close until 6AM before business opening.
[4] Automatic daylight control required where ≥150W of lighting is in the toplight or sidelight daylight area. Continuous dimming with Off is used and assumes 0-10V dimming fixtures in daylight and non-daylight area unless known otherwise.
[5] Code requires automatic continuous dimming with full Off capability in daylighting areas of offices, classrooms, labs and library reading rooms.
[6] Manual bilevel lighting reduction control must allow ≥50% of the general lighting to be manually turned off by a control device located in the space.
[7] Display, Accent and Task lighting must be independently controlled from other lighting in the space. It is required to Auto Off with occupancy sensors or time switch control, but is exempt from automatic daylighting control.

LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER AND MODEL	MOUNTING	LAMPS	VOLTS	WATTS	DESCRIPTION
K4	LUMENTRUSS #1500-PR-SP-IB-0N0-SN0-4FT-35-LHP-D-HW3-D	RECESSED	4000K LED	UNV	28	4FT RECESSED WET LOCATION LINEAR, WET LOCATION RATING, 559 LUMENS /FT
K7	LUMENTRUSS #1500-PR-SP-IB-0N0-SN0-7FT-35-LHP-D-HW3-D	RECESSED	4000K LED	UNV	49	7FT RECESSED WET LOCATION LINEAR, WET LOCATION RATING, 559 LUMENS /FT

NOTES:

1. LIGHTING FIXTURE CATALOG NUMBERS AND DESCRIPTIONS ARE SCHEDULED FOR ESTABLISHING QUALITY, APPEARANCE AND PERFORMANCE OF THE FIXTURES AS REQUIRED BY THE DESIGN. EXACT CATALOG NUMBERS DESCRIBING MOUNTING CONDITIONS, FINISHES AND REQUIREMENTS RELATED TO TRIMS AND LENS FOR ALL FIXTURES SHALL BE CONFIRMED (BY THE CONTRACTOR) WITH THE ROOM FINISH SCHEDULE AND REFLECTED CEILING PLANS, INCLUDING GRID TYPES, ON THE ARCHITECTURAL DRAWINGS PRIOR TO BIDDING. FIXTURES SHALL BE SUBMITTED ACCORDING TO THE CONDITIONS INDICATED ON THE ARCHITECTURAL PLANS. REFER TO THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. THE NEW LIGHT FIXTURES SCHEDULED ARE THE BASIS OF DESIGN. IT IS NOT INTENDED TO LIMIT COMPETITION FROM EQUAL MANUFACTURERS. ALL BIDDERS SHALL SUBMIT THEIR PROPOSED LIGHT FIXTURES IN SUBMITTAL FORM A MINIMUM OF 10 BUSINESS DAYS PRIOR TO BID DATE FOR REVIEW. APPROVED LIGHT FIXTURES WILL BE ISSUED IN AN ADDENDUM.

LIGHTING CONTROLS DEVICE SCHEDULE

TYPE	DESCRIPTION	COMMENTS
$ ^{3} ^{4} ^{K}	LINE VOLTAGE SWITCH.	'3' INDICATES THREE WAY SWITCHING. '4' INDICATES FOUR WAY SWITCHING. 'K' INDICATES SWITCH SHALL BE KEYED SWITCH.
^{T}	LINE VOLTAGE TIMER SWITCH WITH DIGITAL TIMER.	RATED FOR 120/277VAC. PROVIDE WITH AUDIBLE & VISUAL ALERTS. USER PROGRAMMABLE FOR 5MIN-12HR TIME-OUT SETTINGS.

NOTES:

1. COOPER GREENGATE IS THE BASIS OF DESIGN.
2. THE LIGHTING CONTROLS SCHEDULED SHALL BE COOPER GREENGATE TO MATCH EXISTING BUILDING CONTROLS SYSTEM AND EXISTING BUILDING LIGHTING CONTROL DEVICES.
3. BASIS OF DESIGN SHALL BE A HARD-WIRED TYPE SYSTEM, UNLESS NOTED OTHERWISE.

CONTACTOR SCHEDULE

MARK	AMPS PER POLE	POLES	COIL VOLTAGE	CONTROL	NOTES
LC-1	20	4	120V	SCHEDULE VIA TIME CLOCK WITH OVERRIDE SWITCH	1
LC-2	20	4	120V	SCHEDULE VIA TIME CLOCK WITH OVERRIDE SWITCH	1

NOTES:

1. EXTERIOR LIGHTING SHALL BE PHOTOCELL CONTROLLED WITH ON/OFF SCHEDULING AS REQUIRED BY THE 2015 IECC. OVERRIDE SWITCH(ES) SHALL OVERRIDE LIGHTS ON UNTIL NEXT SCHEDULED OFF PERIOD. CONFIRM EXACT PROGRAMMING REQUIREMENTS WITH OWNER.

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Conroe, TX 77304
Tel: 936.756.3041

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Renovation

3/31/2025

SEAL:

NOT FOR CONSTRUCTION OR PERMITTING; PRINTED FOR REVIEW ONLY.
08/15/2025
BRENT MOE, P.E.
TEXAS # 117260

DBR
O: 713.914.0888
https://www.dbrinc.com
TBPE Firm Registration No. 2234
DBR Project# 250247.000

BM	–	LB	–	–

CITY OF ANGLETON
FREEDOM PARK BASEBALL FIELD
PROJECT NO. | 1514.002
3105 N. DOWNING, ANGLETON, TEXAS 77515

DESIGNER | Designer
DRAWER | DBR
CHECKER | DBR

NO.	DESCRIPTION	DATE

ELECTRICAL SCHEDULES

E5.01

Priliminary Opinion of Probable Costs (OPC)

#	Item / Description	Qty	Range LOW	Range HIGH
1	**General Requirements**		$ 82,500	$ 90,750
	Mobilization, Demobilization & Maintenance	1	$ 38,500	$ 42,350
	Bonds & Insurance	1	$ 33,000	$ 36,300
	Traffic Control, Surveying, Safety Plan	1	$ 11,000	$ 12,100
2	**Demolition/Preservation**		$ 11,000	$ 12,100
	Demolition, Clearing & Tree Removal	1	$ 11,000	$ 12,100
3	**Grading, Drainage & Utilities**		$ 47,624	$ 52,386
	Mass Grading, Site Work, & Erosion Control	5953	$ 3,274	$ 3,602
	Berming	1111	$ 17,111	$ 18,822
	Misc. Utilities/Water/Sewer	1	$ 22,000	$ 24,200
	Storm, Piping, Inlets Etc.	5953	$ 5,239	$ 5,763
4	**Site Paving Infrastructure**		$ 53,072	$ 58,379
	Sidewalk Culverts	30	$ 3,960	$ 4,356
	Sidewalks	5,953	$ 49,112	$ 54,023
5	**Sports Fields**		$ 799,322	$ 879,254
	Field Sod/Irrigation	101,188	$ 333,920	$ 367,312
	Infield	11,326	$ 9,344	$ 10,278
	Warning Track	20,092	$ 55,253	$ 60,778
	Fencing/Backstop	1	$ 157,705	$ 173,475
	Dugouts	2	$ 88,000	$ 96,800
	covered seating - ada	2	$ 121,000	$ 133,100
	Equipment	1	$ 34,100	$ 37,510
6	**Site Furnishings**		$ 8,690	$ 9,559
	Site Furniture	1	$ 8,690	$ 9,559
7	**Softscapes**		$ 19,470	$ 21,417
	Planting/Irrigation	1	$ 19,470	$ 21,417
	Subtotal		$ 1,021,678	$ 1,123,846
	General Conditions	1	$ 76,626	$ 84,288
	Design Contingency	1	$ 54,915	$ 60,407
	Total Base Project Cost Range		$ 1,153,219	$ 1,268,541
	TOTAL ADD ALTERNATES		$ 767,835	$ 844,619
1	Atificial Turf Infield	1	$ 228,835	$ 251,719
2	covered seating	4	$ 176,000	$ 193,600
3	Field Lighting	6	$ 363,000	$ 399,300

Burditt Consultants has no control over the cost of labor, materials, equipment, or services furnished by others, or over the Contractor's methods of determining prices, or over competitive bidding or market conditions. Burditt Consultants cannot and does not guarantee that proposals, bids or actual construction will not vary from opinion of probable costs.

PROJECT SCHEDULE - TASKS

Key Activities	Responsible Party	Duration (wks)	Due Week of*
Contract Award	City	-	11/18/2024
Phase I-Schematic Design Kickoff	Burditt/City	-	12/16/2024
Initiate Topo & Geotech Survey	City	-	12/16/2024
Pre-Development Meeting w/ DAWG	Burditt/City	-	1/8/2025
Deliver Schematic Design & OPC for Review	Burditt	7 wks	2/3/2025
Receive Topo & Geotech Survey	Burditt	8 wks	2/10/2025
City Comments Transmitted to Burditt	City	1 wks	2/10/2025
SD Phase Complete	**Burditt**	**8 wks**	**2/10/2025**
Phase II - Design Development Kickoff	Burditt/City	-	3/20/2025
Parks Board Updates	Burditt	4 wks	4/14/2025
Council Updates	City	2 wks	4/22/2025
Deliver 100% DD Documents for Review	Burditt	2 wks	5/6/2025
City Comments (100% DD) to Burditt	City	1 wks	5/13/2025
DD Phase Complete	**Burditt**	**8 wks**	**5/13/2025**
Phase III - Construction Document Kickoff	Burditt/City	-	5/13/2025
60% CD Documents for Review	Burditt	4 wks	6/10/2025
City Comments (60% CD) to Burditt	City	1 wks	6/17/2025
Deliver 90% CD Documents for Review	Burditt	12 wks	9/8/2025
City Comments (90% CD) to Burditt	City	1 wks	9/15/2025
Deliver (100% CD) Issue for Permit Review	Burditt	2 wks	9/29/2025
City Comments (100% CD) to Burditt & Issue for Permit	City	1 wks	10/6/2025
CD Phase Complete	**Burditt**	**21 wks**	**10/6/2025**
Phase IV - Bidding Support Kickoff	City/Burditt		10/6/2025
Deliver Project Manual for Review	Burditt	0 wks	10/6/2025
City Comments (Project Manual) to Burditt	City	1 wks	10/13/2025
Advertise Bid Package	City	1 wks	10/20/2025
Conduct Pre-Bid Mtg	City/Burditt	1 wks	10/27/2025
Second Bid Advertisement	City	1 wks	10/27/2025
Receive Bids	City	3 wks	11/10/2025
Evaluate Bids & Make Recommendations to City	Burditt	1 wks	11/17/2025
Select Contractor	City	2 wks	12/1/2025
Approve Construction Contract	City	2 wks	12/15/2025
Construction Contract NTP	City	3 wks	1/5/2026
Bidding Support Phase Complete	**City/Burditt**	**11 wks**	**1/5/2026**

* Prefered day of the week for submittals to be coordinated with client.

AGENDA ITEM SUMMARY FORM

MEETING DATE: October 14, 2025

PREPARED BY: Hector Renteria

AGENDA CONTENT: Street Bond Phase III - Silver Saddle Improvements

AGENDA ITEM SECTION: Regular Agenda

BUDGETED AMOUNT: **FUNDS REQUESTED:**

FUND:

EXECUTIVE SUMMARY:

HDR was recently contacted by Council about the possibility of reducing the scope of the improvements on Silver Saddle. Currently, the improvements include widening the roadway, installing improved drainage for the roadway, and new pavement. Due to the removal of 8 trees in the subdivision, HDR was asked if we could reduce the project and keep the same footprint of the existing roadway, remove the drainage improvements (other than at Bronco Bend) from the project, and replace the roadway kind in an effort to reduce the tree removal in the neighborhood. The concern is a significant modification to the current streetscape of the neighborhood cause by multiple mature tree removal. These changes can be made easily and cheaply (charge limited time to the on-call project for a few hours for an EIT and a cadd operator to make the changes).

The reduction of the scope will provide cost savings to the City of approximately $200,000.00.

RECOMMENDATION:

HDR is seeking guidance on how to proceed with the repairs to Silver Saddle.

AGENDA ITEM SUMMARY FORM

MEETING DATE: October 14, 2025

PREPARED BY: Hector Renteria

AGENDA CONTENT: 2025 Utility Master Plan

AGENDA ITEM SECTION: Regular Agenda

BUDGETED AMOUNT: **FUNDS REQUESTED:**

FUND:

EXECUTIVE SUMMARY:

In September 2025, HDR Engineering, Inc. (HDR) completed the City's 2025 Utility Master Plan, evaluating the capabilities of the City's water distribution, water supply, and wastewater collection systems to meet current and future water demands and wastewater flows. The Utility Master Plan identifies projects needed to meet the demands of future growth and the capital expenditures necessary to plan, design, and construct those projects. These are summarized in a Capital Improvements Plan (CIP) for the water and wastewater utility systems. This CIP will form the basis for evaluating potential impact fees the Council may choose to adopt following an Impact Fee Study to be conducted when authorized by the Council.

A synopsis of the 2025 Utility Master Plan and the CIP will be presented to Council at the meeting.

RECOMMENDATION:

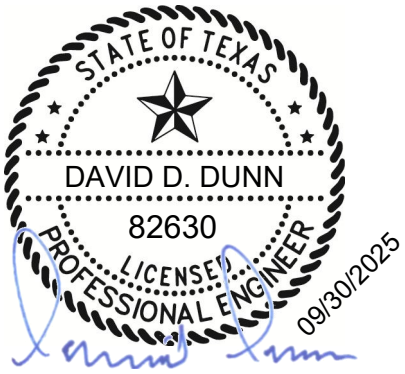
The council to accept and adopt the 2025 Utility Master Plan and associated CIP for water and wastewater improvements.

City of Angleton Utility Master Plan

Angleton, Texas

HDR Engineering, Inc.
Project No. 10388364

September 30, 2025



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Acronyms/Abbreviations

ac-ft/yr	acre-feet per year
ADF	average daily flows
BWA	Brazosport Water Authority
CIP	Capital Improvement Plan
City	City of Angleton
DMR	discharge monitoring reports
DWF	dry weather flows
gal	gallons
gpm	gallons per minute
GW	groundwater
HDR	HDR Engineering, Inc.
I&I	inflow and infiltration
kWh	kilowatt-hour
max-day	Maximum-day
MFR	multi-family residential
mgd	million gallons per day
NOAA	National Oceanic and Atmospheric Administration
OPCC	Opinion of Probable Construction Cost
PVC	polyvinyl chloride
SFR	single family residential
SSO	sanitary sewer overflow
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TWDB	Texas Water Development Board
UMP	Utility Master Plan
WWTP	wastewater treatment plant

Executive Summary

The City of Angleton is preparing for growth in all areas that are currently not served by its utility water distribution and wastewater collection system. This water and wastewater master plan identifies capital improvement projects necessary to serve this growth effectively, while also maintaining and improving existing infrastructure.

Growth projections were developed and used to project future water demand and wastewater flows, based on information provided by City staff regarding current and future land use, and anticipated future growth in specific areas. These projections anticipate an additional 15,700 service connections over the next 30 years, in addition to the City's current 7,547 metered connections in August 2024.

Hydraulic models of the City's water distribution system and wastewater collection system were updated from previous efforts by incorporating infrastructure improvements added since the last utility master plan (UMP) in 2019[1], and calibration to recently observed water system operational data and wastewater flows. The future water demands and wastewater flows (dry and wet weather) were incorporated into the updated water and wastewater models, under current, near-term (2033), and long-term (2053) conditions. The capabilities of the existing systems were evaluated under these three demand scenarios to identify improvements necessary to serve the existing and future demands.

Deficiencies in the water system were identified as the inability to maintain system pressures above 35 pounds per square inch (psi) during maximum-day demands or pipe velocities exceeding six (6) feet per second. Deficiencies in the wastewater collection system were identified as surcharges in pipes exceeding 3 feet below ground elevation, which indicates areas of high risk for potential sanitary sewer overflows (SSOs). The current system storage, pumping, and supply capacities were also compared to State of Texas requirements for public water systems (30 TAC §290.45) to identify any additional water system deficiencies.

Capital Improvement Plans (CIPs) were developed consisting of projects identified that, when constructed, will alleviate the system deficiencies for the near-term (10-year, 2033) and long-term (30-year, 2053) conditions. Note that only those projects needed to meet 2033 demands are considered eligible for impact fee assessment, because impact fees can only be assessed for projects needed within a 10-year period (Texas Local Government Code §395.014). The City of Angleton has not yet adopted an impact fee ordinance.

In addition to developing CIPs for the water distribution and wastewater collection systems, future water demands were projected through year 2073, and a water supply plan was developed to recommend strategies to meet the City's future water supply needs.

[1] HDR Engineering, Inc., "Utility Master Plan," City of Angleton, March 2019.

Summary of Water Master Plan

The City's water distribution system is comprised of about 144 miles of water distribution mains ranging in diameter from 1-inch to18 inches, with over 56 percent either 6 inches or 8 inches. The system includes four ground storage tanks totaling 2.47 million gallons (mg). Three booster pump stations (11 total pumps) draw water from the ground storage tanks and pressurize the system with a total pumping capacity of 9,150 gallons per minute (gpm). When the pumps are not running, system pressures are maintained with two elevated storage tanks totaling 1.25 mg.

The City is supplied through a contract with the Brazosport Water Authority (BWA) for 2.3 million gallons per day (mgd) and five active groundwater wells with a total production capacity of 4.7 mgd. The City's total supply capacity is 7.0 mgd to supply water under maximum-day demand conditions.

The CIP to provide the necessary infrastructure to meet the near-term and long-term system demands is shown in Tables ES-1, ES-2, and ES-3.

Table ES- 1. Near-Term (10-year) Water Line CIPs

Recommended CIP	Pipe Diameter (in)	Pipe Length (LF)	OPCC (2025 dollars)	% of Cost Impact Fee Eligible (portion of capacity used within 10 years)
North East Expansion	8	8,600	$3,920,000	50%
	16	2,000		
CR 44 Extension	12	9,000	$3,334,000	25%
HWY 288 & FM 523	12	2,500	$1,089,000	100%
Henderson to CR 44	12	9,000	$3,920,000	25%
FM 523 Interconnect	12	2,300	$1,002,000	25%
E Phillips Rd & CR 220 Interconnect	12	6,400	$2,788,000	25%
S Velasco St Loop	8	1,600	$421,000	25%
Henderson Transmission Line	12	9,400	$4,095,000	50%
N Chenango St and Wilkins	16	550	$294,000	50%

Table ES- 2. Long-Term (30-year) Water Line CIPs

Recommended CIP	Pipe Diameter (in)	Pipe Length (LF)	OPCC (2025 dollars)
CR 428 & S Downing Rd Interconnect	8	2,700	$711,000
CR 428 WL	8	4,800	$1,263,000
CR 220 Loop	8	8,900	$2,342,000
HWY 288 NB WL Extension	8	2,300	$605,000
Coale Rd and HWY 288 Loop	12	13,100	$5,706,000
CR 219 WL	16	7,100	$3,802,000
Coale Rd and HWY 288B Loop	8	14,400	$3,790,000
CR 288 WL Extension	8	4,400	$1,158,000
BWA Transmission Line	12	39,600	$17,250,000

Table ES- 3. Pumping and Storage Improvements (Long-Term)

Recommended CIP	Additional capacity	OPCC[1] (2025 dollars)
Chenango Pump Station Improvements	750 gpm	$980,000
Henderson Distribution Pump Improvements	850 gpm	$1,116,000
EST 3*	1.0 mg	$10,890,000

*EST 3 should be completed within 10 years, as only 400 connections can be added to the system in excess of those projected as “Near-Term” before this additional storage will be needed.

Summary of Water Supply Plan

In addition to providing sufficient pumping and transmission capacity internal to the water distribution system, the City must have sufficient water supplies available to meet annual and maximum-day water demands. Annual water demands are equivalent to average-day demands, but are expressed as volumes in acre-feet per year (ac-ft/yr). Based on the City’s current water use characteristics (average-day use per connection and maximum-day peaking factor), future water demands were compared to the City’s existing water supplies through year 2073, which is 20 years beyond the long-term time period of the water distribution system master plan. This is because major water supply projects can often take a decade or longer to develop and require a longer time period for planning. Consequently, water demand projections were developed based on current (2023) demands, the near-term growth (2033), the long-term growth (2053), and 50-year growth (2073). The resulting water demand projections are shown in Table ES-4.

Table ES- 4. Water Demands

Year	Average-Day Demand) (ac-ft/yr)	Maximum-Day Demand (mgd)
2023	1,873	3.35
2028	2,413	4.31
2033	3,108	5.55
2043	4,115	7.35
2053	5,449	9.73
2073	7,229	12.91

Assuming the groundwater wells are pumped at full capacity, the City of Angleton has a total combined annual supply of 5,077 ac-ft/yr and a maximum-day capacity of 7.0 mgd across the entire planning period.

It is a possibility that the City's groundwater withdrawals will be limited in the future by subsidence-related regulations, due to the large growth expected in the Brazoria County area. Therefore, for the purpose of this water supply plan, a scenario where the City uses only half of the annual groundwater supply capacity is also considered. Assuming the groundwater wells are used primarily to meet maximum-day demands, resulting in utilization of about half of their annual supply, the City of Angleton has a total combined annual supply of 3,827 ac-ft/yr.

Projected annual demands, supplies and needs are shown in Table ES-5 and Figure ES-1. Maximum-Day demands, supplies, and needs are shown in Table ES-6 and Figure ES-2.

Table ES- 5. Annual Demand, Supply, and Need (acre-feet per year)

Year	Ave-Day Demand	BWA Surface Water Supply	Annual Well Supply		Total Annual Supply		Annual Surplus/(Need)	
			100% GW Capacity	*50% GW Capacity*	*100% GW Capacity*	*50% GW Capacity*	*100% GW Capacity*	*50% GW Capacity*
2023	1,873	2,576	2,501	1,251	5,077	3,827	3,204	1,954
2028	2,413	2,576	2,501	1,251	5,077	3,827	2,664	1,414
2033	3,108	2,576	2,501	1,251	5,077	3,827	1,969	719
2043	4,115	2,576	2,501	1,251	5,077	3,827	962	(289)
2053	5,449	2,576	2,501	1,251	5,077	3,827	(372)	(1,622)
2073	7,229	2,576	2,501	1,251	5,077	3,827	(2,152)	(3,403)

Figure ES- 1.Comparison of Annual Supplies and Demands (2020-2073)

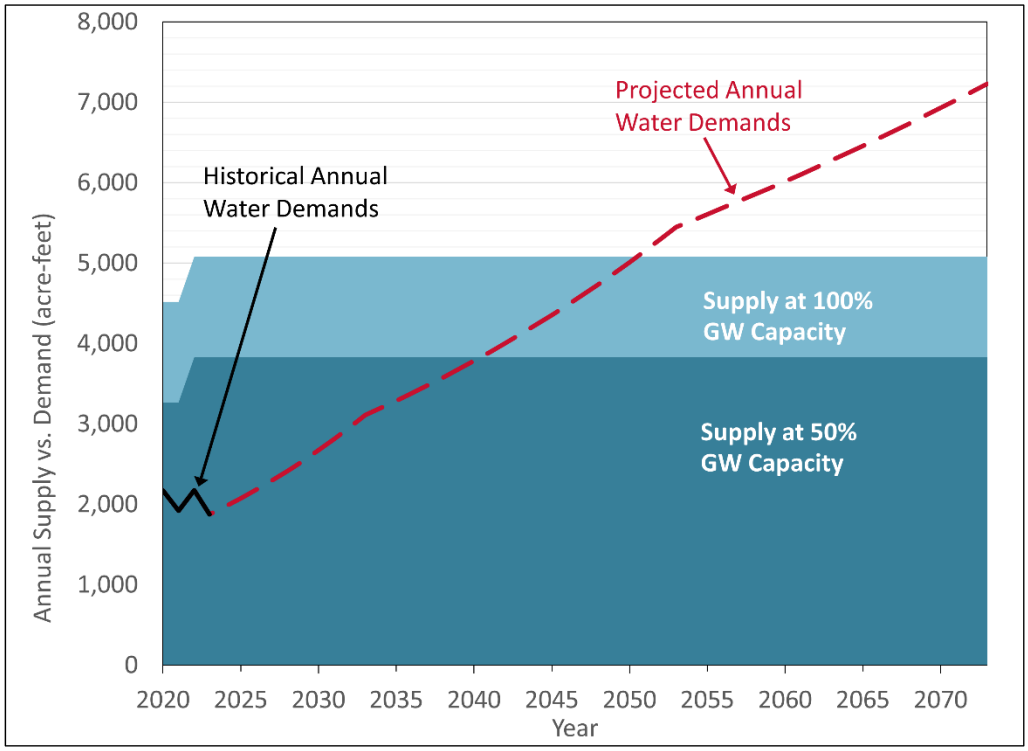
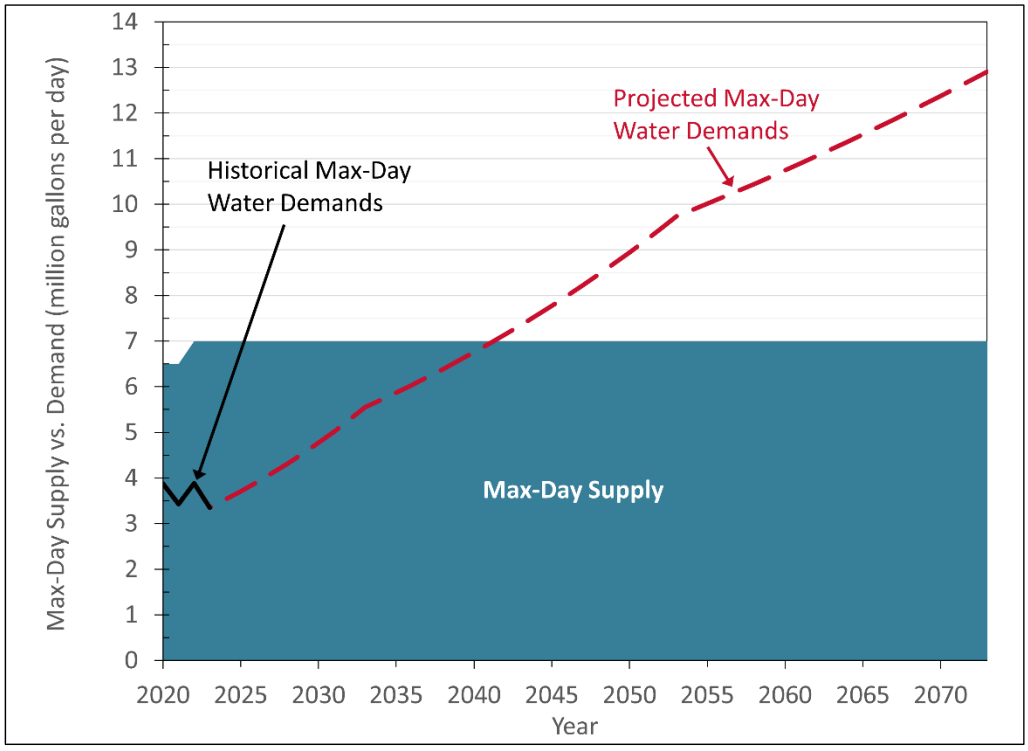


Table ES- 6. Maximum-Day Demand, Capacity, and Need (million gallons per day)

Year	Maximum-Day Demands	BWA Surface Water Supply Capacity	Well Capacity	Total Capacity	Maximum-Day Surplus/ (Need)
2023	3.35	2.30	4.70	7.00	3.65
2028	4.31	2.30	4.70	7.00	2.69
2033	5.55	2.30	4.70	7.00	1.45
2043	7.35	2.30	4.70	7.00	(0.35)
2053	9.73	2.30	4.70	7.00	(2.73)
2073	12.91	2.30	4.70	7.00	(5.91)

Figure ES- 2. Comparison of Maximum-Day Capacity and Demands (2020-2073)



Two primary water supply strategies were identified and evaluated for this water supply plan:

1. Additional City-owned groundwater wells, and
2. Additional supply from BWA.

Both of these supply strategies will be needed to meet future annual and maximum-day demands through the 50-year planning period. The recommended implementation plan to develop additional annual and maximum-day supplies are shown in Table ES-7 and Figures ES-3 and ES-4 (annual supplies), and Table ES-8 and Figure ES-5 (maximum-day supplies).

As shown in the tables and figures, the critical factor is the need to provide sufficient maximum-day capacity at appropriate times in the future.

When the two water management strategies are fully implemented, the City will have an additional 6,461 ac-ft/yr of average-day supplies and an additional 5.95 mgd of maximum-day capacity. The additional BWA surface water supply is recommended to be brought online by 2030 to meet annual demands. This will provide the City flexibility in the timing of developing additional groundwater supplies. The initial development of the additional City groundwater is recommended to be brought online by 2050 to meet maximum-day demands.

The additional BWA water will provide for the City's future growth in annual (average-day) demands through 2059 and in maximum-day demands through 2039 with conservative use of groundwater supplies. Without conservative use of current groundwater supplies, the additional BWA supply will allow the City to meet annual demands through 2072 and maximum-day demands through 2049.

In sum, the additional supply from BWA provides several benefits:

1. The City will be able to meet projected maximum-day demands through 2039 while only utilizing half of the City's groundwater supply.
2. The City can use its groundwater supply conservatively.
3. The City will be provided flexibility in meeting future growth demands by keeping some groundwater supply in reserve through approximately 2072.

To meet the projected maximum-day demands later in the planning period, the City will need to rely on 100% of the City's current groundwater maximum-day capacity alongside both water management strategies (additional BWA supply and groundwater wells). To meet these maximum-day demands, it is anticipated that the City will need to add a new groundwater plant every two to six years starting in 2050, with new wells operational by 2050, 2052, 2058, 2063, and 2068.

Table ES- 7. Strategy Implementation to Supply Annual Demands (ac-ft/yr)

Demand / Supply / Strategy	2028	2033	2043	2073
Current System				
Projected Average-Day Demand	2,413	3,108	4,115	7,229
Current Supply at 50% Groundwater Capacity	3,827	3,827	3,827	3,827
Current Supply at 100% Groundwater Capacity	5,077	5,077	5,077	5,077
Surplus/(Need) at 50% Groundwater Capacity	1,414	719	(289)	(3,403)
Surplus/(Need) at 100% Groundwater Capacity	2,664	1,969	962	(2,152)
Recommended Water Management Strategies				
Additional BWA Surface Water Supplies	0	2,151	2,151	2,151
Development of Additional City Groundwater	0	0	0	4,310
Total Future System				
Additional Supply from Recommended Strategies	0	2,151	2,151	6,461
Total Supplies at 50% Current Groundwater Capacity	3,827	5,978	5,978	10,288
Total Supplies at 100% Current Groundwater Capacity	5,077	7,228	7,228	11,538
Surplus/(Need) at 50% Current Groundwater Capacity	1,414	2,870	1,862	3,058
Surplus/(Need) at 100% Current Groundwater Capacity	2,664	4,120	3,113	4,309

Figure ES- 3. Strategy Implementation Timeline: Annual Supplies with Current Groundwater Supply Operated at 50% Annual Capacity

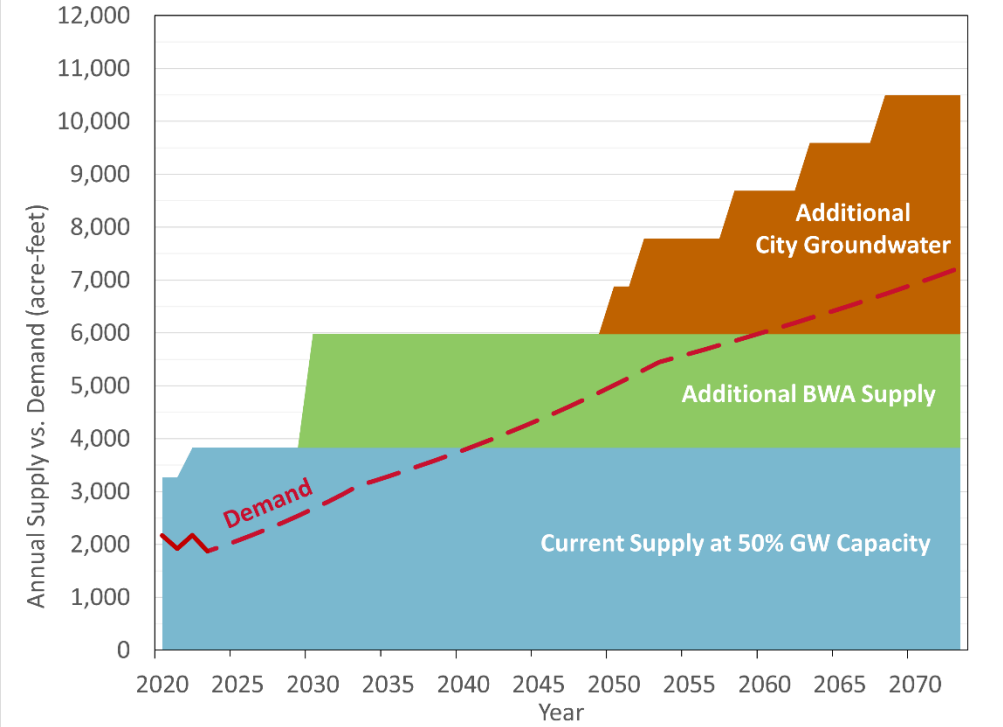


Figure ES- 4. Strategy Implementation Timeline: Annual Supplies with Current Groundwater Supply Operated at 100% Capacity

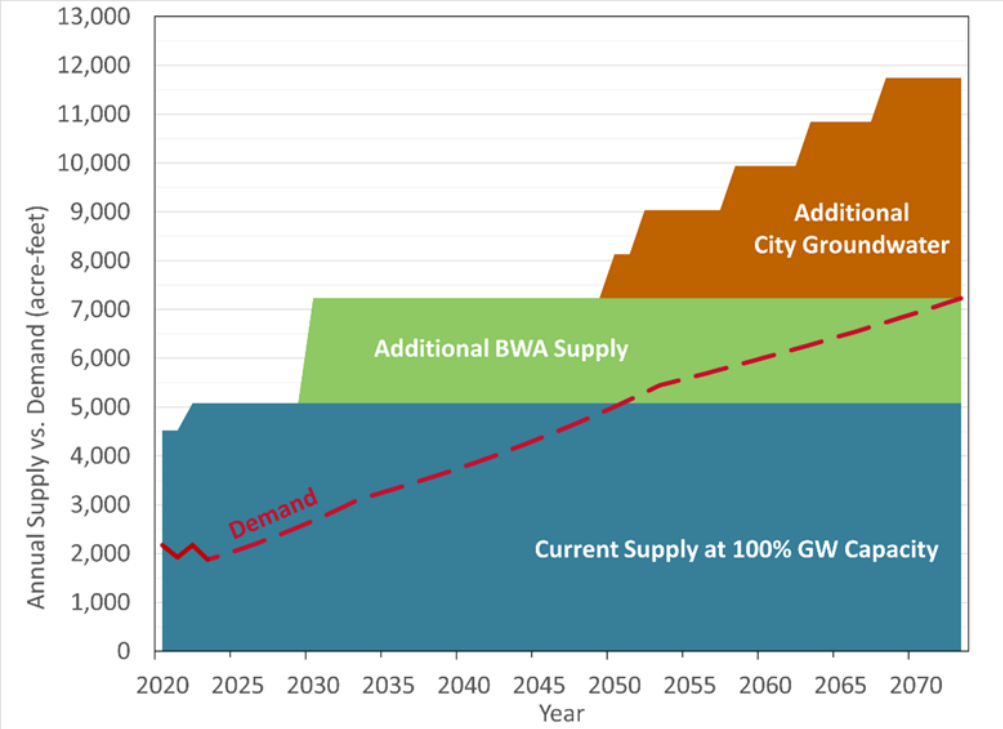
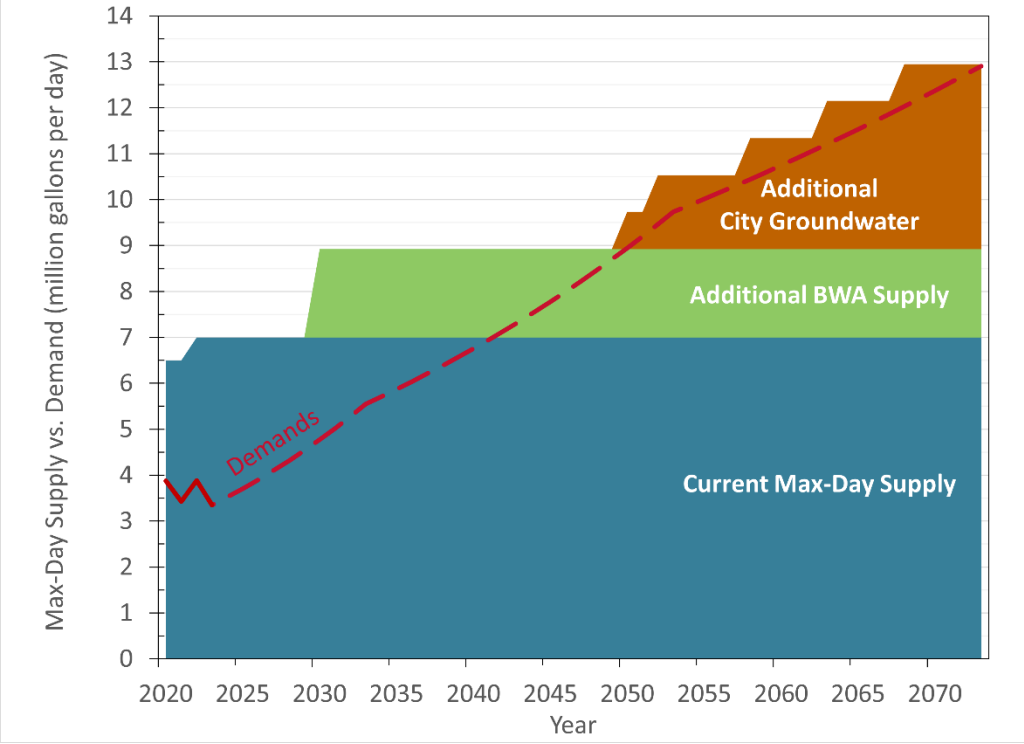


Table ES- 8. Strategy Implementation to Supply Maximum-Day Demands (mgd)

Demand / Supply / Strategy	2028	2033	2043	2073
Current System				
Projected Maximum-Day Demand	4.31	5.55	7.35	12.91
Current Supply Capacity	7.00	7.00	7.00	7.00
Surplus/(Need)	2.69	1.45	(0.35)	(5.91)
Recommended Water Management Strategies				
Additional BWA Surface Water Supplies	0.00	1.92	1.92	1.92
Development of Additional City Groundwater	--	--	--	4.03
Total Future System				
Additional Supply from Recommended Strategies	--	1.92	1.92	5.95
Total Supplies	7.00	8.92	8.92	12.95
Surplus/(Need)	2.69	3.37	1.57	0.04

Figure ES- 5. Strategy Implementation Timeline: Maximum-Day Supplies with Current Groundwater Supply Capacity



Summary of Wastewater Master Plan

The City's wastewater collection system is comprised of about 110 miles of gravity and force main pipes, and a large number of lift stations discharging into a variety of force mains. Some of the lift stations are regional in nature, transmitting wastewater flows collected from more than one upstream gravity line or force main.

The hydraulic model developed for this master plan indicates that the existing system generally conveys dry weather flows well under both existing and future conditions, with relatively few capacity issues and none that indicate an SSO will occur during dry weather.

Operational data provided by the City indicates that large amounts of inflow and infiltration (I&I) enter the wastewater collection system and contribute to excessively high wastewater flows during storm events, resulting in a number of areas of concern for wet weather SSOs. It is recommended that the City conduct an I&I study to better characterize system performance and ultimately rehabilitate areas that exhibit elevated levels of wet weather flow, and better refine the City's wastewater CIP.

The City's primary focus when it comes to CIP projects should be improvements that can decrease I&I. An I&I study should be conducted to understand the wastewater collection system wholistically.

The City's wastewater treatment plant (WWTP) is located along Sebesta Road in the southwest portion of town. The WWTP's current Texas Pollutant Discharge Elimination System (TPDES) Permit (Permit No. WQ0010548004) allows a maximum annual average effluent flow of 3.6 mgd to be discharged into Oyster Creek, and no more than 12,500 gpm (~18 mgd) during any two hour period.

Analysis of lift station run times during observed wet weather events indicates that many lift stations experience substantial wet weather flows with peaking factors well exceeding 12. Overall, the system at the discharge to the wastewater treatment plant exhibits a peaking factor 5.6, i.e., the wet weather flow is 5.6 times greater than the dry weather flow. Inflows to the WWTP following storm events frequently overwhelm the plant, increasing the risk of violating the plant's TPDES permit conditions.

If the City pursues an I&I reduction study, it was assumed that individual peaking factors throughout the system greater than 4.0 could be reduced by 30%, with a minimum peaking factor of 4.0. Using this methodology, the overall system-wide peaking would be reduced from 5.6 to 4.7, or a 3.9 mgd (16%) overall reduction of inflows to the WWTP during wet weather events, as summarized in Table ES-9. This is a considerable reduction, but still greatly exceeds the current capacity of the WWTP. Note that TCEQ requires new WWTPs be designed for a peaking factor of at least 4.0 in the absence of hourly peak flow data (30 TAC §217.32(a)(2)).

Table ES- 9. Long-Term Wastewater Flows, with and without I&I Reduction

	Long-Term Flows	Long-Term Flows With I&I Reduction
Peak Dry Weather Flow (mgd)	4.4	4.4
Inflow and Infiltration (mgd)	19.9	16.0
Peak Wet Weather Flow (mgd)	24.3	20.4
System Peaking Factor	5.6	4.7

Proposed CIP projects were identified and sized to accommodate long-term growth through 2053 under wet weather conditions with no consideration of I&I reduction, and with an assumed I&I reduction of 30% for those areas exhibiting greater than a 4.0 peaking factor.

The CIP to provide the necessary infrastructure to meet the near-term and long-term system flows is shown in Table ES-10 (without I&I reduction) and Table ES-11 (with I&I reduction). If no efforts are made to reduce I&I, the capital costs to convey wet weather wastewater flows to the wastewater treatment plant total $51.99 million. However, if an aggressive program is implemented to reduce I&I, this cost reduces to $22.67 million, a reduction of $29.32 million (56.4%). This savings would be realized by eliminating several lift station, force main, and gravity sewer projects and reducing the diameter of several other gravity and force main projects.

HDR strongly encourages the City to pursue an aggressive I&I reduction program to reduce the occurrences of SSOs and better prepare the City to meet the demands of future growth by dramatically reducing the costs of wastewater infrastructure. Simply installing larger pipes to convey the wastewater flows will simply fill those new, larger pipes with I&I flows.

Table ES- 10. Wastewater CIP without I&I Reduction

Project ID	Recommended CIP	Number of Pumps Added	Pump Capacity Added (gpm)	OPCC (2025 dollars)	% of Cost Impact Fee Eligible (portion of capacity used within 10 years)
PUMP-1	LS 1 Lift Station	2	800	$1,815,000	25%
PUMP-2	LS 7 Bypass Lift Station	2	2,250	$1,815,000	50%
PUMP-3	LS 7 Lift Station	1	1,200	$1,815,000	50%
PUMP-4	LS 8 Lift Station	3	1,200	$1,815,000	50%
PUMP-5	LS 9 Lift Station	1	250	$1,815,000	0%
PUMP-6	LS 23 Lift Station	1	350	$1,815,000	0%
PUMP-7	LS 24 Lift Station	1	350	$1,815,000	25%
Project ID	**Recommended CIP**	**Pipe Diameter (in)**	**Pipe Length (LF)**	**OPCC (2025 dollars)**	**% of Cost Impact Fee Eligible**
FM-1	Lift Station 1 Force Main	18	1,010	$1,284,000	25%
FM-2	Lift Station 7 Bypass Force Main	24	12,300	$20,762,000	50%
FM-3	Lift Station 8 Force Main	18	277	$176,000	50%
FM-4	Lift Station 24 Force Main	10	405	$144,000	25%
WWL-1	Shannon Street & Karankawa Lane	36	4,110	$5,222,000	50%
WWL-2	Hospital Dr. from Buchta Rd to Valderas St	27	3,210	$3,059,000	50%
WWL-3	E. Mulberry St. West of I-35	16	3,860	$4,344,000	50%
WWL-4	Highway 288B from FM 523 to Henderson Rd.	12	4,265	$3,600,000	25%
WWL-5	FM 523/Henderson Rd Wastewater Line	16	1,230	$693,000	25%
WWL-6	Lift Station 46 Tributary	12	2,425	$1,035,000	100%
Total Cost of CIP Projects Without I&I Reduction				**$51,989,000**	

Table ES- 11. Wastewater CIP with I&I Reduction Program

Project ID	Recommended CIP	Number of Pumps Added	Pump Capacity (gpm)	OPCC (2025 dollars)	% of Cost Impact Fee Eligible (portion of capacity used within 10 years)
PUMP-1	LS 1 Pump Station	2	800	$1,815,000	25%
PUMP-2	No longer needed after I&I reduction.				
PUMP-3	LS 7 Pump Station	1	1,200	$1,815,000	50%
PUMP-4	LS 8 Pump Station	3	1,200	$1,815,000	50%
PUMP-5	No longer needed after I&I reduction.				
PUMP-6	No longer needed after I&I reduction.				
PUMP-7	LS 24 Pump Station	1	350	$1,815,000	25%
Project ID	**Recommended CIP**	**Pipe Diameter (in)**	**Pipe Length (LF)**	**OPCC (2025 dollars)**	**% of Cost Impact Fee Eligible**
FM-1	Lift Station 1 Force Main	18	1,010	$1,284,000	25%
FM-2	No longer needed after I&I reduction.				
FM-3	Lift Station 8 Force Main	**16***	277	$156,000	50%
FM-4	Lift Station 24 Force Main	10	405	$144,000	25%
FM-5	No longer needed after I&I reduction.				
WWL-1	Shannon Street & Karankawa Lane	**30***	4,110	$4,327,000	50%
WWL-2	No longer needed after I&I reduction.				
WWL-3	E. Mulberry St. West of I-35	16	3,860	$4,344,000	50%
WWL-4	Highway 288B from FM 523 to Henderson Rd.	12	4,265	$3,600,000	25%
WWL-5	FM 523/Henderson Rd Wastewater Line	16	1,230	$693,000	25%
WWL-6	Lift Station 46 Tributary	**10***	2,425	$859,000	100%
Total Cost of CIP Projects With I&I Reduction				**$22,667,000**	

*Diameter of project is reduced with I&I reduction.

1 Background

Incorporated in 1912, the City of Angleton is located about 40 miles south of Houston on Highway 288 and is the Brazoria County seat. The City of Angleton owns and manages its own water and wastewater systems to service a population of approximately 20,200. The water system includes the purchase of potable water from the Brazosport Water Authority (BWA), production of potable water from City wells, transmission, distribution and storage of water for customer use.

The City's last Comprehensive Master Plan was completed in 2019. This plan covered details pertaining to the City's utilities (water and wastewater), land use, and public facilities. Several of the recommendations from that plan have been implemented. However, expected development areas have changed since 2019. The City has experienced fluctuations in growth, new developments, and system expansions. In addition, wear and tear on the water and wastewater facilities have created a need for greater focus on rehabilitation of the water distribution and wastewater collection systems. This master plan will serve as a road map for the City by identifying system deficiencies through hydraulic analyses, provide a plan for future growth, and the infrastructure improvements required to accommodate anticipated growth.

2 Water Master Plan

The system is responsible for supplying potable water that complies with all federal and state water quality standards and to meet customer water demands at all times. Water is provided through three ground storage and booster pump stations, six wells, and two elevated storage tanks. In addition, the City also purchases approximately2.3 million gallons per day (mgd) (approximately 840 million gallons per year) from the BWA, delivered through a transmission pipeline from the BWA water treatment facility to the City's Henderson and Jamison water plants.

2.1 Objectives and Scope of Work

The scope of work for the water distribution portion of this Utility Master Plan (UMP) includes the following tasks:

- Analyze historical and existing water demands
- Project future water demands
- Update and analyze the hydraulic model of the water distribution system
- Evaluate hydraulic deficiencies for existing and future conditions using the hydraulic model
- Develop recommendations for improvement in a Capital Improvement Program (CIP)

2.2 Data Sources

Various sources of data were provided by the City for use with the water hydraulic model update. These sources included reports, geographic information system (GIS) electronic files, and record drawings from completed construction projects, as well as the following:

- 2019 Utility Master Plan (UMP)
- Monthly total connections from 2017 – 2024
- Texas Water Development Board (TWDB) Data
- Historical Production Data
- Land Use Plan
- City Development Services map of future development areas
- Facility SCADA
- Storage Tank Condition Assessments

2.3 Existing Water Distribution System

The Department of Public Works operates and maintains the water distribution system, consisting of three ground storage tanks and booster pump stations (Henderson Plant, Chenango Street Plant, and Jamison Plant) and two elevated water storage tanks (Northside and Southside). The City obtains its water from the BWA, a surface water wholesaler. The surface water supply is supplemented with City-owned groundwater wells in times of high demand. The City's water distribution system consists of pipelines, storage reservoirs, pumping stations, control valves, fire hydrants, and water meters located throughout the system. The City has approximately 144 miles of water pipelines varying in size from 1 inch to 18 inches in diameter, and approximately 7,500 metered water service connections. Accounting for apartment complexes served by single master meters, the City serves approximately 9,513 total units.

Figure 2.1 shows the City's water distribution system. The following sub-sections describe the details of the City's water system.

2.3.1 Water System Pipeline Network

The City's distribution system consists of a wide variety of pipe types, sizes, and ages, and reflects ongoing growth of the system. Table 2.1 presents the total length of pipes by diameter, and Table 2.2 shows the breakdown of pipes by material. New pipes installed since the 2019 UMP were assumed to be polyvinyl chloride (PVC) if not otherwise identified.

Figure 2.1. City of Angleton Existing Water Distribution System

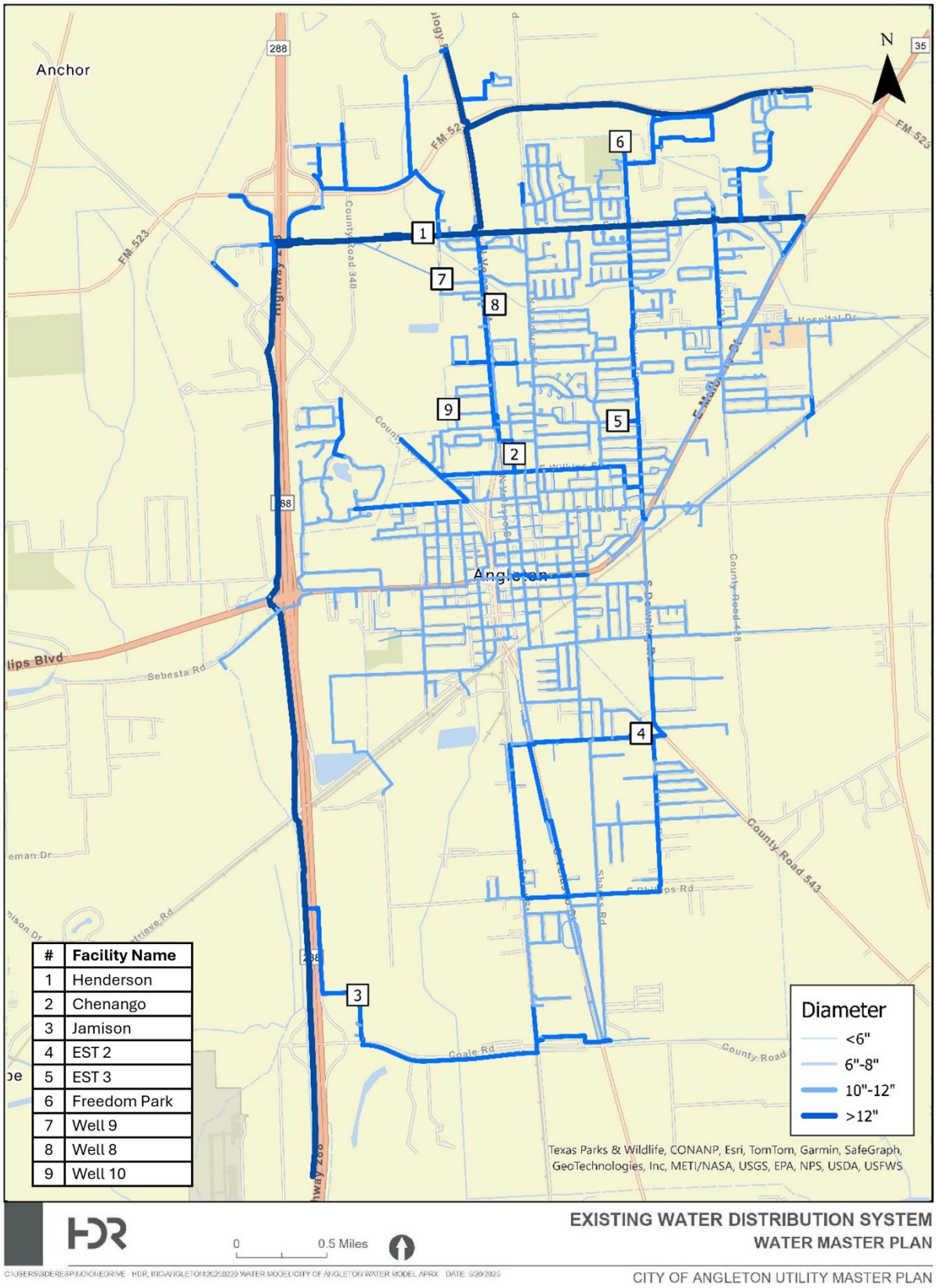


Table 2.1. Water System Pipeline Diameter Summary

Diameter (inches)	Length (feet)	Percent of Total
1	8,206	1.1%
2	92,526	12.2%
3	5,977	0.8%
4	17,328	2.3%
6	164,180	21.6%
8	273,915	36.0%
10	23,607	3.1%
12	109,805	14.4%
16	35,599	4.7%
18	29,063	3.8%
Total	760,207	

Source: City's GIS database

Table 2.2. Water System Pipeline Material Summary

Material	Length (feet)	Percent of Total
Asbestos Cement	305,323	40.2%
Cast Iron	35,472	4.7%
Ductile Iron	1,566	0.2%
Galvanized	7,834	1.0%
Polyethylene	9,018	1.2%
Polypropylene	11	0.0%
PVC	343,933	45.2%
Unknown	57,050	7.5%
Total	760,207	

Source: City's GIS database

The age and material of the pipelines within a system is important for a variety of reasons. As pipelines age and deteriorate, the likelihood of failure increases. As pipelines age, the hydraulic carrying capacity can decrease if the lining of the pipe deteriorates. Depending on the material, the decrease in capacity and the frequency of repairs can be significant. Monitoring the age of the pipelines in a system is essential so that system operators and managers can make informed decisions about the pipe network and its needs.

2.3.2 Storage Facilities

The City's existing storage facilities are shown in Table 2.3.

Table 2.3. Storage Facilities

Storage Facilities	Capacity (gallons)
EST 1	500,000
EST 2	750,000
Total Existing Elevated Storage	**1,250,000**
Water Plant #3 (Henderson) GST 1	1,000,000
Water Plant #2 (Chenango) GST	1,000,000
Water Plant #4 (Jamison) GST	400,000
Total Existing Ground Storage	**2,467,890**

2.3.3 Booster Pumping Stations

The City has three booster pump stations which provide water supply to the various City customers and boost system pressures in the service area. Table 2.4 shows a summary of the pump stations. The Henderson plant also has two 750 gallons per minute (gpm) pumps that transfer water from the storage tank at Plant 3 to the storage tank at the Chenango Plant via a dedicated 12" water line.

Table 2.4. Existing Booster and Transfer Pumps

Description	Type	Capacity (gpm, each)	No. of Pumps	Total dynamic head (feet)
Chenango Plant	Booster	850	3	137
Jamison Plant	Booster	850	3	220*
Henderson Plant	Booster	850	3	137
	Transfer	750	2	39

*A pressure reducing valve in the system is designed to reduce pressure to 60 psi downstream of the Jamison Plant, but is currently not utilized. It likely will be needed in the future after system improvements are made to the south part of the system.

2.3.4 Wells

The City owns seven groundwater production wells. Wells 6 and 7 are out of service; however, a rehabilitation project in the early planning stages may enable these wells to supply water in the future. Supply from these wells is not considered in this plan. Table 3-5 shows the capacity of each of the production wells in the distribution system.

Table 2.5. City Water Well Capacities

Well Number	Capacity (gpm)*
Well #6 (Out of Service)**	400
Well #7 (Out of Service)**	450
Well #8	550
Well #9	635
Well #10	725
Well #11	697
Freedom Park Well	750

*Capacities from Texas Drinking Water Watch Tested Capacity
**Wells #6 and #7 may be put back into service pending the results of a rehabilitation project that is in the early planning stages. Supply from these wells is not considered in this plan.

2.4 Water Demands

2.4.1 Existing Demands

WATER DEMAND CLASSIFICATION BY CUSTOMER TYPE

The City provides water to a variety of customer classes, as shown in Table 2.6. The single largest customer category is single family residential (SFR) customers, followed by commercial and multi-family residential (MFR) customers. Total water use was reported by the TWDB[2]. Volumes were allocated to customer categories based on an average percent of total demand from historical data (2009-2013). In the future, this allocation of demand is expected to continue as single family residential and multi-family residential make up a large majority of the non-rural parcels in the City's service area.

[2] Texas Water Development Board Regional Water Planning Water User Group (WUG) Utility – Summary Estimates. https://www3.twdb.texas.gov/apps/reports/WU_REP/SumFinal_UtilityWUGSum

Table 2.6. Annual Retail Water Used by Customer Type

Water Use Category	Annual Retail Water Use (million gallons)					
	2018	2019	2020	2021	2022	2023
SFR	508.3	492.3	493.1	435.8	494.0	508.3
MFR	88.8	86.0	86.1	76.1	86.3	88.8
Industrial	-	-	-	-	-	-
Commercial	132.2	128.0	128.3	113.3	128.5	132.2
Institutional	-	-	-	-	-	-
Agricultural	-	-	-	-	-	-
Total*	**729.2**	**706.3**	**707.5**	**625.2**	**708.8**	**729.2**

*Total water use from TWDB

WATER DEMAND CLASSIFICATION BY NUMBER OF CONNECTIONS

The City's roughly 7,500 metered service connections serve a variety of different customer types, including single family residential, multi-family residential, and commercial/industrial. The number of existing SFR meters was estimated based on yearly additional connection data provided by the City for 2017-2023. Historical data indicates approximately 35 SFR connections were added to the system between 2014-2016.

To estimate MFR and Commercial/Industrial total meters, ratios of MFR or Commercial total meters to SFR total meters were maintained from the 2019 UMP.

89 percent of the City's total metered service connections are SFR, and 1 percent are MFR. The majority of water consumption occurs within the residential sector. Typically, MFR service connections serve multiple residences and therefore use more water per meter. Commercial and Industrial accounts make up the remaining 10 percent of the total connections. Table 2.7 lists the total number of meters and estimated equivalent SFR connections by customer type.

Table 2.7. Average Number of Meters by Customer Type

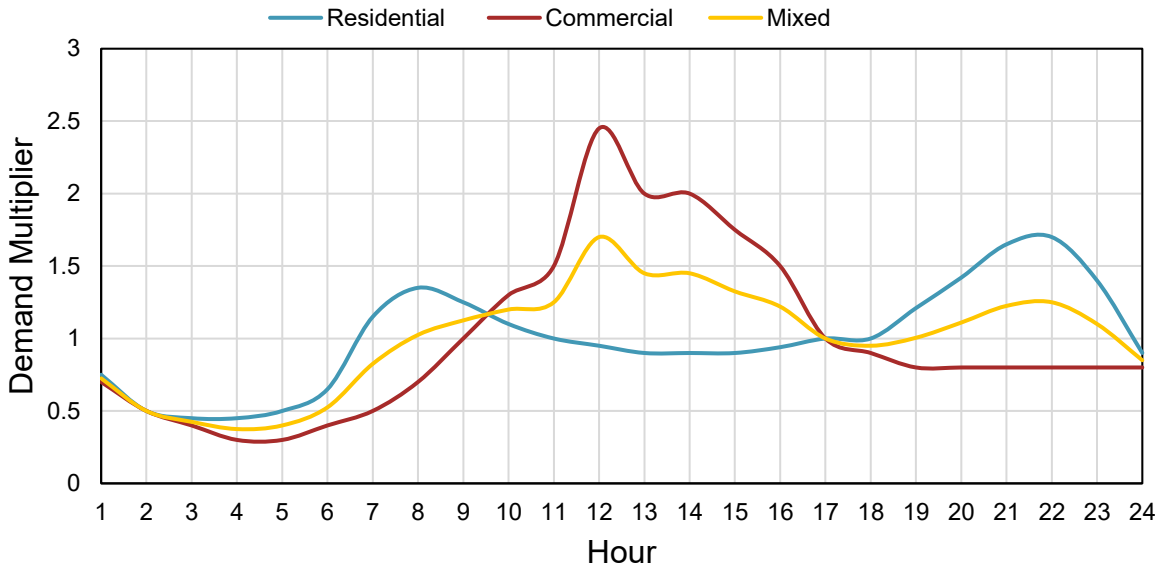
Water Use Category	Total Meters	Equivalent SFR Connections	Average Use per Meter (1,000 gal)
SFR	6,717	6,717	75.7
MFR	67	1,134	1,325.4
Commercial/Ind.	754	1,742	175.3
Total	7,538	9,593	

Note: Meter and connection counts shown are as of August 2024.

DIURNAL PATTERNS BY CUSTOMER TYPE

Water demand varies temporally throughout a day, and this variation is referred to as a diurnal pattern. Typical diurnal pattens for residential, commercial, and mixed customers are shown in Figure 2.2. Mixed customers are 50% residential and 50% commercial based on assumptions for new growth in mixed-use developments. The residential diurnal patten shows water demand peaking twice per day, once in the morning around 8:00 AM and once in the evening around 10:00 PM. The commercial users follow an opposite pattern, with demand low in the mornings and evenings but peaking in the middle of the day around noon. The mixed customers follow a combination of residential and commercial patterns.

Figure 2.2. Diurnal Patterns by Customer Type



EXISTING WATER SUPPLIES AND RECENT HISTORICAL DEMANDS

The existing water supplies and recent historical demands are summarized in Table 2.8. The average-day demands (ADD) for 2020-2022 were calculated using annual volumes published in the TWDB Water Use Reports[3]. The total annual supply was calculated as the sum of BWA surface water supply and the City's groundwater well supply. Well production was included at both 50% and 100% capacity, to capture potential variations in the total supply. The ADD and total annual supplies were used to calculate the annual surplus or need.

[3] Texas Water Development Board Regional Water Planning Water User Group (WUG) Utility – Summary Estimates. https://www3.twdb.texas.gov/apps/reports/WU_REP/SumFinal_UtilityWUGSum

Table 2.8. Existing Water Supplies and Current Annual Demands

Year	Average-day Demands (ADD) - (ac-ft/yr)	BWA Surface Water Supply (ac-ft/yr)	Annual Well Supply Capacity (ac-ft/yr)		Total Annual Supplies (ac-ft/yr)	
			100% GW Capacity	50% GW Capacity	100% GW Capacity	50% GW Capacity
2020	2,171	2,016	2,501	1,251	4,517	3,267
2021	1,919	2,016	2,501	1,251	4,517	3,267
2022	2,175	2,576**	2,501	1,251	5,077	3,827
2023	2,132*	2,576	2,501	1,251	5,077	3,827

* HDR-calculated ADD
** Contract increase was effective October 1, 2022

The existing water supplies and current demand based on maximum-day full well capacity are shown in Table 2.9. The maximum daily demand (MDD) was calculated using a peaking factor of 2.0. The total annual supply was calculated as the sum of BWA surface water supply and the City's groundwater well supply. Well production at 50% and 100% capacity was used to capture potential variations in the total supply. The MDD and maximum-day supplies were used to calculate the annual surplus or need.

Table 2.9. Existing Water Supplies and Current Maximum-Day Demands

Year	Maximum-day Demands (mgd)	BWA Surface Water Supply (mgd)	Well Supply Capacity (mgd)	Total Maximum-Day Supplies (mgd)
2020	3.88	1.80	4.70	6.50
2021	3.43	1.80	4.70	6.50
2022	3.88	2.30*	4.70	7.00
2023	3.88	2.30	4.70	7.00

* Contract increase was effective October 1, 2022

2.4.2 Land Use Projections

Angleton city limits cover approximately 7,666 acres. Table 2.10 and Figure 2.3 show the breakdown of zoning districts within city limits based on the 2018 Official Zoning Map. Land use designations used for this report are primarily based upon the City's 2003 Comprehensive Plan and the City's Zoning Ordinance completed in 2009. As part of the Comprehensive Plan, an inventory of existing land use was conducted in August 2003. This inventory provided an understanding of the location, pattern and extent of development in and around the City of Angleton. Land use information in rural and relatively undeveloped portions of the City was

more generalized to reflect the limited extent of development. Categories used to collect data were typical of general land use analysis, including various categories of residential, commercial, industrial, and public or semi-public activity. The following “Base” and “Overlay” zoning districts have been established by the City’s Planning and Zoning Commission.

