



## Murfee Engineering Company

December 13, 2024

Mr. Scott Roberts, President and  
Board of Directors  
West Travis County Public Utility Agency  
13215 Bee Cave Parkway, Building B, Suite 110  
Bee Cave, Texas 78738

**Re: WTCPUA 1240 Elevated Storage Tank  
Contractor’s Application for Payment No. 16**

Mr. Roberts and Board:

Enclosed is Application for Payment No. 16 from Landmark Structures for a reduction in retainage upon reaching final completion, up to the period ending November 30, 2024. We have reviewed this application for payment and are holding the remaining amount back until the site is fully restored and signed off by the Hays County Inspector. We concur with the items and quantities and recommend approval and payment in the amount of one hundred eighty-one thousand four hundred thirty dollars and forty-four cents (\$181,430.44). This application for payment is broken down as follows:

Original Contract Price:	\$3,980,000.00
Net change with Change Orders	\$51,787.00
Total Completed and stored to Date:	\$4,031,787.00
Retainage (5%):	\$201,589.37
<b>Amount Due this Application:</b>	<b>\$181,430.44</b>
Balance to Finish, Plus Retainage:	\$20,158.93

If you have any questions, please do not hesitate to contact me.

Sincerely,

Bryce Canady  
Project Manager - MEC

cc: Jennifer Reichers – WTCPUA  
MEC File No. 11051-169

**TO OWNER/CLIENT:**

West Travis County Public  
Utility Agency 13215 Bee Cave Pkw,Bldg B,Ste 110  
Bee Cave, Texas 78738

**PROJECT:**

1781 - 1781 West Travis Co TX - 1.0MG CET  
304 Old Stone Rd  
Austin, Texas 78737

**APPLICATION NO:** 16

**INVOICE NO:** 16

**PERIOD:** 11/01/24 - 11/30/24

**OWNER'S CONTRACT NO:**

**CONTRACT DATE:**

**FROM CONTRACTOR:**

Landmark Structures  
1665 Harmon Rd  
Fort Worth, Texas 76177

**VIA ARCHITECT/ENGINEER:**

Roberto Ferreira (Murfee Engineering Company)

**CONTRACT FOR:** 1240 Elevated Storage Tank


**CONTRACTOR'S APPLICATION FOR PAYMENT**

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet is attached.

1.	Original Contract Sum	\$3,980,000.00
2.	Net change by change orders	\$51,787.00
3.	Contract Sum to date (Line 1 ± 2)	\$4,031,787.00
4.	Total completed and stored to date (Column G on detail sheet)	\$4,031,787.00
5.	Retainage:	
	a. 0.50% of completed work	\$20,158.93
	b. 0.00% of stored material	\$0.00
	Total retainage (Line 5a + 5b or total in column I of detail sheet)	\$20,158.93
6.	Total earned less retainage (Line 4 less Line 5 Total)	\$4,011,628.07
7.	Less previous certificates for payment (Line 6 from prior certificate)	\$3,830,197.63
8.	Current payment due:	\$181,430.44
9.	Balance to finish, including retainage (Line 3 less Line 6)	\$20,158.93

The undersigned certifies that to the best of the Contractor's knowledge, information and belief, the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work which previous Certificates for payment were issued and payments received from the Owner/Client, and that current payments shown herein is now due.

CONTRACTOR: Landmark Structures

By:  Date: 12/3/2024

**ARCHITECT'S/ENGINEER'S CERTIFICATE FOR PAYMENT**

In accordance with the Contract Documents, based on the on-site observations and the data comprising this application, the Architect/Engineer certifies to the Owner/Client that to the best of the Architect's/Engineer's knowledge, information and belief that Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED: \$181,430.44

(Attach explanation if amount certified differs from the amount applied for. Initial all figures on this Application and on the Continuation Sheet that are changed to confirm the amount certified.)

ARCHITECT/ENGINEER:

By:  Date: 12/12/2024

This certificate is not negotiable. The amount certified is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to the rights of the Owner/Client or Contractor under this Contract.

By: \_\_\_\_\_ Date: \_\_\_\_\_

Owner: West Travis County Public Utility Agency

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner/Client:	\$62,787.00	\$(11,000.00)
Total approved this month:	\$0.00	\$0.00
Totals:	\$62,787.00	\$(11,000.00)
Net change by change orders:	\$51,787.00	

Document SUMMARY SHEET, APPLICATION AND CERTIFICATE FOR PAYMENT, containing Contractor's signed Certification is attached.  
 Use Column I on Contracts where variable retainage for line items apply.