Base Districts

- AG: Agricultural
- SFE-20: Single-Family Estate Residential-20 (minimum 20,000 square-foot lots)
- SF-7.2: Single-Family Residential-7.2 (minimum 7,200 square-foot lots)
- SF-6.3: Single-Family Residential-6.3 (minimum 6,300 square-foot lots)
- SF-5: Single-Family Residential-5 (minimum 5,000 square-foot lots)
- 2F: Two-Family Residential (duplex homes)
- SFA: Single-Family Attached Residential (townhomes)
- MFR-14: Multi-Family Residential-14 (apartments – maximum 14 units/acre)
- MFR-29: Multi-Family Residential-29 (apartments – maximum 29 units/acre)
- MFR-36: Multi-Family Residential-36 (apartments – maximum 36 units/acre)
- MH: Modular Homes
- C-N: Commercial – Neighborhood
- C-G: Commercial – General
- C-OR: Commercial – Office/Retail
- CBD: Central Business District
- LI: Light Industrial

Overlay Districts

- PD: Planned Development

2.4.3 Development Areas

The City anticipates substantial residential, commercial, and industrial growth in the next 30 years. Most developments will be located to the south, northeast, or northwest parts of the City. The anticipated development areas and how much growth City planning staff anticipate will occur in each area over the next 10 years are shown in Figure 2.4. The anticipated land use types for each development area are shown in Table 2.11. The projected land use designations are shown in based on the anticipated development areas and current zoning designations.

Table 2.10. Existing Zoning Designations

Type	Land Use Designation	Approximate Acreage	Percent of Total
Residential	Single Family	2,952	39%
	Multi Family	272	4%
Commercial	Commercial General	1,150	15%
	Central Business District	39	1%
	Commercial/Office Retail	168	2%
	Light Industrial	823	11%
Agricultural		305	4%
Planned Development		543	7%
Other*		1,415	18%
Total		**7,666**	**100%**

*Includes parcels with no zoning designation

Figure 2.3. Existing Zoning Designations

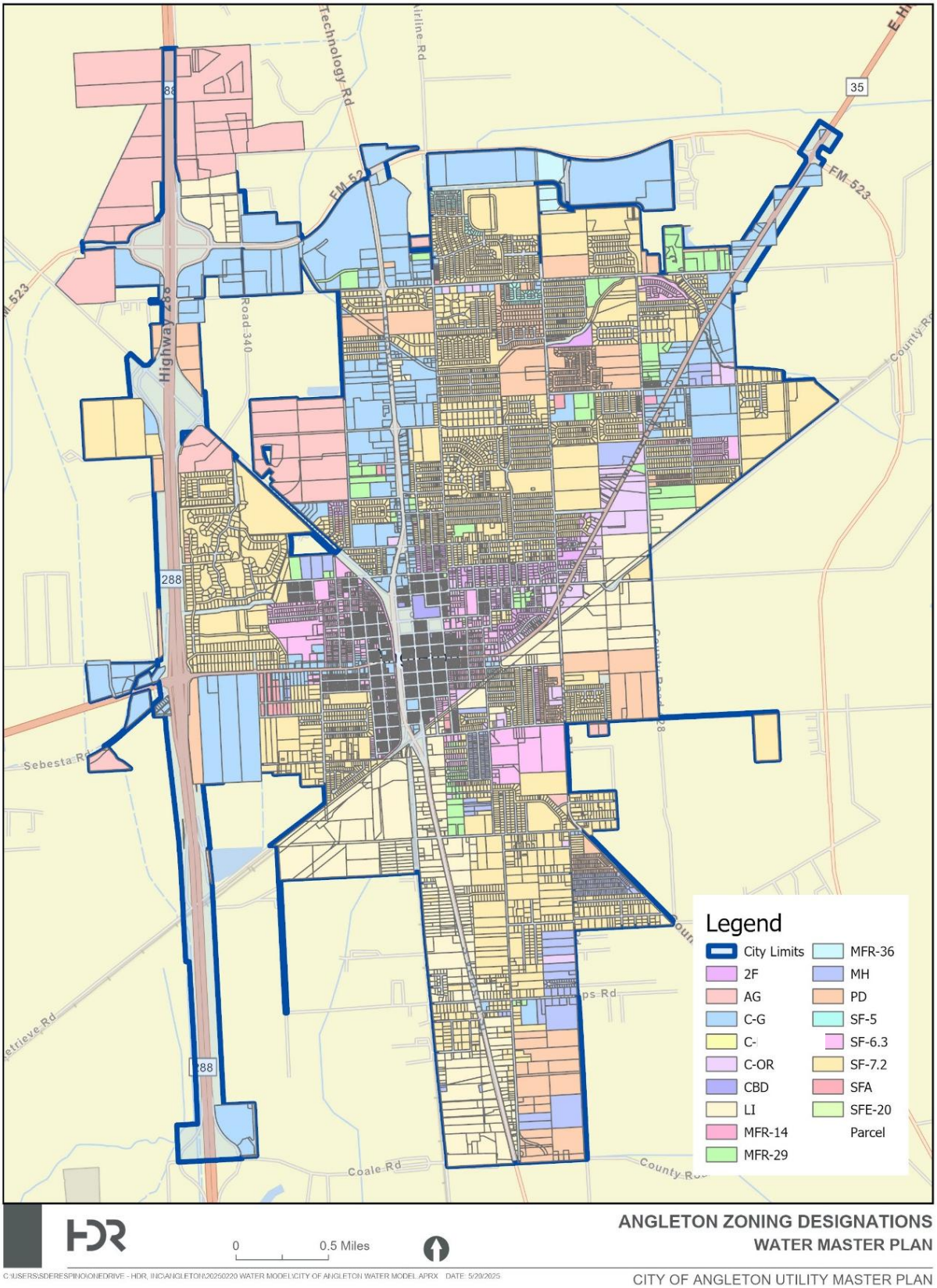


Figure 2.4. Development Areas for Assumed Growth

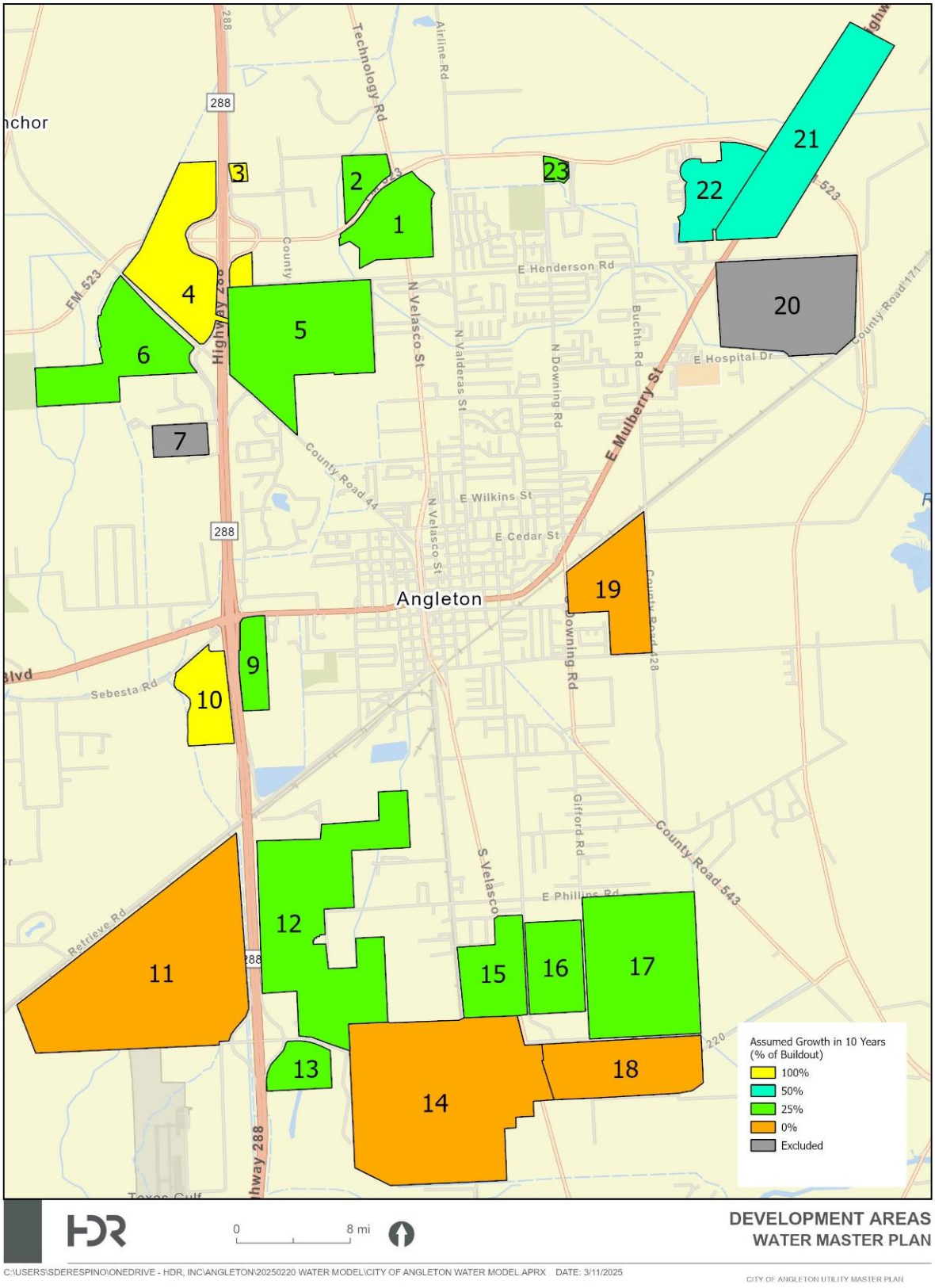


Table 2.11. Anticipated Characteristics of each Development Area

Number ID	Development Type	Area (acres)
1	Mixed Use: Multi-Family/Commercial	137
2	Mixed Use: Multi-Family with Commercial Frontage	50
3	Car lot and wash 17 ESU	8
4	General Commercial and Light Industrial	284
5	Hotel and Commercial	365
6	Residential (30-Years to Build-out)	224
7	Fire Field	43
8	Not Considered	61
9	Medium-High Density Mixed Residential	101
10	Medical Center	712
11	Industrial (30-yr Build out Possible)	521
12	SW Angleton Res Growth	65
13	Low Density Residential	683
14	Mixed Use: Single-Family Residential/Light Industrial	133
15	Mixed Use: Commercial/Industrial	126
16	Low Density Residential	387
17	Light Residential	213
18	Light Industrial	180
19	Residential	308
20	High Density Industrial	311
21	Mixed Use: Commercial/Light Industrial	119
22	Single Family and Multi-Family Residential	14
23	Senior Living Facility	137
Total		5,045

Table 2.12. Projected Total Areas of Land Use with Future Development Areas

Type	Land Use Designation	Approximate Acreage	Percent of Total
Residential Use	Single Family	4,874	46%
	Multi Family	433	4%
Commercial	Commercial General	1,703	16%
	Central Business District	40	0.4%
	Commercial/Office Retail	190	2%
	Light Industrial	2,242	21%
Other	Agricultural	617	6%
	Planned Development	438	4%
	Total	10,537	100%

2.4.4 Future Demands

Additional future average-day demands for near-term and long-term based on anticipated developments are shown in Table 2.13, based on the projected number of future connections and water use per connection. For purposes of this plan, near-term demands are expected within the next 10 years (2033) and long-term demands are expected at 30 years (2053), based on the time this planning effort was initiated (2023).

Table 2.13. Additional Near-Term and Long-Term Average-Day Demands

Demands	Total Demands Added Near-Term (2033)	Total Demands Added Long-Term (2053)
Total Projected Additional Residential Demand (gpm)	306	1,334
Total Projected Additional Non-residential Demand (gpm)	369	869

Water use by residential, commercial and other customers can be influenced by various factors like climate, economy, water conservation, regulatory changes, etc. The extent of these effects may vary based on local conditions and can be significant. Increased demands may result in the need for additional system capacities, enhanced water conservation efforts in order to comply with state mandates, or additional water supply sources.

The number of additional connections was estimated using historical data of demand and total equivalent connections for SFR, MFR, and commercial customers. The residential demand per connection was estimated as 0.139 gpm and commercial demand per connection was

estimated as 0.320 gpm. The estimated number of connections based on projected demands is shown in Table 2.14.

Table 2.14. Near-Term and Long-Term Number of Connections

Connections	Near-Term (2033)	Long-Term (2053)
Number of Existing Connections	8,738	
Number of Additional Residential Connections	2,206	9,628
Number of Additional Non-residential Connections	1,152	2,714
Total Number of Existing and Future Connections	**12,095**	**21,080**

2.4.5 Minimum System Capacity Requirements

The Texas Administrative Code (TAC) details minimum system capacity requirements that must be met by public water systems based on number of connections in the system (30 TAC §290.45). The minimum pumping capacity requirement is 0.6 gpm per connection; however, the City is approved for an alternative capacity requirement (ACR) of 0.37 gpm per connection. These regulations also stipulate that systems the size of the City's are to maintain at least 200 gallons of storage per connection, of which at least 100 gallons of storage per connection must be elevated storage. The projected requirements for the system, including existing connections and future connections, are shown in Table 2.15 for near-term (2033) projections. The existing system meets TAC requirements for the near-term projection.

Table 2.15. Minimum System Capacity per TAC Requirements (Near-Term)

System	Existing System	TAC requirement	Near-Term Requirements (2033)	Surplus/ (Deficit)
Total Storage (gal)	3,650,000	200 gal/connection	2,419,200	1,230,800
Elevated Storage (gal)	1,250,000	100 gal/connection	1,209,600	40,400
Firm Pumping Capacity (gpm)	7,050	0.37 gpm/connection	4,475	2,575
		0.6 gpm/connection	7,257	(207)

Table 2.16 shows the number of additional connections allowed in the system for near-term projections before the minimum system capacity conditions require additional infrastructure. The elevated storage requirement is the limiting factor. After 404 connections are added to the system beyond the near-term projection, additional elevated storage capacity will need to be constructed.

Table 2.16. Additional Connections Allowed per TAC Requirements (Near-Term)

System	Additional Connections Allowed
Total Storage (gal)	6,154
Elevated Storage (gal)	404
Firm Pumping Capacity (gpm)	6,959

Projected long-term (30-year) requirements are shown in Table 2.17. The existing system will not meet TAC requirements for elevated storage, total storage, or firm pumping capacity under the future (long-term) anticipated number of connections. This indicates additional elevated storage and pumping capacity should be included in long-term planning.

Table 2.17. Minimum System Capacity per TAC Requirements (Long-Term)

System	Existing System	TAC requirement	Long-Term Requirements (2053)	Surplus/ (Deficit)
Total Storage (gal)	3,650,000	200 gal/connection	4,216,000	(566,000)
Elevated Storage (gal)	1,250,000	100 gal/connection	2,108,000	(858,000)
Firm Pumping Capacity (gpm)	7,050	0.37 gpm/connection	7,800	(750)
		0.6 gpm/connection	12,648	(5,598)

2.5 System Analysis

2.5.1 Existing System Update and Analysis

The distribution system model developed for the previous UMP was compared to the latest water lines GIS shapefile and facility inventory table to identify assets currently in service but not represented in the hydraulic model. All missing water lines were added to the hydraulic model network and assigned geometry based on attribute data assigned to each pipeline asset. New water lines were assigned a roughness factor of 130, consistent with modeling standards for water pipes in good condition. Parcels adjacent to the added water lines were assigned water demand loading based on their land use type and acreage. The additional demands from these recently developed parcels were allocated based on geographic proximity to the new modeled water lines. The Freedom Park groundwater well and booster pump station was added to the model and assigned storage volumes, pump capacities, and operational parameters based on the facility inventory table provided by City staff.

Once the distribution system hydraulic model was updated, a present-day simulation was developed to evaluate existing system conditions. The present-day water system simulation was evaluated for pump run times, storage tank cycling, distribution system pressures, and total

water supply utilization. Differences between the previous and updated hydraulic models include:

- Freedom Park groundwater well and pump station added;
- Jamison Booster Pump Station pressure reducing valve (PRV) is no longer active and is currently being bypassed;
- Demands in the south half of the distribution system are sufficient to facilitate cycling of EST 2 without the Jamison PRV;
- Fire flow capacity in the south half of the distribution system has been improved by recent distribution system improvements which loop previously dead-end mains and by the replacement of small diameter mains with larger diameter mains;
- Expansion of the distribution system to serve Rancho MUD and customers to the northeast between FM 523 and E Henderson Rd; and
- Infill development and associated water system improvements in neighborhoods south of E Henderson Rd.

Hydraulic model simulations of the present-day distribution system indicate no significant operational or supply limitations in its current configuration. These results suggest that improvements made to the distribution system since the previous UMP have improved capacity in growing areas of town sufficient to accommodate the increasing demands. Additionally, the development of the Freedom Park well and utilization of existing wells supplying the Chenango Booster Pump Station effectively diversify water supplies under maximum-day demand conditions without exceeding the wholesale water supply contract with BWA.

Existing distribution system pressures were found to exceed TCEQ minimum requirements, with model pressure only dropping below 35 psi inside pumping facilities on the suction side of pumps or at the end of two small diameter, dead-end mains. Minimum pressure was evaluated assuming maximum day demands, existing controls schemes, firm capacity at each pumping facility, and tanks in normal operation. Minimum pressures are slightly higher in the central and southeast areas of the distribution system due to lower ground elevation. Except for small diameter, dead-end mains, the existing system can deliver 2,000 gpm of fire protection flow at all locations at a residual pressure of 20 psi.

2.5.2 Future System Analysis

Future planning areas to be accommodated in future system model simulations were defined during two meetings with City of Angleton staff. The planning areas were each assigned an expected land use type and approximate build-out schedule (Figure 2.4). Demands from the future planning areas were loaded into the existing model based on a near-term planning horizon and a long-term planning horizon.

The near-term planning horizon and capacity utilization of existing and future proposed assets is the basis for potential impact fee reimbursement calculations based on the proportional capacity required to meet the near-term growth. If the City were to adopt an impact fee ordinance, this portion of the costs would be considered eligible. The long-term development horizon defined the full capacity required to meet the needs of anticipated demands and avoid capital project duplication in the short to medium term.

Two five-day extended period simulations, based on near-term (10-year) growth and long-term (30-year) growth, were developed to evaluate the impact of the future demands on system assets. Various operational parameters were evaluated to assess system performance, including:

- Minimum pressure requirements established by TCEQ;
- Distribution pipeline velocities;
- Pump run time and firm pumping capacity at each facility; and
- Elevated storage tank cycling and the system's ability to replenish storage tank volumes.

The near-term and long-term growth simulations were further refined to evaluate average-day and maximum-day demand conditions. The average-day demand scenario defined the baseline distribution system pressures at all junctions and maximum detention time of water stored in ground and elevated tanks. The maximum-day demand simulation was used to assess system minimum pressure values throughout the diurnal demand cycle, pump runtimes, tank cycling, and maximum, non-emergency pipeline velocities. Examples of the operational performance of EST 1 under existing and near-term horizon demand conditions, for average and maximum-day demands are illustrated in Figure 2.5 through Figure 2.8.

2.5.1 Operations Modifications

All high service pump operations are currently controlled by the level in EST 1. Transfer pumps from the Henderson BPS and the four active groundwater wells supplying the transfer line between the Henderson BPS and Chenango BPS are controlled by the level in the Chenango GST. Future demand simulations identified reduced distribution system performance with regard to minimum system pressure and EST cycling, caused by the control scheme at the Jamison and Chenango BPS's being linked to levels in EST 1. To address this issue, an alternative future operational scenario was developed that would modify the operation of the Jamison and Chenango BPSs. Converting the Chenango BPS to be controlled by the level in EST 2, and the Jamison BPS to be controlled by a proposed future EST near the intersection of CR 220 and S Velasco St addressed the noted deficiencies. The minimum modeled pressures for the current and the alternative operating scenarios are illustrated in Figure 2.9 and Figure 2.10. Modeled EST cycling and minimum/maximum levels for the current and alternative operating scenarios are illustrated in Figure 2.11 through Figure 2.14. As shown in the figures, modifying the system's controls as described in the alternative scenario greatly increases system pressures.

While the City's demands can be met during average demand periods solely with supply from BWA, the groundwater supplies should be operated routinely to maintain operational reliability and minimize the potential for water quality degradation during times of low groundwater use.

Figure 2.5. Existing System Average-day EST 1 Cycling

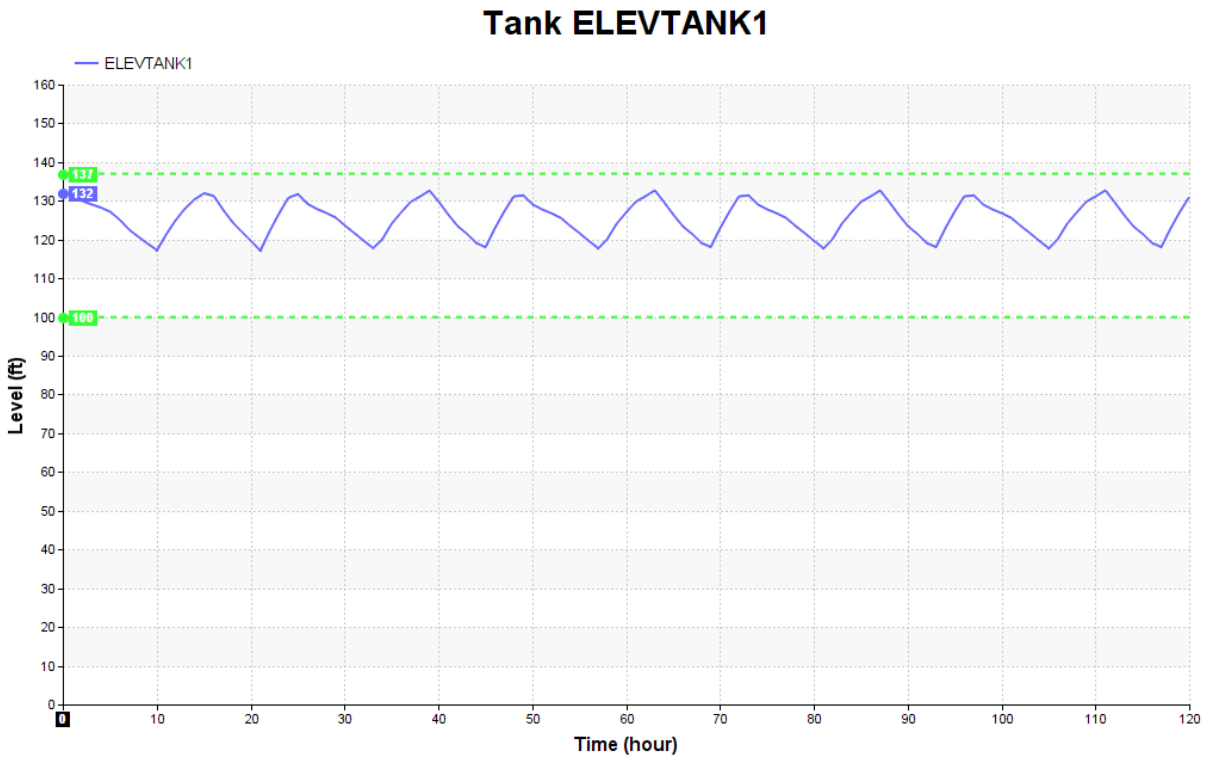


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Figure 2.6. Near-term Average-day with Capital Improvements - EST 1 Cycling

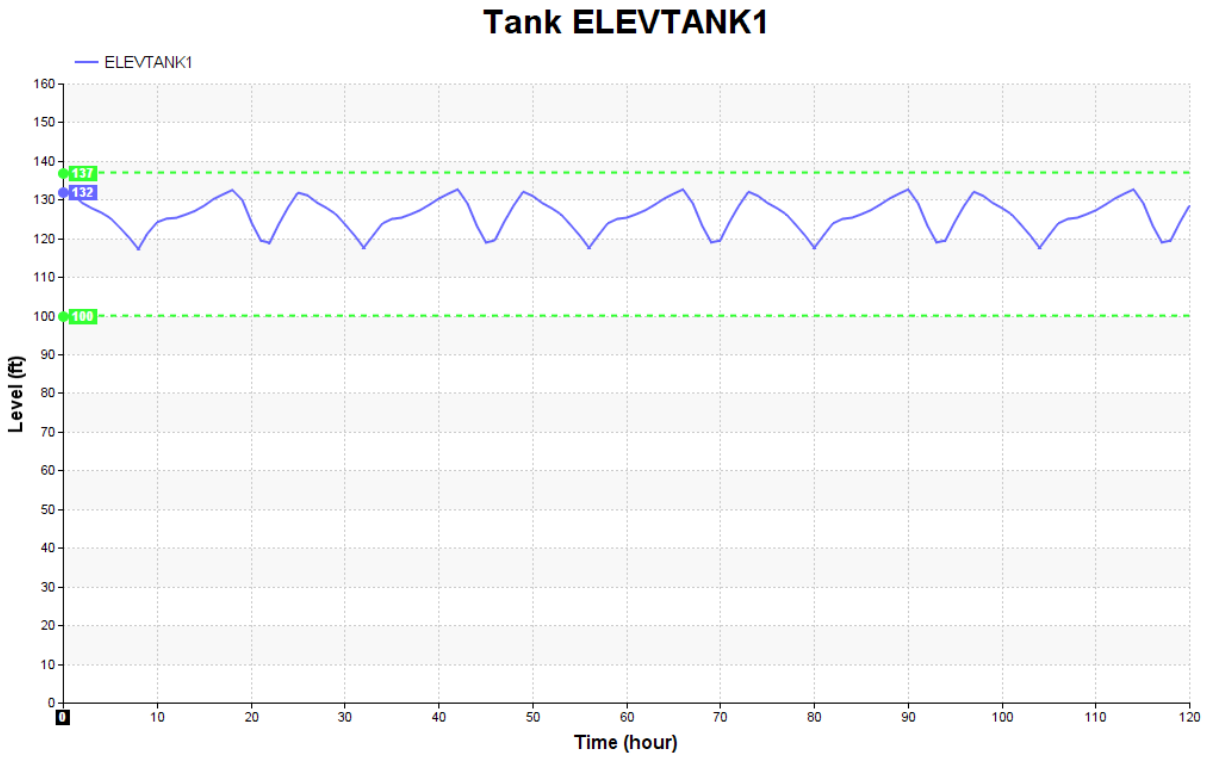


Figure 2.7. Existing System Maximum-day EST 1 Cycling

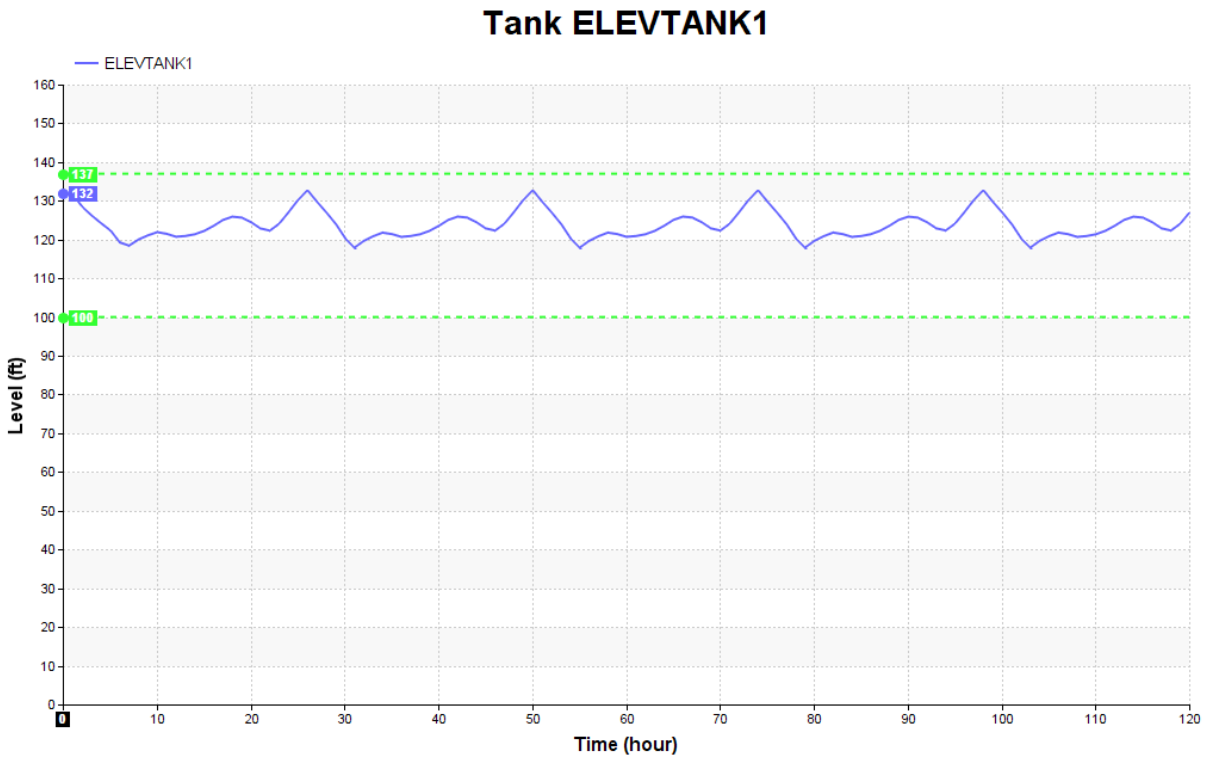


Figure 2.8. Near-term Maximum-day with Capital Improvements - EST 1 Cycling

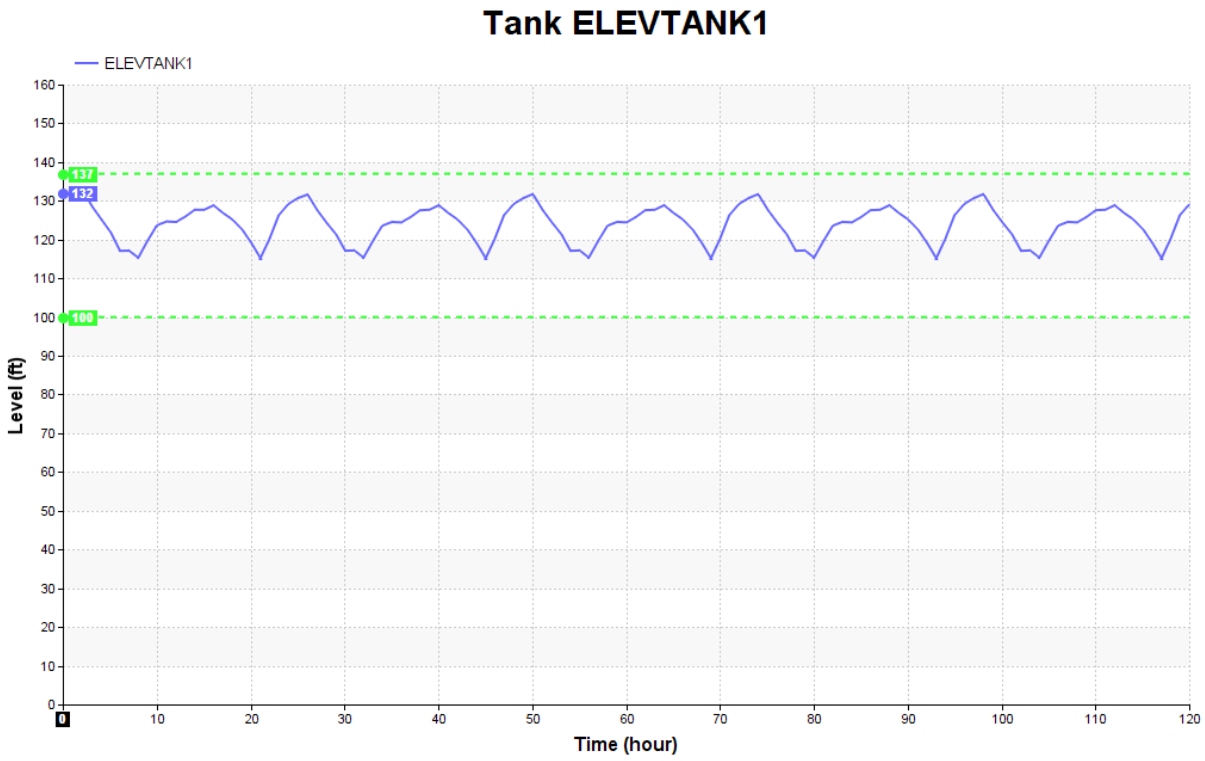


Figure 2.9. System Minimum Pressures: Long-Term Max Day - Existing Controls

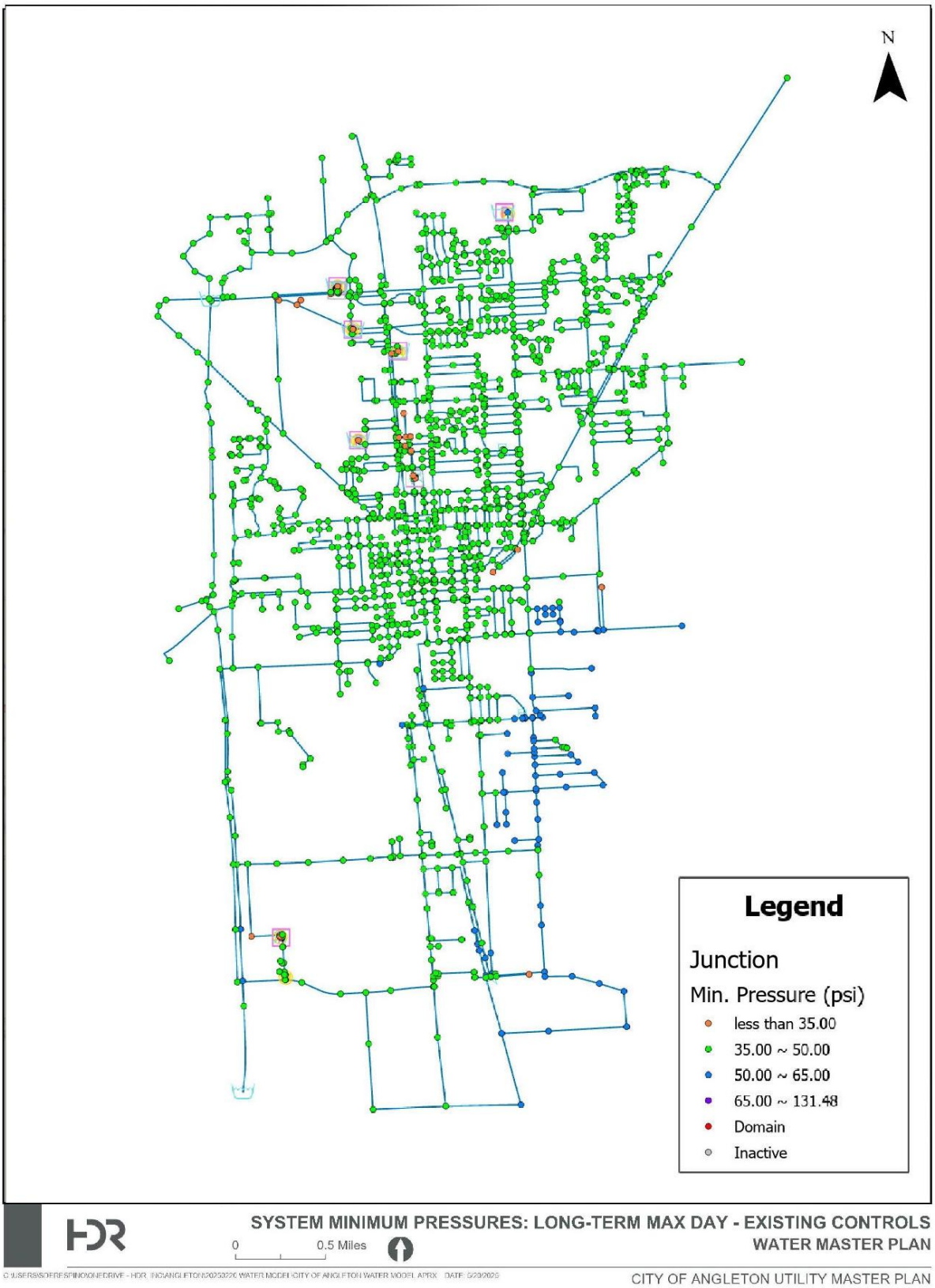


Figure 2.10. System Minimum Pressures: Long-Term Max Day - Modified Controls

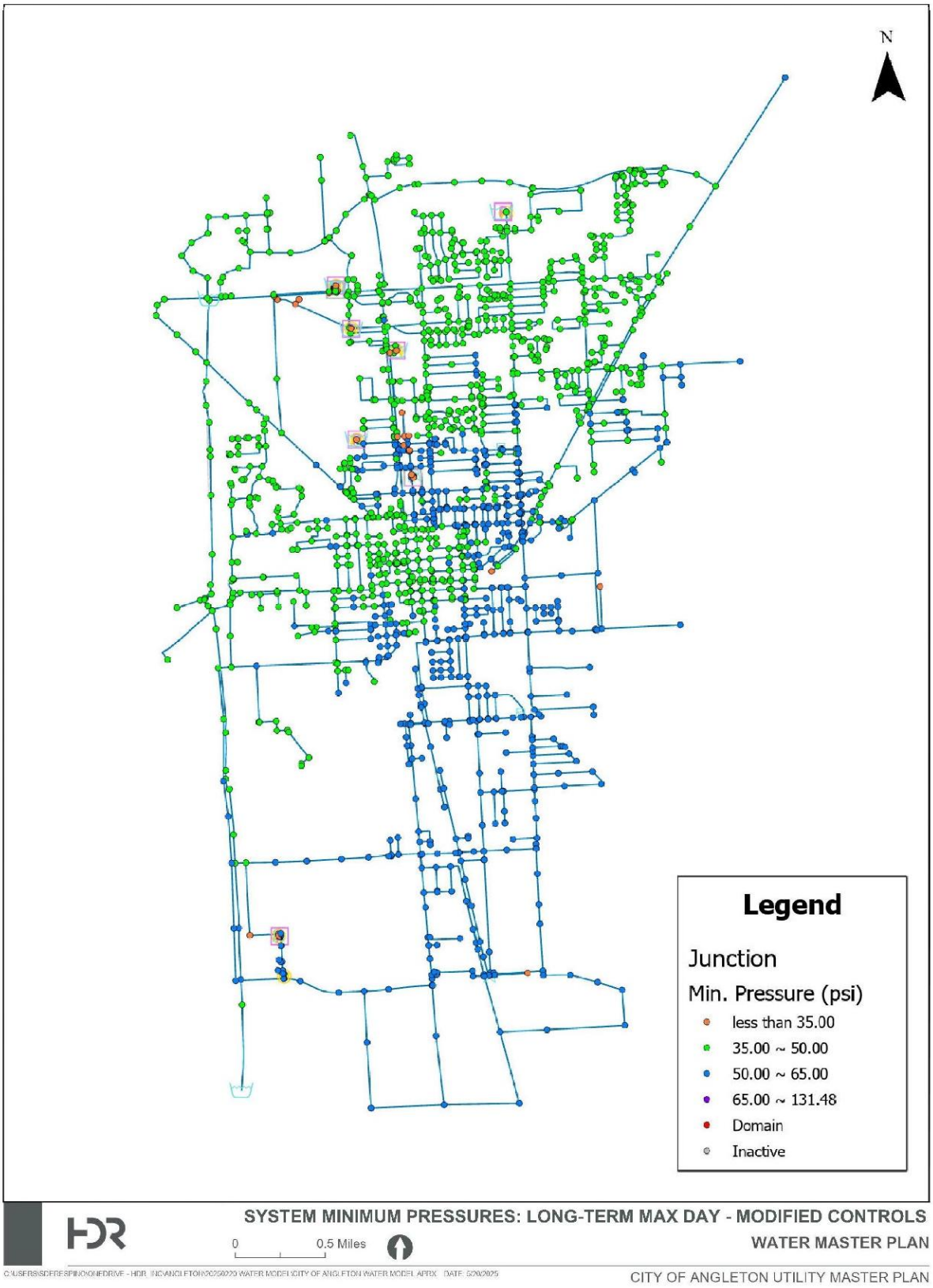


Figure 2.11. Long-Term Max Day EST 1 - Existing Controls

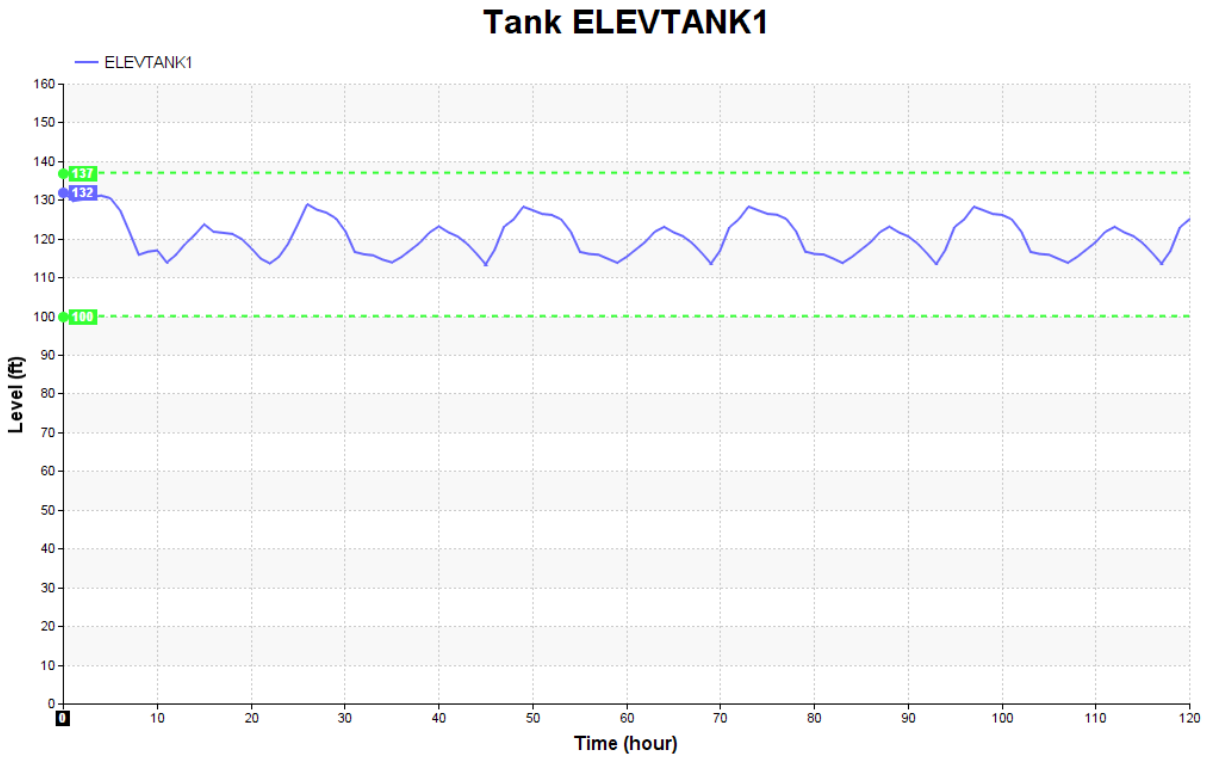


Figure 2.12. Long-Term Max Day EST 1 - Modified Controls

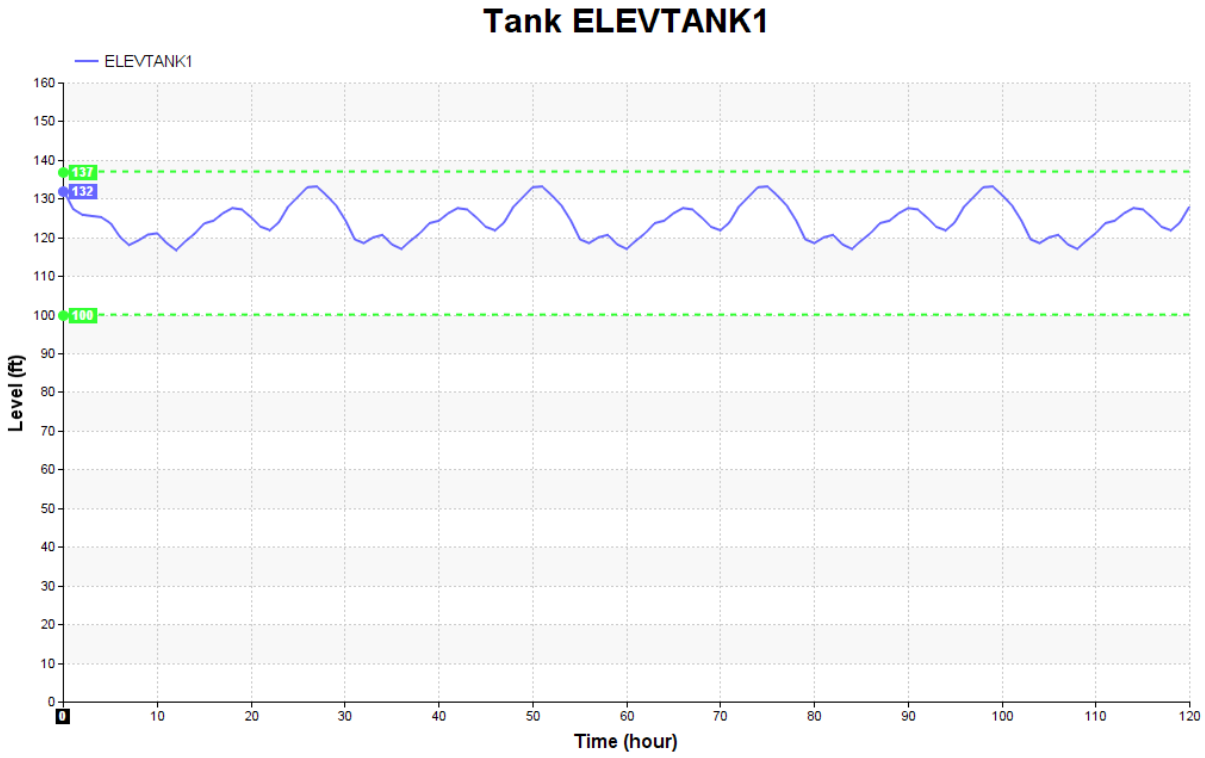


Figure 2.13. Long-Term Max Day EST 2 - Existing Controls

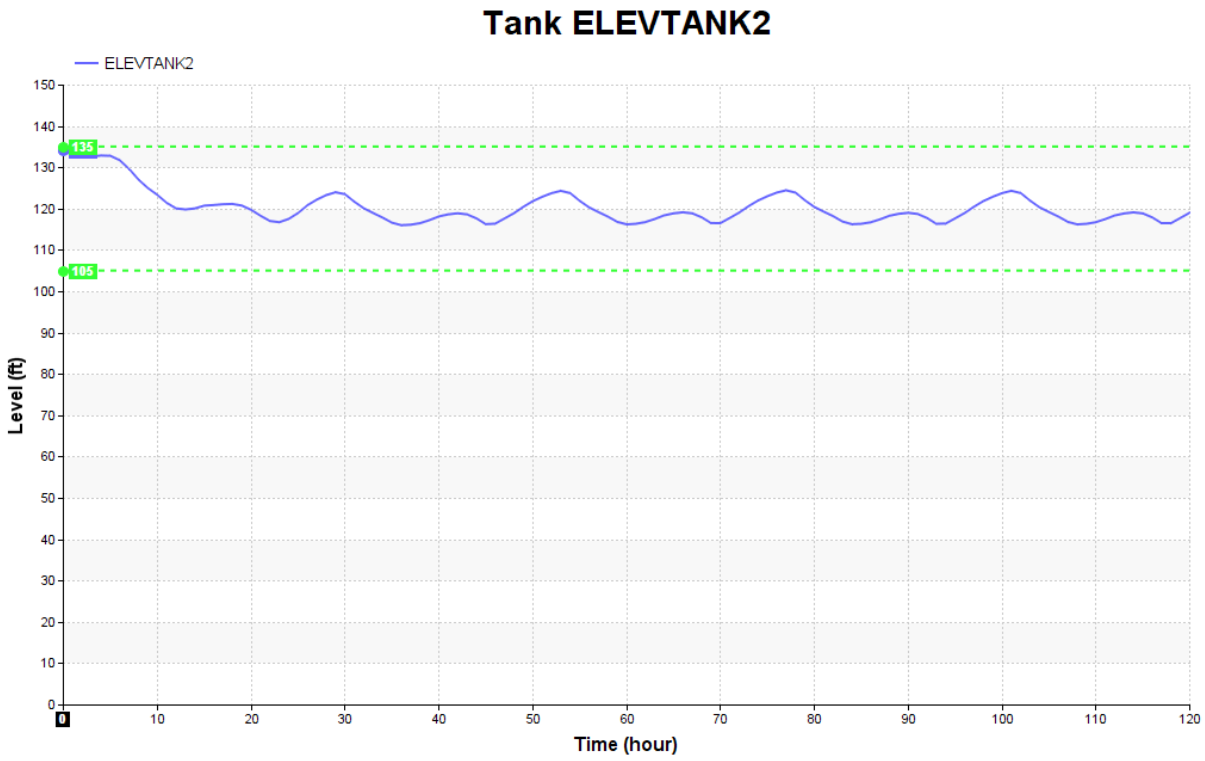
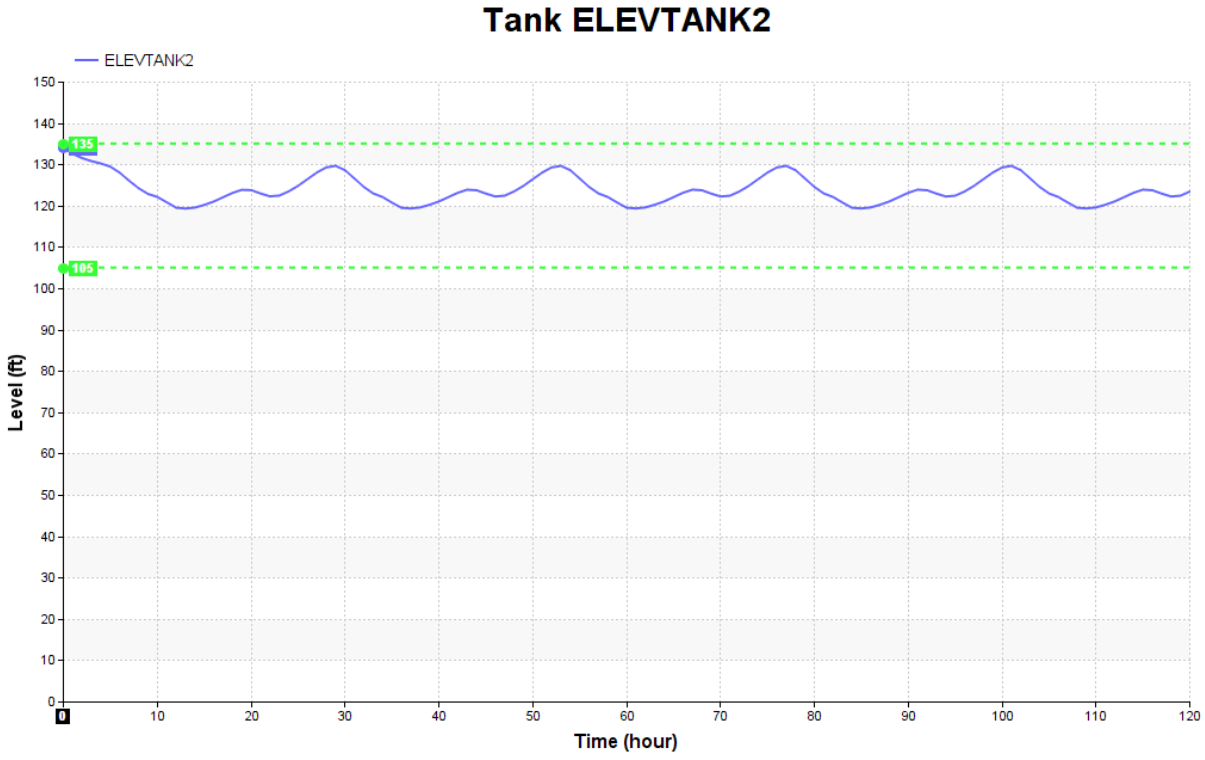


Figure 2.14. Long-Term Max Day EST 2 - Modified Controls



2.5.2 Future Improvements

Facility and pipeline improvements were added to the model where existing system capacities were exceeded, or where distribution system infrastructure was needed to serve new growth areas. Improvements were phased to evaluate the percentage utilization of each proposed project for the near-term planning horizon in relation to the required long-term capacity.

DISTRIBUTION SYSTEM IMPROVEMENTS

Henderson pump improvements
Maximum-day demands utilize all three existing pumps. A fourth pump was added as a future improvement for operational redundancy and to meet TCEQ standards for required firm pumping capacity.

Chenango distribution line pipe size increase
Future model simulations identified that the future predicted increased volume of water pumped from the Chenango BPS would result in excessive velocities in the distribution main from the Chenango BPS to the 12-inch diameter looped distribution system, beginning at the intersection of E Wilkins St and N Chenango St. The existing 10-inch and 12-inch diameter water lines are proposed to be replaced with a new 16-inch diameter water line.

Chenango pump improvements
Future model simulations under maximum-day demands utilize all three existing Chenango BPS pumps. A fourth pump was added as a future improvement for operational redundancy and to meet TCEQ standards for required firm pumping capacity.

Northeast Expansion
Pipeline improvements are proposed near the intersection of Hwy 35 and FM 523 to support anticipated mixed-use developments along Hwy 35 and to close a distribution system loop serving the northeastern portion of the Rancho MUD and Growth Areas 21 and 22.

Northwest area pipeline improvements
Pipeline improvements are proposed along CR 44, E Henderson Rd, FM 523, and Hwy 288 to support anticipated near-term and long-term mixed-use growth. Projects include:

- FM 532 Interconnect closes a loop along the north side of FM 523 and directly serves Growth Area 2.
- Hwy 288 & FM 523 closes a loop from Carbtex Rd, east across Hwy 288, south to FM 523. This project directly serves Growth Areas 3 and 4.
- Henderson to CR 44 improves capacity to Growth Area 5 and reduces maximum-day head loss in the local distribution system.
- CR 44 Extension improves capacity along CR 44 and directly serves Growth Areas 4 and 6.

Southwest area pipeline improvements

Pipeline improvements are proposed along Hwy 288, CR 219, and Coale Rd to support anticipated long-term mixed-use and industrial growth. Southwest area improvements will also support additional utilization of the Jamison BPS. Projects include:

- Coale Rd & Hwy 288 Loop improves conveyance from the Jamison BPS along Hwy 288 and serves Growth Areas 10, 11, 12, and 13.
- CR 219 Waterline creates a loop from CR 219 to Hwy 288 and serves Growth Area 12.
- Hwy 288 Northbound Waterline Extension creates a loop from the proposed Coale Rd and Hwy 288 Loop and existing mains near the intersection of Hwy 288 and W Mulberry St. This project serves Growth Area 9.

South area pipeline improvements

Pipeline improvements are proposed in the area bounded by CR 220 in the west, CR 44 in the south, and E Phillips Rd in the north. This area is anticipated to experience significant long-term residential, mixed-use, and industrial growth but is currently served by limited infrastructure and distribution system capacity. Projects include:

- Coale Rd & Hwy 288B Loop creates a loop around Growth Area 14, improves capacity between the Jamison BPS and the Hwy 288B area, and supports the operation of a proposed EST near the intersection of S Velasco St and CR 220.
- CR 288 Waterline Extension connects existing distribution system assets to the proposed Coale Rd and Hwy 288B Loop. This project serves Growth Area 14.
- E Phillips Rd & CR 220 Interconnect connects existing distribution system assets along E Phillips Rd to the location of a proposed EST near the intersection of S Velasco St and Cr 220. This project serves Growth Areas 16 and 17.
- CR 220 Loop connects the proposed Coale Rd and Hwy 288B Loop project to the proposed E Phillips Rd & CR 220 Interconnect project, extending water service to the far southeast. This project serves Growth Areas 17 and 18.
- S Velasco St Loop closes a gap along S Velasco St and serves Growth Area 15.

East area pipeline improvements

Pipeline improvements are proposed in the area bounded by CR 171 in the north, E Kiber St in the south, S Downing Rd to the west, and CR 428 in the east. These proposed improvements support long-term growth and create additional looping between existing distribution system waterlines. Projects include:

- CR 428 Waterline creates a loop from CR 171 to E Kiber St, along CR 428 and serves Growth Area 19.
- CR 428 & S Downing Rd Interconnect connects existing distribution system waterlines along S Downing Rd to the proposed CR 428 Waterline project. This project serves Growth Area 19.

New southside elevated storage tank (EST 3)

A new tank is proposed in the southside of the distribution system to meet TCEQ storage requirements, based on anticipated future connections, and to serve Growth Areas 11, 12, 13, 14, 15, 16, 17, and 18. Operational control of the Jamison BPS is proposed to be converted

from the level in EST 1 to the level in the proposed EST 3 once future development in the areas along CR 220 occurs.

TRANSFER SYSTEM IMPROVEMENTS

Henderson transmission line

The existing transmission line that supplies treated water from the Henderson Water Plant to the Chenango Water Plant is also utilized as a well supply line when Water Wells 8, 9, and 10 are used to meet water demands. City staff are able to operate valves on the existing transmission line and direct well water from Water Wells 8, 9, and 10 to the Henderson Water Plant or the Chenango Water Plant. However, during this time, the Chenango Water Plant cannot receive any treated water from the Henderson Plant (combined surface water and well water – chloraminated water) and can only utilize well water that has been disinfected with chlorine. The chloramine-treated water from the Henderson Plant and Jamison Plant mixing with the chlorine-treated water from the Chenango Plant will cause odor and taste issues as well as potentially cause a disinfection byproduct. To remedy this, City staff would like to have two separate lines, one for wells (existing transfer line) and one for supply (new line). This will allow water quality to remain consistent in the City and will make operations more efficient when Water Wells 8, 9, and 10 are required to meet water demands. While this situation could be remedied by the addition of an ammonia feed to the Chenango Water Plant to chloraminate the groundwater supply, the second supply line will alleviate hydraulic capacity limitations that inhibit full utilization of the well supplies and supplies transferred from the Henderson Water Plant to the Chenango Water Plant.

2.6 Capital Improvements

The process for identifying capital improvement projects involves the following steps:

1. Assess the growth areas and forecast their future demand.
2. Evaluate the location and capacity of nearby mains that could support the growth areas.
3. Recommend upsizing existing mains where increased pipeline capacity is needed.
4. Propose the addition and proper sizing of new mains to serve growth areas where the current distribution system does not reach.
5. Incorporate looping of pipes to address water age concerns, minimize headloss, and reduce the number of dead end connections.

Capital improvements for the installation of new water mains is shown in Figure 2.15. The projects are categorized by CIPs recommended to be completed in the next 10 years (Near-Term) and CIPs to serve developments in the next 30 years (Long-Term).

The existing water mains located near the Chenango pump are recommended to be upsized to 16” mains. The location of the water mains is shown in Figure 2.16.

Figure 2.15. New Water Mains

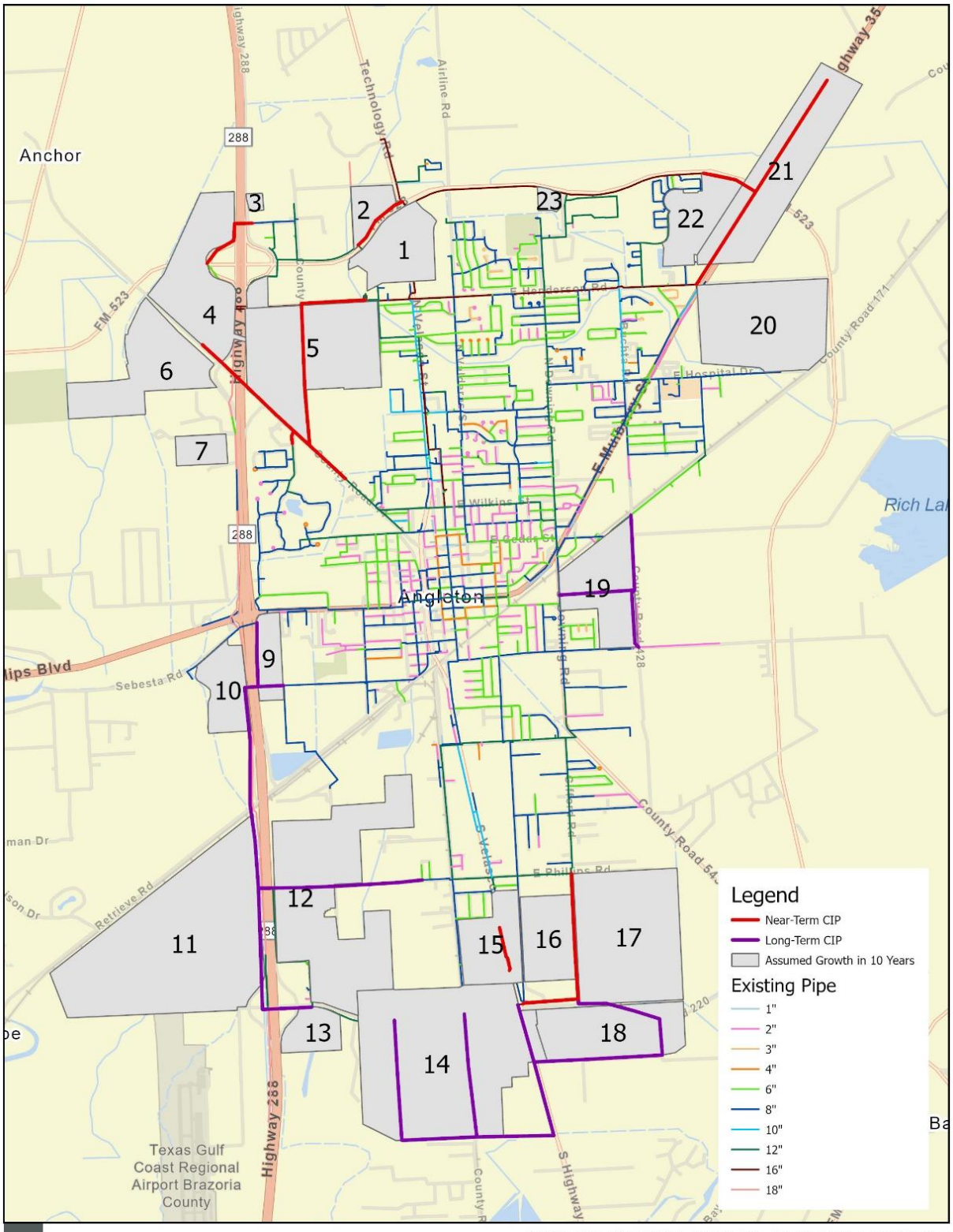
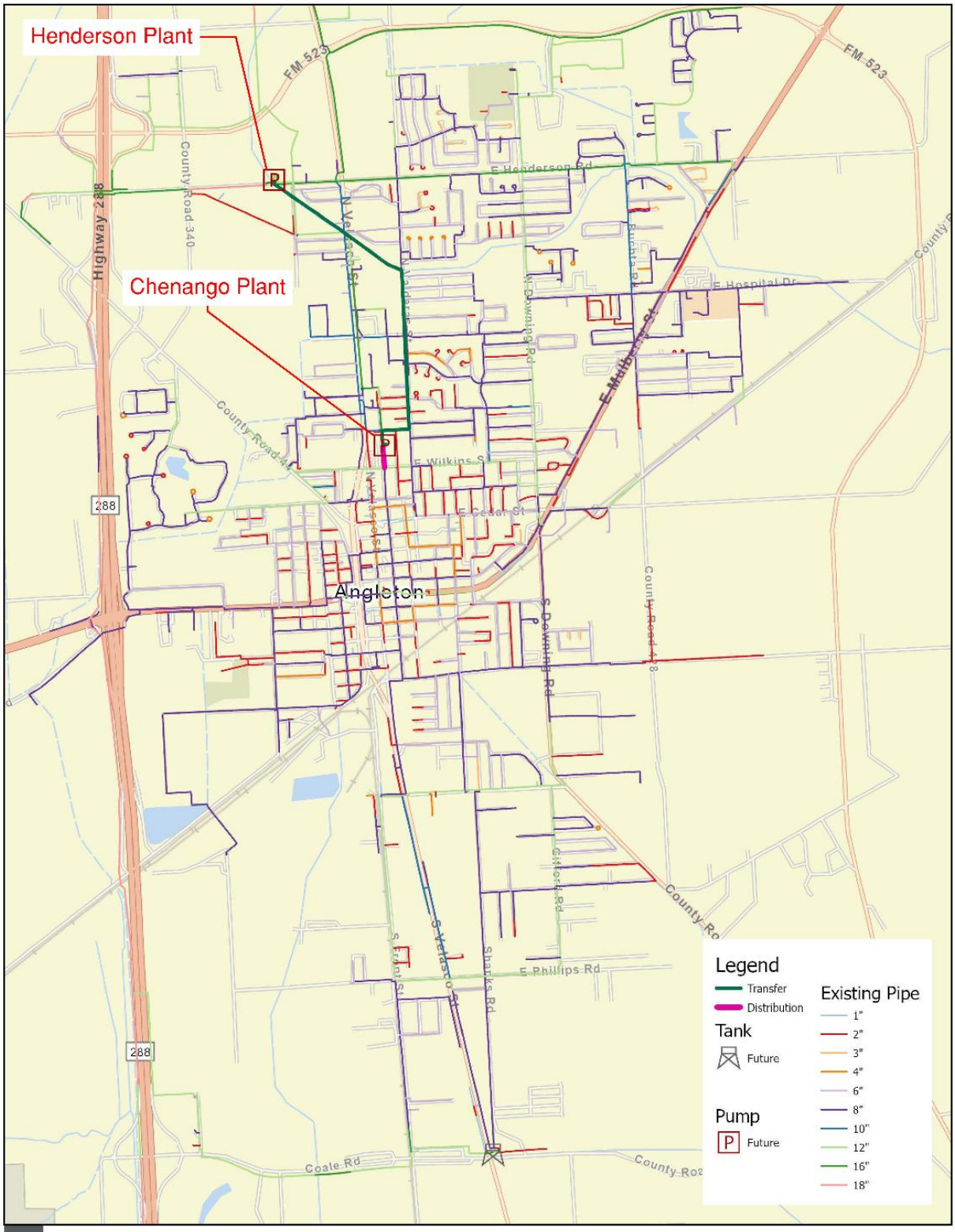


Figure 2.16. Pump, Storage, and Existing Mains Improvements

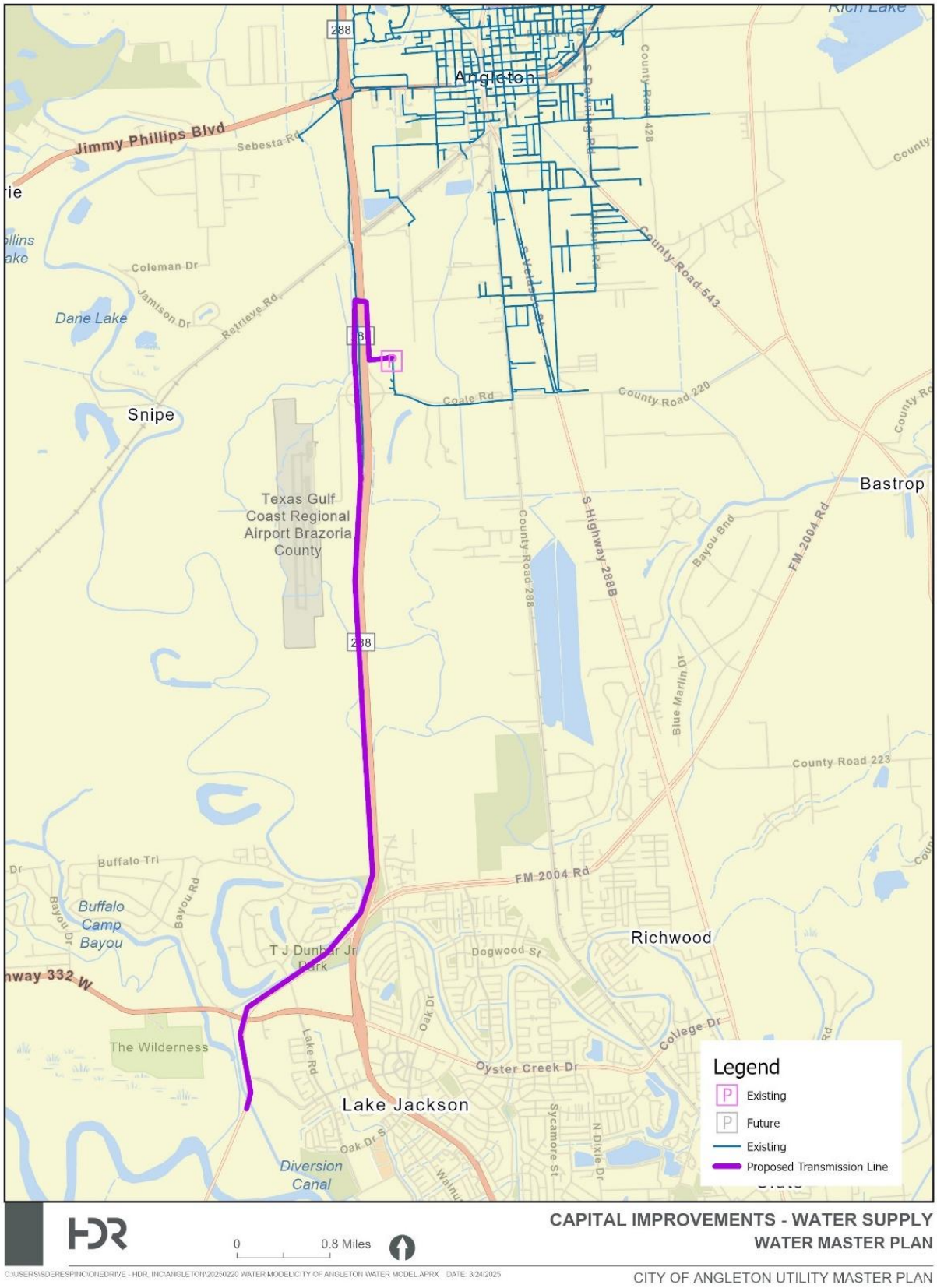


Based on demand projections and minimum TCEQ capacity requirements (Table 2.17), an elevated storage capacity deficit exists in 2055. An elevated storage tank of 1 million gallons (mg), located south of the City to serve future developments, is recommended. The proposed location of the tank is shown in Figure 2.16.