APPLICATION NUMBER: 16

APPLICATION DATE: 11/25/2024

PERIOD: 11/01/24 - 11/30/24

Contract Lines

A	B	C				D	E	G		H	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE				WORK COMPLETED		TOTAL COMPLETE	% COMPLETE	BALANCE TO FINISH (C - G)	RETAINAGE
		UNIT	QTY	UNIT PRICE	VALUE	PRIOR APPLICATION	THIS PERIOD				
1	1.01 Bonds	LS	1.0	\$19,700.00	\$19,700.00	\$19,700.00	\$0.00	\$19,700.00	100.00%	\$0.00	\$98.50
2	1.02 Engineering - Elevated Tank - Design Basis / Foundation	LS	1.0	\$89,600.00	\$89,600.00	\$89,600.00	\$0.00	\$89,600.00	100.00%	\$0.00	\$448.00
3	1.03 Engineering - Elevated Tank - Pedestal	LS	1.0	\$79,600.00	\$79,600.00	\$79,600.00	\$0.00	\$79,600.00	100.00%	\$0.00	\$398.00
4	1.04 Engineering - Elevated Tank - Steel Tank	LS	1.0	\$69,700.00	\$69,700.00	\$69,700.00	\$0.00	\$69,700.00	100.00%	\$0.00	\$348.50
5	1.05 Storm Water Pollution Plan	LS	1.0	\$3,000.00	\$3,000.00	\$3,000.00	\$0.00	\$3,000.00	100.00%	\$0.00	\$15.00
6	2.01 Silt Fence	LF	1504.0	\$10.00	\$15,040.00	\$15,040.00	\$0.00	\$15,040.00	100.00%	\$0.00	\$75.20
7	2.02 Stabilized Construction Entrance	EA	1.0	\$5,446.00	\$5,446.00	\$5,446.00	\$0.00	\$5,446.00	100.00%	\$0.00	\$27.23
8	2.03 Concrete Washout Station	EA	1.0	\$4,400.00	\$4,400.00	\$4,400.00	\$0.00	\$4,400.00	100.00%	\$0.00	\$22.00
9	2.04 Tree Removal / Clear & Grub	LS	1.0	\$24,800.00	\$24,800.00	\$24,800.00	\$0.00	\$24,800.00	100.00%	\$0.00	\$124.00
10	2.05 Mass Grading to Balance Site for Tank	LS	1.0	\$49,800.00	\$49,800.00	\$49,800.00	\$0.00	\$49,800.00	100.00%	\$0.00	\$249.00
11	2.06 Access Road	LS	1.0	\$74,900.00	\$74,900.00	\$74,900.00	\$0.00	\$74,900.00	100.00%	\$0.00	\$374.50
12	3.01 Foundation - Excavation	LS	1.0	\$44,800.00	\$44,800.00	\$44,800.00	\$0.00	\$44,800.00	100.00%	\$0.00	\$224.00
13	3.02 Foundation - Ring Foundation	LS	1.0	\$194,800.00	\$194,800.00	\$194,800.00	\$0.00	\$194,800.00	100.00%	\$0.00	\$974.00
14	3.03 Foundation - Backfill Exterior	LS	1.0	\$34,900.00	\$34,900.00	\$34,900.00	\$0.00	\$34,900.00	100.00%	\$0.00	\$174.50
15	4.01 Concrete Pedestal - Lifts 1 / Crane / Scaffold	LS	1.0	\$179,600.00	\$179,600.00	\$179,600.00	\$0.00	\$179,600.00	100.00%	\$0.00	\$898.00
16	4.02 Concrete Pedestal - Lifts 2-3	PC	2.0	\$134,800.00	\$269,600.00	\$269,600.00	\$0.00	\$269,600.00	100.00%	\$0.00	\$1,348.00
17	4.03 Concrete Pedestal - Lifts 3-11	PC	8.0	\$97,800.00	\$782,400.00	\$782,400.00	\$0.00	\$782,400.00	100.00%	\$0.00	\$3,912.00
18	4.04 Concrete Pedestal - Tank Floor	LS	1.0	\$154,600.00	\$154,600.00	\$154,600.00	\$0.00	\$154,600.00	100.00%	\$0.00	\$773.00
19	4.05 Backfill Interior	LS	1.0	\$17,500.00	\$17,500.00	\$17,500.00	\$0.00	\$17,500.00	100.00%	\$0.00	\$87.50
20	5.01 Steel Tank - Materials / Fabrication	LS	1.0	\$449,500.00	\$449,500.00	\$449,500.00	\$0.00	\$449,500.00	100.00%	\$0.00	\$2,247.50
21	5.02 Steel Tank - Erect - Ring Beam	LS	1.0	\$48,700.00	\$48,700.00	\$48,700.00	\$0.00	\$48,700.00	100.00%	\$0.00	\$243.50
22	5.03 Steel Tank - Erect - Cone	LS	1.0	\$139,600.00	\$139,600.00	\$139,600.00	\$0.00	\$139,600.00	100.00%	\$0.00	\$698.00
23	5.04 Steel Tank - Erect - Vertical Shell	LS	1.0	\$108,700.00	\$108,700.00	\$108,700.00	\$0.00	\$108,700.00	100.00%	\$0.00	\$543.50
24	5.05 Steel Tank - Erect - Access Tube / Platform	LS	1.0	\$57,400.00	\$57,400.00	\$57,400.00	\$0.00	\$57,400.00	100.00%	\$0.00	\$287.00
25	5.06 Steel Tank - Erect - Hoist	LS	1.0	\$34,300.00	\$34,300.00	\$34,300.00	\$0.00	\$34,300.00	100.00%	\$0.00	\$171.50
26	5.07 Steel Tank - Erect - Floor	LS	1.0	\$15,400.00	\$15,400.00	\$15,400.00	\$0.00	\$15,400.00	100.00%	\$0.00	\$77.00
27	5.08 Steel Tank - Erect - Roof	LS	1.0	\$19,700.00	\$19,700.00	\$19,700.00	\$0.00	\$19,700.00	100.00%	\$0.00	\$98.50
28	6.01 Steel Tank - Field Coating - Ground Phase	LS	1.0	\$177,600.00	\$177,600.00	\$177,600.00	\$0.00	\$177,600.00	100.00%	\$0.00	\$888.00
29	6.02 Steel Tank - Field Coating - Air Phase	LS	1.0	\$120,200.00	\$120,200.00	\$120,200.00	\$0.00	\$120,200.00	100.00%	\$0.00	\$601.00
30	7.01 Mechanical - Base - Piping	LS	1.0	\$39,600.00	\$39,600.00	\$39,600.00	\$0.00	\$39,600.00	100.00%	\$0.00	\$198.00
31	7.02 Mechanical - Pedestal - Riser Piping	LS	1.0	\$83,800.00	\$83,800.00	\$83,800.00	\$0.00	\$83,800.00	100.00%	\$0.00	\$419.00
32	7.03 Mechanical - Chamber - Valves / Piping	LS	1.0	\$95,100.00	\$95,100.00	\$95,100.00	\$0.00	\$95,100.00	100.00%	\$0.00	\$475.50
33	8.01 Concrete Pedestal - Ladders / Landings	LS	1.0	\$48,800.00	\$48,800.00	\$48,800.00	\$0.00	\$48,800.00	100.00%	\$0.00	\$244.00
34	8.02 Steel Tank - Hatches / Vents	LS	1.0	\$5,100.00	\$5,100.00	\$5,100.00	\$0.00	\$5,100.00	100.00%	\$0.00	\$25.50

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE				D WORK COMPLETED		E		G		H	I
		UNIT	QTY	UNIT PRICE	VALUE	PRIOR APPLICATION	THIS PERIOD	TOTAL COMPLETE	% COMPLETE	BALANCE TO FINISH (C - G)	RETAINAGE		
35	9.01 Slab on Grade	LS	1.0	\$7,300.00	\$7,300.00	\$7,300.00	\$0.00	\$7,300.00	100.00%	\$0.00	\$36.50		
36	9.02 Doors	LS	1.0	\$10,400.00	\$10,400.00	\$10,400.00	\$0.00	\$10,400.00	100.00%	\$0.00	\$52.00		
37	10.01 Underground Duct / Raceways	LS	1.0	\$30,100.00	\$30,100.00	\$30,100.00	\$0.00	\$30,100.00	100.00%	\$0.00	\$150.50		
38	10.02 Panels / Lighting / Raceways / Wiring	LS	1.0	\$35,300.00	\$35,300.00	\$35,300.00	\$0.00	\$35,300.00	100.00%	\$0.00	\$176.50		
39	10.03 Instrumentation / Controls / SCADA	LS	1.0	\$40,300.00	\$40,300.00	\$40,300.00	\$0.00	\$40,300.00	100.00%	\$0.00	\$201.50		
40	10.04 Cathodic Protection	LS	1.0	\$16,300.00	\$16,300.00	\$16,300.00	\$0.00	\$16,300.00	100.00%	\$0.00	\$81.50		
41	11.01 16in Waterline	LF	95.0	\$500.00	\$47,500.00	\$47,500.00	\$0.00	\$47,500.00	100.00%	\$0.00	\$237.50		
42	11.02 Fire Hydrant and Assembly	EA	1.0	\$11,000.00	\$11,000.00	\$11,000.00	\$0.00	\$11,000.00	100.00%	\$0.00	\$55.00		
43	11.03 16in Tie-In	LS	1.0	\$11,500.00	\$11,500.00	\$11,500.00	\$0.00	\$11,500.00	100.00%	\$0.00	\$57.50		
44	11.04 Trench Safety System	LF	79.0	\$10.00	\$790.00	\$790.00	\$0.00	\$790.00	100.00%	\$0.00	\$3.95		
45	11.05 Overflow Splash Pad	EA	1.0	\$7,500.00	\$7,500.00	\$7,500.00	\$0.00	\$7,500.00	100.00%	\$0.00	\$37.50		
46	11.06 12in Reinforced Concrete Pipe	LF	45.0	\$330.00	\$14,850.00	\$14,850.00	\$0.00	\$14,850.00	100.00%	\$0.00	\$74.25		
47	11.07 Concrete Trickle Channel	CY	59.0	\$300.00	\$17,700.00	\$17,700.00	\$0.00	\$17,700.00	100.00%	\$0.00	\$88.50		
48	11.08 V-5718 Grate	EA	1.0	\$2,000.00	\$2,000.00	\$2,000.00	\$0.00	\$2,000.00	100.00%	\$0.00	\$10.00		
49	12.01 Sidewalk	LS	1.0	\$5,700.00	\$5,700.00	\$5,700.00	\$0.00	\$5,700.00	100.00%	\$0.00	\$28.50		
50	12.02 Bollards	EA	2.0	\$1,000.00	\$2,000.00	\$2,000.00	\$0.00	\$2,000.00	100.00%	\$0.00	\$10.00		
51	12.03 Site Security Fence & Gate	LF	360.0	\$50.00	\$18,000.00	\$18,000.00	\$0.00	\$18,000.00	100.00%	\$0.00	\$90.00		
52	12.04 Asphalt Access Drive	SY	714.0	\$40.00	\$28,560.00	\$28,560.00	\$0.00	\$28,560.00	100.00%	\$0.00	\$142.80		
53	12.05 Grading	CY	18.0	\$250.00	\$4,500.00	\$4,500.00	\$0.00	\$4,500.00	100.00%	\$0.00	\$22.50		
54	12.06 LOC Restoration	SY	11014.0	\$1.00	\$11,014.00	\$11,014.00	\$0.00	\$11,014.00	100.00%	\$0.00	\$55.07		
55	13.01 16in STATIC WESTFALL MIXER	LS	1.0	\$33,000.00	\$33,000.00	\$33,000.00	\$0.00	\$33,000.00	100.00%	\$0.00	\$165.00		
56	13.02 HYDRODYNAMIC MIXER - Piping Material	LS	1.0	\$55,000.00	\$55,000.00	\$55,000.00	\$0.00	\$55,000.00	100.00%	\$0.00	\$275.00		
57	13.03 HYDRODYNAMIC MIXER - Valves	LS	1.0	\$12,000.00	\$12,000.00	\$12,000.00	\$0.00	\$12,000.00	100.00%	\$0.00	\$60.00		
<b>TOTALS:</b>					<b>\$3,980,000.00</b>	<b>\$3,980,000.00</b>	<b>\$0.00</b>	<b>\$3,980,000.00</b>	<b>100.00%</b>	<b>\$0.00</b>	<b>\$19,900.00</b>		