Based on demand projections and minimum TCEQ capacity requirements (Table 2.17), a firm pumping capacity deficit exists in 2055. It is recommended to include an additional pump at the Chenango pump site, as shown in Figure 2.16. Additionally, the long-term model indicates all 3 service pumps at the Henderson pump station are active during maximum-day demands. A 4th pump is recommended, as shown in Figure 2.16.

Based on the analysis of water demands and supplies, additional supply from BWA is recommended to meet future demands (see Section 3). For purposes of this CIP, it is assumed the City will provide the funds to construct a stand-alone 12-inch transmission line from the BWA treatment facility to the south side of the City, entering at the Jamison Water Plant, consistent with a September 8, 2021, letter from BWA regarding additional supply through a parallel pipeline. The original plan for this parallel water line was to deliver water to the Henderson Water Plant. However, the analysis of future water demand patterns in this study indicate a greater need for additional supply to enter the system on the south side, through the Jamison Water Plant. In actuality, BWA would likely construct this line, sized to provide supply to other BWA customers in additional to Angleton. The assumption of the City constructing this transmission line to the Jamison water plant will provide an estimate of what the City's portion of the shared capital cost would be for a larger capacity project. The proposed transmission line for additional water from BWA is shown in Figure 2.17.

Figure 2.17. Proposed Transmission Line for Additional Water Supply from BWA



2.7 Water Distribution CIP Opinion of Probable Construction Cost (OPCC)

The recommended CIPs are shown in Table 2.18 and Table 2.19. Table 2.18 details "near-term" CIPs, or projects that are recommended to serve future demand in 10 years. Table 2.19 shows "long-term" CIPs, or projects that are recommended to serve future demand in 30 years. The total project cost was calculated based on bid tabs in the greater Houston area that involved installation of 8", 12", and 16" PVC water lines. A 10% increase was included in the construction subtotal for miscellaneous items. The total project cost also includes a 25% fee for professional services, 30% contingency, and 10% increase to account for market volatility. A cost breakdown is included with the CIP summaries in Appendix B.

Table 2.18. Near-Term (10-year) Water Line CIPs

Recommended CIP	Pipe Diameter (in)	Pipe Length (LF)	OPCC (2025 dollars)	% of Cost Impact Fee Eligible (portion of capacity used within 10 years)
North East Expansion	8	8,600	$3,920,000	50%
	16	2,000		
CR 44 Extension	12	9,000	$3,334,000	25%
HWY 288 & FM 523	12	2,500	$1,089,000	100%
Henderson to CR 44	12	9,000	$3,920,000	25%
FM 523 Interconnect	12	2,300	$1,002,000	25%
E Phillips Rd & CR 220 Interconnect	12	6,400	$2,788,000	25%
S Velasco St Loop	8	1,600	$421,000	25%
Henderson Transmission Line[1]	12	9,400	$4,095,000	50%
N Chenango St and Wilkins	16	550	$294,000	50%

[1] A transfer line does not directly connect into the City's distribution system, but rather fills a ground storage tank that then is connected to the distribution system through a pump station.

Table 2.19. Long-Term (30-year) Water Line CIPs

Recommended CIP	Pipe Diameter (in)	Pipe Length (LF)	OPCC (2025 dollars)
CR 428 & S Downing Rd Interconnect	8	2,700	$711,000
CR 428 WL	8	4,800	$1,263,000
CR 220 Loop	8	8,900	$2,342,000
HWY 288 NB WL Extension	8	2,300	$605,000
Coale Rd and HWY 288 Loop	12	13,100	$5,706,000
CR 219 WL	16	7,100	$3,802,000
Coale Rd and HWY 288B Loop	8	14,400	$3,790,000
CR 288 WL Extension	8	4,400	$1,158,000

The recommended pumping, storage, and water supply improvements are shown in Table 2.20, Table 2.21, and Table 2.22. Long-Term (30-year) Water Supply Improvements. Costs were estimated based on bid tabs in the greater Houston area. A 10% increase was included in the construction subtotal for miscellaneous items. The total project cost also includes a 25% fee for professional services, 30% contingency, and 10% increase to account for market volatility.

Table 2.20. Long-Term (30-year) Pumping Improvements

Recommended CIP	Additional capacity	OPCC[1] (2025 dollars)
Chenango Pump Station Improvements	750 gpm	$980,000
Henderson Distribution Pump	850 gpm	$1,116,000

[1]Pump station improvement costs assume no additional appurtenances are necessary to accommodate additional pumping capacity.

Table 2.21. Long-Term (30-year) Storage Improvements

Recommended CIP	Volume (mg)	OPCC (2025 dollars)
EST 3	1.0	$10,890,000

Table 2.22. Long-Term (30-year) Water Supply Improvements

Recommended CIP	Pipe Diameter (in)	Pipe Length (LF)	OPCC (2025 dollars)
BWA Transmission Line	12	39,600	$17,250,000

3 Water Supply Evaluation

The City's current and projected water demands were evaluated against current supplies to determine future needs on an annual (average-day, expressed in ac-ft/yr) and maximum-day (expressed in mgd) basis through the 2073 planning horizon. A water supply plan consisting of two water supply strategies, additional surface water from BWA and the development of additional City groundwater, is proposed to meet the projected needs. Note that the planning horizon for the water supply plan extends to 2073, which is 20 years beyond the long-term time period of the utility master plan.

3.1 Water Demand

Water demand projections were developed based on current (2023) demands, the near-term (2033) growth, long-term (2053) growth, and 50-year growth (2073) excluding Growth Areas 7,8, and 20 (Figure 2.4). For 2054 through the end of the planning period (2073), an annual growth rate of 1.42% was applied to determine the demand projections. This growth rate was determined using one-half of the growth rate projected for 2033-2053 (2.85%). The maximum-day demand projections assume a peaking factor of 2.0 over average-day demands.

Annual (average day) water demands are projected to increase from 2,413 ac-ft/yr in 2028 to 7,229 ac-ft/yr by 2073, and Maximum-Day Demands are projected to increase from 4.31 mgd in 2028 to 12.91 mgd in 2073, as shown in Table 3.1.

Table 3.1. Water Demands

Year	Average-Day Demand) (ac-ft/yr)	Maximum-Day Demand (mgd)
2023	1,873	3.35
2028	2,413	4.31
2033	3,108	5.55
2043	4,115	7.35
2053	5,449	9.73
2073	7,229	12.91

3.2 Existing Water Supply

The City of Angleton's water supply is comprised of surface water supply from the BWA and groundwater from City-owned wells.

The current surface water contract with BWA provides for a total of 2.3 mgd on an average-day basis, which is equivalent to an annual volume of 2,576 ac-ft. Based on the language in the contract, it was assumed that there is no additional peaking capacity from the BWA surface water supply to help the City meet maximum-day demands.

For groundwater supply, the City has five in-service groundwater production wells with a total maximum-day capacity of 4.7 mgd (3,257 gpm), as shown in Table 3.2. Note that wells 6 and 7 are out of service and are not included in the groundwater supply evaluation. However, a rehabilitation project in the early planning stages may result in those wells being able to supply water in the future. Well capacities were determined by taking the minimum capacity from the following sources:

- Tested and rated capacities from the Texas Commission on Environmental Quality (TCEQ) Drinking Water Watch (DWW) website accessed September 2024,
- Well capacities listed in the 2019 City of Angleton Utilities Master Plan, and
- Treatment or pump capacity obtained from communication with City staff (Freedom Park Well[4])

Table 3.2. City Water Well Capacities

Well Number	Capacity (gpm)
Well #8	450
Well #9	635
Well #10	725
Well #11	697
Freedom Park Well	750
In Service Wells Total	**3,257**
Well #6 (Out of Service)	400
Well #7 (Out of Service)	450

To account for summer peaking needs and maintenance activities, 50% of the total of in-service groundwater well capacity, as well as a five percent downtime, was applied to estimate an average-day groundwater supply of 2.23 mgd (2,501 ac-ft/yr).

Assuming the in-service groundwater wells are pumped at full capacity, the City of Angleton has a total combined annual supply of 5,077 ac-ft/yr and a maximum-day capacity of 7.00 mgd across the entire planning period, as shown in Table 3.3.

It is a possibility that the City's groundwater withdrawals will be limited in the future by subsidence-related regulations, due to the large growth expected in the Brazoria County area. Therefore, for the purpose of this water supply plan, a scenario where the City uses only half of the annual groundwater supply capacity is also considered. Assuming the groundwater wells are used primarily to meet maximum-day demands, resulting in utilization of about half of their annual supply, the City of Angleton has a total combined annual supply of 3,827 ac-ft/yr, as

[4] The Freedom Park Plant is limited by the 750 gallons per minute (gpm) booster pump capacity (the well and treatment plant can supply up to 1,000 gpm).

shown in Table 3.4.

Table 3.3. Water Supply Using 100% Annual Groundwater Capacity

Annual Supply (ac-ft/yr)			Maximum-Day Capacity (mgd)		
Contractual BWA Surface Water Supply	*Annual Well Supply*	*Total Annual Supply*	*Contractual BWA Surface Water Supply*	*Well Capacity*	*Total Maximum-Day Capacity*
2,576	2,501	5,077	2.30	4.70	7.00

Table 3.4. Water Supply Using 50% Annual Groundwater Capacity

Annual Supply (ac-ft/yr)			Maximum-Day Capacity (mgd)		
Contractual BWA Surface Water Supply	*Annual Well Supply*	*Total Annual Supply*	*Contractual BWA Surface Water Supply*	*Well Capacity*	*Total Maximum-Day Supply*
2,576	1,251	3,827	2.30	4.70	7.00

3.3 Water Supply Needs

3.3.1 Future Water Needs Utilizing All Current Groundwater Supply

Under average-day demands while using 100% of the City's groundwater supply alongside the contracted BWA surface water supply, the City has sufficient annual supplies for the next 10 years, but will need additional water supplies before 2051, as shown in Figure 3.1. The City will need an additional 2,152 ac-ft/yr (1.92 mgd average-day) by the end of the water supply planning period (2073), as shown in Table 3.5.

To meet the projected maximum-day demands while using 100% of the City's groundwater supply, the City will need additional water supply capacity before 2042, and will need an additional 5.91 mgd by the end of the water supply planning period (2073), as shown in Figure 3.2 and Table 3.6. Appendix A includes a yearly accounting table of current supplies compared to demand. This need was calculated assuming that the City will run its wells at full capacity during maximum-day demands.

3.3.2 Future Water Needs Assuming the City Conserves Groundwater Supply

Under average-day demands, while using 50% of the City's groundwater supply alongside the current contracted BWA surface water supply, the City will need additional water supplies before 2041, with a maximum need of 3,403 ac-ft/yr (3.04 mgd average-day) by 2073, as shown in Figure 3.1 and Table 3.5.

3.3.3 Summary of Future Water Supply Needs

The following tables summarize project annual demands, supplies and needs. Annual demands are projected based on utilizing both the full groundwater capacity, or 50% of the full groundwater capacity.

These amounts are what is anticipated to meet the City's projected demands; however, TCEQ requirements for public water systems may require the City to develop additional maximum-day capacity. For example, an estimated 28,000 total connections are anticipated by 2073, which would require a total supply (firm pumping) capacity of 14.9 mgd assuming the City's current ACR of 0.37 gpm/connection for pumping supply capacity. This is roughly 2 mgd greater than the max-day demand shown in Figure 3.2, and would represent additional capacity the TCEQ may require. Any additional capacity greater than needed to meet maximum-day demands should be evaluated and managed in the future.

Table 3.5. Annual Demand, Supply, and Need (acre-feet per year)

Year	Ave-Day Demand	BWA Surface Water Supply	Annual Well Supply		Total Annual Supply		Annual Surplus/(Need)	
			100% GW Capacity	*50% GW Capacity*	*100% GW Capacity*	*50% GW Capacity*	*100% GW Capacity*	*50% GW Capacity*
2023	1,873	2,576	2,501	1,251	5,077	3,827	3,204	1,954
2028	2,413	2,576	2,501	1,251	5,077	3,827	2,664	1,414
2033	3,108	2,576	2,501	1,251	5,077	3,827	1,969	719
2043	4,115	2,576	2,501	1,251	5,077	3,827	962	(289)
2053	5,449	2,576	2,501	1,251	5,077	3,827	(372)	(1,622)
2073	7,229	2,576	2,501	1,251	5,077	3,827	(2,152)	(3,403)

Figure 3.1. Comparison of Annual Supplies and Demands (2020-2073)

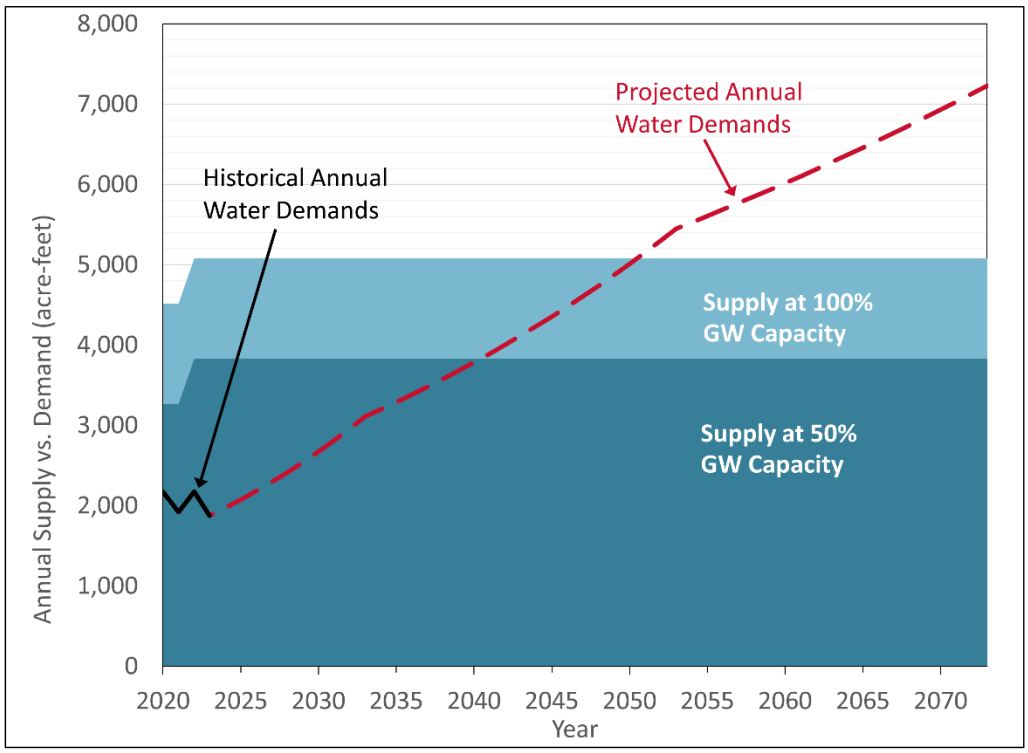
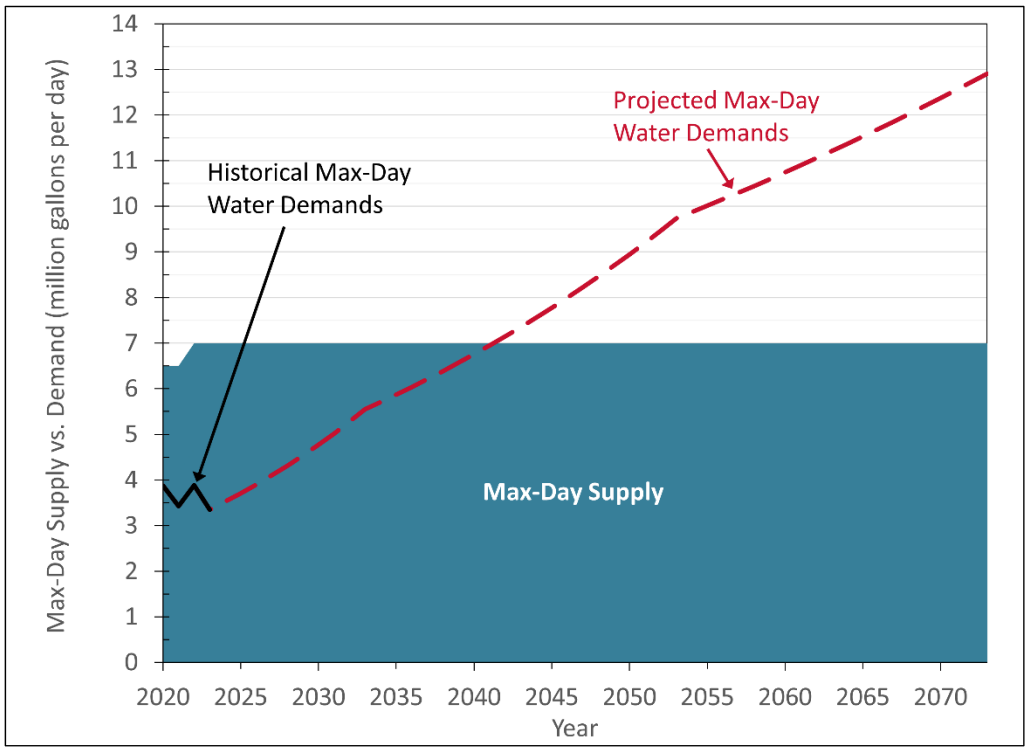


Table 3.6. Maximum-Day Demand, Capacity, and Need (million gallons per day)

Year	Max-Day Demands	BWA Surface Water Supply Capacity	Well Capacity	Total Capacity	Maximum-Day Surplus/(Need)
2023	3.35	2.30	4.70	7.00	3.65
2028	4.31	2.30	4.70	7.00	2.69
2033	5.55	2.30	4.70	7.00	1.45
2043	7.35	2.30	4.70	7.00	(0.35)
2053	9.73	2.30	4.70	7.00	(2.73)
2073	12.91	2.30	4.70	7.00	(5.91)

Figure 3.2. Comparison of Maximum-Day Capacity and Demands (2020-2073)



3.4 Water Supply Strategies

The combination of two water supply strategies, additional purchases from BWA and development of City-owned groundwater supply, are proposed to meet the City's annual and maximum-day needs through the end of the water supply planning period (2073).

3.4.1 Additional Purchases from BWA

Reserving an additional 1.92 mgd of surface water supply from BWA is recommended to meet the City's annual and maximum-day demand.

STRATEGY INFRASTRUCTURE

The main infrastructure components of this strategy include a new waterline parallel to the existing BWA water line. Water will be delivered to the Jamison Water Plant on the southwest side of the City, consistent with a September 8, 2021 letter from BWA regarding additional supply through a parallel pipeline.

STRATEGY COSTS

Costs for this project were developed using the Uniform Costing Model developed by the TWDB for regional water planning. Costs associated with this strategy are presented in Table 3.7. Assumptions and conditions associated with these costs include:

- The projects described in the water distribution CIP are sufficient to integrate this project into the system, and are assumed to be already implemented.
- A market volatility buffer was included at 10% of the project cost.
- Engineering, legal, and contingency costs is 30 percent of the pipeline cost.
- Power is available at $0.09 per kWh.
- The project will be financed for 20-years at a 3.5 percent interest rate.
- Interest during the period of construction is not included in the costs.
- 1.92 mgd of supply will be purchased from BWA at an estimated rate of $2.72 per 1,000 gallons. This cost to purchase water was determined by subtracting the annual costs per 1,000 gallons for capital, O&M, and power from the current $4.60/1,000 gallons charged by BWA to estimate an equivalent purchase cost.

Table 3.7. Additional Purchases from BWA Costs (January 2025 Prices)

Item	Estimated Costs for Facilities:
CAPITAL COST	
Transmission Pipeline (12 in. dia., 7.5 miles)	$9,504,000
Miscellaneous	$950,000
TOTAL COST OF FACILITIES	**$10,454,000**
Engineering:	
- Planning (5%)	$523,000
- Design (9%)	$941,000
- Construction Engineering (3%)	$314,000
Legal Assistance (4%)	$418,000
Fiscal Services (4%)	$418,000
Pipeline Contingency (30%)	$2,851,000
All Other Facilities Contingency (30%)	$285,000
Market Volatility (10%)	$1,045,000
TOTAL COST OF PROJECT	**$17,249,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$1,140,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$105,000
Pumping Energy Costs (0.09 $/kW-hr)	$71,000
Purchase of Water (2,151 ac-ft/yr @ 434.64 $/ac-ft [$2.72 per 1,000 gallons])	$1,906,000
TOTAL ANNUAL COST	**$3,222,000**
Available Project Yield (ac-ft/yr)	2,151
Annual Cost of Water ($ per ac-ft)	$1,498
Annual Cost of Water After Debt Service ($ per ac-ft)	$968
Annual Cost of Water ($ per 1,000 gallons)	$4.60
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$2.97

For acquiring additional surface water from BWA, the total cost is estimated to be $17,249,000. Annual debt service over 20 years would be $1,140,000, assuming a 3.5% interest rate. The annual operational cost, including power, is $176,000, plus an annual purchase cost of water of $1,906,000. Combined, this results in a total annual cost of $3,222,000. During the debt service period, the unit cost for 2,151 ac-ft/yr of supply is estimated to be $1,498 per ac-ft, or $4.60 per 1,000 gallons. After debt service, the unit cost of water is estimated to be $968 ac-ft, or $2.97 per 1,000 gallons.

3.4.2 Development of City Owned Groundwater Supply

Five new 560 gpm wells are proposed to add a total 4.03 mgd to the City's groundwater supply to increase the City's groundwater maximum-day capacity. Individual wells will be drilled and brought online as needed to meet projected maximum-day demands.

STRATEGY INFRASTRUCTURE

The locations of the wells will be decided based on actual growth patterns within the City and availability of land. Each well is assumed to be its own groundwater plant, so the main infrastructure components of this strategy include five separate packages consisting of:

- One groundwater well at a depth of 878 feet with a 560 gpm capacity,
- One ground storage tank (1.5 mg),
- One booster pump station with a 1,069 gpm capacity,
- 150 feet of 8-inch wellfield piping, and
- 200 feet of 8-inch pipe to connect the booster pump to the distribution system.

It may be possible to integrate multiple wells into a single water plant or utilize existing infrastructure at Chenango or Jamison and avoid some of the booster pumping and ground storage tank costs.

STRATEGY COSTS

Costs associated with this strategy are presented in Table 3.8. Assumptions and conditions associated with these costs include:

- 5% downtime is allocated for well and pipeline maintenance.
- Wells are designed with a 1.0 peaking factor.
- Integration costs are not included, as well locations will be determined in the future based on the location of future demands and availability of property.
- A market volatility buffer was included at 10% of the project cost.
- Engineering, legal, and contingency costs are 30 percent of pipelines and other facilities.
- Power is available at $0.09 per kWh.
- The project will be financed for 20-years at a 3.5 percent interest rate.

The total cost is estimated to be $6,233,000 per groundwater plant. Annual debt service over 20 years would be $412,000 per groundwater plant, assuming a 3.5% interest rate. The annual operational cost, including power, is $170,000 per groundwater plant. This results in a total annual cost of $582,000. During the debt service period, the unit cost for 862 ac-ft/yr of supply is estimated to be $675 per ac-ft, or $2.07 per 1,000 gallons. After debt service, the unit cost of water is estimated to be $197 per ac-ft, or $0.61 per 1,000 gallons.

Table 3.8. Additional City Owned Groundwater Costs (January 20205 Prices)

Item	Estimated Costs for Facilities: Individual Well	Estimated Costs for Facilities: All 5 Wells
Well and Piping	$1,148,000	$5,740,000
Booster Pump, Ground Storage Tank, Water Treatment	$2,521,000	$12,605,000
TOTAL COST OF FACILITIES	**$3,669,000**	**$18,345,000**
Engineering:		
- Planning (5%)	$183,000	$915,000
- Design (9%)	$330,000	$1,650,000
- Construction Engineering (3%)	$110,000	$550,000
Legal Assistance (4%)	$147,000	$735,000
Fiscal Services (4%)	$147,000	$735,000
Pipeline Contingency (30%)	$9,000	$45,000
All Other Facilities Contingency (30%)	$1,092,000	$5,460,000
Environmental & Archaeology Studies and Mitigation	$85,000	$425,000
Land Acquisition and Surveying (7 acres)	$94,000	$470,000
Market Volatility (10%)	$367,000	$1,835,000
TOTAL COST OF PROJECT	**$6,233,000**	**$31,165,000**
ANNUAL COST		
Debt Service (3.5 percent, 20 years)	$412,000	$2,060,000
Operation and Maintenance		
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$24,000	$120,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$29,000	$145,000
Water Treatment	$84,000	$420,000
Pumping Energy Costs (0.09 $/kW-hr)	$33,000	$165,000
TOTAL ANNUAL COST	**$582,000**	**$2,910,000**
Available Project Yield (ac-ft/yr)	862	4,310
Annual Cost of Water ($ per ac-ft)	$675	$675
Annual Cost of Water After Debt Service ($ per ac-ft)	$197	$197
Annual Cost of Water ($ per 1,000 gallons)	$2.07	$2.07
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.61	$0.61

3.5 Water Supply Plan

3.5.1 Total Supplies and Implementation Timeline

Both the additional surface water from BWA and the development of additional City groundwater strategies will be needed to meet the City's water supply needs through the planning period. When the two water management strategies are fully implemented, the City will have an additional 6,461 ac-ft/yr of average-day supplies and an additional 5.95 mgd of maximum-day capacity, as shown in Table 3.9 and Table 3.10. The additional BWA surface water supply is recommended to be brought online by 2030 to meet annual demands, as shown in Figure 3.3 and Figure 3.4. This will provide the City flexibility in the timing of developing additional groundwater supplies. The initial development of the additional City groundwater is recommended to be brought online by 2050 to meet maximum-day demands, as shown in Figure 3.5.

The additional BWA water will provide for the City's future growth in annual (average-day) demands through 2059, and in maximum-day demands through 2039 with conservative use of groundwater supply. Without conservative use of current groundwater supplies, the additional BWA supply will allow the City to meet annual demands through 2072 and maximum-day demands through 2049.

In sum, the additional supply from BWA provides several benefits:

1. The City will be able to meet projected maximum-day demands through 2039 while only utilizing half of the City's groundwater supply.
2. The City can use its groundwater supply conservatively.
3. The City will be provided flexibility in meeting future growth demands by keeping some groundwater supply in reserve through approximately 2072.

To meet the projected maximum-day demands later in the planning period, the City will need to rely on 100% of the City's current groundwater maximum-day capacity alongside both water management strategies. To meet these maximum-day demands, it is anticipated that the City will need to add a new groundwater plant every two to six years starting in 2050, with new wells operational by 2050, 2052, 2058, 2063, and 2068.

Table 3.9. Strategy Implementation to Supply Annual Demands (ac-ft/yr)

Demand / Supply / Strategy	2028	2033	2043	2073
Current System				
Projected Average-Day Demand	2,413	3,108	4,115	7,229
Current Supply at 50% Groundwater Capacity	3,827	3,827	3,827	3,827
Current Supply at 100% Groundwater Capacity	5,077	5,077	5,077	5,077
Surplus/(Need) at 50% Groundwater Capacity	1,414	719	(289)	(3,403)
Surplus/(Need) at 100% Groundwater Capacity	2,664	1,969	962	(2,152)
Recommended Water Management Strategies				
Additional BWA Surface Water Supplies	0	2,151	2,151	2,151
Development of Additional City Groundwater	0	0	0	4,310
Total Future System				
Supply from Recommended Strategies	0	2,151	2,151	6,461
Total Supplies at 50% Current Groundwater Capacity	3,827	5,978	5,978	10,288
Total Supplies at 100% Current Groundwater Capacity	5,077	7,228	7,228	11,538
Surplus/(Need) at 50% Current Groundwater Capacity	1,414	2,870	1,862	3,058
Surplus/(Need) at 100% Current Groundwater Capacity	2,664	4,120	3,113	4,309

Figure 3.3. Strategy Implementation Timeline: Annual Supplies with Current Groundwater Supply Operated at 50% Annual Capacity

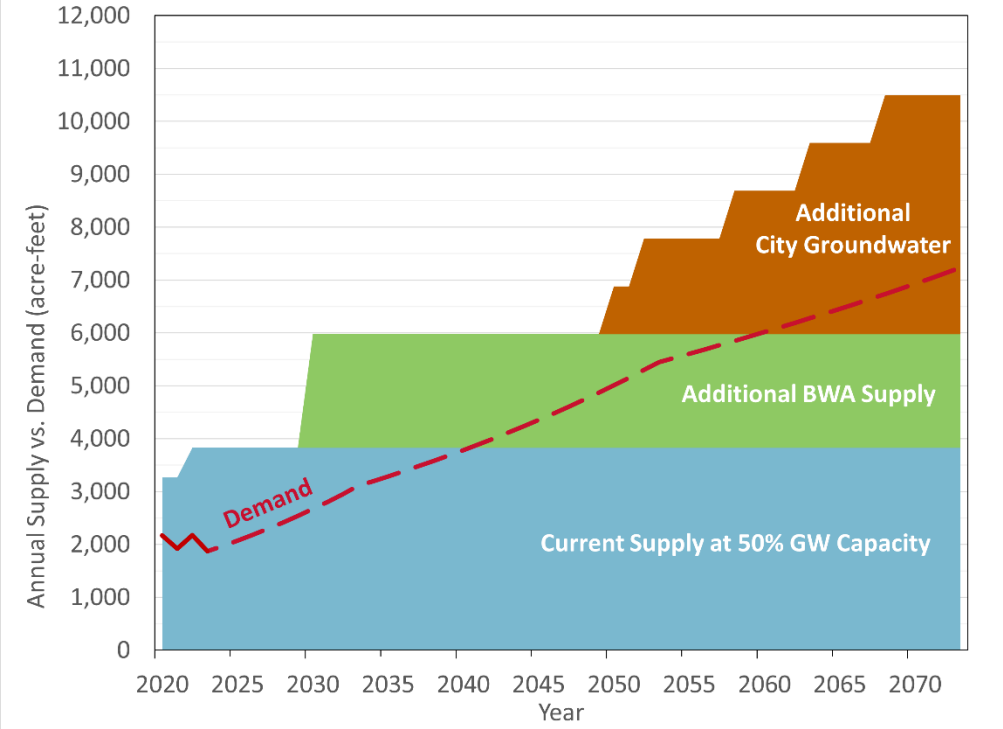


Figure 3.4. Strategy Implementation Timeline: Annual Supplies with Current Groundwater Supply Operated at 100% Capacity

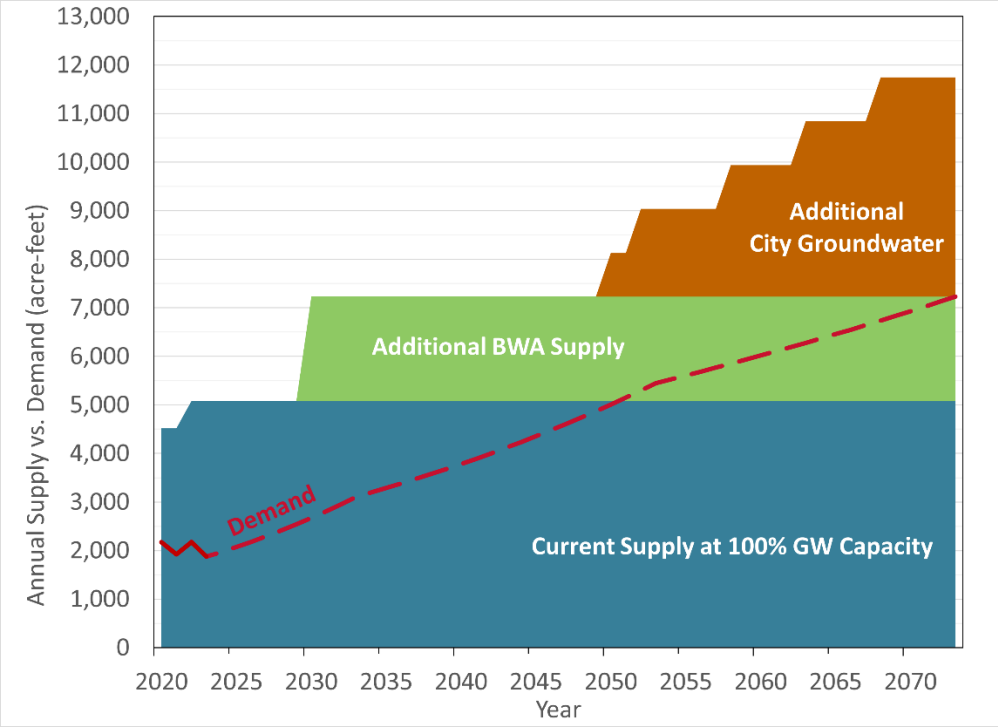
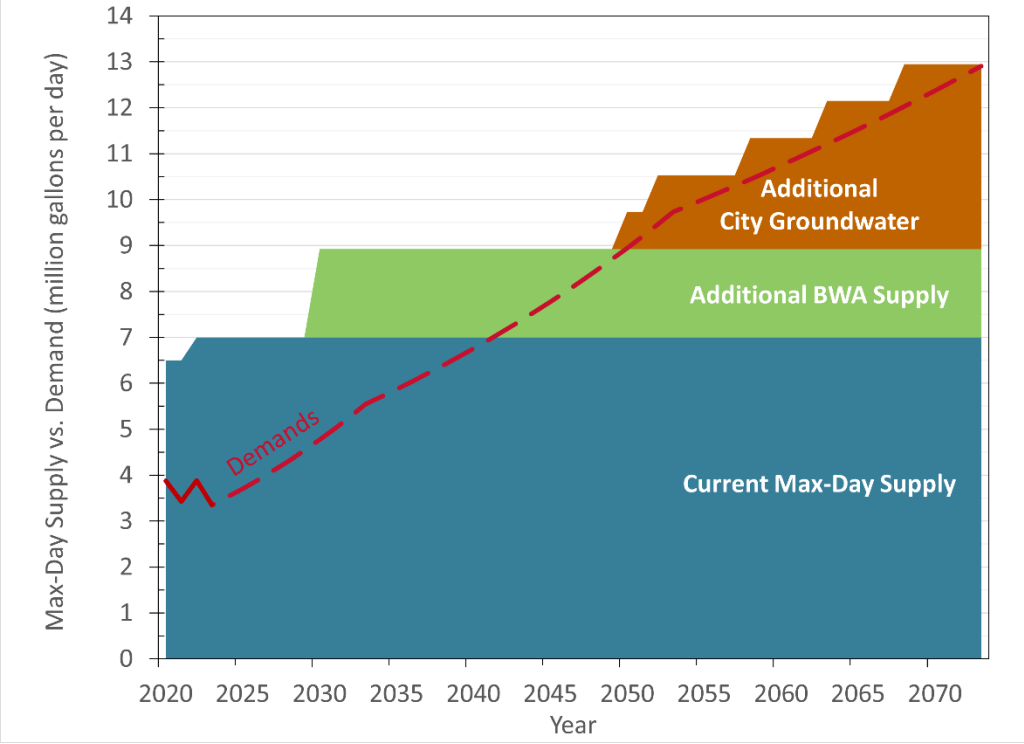


Table 3.10. Strategy Implementation to Supply Maximum-Day Demands (mgd)

Demand / Supply / Strategy	2028	2033	2043	2073
Current System				
Projected Maximum-Day Demand	4.31	5.55	7.35	12.91
Current Supply Capacity	7.00	7.00	7.00	7.00
Surplus/(Need)	2.69	1.45	(0.35)	(5.91)
Recommended Water Management Strategies				
Additional BWA Surface Water Supplies	0.00	1.92	1.92	1.92
Development of Additional City Groundwater	--	--	--	4.03
Total Future System				
Supply from Recommended Strategies	--	1.92	1.92	5.95
Total Supplies	7.00	8.92	8.92	12.95
Surplus/(Need)	2.69	3.37	1.57	0.04

Figure 3.5. Strategy Implementation Timeline: Maximum-Day Supplies with Current Groundwater Supply Capacity



4 Wastewater Master Plan

4.1 Objectives and Scope of Work

The scope of work for the wastewater collection and treatment portion of the UMP includes the following tasks:

- Analyze historical and existing wastewater flows
- Project future wastewater flows using available data
- Update and analyze the hydraulic model of the City's wastewater collection system
- Evaluation of hydraulic deficiencies for existing and future conditions using the hydraulic model
- Development recommendations for improvement in a CIP.

4.2 Wastewater Data Sources

Various sources of data were provided by the City for use with the wastewater hydraulic model update. These sources included reports, GIS electronic files, and record drawings from completed construction projects.

- 2019 Utility Master Plan
- Reports and Maps
- Existing InfoSewer Model
- Wastewater Treatment Plant (WWTP) Discharge Monitoring Reports (DMR)
- Geographic Information System (GIS) Data from City GIS staff
- Lift Station Runtime Data via Lift Station Logs
- Lift Station Pump Capacity
- Rainfall Data (NOAA ATLAS 14)

4.3 Background

The City's wastewater system consists of a combination of gravity sewers, lift stations, force mains, and a wastewater treatment plant. The wastewater treatment plant is located on the southwest side of the City. The plant treats an average of 1.8 mgd during dry weather conditions, with a permitted annual average flow of 3.6 mgd. Angleton is located in the flat coastal plain of the Texas Gulf Coast, and this geographical setting limits the opportunity for gravity wastewater collection, requiring numerous lift stations.

4.3.1 Existing Wastewater Collection System

WASTEWATER TREATMENT PLANT

The City's WWTP is located in the southwest portion of town, along Sebesta Road. The WWTP's current TPDES Permit (Permit No. WQ0010548004) allows a maximum effluent flow of

3.6 mgd to be discharged into Oyster Creek, and no more than 12,500 gpm (~18 mgd) during any two-hour period.

GRAVITY SEWER NETWORK

The City's wastewater collection system consists of a wide variety of pipe types, sizes and ages, and reflect ongoing growth of the system. Table 4.1 presents the total length of gravity and force main pipes by diameter, shows the breakdown of gravity and force main pipes by material. New pipes installed since the 2019 UMP were assumed to be PVC.

Table 4.1. Wastewater System Pipeline Diameter Summary

Diameter (inches)	Length (feet)	Percent of Total
Unknown	3,695	0.64%
4	549	0.09%
6	120,589	20.76%
8	263,506	45.37%
10	75,376	12.98%
12	53,190	9.16%
14	2,631	0.45%
15	8,558	1.47%
18	9,610	1.65%
20	4,186	0.72%
24	14,875	2.56%
27	6,809	1.17%
30	16,573	2.85%
33	167	0.03%
36	15	0.00%
48	467	0.08%

Source: City of Angleton GIS database

Table 4.2. Wastewater System Pipeline Material Summary

Material	Length (feet)	Percent of Total
Concrete	91,709	15.79%
Corrugated Metal Pipe	467	0.08%
Ductile Iron	499	0.09%
Fiberglass	4,286	0.74%
HDPE	2,300	0.40%
PVC	294,014	50.62%
PVC-U	6,844	1.18%
Truss	1,340	0.23%
Vitrified Clay Pipe	158,586	27.30%
Unknown	20,750	3.57%

Source: City of Angleton GIS database

LIFT STATIONS

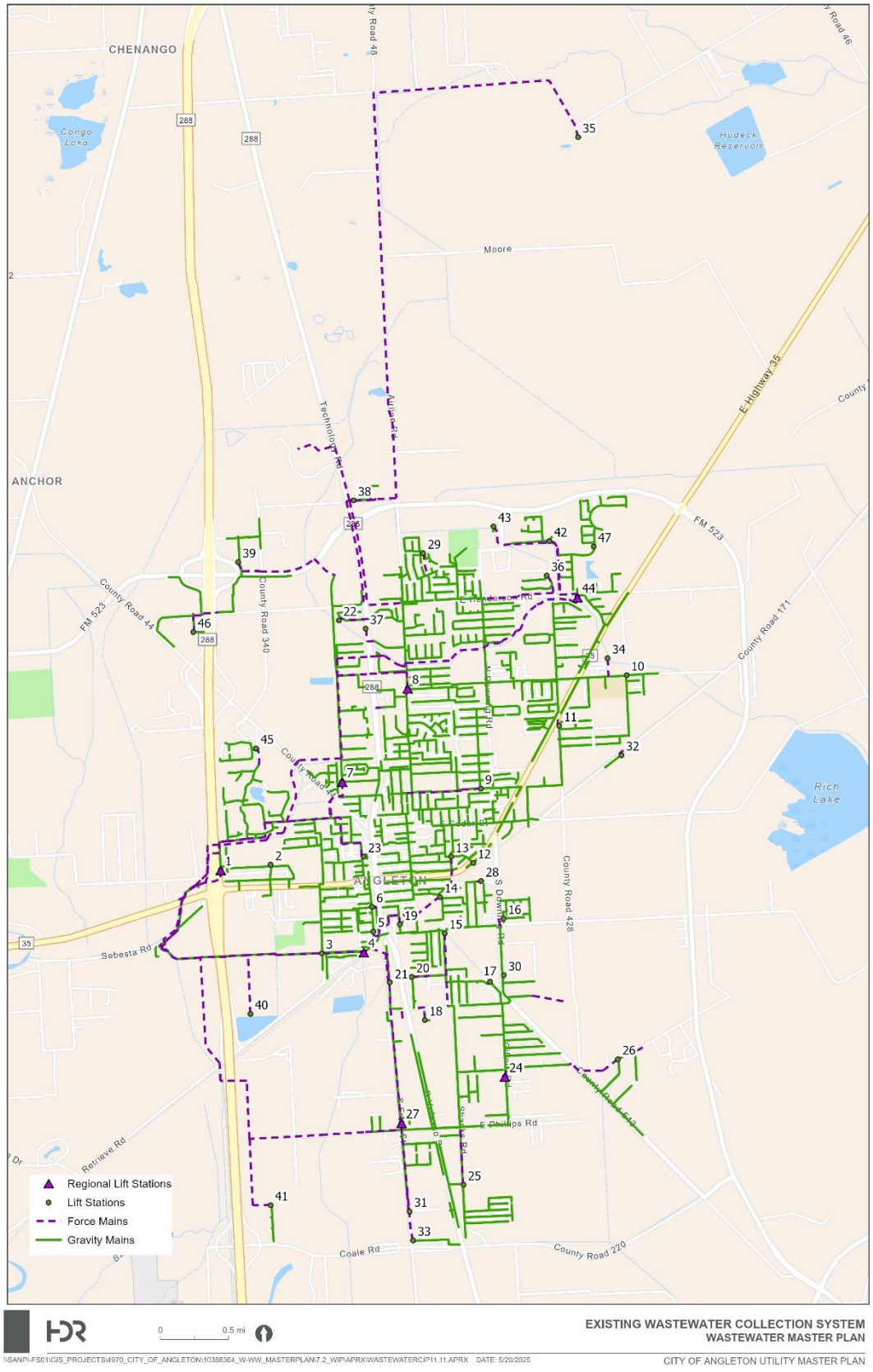
The City owns and operates a large number of lift stations due to the relatively flat terrain, which precludes gravity sewer mains throughout much of the City. As a result, lift stations are located in all areas of town, as shown in Figure 4.1. A handful of these lift stations are classified as regional lift stations, due to their location and function of conveying large amounts of wastewater flows from various other lift stations upstream. Regional lift stations can be identified by the purple triangle in the system map.

Lift station pump run-time information was used to understanding how the wastewater collection system functions, as described in later in this report.

FORCE MAINS

Lift stations discharge into force mains, which are also shown on the existing system map (Figure 4.1) and can be identified by the dashed purple lines. Regional lift stations 7, 8, and 24 have a secondary bypass force main that provide additional conveyance capacity to those areas. These secondary force mains typically travel much further downstream than the original force main.

Figure 4.1. Existing Wastewater Collection System



4.4 Wastewater Loading

Dry weather flows provide the basis for the hydraulic model loading and are impacted primarily by population and land use density. Dry weather flows are the wastewater flows originating primarily from sewage outflow from residences and commercial buildings, although they can also include groundwater infiltrating into pipes through loose joints, broken pipes, or damaged manholes. HDR primarily utilized water consumption data to spatially distribute wastewater flows throughout the system.

Wet weather flows occur following storm events and represent a large, relatively sudden, increase in system flows due to stormwater entering the collection system through manholes, broken pipes, and illegal connections. The system's wet weather response is used in the identification and sizing of capital projects as discussed later in this report.

4.4.1 Dry Weather Flow Development

Various data provided by the City were used for development of the sanitary sewer loading flow rates, with GIS, water consumption, and lift station runtime data being the primary data sources. The process to develop the flow rates required verifying the conveyance system geometry and determining the extents to be included in the model for the service area. With these model hydraulic limits defined, the service area was determined, checked against the data provided, and adjusted as necessary.

A widely recognized relationship between water consumption and wastewater loading was used to estimate the dry weather flows (DWF) throughout the system. As described in Section 2.4, maximum-day water demands were assumed to be twice as much as average-day water demands. In an average system most of the potable water consumed by a customer is directed to the wastewater collection system. Based on previous efforts to determine the amount of water consumption that becomes wastewater in the 2019 UMP, average daily wastewater flows were assumed to be 85% of the water consumption, demonstrated in the equation below.

$$ADF(wastewater, gpm) = 0.85 * ADF\ (water, gpm)$$

No flow monitoring data were available to confirm residential, commercial, or industrial land use flows or patterns. Additionally, the data provided in the InfoSewer model only consisted of steady state loading, with no diurnal profiles incorporated into the system. Therefore, the hydraulic model utilized steady state loading for the peak flow capacity analysis of the collection system.

4.4.2 Dry Weather Flow Validation

In addition to the water consumption data, the City also provided the daily influent flows to the City's WWTP via DMRs. The WWTP daily influent flows were compared to the estimated existing dry weather flows in the wastewater model. This comparison allowed validation of the assumptions made and the predicted flows in the absence of flow monitoring throughout the wastewater system.

4.4.3 Wet Weather Flow Development

LIFT STATION FLOW ANALYSIS

The primary method used to estimate the wet weather flows was analysis of lift station operational data. The City provided lift station operational data from 2024 for certain lift stations. The data provided included the number of hours per day each pump was running and the corresponding amount of rain in inches that was recorded that day. Data were not provided for the following lift stations:

- Lift Station 5
- Lift Station 6
- Lift Station 19
- Lift Station 22
- Lift Station 28
- Lift Station 30
- Lift Station 33
- Lift Station 40
- Lift Station 43
- Lift Station 48
- Lift Station 49
- Lift Station 50

Depending on the lift station, the data provided included a combination of pump run times in hours and pump design capacity. Flow monitoring data were not available to aid in wet weather calibration of the wastewater model. The lift station runtime data provided insight into the system performance during dry weather and rain events. Lift station runtime data for rain events in March and May were compared to the baseline dry weather lift station runtime data. These data are summarized in Appendix D. The lift station runtime data indicate wet weather peaking factors are large in multiple locations, indicating the system operates outside accepted standards for wastewater collection systems. An approximate peaking factor for a design rain event was determined by extrapolating the lift station runtime data. The design rain event selected was a 5 year – 6 hour design storm with a 90% confidence interval, utilizing NOAA Atlas 14 rain data, as summarized in Table 4.3.

Table 4.3. Atlas 14 Angleton Design Storm Estimates

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.520 (0.394-0.687)	0.605 (0.457-0.783)	0.735 (0.558-0.964)	0.850 (0.638-1.13)	1.02 (0.744-1.40)	1.16 (0.821-1.64)	1.30 (0.896-1.88)	1.44 (0.968-2.14)	1.63 (1.06-2.51)	1.77 (1.12-2.80)
10-min	0.820 (0.621-1.08)	0.956 (0.722-1.24)	1.16 (0.883-1.52)	1.35 (1.01-1.80)	1.61 (1.18-2.23)	1.84 (1.31-2.61)	2.07 (1.42-3.00)	2.28 (1.53-3.39)	2.56 (1.66-3.94)	2.77 (1.75-4.37)
15-min	1.05 (0.798-1.39)	1.22 (0.925-1.58)	1.48 (1.12-1.94)	1.71 (1.28-2.28)	2.04 (1.49-2.81)	2.31 (1.64-3.27)	2.59 (1.79-3.76)	2.87 (1.93-4.27)	3.24 (2.10-4.99)	3.52 (2.23-5.56)
30-min	1.53 (1.16-2.02)	1.77 (1.34-2.29)	2.13 (1.62-2.80)	2.45 (1.84-3.26)	2.91 (2.12-4.00)	3.28 (2.33-4.64)	3.68 (2.54-5.33)	4.09 (2.74-6.08)	4.64 (3.02-7.15)	5.08 (3.22-8.03)
60-min	2.03 (1.54-2.68)	2.36 (1.79-3.06)	2.87 (2.18-3.76)	3.32 (2.49-4.42)	3.97 (2.89-5.46)	4.50 (3.19-6.36)	5.07 (3.50-7.35)	5.69 (3.82-8.46)	6.56 (4.26-10.1)	7.26 (4.59-11.5)
2-hr	2.48 (1.89-3.24)	2.97 (2.24-3.76)	3.69 (2.82-4.78)	4.36 (3.30-5.76)	5.38 (3.97-7.36)	6.27 (4.49-8.81)	7.25 (5.03-10.4)	8.31 (5.60-12.2)	9.82 (6.39-14.9)	11.0 (7.01-17.2)
3-hr	2.72 (2.09-3.54)	3.34 (2.51-4.15)	4.20 (3.22-5.40)	5.04 (3.83-6.62)	6.35 (4.71-8.65)	7.52 (5.42-10.5)	8.84 (6.15-12.6)	10.3 (6.93-15.0)	12.3 (8.02-18.6)	13.9 (8.87-21.6)
6-hr	3.15 (2.44-4.06)	3.98 (2.99-4.86)	5.11 (3.95-6.50)	6.25 (4.79-8.13)	8.04 (6.02-10.9)	9.66 (7.01-13.4)	11.5 (8.07-16.3)	13.6 (9.21-19.5)	16.5 (10.8-24.7)	18.9 (12.1-29.0)
12-hr	3.61 (2.82-4.61)	4.66 (3.54-5.63)	6.10 (4.76-7.69)	7.53 (5.82-9.70)	9.73 (7.31-13.0)	11.7 (8.51-16.0)	13.9 (9.82-19.4)	16.5 (11.3-23.6)	20.4 (13.4-30.2)	23.7 (15.2-35.9)
24-hr	4.07 (3.20-5.15)	5.33 (4.10-6.41)	7.12 (5.60-8.88)	8.84 (6.88-11.3)	11.5 (8.64-15.1)	13.7 (10.0-18.6)	16.4 (11.6-22.6)	19.5 (13.4-27.5)	24.2 (16.0-35.4)	28.2 (18.2-42.2)
2-day	4.45 (3.53-5.57)	5.93 (4.60-7.04)	8.03 (6.38-9.92)	10.0 (7.89-12.7)	13.1 (9.98-17.1)	15.8 (11.6-21.1)	18.8 (13.4-25.7)	22.4 (15.4-31.2)	27.6 (18.3-39.8)	32.0 (20.7-47.2)
3-day	4.75 (3.79-5.92)	6.36 (4.97-7.52)	8.66 (6.92-10.6)	10.8 (8.56-13.6)	14.2 (10.8-18.4)	17.0 (12.6-22.7)	20.3 (14.5-27.5)	24.0 (16.6-33.2)	29.4 (19.6-42.0)	33.9 (21.9-49.6)
4-day	5.11 (4.10-6.35)	6.80 (5.35-8.04)	9.24 (7.41-11.3)	11.5 (9.13-14.4)	15.0 (11.5-19.4)	18.0 (13.3-23.8)	21.3 (15.3-28.7)	25.0 (17.4-34.5)	30.5 (20.3-43.4)	35.0 (22.7-50.9)
7-day	6.18 (4.98-7.60)	7.99 (6.37-9.46)	10.7 (8.62-13.0)	13.1 (10.5-16.3)	16.8 (12.9-21.5)	19.9 (14.8-26.0)	23.3 (16.8-31.1)	27.1 (18.9-36.9)	32.4 (21.7-45.7)	36.8 (23.9-53.0)
10-day	7.01 (5.68-8.59)	8.90 (7.17-10.6)	11.7 (9.55-14.2)	14.3 (11.5-17.7)	18.1 (14.0-23.0)	21.3 (15.9-27.7)	24.7 (17.8-32.8)	28.4 (19.9-38.5)	33.7 (22.6-47.2)	38.0 (24.7-54.3)
20-day	9.05 (7.40-11.0)	11.1 (9.13-13.2)	14.4 (11.8-17.3)	17.1 (13.9-20.9)	21.1 (16.4-26.5)	24.3 (18.2-31.1)	27.6 (20.0-36.2)	31.2 (21.9-41.8)	36.2 (24.4-50.0)	40.2 (26.3-56.7)
30-day	10.8 (8.84-13.0)	12.9 (10.8-15.5)	16.5 (13.7-19.8)	19.5 (15.8-23.6)	23.6 (18.3-29.3)	26.7 (20.1-34.0)	29.9 (21.8-39.0)	33.4 (23.6-44.4)	38.2 (25.8-52.4)	42.0 (27.5-58.8)
45-day	13.5 (11.2-16.2)	15.9 (13.4-19.0)	20.0 (16.7-23.8)	23.2 (18.9-28.0)	27.6 (21.5-34.0)	30.8 (23.2-38.8)	34.0 (24.9-43.9)	37.3 (26.5-49.4)	41.9 (28.4-57.0)	45.4 (29.8-63.0)
60-day	16.1 (13.4-19.2)	18.7 (15.8-22.3)	23.2 (19.4-27.6)	26.7 (21.9-32.1)	31.3 (24.5-38.4)	34.6 (26.2-43.5)	37.8 (27.8-48.7)	41.1 (29.2-54.1)	45.4 (30.9-61.5)	48.7 (32.0-67.3)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

NOAA Atlas 14, Volume 11, Version 2 ANGLETON 2 W
Station ID: 41-0257
Location name: Angleton, Texas, USA*
Latitude: 29.1572°, Longitude: -95.4592°
Elevation:
Elevation (station metadata): 26 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

WET WEATHER FLOW VALIDATION

Comprehensive flow monitoring data were not available to estimate true wet weather flow (WWF) peaking factors throughout the system. Field data based on lift station run times and historical WWTP daily influent flows were used to estimate a peaking factor. At this stage, with the given wastewater flow data and current system performance, HDR does not recommend sizing capital improvement projects using existing flows. Because the collection system performs outside accepted standards for wet weather, peak flow conveyance appears to be driven by wet weather inflow. Based on the best available data and regional wastewater flow estimation standards, a maximum WWF peaking factor of 12 was applied in the model (Recommended Standards for Wastewater Facilities, Great Lakes - Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, 2014).

WWF was validated by comparing the DMRs during rain events to the estimated WWF seen in the Infoworks ICM model.

INFLOW AND INFILTRATION

Inflow and infiltration (I&I) describes groundwater and stormwater that enters a sanitary sewer collection system through cracks, joint failures, illegal connections, and faulty connections in the system. I&I causes significant issues in wastewater treatment operation and sanitary sewer flow. At the Angleton Wastewater Treatment Plant, influent flows are significantly greater during rain events due to I&I. Additionally, lift station pumps experience a large increase in operation runtimes during rain events. Larger flows can overload lift station and plant capacity, dilute wastewater, and increase operational costs. When wastewater flows increase over pipe capacity in the collection system, overflow can occur at manholes, known as a sanitary sewer overflows (SSOs). When left unaddressed, I&I results in larger flows throughout the entire sanitary sewer collection system and increases the amount of collection system upgrades needed.

The City's existing InfoSewer model, GIS data, and lift station reports were used to create a flow chart that maps how lift stations influence each other, and how their performance varies. A high lift station runtime factor can be correlated to poor upstream performance due to excessive I&I during wet weather events. High I&I upstream leads to poor system performance downstream, since the drastic increase in flows will either be released due to SSOs or carried further downstream towards the treatment plant. Appendix D contains a flow chart that shows the lift station runtime factor, the Infosewer modeled average daily flow, and the InfoSewer model peaking factor for each modeled lift station. Lift stations that were not modeled in InfoSewer or lack operational data are grayed out. This representation of the collection system aids in identifying major areas of I&I concern and shows what areas were modeled with a higher margin of uncertainty due to a lack of information.

4.4.4 Wastewater Flows from Development Areas

The City considered the city limits, Extraterritorial Jurisdiction (ETJ) boundary, annexation plans and agreements currently in progress with developers to estimate spatial growth in the City for future planning horizons. These areas of anticipated future development are described in

Section 2.4. Using the methods described previously in Section 2.4, water demands were allocated to development tracts based on a combination of land use, area, and population density information. Water consumption data was transformed to wastewater loading using the equation from Section 4.4.1. and spatially distributed to manholes in the system.

4.5 Wastewater System Analysis

The hydraulic model was used to analyze the collection system performance, and to assess available capacity for existing wet weather conditions. As described previously, in the absence of system-wide flow monitoring data, a simplified peaking factor wet weather simulation was conducted. The hydraulic model was also used to analyze future and build-out conditions.

4.5.1 Wastewater System General Performance Metrics

The criteria for the system capacity analysis included:

- Sanitary sewer overflows
- Surcharging of the collection system pipes

Any SSO is considered a collection system failure. Surcharging was defined as any section flowing full, or with the water surface grade line above the crown of a pipe. System surcharge was evaluated to determine whether the section surcharged due to insufficient capacity or because of backwater or other downstream controlling factors.

A pipe was considered under capacity when it was both flowing full (surcharged), and the flow in the pipe was greater than the rated full pipe capacity, based on diameter and slope. Otherwise, the pipe was classified as surcharged due to a flow backup caused by a downstream capacity bottleneck. If the downstream bottleneck were resolved, this pipe would flow without surcharging.

For existing pipes, a degree of surcharging is acceptable, and varies depending on the level of risk a City or utility is willing to accept. Acceptable surcharge was defined as surcharge that remains a minimum of 3 feet below the ground surface level. Although surcharging pipes may not be recommended for replacement if the potential to produce SSOs is low, any new pipe will be designed according to the following conditions:

- For sewer mains 15 inches in diameter and smaller, the peak WWF will not exceed 90 percent of the pipe’s capacity flowing full.
- For sewer mains 18 inches in diameter and larger, the peak WWF will not exceed 80 percent of the pipe’s capacity flowing full.

These design criteria will be considered when recommending pipe sizes for the current and all future evaluation scenarios and CIP development.

4.5.2 Wastewater Model Update and Software Selection

The City provided their wastewater model in InfoSewer, which is an extension of ESRI's Arc Map. ESRI began retiring Arc Map in 2024, thus InfoSewer will no longer have an application to function in and is no longer being sold by Innovyze. Due to the retirement of the model software, HDR migrated the Angleton wastewater model to Infoworks ICM by importing the information previously housed in InfoSewer. An added benefit to changing software is that Infoworks ICM is more capable of evaluating I&I and pump station performance. This is advantageous as the City's wastewater system has many lift stations and experiences substantial wet weather flows.

GIS shapefiles of the modeled network of pipes and manholes were exported from InfoSewer and compared to the GIS data provided by the City. The exported model shapefiles were edited to reflect the location and pipe diameters found in the City's GIS information. Portions of the collection system such as regional lift stations or force mains that were not included in the original model were added based on the City's GIS data. For these new portions of the collection system, the size listed in GIS was assumed correct.

GIS data are typically maintained by wastewater agencies and cities as a mapping and data management tool for sewer assets. As such, it provides good data for developing the pipe network in the hydraulic model, including pipe alignments and diameters and manhole locations. However, additional data is needed to accurately represent how water moves through the system (pipe invert elevations and pipe to manhole connectivity), which is often incomplete or inaccurate in a typical GIS. In these areas, the GIS data were supplemented with additional information.

Manhole rim elevations were extracted from GIS ground elevation data. The loading data for manholes was estimated as described in 4.4 and entered into GIS.

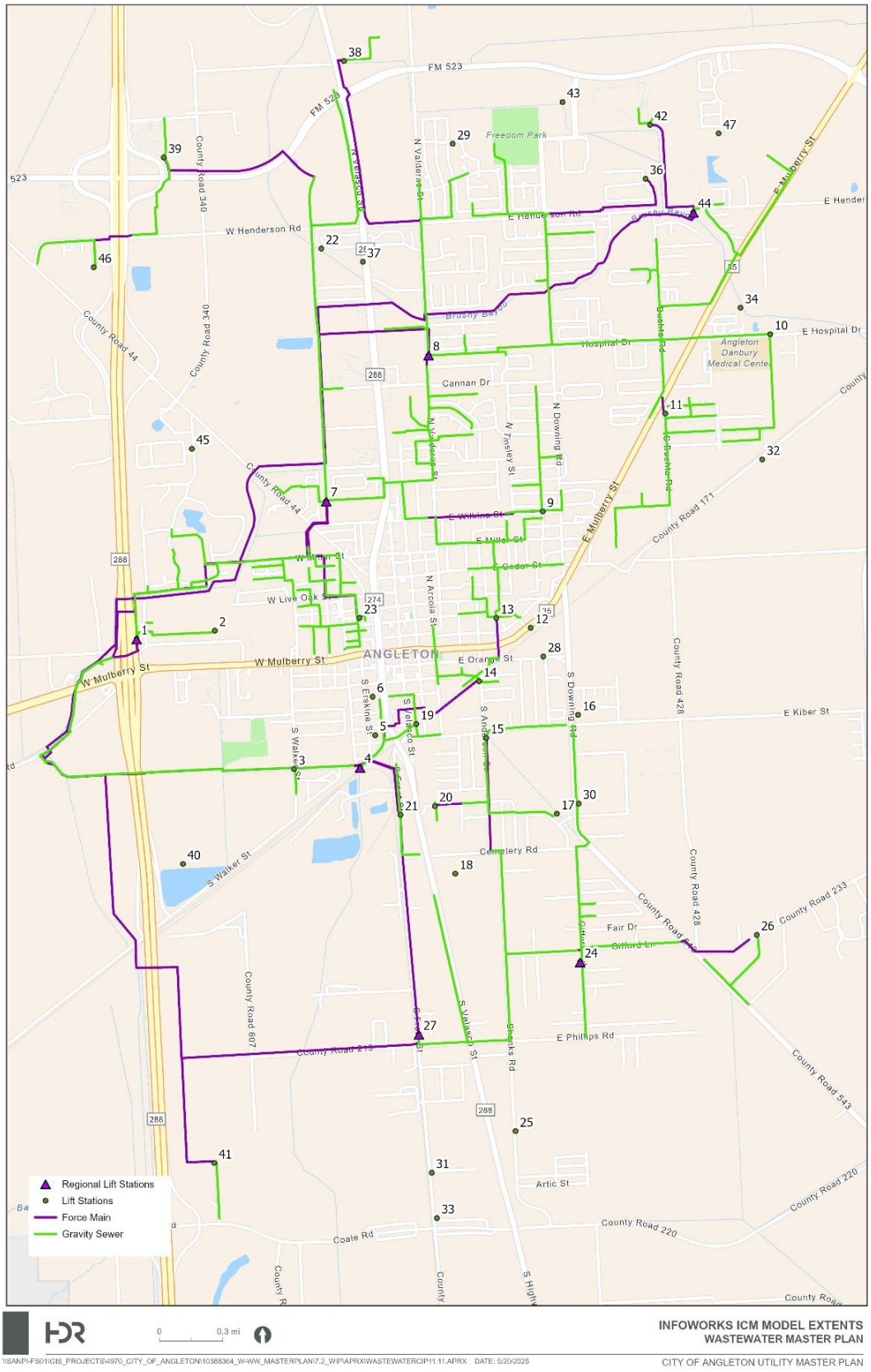
4.5.3 Wastewater Model Extents

The wastewater model includes all lift stations and wastewater collection mains that constitute the central collection system. The following lift stations and associated gravity mains, and force mains were excluded from the wastewater model due to a lack of lift station runtime and negligible flows from their service areas:

- Lift Station 200
- Lift Station 205
- Lift Station 206
- Lift Station 208
- Lift Station 25 Tributary Gravity Mains & Force Main
- Lift Station 31 Tributary Gravity Mains & Force Main
- Lift Station 33 Tributary Gravity Mains & Force Main
- Lift Station 35 Tributary Gravity Mains & Force Main

Flows from these areas are included as part of the flows to the system that these service areas feed.

Figure 4.2. Hydraulic Model Extents



4.6 Wastewater Model Evaluation

A wastewater model is a computer simulation of a wastewater collection system using fundamental hydraulic principles. The model is a tool to assist in understanding capacity limitations throughout the system and allows for large scale planning and development of capital improvement projects. The following parameters were evaluated to assess the wastewater system's performance.

4.6.1 Wastewater Line Size/Capacity

The capacity of a wastewater line is determined both by its diameter (via cross sectional area), and its slope. Infoworks ICM uses this information to calculate the pipe's full capacity (pfc), or the amount of wastewater a pipe conveys without surcharging. The pipe's surcharge state is calculated in Infoworks ICM as the ratio of hydraulic depth to the pipe height. Below shows the meaning of possible surcharge states within the wastewater model.

Table 4.4. Explanation of Wastewater Model Pipe Surcharge States

Value	Description
< 1	Pipe is not surcharged.
1.00	Wastewater flow is less than or equal to the pipe's full capacity. The pipe is surcharged due to system constraints that exist downstream of this pipe.
2.00	Wastewater flow is greater than the pipe's full capacity. The pipe is surcharged due to local constraints.

This parameter within the wastewater model was used to estimate the existing wastewater line capacity in the collection system.

TCEQ has also provided maximum and minimum pipe slopes for wastewater lines, as shown in Figure 4.3: TAC §217.53(l)(2)(A) Table C.2. These guidelines were followed when establishing proposed wastewater lines within the Infoworks ICM model.

Figure 4.3. TAC §217.53(l)(2)(A) Table C.2

Table C.2. - Minimum and Maximum Pipe Slopes

Size of Pipe *(inches)*	Minimum Slope *(%)*	Maximum Slope *(%)*
6	0.50	12.35
8	0.335	8.40
10	0.25	6.23
12	0.20	4.88
15	0.15	3.62
18	0.115	2.83
21	0.095	2.30
24	0.08	1.93
27	0.07	1.65
30	0.06	1.43
33	0.055	1.26
36	0.045	1.12
39	0.04	1.01
>39	*	*
* For pipes larger than 39 inches in diameter, the slope is determined by Manning's formula to maintain a velocity greater than 2.0 feet per second and less than 10.0 feet per second when flowing full.		

4.6.2 Lift Station Pump Capacity

Lift station pump capacity was determined using vendor data when available. Many of the pump assets within the City's wastewater system have unknown equipment models or manufacturers. In these cases, the lift station pump capacity was estimated using the pump size, motor type, and voltage. The pump data in Appendix C: Table was used in the wastewater model to estimate the lift station pumping capacities.

4.6.3 Force Main Capacity

Force main capacity was determined as the volumetric flow in the pipe that maintained a maximum velocity of 5 feet per second (fps). This is the maximum velocity adopted for pressure piping as it prevents significant head losses in the system. Based on this velocity criteria, Table 4.5 shows the maximum flow assumed in force mains throughout the wastewater system.

Table 4.5. Force Main Maximum Capacity for Various Pipe Sizes

Diameter (in)	**4**	**6**	**8**	**10**	**12**
Max Flow (gpm)	196	441	783	1,224	1,762
Diameter (in)	**14**	**16**	**18**	**20**	**24**
Max Flow (gpm)	2,399	3,150	4,000	4,895	7,000

4.6.4 Existing System Performance

EXISTING DRY WEATHER PERFORMANCE

Generally, the hydraulic model indicates that the existing system conveys current peak DWFs well, with relatively few capacity issues. Figure 4.4 displays the modeled results for surcharge state, which represents the ratio of modeled flow depth to the pipe's height. Pipes in green indicate a modeled DWF of 80 percent or less (0 – 0.8) of the pipe's capacity. Pipes in yellow indicate a modeled DWF between 80 and 99 percent (0.8 – 0.99) of the pipe's capacity. Pipes in orange indicate a modeled DWF of 100 percent (1) of the pipe's capacity due to downstream constraints. Wastewater lines near regional lift stations 7 and 8 exhibit some surcharge, but not at a level that poses risk of SSOs. At each of these locations, the peak DWF is contained within the pipe, although the pipes do surcharge.

EXISTING WET WEATHER PERFORMANCE

Although the system is adequately sized for DWF, the wastewater model indicates that large amounts of inflow and infiltration cause surcharge during wet weather events, as show in Figure 4.5. Pipes in red indicate a modeled WWF exceeding the pipe's capacity. The model indicates that the WWF is contained in most pipes throughout the system, but there are multiple areas of concern as shown in Figure 4.5.

The areas of concern primarily exist upstream of regional lift stations 1, 7, and 8, as well as lift stations 9 and 23. Lift stations 1, 7, and 8 are locations where large amounts of system flows converge before traveling to the WWTP. Discussions with City staff and review of lift station runtime reports suggest that these lift stations run for long periods of time during and after rainfall events. While the system is adequate for current WWF, improvements in these areas should be prioritized as the City grows further to the north and increases contributing flows to these areas.

Figure 4.4. Existing System Dry Weather Flow Wastewater Model Results

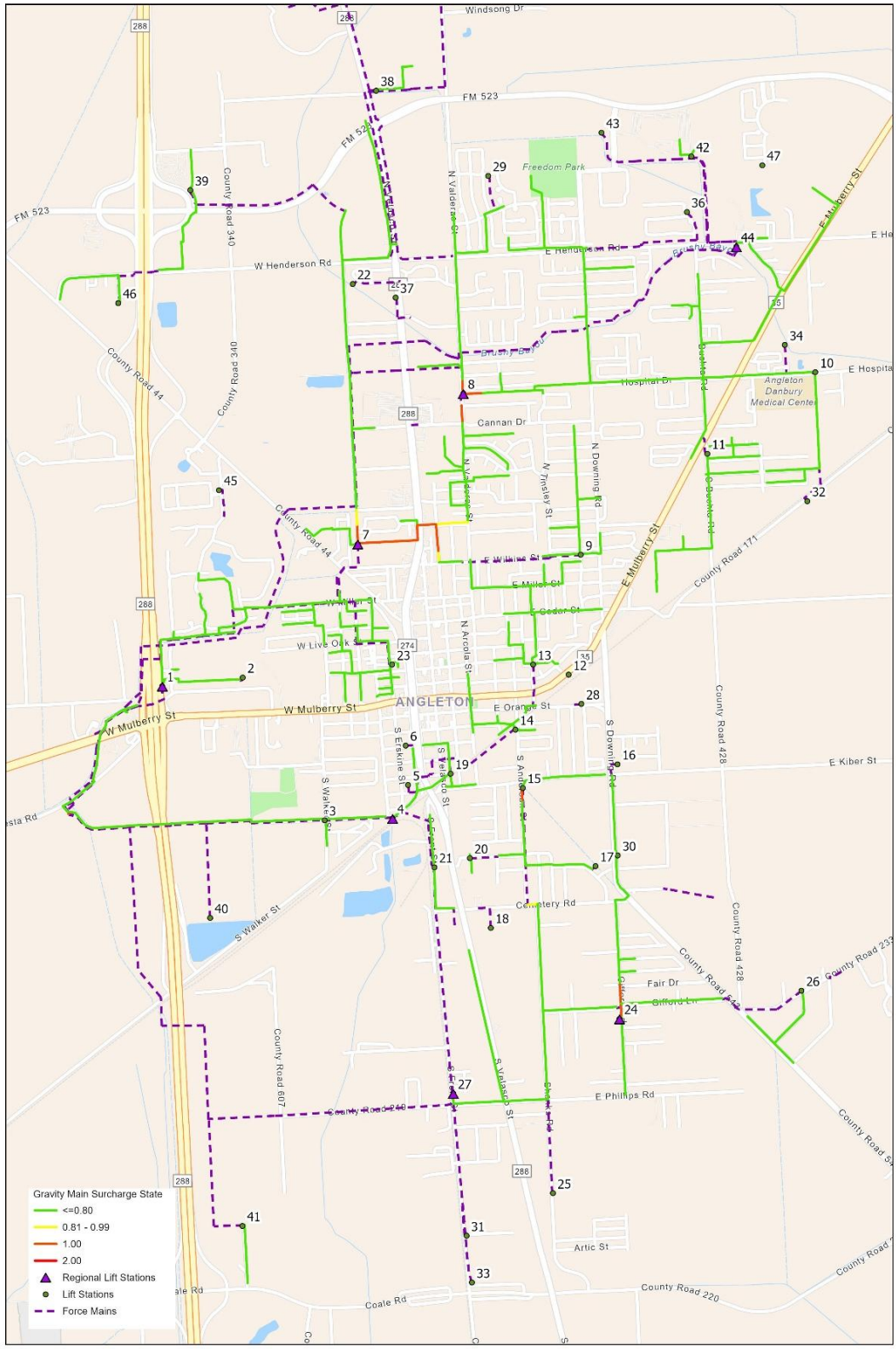
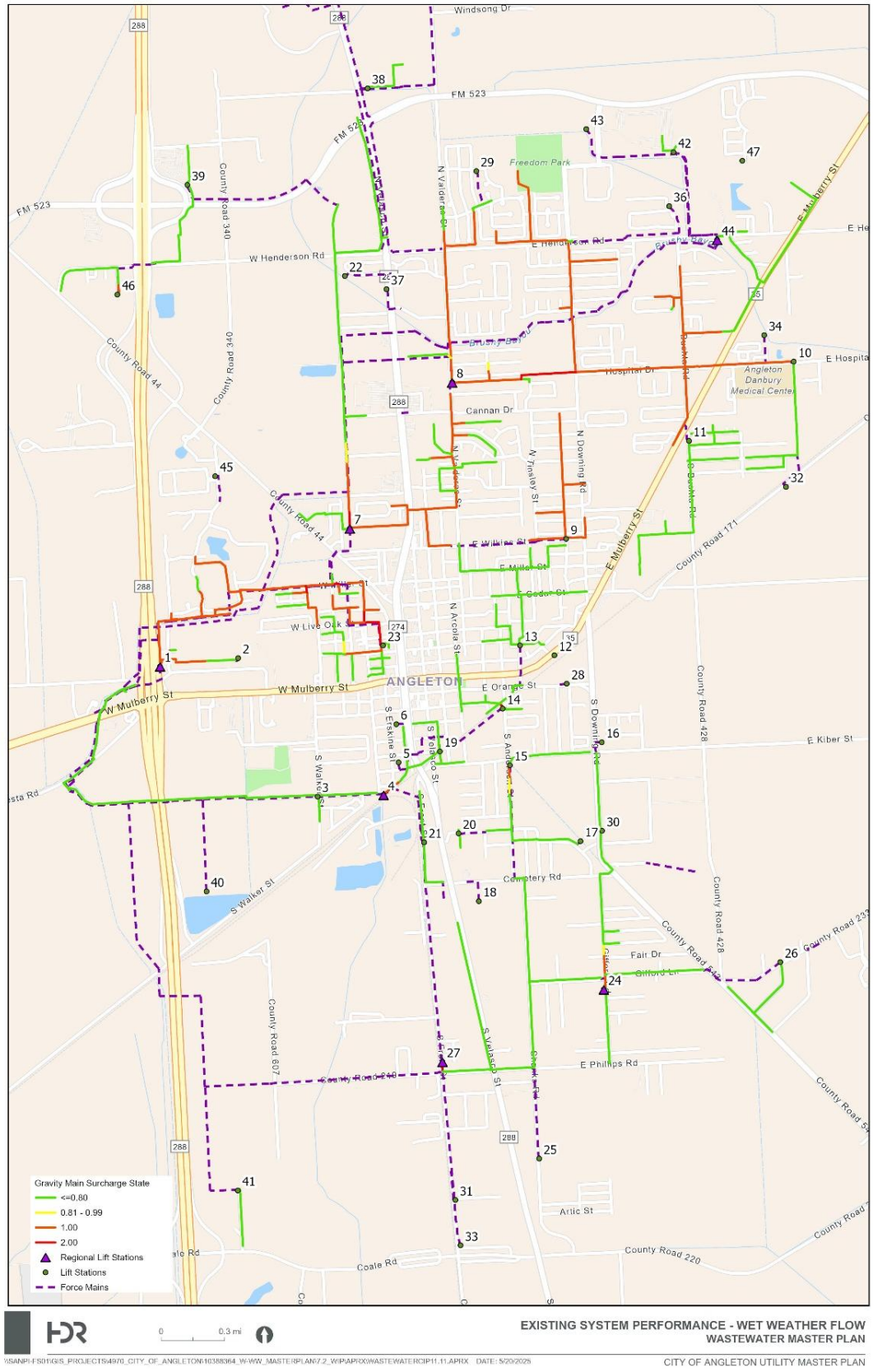


Figure 4.5. Existing System Wet Weather Wastewater Model Results



4.6.5 Future System Performance

LONG-TERM DRY WEATHER PERFORMANCE

The hydraulic model indicates that the existing system will be able to convey estimated peak DWFs well, with few capacity issues. Figure 4.6 below shows that wastewater lines in the northeast portion of town, upstream of lift station 46 exhibit surcharge under the future DWF conditions, but this is likely due to planned growth in that area. Otherwise, the system constraints expected at from long-term dry weather loading are similar to those seen in the existing dry weather model.

LONG-TERM WET WEATHER PERFORMANCE

Model results, shown in Figure 4.7, indicate that the existing system will not be able to convey estimated future peak WWFs. It is likely that a design rainstorm event will result in SSO's throughout the system, primarily concentrated in the northern portion of town. Wastewater lines in the northeast, upstream of lift station 46, exhibit surcharge likely due to planned growth in that area. The major regional lift stations servicing the north, lift stations 1, 7, and 8, have significant surcharge upstream of their intakes, demonstrating that the current lift station capacities are not adequate to convey inflow and infiltration in addition to the future dry weather loading. There is also an increase in surcharge near southern lift stations 24 and 30. The system constraints expected at long-term wet weather conditions are primarily dictated by inflow and infiltration occurring in the system and should be addressed in a variety of maintenance and capital improvement activities.

Figure 4.6. Long-Term System Dry Weather Wastewater Model Results

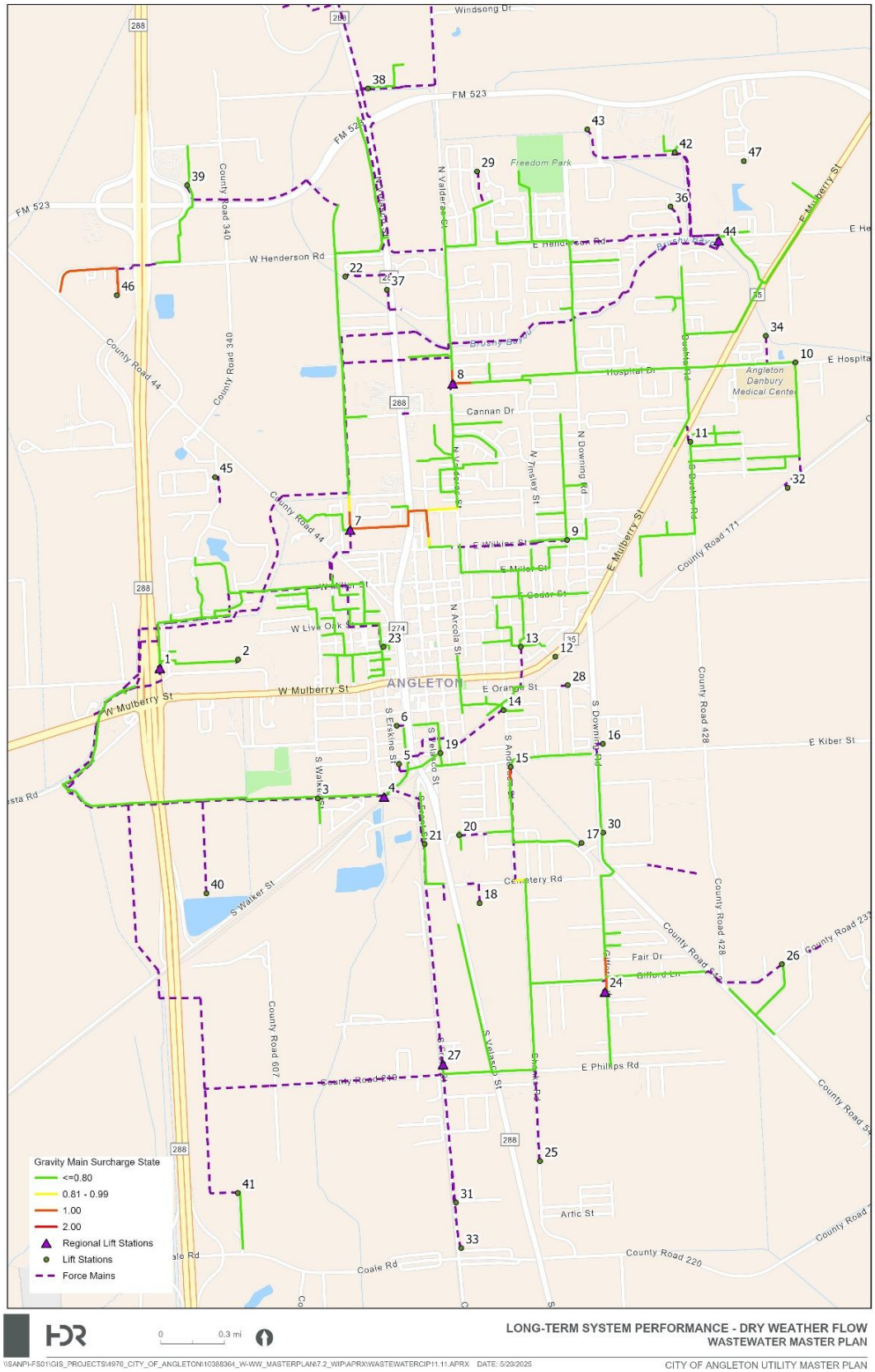
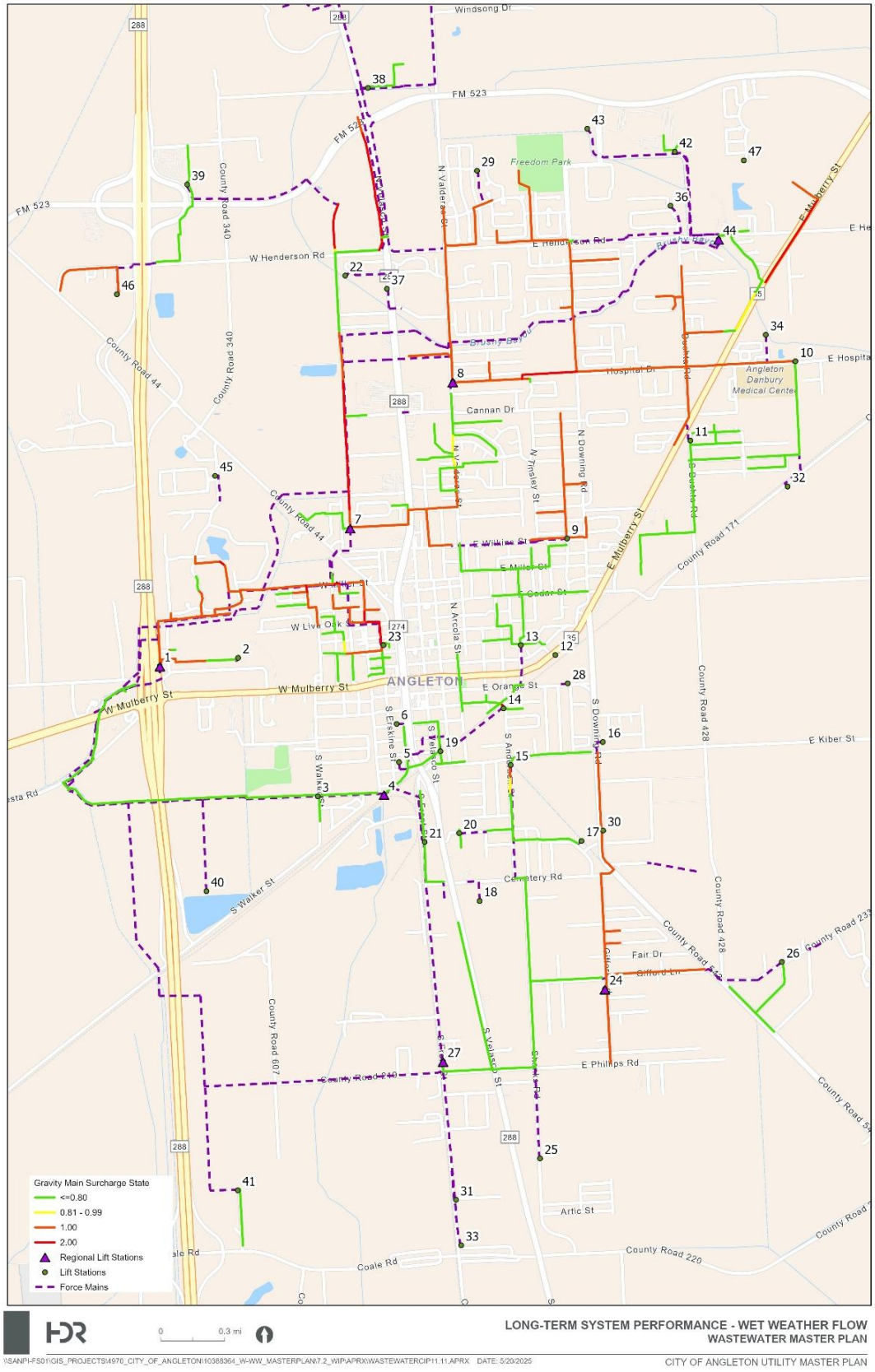


Figure 4.7. Long-Term System Wet Weather Wastewater Model Results



4.7 Capital Improvements

The future land use data provided by the City were used to estimate future wastewater flows and create model scenarios for each planning horizon. Wastewater mains were identified for replacement when the projected peak wet weather flows (PWWF) exceeded the full pipe capacity and resulted in SSOs.

Once the system deficiencies were identified in the hydraulic model, recommended improvements for the pipelines or lift stations with capacity limitations were considered. Recommended improvements were sized based on the standards described in Section 4.5.1.

4.7.1 Inflow and Infiltration Study Recommendations

As illustrated previously in this report, the existing wastewater system conveys both existing and build out peak dry weather flows with relatively few capacity issues. It is during wet weather conditions that the system experiences widespread surcharging and SSOs. This system performance indicates that the wastewater system is experiencing excessive levels of I&I.

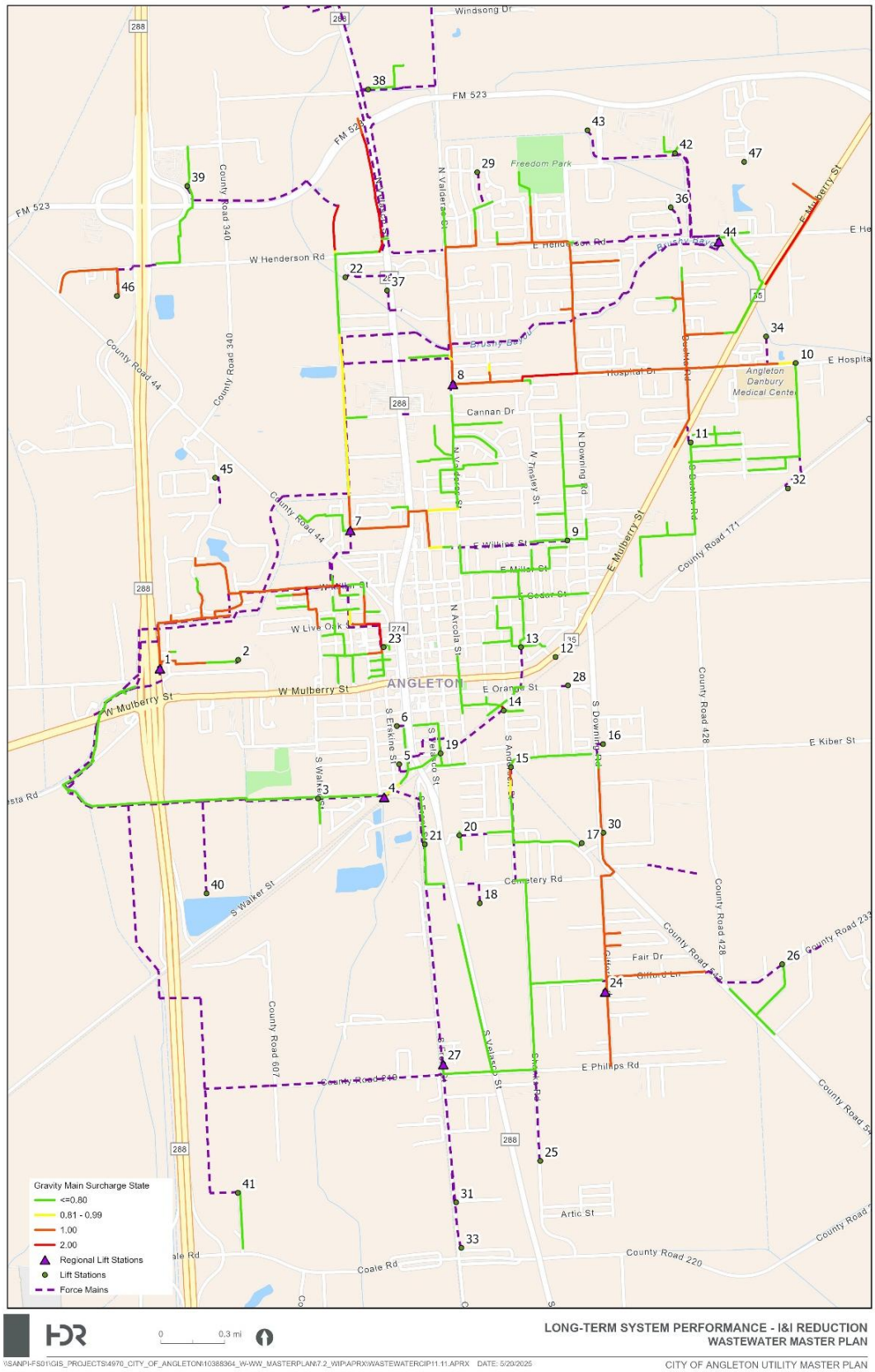
An I&I study will provide recommendations to strategically reduce I&I within the wastewater collection system. For the purpose of this master plan, it was assumed that I&I in the new portions of the system would be drastically reduced due to the new materials, manholes, and improved pipe installation.

Using historical references for I&I reduction and predicted system performance for a system of this size, wet weather I&I was assumed to decrease by approximately 30% by following a systematic treatment of the causative factors for I&I. This was simulated in the model by reducing any estimated peaking factors greater than 4, by 30% with a minimum peaking factor of 4. Using this method, an overall I&I reduction of 16% would be achieved throughout the collection system. As a result, the modeled long-term wet weather flows and associated surcharge would decrease, illustrated by Table 4.6 and Figure 4.8. This I&I reduction will greatly benefit collection system operations as well as operations at the WWTP. When evaluating the CIP below, the necessary improvements for the system with and without any I&I reduction are shown. I&I reduction decreases both the number and scope of CIP projects needed for build out, resulting in a significant decrease in CIP costs.

Table 4.6. Long-Term Wastewater Flows, with and without I&I Reduction

	Long-Term Flows	Long-Term Flows With I&I Reduction
Peak Dry Weather Flow (mgd)	4.4	4.4
Inflow and Infiltration (mgd)	19.9	16.0
Peak Wet Weather Flow (mgd)	24.3	20.4
System Peaking Factor	5.6	4.7

Figure 4.8. Long-Term System Wet Weather Model Results with I&I Reduction



4.7.2 Wastewater Conveyance CIP

The long-term wastewater conveyance CIP projects are outlined in Table 4.7. Suggested improvements are categorized based on improvements needed if no I&I reduction is done, and improvements needed if the previously mentioned I&I reduction is accomplished by the City. A fraction of the CIP projects would be eligible for impact fees, as they provide additional capacity needed to serve areas of new growth in the City.

Table 4.7. Wastewater Conveyance Projects

CIP Without I&I Reduction			
Project ID	**Recommended CIP**	**Pipe Diameter (in)**	**Pipe Length (LF)**
WWL-1	Shannon Street & Karankawa Lane	36	4,110
WWL-2	Hospital Dr. from Buchta Rd to Valderas St	27	3,210
WWL-3	E. Mulberry St. West of I-35	16	3,860
WWL-4	Highway 288B from FM 523 to Henderson Rd.	12	4,265
WWL-5	FM 523/Henderson Rd Wastewater Line	16	1,230
WWL-6	Lift Station 46 Tributary	12	2,425
CIP With I&I Reduction			
WWL-1*	Shannon Street & Karankawa Lane	**30**	4,110
WWL-2	No longer needed after I&I reduction		
WWL-3	E. Mulberry St. West of I-35	16	3,860
WWL-4	Highway 288B from FM 523 to Henderson Rd.	12	4,265
WWL-5	FM 523/Henderson Rd Wastewater Line	16	1,230
WWL-6*	Lift Station 46 Tributary	**10**	2,425

*Note change in CIP project pipe diameters with I&I Reduction

4.7.3 Lift Station Pumping CIP

Several lift stations throughout the wastewater conveyance system will need to increase their capacity to satisfy the projected long term wastewater loading. Most of these improvements are located at regional lift stations that are responsible for a large fraction of the system's wastewater flows. Table 4.8 provides a summary of the additional pumping capacity needed.

Table 4.8. Lift Station Improvements

CIP Without I&I Reduction			
Project ID	**Recommended CIP**	**Number of Pumps Added**	**Pump Capacity, each (gpm)**
PUMP-1	LS 1 Pump Station	2	800
PUMP-2	LS 7 Bypass Pump Station	2	2,250
PUMP-3	LS 7 Pump Station	1	1,200
PUMP-4	LS 8 Pump Station	3	1,200
PUMP-5	LS 9 Pump Station	1	250
PUMP-6	LS 23 Pump Station	1	350
PUMP-7	LS 24 Pump Station	1	350
CIP With I&I Reduction			
PUMP-1	LS 1 Pump Station	2	800
PUMP-2	No longer needed after I&I reduction		
PUMP-3	LS 7 Pump Station	1	1,200
PUMP-4	LS 8 Pump Station	3	1,200
PUMP-5	No longer needed after I&I reduction		
PUMP-6	No longer needed after I&I reduction		
PUMP-7	LS 24 Pump Station	1	350

4.7.4 Force Main CIP

As lift station capacity increases, force main capacity will also need to increase to convey long term wastewater loading while maintaining reasonable velocities. Most of the force main improvements correspond to the improvements at regional lift stations and areas that are known to convey large volumes of wastewater.

Table 4.9. Long-Term Force Main Projects

CIP Without I&I Reduction			
Project ID	Recommended CIP	Pipe Diameter (in)	Pipe Length (LF)
FM-1	Lift Station 1 Force Main	18	1,010
FM-2	Lift Station 7 Bypass Force Main	24	12,300
FM-3	Lift Station 8 Force Main	18	277
FM-4	Lift Station 24 Force Main	10	405
FM-5	Lift Station 39 Force Main	8	4,450
CIP With I&I Reduction			
FM-1	Lift Station 1 Force Main	18	1,010
FM-2	No longer needed after I&I reduction		
FM-3*	Lift Station 8 Force Main	**16**	277
FM-4	Lift Station 24 Force Main	10	405
FM-5	No longer needed after I&I reduction		

*Diameter of project is reduced with I&I reduction.

4.7.5 WWTP Expansion

Per the Texas Commission on Environmental Quality (TCEQ) Chapter 305.126, when a facility reaches 75% of the permitted flow, financial planning and design for the necessary additional treatment facilities shall be initiated, and when a facility reaches 90% of the permitted flow, construction of the additional treatment facilities shall commence.

Projected wastewater flows at build out were shown previously in Table 4.6. The peak wet weather flow with and without I&I reduction exceeds the City's current Texas Pollutant Discharge Elimination System (TPDES) Permit. The existing permit allows a maximum effluent flow of 3.6 mgd to be discharged into Oyster Creek, and no more than 12,500 gpm (~18 mgd) during any two-hour period. The current wastewater loading projections predict that the City will need to amend its TPDES permit and expand the WWTP in the next 30 years to serve its growing population.

Note that further evaluation of WWTP improvements is beyond the scope of work of the master plan, which was limited to evaluation of the wastewater collection system.

4.8 Wastewater OPCC

4.8.1 Wastewater CIP Cost Summary

Based on the hydraulic modeling results and prioritization efforts, HDR developed a CIP program as summarized in Section 4.7. The costs are considered planning level only based on recent unit costs and are in 2025 dollars. The cost for each project includes a 30% contingency for unknowns and 10% for market volatility, in addition to 25% for engineering and contractor costs. A cost breakdown is included with the CIP summaries in Appendix E. The alignments and extents of projects are based on the hydraulic modeling. Prior to design or construction, it is recommended that flow monitoring be initiated and used to validate the hydraulic model results to “right size” the projects. The flow monitoring would help confirm both the necessity of the project and the required pipe size.

The planned developments shown previously in Figure 2.4 will greatly contribute to predicted flows at build out. As with the water CIP outlined in Section 2, the wastewater CIP table includes an impact fee percentage. This percentage represents the amount of the overall project cost that is eligible for impact fees, based on the portion of the new service loadings each project will contribute with a near-term planning window. These impact fees allow the City to impose a portion of the cost on new developments to provide utility services.

Table 4.10. CIP Cost Summary - Without I&I Reduction

Project ID	Recommended CIP	Number of Pumps Added	Pump Capacity (gpm)	OPCC (2025 dollars)	% of Cost Impact Fee Eligible (portion of capacity used within 10 years)
PUMP-1	LS 1 Pump Station	2	800	$1,815,000	25%
PUMP-2	LS 7 Bypass Pump Station	2	2,250	$1,815,000	50%
PUMP-3	LS 7 Pump Station	1	1,200	$1,815,000	50%
PUMP-4	LS 8 Pump Station	3	1,200	$1,815,000	50%
PUMP-5	LS 9 Pump Station	1	250	$1,815,000	0%
PUMP-6	LS 23 Pump Station	1	350	$1,815,000	0%
PUMP-7	LS 24 Pump Station	1	350	$1,815,000	25%
Project ID	**Recommended CIP**	**Pipe Diameter (in)**	**Pipe Length (LF)**	**OPCC (2025 dollars)**	**% of Cost Impact Fee Eligible**
FM-1	Lift Station 1 Force Main	18	1,010	$1,284,000	25%
FM-2	Lift Station 7 Bypass Force Main	24	12,300	$20,762,000	50%
FM-3	Lift Station 8 Force Main	18	277	$176,000	50%
FM-4	Lift Station 24 Force Main	10	405	$144,000	25%
WWL-1	Shannon Street & Karankawa Lane	36	4,110	$5,222,000	50%
WWL-2	Hospital Dr. from Buchta Rd to Valderas St	27	3,210	$3,059,000	50%
WWL-3	E. Mulberry St. West of I-35	16	3,860	$4,344,000	50%
WWL-4	Highway 288B from FM 523 to Henderson Rd.	12	4,265	$3,600,000	25%
WWL-5	FM 523/Henderson Rd Wastewater Line	16	1,230	$693,000	25%
WWL-6	Lift Station 46 Tributary	12	2,425	$1,035,000	100%
Total Cost of CIP Projects Without I&I Reduction				**$51,989,000**	

Table 4.11. CIP Cost Summary - With I&I Reduction

Project ID	Recommended CIP	Number of Pumps Added	Pump Capacity (gpm)	OPCC (2025 dollars)	% of Cost Impact Fee Eligible (portion of capacity used within 10 years)
PUMP-1	LS 1 Pump Station	2	800	$1,815,000	25%
PUMP-3	LS 7 Pump Station	1	1200	$1,815,000	50%
PUMP-4	LS 8 Pump Station	3	1200	$1,815,000	50%
PUMP-7	LS 24 Pump Station	1	350	$1,815,000	25%
Project ID	**Recommended CIP**	**Pipe Diameter (in)**	**Pipe Length (LF)**	**OPCC (2025 dollars)**	**% of Cost Impact Fee Eligible**
FM-1	Lift Station 1 Force Main	18	1,010	$1,284,000	25%
FM-3*	Lift Station 8 Force Main	**16**	277	$156,000	50%
FM-4	Lift Station 24 Force Main	10	405	$144,000	25%
WWL-1*	Shannon Street & Karankawa Lane	**30**	4,110	$4,327,000	50%
WWL-3	E. Mulberry St. West of I-35	16	3,860	$4,344,000	50%
WWL-4	Highway 288B from FM 523 to Henderson Rd.	12	4,265	$3,600,000	25%
WWL-5	FM 523/Henderson Rd Wastewater Line	16	1,230	$693,000	25%
WWL-6*	Lift Station 46 Tributary	**10**	2,425	$859,000	100%
Total Cost of CIP Projects With I&I Reduction				**$22,667,000**	

*Note change in CIP Projects pipe diameter with I&I reduction.

4.8.2 Wastewater CIP Prioritization

The City's primary focus when it comes to CIP projects should be improvements that can decrease I&I. An I&I study should be conducted to understand the wastewater collection system wholistically.

4.9 Additional Wastewater Recommendations

4.9.1 Asset Management Program

An asset management program can record and monitor the City's wastewater assets, evaluate their remaining life, and estimate the investment required to maintain reliable services. An asset management program can focus the City's operation and maintenance budget and resources. This program can document renewal strategies, creating defensible documentation for annual budget planning.

4.9.2 Manhole Condition Assessment

Because the City has had historical indications of high I&I, part of an asset management program could include a manhole condition assessment program. In conjunction with a sampling plan to determine the viability of reducing hydrogen sulfide (H_2S) generation in the collection system, a manhole condition assessment program would determine the degree of deterioration of manholes. This would also provide information on the remaining life of the manholes, as well as their reliability.

4.9.3 Flow Monitoring Program

Investing in a targeted flow monitoring program can provide valuable data to use in refining and calibrating the hydraulic model, which will improve its accuracy and its usefulness for planning system improvements. Flow monitoring will streamline future efforts to develop wastewater master plans and give further insight to the operation of the existing collection system. The model results developed after incorporating flow monitoring data can validate the necessity and sizing of proposed CIP projects.

4.9.4 Model Updates and GIS Integration

The hydraulic model is a representation of the system created with the available data at the time. However, systems are constantly changing and evolving. A model can continue to characterize the changing system, but requires regular maintenance and updating to do this effectively. Hydraulic models should typically be updated at least annually, or after the construction of a major wastewater CIP project or the addition of a significant development.

The current hydraulic model operates within the GIS environment. A unique asset identification system in GIS could be integrated with the model identification system, simplifying future model updates. This identification system would allow the model software to quickly recognize manholes or pipe segments with a new identification number and import those assets into the model.

Appendix A – Comparison of Supplies and Demands

Table A.1. Annual Supplies and Demands

Year	BWA Surface Water Supply (ac-ft/yr)	Annual Well Supply (ac-ft/yr)		Total Annual Supplies (ac-ft/yr)		Average-day Demands (ADD) - HDR Calculated (ac-ft/yr)	Annual Surplus/(Need) Based on HDR ADD (ac-ft/yr)	
		100% GW Capacity	50% GW Capacity	100% GW Capacity	50% GW Capacity		100% GW Capacity	50% GW Capacity
2023	2,576	2,501	1,251	5,077	3,827	1,873	3,204	1,954
2024	2,576	2,501	1,251	5,077	3,827	1,970	3,107	1,856
2025	2,576	2,501	1,251	5,077	3,827	2,073	3,004	1,754
2026	2,576	2,501	1,251	5,077	3,827	2,180	2,897	1,646
2027	2,576	2,501	1,251	5,077	3,827	2,294	2,783	1,533
2028	2,576	2,501	1,251	5,077	3,827	2,413	2,664	1,414
2029	2,576	2,501	1,251	5,077	3,827	2,538	2,539	1,288
2030	2,576	2,501	1,251	5,077	3,827	2,670	2,407	1,157
2031	2,576	2,501	1,251	5,077	3,827	2,809	2,268	1,018
2032	2,576	2,501	1,251	5,077	3,827	2,955	2,122	872
2033	2,576	2,501	1,251	5,077	3,827	3,108	1,969	719
2034	2,576	2,501	1,251	5,077	3,827	3,196	1,881	630
2035	2,576	2,501	1,251	5,077	3,827	3,287	1,790	539
2036	2,576	2,501	1,251	5,077	3,827	3,381	1,696	445
2037	2,576	2,501	1,251	5,077	3,827	3,477	1,600	349
2038	2,576	2,501	1,251	5,077	3,827	3,576	1,501	250
2039	2,576	2,501	1,251	5,077	3,827	3,678	1,399	148
2040	2,576	2,501	1,251	5,077	3,827	3,783	1,294	44
2041	2,576	2,501	1,251	5,077	3,827	3,891	1,186	(64)
2042	2,576	2,501	1,251	5,077	3,827	4,001	1,076	(175)
2043	2,576	2,501	1,251	5,077	3,827	4,115	962	(289)
2044	2,576	2,501	1,251	5,077	3,827	4,232	845	(406)
2045	2,576	2,501	1,251	5,077	3,827	4,353	724	(526)
2046	2,576	2,501	1,251	5,077	3,827	4,477	600	(650)
2047	2,576	2,501	1,251	5,077	3,827	4,604	473	(778)
2048	2,576	2,501	1,251	5,077	3,827	4,735	342	(909)
2049	2,576	2,501	1,251	5,077	3,827	4,870	207	(1,044)
2050	2,576	2,501	1,251	5,077	3,827	5,009	68	(1,182)
2051	2,576	2,501	1,251	5,077	3,827	5,151	(74)	(1,325)
2052	2,576	2,501	1,251	5,077	3,827	5,298	(221)	(1,472)

Year	BWA Surface Water Supply (ac-ft/yr)	Annual Well Supply (ac-ft/yr)		Total Annual Supplies (ac-ft/yr)		Average-day Demands (ADD) - HDR Calculated (ac-ft/yr)	Annual Surplus/(Need) Based on HDR ADD (ac-ft/yr)	
		100% GW Capacity	50% GW Capacity	100% GW Capacity	50% GW Capacity		100% GW Capacity	50% GW Capacity
2053	2,576	2,501	1,251	5,077	3,827	5,449	(372)	(1,622)
2054	2,576	2,501	1,251	5,077	3,827	5,527	(450)	(1,700)
2055	2,576	2,501	1,251	5,077	3,827	5,605	(528)	(1,779)
2056	2,576	2,501	1,251	5,077	3,827	5,685	(608)	(1,859)
2057	2,576	2,501	1,251	5,077	3,827	5,766	(689)	(1,939)
2058	2,576	2,501	1,251	5,077	3,827	5,848	(771)	(2,022)
2059	2,576	2,501	1,251	5,077	3,827	5,931	(854)	(2,105)
2060	2,576	2,501	1,251	5,077	3,827	6,016	(939)	(2,189)
2061	2,576	2,501	1,251	5,077	3,827	6,101	(1,024)	(2,275)
2062	2,576	2,501	1,251	5,077	3,827	6,188	(1,111)	(2,362)
2063	2,576	2,501	1,251	5,077	3,827	6,276	(1,199)	(2,450)
2064	2,576	2,501	1,251	5,077	3,827	6,366	(1,289)	(2,539)
2065	2,576	2,501	1,251	5,077	3,827	6,456	(1,379)	(2,630)
2066	2,576	2,501	1,251	5,077	3,827	6,548	(1,471)	(2,722)
2067	2,576	2,501	1,251	5,077	3,827	6,641	(1,564)	(2,815)
2068	2,576	2,501	1,251	5,077	3,827	6,736	(1,659)	(2,909)
2069	2,576	2,501	1,251	5,077	3,827	6,832	(1,755)	(3,005)
2070	2,576	2,501	1,251	5,077	3,827	6,929	(1,852)	(3,103)
2071	2,576	2,501	1,251	5,077	3,827	7,028	(1,951)	(3,201)
2072	2,576	2,501	1,251	5,077	3,827	7,128	(2,051)	(3,301)
2073	2,576	2,501	1,251	5,077	3,827	7,229	(2,152)	(3,403)

Table A.2. Max-Day Capacity and Demands

Year	BWA Surface Water Supply Capacity (mgd)	Well Capacity (mgd)	Total Capacity (mgd)	Maximum-day Demands (mgd)	Max Day Surplus/(Need) (mgd)
2023	2.30	4.70	7.00	3.35	3.65
2024	2.30	4.70	7.00	3.52	3.48
2025	2.30	4.70	7.00	3.71	3.29
2026	2.30	4.70	7.00	3.90	3.10
2027	2.30	4.70	7.00	4.10	2.90
2028	2.30	4.70	7.00	4.31	2.69
2029	2.30	4.70	7.00	4.54	2.46
2030	2.30	4.70	7.00	4.77	2.23
2031	2.30	4.70	7.00	5.02	1.98
2032	2.30	4.70	7.00	5.28	1.72
2033	2.30	4.70	7.00	5.55	1.45
2034	2.30	4.70	7.00	5.71	1.29
2035	2.30	4.70	7.00	5.87	1.13
2036	2.30	4.70	7.00	6.04	0.96
2037	2.30	4.70	7.00	6.21	0.79
2038	2.30	4.70	7.00	6.39	0.61
2039	2.30	4.70	7.00	6.57	0.43
2040	2.30	4.70	7.00	6.76	0.24
2041	2.30	4.70	7.00	6.95	0.05
2042	2.30	4.70	7.00	7.15	(0.15)
2043	2.30	4.70	7.00	7.35	(0.35)
2044	2.30	4.70	7.00	7.56	(0.56)
2045	2.30	4.70	7.00	7.77	(0.77)
2046	2.30	4.70	7.00	7.99	(0.99)
2047	2.30	4.70	7.00	8.22	(1.22)
2048	2.30	4.70	7.00	8.46	(1.46)
2049	2.30	4.70	7.00	8.70	(1.70)
2050	2.30	4.70	7.00	8.94	(1.94)
2051	2.30	4.70	7.00	9.20	(2.20)
2052	2.30	4.70	7.00	9.46	(2.46)
2053	2.30	4.70	7.00	9.73	(2.73)
2054	2.30	4.70	7.00	9.87	(2.87)
2055	2.30	4.70	7.00	10.01	(3.01)
2056	2.30	4.70	7.00	10.15	(3.15)

Year	BWA Surface Water Supply Capacity (mgd)	Well Capacity (mgd)	Total Capacity (mgd)	Maximum-day Demands (mgd)	Max Day Surplus/(Need) (mgd)
2057	2.30	4.70	7.00	10.30	(3.30)
2058	2.30	4.70	7.00	10.44	(3.44)
2059	2.30	4.70	7.00	10.59	(3.59)
2060	2.30	4.70	7.00	10.74	(3.74)
2061	2.30	4.70	7.00	10.89	(3.89)
2062	2.30	4.70	7.00	11.05	(4.05)
2063	2.30	4.70	7.00	11.21	(4.21)
2064	2.30	4.70	7.00	11.37	(4.37)
2065	2.30	4.70	7.00	11.53	(4.53)
2066	2.30	4.70	7.00	11.69	(4.69)
2067	2.30	4.70	7.00	11.86	(4.86)
2068	2.30	4.70	7.00	12.03	(5.03)
2069	2.30	4.70	7.00	12.20	(5.20)
2070	2.30	4.70	7.00	12.37	(5.37)
2071	2.30	4.70	7.00	12.55	(5.55)
2072	2.30	4.70	7.00	12.73	(5.73)
2073	2.30	4.70	7.00	12.91	(5.91)

Appendix B – Water CIP Summary Sheets

City of Angleton Water System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: North East Expansion
CIP Year: 2035

Vicinity Map:

Project Description and Location:

Extending existing water lines to the northeast area of the City, including a 16" segment and 8" segment running along E Mulberry St to support anticipated mixed-use developments along Hwy 35 and to close a distribution system loop serving the northeastern portion of the Rancho MUD and Growth Areas 21 and 22.

Planning Level Opinion of Probable Construction Cost

Description	Quantity	Unit	Unit Price	Total
8" PVC Water Line	8,600	LF	$145	$1,247,000
16" PVC Water Line	2,000	LF	$295	$590,000
Subtotal				$1,837,000
Misc Items			10%	$183,700
Construction Subtotal				$2,020,700
Professional services			25%	$505,175
Contingency			30%	$606,210
Market volatility			10%	$202,070
Project Total				$3,334,000

City of Angleton Water System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: CR 44 Extension
CIP Year: 2035

Vicinity Map:

Project Description and Location:

Connecting existing water lines on Country Road 44 through a 12” water line to improve capacity along CR 44 and directly serve Growth Areas 4 and 6.

Planning Level Opinion of Probable Construction Cost

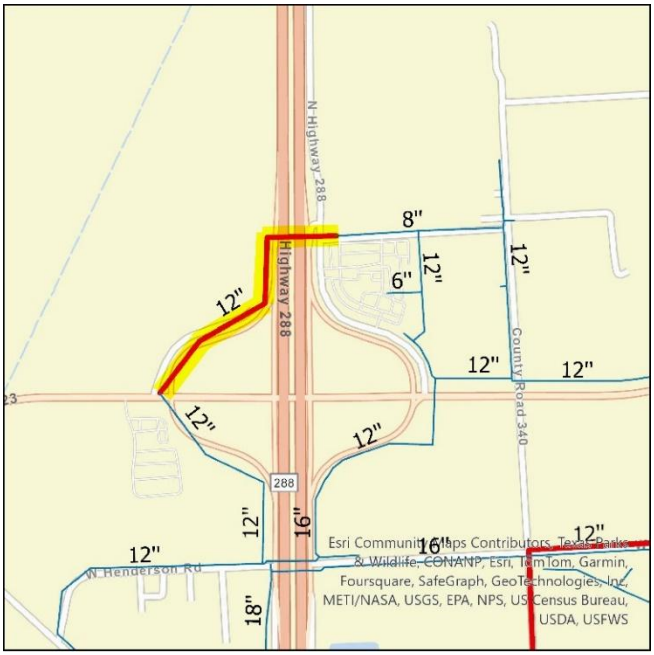
Description	Quantity	Unit	Unit Price	Total
12" PVC Water Line	9,000	LF	$240	$2,160,000
Subtotal				$2,160,000
Misc Items			10%	$216,000
Construction Subtotal				$2,376,000
Professional services			25%	$594,000
Contingency			30%	$712,800
Market volatility			10%	$237,600
Project Total				$3,920,000

City of Angleton Water System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: HWY 288 & FM 523
CIP Year: 2035

Vicinity Map:



Project Description and Location:

Connecting existing water lines at the intersection of Highway 288 and FM 523 through a 12” line of 2,500 LF to close a loop from Carbtex Rd, east across Hwy 288, south to FM 523. This project directly serves Growth Areas 3 and 4.

Planning Level Opinion of Probable Construction Cost

Description	Quantity	Unit	Unit Price	Total
12" PVC Water Line	2,500	LF	$240	$600,000
Subtotal				$600,000
Misc Items			10%	$60,000
Construction Subtotal				$660,000
Professional services			25%	$165,000
Contingency			30%	$198,000
Market volatility			10%	$66,000
Project Total				$1,089,000

City of Angleton Water System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: Henderson to CR 44
CIP Year: 2035

Vicinity Map:

Project Description and Location:

Installing approximately 9,000 LF of 12" water lines to connect Henderson Rd to County Road 44. This project improves capacity to Growth Area 5 and reduces maximum-day head loss in the local distribution system.

Planning Level Opinion of Probable Construction Cost

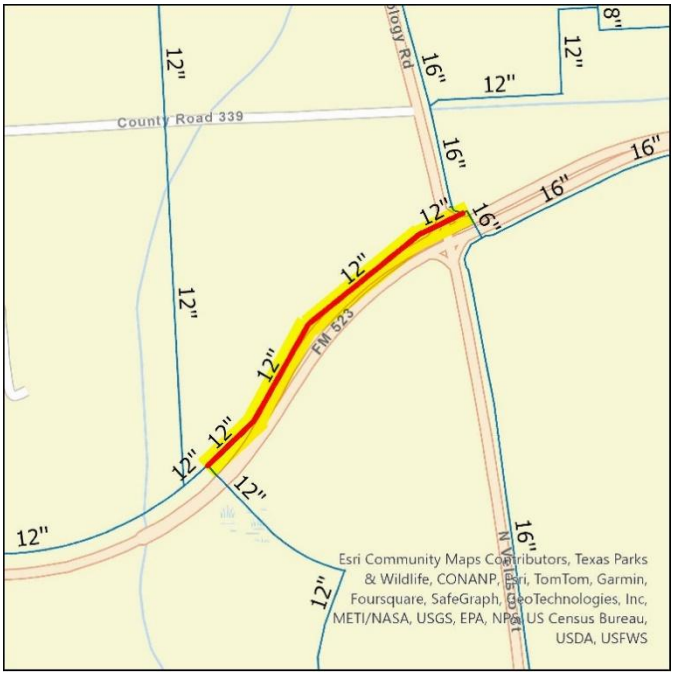
Description	Quantity	Unit	Unit Price	Total
12" PVC Water Line	9,000	LF	$240	$2,160,000
	Subtotal			$2,160,000
	Misc Items		10%	$216,000
	Construction Subtotal			$2,376,000
	Professional services		25%	$594,000
	Contingency		30%	$712,800
	Market volatility		10%	$237,600
	Project Total			$3,920,000

City of Angleton Water System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: FM 523 Interconnect
CIP Year: 2035

Vicinity Map:



Project Description and Location:

Connecting existing water lines with approximately 2,300 LF of 12" line near the intersection of FM 523 and N Velasco St

Planning Level Opinion of Probable Construction Cost

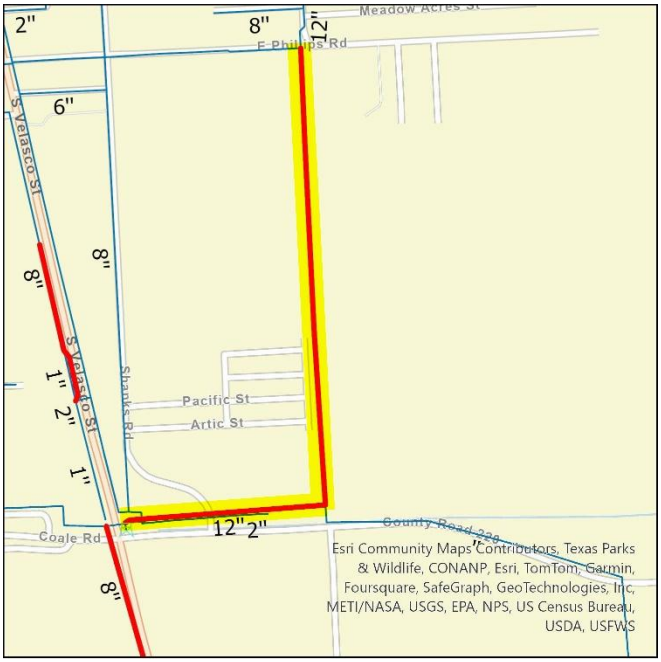
Description	Quantity	Unit	Unit Price	Total
12" PVC Water Line	2,300	LF	$240	$552,000
Subtotal				$552,000
Misc Items			10%	$55,200
Construction Subtotal				$607,200
Professional services			25%	$151,800
Contingency			30%	$182,160
Market volatility			10%	$60,720
Project Total				$1,002,000

City of Angleton Water System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: E Phillips Rd & CR 220 Interconnect
CIP Year: 2035

Vicinity Map:



Project Description and Location:

- Extending 12" water lines for approximately 6,400 LF between County Road 220 and E Phillips Rd to connect existing distribution system assets along E Phillips Rd to the location of a proposed EST near the intersection of S Velasco St and Cr 220. This project serves Growth Areas 16 and 17.

Planning Level Opinion of Probable Construction Cost

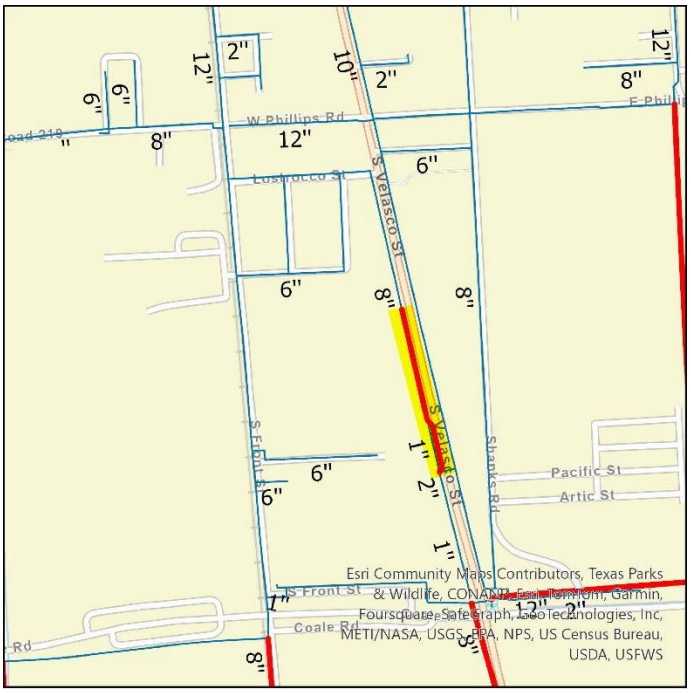
Description	Quantity	Unit	Unit Price	Total
12" PVC Water Line	6,400	LF	$240	$1,536,000
	Subtotal			$1,536,000
	Misc Items		10%	$153,600
	Construction Subtotal			$1,689,600
	Professional services		25%	$422,400
	Contingency		30%	$506,880
	Market volatility		10%	$168,960
	Project Total			$2,788,000

City of Angleton Water System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: S Velasco St Loop
CIP Year: 2035

Vicinity Map:



Project Description and Location:

Installing 1,600 LF of 8" water line to close a gap along S Velasco St and serve Growth Area 15.

Planning Level Opinion of Probable Construction Cost

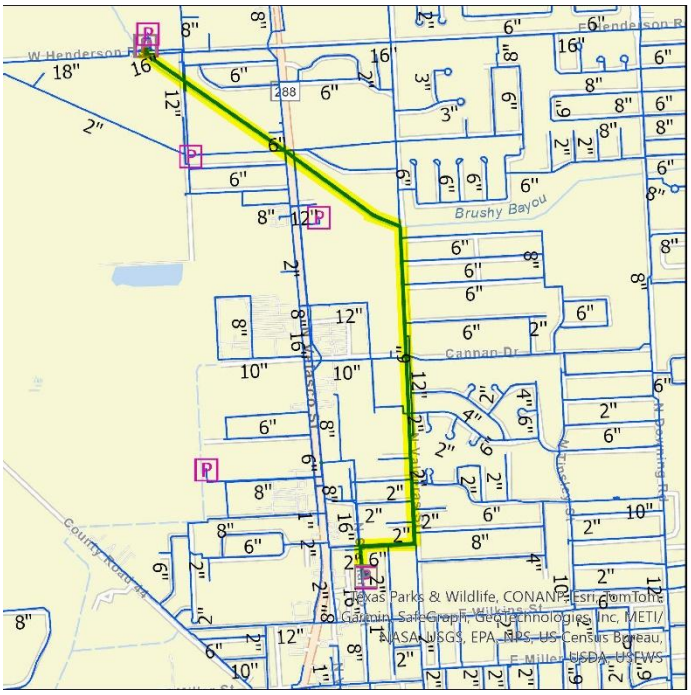
Description	Quantity	Unit	Unit Price	Total
8" PVC Water Line	1,600	LF	$145	$232,000
Subtotal				$232,000
Misc Items			10%	$23,200
Construction Subtotal				$255,200
Professional services			25%	$63,800
Contingency			30%	$76,560
Market volatility			10%	$25,520
Project Total				$421,000

City of Angleton Water System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: Henderson Transmission Line
CIP Year: 2035

Vicinity Map:



Project Description and Location:

Install 9,400 LF of 12" PVC water line to prevent chlorine- and chloramine-treated water from mixing. City staff would like to have two separate lines, one for wells (existing transfer line) and one for supply (new line). This will allow water quality to remain consistent in the City and make operations more efficient when Water Wells #8, 9, & 10 are required to meet water demands. While this situation could be remedied by the addition of an ammonia feed to the Chenango Water Plant to chloraminate the groundwater supply, the second supply line will alleviate hydraulic capacity limitations that inhibit full utilization of the well supplies and supplies transferred from the Henderson Plant to the Chenango Plant.

Planning Level Opinion of Probable Construction Cost

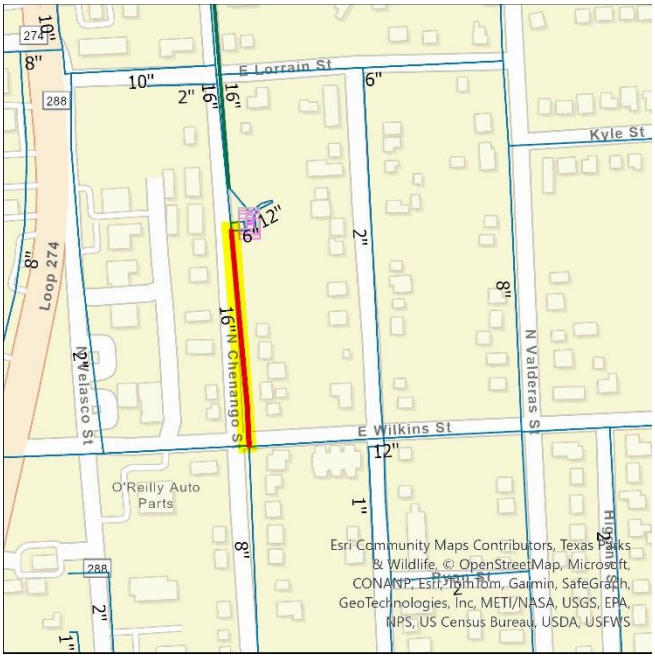
Description	Quantity	Unit	Unit Price	Total
12" PVC Water Line	9,400	LF	$240	$2,256,000
	Subtotal			$2,256,000
	Misc Items		10%	$225,600
	Construction Subtotal			$2,481,600
	Professional services		25%	$620,400
	Contingency		30%	$744,480
	Market volatility		10%	$248,160
	Project Total			$4,095,000

City of Angleton Water System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: North Chenango St and Wilkins St
CIP Year: 2035

Vicinity Map:



Project Description and Location:

Future model simulations identified that the future predicted increased volume of water pumped from the Chenango BPS would result in excessive velocities in the distribution main from the Chenango BPS to the 12-inch diameter looped distribution system, beginning at the intersection of E Wilkins St and N Chenango St. The existing 10-inch and 12-inch diameter water lines are proposed to be replaced with a new 16-inch diameter water line.

Planning Level Opinion of Probable Construction Cost

Description	Quantity	Unit	Unit Price	Total
16" PVC Water Line	550	LF	$295	$162,250
	Subtotal			$162,250
	Misc Items		10%	$16,225
	Construction Subtotal			$178,475
	Professional services		25%	$44,619
	Contingency		30%	$53,543
	Market volatility		10%	$17,848
	Project Total			$294,000

City of Angleton Water System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: CR 428 & S Downing Rd Interconnect
CIP Year: 2055

Vicinity Map:

Project Description and Location:

The 2,700 LF of 8" water line connects existing distribution system waterlines along S Downing Rd to the proposed CR 428 Waterline project. This project serves Growth Area 19.