Change Orders

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE				D WORK COMPLETED		E		G		H	I
		UNIT	QTY	UNIT PRICE	VALUE	PRIOR APPLICATION	THIS PERIOD	TOTAL COMPLETE	% COMPLETE	BALANCE TO FINISH (C - G)	RETAINAGE		
<b>58</b>	<b>PCCO#001</b>												
58.1	160-30-914 Fire Hydrant Deletion	LS	-1.0	\$11,000.00	\$(11,000.00)	\$(11,000.00)	\$0.00	\$(11,000.00)	100.00%	\$0.00	\$(55.00)		
58.2	Sensing Line at Grade	LS	1.0	\$29,929.00	\$29,929.00	\$29,929.00	\$0.00	\$29,929.00	100.00%	\$0.00	\$149.64		
58.3	PEC Service	LS	1.0	\$27,077.00	\$27,077.00	\$27,077.00	\$0.00	\$27,077.00	100.00%	\$0.00	\$135.39		
<b>59</b>	<b>PCCO#002</b>												
59.1	Re-mobilization Cost	LS	1.0	\$5,781.00	\$5,781.00	\$5,781.00	\$0.00	\$5,781.00	100.00%	\$0.00	\$28.90		
<b>TOTALS:</b>					<b>\$51,787.00</b>	<b>\$51,787.00</b>	<b>\$0.00</b>	<b>\$51,787.00</b>	<b>100.00%</b>	<b>\$0.00</b>	<b>\$258.93</b>		

Grand Totals

A	B	C	D	E	G		H	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	WORK COMPLETED		TOTAL COMPLETE	% COMPLETE	BALANCE TO FINISH (C - G)	RETAINAGE
			PRIOR APPLICATION	THIS PERIOD				
GRAND TOTALS:		\$4,031,787.00	\$4,031,787.00	\$0.00	\$4,031,787.00	100.00%	\$0.00	\$20,158.93

**Bidding Requirements, Contract Forms & Conditions of the Contract**  
**Supplemental General Conditions – Section 00 81 00**

**AFFIDAVIT OF BILLS PAID, PARTIAL LIEN WAIVER AND INDEMNITY**  
**[FOR USE BY CONTRACTOR ONLY]**

THE STATE OF TEXAS           §  
  §  
COUNTY OF ~~TRAVIS~~           §  
  TARRANT

BEFORE ME, the undersigned authority, on this day personally came and appeared Nick Carsten, known to me to be a credible person, and Project Manager of Landmark Structures I, L.P., a General Contractor (hereinafter called "Contractor"), and who, being first duly sworn, upon his oath declares and acknowledges as follows:

2. I am the duly authorized agent for the said Contractor which has authorized me to make this affidavit, to enter into the agreements and to grant the lien waivers herein set forth, on its behalf and as its acts and deeds, and all the facts and recitations herein are true and correct.

3. Contractor has supplied materials and/or performed labor in connection with the construction of facilities known as WTCPUA 1240 Elevated Storage Tank (the "Facilities") as more particularly described in that one certain Standard Form of Agreement by and between WTCPUA (the "Owner"), and Landmark Structures I, L.P. (the "Contractor") dated May 10, 2023.

4. Contractor has received payment of all sums due Contractor for materials supplied and labor performed in connection with the construction of the Facilities up to and including \_\_\_\_\_, \_\_\_\_\_ (the "Release Date").

5. In consideration of the payment by Owner of all said sums and other good and valuable consideration, the receipt of all of which is hereby acknowledged, Contractor has waived and released and, acting herein by and through me, does hereby waive and release, any and all liens, rights and interests (whether choate or inchoate and including, without limitation, all mechanic's and materialman's liens under the Constitution, statutes and laws of the State of Texas) owned, claimed or held, or to be owned, claimed or held by Contractor in and to the Facilities and on any property on which the Facilities are located (such property is referred to herein as the "Land"), or any part thereof, whether real or personal property and whether or not affixed to or severed or severable from the Land, for any materials supplied and labor performed in connection with construction of the Facilities up to and including the Release Date; and the Contractor for itself, its representatives and assigns does release, acquit and forever discharge Owner and his respective successors and assigns, from any and all such claims, debts, demands and causes of action that Contractor has or may have as a result of the same.

6. A full and complete list of all persons and entities which Contractor has engaged or with which Contractor has entered into any contractual arrangement to furnish materials or to perform any labor in connection with any construction or work on the Land or the Facilities up to and including the Release Date is set forth on Exhibit A, attached hereto and incorporated herein for all purposes. Contractor has actual knowledge that all bills owed by Contractor to others for materials furnished and labor performed in connection with any construction or work on the Land or the Facilities up to and including the Release



## **VI. NEW BUSINESS**



# ITEM A



**WHEREAS**, Nelisa Heddin Consulting has conducted a water impact fee study, attached hereto as Exhibit “B” and has recommended certain amendments to the Impact Fees for the water impact fee service area; and

**WHEREAS**, the WTCPUA has received a recommendation from the Impact Fee Advisory Committee to amend the Capital Improvements Plan, Land Use Assumptions and Impact Fees for the water impact fee service area; and

**WHEREAS**, on November 18, 2024, the Board of Directors adopted an Order scheduling a public hearing regarding the proposed amendments to the Capital Improvements Plan, Land Use Assumptions and Impact Fees for the water impact fee service area; and

**WHEREAS**, after providing proper notice to the public, the WTCPUA held a public hearing on December 18, 2024, regarding the proposed amendments to the Capital Improvements Plan, Land Use Assumptions and Impact Fees for the water impact fee service area; and

**WHEREAS**, The Board of Directors has reviewed all public input provided at the public hearing and the comments provided by the Impact Fee Advisory Committee regarding the proposed amendments to the Capital Improvements Plan, Land Use Assumptions and Impact Fees for the water impact fee service area; and

**WHEREAS** the Board of Directors desires to amend Capital Improvements Plan, Land Use Assumptions and Impact Fees for the water impact fee service area.

**NOW THEREFORE**, it is ordered by the Board of Directors of West Travis County Public Utility Agency as follows:

**Section 1:** The above recitals are true and correct and are incorporated into this Order for all purposes.

**Section 2:** The proposed amendments to the Capital Improvements Plan, Land Use Assumptions and Impact Fees for the water impact fee service area are reasonable and necessary for the WTCPUA to provide water service from its water system to customers of the WTCPUA service area.

**Section 3:** The WTCPUA hereby adopts the amendments to the Capital Improvements Plan, Land Use Assumptions and Impact Fees for the water impact fee service area provided in the study to be effective as of \_\_\_\_\_.

**Section 4:** The WTCPUA’s General Manager, Engineer and General Counsel are authorized to take all actions necessary to carry out the purposes of this Order and otherwise comply with applicable Texas Laws and regulations.