Planning Level Opinion of Probable Construction Cost

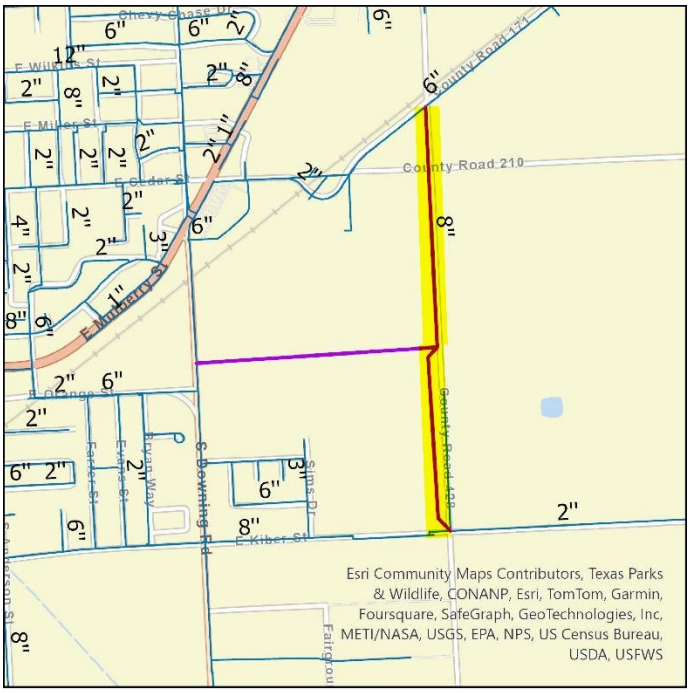
Description	Quantity	Unit	Unit Price	Total
8" PVC Water Line	2,700	LF	$145	$391,500
Subtotal				$391,500
Misc Items			10%	$39,150
Construction Subtotal				$430,650
Professional services			25%	$107,663
Contingency			30%	$129,195
Market volatility			10%	$43,065
Project Total				$711,000

City of Angleton Water System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: CR 428 WL
CIP Year: 2055

Vicinity Map:



Project Description and Location:

Installation of 4,800 LF of 8" PVC water line will create a loop from CR 171 to E Kiber St, along CR 428 and serve Growth Area 19.

Planning Level Opinion of Probable Construction Cost

Description	Quantity	Unit	Unit Price	Total
8" PVC Water Line	4,800	LF	$145	$696,000
Subtotal				$696,000
Misc Items			10%	$69,600
Construction Subtotal				$765,600
Professional services			25%	$191,400
Contingency			30%	$229,680
Market volatility			10%	$76,560
Project Total				$1,263,000

City of Angleton Water System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: CR 220 Loop
CIP Year: 2055

Vicinity Map:

Project Description and Location:

8,900 LF of 8" water line to connect the proposed Coale Rd and Hwy 288B Loop project to the proposed E Phillips Rd & CR 220 Interconnect project, extending water service to the far southeast. This project serves Growth Areas 17 and 18.

Planning Level Opinion of Probable Construction Cost

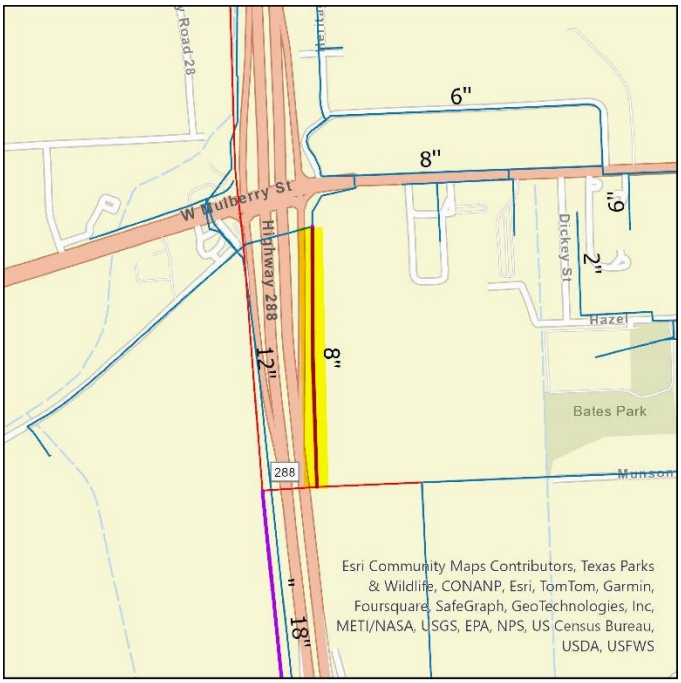
Description	Quantity	Unit	Unit Price	Total
8" PVC Water Line	8,900	LF	$145	$1,290,500
	Subtotal			$1,290,500
	Misc Items		10%	$129,050
	Construction Subtotal			$1,419,550
	Professional services		25%	$354,888
	Contingency		30%	$425,865
	Market volatility		10%	$141,955
	Project Total			$2,342,000

City of Angleton Water System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: HWY 288 NB WL Extension
CIP Year: 2055

Vicinity Map:



Project Description and Location:

2,300 LF of 8" water line creates a loop from the proposed Coale Rd and Hwy 288 Loop and existing mains near the intersection of Hwy 288 and W Mulberry St. This project serves Growth Area 9.

Planning Level Opinion of Probable Construction Cost

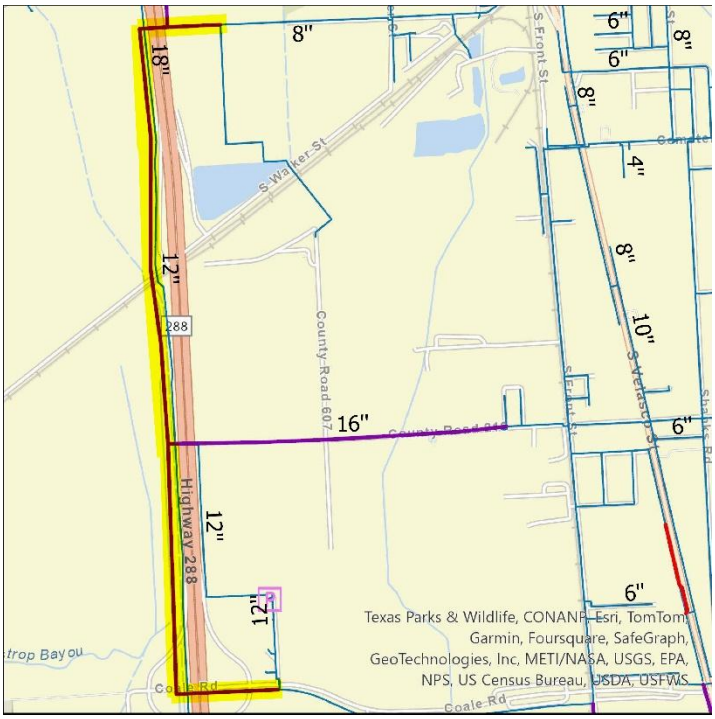
Description	Quantity	Unit	Unit Price	Total
8" PVC Water Line	2,300	LF	$145	$333,500
Subtotal				$333,500
Misc Items			10%	$33,350
Construction Subtotal				$366,850
Professional services			25%	$91,713
Contingency			30%	$110,055
Market volatility			10%	$36,685
Project Total				$605,000

City of Angleton Water System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: Coale Rd and HWY 288 Loop
CIP Year: 2055

Vicinity Map:



Project Description and Location:

Installing 14,480 LF of 12" water line to improve conveyance from the Jamison BPS along Hwy 288 and serves Growth Areas 10, 11, 12, and 13.

Planning Level Opinion of Probable Construction Cost

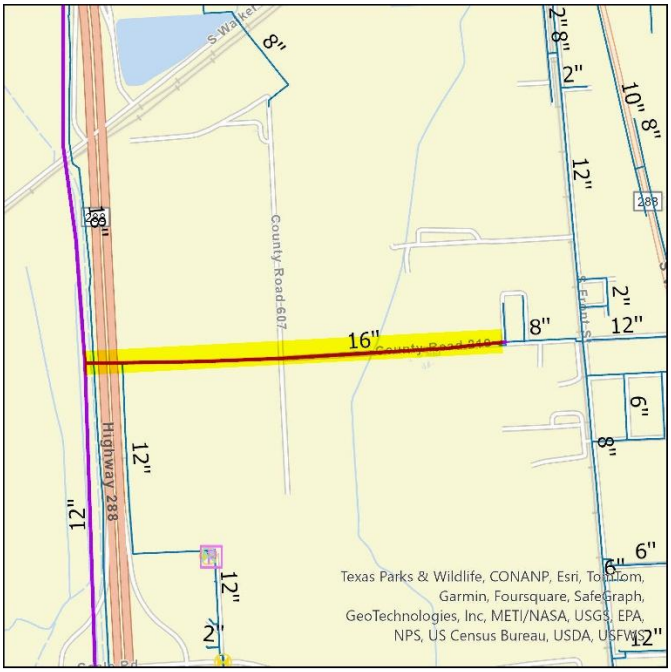
Description	Quantity	Unit	Unit Price	Total
12" PVC Water Line	14,480	LF	$240	$3,475,200
Subtotal				$3,475,200
Misc Items			10%	$347,520
Construction Subtotal				$3,822,720
Professional services			25%	$955,680
Contingency			30%	$1,146,816
Market volatility			10%	$382,272
Project Total				$6,307,000

City of Angleton Water System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: CR 219 WL
CIP Year: 2055

Vicinity Map:



Project Description and Location:

Installing 7,100 LF of 16" water line creates a loop from CR 219 to Hwy 288 and serves Growth Area 12.

Planning Level Opinion of Probable Construction Cost

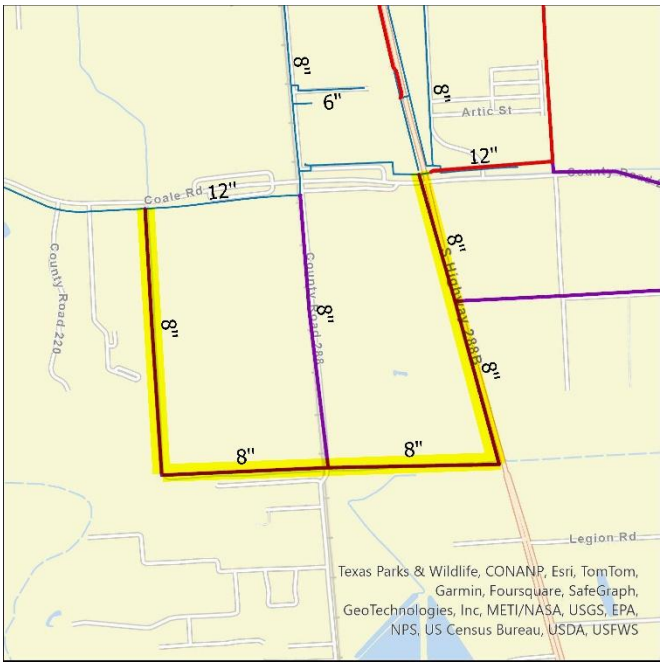
Description	Quantity	Unit	Unit Price	Total
16" PVC Water Line	7,100	LF	$295	$2,094,500
Subtotal				$2,094,500
Misc Items			10%	$209,450
Construction Subtotal				$2,303,950
Professional services			25%	$575,988
Contingency			30%	$691,185
Market volatility			10%	$230,395
Project Total				$3,802,000

City of Angleton Water System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: Coale Rd and HWY 288B Loop
CIP Year: 2035

Vicinity Map:



Project Description and Location:

Installing 14,400 LF of 8” water line creates a loop around Growth Area 14, improves capacity between the Jamison BPS and the Hwy 288B area, and supports the operation of a proposed EST near the intersection of S Velasco St and CR 220.

Planning Level Opinion of Probable Construction Cost

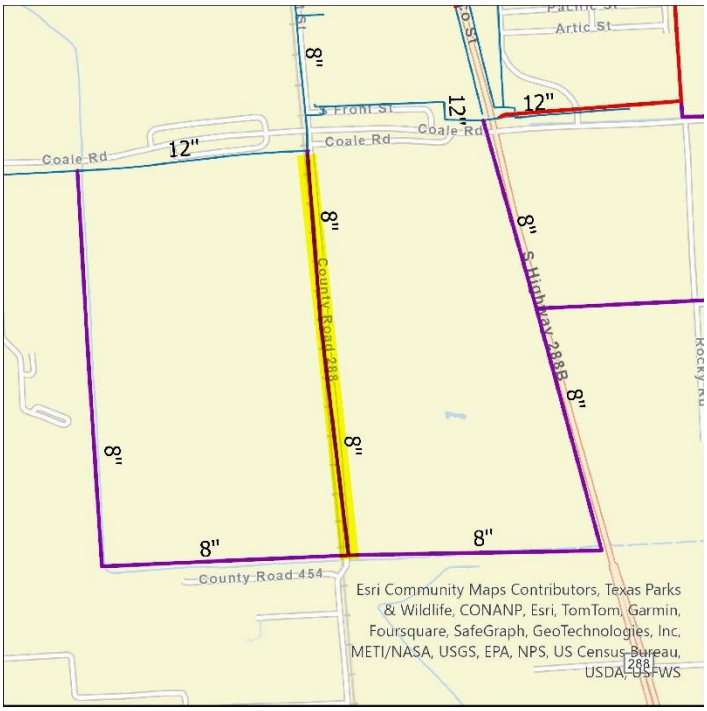
Description	Quantity	Unit	Unit Price	Total
8" PVC Water Line	14,400	LF	$145	$2,088,000
	Subtotal			$2,088,000
	Misc Items		10%	$208,800
	Construction Subtotal			$2,296,800
	Professional services		25%	$574,200
	Contingency		30%	$689,040
	Market volatility		10%	$229,680
	Project Total			$3,790,000

City of Angleton Water System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: CR 288 WL Extension
CIP Year: 2035

Vicinity Map:



Project Description and Location:

Installing 4,400 LF of 8” water line will connect the existing distribution system assets to the proposed Coale Rd and Hwy 288B Loop. This project serves Growth Area 14.

Planning Level Opinion of Probable Construction Cost

Description	Quantity	Unit	Unit Price	Total
8" PVC Water Line	4,400	LF	$145	$638,000
Subtotal				$638,000
Misc Items			10%	$63,800
Construction Subtotal				$701,800
Professional services			25%	$175,450
Contingency			30%	$210,540
Market volatility			10%	$70,180
Project Total				$1,158,000

Appendix C – Lift Station Pump Data

Table C-1. Lift Station Pump Data

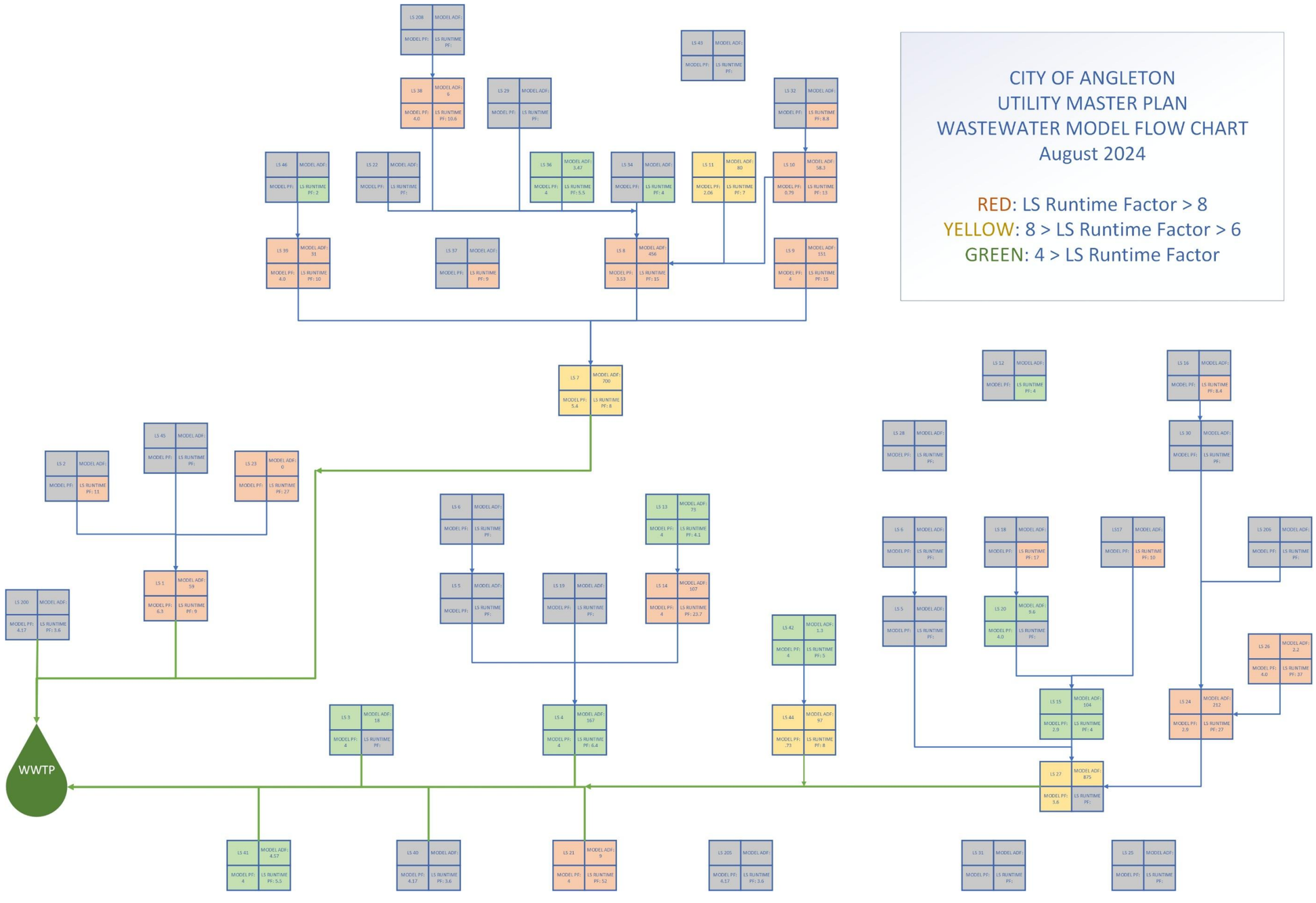
Lift Station #	# of Pumps	Brand	Voltage	Pump Size	Motor Type	Estimated Flow (gpm)	Estimated Head (FT)
1	3	Unknown	230	6 inch	20 hp	800	56
2	2	Unknown	230	4 inch	3 hp	220	25
3	2	Unknown	230	4 inch	3 hp	220	25
4	5	Unknown	480	6 inch	20 hp	800	56
5*	2	Gorman Rupp	230	4 inch	5 hp	250	28
6		Unknown	240	4 inch	7.5 hp	350	33
7*	4	Gorman Rupp	480	6 inch/10 inch	30 hp/ 50 hp	1200/2250	60/60
8*	4	Gorman Rupp	480	6 inch	20 hp	800	56
9	2	Flygt	240	4 inch	5 hp	250	28
10*	2	Gorman Rupp	230	4 inch	5 hp	225	28
11*	2	Gorman Rupp	480	4 inch	5 hp	250	31
12	2	Unknown	240	3 inch	2 hp	150	Unknown
13*	2	Gorman Rupp	240	4 inch	7.5 hp	350	33
14*	2	Gorman Rupp	230	8 inch	20 hp	800	56
15*	2	Gorman Rupp	240	4 inch	10 hp	400	40
16	2	Unknown	240	3 inch	2 hp	150	Unknown
17	1	Unknown	240	3 inch	3 hp	200	Unknown
18	2	Unknown	208	4 inch	5 hp	250	28
19	2	Unknown	240	3 inch	3 hp	200	Unknown
20	2	Unknown	240	4 inch	10 hp	400	40
21	2	Unknown	240	3 inch	3 hp	200	Unknown
22	1	Unknown	240	3 inch	3 hp	200	Unknown
23	2	Unknown	240	6 inch	7.5 hp	350	Unknown
24	2	Barmesa	240	4 inch	7.5 hp	350	33
25*	2	Gorman Rupp	230	4 inch	5 hp	250	31
26*	2	Gorman Rupp	230	4 inch	5 hp	250	31
27*	4	Gorman Rupp	480	8 inch	30 hp	1200	56
28	1	Unknown	240	2 inch	Unknown	Unknown	Unknown
29	2	Unknown	240	4 inch	5 hp	250	28
30	1	Unknown	480	inch	20 hp	800	56
31	2	Unknown	230	3 inch	3 hp	200	Unknown
32	2	Unknown	240	4 inch	10 hp	400	40
33	2	Unknown	480	8 inch	20 hp	800	56
34	1	Unknown	230	3 inch	5 hp	220	25
35	2	Unknown	480	6 inch	Unknown	Unknown	Unknown
36	2	Unknown	230	4 inch	4 hp	225	28
37	2	Unknown	240	2 inch	2 hp	150	Unknown
38	2	Unknown	230	4 inch	15 hp	400	40
39	2	Unknown	230	4 inch	5 hp	250	28

Lift Station #	# of Pumps	Brand	Voltage	Pump Size	Motor Type	Estimated Flow (gpm)	Estimated Head (FT)
40	1	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
41	2	Unknown	480	6 inch	5 hp	500	Unknown
42	2	Unknown	480	6 inch	4 hp	350	Unknown
43	2	Unknown	480	8 inch	20 hp	800	56
44	2	Unknown	480	10 inch	47 hp	2250	60
45	2	Unknown	480	4 inch	3 hp	220	25
46	2	Unknown	240	4 inch	3 hp	220	25
47	2	Unknown	480	6 inch	20 hp	800	56

Note: Lift stations with an asterisk have pump flow and head data provided by the manufacturer. All other lift stations have estimated flow and head data.

Appendix D – Lift Station Runtime Flow Chart

Figure D.1. Lift Station Runtime Flow Chart



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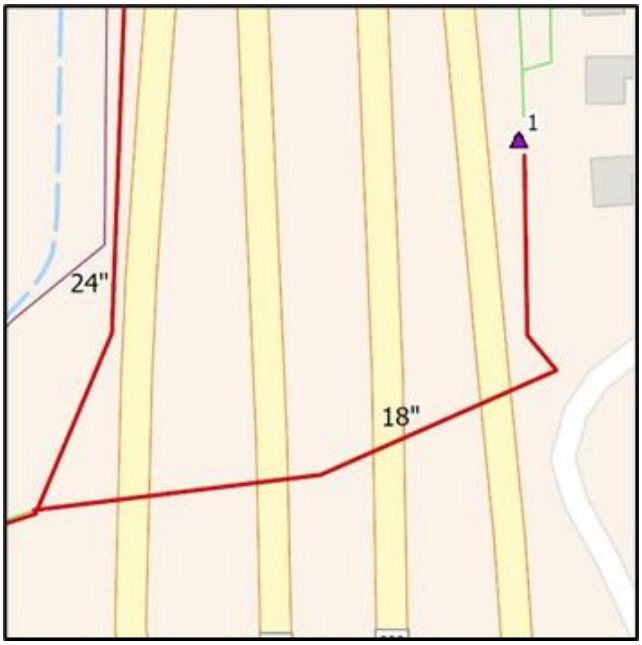
Appendix E – Wastewater CIP Summary Sheets

City of Angleton Wastewater System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: FM-1: Lift Station 1 Force Main
CIP Year: 2045

Vicinity Map:



Project Description and Location:

Upsizing existing small diameter force mains serving central regional lift station 1 to support projected infill and growth. Project includes approximately 1,010 feet of 18-inch PVC force main.

Planning Level Opinion of Probable Construction Cost

Description	Quantity	Unit	Unit Price	Total
18" PVC Force Main	1,010	LF	$700	$707,000
Subtotal				$707,000
Misc items			10%	$70,700
Construction Subtotal				$777,700
Professional services			25%	$194,425
Contingency			30%	$233,310
Market volatility			10%	$77,770
Project Total				$1,284,000

City of Angleton Wastewater System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: FM-2: Lift Station 7 Bypass Force Main
CIP Year: 2045

Vicinity Map:

Project Description and Location:

Upsizing Lift Station 7 bypass force main to direct regional flows directly to the WWTP to accommodate increased loading in the area. Project consists of approximately 12,300 feet of 24-inch force main.

Planning Level Opinion of Probable Construction Cost

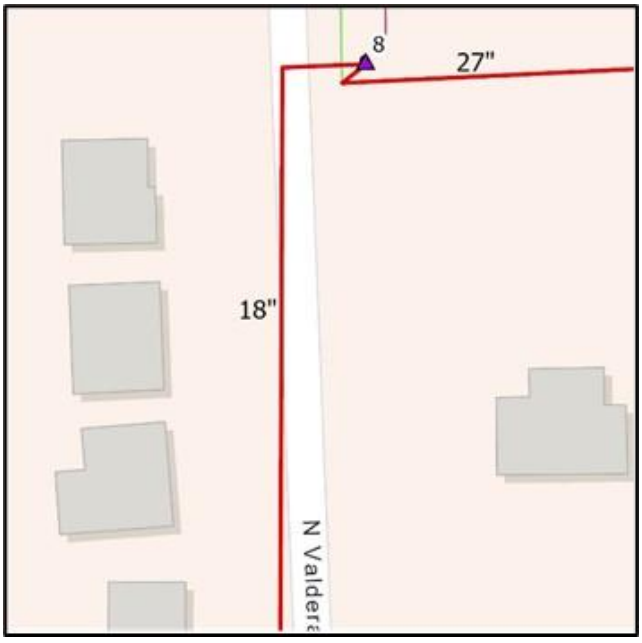
Description	Quantity	Unit	Unit Price	Total
24" PVC Force Main	12,300	LF	$930	$11,439,000
	Subtotal			$11,439,000
	Misc items		10%	$1,143,900
	Construction Subtotal			$12,582,900
	Professional services		25%	$3,145,725
	Contingency		30%	$3,774,870
	Market volatility		10%	$1,258,290
	Project Total			$20,762,000

City of Angleton Wastewater System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: FM-3: Lift Station 8 Force Main
CIP Year: 2045

Vicinity Map:



Project Description and Location:

Upsizing Lift Station 8 force main to accommodate regional flows and accommodate increased loading in the area. Project consists of approximately 277 feet of 18-inch force main.

Planning Level Opinion of Probable Construction Cost

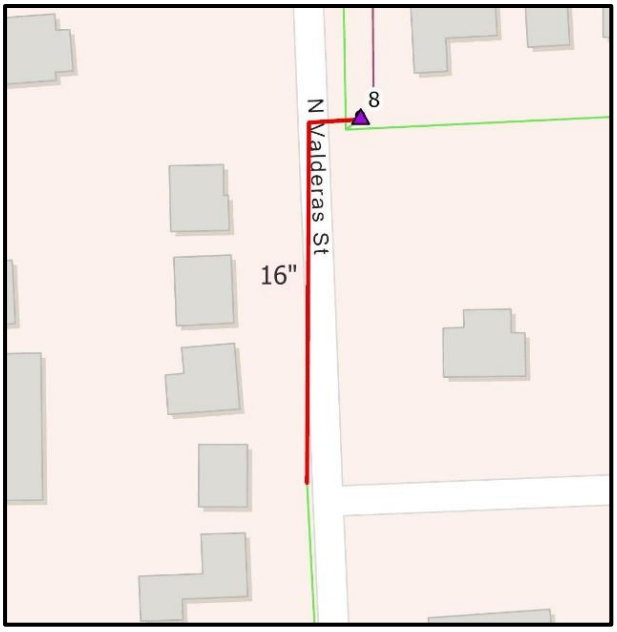
Description	Quantity	Unit	Unit Price	Total
18" PVC Force Main	277	LF	$350	$96,950
	Subtotal			$96,950
	Misc items		10%	$9,695
	Construction Subtotal			$106,645
	Professional services		25%	$26,661
	Contingency		30%	$31,994
	Market volatility		10%	$10,665
	Project Total			$176,000

City of Angleton Wastewater System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: FM-3 with I&I Reduction: Lift Station 8 Force Main
CIP Year: 2045

Vicinity Map:



Project Description and Location:

Upsizing Lift Station 8 force main to accommodate regional flows and accommodate increased loading in the area. Project consists of approximately 277 feet of 16-inch force main.

Planning Level Opinion of Probable Construction Cost

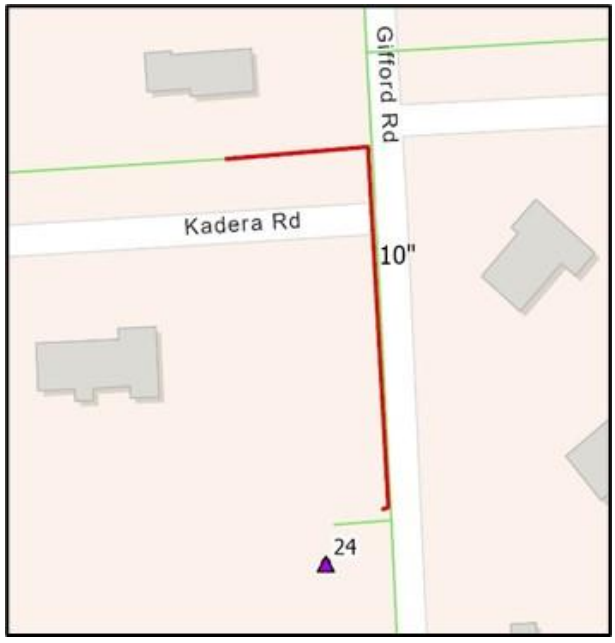
Description	Quantity	Unit	Unit Price	Total
16" PVC Force Main	277	LF	$310	$85,870
	Subtotal			$85,870
	Misc items		10%	$8,587
	Construction Subtotal			$94,457
	Professional services		25%	$23,614
	Contingency		30%	$28,337
	Market volatility		10%	$9,446
	Project Total			$156,000

City of Angleton Wastewater System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: FM-4: Lift Station 24 Force Main
CIP Year: 2045

Vicinity Map:



Project Description and Location:

Upsizing Lift Station 24 force main to direct regional flows to accommodate increased loading in the area. Project consists of approximately 405 feet of 10-inch force main.

Planning Level Opinion of Probable Construction Cost

Description	Quantity	Unit	Unit Price	Total
10" PVC Force Main	405	LF	$195	$78,975
	Subtotal			$78,975
	Misc items		10%	$7,898
	Construction Subtotal			$86,873
	Professional services		25%	$21,718
	Contingency		30%	$26,062
	Market volatility		10%	$8,687
	Project Total			$144,000

City of Angleton Wastewater System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: WWL-1: Shannon Street & Karankawa Lane
CIP Year: 2045

Vicinity Map:

Project Description and Location:

Upsizing existing large diameter interceptor upstream of Lift Station 1 to support projected infill and growth. Project includes approximately 4,110 feet of 36-inch main.

Planning Level Opinion of Probable Construction Cost

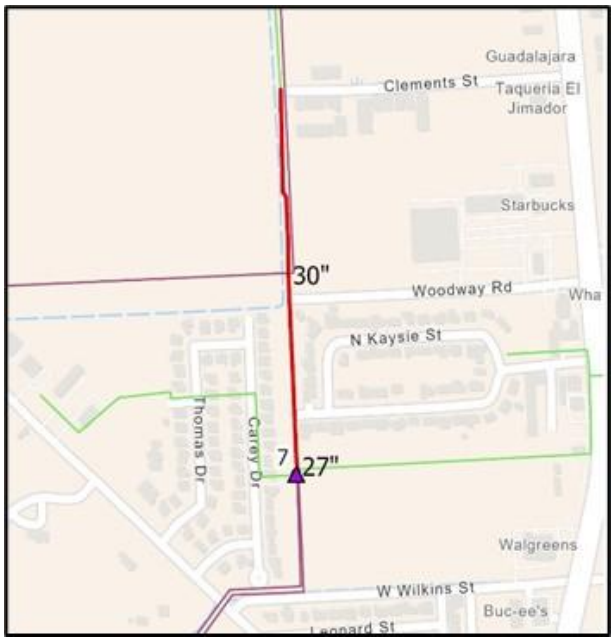
Description	Quantity	Unit	Unit Price	Total
36" PVC Wastewater Line	4,110	LF	$700	$2,877,000
Subtotal				$2,877,000
Misc items			10%	$287,700
Construction Subtotal				$3,164,700
Professional services			25%	$791,175
Contingency			30%	$949,410
Market volatility			10%	$316,470
Project Total				$5,222,000

City of Angleton Wastewater System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: WWL-1 with I&I Reduction: Shannon Street & Karankawa Lane
CIP Year: 2045

Vicinity Map:



Project Description and Location:

Upsizing existing large diameter interceptor upstream of Lift Station 1 to support projected infill and growth. Project includes approximately 4,110 feet of 30-inch main.

Planning Level Opinion of Probable Construction Cost

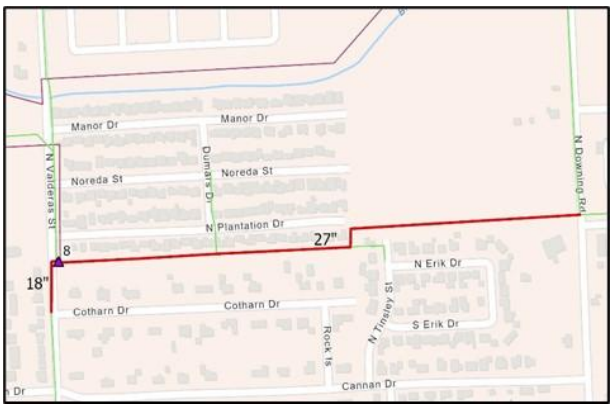
Description	Quantity	Unit	Unit Price	Total
30" PVC Wastewater Line	4,110	LF	$580	$2,383,800
Subtotal				$2,383,800
Misc items			10%	$238,380
Construction Subtotal				$2,622,180
Professional services			25%	$655,545
Contingency			30%	$786,654
Market volatility			10%	$262,218
Project Total				$4,327,000

City of Angleton Wastewater System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: WWL-2: Hospital Dr. from Buchta Rd to Valderas St
CIP Year: 2045

Vicinity Map:



Project Description and Location:

Upsizing existing large diameter interceptor upstream of Lift Station 8 to support projected infill and growth. Project includes approximately 3,210 feet of 27-inch main.

Planning Level Opinion of Probable Construction Cost

Description	Quantity	Unit	Unit Price	Total
27" PVC Wastewater Line	3,210	LF	$525	$1,685,250
Subtotal				$1,685,250
Misc items			10%	$168,525
Construction Subtotal				$1,853,775
Professional services			25%	$463,444
Contingency			30%	$556,133
Market volatility			10%	$185,378
Project Total				$3,059,000

City of Angleton Wastewater System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: WWL-3: E. Mulberry St. West of I-35
CIP Year: 2045

Vicinity Map:

Project Description and Location:

Upsizing existing small diameter main to support anticipated growth along I-35 corridor. Project includes approximately 3,860 feet of 16-inch main.

Planning Level Opinion of Probable Construction Cost

Description	Quantity	Unit	Unit Price		Total
16" PVC Wastewater Line	3,860	LF	$620		$2,393,200
	Subtotal				$2,393,200
	Misc items			10%	$239,320
	Construction Subtotal				$2,632,520
	Professional services			25%	$658,130
	Contingency			30%	$789,756
	Market volatility			10%	$263,252
	Project Total				$4,344,000

City of Angleton Wastewater System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: WWL-4: Highway 288B from FM 523 to Henderson Rd.
CIP Year: 2045

Vicinity Map:

Project Description and Location:

Upsizing existing small diameter main to support anticipated growth in Highway 288 corridor. Project includes approximately 4,265 feet of 12-inch main.

Planning Level Opinion of Probable Construction Cost

Description	Quantity	Unit	Unit Price	Total
12" PVC Wastewater Line	4,265	LF	$350	$1,983,225
	Subtotal			$1,983,225
	Misc items		10%	$198,323
	Construction Subtotal			$2,181,548
	Professional services		25%	$545,387
	Contingency		30%	$654,464
	Market volatility		10%	$218,155
	Project Total			$3,600,000

City of Angleton Wastewater System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: WWL-5: FM 523/Henderson Rd Wastewater Line
CIP Year: 2045

Vicinity Map:

Project Description and Location:

Upsizing existing small diameter main downstream of Lift Station 39 to support anticipated growth in are. Project includes approximately 1,230 feet of 16-inch main.

Planning Level Opinion of Probable Construction Cost

Description	Quantity	Unit	Unit Price		Total
16" PVC Wastewater Line	1,230	LF	$310		$381,300
	Subtotal				$381,300
	Misc items			10%	$38,130
	Construction Subtotal				$419,430
	Professional services			25%	$104,858
	Contingency			30%	$125,829
	Market volatility			10%	$41,943
	Project Total				$693,000

City of Angleton Wastewater System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: WWL-6: Lift Station 46 Tributary
CIP Year: 2045

Vicinity Map:

Project Description and Location:

Upsizing existing small diameter main to support anticipated growth in NW portion of town, west of HWY 288. Project includes approximately 2,425 feet of 12-inch main.

Planning Level Opinion of Probable Construction Cost

Description	Quantity	Unit	Unit Price	Total
12" PVC Wastewater Line	2,425	LF	$235	$569,875
	Subtotal			$569,875
	Misc items		10%	$56,988
	Construction Subtotal			$626,863
	Professional services		25%	$156,716
	Contingency		30%	$188,059
	Market volatility		10%	$62,686
	Project Total			$1,035,000

City of Angleton Wastewater System Master Plan

Capital Improvements Plan

Capital Improvements Plan Project ID: WWL-6: Lift Station 46 Tributary
CIP Year: 2045

Vicinity Map:

Project Description and Location:

Upsizing existing small diameter main to support anticipated growth in NW portion of town, west of HWY 288. Project includes approximately 2,425 feet of 10-inch main.

Planning Level Opinion of Probable Construction Cost

Description	Quantity	Unit	Unit Price	Total
10" PVC Wastewater Line	2,425	LF	$195	$472,875
	Subtotal			$472,875
	Misc items		10%	$47,288
	Construction Subtotal			$520,163
	Professional services		25%	$130,041
	Contingency		30%	$156,049
	Market volatility		10%	$52,016
	Project Total			$859,000

THE HEART OF BRAZORIA COUNTY ANGLETON

AGENDA ITEM SUMMARY FORM

MEETING DATE: October 14, 2025

PREPARED BY: Susie J Hernandez, Finance Director

AGENDA CONTENT: Discussion and Possible Action on the purchase of 2026 Dump Truck through HGAC Buy Board, for the price of $159,975 ; also purchase a new gradall XL3100 4x2 series V with a fixed thumb gabble, for the price of $543,560.72

AGENDA ITEM CTION

BUDGETED AMOUNT: N/a **FUNDS REQUESTED:** N/A

FUND: Emergency Note

EXECUTIVE SUMMARY:

In accordance with the Emergency Note provisions *The acquisition of equipment to aid in hurricane response efforts * allows the City to purchase these 2 items to prepare us to response to the damages.

RECOMMENDATION:

Staff recommends council approve the purchase of the 2 items out of the Emergency Note funds to aid in hurricane responses.

HGACBuy	CONTRACT PRICING WORKSHEET For MOTOR VEHICLES Only	Contract No.:	HT06-20	Date Prepared:	6/5/2025

This Worksheet is prepared by Contractor and given to End User. If a PO is issued, both documents MUST be faxed to H-GAC @ 713-993-4548. Therefore please type or print legibly.

Buying Agency:	City of Angleton	Contractor:	Houston Freightliner
Contact Person:	Travis Browning	Prepared By:	Adam Neuse
Phone:	979-248-7019	Phone:	713-580-8148
Fax:		Fax:	
Email:	Tbrowning@angleton.tx.us	Email:	adam.neuse@houstonfreightliner.com

Product Code:	D5	Description:	M2-106, Conventional Cab, SBFA, SRA (PRL-20M)

A. Product Item Base Unit Price Per Contractor's H-GAC Contract:	88483

B. Published Options - Itemize below - Attach additional sheet(s) if necessary - Include Option Code in description if applicable.
(Note: Published Options are options which were submitted and priced in Contractor's bid.)

Description	Cost	Description	Cost
L9 300 HP 860 LB FT TQ ENGINE	8747	LH 80 Gallon Fuel Tank	218
3500 RDS AUTOMATIC TRANSMISSION	5033	Air Cab Mounts	91
DA-F-14.7-3 14,700 LB FRONT AXLE	602	Dual West Coast Mirrors w/LH-RH Remote	215
14,600 LB TAPERLEAF FRONT SUSPENSION	393	Front Sun Visor	210
RS-23-160 23,000 LB REAR AXLE	654	Premium Cab Insulation	140
Driver Controlled Differential Lock (One Axle)	551	Basic High Back Air Driver Seat	159
4S/4M ABS with Traction Control	149	2 Man Passenger Seat	144
225" Wheelbase	835	Adjustable Steering Column	359
11/32x3-1/2x10-15/16" Frame 120KSI	464	AM/FM/WB CD/MP3 with Sirius XM	449
1/4" Inner Frame Reinforcement	775	Special 14' BEAUROC DCS DUMP BODY PACKAGE	44832
Battery Disconnect MTD LH of Driver Seat	150	**Subtotal From Additional Sheet(s):**	
Positive and Negative Jump Starts Mtd on Frame Next to Starter	69	**Subtotal B:**	65239

HGACBuy THE SMART PURCHASING SOLUTION

C. Unpublished Options - Itemize below / attach additional sheet(s) if necessary.
(Note: Unpublished options are items which were not submitted and priced in Contractor's bid.)

Description	Cost	Description	Cost
FRONT SWAYBAR	464		
SINGLE SPRING REAR SUSPENSION STABILIZER BAR	693	**Subtotal From Additional Sheet(s):**	0
FUEL SENSE 2.0 PLUS - DYNACTIVE: PERFORMANCE, NEUTRAL AT STOP: ACTIVE	721	**Subtotal C:**	1878

Check: Total cost of Unpublished Options (C) cannot exceed 25% of the total of the Base Unit Price plus Published Options (A+B).	**For this transaction the percentage is:**	1%

D. Total Cost Before Any Applicable Trade-In / Other Allowances / Discounts (A+B+C)						
Quantity Ordered:	1	X **Subtotal of A + B + C:**	155600	=	**Subtotal D:**	155600
E. H-GAC Order Processing Charge (Amount Per Current Policy)					**Subtotal E:**	1000

F. Trade-Ins / Special Discounts / Other Allowances / Freight / Installation / Miscellaneous Charges

Description	Cost	Description	Cost
Freightliner Standard Destination Charge	3375		
		Subtotal F:	3375

Delivery Date:		**G. Total Purchase Price (D+E+F):**	159975

BuyBoard Quote

ASSOCIATED SUPPLY COMPANY, INC.

THE FOLLOWING DETAILS SHALL BE PROVIDED WITH ANY BUYBOARD PURCHASE ORDER (FAX PURCHASE ORDER TO 800-211-5454)

BuyBoard Vendor: ASSOCIATED SUPPLY COMPANY, INC.
Address: 980 N SAM HOUSTON PKWY, HOUSTON,TX
Phone: 713-649-0940
Fax: 713-649-5571

Prepared By: TIMOTHY GATES
Mobile: 281-627-5148
Email: TGATES@ASCOEQ.COM

Date Prepared: 9/24/2025

Government Agency: CITY OF ANGLETON

Ship To: CITY OF ANGLETON
901 S. VELASCO ST.
ANGLETON, TX 77515

Bill To: CITY OF ANGLETON
901 S. VELASCO ST.
ANGLETON, TX 77515

Contacts' Name: TRAVIS BROWNING
Email: TBROWNING@ANGLETON.TX.US

Phone: 979-248-7019
Fax:

Product Description: GRADALL XL3100 4X2 SERIES V

BuyBoard Contract: 685-22

I. Price List Dated: 1/1/2025

Base Price: $ 523,968.00

II: Base Bid Options (Itemized Below)

BEACON LIGHT- UPPER-W/BRANCH GUARD	$ 1,149.00	STANDARD WARRANTY 2YRS/3,000 HOURS	INCLUDED
LEFT HAND REAR STEP	$ 729.00		
TILT STEERING COLUMN- CHASSIS	$ 1,109.00		
BUCKET 60"- DITCHING W/BOCE	$ 6,471.00		
FIXED THUMB GRAPPLE	$ 11,716.00		
EXTRA SET OF KEYS	$ 22.00		
ALL STANDARD OPTIONS	INCLUDED		
SUB-TOTAL:	$ 21,196.00	SUB-TOTAL:	$ -

Options List Price Total: $ 21,196.00

III. SUB-TOTAL OF I & II $ 545,164.00

IV. BuyBoard Discount: 2.00% $ 10,903.28

BUYBOARD CONTRACT PRICE: $ 534,260.72

V: NON-BASE OPTIONS

Non-Base Options (%) = 0

LOCAL DELIVERY	$ 800.00		
FACTORY FREIGHT	$ 8,500.00		
SUB-TOTAL:	$ 9,300.00	SUB-TOTAL:	$ -

VI: UNPUBLISHED OPTIONS ADDED TO CONTRACT PRICE (SUBTOTAL OF COL1 & COL 2) $ 9,300.00

VII: TOTAL IV + VI $ 543,560.72

VIII: QUANTITY ORDERED UNITS: 1 $ 543,560.72

IX: TRADE-IN OR OTHER CREDIT(S):

X: ADDITIONAL DISCOUNTS:

TOTAL: $ 543,560.72

FAX ALL PURCHASE ORDERS TO BUYBOARD AT 800-211-5454
QUOTE VALID FOR 60 DAYS

BuyBoard Quote

ASSOCIATED SUPPLY COMPANY, INC.

THE FOLLOWING DETAILS SHALL BE PROVIDED WITH ANY BUYBOARD PURCHASE ORDER (FAX PURCHASE ORDER TO 800-211-5454)

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Phone: 713-649-0940
Fax: 713-649-5571

Prepared By: TIMOTHY GATES
Mobile: 281-627-5148
Email: TGATES@ASCOEQ.COM

Date Prepared: 9/24/2025

Government Agency: CITY OF ANGLETON

Ship To: CITY OF ANGLETON
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ANGLETON, TX 77515

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901 S. VELASCO ST.
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LEFT HAND REAR STEP	$	729.00			
TILT STEERING COLUMN- CHASSIS	$	1,109.00			
BUCKET 60"- DITCHING W/BOCE	$	6,471.00			
FIXED THUMB GRAPPLE	$	11,716.00			
EXTRA SET OF KEYS	$	22.00			
ALL STANDARD OPTIONS		INCLUDED			
SUB-TOTAL:	$	21,196.00	SUB-TOTAL:	$	-

Options List Price Total: $ 21,196.00

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IX: TRADE-IN OR OTHER CREDIT(S):

X: ADDITIONAL DISCOUNTS:

TOTAL: $ 543,560.72

FAX ALL PURCHASE ORDERS TO BUYBOARD AT 800-211-5454
QUOTE VALID FOR 60 DAYS

HGACBuy	CONTRACT PRICING WORKSHEET For MOTOR VEHICLES Only	Contract No.:	HT06-20	Date Prepared:	6/5/2025

This Worksheet is prepared by Contractor and given to End User. If a PO is issued, both documents MUST be faxed to H-GAC @ 713-993-4548. Therefore please type or print legibly.

Buying Agency:	City of Angleton	Contractor:	Houston Freightliner
Contact Person:	Travis Browning	Prepared By:	Adam Neuse
Phone:	979-248-7019	Phone:	713-580-8148
Fax:		Fax:	
Email:	Tbrowning@angleton.tx.us	Email:	adam.neuse@houstonfreightliner.com

Product Code:	D5	Description:	M2-106, Conventional Cab, SBFA, SRA (PRL-20M)

A. Product Item Base Unit Price Per Contractor's H-GAC Contract: 88483

B. Published Options - Itemize below - Attach additional sheet(s) if necessary - Include Option Code in description if applicable.
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14,600 LB TAPERLEAF FRONT SUSPENSION	393	Front Sun Visor	210
RS-23-160 23,000 LB REAR AXLE	654	Premium Cab Insulation	140
Driver Controlled Differential Lock (One Axle)	551	Basic High Back Air Driver Seat	159
4S/4M ABS with Traction Control	149	2 Man Passenger Seat	144
225" Wheelbase	835	Adjustable Steering Column	359
11/32x3-1/2x10-15/16" Frame 120KSI	464	AM/FM/WB CD/MP3 with Sirius XM	449
1/4" Inner Frame Reinforcement	775	Special 14' BEAUROC DCS DUMP BODY PACKAGE	44832
Battery Disconnect MTD LH of Driver Seat	150	**Subtotal From Additional Sheet(s):**	
Positive and Negative Jump Starts Mtd on Frame Next to Starter	69	**Subtotal B:**	65239

C. Unpublished Options - Itemize below / attach additional sheet(s) if necessary.
(Note: Unpublished options are items which were not submitted and priced in Contractor's bid.)

Description	Cost	Description	Cost
FRONT SWAYBAR	464		
SINGLE SPRING REAR SUSPENSION STABILIZER BAR	693	**Subtotal From Additional Sheet(s):**	0
FUEL SENSE 2.0 PLUS - DYNACTIVE: PERFORMANCE, NEUTRAL AT STOP: ACTIVE	721	**Subtotal C:**	1878

Check: Total cost of Unpublished Options (C) cannot exceed 25% of the total of the Base Unit Price plus Published Options (A+B). **For this transaction the percentage is:** 1%

D. Total Cost Before Any Applicable Trade-In / Other Allowances / Discounts (A+B+C)

Quantity Ordered:	1	X Subtotal of A + B + C:	155600	=	Subtotal D:	155600

E. H-GAC Order Processing Charge (Amount Per Current Policy) — **Subtotal E:** 1000

F. Trade-Ins / Special Discounts / Other Allowances / Freight / Installation / Miscellaneous Charges

Description	Cost	Description	Cost
Freightliner Standard Destination Charge	3375		
		Subtotal F:	3375

Delivery Date: | **G. Total Purchase Price (D+E+F):** 159975

HGACBuy THE SMART PURCHASING SOLUTION

AGENDA ITEM SUMMARY FORM

MEETING DATE: 10/14/2025

PREPARED BY: Michelle Perez

AGENDA CONTENT: Discussion and possible action to cast a majority vote of the governing body for a candidate on the Texas Municipal League Region 14 Board of Director election ballot.

AGENDA ITEM SECTION: Regular Agenda

BUDGETED AMOUNT: N/A **FUNDS REQUESTED:** N/A

FUND: N/A

EXECUTIVE SUMMARY:

Texas Municipal League (TML) is requesting a majority vote of the governing body for one candidate on the TML Region 14 election ballot.

RECOMMENDATION:

Cast a vote on the TML ballot

City of Angleton
City Secretary's Office
SEP 15 2025
Received by

TEXAS MUNICIPAL LEAGUE

Empowering Texas cities to serve their citizens

President **Allison Heyward**, Councilmember, Schertz
Executive Director **Bennett Sandlin**

September 8, 2025

To: Primary Contacts in TML Region 14

From: Bennett Sandlin, Executive Director, Texas Municipal League

Subject: Region 14 Director Ballot

Attached are the official ballot and candidate biographies for the TML Region 14 Director of the TML Board of Directors. Previously, elections for region directors were held a region meetings. After changes to the TML Constitution were approved in 2023, these elections are now administered by TML centrally.

The officials listed on this ballot have been nominated to serve a one-year term on the TML Board of Directors that will begin on October 31, 2025, upon adjournment of the TML Annual Conference and Exhibition.

The attached ballot includes instructions for filling it out. If you have any questions, please contact Rachael Pitts at rpitts@tml.org or 512-231-7472.

Thank you in advance for your city's participation in the election.

1821 Rutherford Lane, Suite 400 • Austin, Texas 78754
512-231-7400 • www.tml.org

OFFICIAL BALLOT

Texas Municipal League (TML) Region 14 Director Election

This is the official ballot for the election of the Region 14 director of the TML Board of Directors. You received this ballot because you are the city's primary contact person with TML. Each TML member city is entitled to one vote, which vote must be cast by a majority vote of the city's governing body. Please record your city's choice by placing an "X" in the square beside the candidate's name or writing in the name of an eligible person in the space provided. You can only vote for one candidate.

The officials listed on this ballot have been nominated to serve a one-year term on the TML Board of Directors. A brief biography for each candidate is included after the ballot.

Ballots must reach the TML office by 5:00 p.m. Central Time on October 23, 2025. Ballots received after this date cannot be counted. **The ballot must be properly signed and mailed to: Rachael Pitts, Texas Municipal League, 1821 Rutherford Lane, Suite 400, Austin, TX 78754, or scanned and emailed to rpitts@tml.org. If the ballot is not signed, it will not be counted.**

Region 14 Director (select one)

- ☐ **Sally Branson, Councilmember, Friendswood (Incumbent)**
- ☐ **Robin Collins, Mayor, Kemah**
- ☐ **Tom Crews, Councilmember, League City**
- ☐ **Emmanuel Guerrero, Councilmember, Pasadena**
- ☐ **Josh Pratt, Councilmember, Bunker Hill Village**
- ☐ **Frank W. Robinson, Councilmember, Shenandoah**

Certificate

I certify that the vote cast above has been cast in accordance with the will of the majority of the governing body of the city named below.

Witness my hand, this _____ day of _____, 2025.

_____ _____

Signature of Authorized Official Title

_____ _____

Printed Name of Authorized Official Printed Name of City

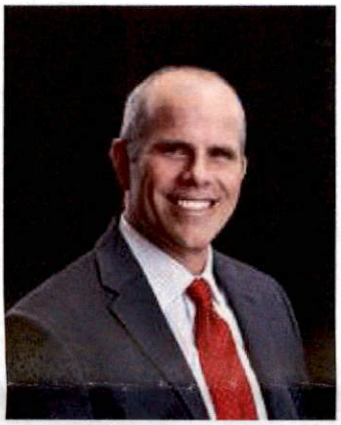
Region 14 Director Candidate Biographies

Sally Branson, Councilmember, Friendswood (Incumbent)

Sally Branson is a lifelong Friendswoodian. After graduating from Friendswood High School in 1976, she briefly moved away to attend The University of Texas at Austin receiving her BBA. She returned to Friendswood where she met and married her husband of 35 years, Jon. They raised three children, all of whom graduated from Friendswood High School. She is now the proud grandmother of three grandchildren currently making their way through the Friendswood school system as Sally and her children did. She began her career at NASA Johnson Space Center in the Chief Financial Officers Directorate in 1989, prior to joining the financial services industry in 2000. Unsurprisingly, she chose downtown Friendswood as the location for her business that she manages with her oldest son. Councilmember Branson believes in giving back to her community and is currently serving as chair of the Galveston County Historical Commission and is on the board of the Friendswood Historical Society. She is also an active member of the Friendswood Rotary Club. She also served on the board for the Friendswood Education Foundation for over 18 years and participated in the establishment of the Friends of Downtown Friendswood Association. Branson currently serves as liaison to the Houston-Galveston Area Council and the Community Economic Develop Committee. She is also serving as the current president of Texas Municipal League Region 14. Prior to being elected to Friendswood City Council in 2017, she served on the Planning and Zoning Commission for three years.

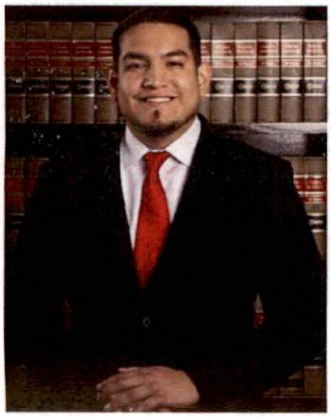
Robin Collins, Mayor, Kemah

Robin Collins proudly serves the City of Kemah with a deep commitment to preserving the charm, character, and coastal heritage that define her hometown. Elected as mayor in 2023 and now serving her second term, she brings experienced, steady leadership rooted in tradition, accountability, and a strong belief in the power of local government to improve everyday life. Collins has prioritized community engagement, economic development, and public safety. Under her leadership, Kemah continues to thrive as both a welcoming community for residents and a sought-after destination for visitors. Her focus on infrastructure, transparency, and regional partnerships has helped Kemah grow responsibly while preserving its unique identity. Her service in public office began in 2009 when she was elected to the Kemah City Council. She served through 2023, including time as mayor pro tem and Kemah's representative to the Houston-Galveston Area Council (HGAC). She currently serves as president of the Galveston County Mayor and Councilmember Association, where she continues to build consensus and foster collaboration across city lines. With years of experience in municipal government and regional leadership, Collins understands the challenges of cities in Region 14, particularly smaller and coastal communities. She is committed to making sure those voices are heard at the state level. She is a firm believer in servant leadership and strives to lead with humility, consistency, and a commitment to listening. Collins is passionate about fostering collaboration among municipal leaders and ensuring that every community—regardless of size—has a seat at the table.



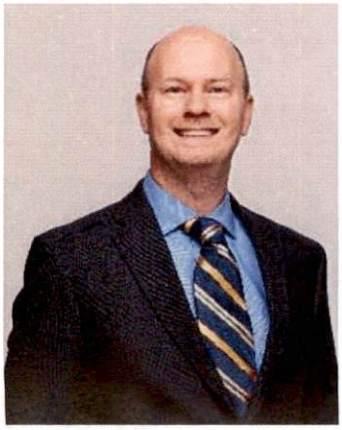
Tom Crews, Councilmember, League City

Tom Crews is a Certified Public Accountant and the owner of a family-run CPA firm based in League City. He and his wife, Chrissy, founded the practice in 2015, and it has since become a trusted business in the community. Their children are also involved in the firm, making it a true family operation. Crews currently serves on the League City Council in Position 3. First elected in 2022 and re-elected in 2024, he brings over a decade of financial experience to his role in local government. Before joining the council, he served as chair of both the League City Finance Committee and the Charter Review Committee, gaining a strong foundation in municipal budgeting and policy. To further strengthen his public service skills, Crews is currently enrolled in the Texas Municipal League's Certified Municipal Official (CMO) program. His dual roles as a business owner and public servant allow him to effectively represent both residents and local entrepreneurs. He is committed to fiscal responsibility, efficient city services, and sustainable growth for League City. In addition to his professional and civic work, Crews and his family are active volunteers in the community. They support several local nonprofits and regularly participate in service projects, reflecting their strong belief in giving back to the city they call home.



Emmanuel Guerrero, Councilmember, Pasadena

Emmanuel Guerrero grew up in a blue-collar family, raised by a single mother. He is the eldest brother of five siblings. He is a first-generation college graduate from the University of Houston's Bauer Business School obtaining a double Bachelor of Business Administration (BBA) in finance and marketing in three years. He worked many sales jobs and services jobs while obtaining his bachelor's degree at the University of Houston from 2015-2018, maintaining two jobs and attending school full time. His professional career and experience have been in two Fortunate 100 food companies, a Fortune 100 oil and gas company, and a Fortune 100 food company. Currently, he works for a consulting firm specializing in disaster relief, emergency response, economic development, grant management, and compliance and review. At 24, he was promoted to be the youngest manager in the firm's history, helping to oversee $400 million through CARES, ARPA, and ERA federal funds. Guerrero was elected as Pasadena City councilman of District C at age 26, making history as the youngest councilman in the City's history. Since being in office, he has led initiatives resulting in $5.9 million in waterline improvements, $9.9 million in sewer rehabilitations, $7.3 million in reconstruction projects, $150,000 in water well improvements, and has created various scholarships opportunities for the lowest income school in Pasadena. His commitment to his community is unparalleled.



Josh Pratt, Councilmember, Bunker Hill Village

Councilmember Josh Pratt grew up in Houston and relocated his family to the Memorial Villages in 2014. With a focus on secure families, financials, and small-town community feel, he was elected to the Bunker Hill Village City Council in 2025. Pratt served on the City's Zoning Board of Adjustment as well as various boards and committees in local government, business, and church. He is a certified public accountant working in the private sector. He and his wife have one child.

Frank W. Robinson, Councilmember, Shenandoah

Frank W. Robinson, BA, MPA, ICMA-CM (Retired) is an elected member of the City of Shenandoah City Council and an accomplished public administrator. He holds a bachelor's degree from the University of North Texas and a Master of Public Administration from Sam Houston State University. After 38 years of public service, 29 of those years as a chief administrative officer and city manager in Texas and California, Robinson retired in 2017. He began his public service career as a police officer in Denton, eventually receiving an appointment as chief of police in the City of West University Place before transitioning to city management. He is best known for his role in the development of the downtown of The Woodlands. Robinson served 14 years as president and township manager for The Woodlands Township (formerly known as the Town Center Improvement District of Montgomery County). He led the organization through visioning and goal setting to define the Township's vision and mission as a local government focused on creating public benefit. In 2020, he came out of retirement to assist the City of Conroe in the position of downtown manager and implemented the newly adopted Downtown Conroe Development Plan and promote the historical preservation and economic development of downtown Conroe. Robinson successfully attracted new entertainment and dining venues to the downtown's Central Business District, brought in an estimated $54 million in new development investment, and facilitated the recertification of Conroe as a Texas Main Street Community and receiving the coveted Cultural District designation by the Texas Commission on the Arts. In January 2023, Robinson retired once again and was elected to the City of Shenandoah's City Council in May 2024. He remains an active member of the Texas City Management Association.

CITY OF PASADENA, TEXAS

Dear Honorable Mayor and Council of City of Angleton,

I hope this letter finds you well. I am writing to you in hopes of earning your trust and your vote to serve my peers and represent TML Region 14 as your next elected regional director.

Did you know that the Texas Municipal League (TML):

- Shapes its **legislative program** around defending local authority and minimizing unfunded mandates;
- Offers a suite of **educational services** (e.g., the *Handbook for Mayors and Councilmembers*);
- Operates a **legal defense program** that files **amicus curiae briefs** in landmark cases of municipal significance;
- TML facilitates municipal risk management via the **TML Intergovernmental Risk Pool.**

I was elected as a Councilmember for City of Pasadena in 2023 and recently was re-elected to serve another term. As a volunteer, I have served on the Harris County Appraisal Review board representing my community during times of increased valuations. As a professional, I have helped oversee $400 million through CARES, ARPA and ERA federal funds throughout Fort Bend County, Harris County, and Montgomery County. As a proud product of a hardworking, blue-collar family, I have developed the experience, relatability, and skillset to serve you as the next regional TML Director for Region, 14.

This board plays an integral role in defending the independence of Texas cities, strengthening OUR collective influence, equips local officials with knowledge, and provides risk mitigation and legal support. Without it, cities would be more vulnerable—politically, legally, and financially**.** Region **14 needs and deserves to make its collective voice be heard.** Today, I ask your vote as the Region 14 Director.

In addition to the emailed ballots distributed by TML, I have mailed paper ballots to your office for your convenience. Ballot must be received by October 23, 2025. I appreciate your consideration, and am happy to have a conversation with you concerning my candidacy. I truly appreciate your time and your continued service to our regional community and state. Please don't hesitate to contact me at my personal number (713)517-4410 if you have any questions or if I can be of service to you.

Respectfully Yours,

Emmanuel Guerrero
Councilmember, District C
City of Pasadena, Texas
Council Office (713) 475-5521

City of Friendswood

Item 12.

Dear Mayor and Council,

I would be honored to continue serving as Director of TIRZ Region 14. Along with my work on Friendswood City Council, I also serve with H-GAC, the Transportation Policy Council and Bay Trax. I am grateful to have the endorsement of former Sugar Land Mayor Joe Zimmerman

and would sincerely appreciate
your support.

Thank you for your consideration,

Sally Branson

THE HEART OF BRAZORIA COUNTY
ANGLETON

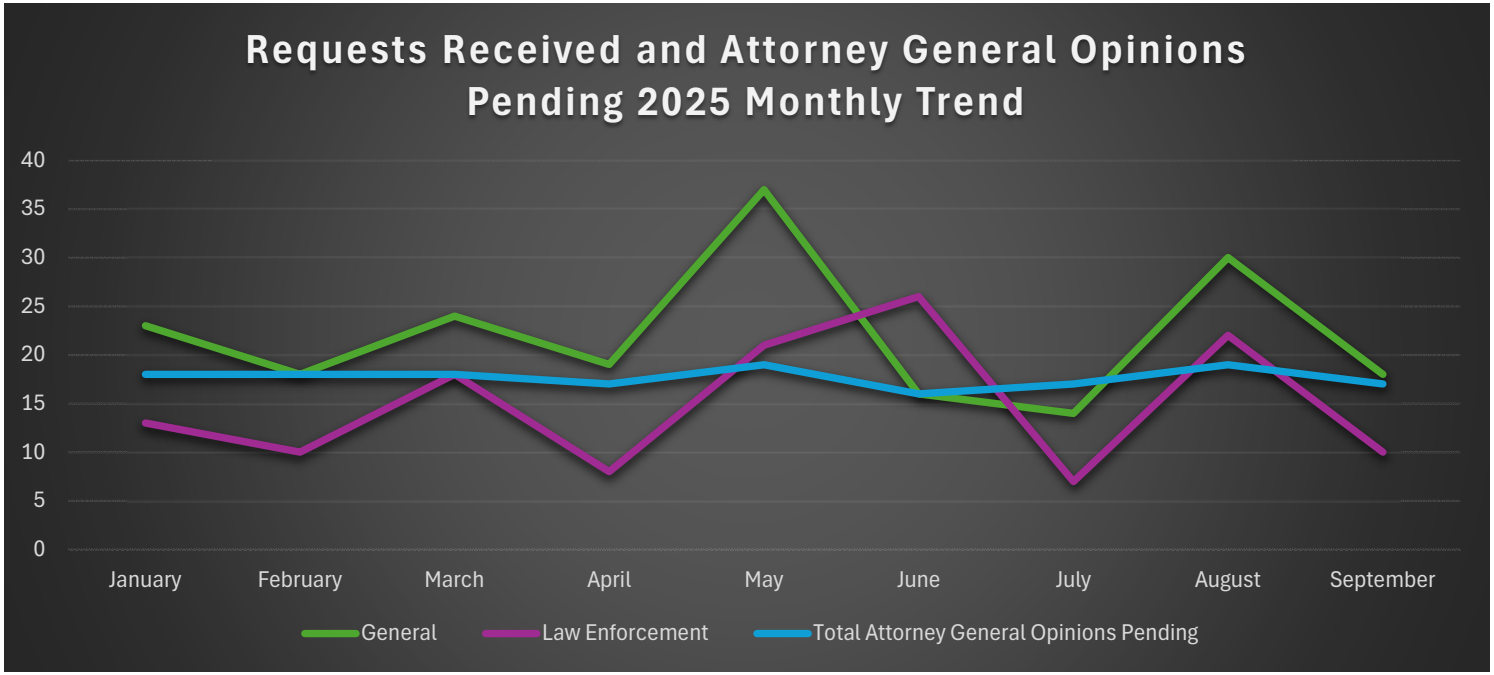
STAFF REPORT

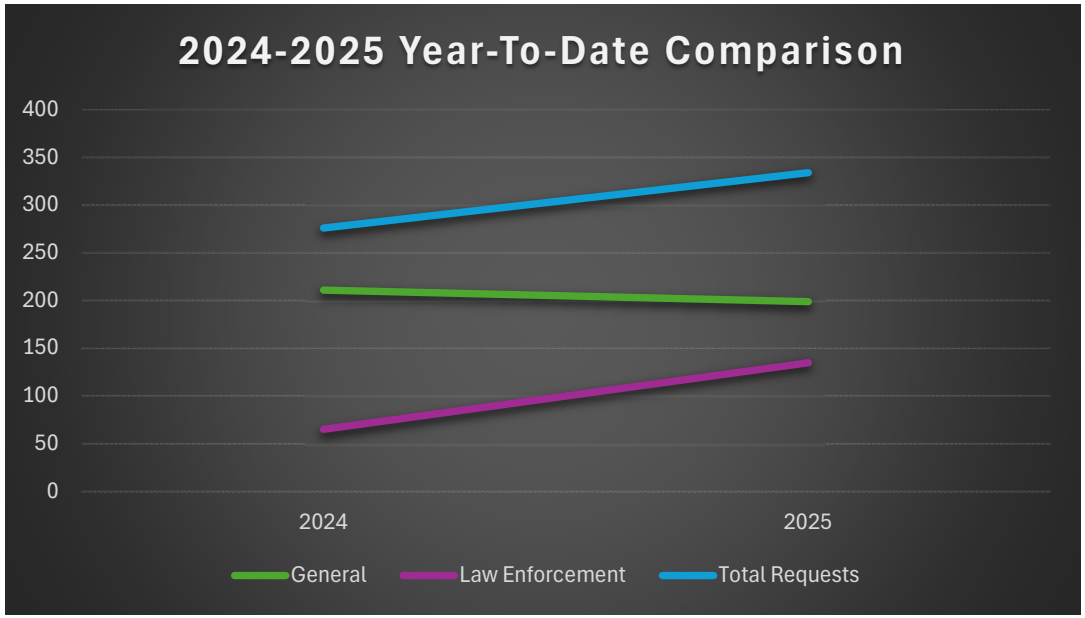
CITY SECRETARY'S OFFICE

CITY OF ANGLETON, TEXAS
OFFICE OF THE CITY SECRETARY
SEPTEMBER 2025 REPORT

ACTIVITY	DESCRIPTION	MONTHLY TOTAL	YEAR-TO-DATE TOTAL
City Council Agendas	City Council meetings, workshop agendas, & Notice of Quorum prepared & posted in accordance with Local Government Code.	4	21
Executive Sessions	Executive Sessions posted	1	15
Council Minutes	Minutes approved	0	13
Ordinances	Ordinances written, processed, &/or published	4	24
Resolutions	Resolutions written & processed	3	15
Contracts & Agreements	Contracts & Agreements approved & executed	2	33
Deeds / Easements	Plats / Deeds / Easements, executed & recorded	0	0
Laserfiche Imaging	Scanned pages City-wide documents	487	8,930

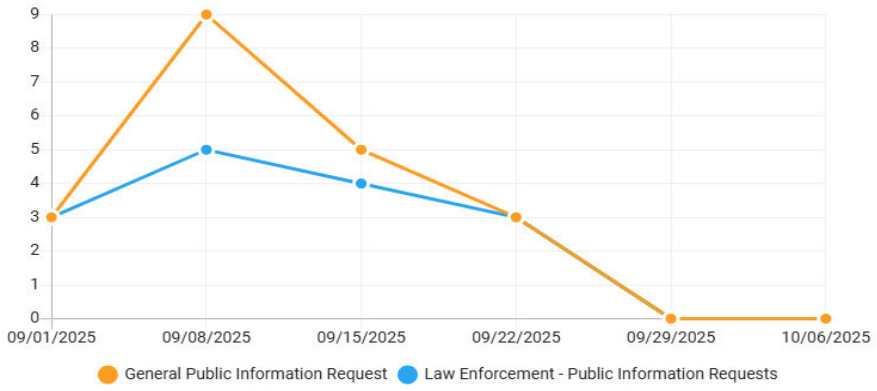
OTHER:


Requests Received and Attorney General Opinions Pending 2025 Monthly Trend
40
35
30
25
20
15
10
5
0
January
February
March
April
May
June
July
August
September
General
Law Enforcement
Total Attorney General Opinions Pending


2024-2025 Year-To-Date Comparison
400
350
300
250
200
150
100
50
0
2024
2025
General
Law Enforcement
Total Requests

Processed Requests

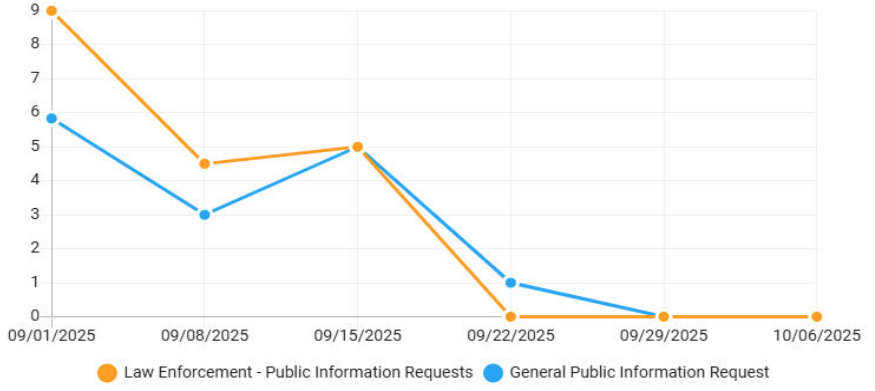
September 2025



20	15
General Public Information Request	Law Enforcement - Public Information Requests

Average Completion Time

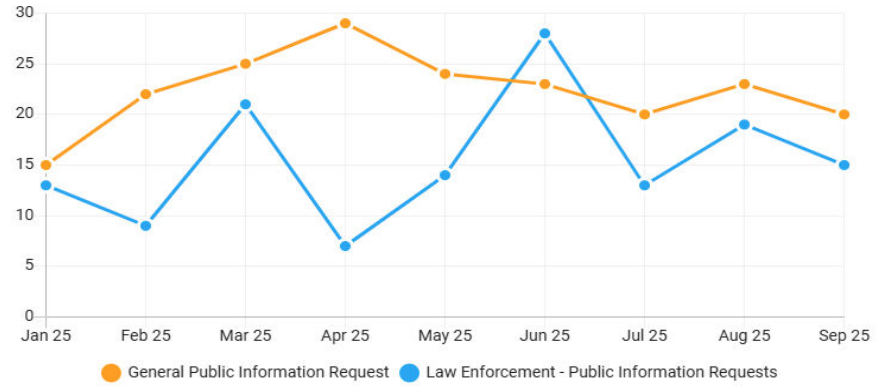
September 2025



5.6	4.46
Law Enforcement - Public Information Requests	General Public Information Request

Processed Requests

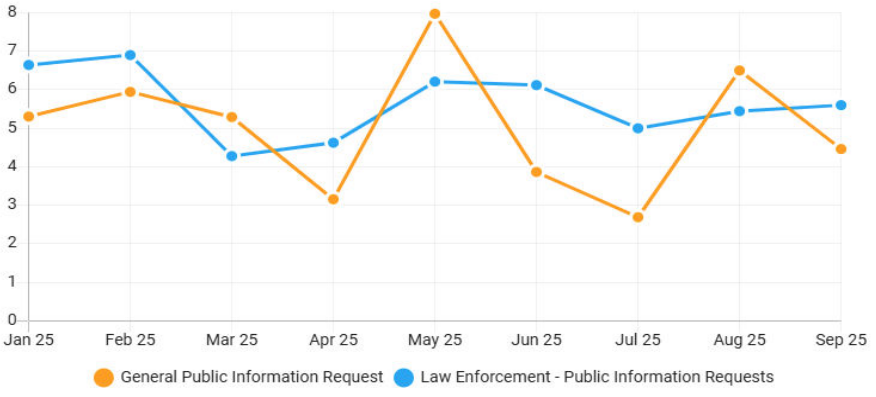
Year-to-Date



201	139
General Public Information Request	Law Enforcement - Public Information Requests

Average Completion Time

Year-to-Date



5.51	5.71
General Public Information Request	Law Enforcement - Public Information Requests

COMMUNICATIONS & MARKETING

PROJECTS

1. King Municipal Operations Center (KMOC)

10/14/2025 Council Presentation

Teal Council Update 10.7.2025.pp

KMOC PROJECT UPDATE FOR 10/14/2025
UPDATES (REFER TO LOOKAHEAD):

1. Building foundations complete and slab in progress
2. Building tied into site utilities
3. Fire line, meter, and vault installation in progress
4. Site grading in progress
5. Hauling off excess spoils
6. Building steel arrives 10/17/2025
7. Erection begins 10/20/2025

ISSUES:

1. Potential gas lines preventing storm tie-in (Site flatwork on hold)
2. TxDOT storm tie-in permitting

CONTINGENCY USEAGE:

1. Shipping containers
    a. Needed for early demolition of existing building
    b. Should expedite project completion and has improved project logistics
2. IFC drawing changes

KMOC - 3 Week Look-Ahead Schedu

1. Communication During Construction

- Project updates will be provided through the following channels:
    - **Biweekly team meetings**
    - **Monthly project report**
    - **City Council updates**

SPECIAL EVENTS

Artisan Market

Event Overview

The inaugural **Angleton Artisan Market** took place August 30–31, 2025, at the Brazoria County Fairgrounds, featuring 75 curated artisans and six food trucks. Over **5,000 shoppers** attended, with a **line at the door on opening day. 100% of respondents wanted the Artisan Market to be added to Angleton events.**

Key Satisfaction Metrics

Category	Excellent	Good	Other
Pre-event communication	**92.2%**	5.9%	1.9%
Marketing effectiveness	**98% highly effective**	—	—
Vendor setup	**84.3% Excellent**	13.7% Good	2% Fair
Event hours (10 AM–4 PM)	**92.2% About right**	7.8% Prefer change	—
Facility satisfaction	**39.2% Above avg.**	54.9% Avg.	5.9% Below
Sales vs. expectations	**64.7% Exceeded**	29.4% Met	5.9% Below
Return participation	**92.2% Definitely**	5.9% Probably	1.9% Unsure

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Strengths to Maintain

- Excellent vendor communication and responsiveness.
- Strong digital marketing reach and vendor features.
- Smooth Friday setup and logistics.
- High-quality, handmade vendor mix.

Concert in the Park September 2025

- Texas Eagles – 440 Attending
- Tejano Night Stefani Montiel – 319 Attending
- Reputation, the Music of Taylor Swift – 792 Attending

Concert in the Park Community Survey Summary – City Council Report

Overview
The City of Angleton opened a public survey in September 2025 to evaluate community sentiment and gather feedback on Concert in the Park. The event, established in 2018, remains one of Angleton's most popular free community programs.

Participation
- 140 total respondents
- 86% Angleton residents
- 14% nearby residents (Bar X, Danbury, Lake Jackson, Sweeny, etc.)
- 86% have attended a concert before.

Preferred Location

Location	% of Votes	Key Notes
Veterans Park (Downtown)	64%	Central, nostalgic, walkable from downtown dining.
Lakeside Park	16%	Appreciated amenities but safety and parking concerns (water/alligator comments).
Freedom Park	7%	Favored for space and parking.
Other (Recreation Center, Bates, BG Peck, etc.)	13%	Suggestions for Dickey Park, Fairgrounds Arena, or rotating sites.

Preferred Timing

Month	% Preference	Comments
September	32%	Favored, but conflicts with Wildcat football season.
May	29%	Popular for spring weather and existing tradition.
April/October	26%	Cooler weather, fewer mosquitoes.
Other (Nov/June/Saturdays)	13%	Calls for avoiding Fair time or Friday conflicts.

Common suggestion: Consider alternating months or Saturday shows to avoid football conflicts.

Community Feedback Themes (84 Comments)
Positive Sentiment:
- "Love that our town does this!"
- "A wonderful family-friendly community event."
- "Please keep it going—it brings people together."

• “We drive 45 minutes just to attend.”
Residents praised local safety presence, family atmosphere, and music diversity.

Suggestions for Improvement:
• Add Faith & Family Night (multiple mentions)
• More country, rock, and local variety bands
• Saturday scheduling or extended hours (until 10 PM)
• More kid activities and food options
• Mosquito control and smoking policy
• Improve soundstage acoustics and seating surfaces
• Better cleanup and parking management

Concerns (Minority): Some residents expressed noise and parking frustrations near Veterans Park, while others cited budget priorities and requested events remain cost-conscious.

Key Takeaways
• High approval (over 90%) for continuing the series
• Veterans Park remains the preferred and most beloved venue
• Scheduling around football season is the main adjustment opportunity
• Faith & Family Night and expanded kid/family engagement are top content requests
• Residents overwhelmingly view the concerts as a positive community tradition that promotes civic pride and downtown activity

The Survey is still open and active.

Angleton Market Days

November 15/16 2025 Market is full.

Heart of Christmas

Planning has begun – Registrations are coming in! The Community Choir will join us to Light the Christmas Tree, which kicks off the event and The Angleton Chamber is partnering with us on the Tree Walk. City Secretary Office will help with City Booth and We look forward to City Council helping hand out Hot Dogs. It’s a wonderful evening of giving.

ECONOMIC DEVELOPMENT

In accordance with Texas Government Code §551.087, which permits discussion of economic development negotiations in Executive Session, the City may meet privately to deliberate on commercial or financial information received from a business prospect, or to discuss incentives being considered for economic development purposes. Due to the confidential nature of these negotiations, detailed reports on prospective projects will be provided in Executive Session or through confidential correspondence, as appropriate.

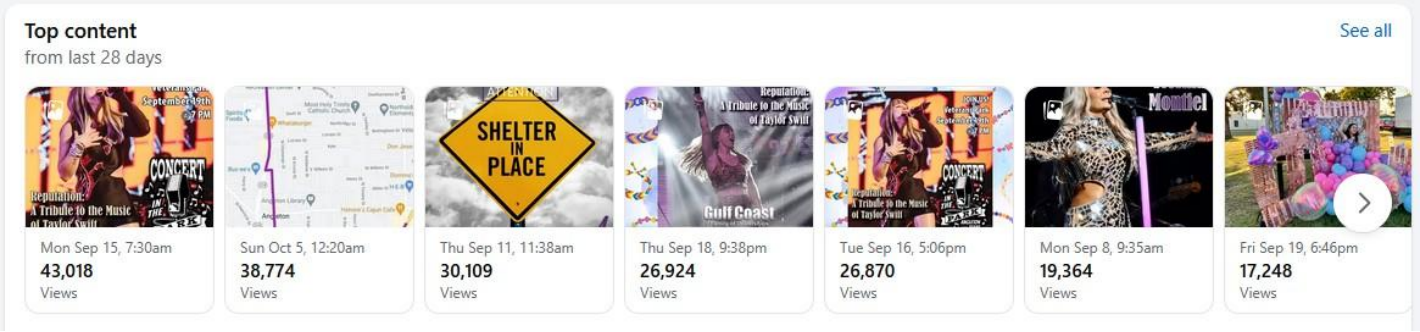
COMMUNICATIONS PLAN FOR OCTOBER

- **National Crime Prevention Month**
- **Halloween (October 31st):** Share safety tips and promote family-friendly Halloween events.
- **Columbus Day**
- **National Fire Prevention Week –** Raise
- awareness about fire safety and prevention, with events, activities, and educational programs to promote fire safety in homes and communities.
- **Texas Night Out** Encourage neighborhood gatherings and community engagement.
- **Code Enforcement Appreciation Week**
- **National Community Planning Month**
- **National Coffee with a Cop Day**
- **Keep Angleton Beautiful Fall Sweep**
- **Pre Event Coverage for Angleton Market Days**

Facebook Insights Last 28 Days

340, 033 Up 44%

TOP CONTENT



AUDIENCE

Upcoming Projects

INSIDE Angleton: Writing has begun! Edition in homes in early December.

Coming Soon

- **Waste Connection Survey**
- **New Restaurant Highlights on Social Media**
- **Did You Know Topics**

Thank you,

Martha Eighme, PCED, CPC, CTE
Director of Communications and Marketing
979-849-4364 ext. 2111
www.angleton.tx.us
City of Angleton
121 S. Velasco
Angleton, TX 77515

DEVELOPMENT SERVICES

Development Services Report October 7, 2025

PRIORITY PROJECTS

1. **Comprehensive Master Plan Update:**

PHASE 1 COMPREHENSIVE PLAN UPDATE	
MONTHS 1-3 MOBILIZATION	Status
Work session with the City Council, Planning and Zoning Commission, & others	• City Council Work Session - May 27, 2025 at 6 p.m.
Formation of Advisory Committee (Comprehensive Plan Advisory Committee - CPAC)	• Approved by the CC on May 27, 2025. Staff sent the list on June 6, 2025.
CPAC Advisory Committee meeting Update SURVEY QR CODE	• July 17, 2025 Kick-off Session. • Held on Sunday, August 31, 2025, 11AM – 3:30 PM Community Engagement Booth at the Angleton Artisan Market, Brazoria County Fairgrounds Very good feedback was received from the public. Take the new Survey: https://www.surveymonkey.com/r/AngletonComprehensivePlanUpdate NEXT CPAC MEETING: OCT. 15, 2025 AT 6:00 PM ○

MONTHLY REPORT TOPICS

REGULAR AGENDA ITEMS (No Development Items/This Agenda (Oct. 14, 2025)

Other development related Issues:

Gambit Battery Park: *See Semi Annual Report attached. Staff is requesting Council set the next public discussion timeline.*

New Business Report:

1. **No updates for September 2025.**

CERTIFICATE OF OCCUPANCY REPORT:

Certificate of Occupancy- Residential Report is attached.

Month	2023 Residential Total C.O.'s
January	21
February	23
March	54
April	16
May	16
June	7
July	14
August	17
September	8
October	12
November	23
December	30
Yearly Total	**241**

Code Enforcement Report: Sept. 9, 2025 – Oct. 7, 2025.

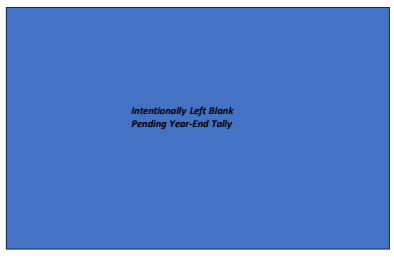
Location	Certified Notice Sent	Issue Type	Municipal Court	Abated and Lien Issued	Staff	Status
Column1	Column2	Column3	Column4	Column5	Column6	Column7
1036 Anderson	1/30/2025	Prop. Maintenance/Pending Demo			Paul M.	Open/processing
721 W. Mulberry St.	Demo 7/2025			Closed		Completed
320 W. Peach	Yes; since 2022	Prop Maintenance Pending Demo				Open/processing
N. Rock Island Apartments	Yes	Prop Maintenance Pending Demo			Billy	Sold; pending permit
132 E. Peach	Yes	Prop Maintenance Pending Demo			Billy	Open/processing
710 W. Mulberry	Yes	Prop Maintenance Pending Demo				Open/processing
811 W. Miller	Yes	Prop Maintenance Pending Demo				Open/processing
Velasco Square Apts.	Yes	Prop Maintenance Pending Demo				Open/processing
840 E. Mulberry	Yes	Prop Maintenance Pending Demo	Pending Legal/Council Action			Open/processing
2001 S. Velasco	Yes May 19, 2025		Pending Court Case			Open/processing
940 Buchta Rd.	Yes; warning letter	High Grass		Yes 4 Liens/ 8/29/2024; 12/12/2024; 2/13/2025;		Force Mowed 2 Times/

	5/29/2024			4/11/2025 (Pending $2,743.65 payoff)		
1022 N. Chenango		High Grass		Yes/ 2 Liens/ 6/27/202310/08/2025 ($403.24 pending Payoff)		Open/processing
321 Sagebrush	Yes, 9/18/2025	Trash/Debris/Driveway				Open/processing
310 N Rock Island		High Grass				Open/processing
409 N Pecan		High Grass				Open/processing
300 Bryan Way		High Grass				Open/processing
616 E Plum		High Grass				Open/processing
328 N Ranch House		High Grass				Open/processing
3301 E Mulberry		High Grass				Open/processing
1371 Molina		High Grass				Open/processing
5 Piney Way		High Grass				Open/processing
117 Bastrop		Junk Vehicle				Open/processing
701 Danbury		Junk Vehicle				Closed
1180 Thomas		Junk Vehicle				Closed
310 N. Rock Island		High Grass				Closed
409 N Pecan		High Grass				Closed
223 S Walker		High Grass				Closed
300 Bryan Way		High Grass				Closed
616 E Plum		High Grass				Closed
328 N Ranch House		High Grass				Closed
3301 E Mulberry		High Grass				Closed
1371 Molina		High Grass				Closed
5 Piney Way		High Grass				Closed
628 Catalpa		High Grass		Lien		Closed
961 S Walker		High Grass		Lien		Closed

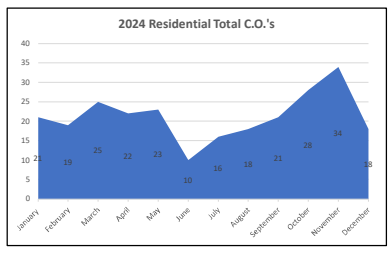
504 Farrer		High Grass				Closed
Western Ave.@SH35/ Shady Acres Prop ID 246699		High Grass				Closed
1024 Robinhood		High Grass				Closed
1220 E Mulberry		High Grass				Closed
817 N Morgan		High Grass				Closed
1105 E Miller		High Grass				Closed
249 Austin		High Grass				Closed
2610 N. Velasco (RoadHouse)	Yes. Since 2023	Pending Building Code Violations/Lack of Permit	Yes Pending			Open Processing
508 Hurst	Yes	Demo/without permit/left debris in ditch	Yes Pending	Lien		Open Processing

City of Angleton
Single Family Homes Completion Totals
Reported as of 10/01/2025

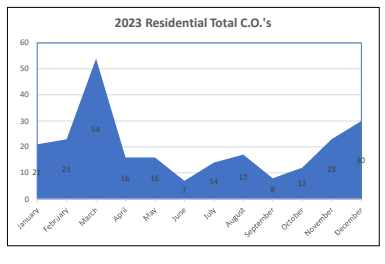
Month	2025 Residential Total C.O.'s
January	24
February	36
March	45
April	36
May	26
June	17
July	18
August	5
September	**32**
October	
November	
December	
Yearly Total	**239**



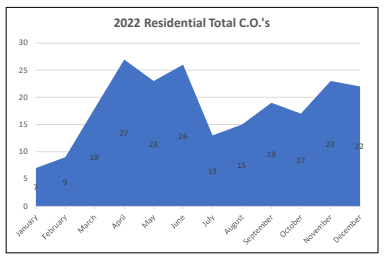
Month	2024 Residential Total C.O.'s
January	21
February	19
March	25
April	22
May	23
June	10
July	16
August	18
September	21
October	28
November	34
December	18
Yearly Total	**255**



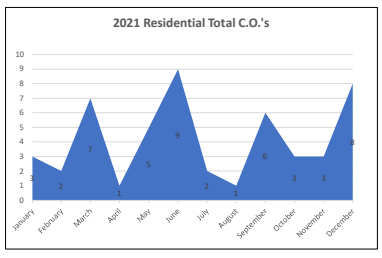
Month	2023 Residential Total C.O.'s
January	21
February	23
March	54
April	16
May	16
June	7
July	14
August	17
September	8
October	12
November	23
December	30
Yearly Total	**241**



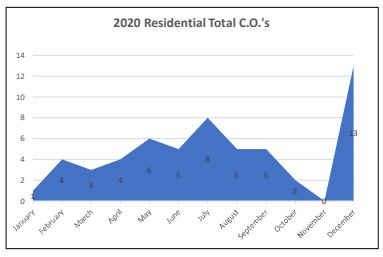
Month	2022 Residential Total C.O.'s
January	7
February	9
March	18
April	27
May	23
June	26
July	13
August	15
September	19
October	17
November	23
December	22
Yearly Total	**219**



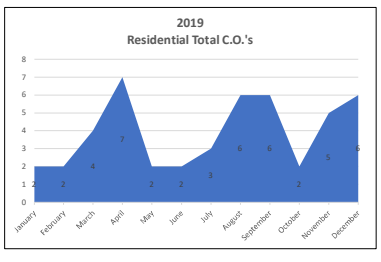
Month	2021 Residential Total C.O.'s
January	3
February	2
March	7
April	1
May	5
June	9
July	2
August	1
September	6
October	3
November	3
December	8
Yearly Total	**50**



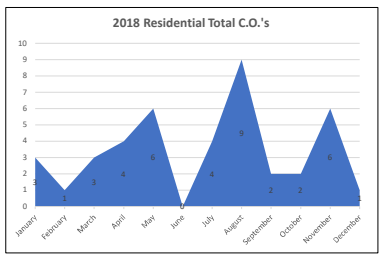
Month	2020 Residential Total C.O.'s
January	1
February	4
March	3
April	4
May	6
June	5
July	8
August	5
September	5
October	2
November	0
December	13
Yearly Total	**56**



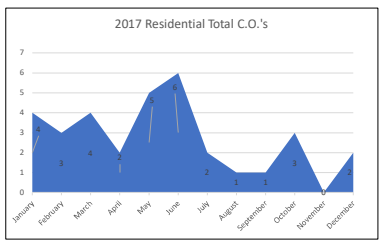
Month	2019 Residential Total C.O.'s
January	2
February	2
March	4
April	7
May	2
June	2
July	3
August	6
September	6
October	2
November	5
December	6
Yearly Total	**47**



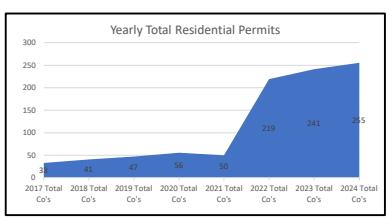
Month	2018 Residential Total C.O.'s
January	3
February	1
March	3
April	4
May	6
June	0
July	4
August	9
September	2
October	2
November	6
December	1
Yearly Total	**41**



Month	2017 Residential Total C.O.'s
January	4
February	3
March	4
April	2
May	5
June	6
July	2
August	1
September	1
October	3
November	0
December	2
Yearly Total	**33**



Year	Yearly Total Residential Permits
2017 Total Co's	33
2018 Total Co's	41
2019 Total Co's	47
2020 Total Co's	56
2021 Total Co's	50
2022 Total Co's	219
2023 Total Co's	241
2024 Total Co's	255
8-Year Total Co's	**942**



Angleton
Angleton

121 S. Velasco Street
Angleton, TX 77515

Summary Notes

Building permits are up from 247 in August 2025 to 287 in September 2025.

YTD Residential Fees Collected	$43,744.20
YTD Commercial Fees Collected	$43,548.85

The largest commercial project for the month:
Permit #: 2025-1745
Street: 1004 S VELASCO ST
Value: $6,000,000.00

Inspections made year to date are as follows:

Electrical Inspections	399
Flat Work Inspections	76
Food Inspections	97
Gas Inspections	160
Mechanical Inspections	284
Miscellaneous Inspections	1087
Plumbing Inspections	961
Total # of Inspections	**3064**

Major categories of permits issued y.t.d. as follows:

Not Set	4
Commercial	316
Residential	1732
Total # of Permits	**2052**

September, 2025

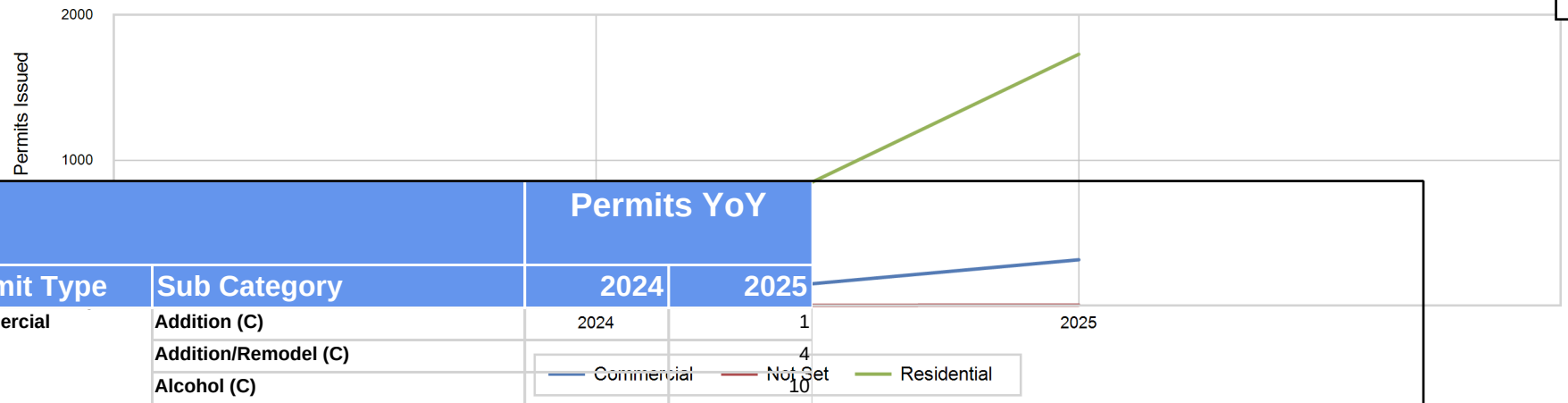
This month's report concerning the activities of the Inspection Division is respectfully submitted. The summary is as follows:

Last Year - This Year	September, 2024	September, 2025	% Change
Number of Permits	0	287	∞%
Total Fees		$87,293.05	0.00%

Year to Date	January, 2024 September, 2024	January, 2025 September, 2025	% Change
Number of Permits	0	2052	∞%
Total Fees	$0.00	$592,688.07	0.00%

12 Months Previous Year	October, 2023 September, 2024	October, 2024 September, 2025	% Change
Number of Permits	0	2208	∞%
Total Fees		$659,397.59	0.00%

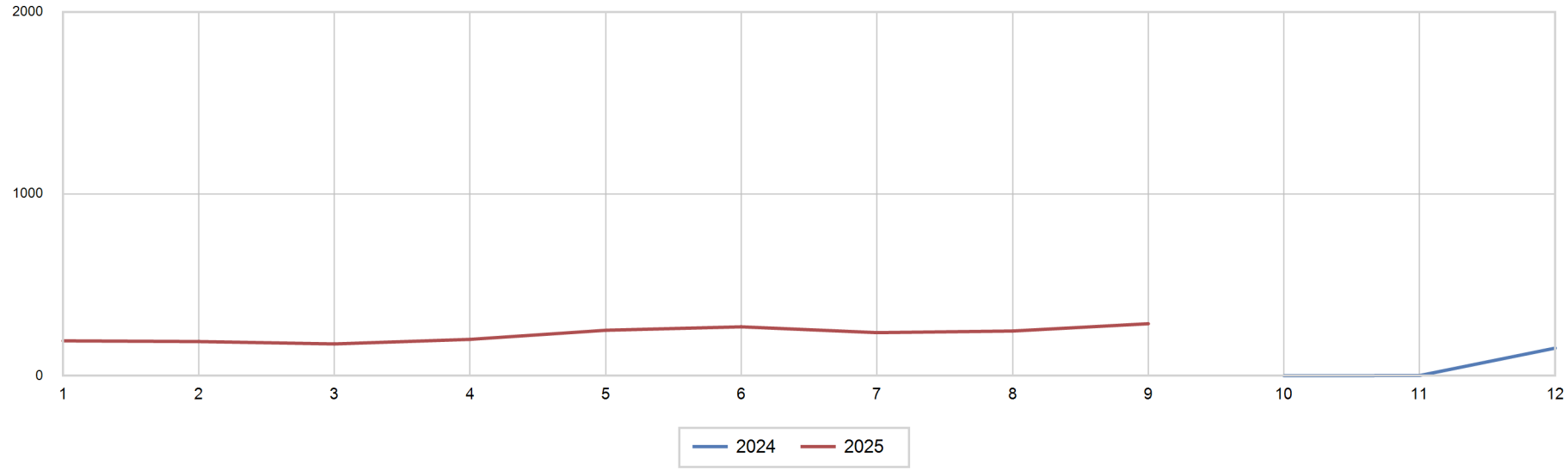
HISTORICAL TREND OF PERMITS ISSUED



		Permits YoY	
Permit Type	**Sub Category**	**2024**	**2025**
Commercial	Addition (C)		1
	Addition/Remodel (C)		4
	Alcohol (C)		10
	Certificate of Occupancy (C)		14
	Commercial New	1	24
	Credit Business (Pay Day Loan) (C)	1	1
	Demolition (C)		4
	Driveway Flatwork Permit (C)		5
	Electrical (C)	1	10
	Fence (C)		1
	Fire Prevention (C)		14
	Game Room Permit (C)		2
	Irrigation (C)	1	
	Mechanical (C)	1	11
	Mobile Home Registration (C)		2
	Mobile Vending Unit (C)		2
	Not Set		2
	Plumbing (C)	2	30
	Remodel (C)		4
	Retail Food (C)	8	95
	Sign (C)		17
	Temporary Food Service (C)	2	35
	Utility Right of Way (C)		28
Total Commercial		**17**	**316**
Not Set	Not Set	1	4
Total Not Set		**1**	**4**
Residential	1 and 2 Family Residential (R)	23	181
	Addition/Remodel(R)		2
	Animal (R)		3
	Certificate of Occupancy (R)		47
	Demolition (R)	1	

		Permits YoY	
Permit Type	**Sub Category**	**2024**	**2025**
Residential	Driveway Culvert Pipe Permit (R)		6
	Driveway Flatwork Permit (R)	3	41
	Electrical (C)		1
	Electrical (R)	26	428
	Fence (R)	6	47
	Fire Prevention (R)		1
	Garage Sale (C)		2
	Garage Sale (R)	5	177
	Irrigation (R)		8
	Mechanical (R)	28	251
	Mobile Home Registration (R)		3
	Not Set	1	4
	Plumbing (C)		1
	Plumbing (R)	44	372
	Remodel (R)		3
	Residential New (R)		140
	Swimming Pool/Hot Tub (R)		9
	Utility Right of Way (R)	1	5
Total Residential		**138**	**1,732**
Total		**156**	**2,052**

PERMITS ISSUED PER MONTH

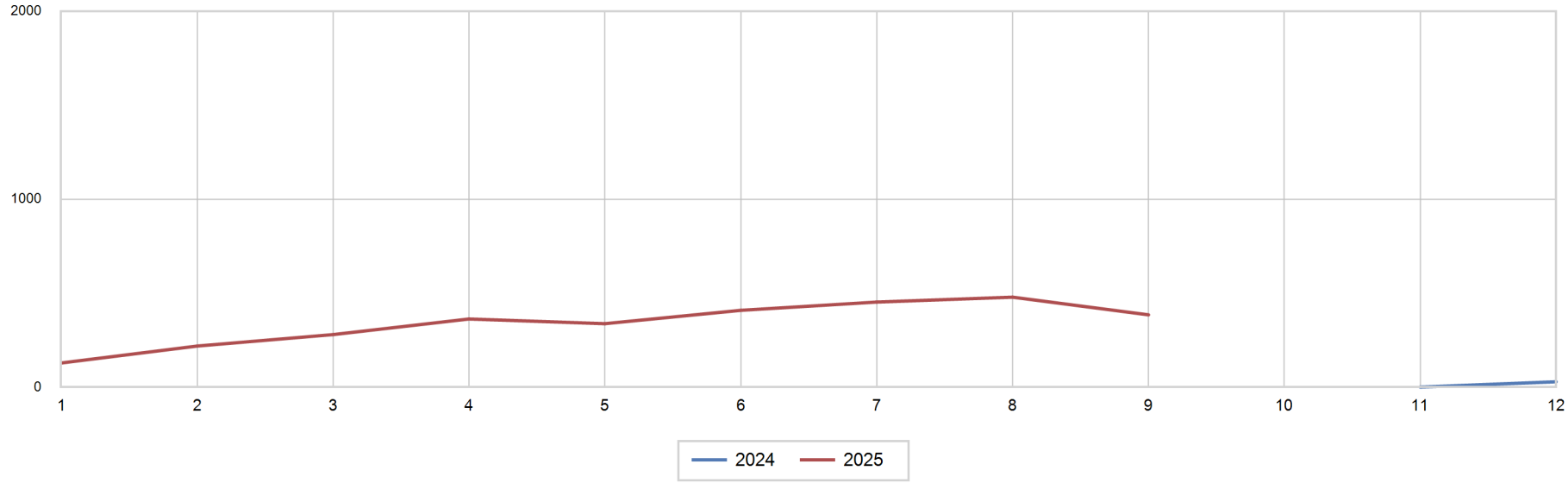


DATA FOR PERMITS ISSUED PER MONTH

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2024	0	0	0	0	0	0	0	0	0	1	2	153
2025	193	189	176	201	251	270	238	247	287	0	0	0

BUILDING OFFICIAL'S MONTHLY REPORT | September, 2025 | PERMITS ISSUED

INSPECTIONS PER MONTH



DATA FOR INSPECTIONS PER MONTH

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Nov	Dec
2024	0	0	0	0	0	0	0	0	0	2	30
2025	130	220	281	364	339	410	454	480	386	0	0

BUILDING OFFICIAL'S MONTHLY REPORT | September, 2025 | PERMITS ISSUED

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	*Totals*
COMMERCIAL													
Addition (C)	0	0	0	1	0	0	0	0	0	0	0	0	***1***
Addition/Remodel (C)	0	2	0	1	0	0	1	0	0	0	0	0	***4***
Alcohol (C)	1	2	4	2	0	0	0	0	1	0	0	0	***10***
Certificate of Occupancy (C)	3	1	0	2	0	2	1	4	1	1	0	0	***15***
Commercial New	4	2	1	0	2	3	3	4	5	2	0	0	***26***
Credit Business (Pay Day Loan) (C)	0	0	0	1	0	0	0	0	0	1	0	0	***2***
Demolition (C)	0	0	0	0	1	2	0	0	1	0	0	0	***4***
Driveway Culvert Pipe Permit (C)	0	0	0	0	0	0	0	0	0	1	0	0	***1***
Driveway Flatwork Permit (C)	0	2	0	1	0	1	0	1	0	1	0	0	***6***
Electrical (C)	3	0	3	1	0	2	1	0	0	0	0	0	***10***

BUILDING OFFICIAL'S MONTHLY REPORT	September, 2025									PERMITS ISSUED			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Fence (C)	0	0	0	1	0	0	0	0	0	0	0	0	***1***
Fire Prevention (C)	2	3	1	2	0	1	1	0	4	0	0	0	***14***
Game Room Permit (C)	0	0	0	0	0	0	0	1	1	0	0	0	***2***
Mechanical (C)	0	2	1	1	3	0	2	1	1	0	0	0	***11***
Mobile Home Registration (C)	2	0	0	0	0	0	0	0	0	0	0	0	***2***
Mobile Vending Unit (C)	0	0	0	1	0	0	1	0	0	0	0	0	***2***
Plumbing (C)	1	2	0	1	4	19	0	1	2	0	0	0	***30***
Remodel (C)	0	2	0	0	0	0	2	0	0	0	0	0	***4***
Retail Food (C)	15	10	8	14	16	8	8	5	11	3	0	0	***98***
Sign (C)	2	4	4	2	0	2	1	2	0	0	0	0	***17***
Temporary Food Service (C)	0	3	1	1	1	6	5	4	14	1	0	0	***36***
Utility Right of Way (C)	0	2	3	0	1	6	3	9	4	1	0	0	***29***
Not Set	0	0	1	0	0	0	0	1	0	0	0	0	***2***
Total Commercial	**33**	**37**	**27**	**32**	**28**	**52**	**29**	**33**	**45**	**11**	**0**	**0**	***327***
RESIDENTIAL													
1 and 2 Family Residential (R)	44	17	20	18	19	10	16	21	16	4	0	0	***185***
Addition/Remodel(R)	0	1	0	0	0	0	1	0	0	0	0	0	***2***
Animal (R)	1	1	0	0	0	0	0	0	1	0	0	0	***3***
Certificate of Occupancy (R)	1	0	0	0	0	0	1	12	33	2	0	0	***49***
Driveway Culvert Pipe Permit (R)	0	0	0	0	1	1	2	1	1	0	0	0	***6***
Driveway Flatwork Permit (R)	3	5	5	7	7	3	7	1	3	0	0	0	***41***
Electrical (C)	0	0	0	0	0	0	0	0	1	0	0	0	***1***
Electrical (R)	45	42	29	41	70	58	41	60	42	8	0	0	***436***
Fence (R)	8	7	6	9	3	6	6	1	1	0	0	0	***47***
Fire Prevention (R)	0	0	0	0	0	0	0	1	0	0	0	0	***1***
Garage Sale (C)	0	0	0	0	0	0	0	2	0	0	0	0	***2***
Garage Sale (R)	6	4	18	20	32	27	20	24	26	5	0	0	***182***
Irrigation (R)	0	1	0	0	0	1	0	1	5	0	0	0	***8***
Mechanical (R)	25	26	23	25	21	23	36	19	53	12	0	0	***263***
Mobile Home Registration (R)	0	0	3	0	0	0	0	0	0	0	0	0	***3***
Plumbing (C)	0	0	0	0	1	0	0	0	0	0	0	0	***1***
Plumbing (R)	21	41	31	38	54	67	37	45	38	8	0	0	***380***
Remodel (R)	0	0	0	0	1	1	1	0	0	1	0	0	***4***
Residential New (R)	3	5	8	11	11	19	39	24	20	4	0	0	***144***

BUILDING OFFICIAL'S MONTHLY REPORT	September, 2025								PERMITS ISSUED				
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Tota
Swimming Pool/Hot Tub (R)	1	1	0	0	2	1	1	1	2	0	0	0	***9***
Utility Right of Way (R)	0	1	2	0	0	0	1	1	0	0	0	0	***5***
Not Set	0	0	2	0	1	1	0	0	0	0	0	0	***4***
Total Residential	**158**	**152**	**147**	**169**	**223**	**218**	**209**	**214**	**242**	**44**	**0**	**0**	***1,776***
NOT SET													
Not Set	2	0	2	0	0	0	0	0	0	0	0	0	***4***
Total Not Set	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	***4***
GRAND TOTALS	**193**	**189**	**176**	**201**	**251**	**270**	**238**	**247**	**287**	**55**	**0**	**0**	***2,107***

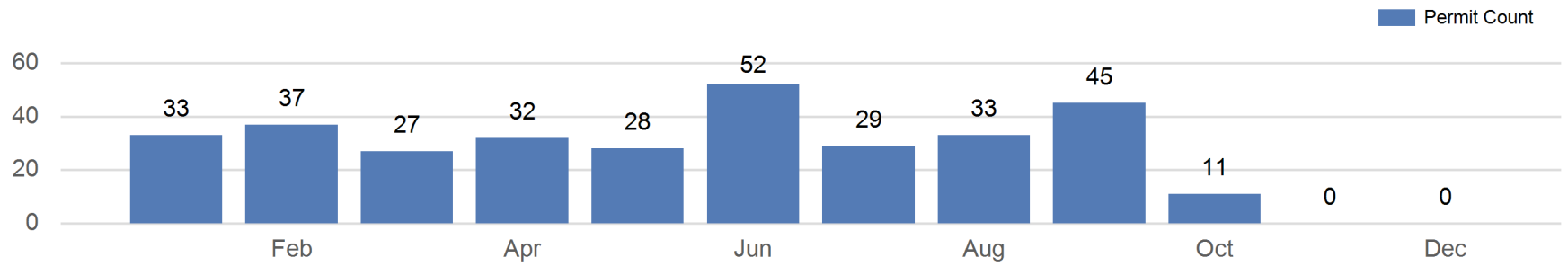
Total Code Compliance By Month

No Data Available

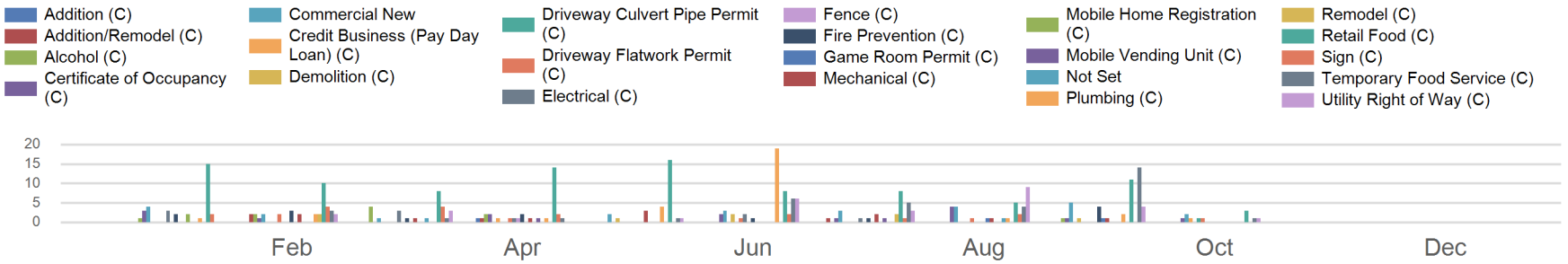
Total Code Compliance Per Sub Category By Month

No Data Available

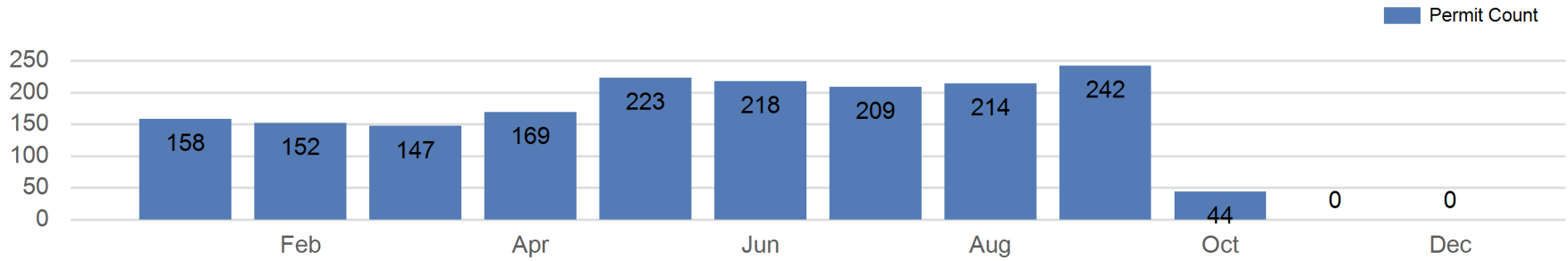
Total Commercial By Month



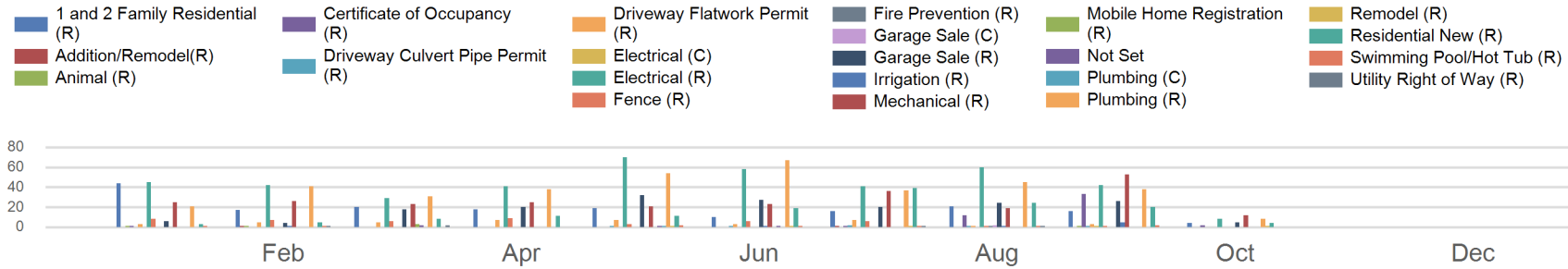
Total Commercial Per Sub Category By Month



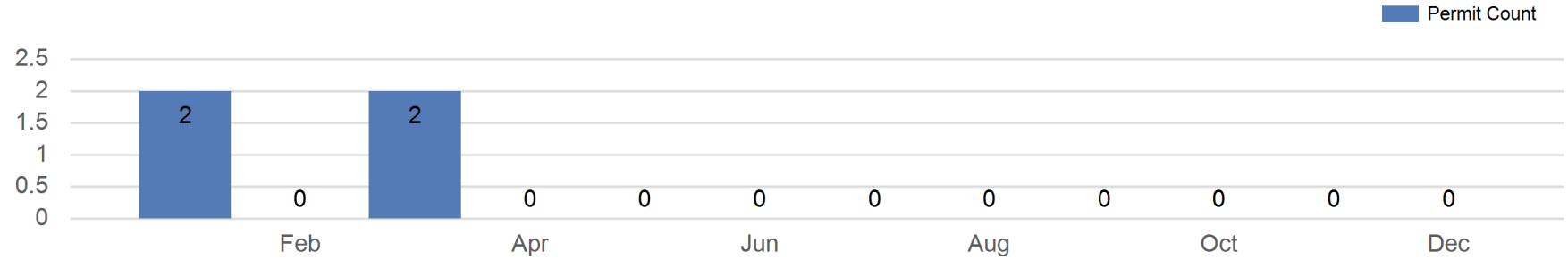
Total Residential By Month



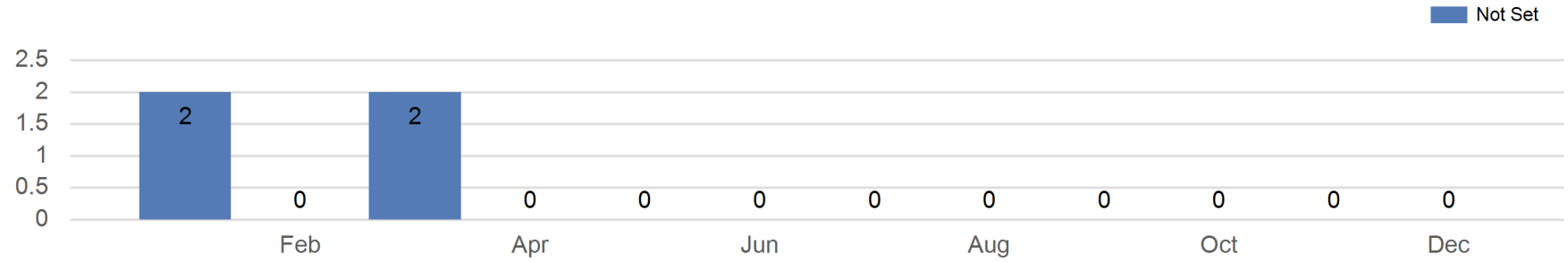
Total Residential Per Sub Category By Month



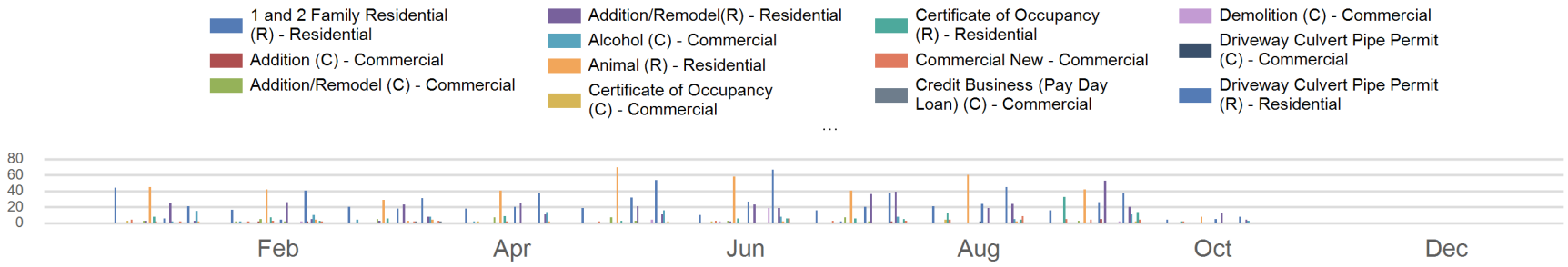
Total Not Set By Month



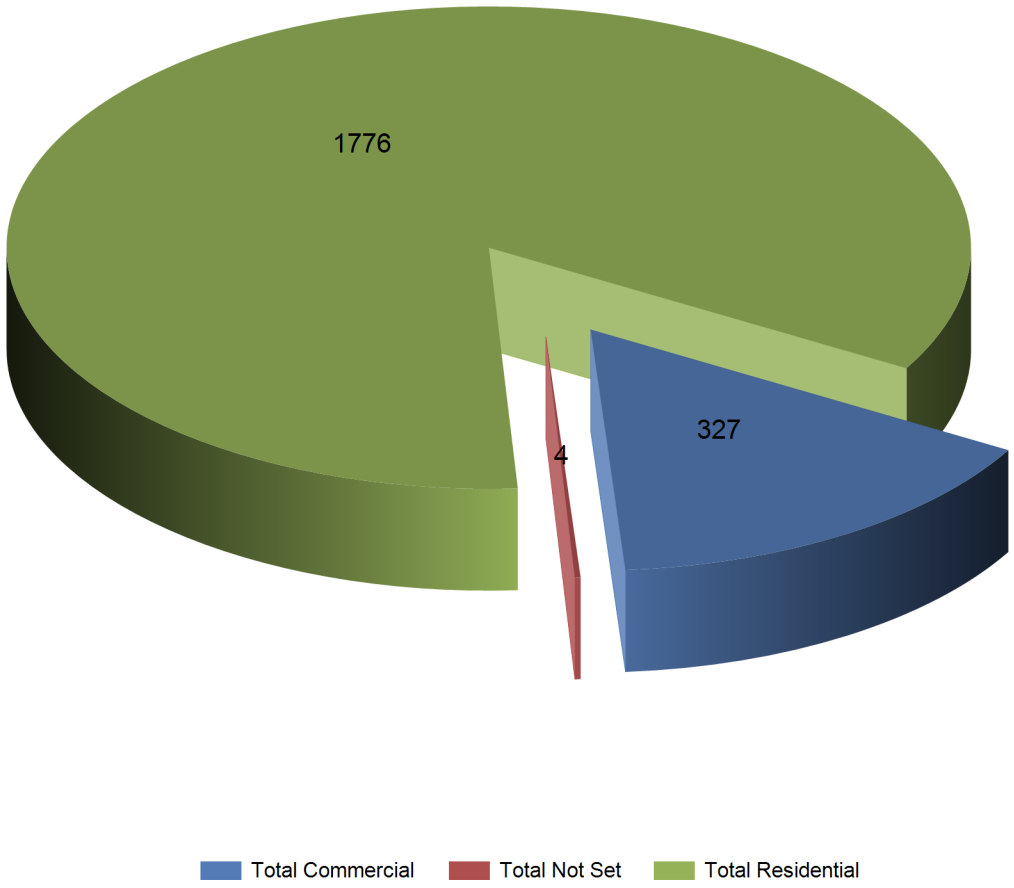
Total Not Set Per Sub Category By Month



Total Category and Sub category By Month



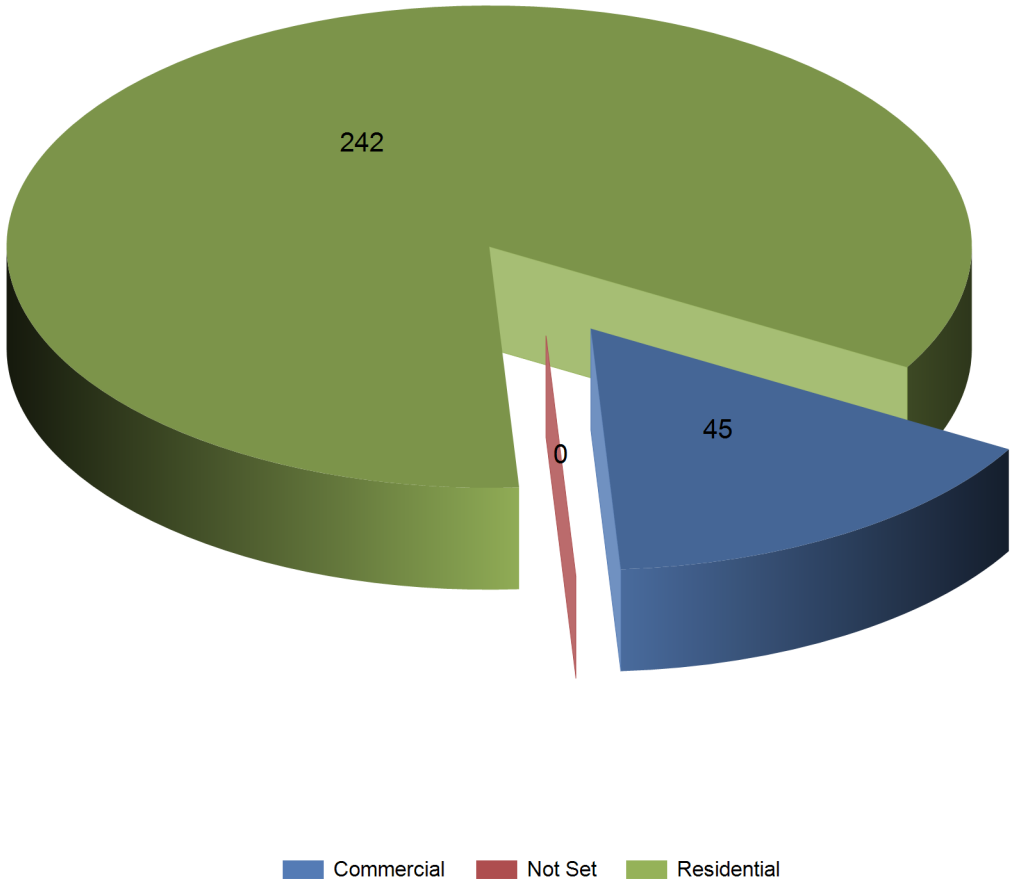
PERMITS ISSUED



GRAPH DATA

Total Commercial	327
Total Not Set	4
Total Residential	1,776
TOTAL	**2,107**

PERMITS ISSUED For Month

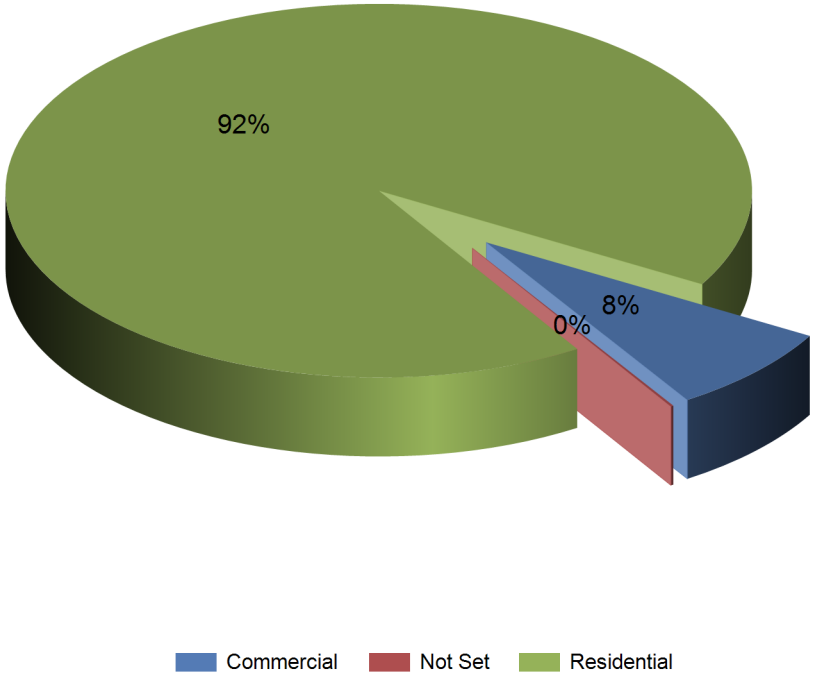


PERMITS ISSUED

GRAPH DATA

Total Commercial	45
Total Not Set	0
Total Residential	242
TOTAL	**287**

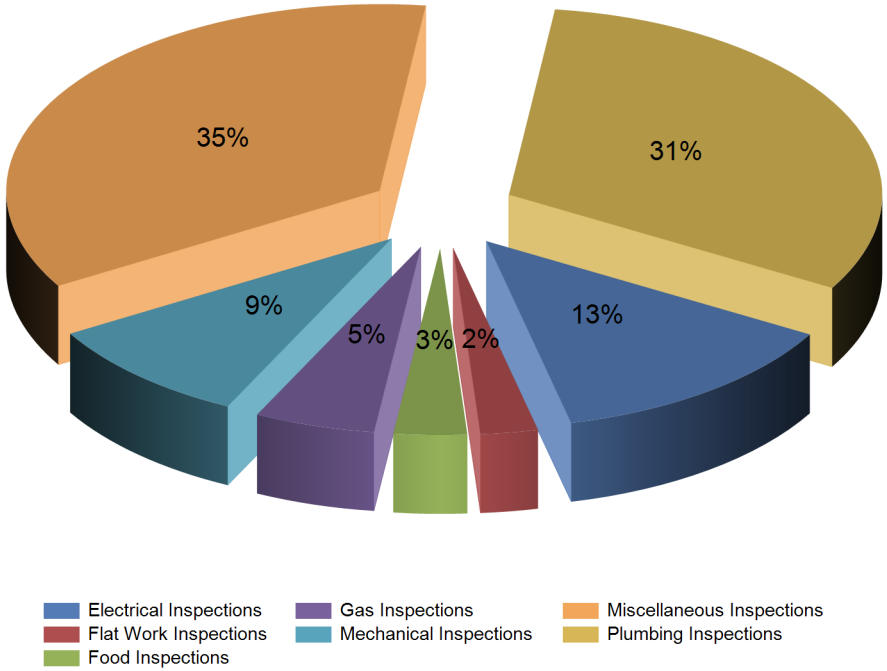
% PERMITS ISSUED (YTD)



PERMITS ISSUED GRAPH

Not Set	7	0%
Commercial	432	8%
Residential	5228	92%
Total # of Permits Issued	**5667**	

% INSPECTIONS MADE (YTD)



INSPECTIONS MADE GRAPH

Electrical Inspections	399	13%
Flat Work Inspections	76	2%
Food Inspections	97	3%
Gas Inspections	160	5%
Mechanical Inspections	284	9%
Miscellaneous Inspections	1087	35%
Plumbing Inspections	961	31%
Total # of Inspections	**3064**	

DUDEK
687 S COAST HIGHWAY 101
SUITE 110
ENCINITAS, CA 92024

MEMORANDUM

To:	Keith Merkel (Plus Power Services, LLC)
From:	Mark Storm, INCE Bd. Cert. (Dudek)
Subject:	Gambit Battery Energy Storage (Angleton, Texas) **Operational Noise Study – August 2025**
Date:	September 26, 2025

Dudek is pleased to present Plus Power Services, LLC (PPS), the following operational noise study for its Gambit Battery Energy Storage Facility (Facility) located in the City of Angleton, Texas (City). This memorandum (memo) presents quantitative results of operational sound pressure level (SPL) data measured at the Facility site from August 18, 2025 to August 23, 2025 and compares these findings with the acoustical goals articulated in the Specific Use Permit (SUP) and associated Ordinances approving the SUP. Measurement locations of this recent field survey approximated those utilized for the 24-hour outdoor background sound level survey performed from February 12-13, 2020 to quantify the pre-Facility (a.k.a., baseline) conditions. Following an executive summary below, the contents of this memorandum are as follows: Introduction and Background, Operation-Period Sound Level Surveys, Conclusion, References, and Preparer Biography.