**PASSED AND APPROVED** this 18th day of December, 2024.

---

Scott Roberts, President  
Board of Directors

ATTEST:

---

Walt Smith, Secretary  
Board of Directors

**EXHIBIT A**

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**LAND USE ASSUMPTIONS & CAPITAL IMPROVEMENTS PLAN**

**for**

**WEST TRAVIS COUNTY PUBLIC UTILITY AGENCY  
2024 IMPACT FEE STUDY**

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October 2024



Prepared for:

West Travis County Public Utility Agency  
13215 Bee Cave Parkway  
Bldg B, Suite 110  
Bee Cave, Texas 78738



Prepared by:

Murfee Engineering Company, Inc.  
1101 Capital of Texas Highway, South  
Building D, Suite 110  
Austin, Texas 78746

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- Appendix A-1: 2024 Impact Fee Study Overall Water Exhibit
- Appendix A-2: Proposed 2024 Water CIP Exhibit
- Appendix B-1: Existing 2024 Wastewater CIP Exhibit
- Appendix B-2: Proposed 2024 Wastewater CIP Exhibit
- Appendix C: Water LUA Summary Figures
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- Appendix E: CIP Tables
  - E-1 Total Capital Allocated to Growth
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  - E-4 Growth Allocation Existing Projects-Wastewater
  - E-5 Growth Allocation Proposed 2024 CIP Projects - Wastewater

## **INTRODUCTION**

The purpose of this report is to develop the Land Use Assumptions (LUA) and Capital Improvements Plan (CIP) in support of the West Travis County Public Utility Agency 2024 Impact Fee Study for the 2024-2034 planning period. The process and methodology used will be described and the results summarized in tabular and graphical form for use in the impact fee calculations prepared by Nelisa Heddin Consulting, LLC. This report is prepared in accordance with the applicable provisions of Chapter 395 of the Local Government Code: *Financing Capital Improvements Required by New Development in Municipalities, Counties, and Certain Other Local Governments*.

## **BACKGROUND**

### ***Water***

The West Travis County Public Utility Agency (WTCPUA) regional water system currently serves approximately 23,776 Living Unit Equivalents (LUEs) in western Travis and northern Hays Counties. Raw water is diverted from Lake Austin under Firm Water Contracts with the Lower Colorado River Authority at intake structures and is delivered to both raw water customers as well as to the Uplands Water Treatment Plant located on Bee Cave Road at its intersection with Bee Cave Parkway. Potable water service is provided to retail and wholesale customers throughout the WTCPUA service area by the Uplands Water Treatment Plant. The distribution system is generally divided into the SH71 and US290 Systems, with the demarcation being the Southwest Parkway Pump Station and the facilities that supply it with water for pumping into the US290 System. This demarcation also includes future facilities that will supply the 290 system with water from Hamilton Pool Road south toward Fitzhugh road. Table 1 provides a summary of existing LUEs by system.



**Table 1: Summary of Existing Water LUEs**

<b>System</b>	<b>Total Existing Water LUEs</b>
SH71	11,598
US290	12,178
<b>TOTAL</b>	<b>23,776</b>

The division of the system into two main service areas is an operational and planning tool that also leads to separate impact fee calculation for each system. As such, the two-system planning and service strategy is carried through the Land Use Assumptions and Capital Improvements Plan to the calculation of impact fees. Table 2 shows the existing and projected water LUEs and Table 3 shows the existing and projected water LUEs by pressure plane. Table 4 depicts the water LUE growth assumptions by year. Appendix A-1: *Water CIP Exhibit* shows the WTCPUA water system, general division between the SH71 and US290 Systems, major system components, and existing CIP facilities. Appendix A-2: *Proposed CIP* depicts the proposed additional CIP facilities to serve the new growth for the next 10 years.

### ***Wastewater***

The WTCPUA regional wastewater system currently serves approximately 4,877 LUEs in a 4,800± acre service area generally within the extraterritorial jurisdiction (ETJ) of the City of Bee Cave. The wastewater collection system includes 21 lift stations and approximately 60 miles of pipe, which deliver raw wastewater for treatment to two wastewater treatment plants. Treated effluent is stored in two effluent holding ponds and is used for irrigation under a Texas Land Application Permit (TLAP) as well as an Authorization for Reclaimed Water (210 Authorization). Appendix B-1: *Wastewater CIP Exhibit* shows the wastewater collection system, service area boundary, major system components, and existing CIP facilities. Appendix B-2: *Proposed Wastewater CIP* shows the proposed CIP addition to provide services for full buildout which is expected in the next ten years.

**Table 2: Existing and Projected Water LUE Summary 2024-2034**

Murfee Engineering Company, Inc.							Date:	9/4/2024
Texas Registered Firm No. F-353		WTCPUA - Existing and Projected Water LUE Summary 2024-2034						
RETAIL CUSTOMERS								
System	Pressure Plane	Description	Demography Planning Unit	2023 Connections	2023 LUEs	2024-2034 Projected Growth	Ultimate 20 yr +/-	
US 290	1240	Echo Bluff, Hills of Texas, Bear Creek	39	275	288	67	355	
		Friendship Ranch, Whispering Oaks, Wildwood, Parten, Skyridge	40	461	667	173	840	
		Rim Rock	45	636	834	0	834	
		Fox Run, Barsana	46.1	5	12	8	20	
		S. of FM1826 Barsana to Bear Creek Pass	47.1	11	13.5	5	18	
		Bear Creek Estates	47.3	26	29	0	29	
		NW of Circle Dr.	116	3	3	5	8	
		US290 South of Circle Dr., Tanglewood W., Hillside	117	195	224	0	224	
		Appaloosa Run, Zyle Rd.	119	150	165	15	179	
		Overlook at Lewis Mountain	120	0	0	2	2	
		Rutherford West	122	170	215	0	215	
		Infill (Nuttly Brown)	38	40	46	84	200	
<b>1240 Retail Pressure Plane Total</b>			<b>1972</b>	<b>2496</b>	<b>359</b>	<b>2924</b>		
US 290	1340 N	Heritage Country, Big Country	18.3	118	137	6	143	
		Heritage Oaks, Ledge Stone, Oak Run West, Polo Club	20.2	510	718	41	759	
		Meadow Creek Ranch, Dripping Springs Ranch II	35.2	4	4	9	20	
		Fire Station West of Belterra	37.1	1	1	0	1	
		Signal Hill	38	40	46	71	167	
		Green Hills	44	23	27	6	33	
		N. of Fitzhugh to the County Line	113	18	22	4	26	
		Infill	16	N/A	0	275	550	
		Oak Run, S. of Fitzhugh to Blackstone	114	17	35	31	73	
		<b>1340 N Retail Pressure Plane Total</b>			<b>731</b>	<b>990</b>	<b>443</b>	<b>1772</b>
US 290	1340 S	Fire Station West of Belterra	37.1	1	1	0	1	
		Highpointe	41	1039	1223	0	1223	
		E. of Sawyer Highpointe to Darden Hill	42	44	63	57	133	
		Woodland Estates, Cypress Springs Elementary	43.2	4	13	26	58	
		Infill	34	N/A	0	275	550	
		Onion Creek Ranch, Creek of Driftwood	43.1	92	108	7	114	
		Darden Hill, KW, Penn	42	44	63	1437	3000	
Rimrock Tr., Spring Valley, Ledge Stone Terrace, Derecho	118	248	306	42	347			
<b>1340 S Retail Pressure Plane Total</b>			<b>1471</b>	<b>1775</b>	<b>1844</b>	<b>5426</b>		
US 290	1420 (290)	Sunset Canyon	19.3	391	443	43	486	
		Key Ranch, Saratoga Hills	20.1	157	224	33	257	
		Hays Country Acres & Creek	33.2	8	36	0	36	
		Sunset Canyon S, Sunset Canyon S Infill	35.1	157	183	28	211	
		Sawyer Ranch, US290 to Sunset Canyon Commercial Frontage	36	236	310	12	322	
		<b>1420 (290) Retail Pressure Plane Total</b>			<b>949</b>	<b>1196</b>	<b>116</b>	<b>1312</b>
<b>US 290 System Retail Subtotal</b>				<b>5,123</b>	<b>6,457</b>	<b>2,762</b>	<b>11,433</b>	
HWY 71	1080 (BCR)	Bee Cave West, Travis County, Infill	3D.5	122	222	109	330	
		Lake Pointe	5A	1084	1216	91	1307	
		Irrigation near Senna Hills	102	2	4	0	4	
		Seven Oaks	103	273	475	40	515	
		N. Crystal Creek Drive	104	7	24	4	28	
		S. Crystal Creek Drive	106	3	5	6	12	
	Angelwylde	107	1	1	9	20		
	<b>1080 (BCR) Retail Pressure Plane Total</b>			<b>1492</b>	<b>1946</b>	<b>259</b>	<b>2216</b>	
	1080 (CoBC)	Shops at the Galleria, Paseo, East Village, Infill	3H.1	401	696	180	876	
		Barton Creek Preserve	3H.2	4	5	6	13	
Uplands, HEB		4A.1	204	303	140	442		
The Preserve at Barton Creek		4A.2	46	56	0	56		
Backyard		8F	0	0	205	409		
Pearl, Hill Country Galleria & Surrounding (1080PPP)	5C	52	233	152	385			
<b>1080 (CoBC) Retail Pressure Plane Total</b>			<b>707</b>	<b>1292</b>	<b>683</b>	<b>2181</b>		
1280 (HPR)	Destiny Hills	3D.3	4	6	6	14		
	W. of Crumley HPR to county line, Rocky Creek	3E.1	399	586	238	823		
	Shield Ranch (Now inside conservancy)	3F	1	1.5	0.5	2		
	<b>1280 (HPR) Retail Pressure Plane Total</b>			<b>404</b>	<b>593</b>	<b>245</b>	<b>839</b>	
1280 (CoBC)	Spanish Oaks	3H.1	201	348	848	1992		
	Homestead, Meadowfox, LTYA	3G.1	189	223	14	237		
	Lake Travis Middle School	3K.1	1	50	10	60		
	Cielo Apartments	5B	0	0	59	117		
	Falconhead, Brisa Townhomes	8A	732	950	38	987		
	Ladera, Morningside, Skaggs	8F	396	852	313	1165		
Hill Country Galleria & Surrounding (1175PPP)	5C	26	117	42	158			
<b>1280 (CoBC) Retail Pressure Plane Total</b>			<b>1544</b>	<b>2539</b>	<b>1324</b>	<b>4716</b>		
1420 (HPR)	Reimers Ranch and Peacock Commercial	3A	0	0	50	100		
	Lake Travis Independent School District	2C.1	0	0	50	100		
	N. of Hamilton Pool Madrone Ranch to Creeks Edge, Hatchett/Provence (TC MUD 22), Harris, Preservation Ranch, Huthnace Peacock	3D.2	672	907	1059	2621		
<b>1420 (HPR) Retail Pressure Plane Total</b>			<b>672</b>	<b>907</b>	<b>1159</b>	<b>2821</b>		
<b>HWY 71 System Retail Subtotal</b>				<b>4,819</b>	<b>7,277</b>	<b>3,670</b>	<b>12,773</b>	
<b>RETAIL TOTAL</b>				<b>9,942</b>	<b>13,734</b>	<b>6,432</b>	<b>24,206</b>	

\* - Calculation of LUEs is based on meter size.

**Table 2: Existing and Projected Water LUE Summary 2024-2034 Continued**

WHOLESALE CUSTOMERS								
System	Pressure Plane	Customer	Demography Planning Unit	Sep 2022-Sep 2023 Average Usage (gpd)	2023 Standardized Water LUEs <sup>1</sup>	2024-2034 Projected Growth	Buildout Total LUEs	
US290	1240 (1160)	Reunion Ranch WCID <sup>2</sup>	47.2	297,906	662	0	524	
		City of Dripping Springs - Driftwood	43.3 / 121	132,698	295	406	1,000	
	<b>1240 (1160) Wholesale Pressure Plane Total</b>				<b>430,604</b>	<b>957</b>	<b>406</b>	<b>1,524</b>
	1340 N	City of Dripping Springs - N.E.		0	0	2158	4,316	
		<b>1340 N Wholesale Pressure Plane Total</b>				<b>0</b>	<b>0</b>	<b>2,158</b>
	1340 S	Hays 1, Hays 2		74.2	950,973	2113	233	2,346
		<b>1340 S Wholesale Pressure Plane Total</b>				<b>950,973</b>	<b>2,113</b>	<b>233</b>
	1420 (290)	City of Dripping Springs - N.E.		43.3 / 121	0	0	759	1,518
			City of Dripping Springs - Headwaters	19.2	316,698	704	579	1,425
		Dripping Springs WSC		n/a	876,123	1947	276	2,222
<b>1420 (290) Wholesale Pressure Plane Total</b>				<b>1,192,821</b>	<b>2,651</b>	<b>1,614</b>	<b>5,165</b>	
<b>US 290 System Wholesale Subtotal</b>				<b>2,574,398</b>	<b>5,721</b>	<b>4,411</b>	<b>13,351</b>	
HWY 71	1080 (BCR)	Barton Creek West WSC <sup>2</sup>	108	308,687	686	0	427	
		Crystal Mountain	105	58,281	130	0	118	
		Eanes ISD	n/a	18,976	42	16	58	
		Senna Hills	102	212,225	472	14	485	
		<b>1080 (BCR) Wholesale Pressure Plane Total</b>				<b>598,169</b>	<b>1,329</b>	<b>30</b>
	1280 (71)	Lazy Nine MUD 1A - Sweetwater		3K.1	90,483	201	1009	2,420
		TC MUD 12 - Rough Hollow		2C.2	850,335	1890	256	2,145
		TC MUD 18 - Bella Colinas / Masonwood		3D.4	214,497	477	167	643
	<b>1280 (71) Wholesale Pressure Plane Total</b>				<b>1,155,315</b>	<b>2,567</b>	<b>1,432</b>	<b>5,208</b>
	1420 (HPR)	Deer Creek <sup>2,3</sup>		n/a	191,253	425	0	310
<b>1420 (HPR) Wholesale Pressure Plane Total</b>				<b>191,253</b>	<b>425</b>	<b>0</b>	<b>310</b>	
<b>HWY 71 System Wholesale Subtotal</b>				<b>1,944,737</b>	<b>4,322</b>	<b>1,462</b>	<b>6,606</b>	
<b>WHOLESALE TOTAL</b>				<b>4,519,135</b>	<b>10,043</b>	<b>5,873</b>	<b>19,957</b>	
1 - Using 450 gpd/LUE								
2-2020 Wholesale contract a nnuual average consumption exceeds agreement amount								
3- Contract states 310 built out LUEs, max 400 gpm consumption								
					<b>US 290 System Total</b>	<b>12,178</b>	<b>7,173</b>	<b>24,784</b>
					<b>HWY 71 System Total</b>	<b>11,598</b>	<b>5,132</b>	<b>19,379</b>
					<b>GRAND TOTAL</b>	<b>23,776</b>	<b>12,305</b>	<b>44,163</b>

## LAND USE ASSUMPTIONS

The Living Unit Equivalent is utilized as the service unit to determine the ultimate system's demand. For this analysis one Service Unit is defined as one LUE. Table 4 shows the ten-year growth for the water service area. The land use assumptions include existing customers, wholesale and retail commitments, assumptions on infill and projects that are known to be in the development pipeline. Notably in the 290 System an additional 7,173 LUEs are in the planning stages and 5,132 LUEs have been committed to by the PUA for service in the Dripping Springs area, US290 corridor, RR 1826 corridor, and Fitzhugh Lane. In addition to these corridors, growth along Nutty Brown Road is also occurring, including a new HEB constructed in 2023. Within the SH 71 System Bee Cave Road is essentially built-out, while the City of Bee Cave has 2900± LUEs in the development pipeline with infill of 760 LUEs expected in the SH71 and Bee Cave Parkway area. Hamilton Pool Road has commitments for service from the PUA for Belvedere, Provence, Preserve, Huthnance and Deer Creek. A minor amount of infill is expected along Hamilton Pool Road. Of note: Table 2 identifies four wholesale customers that are exceeding their contracted amounts based on an average day usage. These wholesale users include Reunion Ranch WCID, Barton Creek West WSC, Crystal Mountain and Deer Creek; it is unknown if this trend is expected to continue. Wholesale LUEs were calculated by sorting the wholesale customer data from September 2022 to September 2023 and summing the billed consumption for each month by customer. After calculating the total billed consumptions an average was taken for the year in gpd usage and this average was used to calculate LUEs using a 450 gpd/LUE assumption.