Executive Summary

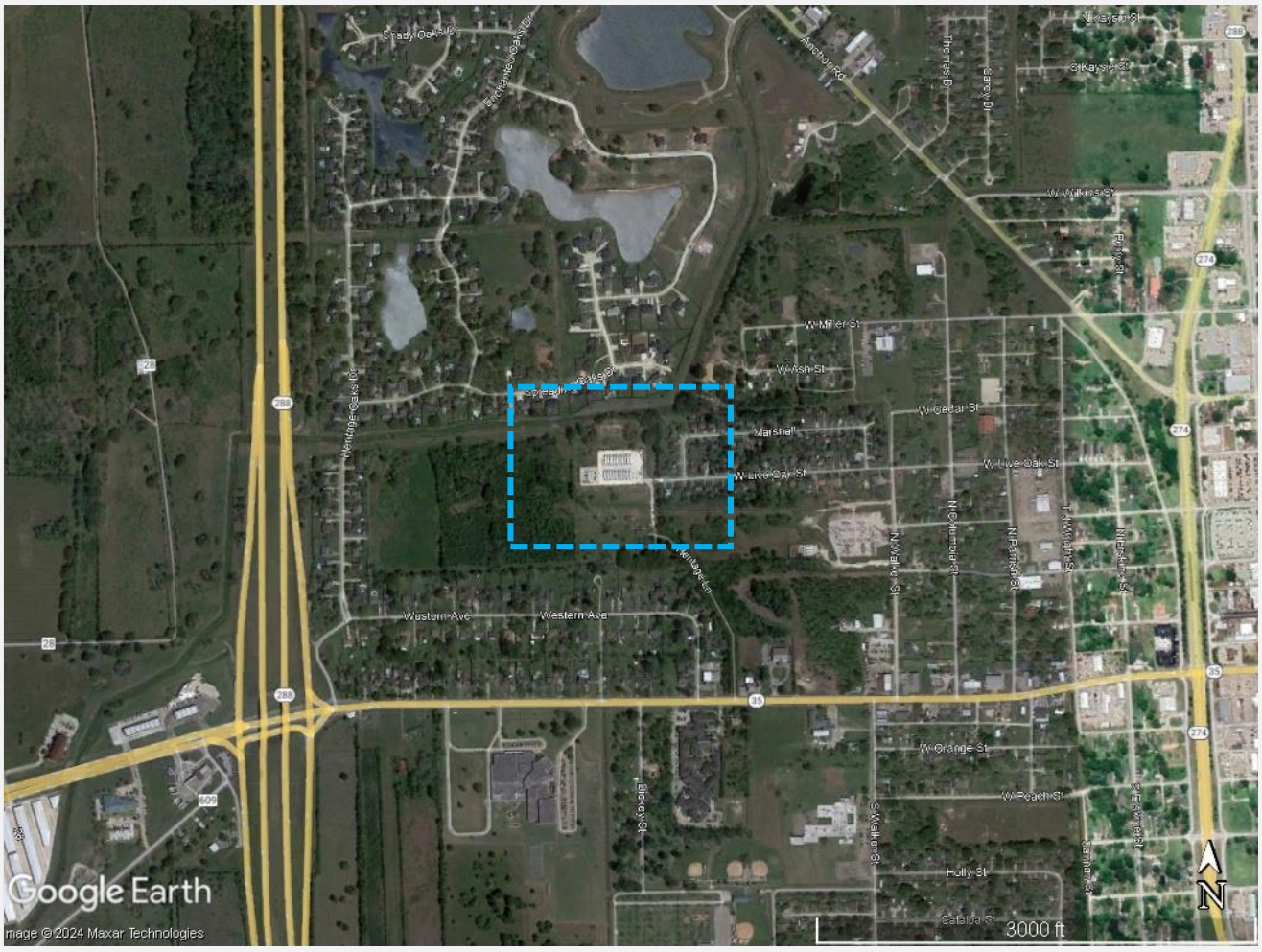
Having previously performed a baseline sound level survey of the Project vicinity in 2020 and thus prior to Facility construction, Dudek was hired to conduct a new sound level survey in response to a new requirement the City of Angleton included in an amended Specific Use Permit and corresponding Ordinance to authorize installation of a noise and visual barrier at the Facility. Dudek conducted this study, as detailed herein, to compare Facility operational sound emission to the baseline conditions established in 2020. The results of the comparison indicate that the sound emitted during Facility operations are compliant with the SUP.

1 Introduction and Background

1.1 Project Setting

As shown by Exhibit A, the Facility is located in Angleton, TX on a site at the western terminus of W. Live Oak Street, approximately a half-mile east-northeast of the Texas State Route 288 and Route 35 (W. Mulberry Street) interchange and surrounded by a mix of overhead electric transmission lines, undeveloped land, and residential land uses, such as homes to the north along Spreading Oaks Drive and to the east on W. Live Oak Street.

Exhibit A. Vicinity of Facility site (subsequent Exhibit B bounded with light blue dashes) in Angleton, TX



Sources: Google 2024

1.2 Facility Description

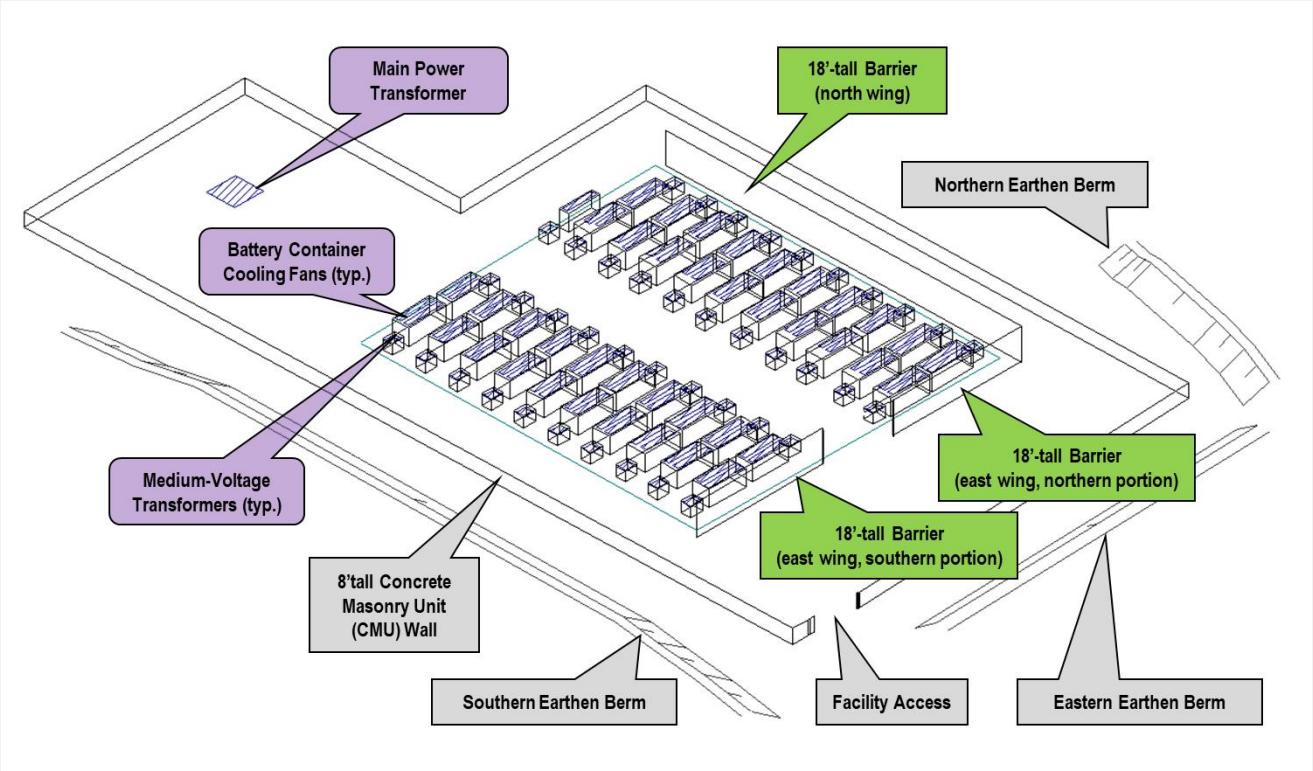
Surrounded by an 8-foot-tall perimeter CMU wall, the Facility features eighty-one (81) battery containers with cooling fans, forty-one (41) medium-voltage transformers (MVT), and an onsite Main Power Transformer (MPT) that connects to an offsite electrical substation approximately a quarter mile west on N. Walker Street. Exhibit B presents an aerial view of the site, prior to onsite erection of an 18'-tall L-shaped noise-reducing wall.

Exhibit B. Location of Facility site and adjoining existing land uses (prior to new noise barrier)

Sources: Google 2024

In early 2025, an 18'-tall L-shaped noise and visual barrier was constructed onsite. Exhibit C provides an isometric view of a three-dimensional rendering that illustrates the approximate location of the barrier installed, including the north wing and the east wing relative to other Facility features and their surroundings.

Exhibit C. Approximate locations of the L-shaped onsite barriers installed at the Facility



Sources: Dudek 2024

1.3 Acoustical Fundamentals

Although the terms may be used interchangeably in the right context, "sound" is defined as any gas or fluid pressure variation detected by the human ear, and "noise" is unwanted sound. The preferred unit for measuring sound is the decibel (dB), which by way of expressing the ratio of sound pressures to a reference value logarithmically enables a wide range of audible sound to be evaluated and discussed conveniently. On the low end of this range, zero dB is not the absence of sound energy, but instead corresponds approximately to the threshold of average healthy human hearing; and, on the upper end, 120–140 dB corresponds to an average person's threshold of pain.

The human ear is not equally responsive to all frequencies of the audible sound spectrum. An electronic filter is normally used when taking noise measurements that de-emphasizes certain frequencies in a manner that mimics the human ear's response to sound; this method is referred to as A-weighting. Sound levels expressed under the A-weighted system are often designated "dBA." All sound levels discussed in this report are A-weighted.

The equivalent continuous sound level (L_{eq}) is a single dB value which, if held constant during the specified time period, would represent the same total acoustical energy of a fluctuating noise level over that same time period. Percentile-exceed sound levels (L_{xx}) represent the sound level exceeded for a cumulative percentage of a specified period; for example, L_{90} ("L-ninety") is the sound level exceeded 90% of the time.

The L_{90} value is used herein as an industry-recognized way to help distinguish the acoustical contribution of aggregate Facility operation noise from the amalgam of sound sources (both near and far) comprising the measurable ambient environmental as detected by a sound level meter. In other words, and as stated by the Federal Highway Administration: "Where the noise emissions from a source of interest are constant (such as noise from a fan, air conditioner or pool pump) and the ambient noise level has a degree of variability (for example, due to traffic noise), the L90 descriptor may adequately describe the noise source." (FHWA 2017)

1.4 Acoustical Compliance Criteria

Condition F of the original SUP required a sound study ("baseline study") be performed "to determine the ambient noise level prior to the installation of the project." The baseline study was completed in 2020, with measured SPL at three locations (East, South, and North) collected over a concurrent 24-hour period from February 12, 2020 to February 13, 2020 that yielded energy-averaged day-night sound levels (L_{dn}) of 55.8 dBA, 58.3 dBA, and 56.6 dBA, respectively. No baseline SPL measurement was performed west of the proposed Facility site. Ordinance 20240326-005, which authorized amendment of the SUP, required that additional sound decibel monitoring be conducted at the Facility during operations, and further stipulated that operation of the Facility not exceed the baseline noise study results.

The L_{dn} values from the baseline study represent the "ambient noise level prior to installation of the project" and quantitatively define the threshold of "shall be no louder" with respect to aggregate Facility operation noise "as measured at 100 feet outside the parcel boundary and the nearest existing receptor" as required in the Specific Use Permit approved in Ordinance 20240326-005. The next section describes the operational-period sound level surveys conducted in early 2025 in response to the SUP modification.

The day-night sound level (L_{dn}) acoustical descriptor used herein is defined by the U.S. Environmental Protection Agency (EPA) as the A-weighted average sound level in decibels during a 24-hour period with a 10 dB penalty applied to nighttime (i.e., from 10:00 p.m. to 7:00 a.m.) sound levels (EPA 1974).

2 Operation-Period Sound Level Surveys

2.1 Survey Procedure

Dudek deployed three unattended sound level monitors (SLM) that collected SPL data in successive one-minute intervals over a total 120-hour duration from approximately 8:00 a.m. (Central Standard Time [CST]) on August 18, 2025 to 8:00 a.m. CST on August 23, 2025. Exhibit D illustrates the locations of these unattended SLM, which include the following: LT1 (east of the Facility), LT2 (south of the Facility), and LT4 (north of the Facility). Survey locations LT1, LT2, and LT4 were fixed SLM deployment positions for the entirety of the field survey. According to operational status data provided by PPS subsequent to the field survey, the Gambit Energy Storage Facility was operational throughout the survey period.

The deployed SLM were SoftdB "Piccolo II" models, which are American National Standards Institute (ANSI) Type 2 instruments expected to have a +/-3 dB tolerance. Each SLM was contained within a protective weather-resistant outdoor enclosure, from which the SLM wind-screened microphone could protrude to be adequately exposed to the

environment for SPL measurement. The enclosures were secured, via coated cables and padlocks, to fixed features (e.g., trees) around the Facility. All monitoring locations were approximately along or within the Facility property boundary.

Exhibit D also illustrates offsite and Facility property boundary locations representing locations where Facility noise emission levels would be evaluated from the collected measurement data and compared directly with the SUP condition. These assessment positions include as follows: 100 feet north of the property boundary (N 100') and 100 feet south of the property (S 100'). To the east, LT1 adjoins the "nearest existing receptor" and thus serves as the assessment location in that cardinal direction.

Exhibit D. Outdoor Ambient Sound Level Survey Locations

Sources: Google Earth 2025; Dudek 2025

2.2 Data Analysis

2.2.1 Methodology

Facility Noise Attribution

When active, Facility operation noise, including cooling fans, is one of many acoustical contributors to the outdoor ambient sound environment as measured by the unattended SLM deployments; and, because of the proximity of the deployed SLM around the Facility and due to steady-state operating characteristics of onsite battery container cooling systems and onsite electrical transformers (both MVT and the MPT), their aggregate noise emission can be captured with the L_{90} statistical descriptor. This is consistent with FHWA guidance as mentioned in Section 1.3.

However, non-Facility or "background" sound that was part of the measurable and audible outdoor ambient sound environment during the multi-day field survey included an amalgam of nearby and distant natural sound sources that were consistent with summer seasonal conditions, such as insect song. Such insect song and other natural sources are classified by American National Standard (ANS) S3/SC1.100 as "high-frequency natural sounds" (HFNS) and "contain significant spectral energy above the 1 kHz octave band, such as sounds produced by many insect, frog, and bird species" (ANSI 2014). Consistent with relevant content from ANS S3/SC1.100, a filter was thus applied to the one-minute interval collected data, after which "ANS L_{90}" values were calculated based upon the decibel difference between the measured L_{eq} and the measured L_{90} values. These ANS L_{90} values were then used as the basis to derive hourly and corresponding 24-hour L_{dn} values, the latter of which can be directly compared with the aforementioned SUP criteria in Section 1.4.

Compliance Assessment

Due to encountered site conditions surrounding the Facility, unattended SLM deployment positions on Project property were the closest that could be safely accessed for data collection. Hence, in order to quantify the Facility noise emission levels at positions more consistent with the SUP, which requires a location 100 feet from the parcel boundary and in cardinal directions corresponding with the nearest existing receptor(s), the sound levels at a "North Assessment Position" (appearing as "N 100'" in Exhibit D) and "South Assessment Position" (appearing as "S 100'" in Exhibit D) were extrapolated from the ANS L_{90} data by applying a decibel (dB) adjustment. This dB adjustment was calculated from the combined noise-reducing effects of geometric divergence (i.e., the Facility operation sound attenuates with increasing distance as it travels farther from the surveyed positions), atmospheric absorption, and ground surface acoustical absorption as predicted with Datakustik CadnaA (a commercially available outdoor sound propagation prediction model, based on International Organization of Standardization [ISO] 9613-2 2024 algorithms and relevant reference data) for the Facility operating at effectively full capacity. The extrapolated sound level at location S 100' should be 2.3 dB less than the ANS L_{90} at LT2; and the extrapolated sound level at N 100' should be 1.7 dB less than the ANS L_{90} at LT4. The ANS L_{90} at LT1, being co-located at the assessment position, would not be adjusted by decibel extrapolation.

2.2.2 Results Presentation

Table 1 summarizes the 24-hour L_{dn} values calculated from hourly ANS L_{90} at each of three indicated assessment positions as appearing in Exhibit D. The first four 24-hour survey periods shown are sequential, with the fifth period having an earlier starting time due to the availability of data collected. The term "starting hour" refers to the

beginning of the 24-hour period; for example, a 10:00 a.m. starting hour means the collected data within that 24-hour period representing 10:00 a.m. to 10:00 a.m. on the following day.

Table 1. August 18-23, 2025 Unattended SPL Monitoring of Facility Operations

Date (mm/dd/yyyy) and Starting Hour (hh:mm, CST) of 24-hour Period	East Assessment Position (LT1) (L_{dn}, dBA)	South Assessment Position (S 100') (L_{dn}, dBA)	North Assessment Position (N 100') (L_{dn}, dBA)
08/18/2025, 10:00 a.m.	54.2	53.9	50.5
08/19/2025, 10:00 a.m.	n/a[1]	56.9	54.1
08/20/2025, 10:00 a.m.	55.4	56.2	54.2
08/21/2025, 10:00 a.m.	53.4	55.9	53.8
08/22/2025, 7:00 a.m.	n/a[2]	54.3	53.7
SUP threshold (L_{dn} Limit)*	55.8	58.3	56.6
Compliance for all survey periods?	*yes*	*yes*	*yes*

Source: Dudek 2025.
Notes: L_{dn} = 24-hour day-night sound level; dBA = A-weighted decibel; SUP = specific use permit; CST = central standard time; n/a = not available; LT = long-term; S = south; N = north.
[1] data collection was interrupted during this period, resulting in less than full 24 hours.
[2] data collection included apparent extraneous multi-hour duration sound unrelated to Facility operation during this period.
* As established by 24-hour background sound level monitoring in February 12-13, 2020 prior to Facility installation. No monitoring was performed west of the proposed Facility site in 2020.

3 Conclusion

The SUP states that the noise emitted from the Facility shall be no louder at "100 feet outside of the parcel boundary and the nearest existing receptor." As shown in Table 1, 24-hour L_{dn} values based on measurement data collected during the monitoring period in August 2025 are below the SUP thresholds and therefore compliant with the SUP and corresponding Ordinance.

4 References

American National Standards Institute (ANSI). 2014. ANSI/ASA S3/SC1.100-2014/ANSI/ASA S12.100-2014. Methods to Define and Measure the Residual Sound in Protected Natural and Quiet Residential Areas. Accessed September 14 at https://webstore.ansi.org/preview-pages/ASA/preview_ANSI+ASA+S3+SC1.100-2014+ANSI+ASA+S12.100-2014.pdf

Federal Highway Administration (FHWA). 2017. Sound Level Descriptors. FHWA-HEP-17-053. Updated May 26th. Accessed August 25, 2022 at https://www.fhwa.dot.gov/Environment/noise/resources/sound_descr.cfm

U.S. Environmental Protection Agency (EPA). 1974. Information On Levels Of Environmental Noise Requisite To Protect Public Health and Welfare With An Adequate Margin Of Safety. Office of Noise Abatement and Control. March. Accessed March 17, 2025 at https://nepis.epa.gov.

5 Preparer Biography

This technical memo has been prepared by Mark Storm, an Institute of Noise Control Engineering (INCE) Board Certified member and the Acoustic Services Manager within the Environmental Technical Group at Dudek. Prior to joining Dudek in 2018, Mr. Storm was a senior acoustician with URS Corporation (acquired by AECOM in 2016) for twelve years after a decade that included noise control and sound abatement design leadership roles with HVAC and sound attenuation product manufacturers. He currently leads a team of full-time acousticians, including those who have contributed to the preparation of content (e.g., field-collected SPL data) presented herein.

Dudek trusts that the results and findings presented in this technical memo meet your needs for the Facility at this time. Should you have any questions or would like to discuss the data and findings herein, please do not hesitate to contact Mr. Storm at the contact information below.

Sincerely,

Mark Storm, INCE Bd. Cert.
Acoustic Services Manager
760-479-4297
mstorm@dudek.com

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HUMAN RESOURCES

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Colleen Martin

Human Resources Department Report-October 2025

- HR is currently developing a Title II plan to meet the requirements of TXDOT.

- **Currently, recruiting for**
    - 5 Police Officers
    - 1 PT Receptionist
    - 1 Telecommunicator-To Start January
    - Contracted Bus Drivers-PT-Rec-As Needed
    - Lifeguards
    - Front Desk Clerks-Rec

Staff Numbers are in the chart below as of 09/30/2025.

Frozen Vacancies
1 Tourism Asst
1 Court Clerk
1 HR Coordinator
1 PT Dev Services Clerk
2 Parks Crew
1 AD Parks and Rec

- September Headcount 176.5
- Average Headcount Fiscal Year to Date 185
- Average Turnover for September 3.3%
- Average Turnover Fiscal Year to Date 42.59%

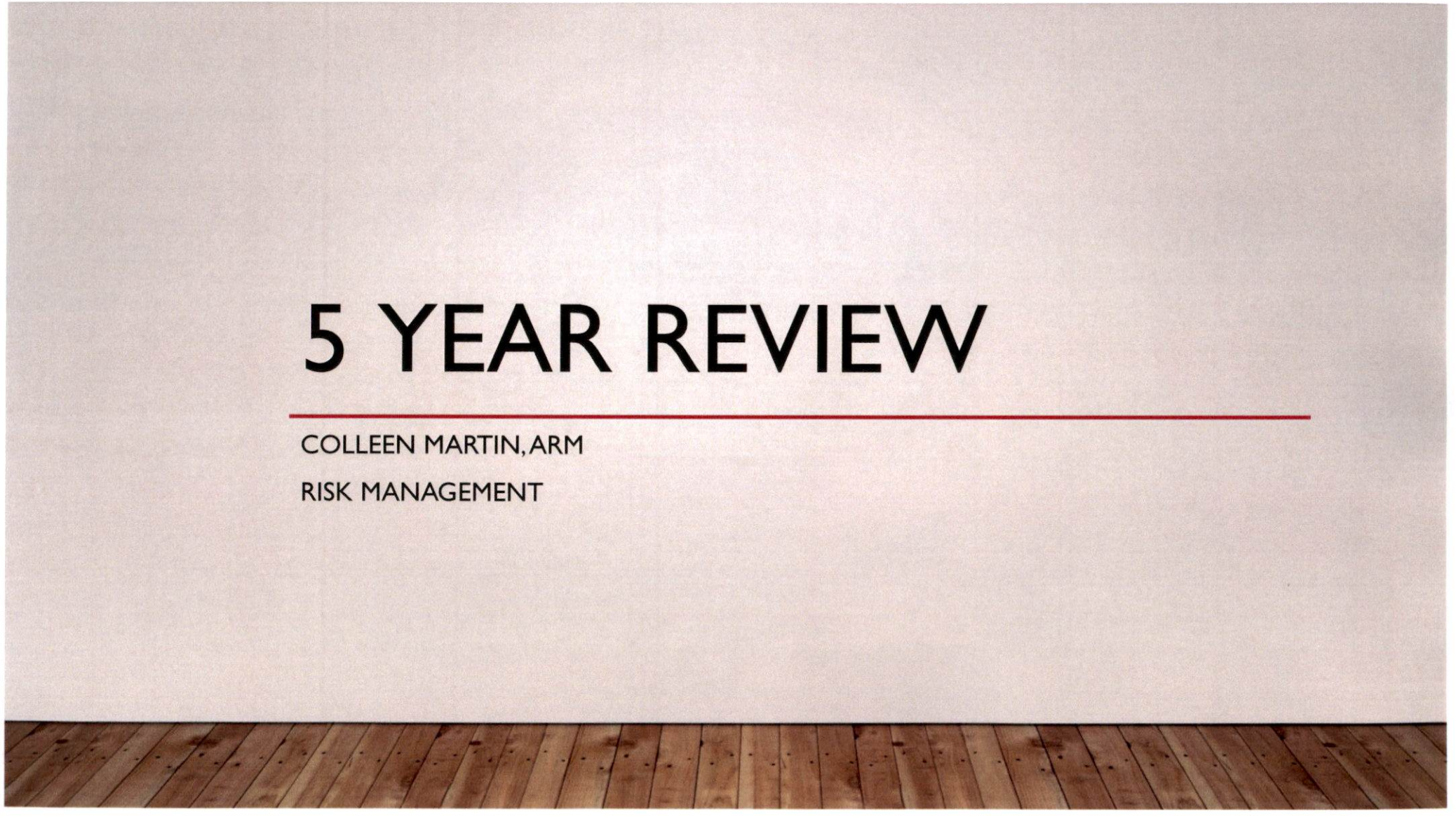
FTE Count	FY23	FY24	FY25	Notes
City Mgr.	1	1	0	Acting City Manager
Animal Control	4	4	4	
City Sec	2	2	2	
Communications	2	2	1	
Courts	4	3	3	
Dev Svcs.	7	8	7	
Emer Mgmt.	2	3	1	
Finance	4	4	4	
Fire	7	6	4	Recruiting for 1 FF
HR	2	2	1	
IT	3	3	3	
Parks	17	19	16	
Police	30	34	32	Recruited 1, starts 9/29
Police Non-Uniformed	14	14	13	
Public Works	32	31	39	
Rec Center	8	8	8	
Utility Collections	6	5	5	
Part-Time Staff	25	25	37	
Total	**170**	**174**	**180**	

Part-Time Staff	
Lifeguards	22
Desk Clerks	9
Animal Control Tech	1
IT Assistant	1
Rec Facility Assistants	5

Fiscal Year-End Labor Numbers

- Labor Cost FY25 $13.2m
- Labor Hours FY25 283.2k
- Overtime Costs $393.8k
- OT% of Labor Cost 3%

See attached Risk Management Report.


5 YEAR REVIEW
COLLEEN MARTIN, ARM
RISK MANAGEMENT

EXECUTIVE SUMMARY

- Overview of total claims from 2020 to 2025
- Key trends in claim frequency and severity
- Departments with the highest exposure
- Notable improvements and emerging risks

Year-over-Year Claims Overview

Year	Total Claims	Total Incurred ($)	Avg. Claim Cost ($)	Highest Claim Type
2020	13	$230,000+	~$17,700	Auto Property
2021	20	~$90,000	~$4,500	General Liability
2022	18	~$78,000	~$4,300	General Liability
2023	32	~$110,000	~$3,400	Auto Property
2024	38	~$160,000	~$4,200	Auto Liability
2025 (YTD)	18	~$45,000	~$2,500	Auto Property

Claims by Category

Category	Total Claims	Total Incurred ($)	% of Total
Auto Liability	25+	~$250,000+	30%
Auto Property	40+	~$200,000+	25%
General Liability	20+	~$100,000+	15%
Property	15+	~$100,000+	15%
Workers' Compensation	40+	~$80,000+	15%

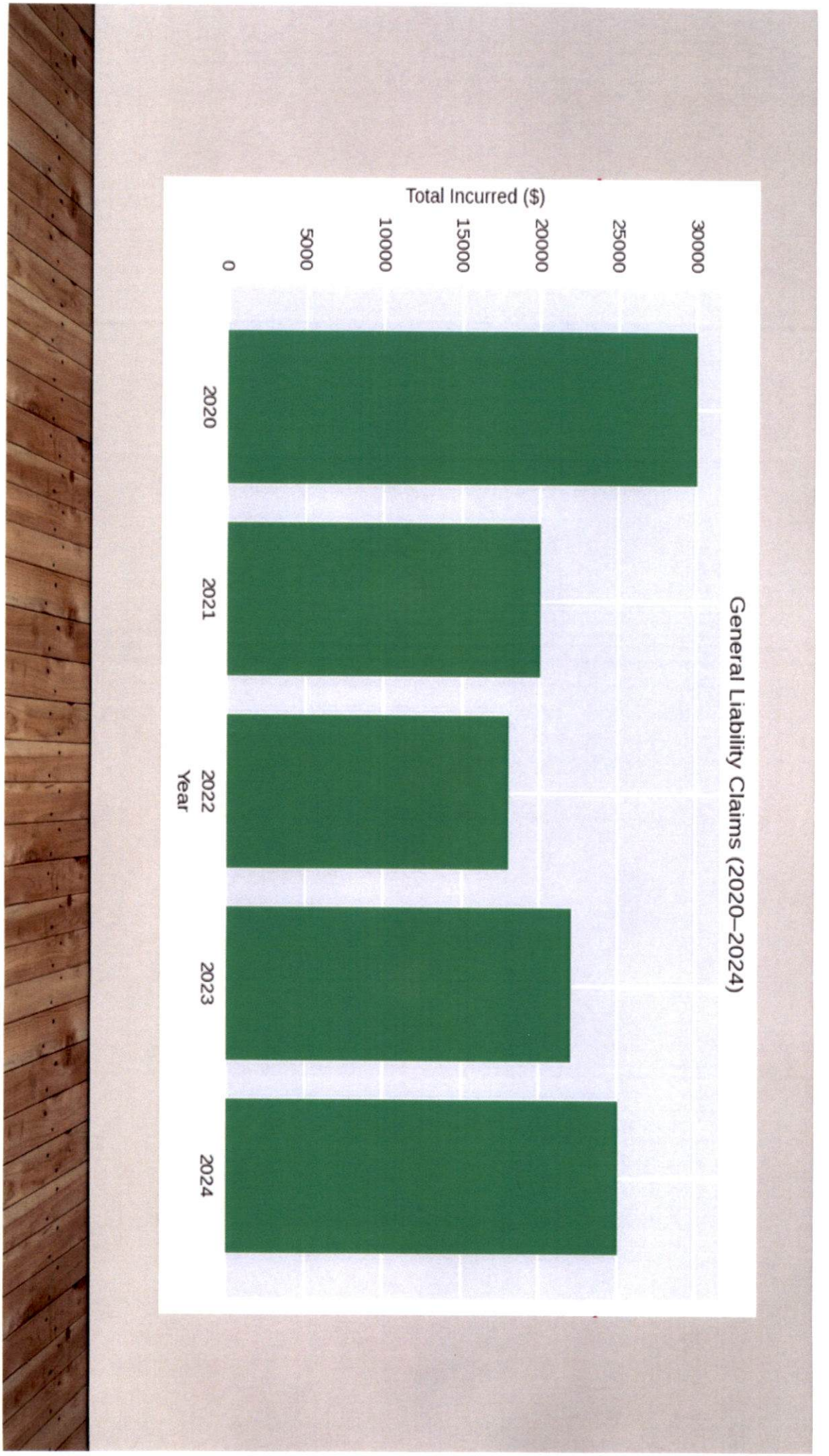
Departmental Exposure

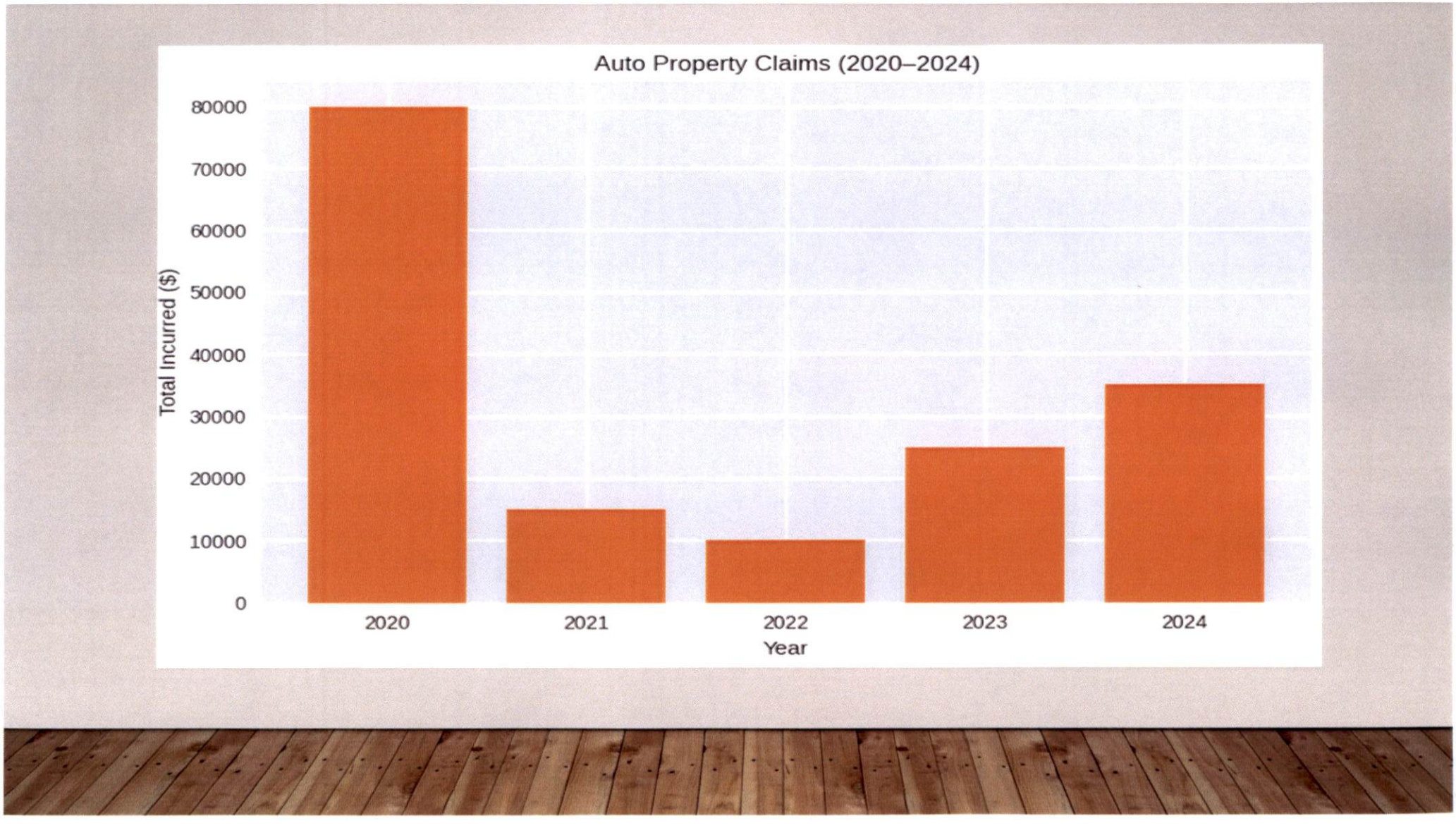
Department	# Claims	High-Risk Incidents
Police	40+	Vehicle collisions, physical altercations, and exposures
Public Works & Utilities	30+	Equipment damage, vehicle accidents, infrastructure
Parks & Recreation	20+	Mower accidents, slips, vehicle damage
Fire/EMS	10+	Heat exhaustion, lifting injuries
Water & Wastewater	10+	Pipe damage, exposure incidents

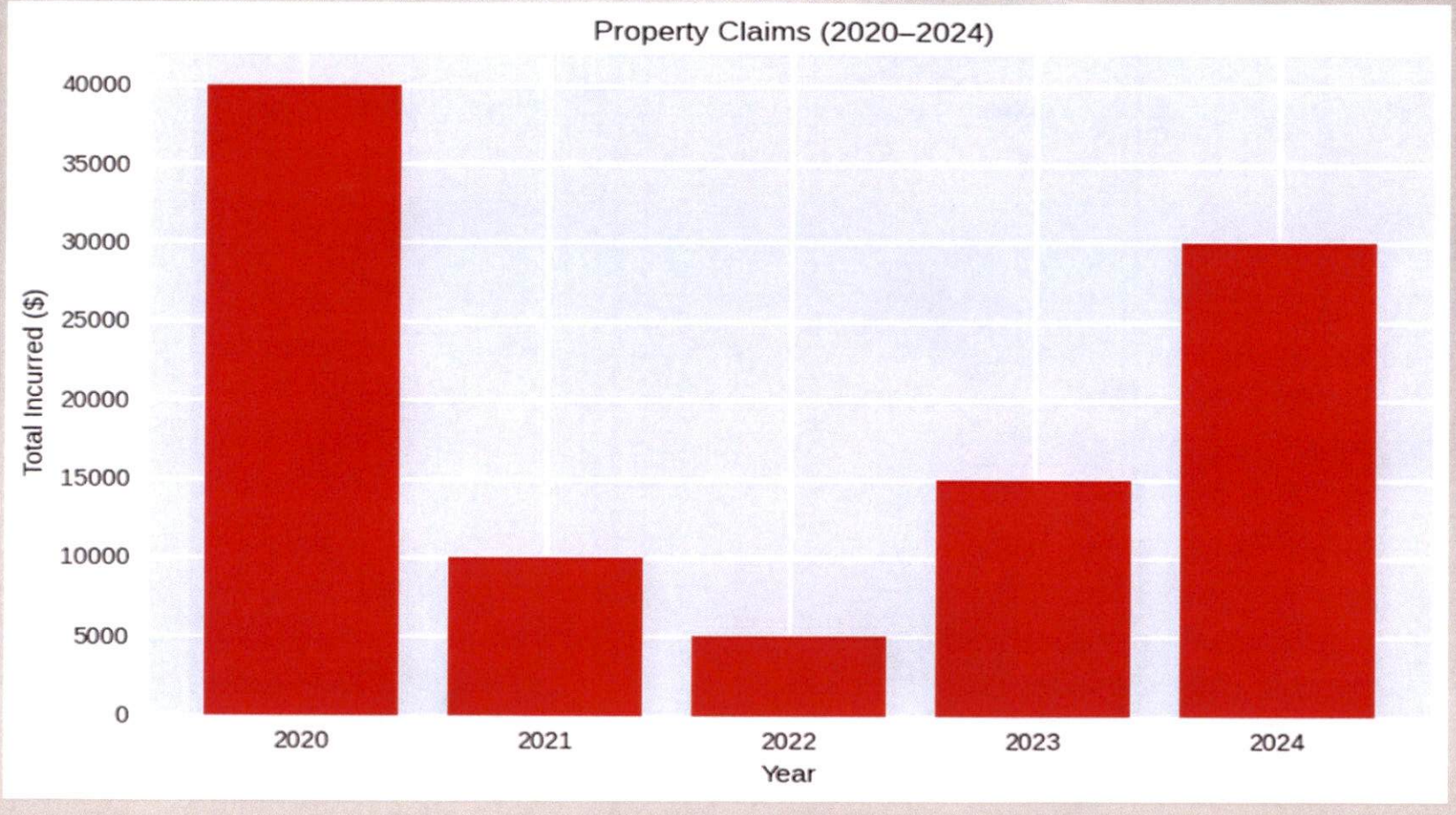
Coverage Comparison Highlights

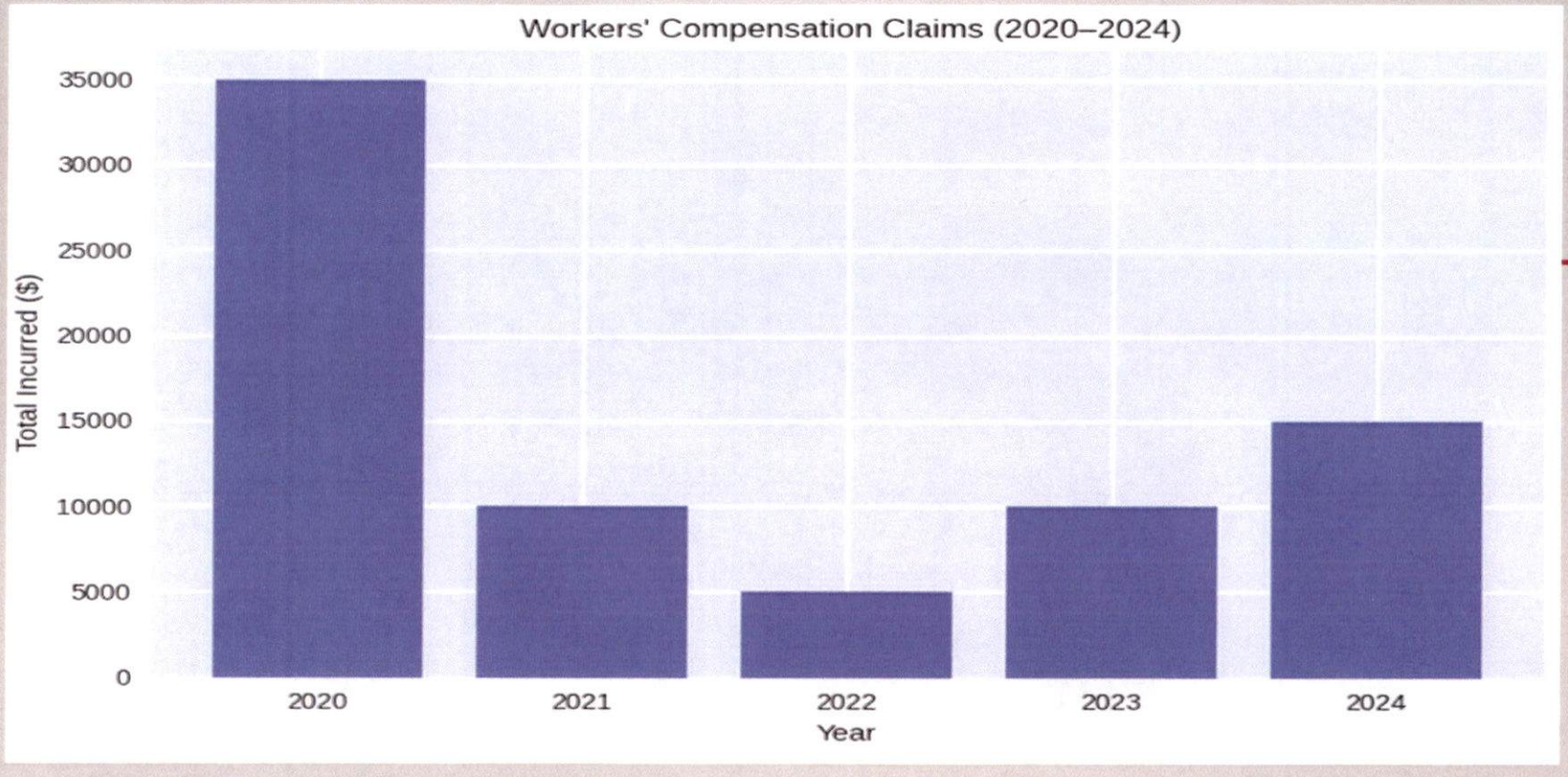
- **Auto Property**: High in 2020, then fluctuates — may reflect aging fleet or improved controls.
- **General Liability**: Relatively stable — indicates consistent public interaction risks.
- **Property**: Spike in 2024 — likely due to storm or weather-related events.
- **Workers' Compensation**: Declined after 2020, then gradually increased — possibly tied to staffing or safety training.

Auto Liability Claims (2020–2024)
Total Incurred ($)
0
10000
20000
30000
40000
50000
60000
70000
2020
2021
2022
2023
2024
Year


General Liability Claims (2020–2024)
Total Incurred ($)
0
5000
10000
15000
20000
25000
30000
2020
2021
2022
2023
2024
Year


Auto Property Claims (2020–2024)
Total Incurred ($)
80000
70000
60000
50000
40000
30000
20000
10000
0
2020
2021
2022
2023
2024
Year


Property Claims (2020–2024)
Total Incurred ($)
40000
35000
30000
25000
20000
15000
10000
5000
0
2020
2021
2022
2023
2024
Year



Position of Safety Coordinator was Added in March 2023

Trends & Insights

- 📉 **Decrease in high-cost claims** in 2025 compared to 2020
- 🚙 **Auto-related incidents** remain the most frequent and costly
- 👮 **Police and Public Works** departments consistently show highest exposure
- 🌩️ **Weather-related claims** (hail, lightning, wind) are increasing
- 🧍 **Workers' Comp claims** show a rise in exposure-related injuries

Recommendations

- **Driver Safety Training**: Targeted for Police and Public Works
- **Equipment Maintenance Protocols**: Reduce property and auto damage
- **Incident Reporting & Review**: Improve documentation and use root cause analysis
- **Weather Preparedness**: Storm protocols for facilities and vehicles
- **Ergonomic & Safety Training**: Reduce strain and slip injuries

MUNICIPAL COURT

CITY OF ANGLETON, TEXAS
MUNICIPAL COURT
SEPTEMBER, 2025 REPORT

ACTIVITY	TOTAL	YTD
Transition to a paperless environment	80%	80%
Number of Citations filed		
Police Department	citations 419- warnings 509 = 928	6,722
Code Enforcement	7	72
Animal Control	1	12
Municipal Court	15	320
School Officer	0	0
Warrants		
Warrants oustanding	789	4,666
Warrants issued	20	1,194
Warrants cleared	124	1,262
Dissmissals		
Compliance Dismissals	44	288
Deferred/DSC Dismissals	70	758
Other		
New cases filed	427	2,535
Fees		
Omni Base State Fee	$ 252.00	$ 2,770.17
Child Safety Fee	$ 1,623.00	$ 6,670.64
State Criminal Costs and Fees	$ 30,689.50	$ 211,978.67
Amount collected by collection agency	$ 3,295.66	$ 37,930.11

September 2025

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	WEEK TOTAL
31	1	2	3	4	5	6	
		50	20	15	11		96
		82	9	12	17		120
7	8	9	10	11	12	13	
	35	14	8	11	22		90
	33	7	8	15	13		76
14	15	16	17	18	19	20	
	71	13	4	4	19		111
	51	16	7	13	9		96
21	22	23	24	25	26	27	
	81	4	17	10	20		132
	31	8	23	15	12		89
28	29	30	1	2	3	4	
	68	12					80
	38	9					47
5	6	*Notes*					MONTH TOTAL
		WARNINGS					509
		CITATIONS					428

PARKS & RECREATION

Parks & Recreation Monthly Report

Parks - Fund 01-550

1. **Roof Repairs (FEMA):** Material has been ordered for Freedom Park roof repair. Working with the contractor on an update quote to complete work on Bates roof. Tentative project completions; November.
2. **BG Peck Field 10 & 11 Lights**: Completed
3. **BG Peck Frontage Fence:** New project to replace the rusted fence on the south side of BG Peck Soccer Complex. Plan to complete by the end of Dec. Wire has been ordered.
4. **Facility Maintenance:** Staff are continuing the transition of general facility maintenance to the Parks Maintenance team. Efforts include redefining roles, streamlining work order processes, reviewing budget allocations, and identifying ways to improve service and support across all City departments.
5. **ARC Repairs:** Maintenance completed in office suite, new paint and tile floors address water/mold damage. Finalizing carpet and painting in front offices.

Angleton Recreation Center - Fund 60

1. **Staffing:** Numerous staff onboarding to fill Member Services Assistant, Facility Assistant and Front Desk positions. Continuing to actively recruit for lifeguards, class held in Sept.
2. **HVAC Repairs:** Annual preventative maintenance performed on all ARC units. Staff are waiting quotes to address maintenance items found during PM service.
3. **Fire Panel Repairs:** Summit completed necessary repairs to get the Fire panel back online and fully operational.
4. **Window Seals (FEMA):** Window seals completed in September.
5. **Programs and Promotions:**
    a. Private swim lessons now available.
    b. October - $5 Thursday Day Passes

Recreation - Fund 50

1. **Marketing and Communication**
    - The digital playbook is available online. (Playbook Link) for Fall & Winter Parks & Recreation Programs and Events
    - Angleton Parks & Rec hosted a booth at the Sept 19th Concert in the Park to promote fall/winter programs and events. Staff gave away bracelets, stickers, and lightup gear.
2. **Camps and Rec Programs**
    - Adaptive Basketball took place on September 9 with 1 participant and on September 23 with 8 participants. A new session will be held in October.
    - A public CPR, First Aid, & AED class was held on September 24 with 12 registered participants.
    - Mini Athletes: Little Kickers six-week program began on September 24. Due to a waitlist, staff added a second session to accommodate additional registrants.
        i. Session I | 4:30 PM - 5:15 PM | 10 registered participants
        ii. Session II | 5:30 PM - 6:15 PM | 15 registered participants | 9 on waitlist
3. **Senior Programs**

- Houston Underground Tunnel Tour - September 10
  i. **Bus 1:** 24 participants | **Van 1:** 11 participants | **Waitlist:** 11
- Baybrook Mall in Friendswood - September 24. The Old Town Spring Trip had to be altered due to cancellation for construction. **Bus 1:** 22 participants
- Lunch Bunch
  i. Sept. 12 | T-Bone Tom's (Waitlist from previous month) | **Van 1:** 8 participants
  ii. Sept. 19 | Great Greek Mediterranean Grill in Friendswood | **Bus 1:** 15 participants
- September Lunch & Learn with IPH | 12 participants
- Silver Hearts Monthly Drop in Program Totals:
  i. Bingo 131 participants | Bean Bag Baseball 30 participants | Chair Volleyball 20 participants | Monthly Potluck had 20 participants

4. **Events**
   - Rec Division is currently planning upcoming events for the Fall & Winter season, including the Fall Movie Series at the ARC, the Not-So-Scary Haunted House, and the annual Jingle Bell Fun Run & 5K/10K.

Parkland Dedication - FUND 96

1. **Bates Park Pickleball Courts:** Completed. Staff are working on improving road accessibility. 10/3 material has been delivered scheduling twitch PW to spread.
2. **Downing Tennis Courts:** - Project complete. Update signage to be installed mid-October
3. **New Abigail Park Parcel:** Removal of foundation, garage, and scrap metal planned for December/January.
4. **Angleton Park Place Fees:** Payment of $47,150 has been received.
5. **Ashland Fees:** Staff are working with Development Services to determine anticipated payments dates for the current phase of Ashland Development. (Total Project $1.9 million)

Angleton Better Living Corporation - FUND 40

1. **2024 ABLC Bond:** Funds $4M
   - Abigail Arias Park
     - Current Status: 100% review of Design Development complete. Staff are working on corporate sponsor packages and building target sponsor lists. Staff to provide a comprehensive update at the Oct. 28th Council Meeting.
     - Next Milestone: 60% Construction Documents due from Burditt 10/14/25
   - BG Peck Soccer Complex Grading:
     - Current Status: HDR has completed design documents. Design and OPC present to ABLC in September. Staff have contacted Joe Morrow to discuss ABLC debt capacity, per ABLC's request.
     - Next Milestone: Determine funding to support the project. TDB
   - Freedom Park Improvements:
     - Current Status: 90% Construction Documents complete. The Parks Director met with AISD Superintendent for potential partnership. Burditt has engaged in the permitting process.
     - Next Milestone: Confirm ASID involvement. Finalize 100% Construction Documents.
   - Texian Trail Drainage:

        - Current Status: Public Works continues to work with the contractor on this project. City has been navigating several project delays and has granted an extension on this project through October.
        - Next Milestone: Anticipated completion Oct. 31st
    - Angleton Recreation Center:
        - Current projects
            - Natatorium small play feature installation: Nov/Dec 2025
                - Staff to meet with Vortex in Oct. to finalize the install schedule.
            - Pool plaster/tiles, decking, and facility painting; Nov/Dec 2025
                - Waiting on final vendor quotes.
            - ARC Sign: December 2025
            - Multipurpose Room Renovations: Early 2026
            - Facility flooring, Hot Water Boiler, HVAC BAS System Upgrade, Facility Lighting, Party Pad Shade Cover: 2026
            - Exhaust fans and garage door replacement: TBD
            - Bathroom & Locker Room Improvements: TBD
2. **FREEDOM PARK PASSIVE AREA:** Project on hold until funding is secured to continue.
3. **BATES PARK FIELD #6:** Staff have engaged in conversation with Paragon Sports to itemize scope of work and breakdown of independent contractor work. Presenting update to ABLC at the Oct. 20th ABLC meeting.

Keep Angleton Beautiful - FUND 13

1. **KEEP TEXAS BEAUTIFUL:** Staff met with TxDOT to discuss potential projects with GCAA funds. The PArks Director is creating a task force to brainstorm and determine project
2. **BOX WRAPS:** Solicitation for new artwork will run through October 22d. KAB plans installations at B288 & Henderson Rd, Hwy 35 & Hospital Dr, and Hwy 35 & S Walker St.

GRANTS

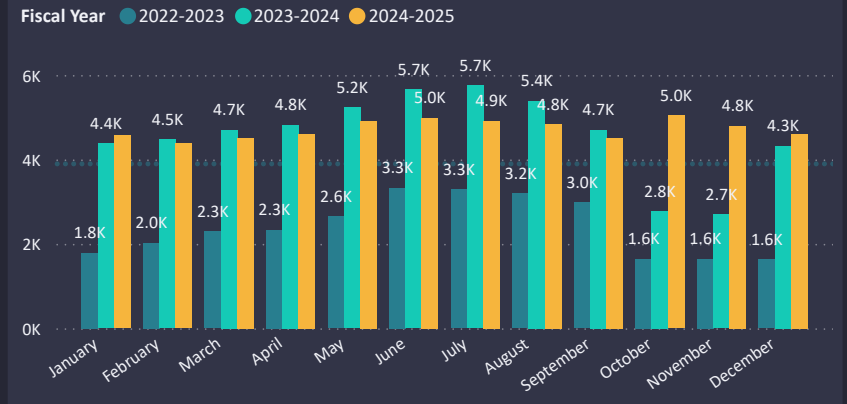
1. **TPWD Non-Urban Outdoor Grant** - Abigail Arias Park (50/50 match funded by 2024 ABLC Bond): Director has submitted necessary progress reports as project moves through design development.
2. **TPWD Non-Urban Indoor Grant** - Angleton Recreation Center (50/50 match funded by 2024 ABLC Bond): Director has submitted progress report and will provide necessary renovation plans for the Angleton Recreation Center as projects are approved.
3. **HGAC Solid Waste Grant**: The Parks Director is working on the applications for FY26-27 Solid Waste Grant to submit by the October 14th deadline.

THE HEART OF BRAZORIA COUNTY
ANGLETON

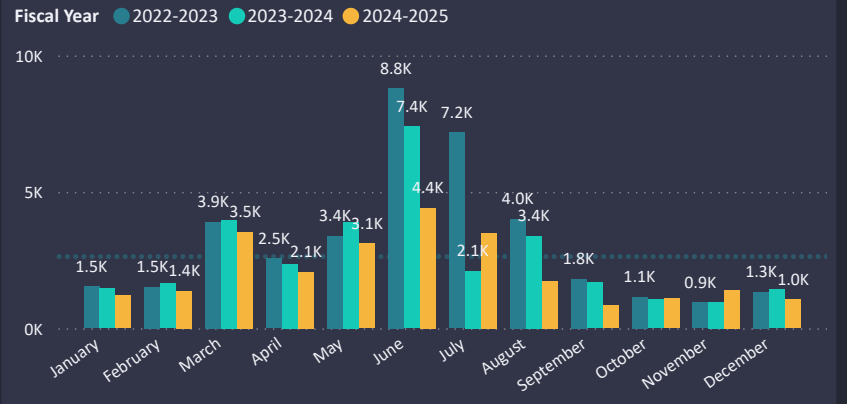
ARC Membership & Day Pass Performance

Select Fiscal Year
- [ ] 2022-2023
- [ ] 2023-2024

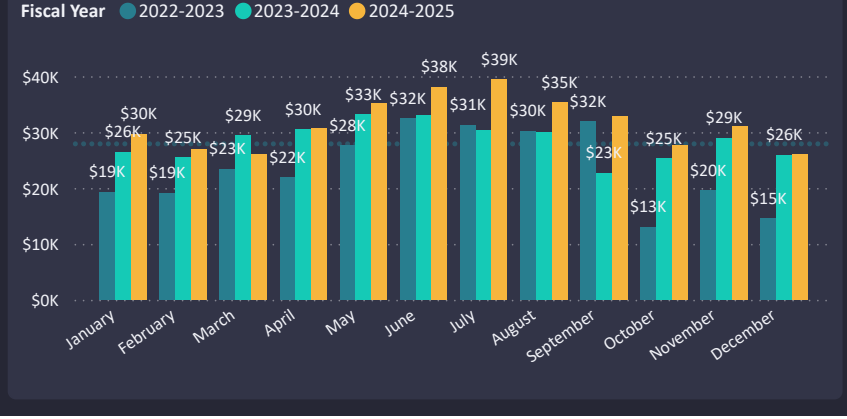
Membership Sales QTY by Month



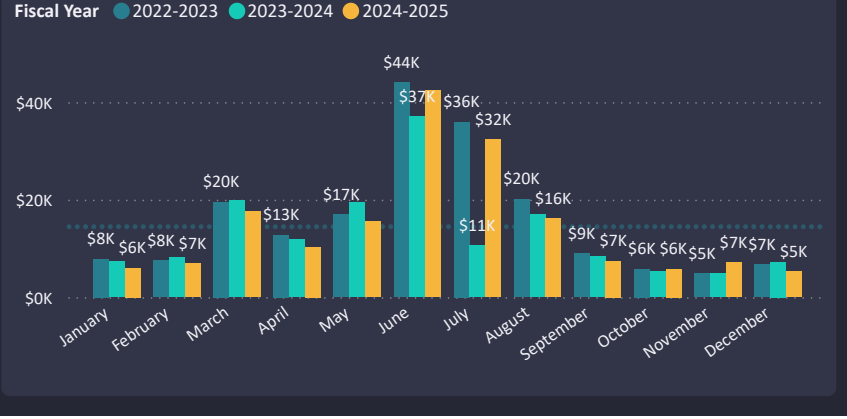
Day Pass Sales QTY by Month



Total Membership Revenue by Month



Day Pass Revenue by Month



THE HEART OF BRAZORIA COUNTY
ANGLETON

ARC Membership & Day Pass Performance

Select Fiscal Year
- [ ] 2022-2023
- [ ] 2023-2024

Month	2022-2023	2023-2024	2024-2025
January	$19,264	$26,422	$29,666
February	$19,130	$25,417	$26,882
March	$23,366.5	$29,385	$26,099
April	$21,872.5	$30,497	$30,678
May	$27,567	$33,180	$35,220.5
June	$32,421.5	$32,970	$38,085.5
July	$31,298	$30,383	$39,409.08
August	$30,217.5	$30,055	$35,283
September	$31,848	$22,661	$32,785
October	$13,023	$25,251.5	$27,679
November	$19,560.5	$28,968.36	$31,066
Total	**$284,132.5**	**$341,073.86**	**$378,942.08**

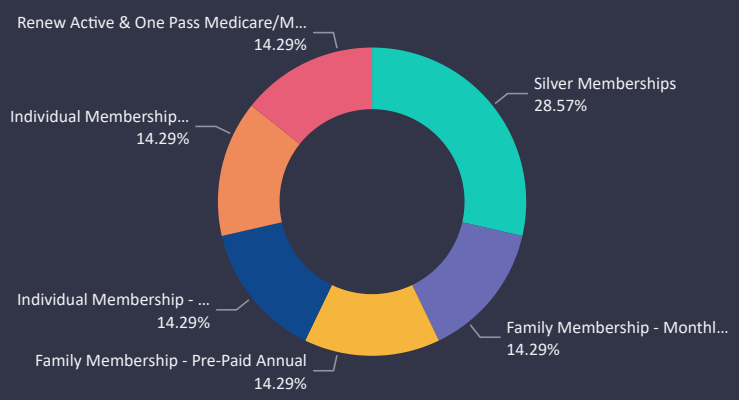
Month	2022-2023	2023-2024	2024-2025
January	$7,810	$7,310	$5,970
February	$7,555	$8,190	$6,855
March	$19,534	$19,880	$17,625
April	$12,770	$11,805	$10,293
May	$16,890	$19,465	$15,505
June	$43,976	$36,985	$42,385
July	$35,890	$10,525	$32,315
August	$20,080	$16,930	$16,115
September	$8,985	$8,380	$7,395
October	$5,780	$5,305	$5,795
November	$4,790	$4,850	$7,040
Total	**$190,805**	**$156,810**	**$172,538**

THE HEART OF BRAZORIA COUNTY
ANGLETON

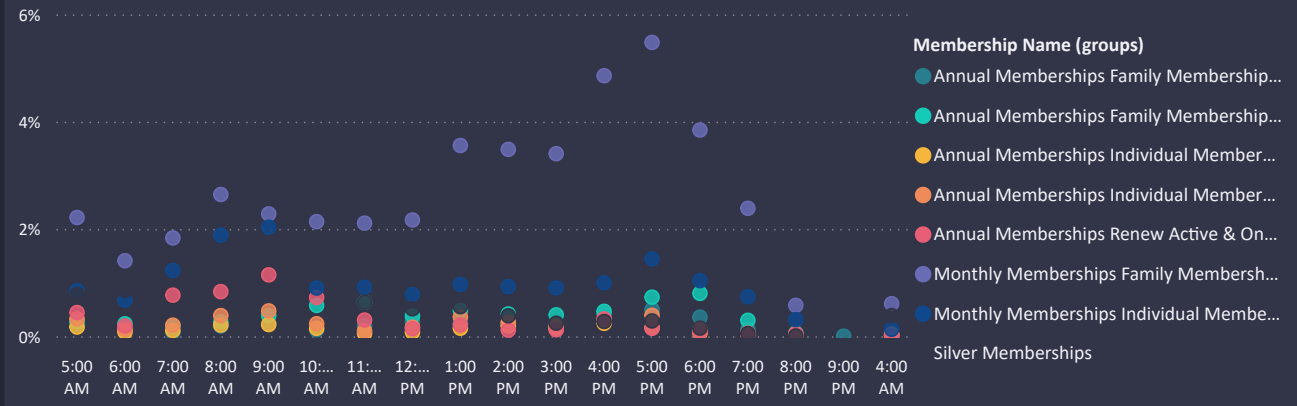
ARC Attendance

Select Fiscal Year
☐ 2024-2025

Distribution of Membership Account Types



ARC Membership Check-Ins by Time of Day



Membership Sales Info.

1476
Total Households

7673
Transaction QTY.

$378,942...
Total FY Revenue

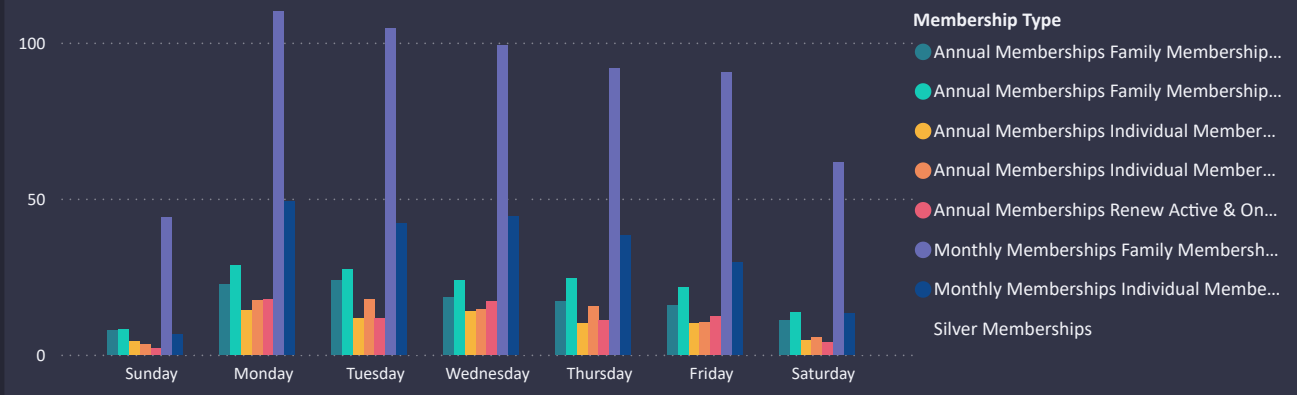
Membership Usage Info.

68455
Total Member Visits

3904
Unique Member Visits

17.53
Average Visits per Individual

ARC Average Membership Check-Ins by Day of the Week

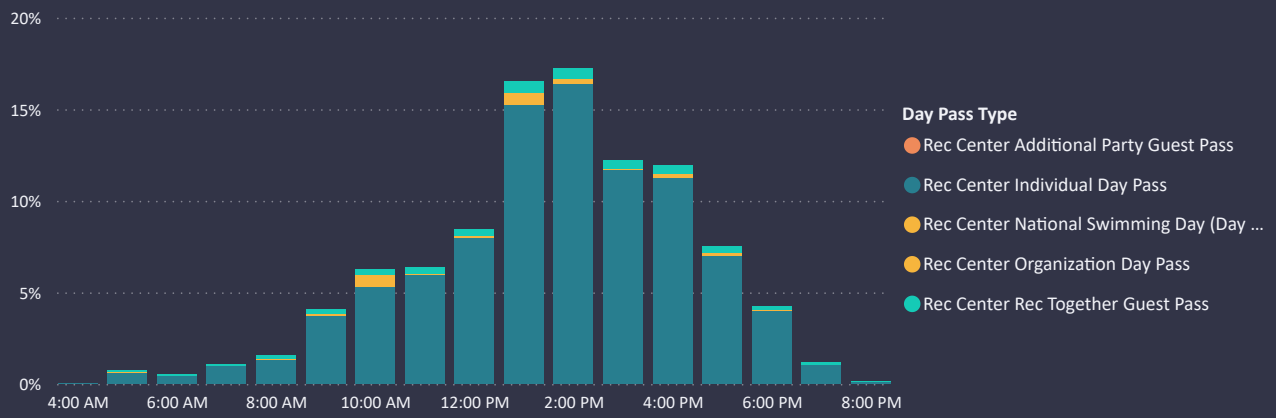


THE HEART OF BRAZORIA COUNTY
ANGLETON

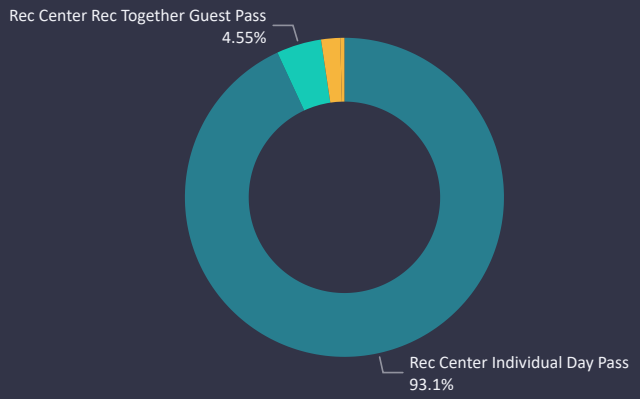
ARC Day Pass Sales

Select Fiscal Year
☐ 2024-2025

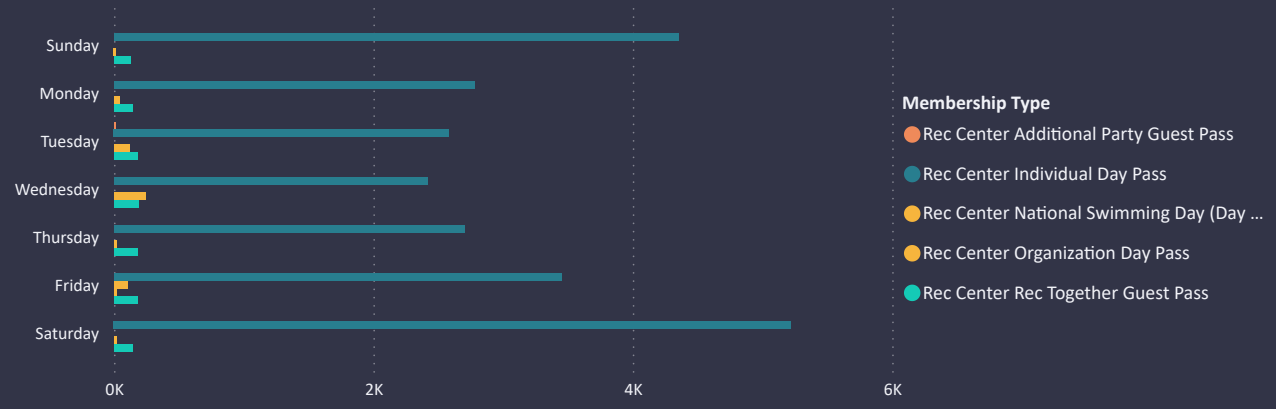
Day Pass Sales by Time of Day and Category



Quantity by Day Pass Type



ARC Average Membership Check-Ins by Day of the Week



Day Pass Sales Info.

25260
Quantity

4931
Count of User

$172,538
Total

Day Pass Revenue by Day

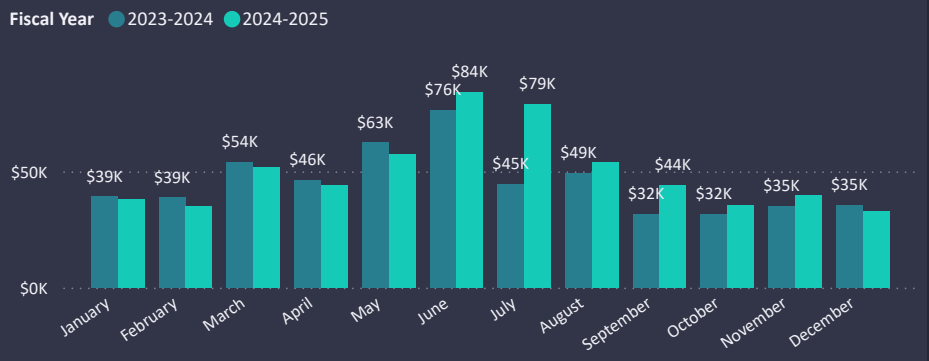
Day Name	Total
Sunday	$29,895
Monday	$20,590
Tuesday	$20,465
Wednesday	$20,355
Thursday	$20,750
Friday	$24,930
Saturday	$35,553
Total	**$172,538**

THE HEART OF BRAZORIA COUNTY
ANGLETON

ARC Revenue Performance

Select Fiscal Year
- [ ] 2023-2024
- [ ] 2024-2025

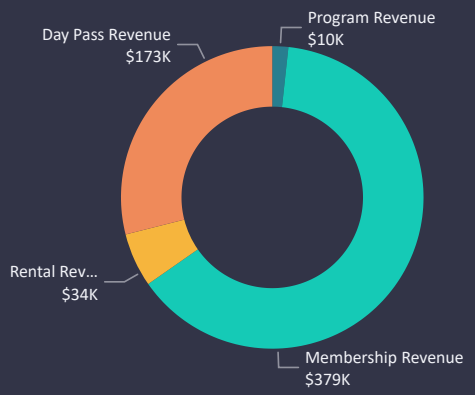
Total Angleton Recreation Center Revenue



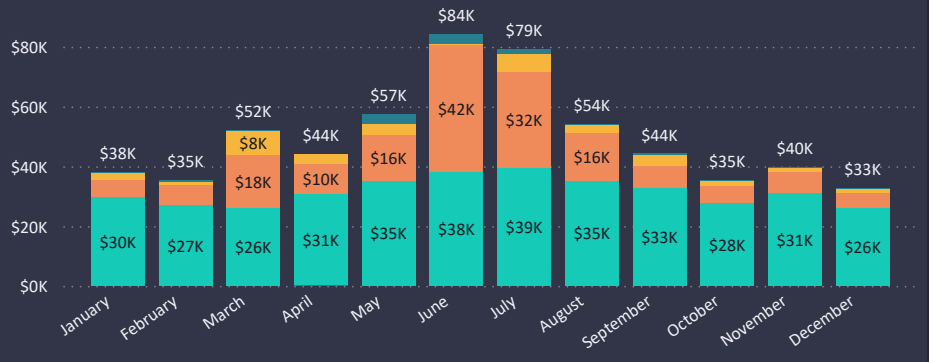
FY 24-25 ARC Total & Goal

$596,192
Goal: $556,892

Revenue Breakdown



Revenue by Category



Membership Revenue

Program Revenue

Day Pass Revenue

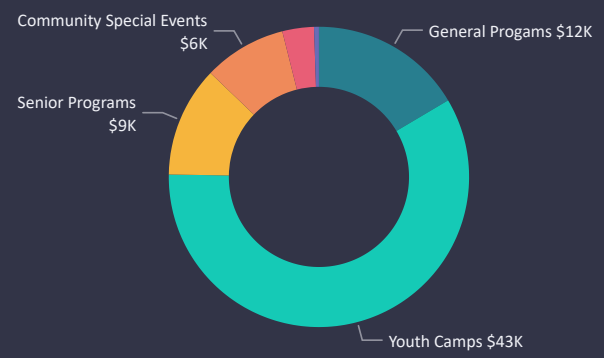
Rental Revenue

THE HEART OF BRAZORIA COUNTY
ANGLETON

Recreation Division Revenue Performance

Select Fiscal Year
- [ ] 2023-2024
- [ ] 2024-2025

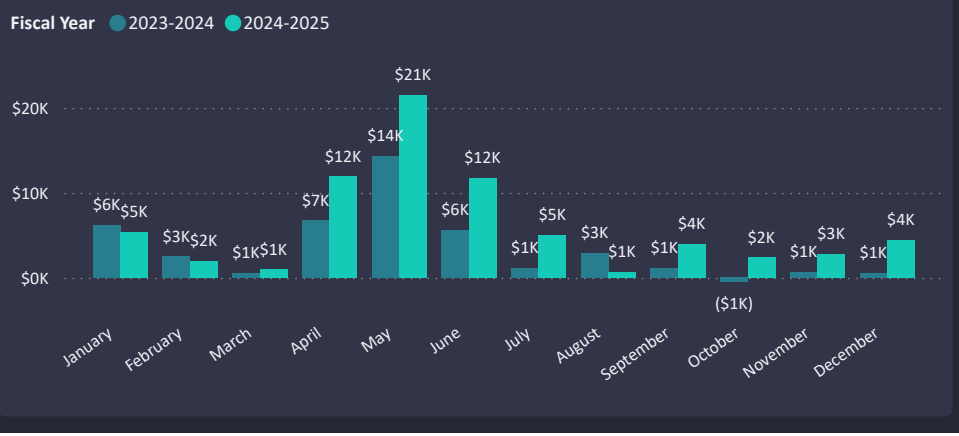
Sales Revenue Breakdown



FY 24-25 Recreation Total & Goal

$72,707
Goal: $66,741

Recreation Monthly Revenue Totals



General Programs

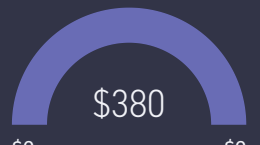
Youth Camps

Senior Programs

Events

Father Daughter

Misc. Programs



POLICE DEPARTMENT

ANGLETON POLICE DEPARTMENT
As of October 7, 2025

PRIORITY PROJECTS

1. CryWolf project is in the final stages for go-live.
2. New Ford F150 patrol units planned for deployment in two weeks.
3. Considering plans for APD Sub Station at Annex
    - Furniture ordered and room is being set up
4. Recover from Network Outage
5. CryWolf is live since Wednesday, September 3, 2025.

PERSONNEL

4 vacant officer positions
1 vacant Sergeant position

MONTHLY REPORT TOPICS

Upcoming Blackcat Locations

1. West Bronco Bend Ln
2. Wimberly
3. South Walker
4. North Valderas
5. Northridge
6. Hospital Drive
7. Piney Way (September) – Study complete – no additional enforcement needed based on findings.

UPCOMING AUDITS OR EVALUATIONS

- Chapter 59 audit report submitted to state
- Racial profiling report in progress
- Received renewal of TCOLE Contract Training Provider license through 2029

NEXT MEETINGS

- PSMA: Tuesday, July 15, 2025 at 1130 a.m., Angleton First Church, 329 N Anderson St
- Junior Citizens Police Academy was well attended and led by Instructors from APD, Texas DPS, and BCSO
- Departmental Meeting, 9/4/25, 1500

ANGLETON POLICE DEPARTMENT
As of October 7, 2025

GRANTS

- Working on resolutions for VOCA grant
- Working with TXDOT for RFR on STEP Grant
- NNO 10/7/25
- BC Fair Parade 10/11/25
- November 15 – 16, 2025 Market Days
- TBA, Mid-November Lake Jackson Festival of Lights
- December 4th & 5th, 2025 Shop-with-a-Cop
- Saturday, December 6, 2025 Heart of Christmas
- TBA Jingle Bells Fun Run

LIST OF RELAVENT SOCIAL MEDIA POSTING LOCATION AND CITY PAGE LINK

https://www.facebook.com/AngletonPoliceDepartment

- **9 posts** in September to date on Facebook covering PD activities, press releases, and Public Safety Announcements.

2024 STRATEGIC PLANNING WORKSHOP GOALS

To be developed later

ANGLETON ANIMAL SERVICES
2025

DOGS	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YTD
Euthanized	2	2	3	3	2	10	5	3	8				38
Died in Shelter	0	0	0	0	0	0	0	0	0				0
Claimed, Adopted, Rescued	33	32	30	37	38	26	35	26	28				285
Pick-Ups	39	14	45	27	40	36	33	27	35				296
Service In	3	1	0	3	31	0	0	36	0				74
Owner Surrender	2	1	3	4	5	0	1	3	0				19
Currently Housing	29	11	26	18	24	13	22	23	23				189
CATS													
Euthanized	4	2	1	2	2	0	4	3	1				19
Died in Shelter	2	0	0	1	6	8	3	5	16				41
Claimed, Adopted, Rescued	17	16	11	3	15	15	13	21	17				128
Pick-Ups	16	5	11	18	40	30	20	28	37				205
Service In	1	1	0	0	68	0	1	24	0				95
Owner Surrender	2	2	0	0	1	2	1	1	1				10
Currently Housing	18	9	8	19	36	34	34	33	37				228
OTHER ANIMALS													
Euthanized	0	0	0	0	0	0	0	0	0				0
Died in Shelter	0	0	0	0	0	0	0	0	0				0
Claimed, Adopted, Rescued	0	1	0	0	0	0	0	1	2				4
Pick-Ups	0	3	2	5	7	4	4	1	7				33
Animal Carcass	5	3	7	4	4	7	3	4	3				40
Owner Surrender	0	0	0	0	0	0	0	1	0				1
Return to Wild	0	2	1	5	7	4	4	1	5				29
CONTACTS AT THE SHELTER													
Walk-Ins, Phone Calls, Calls for Service, Donations, etc.	347	313	351	255	294	232	275	95	308				2470

Criminal Investigations Division

Sep-25

INVESTIGATOR	ASSIGNED CASES	ACTIVE CASES	INACTIVE CASES	CLEARED BY ARREST	EXCEPTIONALLY CLEARED	UNFOUNDED	CLOSED
COBOS	9	1			2		6
BARR	9	4	1		1		3
LAND	4	3					1
PHILLIPS	9	5		1			3
BURCH	6	5					1
TOTALS	37	18	2	2	4	1	14

Dispositions Year To Date: January - December 2025

INVESTIGATOR	ASSIGNED CASES	ACTIVE CASES	INACTIVE CASES	CLEARED BY ARREST	EXCEPTIONALLY CLEARED	UNFOUNDED	CLOSED
COBOS	81	6	1	9	3	0	62
BARR	82	7	9	5	18	1	42
LAND	31	7	6	0	2	0	16
PHILLIPS	43	7	6	6	4	2	18
BURCH	24	6	3	1	10	0	4
FORD	7		2		1	1	3
WHITE	7		1		2	1	3
TOTALS	275	33	28	21	40	5	148

ANGLETON POLICE DEPARTMENT

	MONTHLY COMPARISON				ANNUAL MONTHLY COMPARISON		
	25-Jul	25-Aug	25-Sep	YTD Total	23-Sep	24-Sep	25-Sep
ARRESTS	55	46	42	433	75	45	42
TOTAL Charges	71	60	70	574	143	58	70
Misdemeanor - Class C	12	10	7	148	110	19	7
Misdemeanor - Class A & B	46	30	37	287	24	27	37
FELONY	13	20	26	139	9	12	26
TOTAL CALLS FOR SERVICES	4,853	4,377	4,434	47,204	7,485	5,055	4,434
POLICE	4,103	3,703	3,723	41,001	6,826	4,318	3,723
FIRE	89	61	67	660	93	84	67
EMS	542	518	513	4,511	531	512	513
ANIMAL SERVICES	119	95	131	1032	35	141	131
AVG. RESP TIME - PRIORITY	3:33	4:07	3:28	3:25	2:14	4:13	3:28
AVG. RESP TIME - NON PRIORITY	3:41	4:19	4:30	3:53	4:57	4:24	4:30
BUSIEST DAY(†)	WED	FRI	TUE	FRI	TUE	MON	TUE
BUSIEST TIMES(†)	3:00	10:00	10:00	10:00	0900 & 1300	0:00	10:00
TOTAL TRAFFIC ENCOUNTERS	529	643	824	7,012	567	620	824
DOCUMENTED TRAFFIC CITATIONS	444	538	912	6,538	260	482	912
OTHER CLASS C CITATIONS**	11	15	16	224	22	25	16
MOTOR VEHICLE CRASH	35	53	39	374	62	46	39
AUTO - PEDESTRIAN ACCIDENTS	0	1	1	8	0	2	1
SPEEDING STUDIES	0	0	0	2	0	2	0
TOTAL WARRANTS CLEARED	162	130	126	1,292	151	162	126
COLLECTION AMOUNT CLEARED	$59,986.19	$45,591.81	$42,947.24	$451,770.83	$ 53,838.06	$ 58,088.62	$42,947.24
ESTIMATED MONEY RECEIVED	$21,924.03	$21,263.33	$17,741.20	$185,073.10	$ 11,850.80	$ 16,723.20	$17,741.20
TOTAL WARRANT ARRESTS	17	15	12	138	27	16	12
TOTAL COMMUNITY EVENTS	1	1	1	5	1	3	1
TOTAL PTO HOURS TAKEN	821	469.5	429	4,763.96	715.7	570.69	429

RICHWOOD ANIMAL SERVICES
2025

DOGS	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YTD
Euthanized	0	0	0	0	0	1	0	0	0				1
Died in Shelter	0	0	0	0	0	0	0	0	0				0
Claimed, Adopted, Rescued	3	1	4	6	0	0	2	4	4				24
Pick-Ups	2	0	5	6	0	4	2	4	4				27
Service In	0	0	0	0	0	0	0	0	0				0
Owner Surrender	0	0	0	0	0	0	0	0	0				0
Currently Housing	1	0	1	1	1	6	1	1	1				13
CATS													
Euthanized	0	0	0	0	0	0	0	0	0				0
Died in Shelter	0	0	0	0	1	0	0	2	3				6
Claimed, Adopted, Rescued	4	2	1	0	7	1	2	6	5				28
Pick-Ups	3	2	0	7	4	5	8	2	3				34
Service In	0	0	0	0	0	0	0	0	0				0
Owner Surrender	0	0	0	0	0	0	0	0	0				0
Currently Housing	4	3	2	9	5	8	10	5	0				46
OTHER ANIMALS													
Euthanized	0	0	0	0	0	0	0	0	0				0
Died in Shelter	0	0	0	0	0	0	0	0	0				0
Claimed, Adopted, Rescued	0	0	0	0	0	0	0	0	0				0
Pick-Ups	0	0	0	0	1	0	0	0	0				1
Animal Carcass	0	0	0	0	0	0	0	0	0				0
Owner Surrender	0	0	0	0	0	0	0	0	0				0
Return to Wild	0	0	0	0	1	0	0	0	0				1

PUBLIC WORKS

Public Works

September 2025

PRIORITY PROJECTS

1. **Lift Station #8 Sanitary Sewer Rehabilitation:** Contracts will be executed at the beginning of October. A preconstruction meeting will occur on the week of the 13th. A notice to proceed will be executed once a firm date is set with the contractor during the pre-con meeting.

2. **Lift Station #24 Sanitary Sewer Rehabilitation:** Bid advertisement occurred in September, with bid opening occurring on October 1st.

3. **Schneider Electric IGA/WWTP Improvements:** Notice of intent was given to issue certificates of obligation. Staff is now working with Schneider Electric on final costs and possible amendments to move forward with the construction phase.

4. **Meter Exchange Project**: Aqua-Metric reviewed 7 accounts on site on September 4th. Installs will begin on October 21st.

5. **Texian Trail Drainage Project**: Contractors did not meet September 13th deadline. Rain days and 4 utility conflicts were factors in the delays. We have city utility conflicts resolved, as well as one from TNMP. However, we still have one outstanding conflict with TNMP. We are awaiting their mitigation response. Meanwhile contractor will continue to work with a new project end date of 10/31/25.

6. **Street Bond Package III (Parish/Sliver Saddle)**: CenterPoint is currently working on their project on Parrish Street. Once this is completed, we will begin the bidding process. We are also looking into possible revisions of the Silver Saddle portion of this project.

7. **Brazoria County Overlays (Interlocal) 24-25FY:** The selection of projects will be brought to council on Oct. 28th. County Engineer will be present for that meeting.

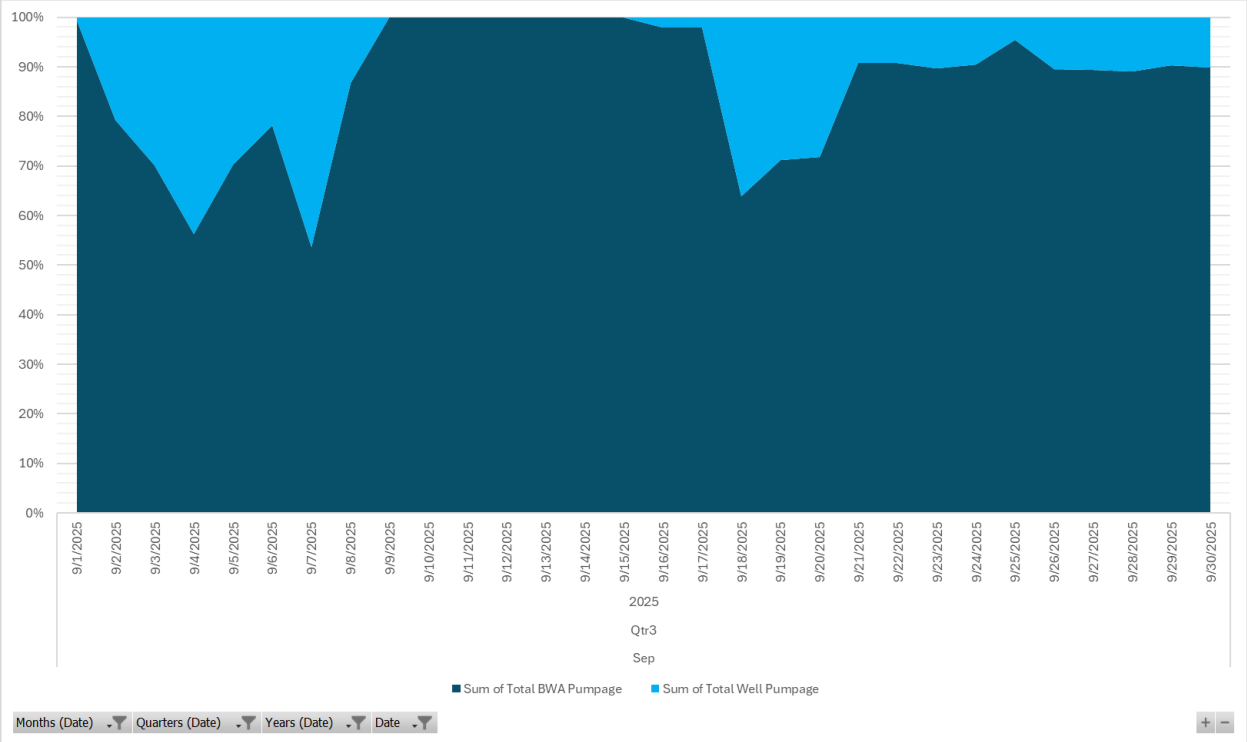
8. **288B Utility Improvements:** TXDOT's contracted engineer will send the 30% plans to the city in the first week of October. We will review, and update on them.
9. **Lead Service Line Inventory:** the PIF sent to TWDB for funding on the replacements was received by the state. TWDB is currently waiting for the allotment from EPA.

MONTHLY REPORT TOPICS

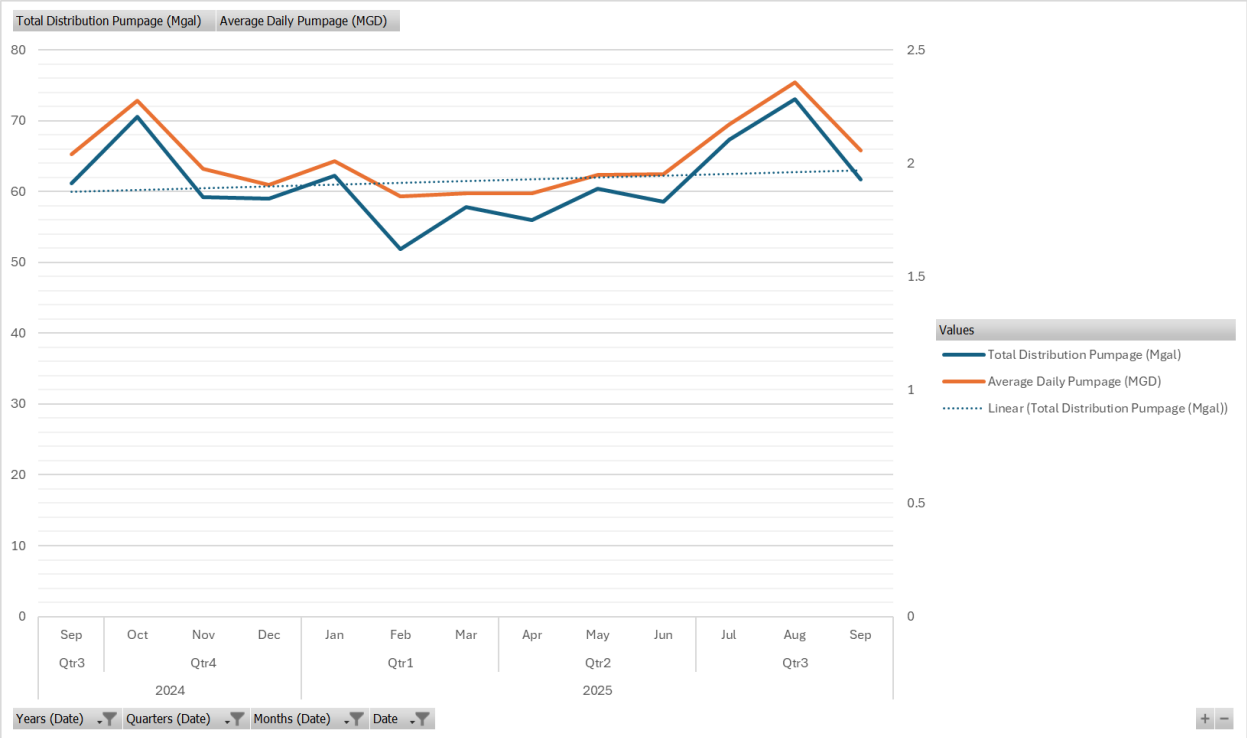
- **Equipment** –The backhoe still has a balance of $20,417.62 to finish repairs. Gradall down again as of 5/13/25. The cost to fix the gradall is $16,496.08. The patch truck will be delivered in November.
- **Drainage** – With the Gradall out of service drainage work has been stalled. We are currently using the new excavator to perform ditch maintenance. It is less efficient and difficult with heavy tree cover.
- **Water Treatment -** In the month of September our water operations staff produced 61,699,000 gallons of water. The daily average flow was 2.057 MGD. The highest use day was September 5th at 2.666 MG. There are still lingering issues in the tank, as this appears to be an ongoing issue. Staff looking for possible mixer installation at this tank.
- **Wastewater Treatment Plant -** This month our wastewater treatment plant staff treated 43,843,870 gallons of wastewater. The daily average flow was 1.461 MGD. The total rainfall for the month was 3.55". The highest flow was recorded on September 26th, at 3.312 MG. This occurred during the 1.9" rainfall we received the day prior.
- **Work Orders** – For the entire month of September we received 150 Public Works related work orders. Of these work orders 94 were completed. This puts us at a completion percentage rate of about 63% for this month. There were also 62 back logged work orders completed, putting PW at 156 work orders completed in September. The average turnaround time for work orders over the past year has been approximately 25 days. Our oldest 3 work orders are:
    - Street Repair at Ketchum Ct – 1/12/2023
    - Hydrant Replacement at 725 Cahill Road – 02/09/2023
    - Solar Street Light Request at Shannon St – 09/18/2023
  - In total there have been 17,836 work orders entered into iWorQ. Of these, 17,284 have been completed to date. This gives an overall completion of approximately 97% across the city.

Type of Work	Received	Resolved
Water Leaks/Issues	32	39
Sewer Issues	25	31
Streets/Drainage Issues	24	19
Trees Trimming	5	3
Water Taps	30	24
Sewer Taps	29	37
Street Sweeping	3	1
Signage	2	2
Total	**150**	**156**

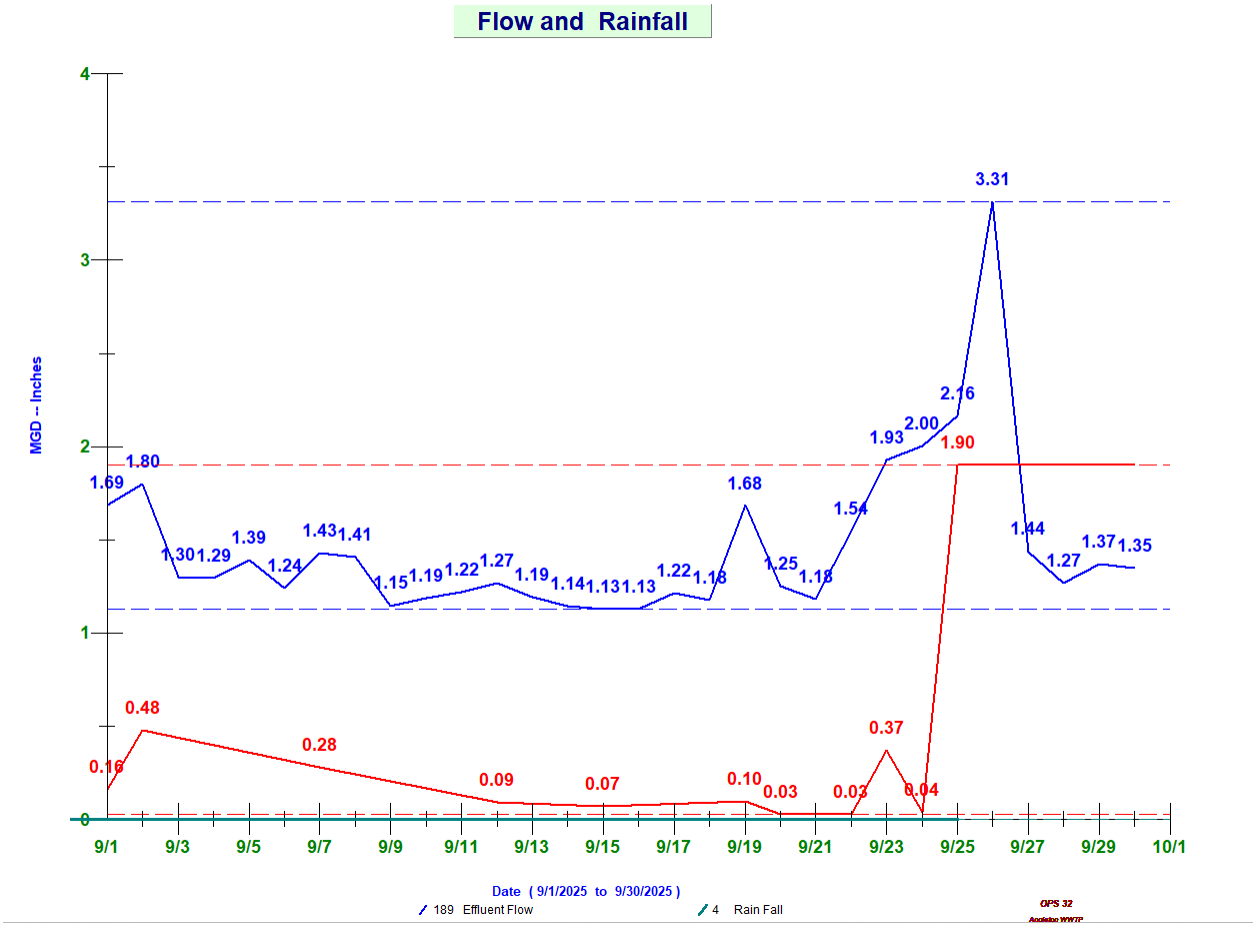
Water - September 2025 Source Water Utilization



Water – Monthly Distribution, 12 Months



Rainfall vs Flow – WWTP September 2025



UTILITY BILLING

2025 JULY

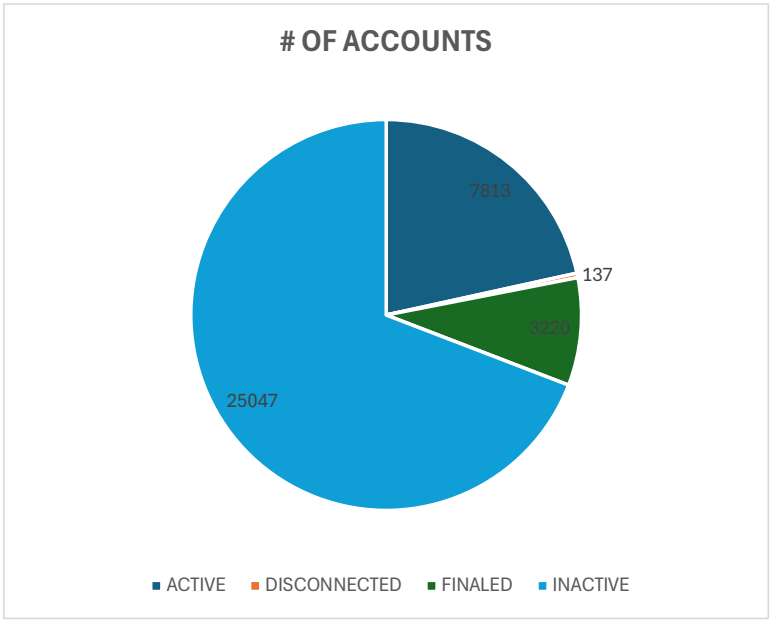
ACCOUNTS	ACTIVE	DISCONNECTED	FINALED	INACTIVE	GRAND TOTAL
TOTAL #	7813	137	3220	25047	36217
ARREARS	$ 229,264.48	$ 10,586.79	$ 835,057.20	$ 153.88	$ 1,075,062.35
CURRENT	$ 1,476,592.85	$ 9,172.60			$ 1,485,765.45
BALANCE	$ 1,705,857.33	$ 19,759.39	$ 835,057.20	$ 153.88	$ 2,560,827.80

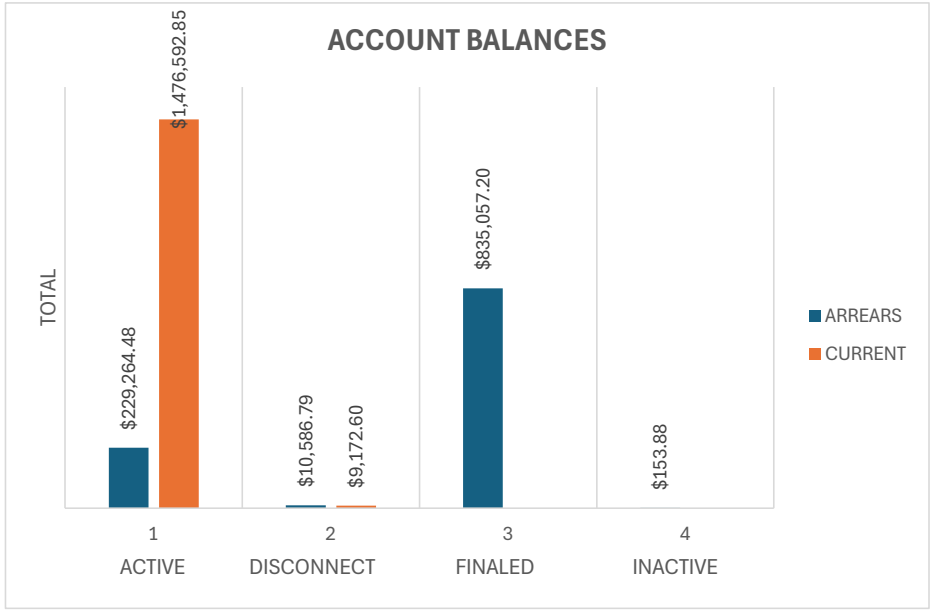
CALCULATION SUMMARY

TOTAL CHARGES	$ 1,489,590.45
DEPOSIT RETURNS	$ (3,825.00)
TOTAL CURRENT	$ 1,485,765.45

ACTIVE ACCOUNT RECONCILIATION

NEW ACCOUNTS	145
DISCONNECT-NO TRANSFER	129
DISCONNECT-TRANSFER	8





2025 AUGUST

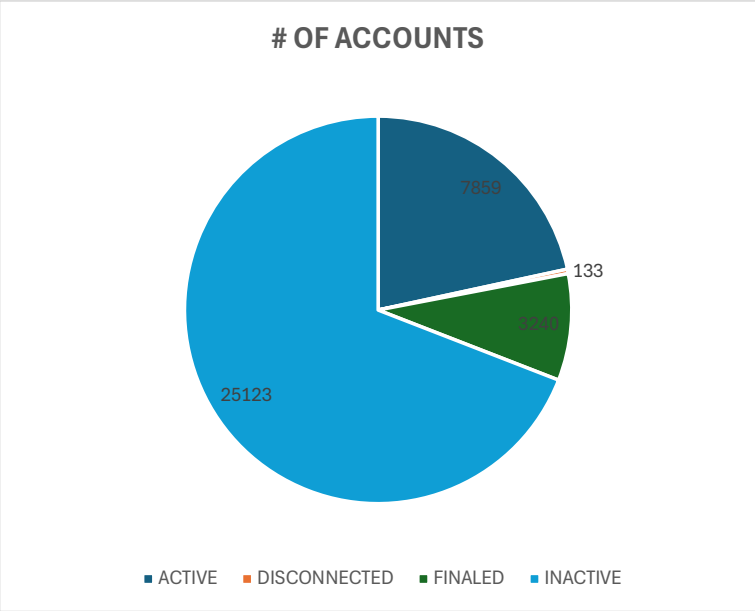
ACCOUNTS	ACTIVE	DISCONNECTED	FINALED	INACTIVE	GRAND TOTAL
TOTAL #	7859	133	3240	25123	36355
ARREARS	$ 445,924.79	$ 11,344.93	$ 848,888.48	$ 153.88	$ 1,306,312.08
CURRENT	$ 1,186,287.81	$ 3,674.33			$ 1,189,962.14
BALANCE	$ 1,632,212.60	$ 15,019.26	$ 848,888.48	$ 153.88	$ 2,496,274.22

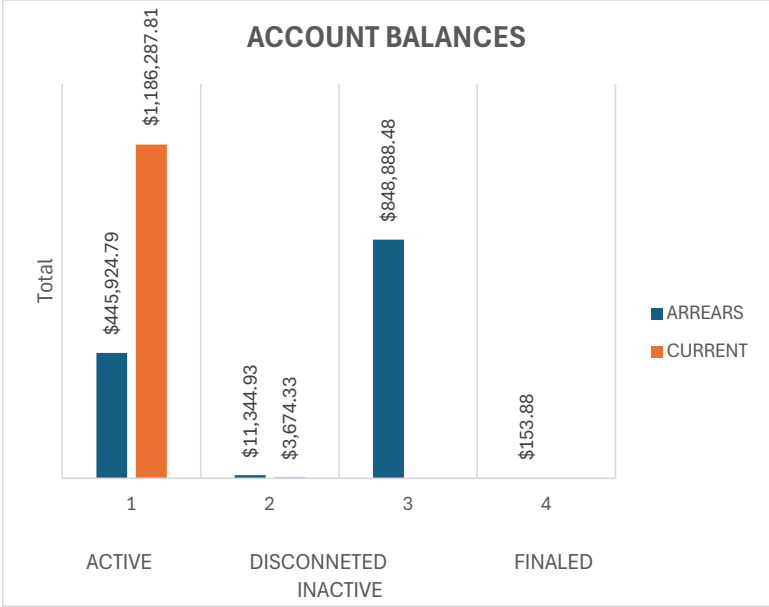
CALCULATION SUMMARY

TOTAL CHARGES	$ 1,193,787.14
DEPOSIT RETURNS	$ (3,825.00)
TOTAL CURRENT	$ 1,189,962.14

ACTIVE ACCOUNT RECONCILIATION

NEW ACCOUNTS	143
DISCONNECT-NO TRANSFER	147
DISCONNECT-TRANSFER	9





2025 SEPTEMBER

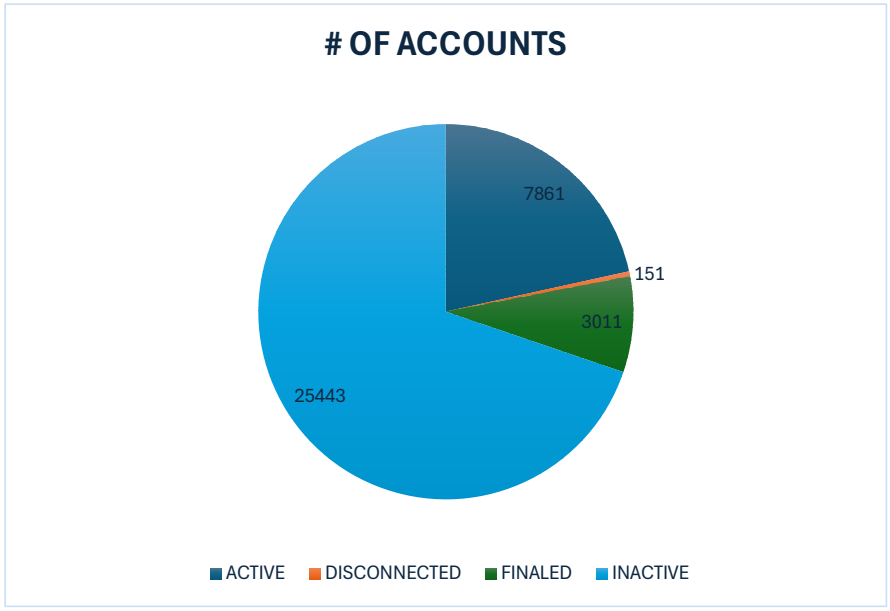
ACCOUNTS	ACTIVE	DISCONNECTED	FINALED	INACTIVE	GRAND TOTAL
TOTAL #	7861	151	3011	25443	36466
ARREARS	$ 336,464.76	$ 18,782.67	$ 777,133.48	$ 153.88	$ 1,132,534.79
CURRENT	$ 1,306,518.26	$ 7,409.23			$ 1,313,927.49
BALANCE	$ 1,642,983.02	$ 26,191.90	$ 777,133.48	$ 153.88	$ 2,446,462.28

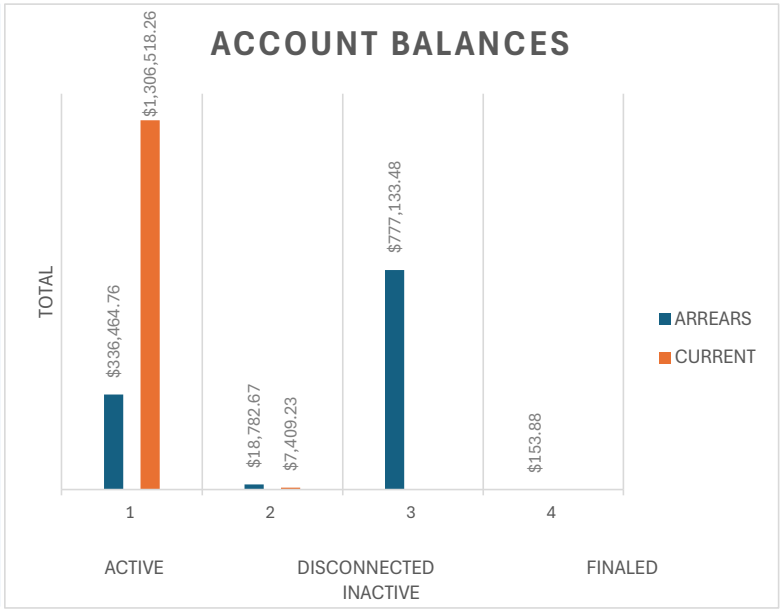
CALCULATION SUMMARY

TOTAL CHARGES	$ 1,318,257.49
DEPOSIT RETURNS	$ (4,330.00)
TOTAL CURRENT	$ 1,313,927.49

ACTIVE ACCOUNT RECONCILIATION

NEW ACCOUNTS	116
DISCONNECT-NO TRANSFER	143
DISCONNECT-TRANSFER	8





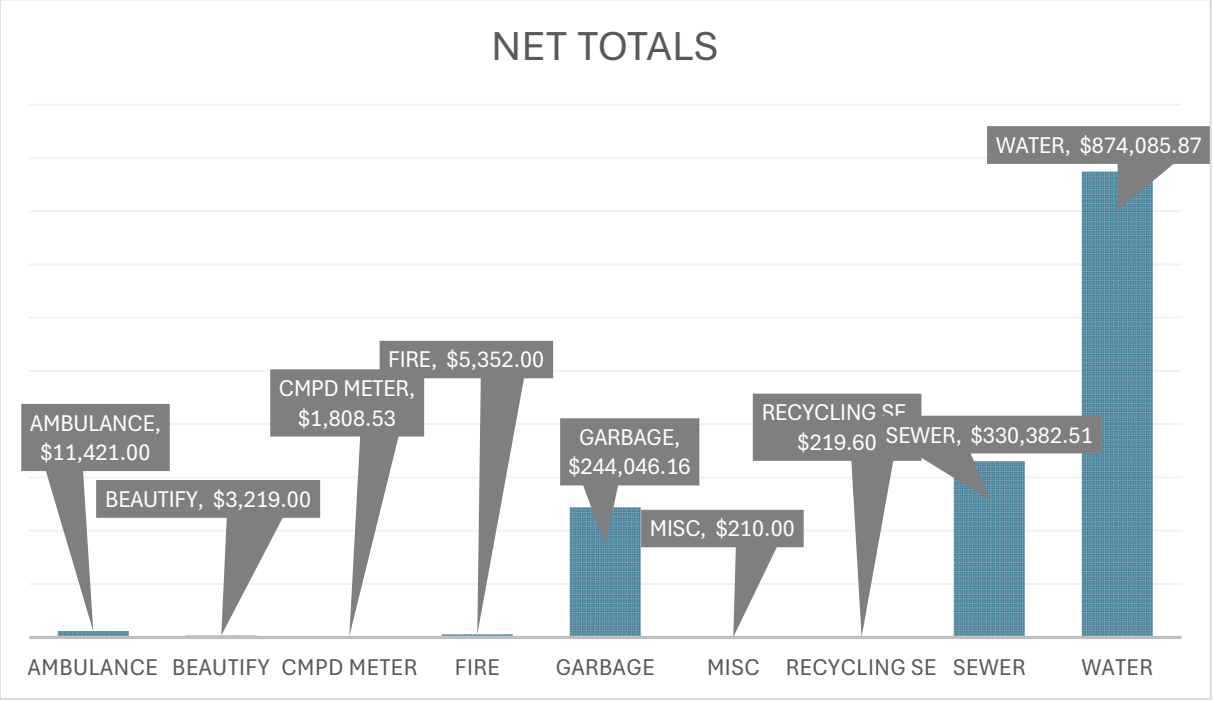
2025 JULY

SERVICE CATEGORY TOTALS

CATEGORY	NUMBER	TOTAL NET	TOTAL TAX	TAXABLE
AMBULANCE	2538	$ 11,421.00		
BEAUTIFY	3220	$ 3,219.00		
CMPD METER	11	$ 1,808.53		
FIRE	2676	$ 5,352.00		
GARBAGE	7272	$ 244,046.16	$ 18,832.65	$ 228,511.45
MISC	12	$ 210.00		
RECYCLING SE	18	$ 219.60	$ 13.13	$ 158.60
SEWER	7387	$ 330,382.51		
WATER	7781	$ 874,085.87		
TOTALS		$ 1,470,744.67	$ 18,845.78	$ 228,670.05

CONSUMPTION

BILLED	UNBILLED	TOTAL
600.00		2374.00
392719.00		392719.00
430579.00	1069.00	429874.00



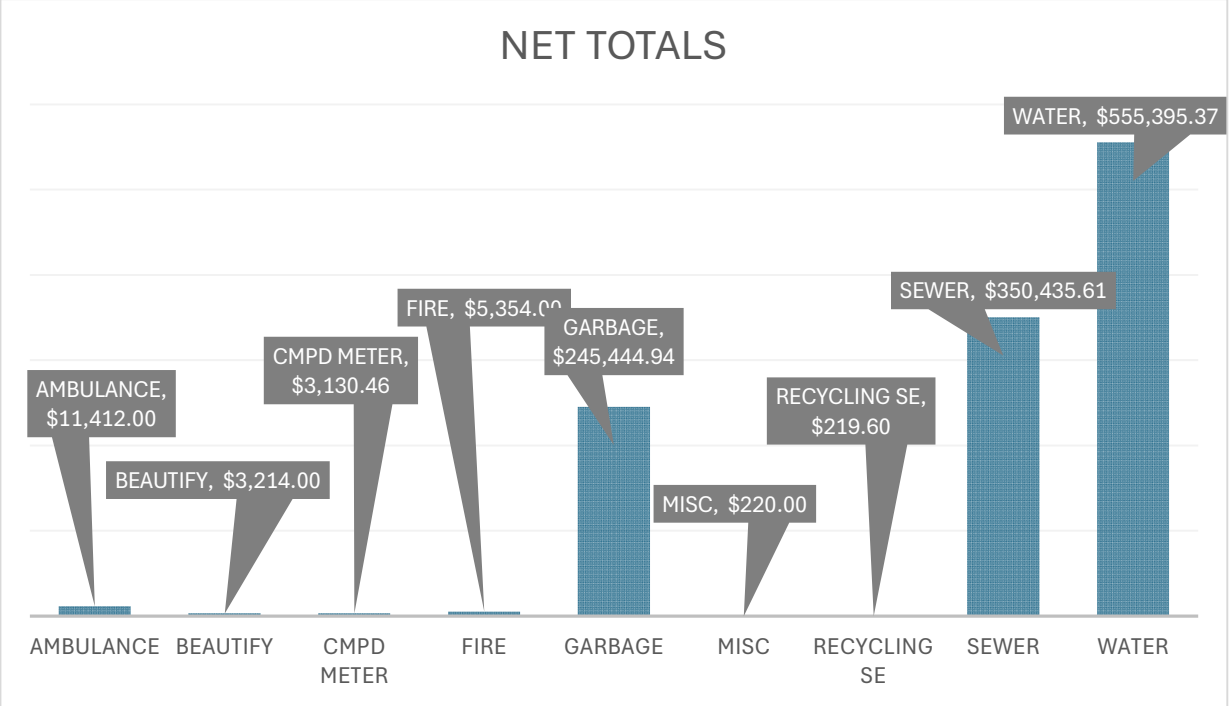
2025 AUGUST

SERVICE CATEGORY TOTALS

CATEGORY	NUMBER	TOTAL NET	TOTAL TAX	TAXABLE
AMBULANCE	2536	$ 11,412.00		
BEAUTIFY	3215	$ 3,214.00		
CMPD METER	11	$ 3,130.46		
FIRE	2677	$ 5,354.00		
GARBAGE	7330	$ 245,444.94	$ 18,948.03	$ 229,910.23
MISC	10	$ 220.00		
RECYCLING SE	18	$ 219.60	$ 13.13	$ 158.60
SEWER	7427	$ 350,435.61		
WATER	7824	$ 555,395.37		
TOTALS		$ 1,174,825.98	$ 18,961.16	$ 230,068.83

CONSUMPTION

BILLED	UNBILLED	TOTAL
3860.00		8069.00
502666.00		502666.00
464007.00	3459.00	463257.00



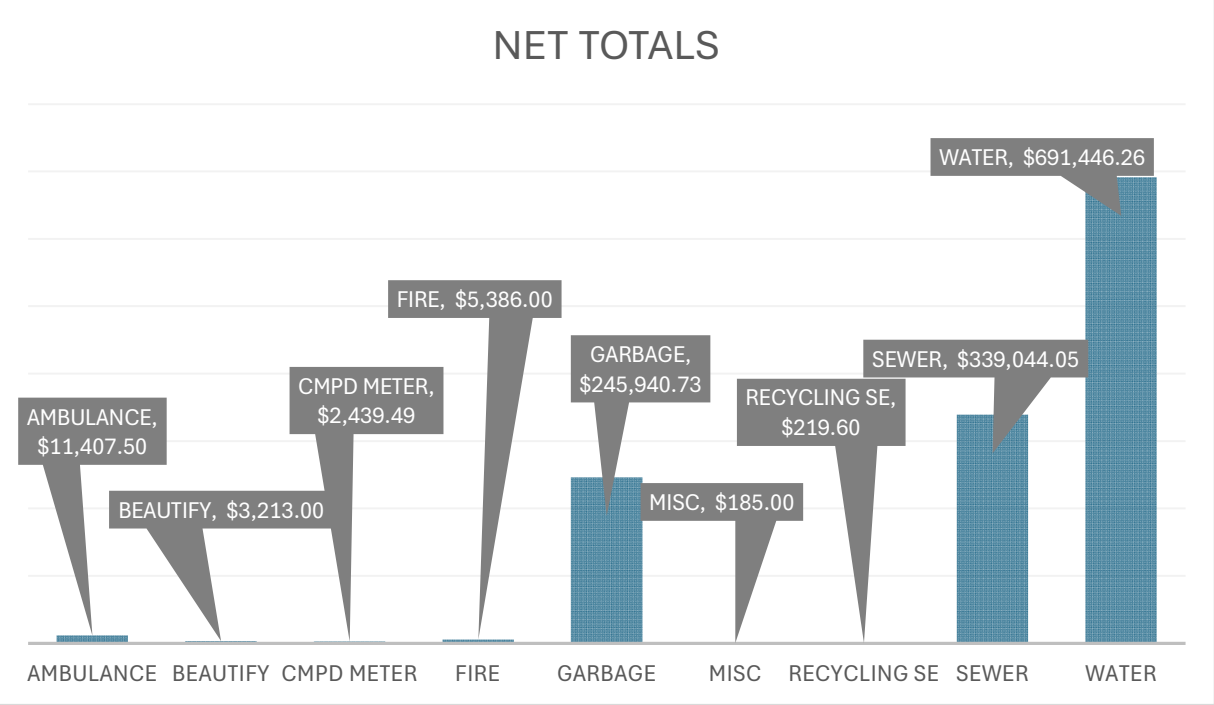
2025 SEPTEMBER

SERVICE CATEGORY TOTALS

CATEGORY	NUMBER	TOTAL NET	TOTAL TAX	TAXABLE
AMBULANCE	2535	$ 11,407.50		
BEAUTIFY	3214	$ 3,213.00		
CMPD METER	11	$ 2,439.49		
FIRE	2680	$ 5,386.00		
GARBAGE	7351	$ 245,940.73	$ 18,988.73	$ 230,406.32
MISC	11	$ 185.00		
RECYCLING SE	18	$ 219.60	$ 13.13	$ 158.60
SEWER	7454	$ 339,044.05		
WATER	7841	$ 691,446.26		
TOTALS		$ 1,299,281.63	$ 19,001.86	$ 230,564.92

CONSUMPTION

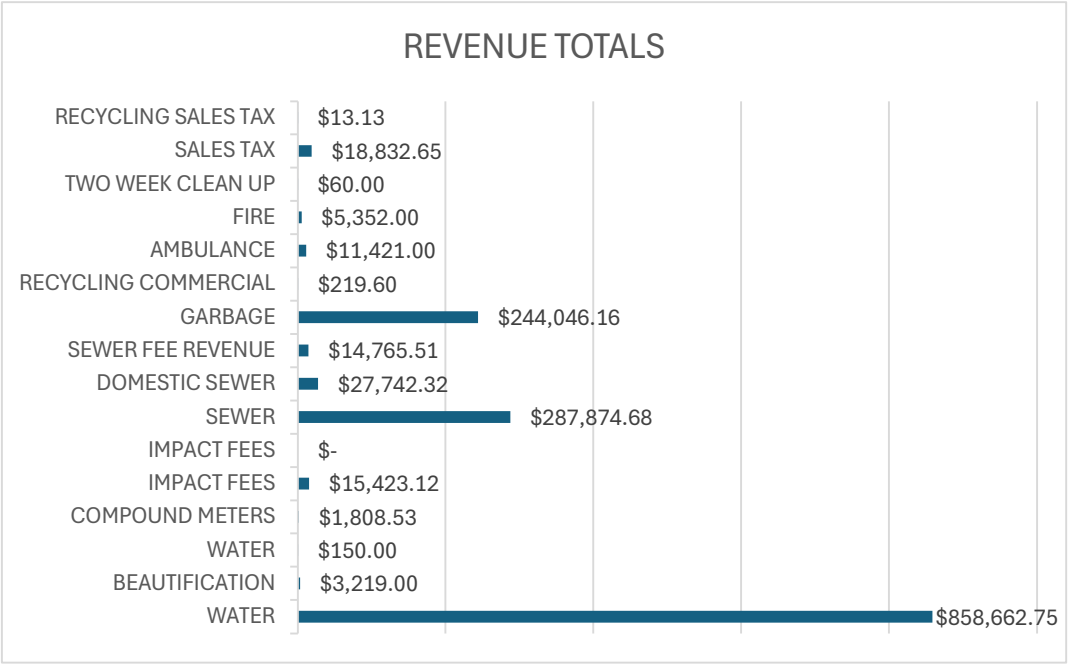
BILLED	UNBILLED	TOTAL
3008.00		5484.00
472462.00		472462.00
535260.00	815.00	533599.00



2025 JULY

REVENUE CODE TOTALS

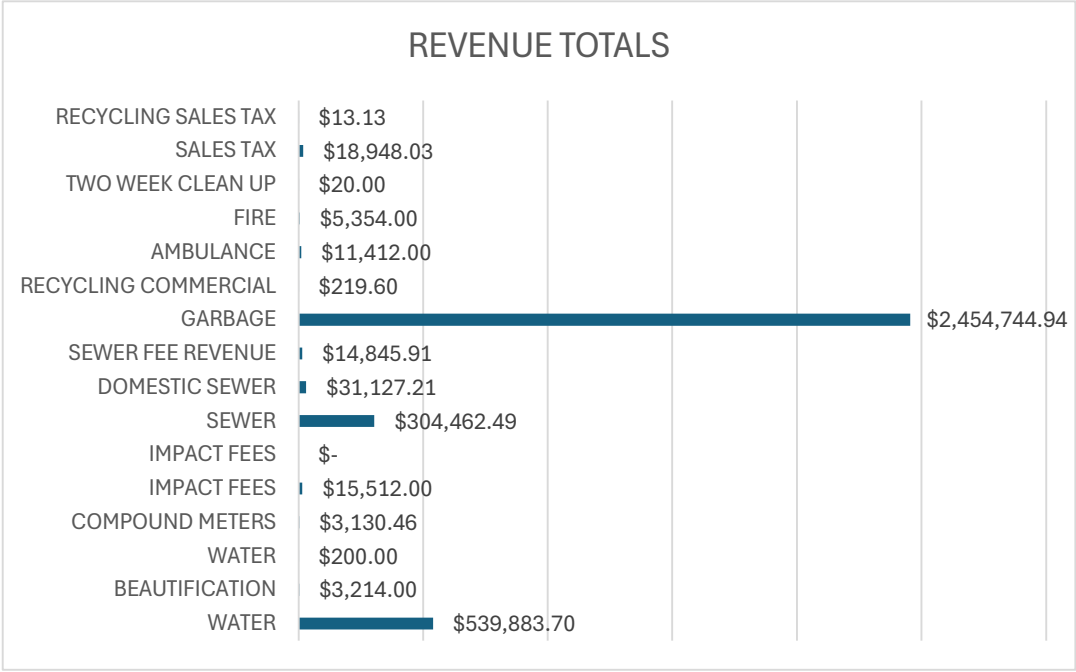
	R/C	DESCRIPTION	AMOUNT
SVC			
	100	WATER	$ 858,662.75
	101	BEAUTIFICATION	$ 3,219.00
	102	WATER	$ 150.00
	103	COMPOUND METERS	$ 1,808.53
	105	IMPACT FEES	$ 15,423.12
	106	IMPACT FEES	$ -
	200	SEWER	$ 287,874.68
	201	DOMESTIC SEWER	$ 27,742.32
	205	SEWER FEE REVENUE	$ 14,765.51
	300	GARBAGE	$ 244,046.16
	305	RECYCLING COMMERCIAL	$ 219.60
	500	AMBULANCE	$ 11,421.00
	600	FIRE	$ 5,352.00
	761	TWO WEEK CLEAN UP	$ 60.00
TAX	400	SALES TAX	$ 18,832.65
	405	RECYCLING SALES TAX	$ 13.13
		R/C TOTALS	$ 1,489,590.45



2025 AUGUST

REVENUE CODE TOTALS

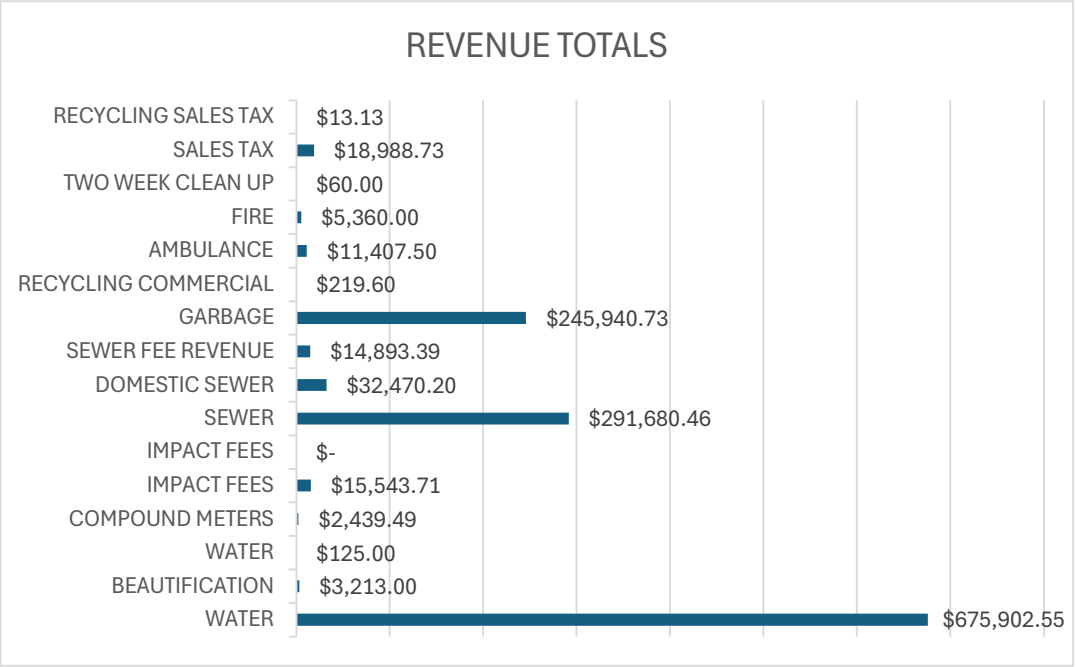
	R/C	DESCRIPTION	AMOUNT
SVC			
	100	WATER	$ 539,883.70
	101	BEAUTIFICATION	$ 3,214.00
	102	WATER	$ 200.00
	103	COMPOUND METERS	$ 3,130.46
	105	IMPACT FEES	$ 15,512.00
	106	IMPACT FEES	$ -
	200	SEWER	$ 304,462.49
	201	DOMESTIC SEWER	$ 31,127.21
	205	SEWER FEE REVENUE	$ 14,845.91
	300	GARBAGE	$ 2,454,744.94
	305	RECYCLING COMMERCIAL	$ 219.60
	500	AMBULANCE	$ 11,412.00
	600	FIRE	$ 5,354.00
	761	TWO WEEK CLEAN UP	$ 20.00
TAX	400	SALES TAX	$ 18,948.03
	405	RECYCLING SALES TAX	$ 13.13
		R/C TOTALS	$ 1,193,787.47



2025 SEPTEMBER

REVENUE CODE TOTALS

	R/C	DESCRIPTION	AMOUNT
SVC			
	100	WATER	$ 675,902.55
	101	BEAUTIFICATION	$ 3,213.00
	102	WATER	$ 125.00
	103	COMPOUND METERS	$ 2,439.49
	105	IMPACT FEES	$ 15,543.71
	106	IMPACT FEES	$ -
	200	SEWER	$ 291,680.46
	201	DOMESTIC SEWER	$ 32,470.20
	205	SEWER FEE REVENUE	$ 14,893.39
	300	GARBAGE	$ 245,940.73
	305	RECYCLING COMMERCIAL	$ 219.60
	500	AMBULANCE	$ 11,407.50
	600	FIRE	$ 5,360.00
	761	TWO WEEK CLEAN UP	$ 60.00
TAX	400	SALES TAX	$ 18,988.73
	405	RECYCLING SALES TAX	$ 13.13
		R/C TOTALS	$ 1,318,257.49



FINANCE

FINANCE DEPARTMENT As of October 7,2025

PRIORITY PROJECTS

1. **2024-2025 Pre Audit**

   Previous update: Requested end of year for 2024-2025 unaudited information for the S&P Group. Finished and presented to First Southwest to analysis.

   Current Update: Answering questions sent by S&P

2. We (City and First Southwest) are working on the City's operating financial explanation for the discussion with S&P Bond rating on Tuesday October 14, Mayor, Acting City Manager; Lupe Valdez along with Susie and First Southwest will be on the call

   Previous update: Upon the meeting with S&P will determine the rating for the Sale of $8M Certificate of Obligation for the water and wastewater sewer plant,

3. Working on agreement with Waste Connections with the recycling agreement.

4. **RFPs: Josh** has been working with Jason O'Mara on the RFP for the janitorial contract.

   Current update: Josh is working on the end of year reports from property taxes. Working on the 2025-2026 Adopted Budget on website.

5. **Accounting : Payroll and Bank Reconciliation are all up to date and both Assistant and A/P accountant know the positions**

   Current update: Preparing files and accounts to be prepared for coming audit.

PERSONNEL

Previous update: Preparing to hire a part-time Utility (reception) person

Current update: No new personnel in Finance

Upcoming training:

Anthony Madrigal and Josh Wilde will be attending training classes required in their field. .

MONTHLY REPORT TOPICS

UPCOMING AUDITS OR EVALUATIONS

2024-2025 Needs to be done

LIST OF RELAVENT SOCIAL MEDIA POSTING LOCATION AND CITY PAGE LINK

Finance | Angleton, TX - Official Website

EMERGENCY MANAGEMENT

City of Angleton Office of Emergency Management Report

October 2025

Laura Norman – Emergency Management Coordinator

Exercises/Training: 3M Preparedness Training; Spark/TOTAL Energy Full Scale Exercise w/ Fire and EMS, Gambit Emergency Response Training; Upcoming FEMA 300/400 at APD;

Community Outreach: PSMA, LEPC, Regional Training and Exercise, Magnolia Acres STEAR, Orchard Park STEAR; Public Health Department

Funding: Kickoff meeting for HMGP Rec Center Generator Project; Beryl FEMA data below; Grant Club for SALT members started to collaborate on additional funding sources

Projects: Continuity Of Operations Kit and Plan; Updating all Annexes and ESFs; Parade

TDEM #	FEMA #	CATEGORY	SCOPE	PROCESS STEP	COST ESTIMATE	POSSIBLE FED SHARE	TASKS
88	754684	A - Debris Removal	Beryl - Debris Removal	Pending Obligation	$0.00	$0.00	FEMA created spend plan for override cost of $2,825,662.75
191	755610	B - Emergency Protective Measures	Force Account Labor	PAID	$105,281.59	$78,961.20	PAID
475	758000	E - Buildings and Equipment	Bates Park Roof and Dumpster Enclosure Repairs	Obligated	$18,712.16	$14,034.12	NEED TO FINISH BATES ROOF
477	758002	G - Parks and Other	Antique Lights Downtown	Obligated	$15,113.76	$11,335.32	AWAITING FUNDING
480	758005	F - Utilities	Lift Station and Water Plant	Obligated	$98,392.47	$73,794.36	AWAITING FUNDING
481	758006	G - Parks and Other	Rec Center Freedom Park Fire Station #I Animal Control	Obligated	$49,717.10	$37,287.83	NEED TO FINISH REC CENTER
1071	764738	E - Buildings and Equipment	Water Treatment Plant and City Hall Repairs	PAID	$20,396.93	$15,297.70	PAID
1072	764739	G - Parks and Other	Public Works Building Repairs	PAID	$9,827.46	$7,370.60	PAID