**Table 3: Existing and Projected Water LUE Count by Pressure Plane**

Existing and Projected Water LUE Count by Pressure Plane				
System	Pressure Plane	2023 LUES*	2024-2034 Projected Growth	Ultimate 20 yr +/-
<b>US 290</b>	1240	3,453	765	4,448
	1340 N	990	2,601	6,088
	1340 S	3,887	2,077	7,771
	1420 (290)	3,847	1,730	6,477
<b>US 290 Total</b>		<b>12,178</b>	<b>7,173</b>	<b>24,784</b>
<b>HWY 71</b>	1080 (BCR)	3,275	289	3,304
	1080 (CoBC)	1,292	683	2,181
	1280 (HPR)	593	245	839
	1280 (CoBC)	2,539	1,324	4,716
	1280 (71)	2,567	1,432	5,208
	1420 (HPR)	1,332	1,159	3,131
<b>HWY 71 Total</b>		<b>11,598</b>	<b>5,132</b>	<b>19,379</b>
<b>TOTAL</b>		<b>23,776</b>	<b>12,305</b>	<b>44,163</b>

\*Calculation of LUE based on meter size

**Table 4: Water Land Use Growth Assumption Summary Tabulation**

Impact Fee Planning Period Year	TOTAL LUEs		
	US290	SH71	TOTAL
<b>Oct-25</b>	12,890	13,123	26,013
<b>Oct-26</b>	13,478	13,571	27,049
<b>Oct-27</b>	14,100	14,009	28,109
<b>Oct-28</b>	14,759	14,436	29,195
<b>Oct-29</b>	15,447	14,851	30,298
<b>Oct-30</b>	16,168	15,253	31,421
<b>Oct-31</b>	16,920	15,643	32,562
<b>Oct-32</b>	17,704	16,020	33,724
<b>Oct-33</b>	18,514	16,382	34,896
<b>Oct-34</b>	19,351	16,730	36,081

Appendix C: *Water LUE Summary Figures* provide a graphical representation of the water LUA.

Tables 5-7 provide a similar summary tabulation for wastewater to that described and provided for water. Since not all water customers in the Bee Caves/ Hwy 71 system receive wastewater service, the growth and total connections will differ.

**Table 5: Existing Wastewater LUEs**

Murfee Engineering Company, Inc. Texas Registered Firm No. F-353			6/05/2024	
WTCPUA - April 2024 SH71 System WW LUE Summary				
RETAIL CUSTOMERS				
Rate District	Read Route & Description	Connections	Exist WW LUEs*	
SH 71	311 Seven Oaks	9	39	
	312 Uplands	7	50	
	313 Seven Oaks	1	5	
	314 Falconhead	463	504	
	315 Spanish Oaks & Hwy 71	443	457	
	316 Lake Pointe 1	266	273	
	317 Lake Pointe 2	217	233	
	318 Shops at the Galleria	95	570	
	319 Lake Pointe 3	208	212	
	320 Lake Pointe 4	253	253	
	321 620 & 71	739	1297	
<b>TOTAL</b>		<b>2,701</b>	<b>3,892</b>	
* - Calculation of LUEs is based on meter size. Meters with zero consumption were not counted.				
WHOLESALE CUSTOMERS				
Customer	January-December 2023 Average Usage (gpd)	January-December 2023 Peak Month Usage (gpd)	Exist WW LUEs	
Masonwood	102,547	122,107	570	
WCID 17**	74,816	79,867	416	
<b>TOTAL</b>		<b>177,363</b>	<b>201,974</b>	<b>985</b>
** - Calculation of Wholesale LUEs is based on 180 gpd/LUE				
<b>GRAND TOTAL</b>			<b>4,877</b>	

**Table 6: Wastewater Land Use Assumption Tabulation; by Development**

Upcoming Development	GROWTH from 2024-2034				TOTAL LUEs
	Retail		Wholesale	Total	
	Residential	Commercial			
Backyard	0	357	0	357	4,877
Ladera Ridge	0	19	0	19	5,234
Masonwood	0	0	80	80	5,333
Pearl (Terraces)	205	0	0	205	5,538
West Village	337.5	337.5	0	675	6,213
Infill/Buildout*	0	225	0	225	6,438
<b>Subtotal</b>	<b>542.5</b>	<b>938.5</b>	<b>80</b>	<b>1,561</b>	<b>6,438</b>
<b>TOTAL</b>	<b>1,481</b>				

\*Infill/Buildout assumed to be commercial

**Table 7: Wastewater Land Use Assumption Tabulation; by Year**

Impact Fee Planning Period Year	GROWTH				TOTAL LUEs
	Retail		Wholesale	Total	
	Residential	Commercial			
2025	95	24	8	127	5,004
2026	112.5	62.5	8	183	5,187
2027	47.5	52.5	8	108	5,295
2028	47.5	103.5	8	159	5,454
2029	47.5	103.5	8	159	5,613
2030	42.5	118.5	8	169	5,782
2031	37.5	118.5	8	164	5,946
2032	37.5	118.5	8	164	6,110
2033	37.5	118.5	8	164	6,274
2034	37.5	118.5	8	164	6,438
<b>Subtotal</b>	<b>542.5</b>	<b>938.5</b>	<b>80</b>	<b>1,561</b>	<b>6,438</b>
<b>TOTAL</b>	<b>1,481</b>				

A graphical representation of the wastewater LUA is presented in Appendix D: *Wastewater LUA Summary Figure*.

## SYSTEM PLANNING CRITERIA

In order to step forward to a Capital Improvements Plan from the Land Use Assumptions it is necessary to define the units used in the projections. Therefore the projections are defined in terms of water and wastewater system usage as well as the criteria used to establish the capacities of regional facilities. The capacity of the system's existing and proposed CIP infrastructure are generally sized to serve the projected growth.

### *Unit Usage*

Based on the operational history of the system under the WTCPUA, which now spans approximately twelve years, unit usage in gallons per day per living unit equivalent (gpd/LUE) has been developed for both the water and wastewater systems. Table 8 presents a comparison of the unit usage used in the 2012 Impact Fee Study (IFS) and the revised unit usage used in this report. As can be seen below peak day water usage has dropped to 864 gpd/LUE (the state minimum requirement) from 1,090 gpd/LUE. Similarly the wastewater demand average has decreased to 180 gpd/LUE from 205 gpd/LUE.

**Table 8: Water System Unit Usage Comparison**

System	2012 IFS Unit Usage (gpd/LUE)	2024 IFS Unit Usage (gpd/LUE)	Description
Water	450	450	Annual average
	1,090	864	Peak day
Wastewater	205	180	30-day average

### *System Criteria*

The primary criteria used to establish the capacity of the existing facilities and allocate for growth in CIP projects are pipe velocities, pumping capacity, and system storage. Transmission main capacity is evaluated using peak day unit usage and a 5 feet per second (fps) limitation on velocity. Pumping capacity is evaluated using the Firm Capacity (the capacity of a pump station when the largest pump



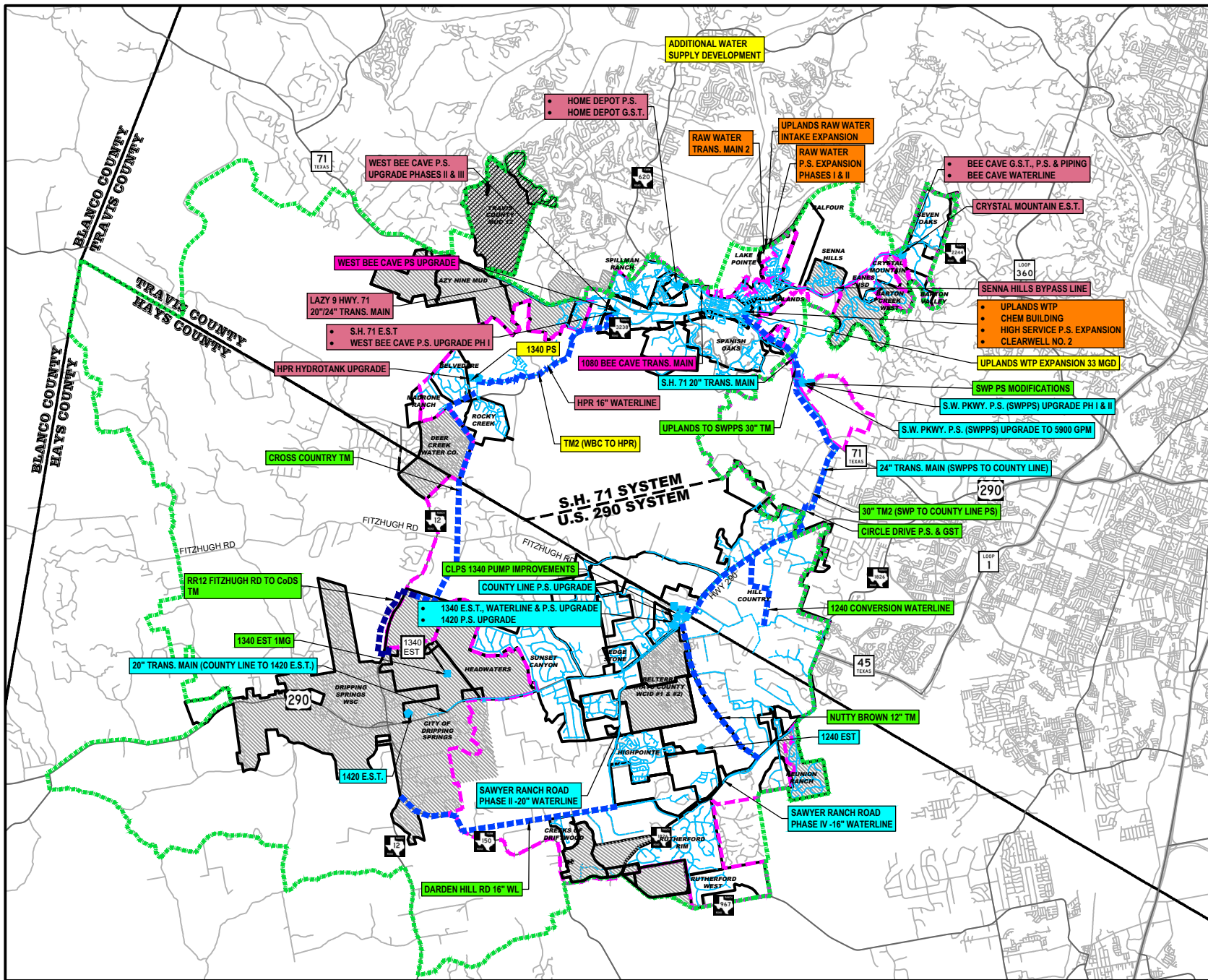
is out of service), which is the methodology required by the Texas Commission on Environmental Quality (TCEQ). A water distribution system model is used to evaluate the system dynamically and assist in sizing the facilities to provide minimum service level benchmarks. Once facilities are evaluated using the water distribution system model, the facilities' service areas are delineated and the preliminary capacity is evaluated in terms of the TCEQ minimum water system capacity requirements described in TAC §290.45. For the WTCPUA water system, the pumping requirements are 2.0 gpm/connection in service sub-areas where 200 gallons/connection of ground and elevated storage are not provided and 0.6 gpm/connection in sub-areas that meet the 200 gallons/connection threshold. Total storage is evaluated using dynamic peak day analyses in the water distribution system model as well as the TCEQ minimum criteria of 200 gallons/connection total storage, 100 gallons/connection elevated storage, 20 gallons/connection hydropneumatic system storage, and a clearwell storage capacity of 5% of the water plant's production capacity.

## **CAPITAL IMPROVEMENTS PLAN**

Using the above-described LUAs and the unit usage and system planning criteria, a Capital Improvements Plan was developed that identifies the projects required to meet the forecasted demands as well as estimated dates that the projects will be needed and forecasted project costs. Appendix E contains tables for water and wastewater project capacity assessments and allocations for existing projects as well as those for the proposed projects. The existing and proposed projects together define the CIP for the purposes of the impact fee calculations.

APPENDIX A-1:

2024 Impact Fee Study Overall Water Exhibit



**C.I.P. PROJECTS LEGEND**

PROPOSED

**LEGEND**

- WTCPUA WATER SYSTEM BOUNDARY
- EXISTING CIP FACILITIES
- PROPOSED CIP FACILITIES
- REGIONAL BOUNDARIES
- EXISTING WHOLESALE CUSTOMERS
- SERVICE PRELIM RETAIL

**EXISTING C.I.P.**

- GROUNDWATER FEASIBILITY STUDY
- RAW WATER LINE & WTP EXPANSION PER
- S.H. 71 WATER SYSTEM MODELING
- U.S. 290 WATER SYSTEM MODELING

**PROPOSED C.I.P.**

- SYSTEM WIDE
- S.H. 71 WATER SYSTEM MODELING & ANALYSIS
- U.S. 290 WATER SYSTEM MODELING & ANALYSIS

**PRELIMINARY DRAWING FOR PLANNING PURPOSES ONLY**

Murrell Engineering Company Texas Registered Engineering Firm F-353 1101 Capital of Texas Highway South, Building D, Suite 110, Austin, Texas 78746, (512) 327-9004		
<b>WEST TRAVIS COUNTY P.U.A.</b> <b>IMPACT FEE STUDY 2024</b>		
DATE: 10/1/2024	JOB NO: 11461-184	SCALE: AS NOTED
DESIGNED BY: GMM	DRAWN BY: RLW	CHECKED BY: GMM

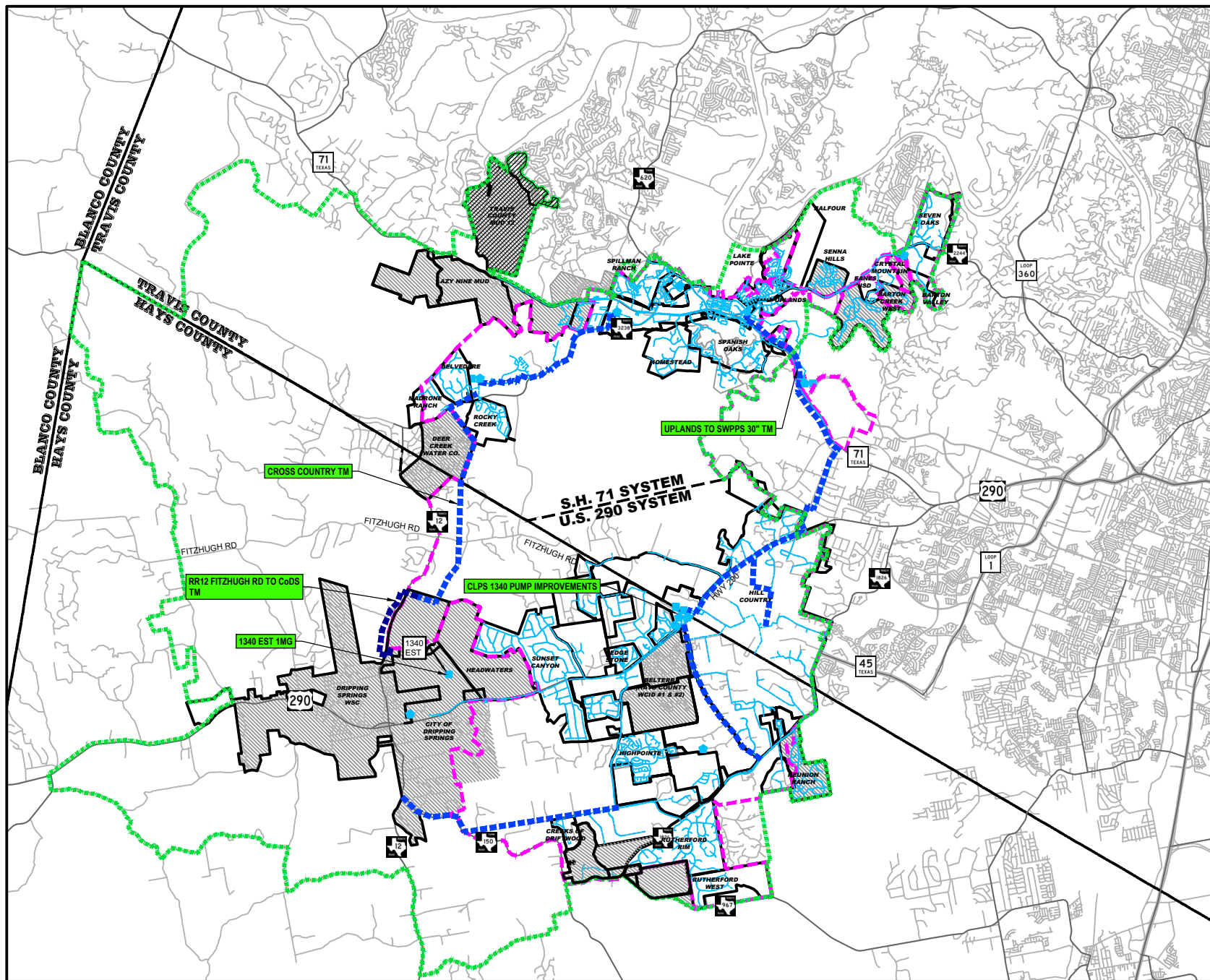
PLOT DATE: 2024/10/15  
FILE PATH: W:\WTCPUA\Facilities\Impact Fee Studies\2024 Impact Fee Study\CAD\Drawings\Overall Water CIP Exhibit\WTCPUA\_240300.dwg

FILE: W:\WTCPUA\Facilities\Impact Fee Studies\2024 Impact Fee Study\CAD\Drawings\Overall Water CIP Exhibit\WTCPUA\_240300.dwg

APPENDIX A-2:  
Proposed 2024 Water CIP Exhibit



- LEGEND**
- WTCPLA WATER SYSTEM BOUNDARY
  - EXISTING CIP FACILITIES
  - PROPOSED CIP FACILITIES
  - REGIONAL BOUNDARIES
  - EXISTING WHOLESALE CUSTOMERS
  - SERVICE PRELIM RETAIL



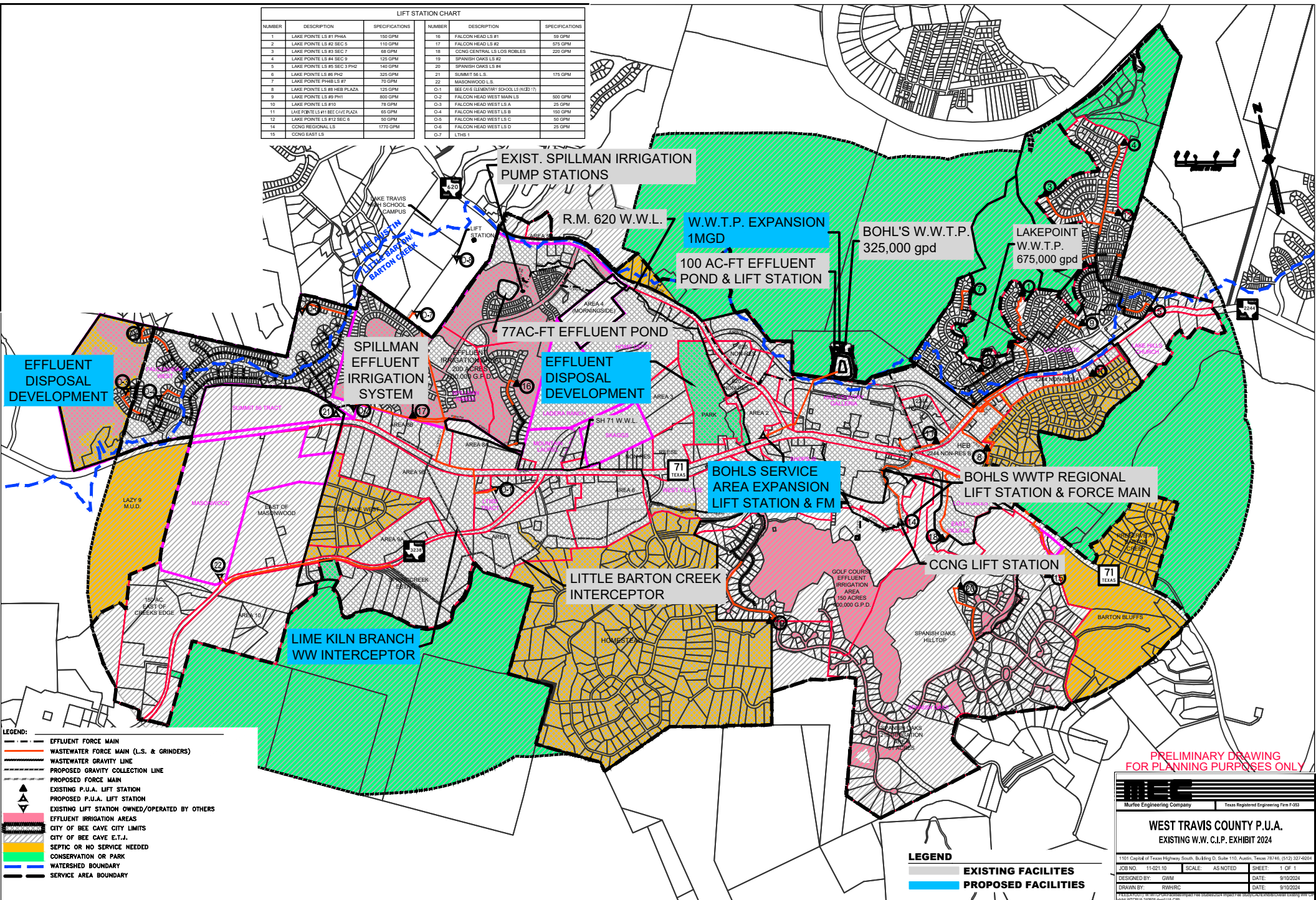
**PRELIMINARY DRAWING  
FOR PLANNING PURPOSES ONLY**

Murfee Engineering Company Texas Registered Engineering Firm F-353 1101 Capital of Texas Highway South, Building D, Suite 110, Austin, Texas 78746, (512) 327-9004		
<b>WEST TRAVIS COUNTY P.U.A. IMPACT FEE STUDY 2024</b>		
DATE: 10/1/2024	JOB NO: 11401-184	SCALE: AS NOTED
DESIGNED BY: GMM	DRAWN BY: RLW	CHECKED BY: GMM

PLOT DATE: 2024.10.15  
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APPENDIX B-1:  
Existing 2024 Wastewater CIP

LIFT STATION CHART					
NUMBER	DESCRIPTION	SPECIFICATIONS	NUMBER	DESCRIPTION	SPECIFICATIONS
1	LAKE POINTS LS #1 PHA	150 GPM	16	FALCON HEAD LS #1	50 GPM
2	LAKE POINTS LS #2 SEC 5	110 GPM	17	FALCON HEAD LS #2	50 GPM
3	LAKE POINTS LS #3 SEC 7	68 GPM	18	CCNG CENTRAL LS LOS ROBLES	220 GPM
4	LAKE POINTS LS #4 SEC 9	125 GPM	19	SPANISH OAKS LS #2	
5	LAKE POINTS LS #5 SEC 3 PH2	140 GPM	20	SPANISH OAKS LS #4	
6	LAKE POINTS LS #6 PH2	220 GPM	21	SUMMIT ST LS	
7	LAKE POINTS PHB LS #7	70 GPM	22	MASONWOOD LS	175 GPM
8	LAKE POINTS #8 HEB PLAZA	125 GPM	O-1	BEE CAVE ELEMENTARY SCHOOL LS (WCD '1)	
9	LAKE POINTS #9 PH1	800 GPM	O-2	FALCON HEAD WEST MAIN LS	500 GPM
10	LAKE POINTS LS #10	70 GPM	O-3	FALCON HEAD WEST LS A	25 GPM
11	LAKE POINTS #11 BEE CAVE PLAZA	65 GPM	O-4	FALCON HEAD WEST LS B	150 GPM
12	LAKE POINTS #12 SEC 6	50 GPM	O-5	FALCON HEAD WEST LS C	50 GPM
14	CCNG REGIONAL LS	1770 GPM	O-6	FALCON HEAD WEST LS D	25 GPM
15	CCNG EAST LS		O-7	LTHB '1	



EXIST. SPILLMAN IRRIGATION PUMP STATIONS

R.M. 620 W.W.L.

W.W.T.P. EXPANSION 1MGD

100 AC-FT EFFLUENT POND & LIFT STATION

BOHL'S W.W.T.P. 325,000 gpd

LAKEPOINT W.W.T.P. 675,000 gpd

EFFLUENT DISPOSAL DEVELOPMENT

SPILLMAN EFFLUENT IRRIGATION SYSTEM

77AC-FT EFFLUENT POND

EFFLUENT DISPOSAL DEVELOPMENT

SH 71 W.W.L.

BOHLS SERVICE AREA EXPANSION LIFT STATION & FM

BOHLS WWTP REGIONAL LIFT STATION & FORCE MAIN

LITTLE BARTON CREEK INTERCEPTOR

CCNG LIFT STATION

LIME KILN BRANCH WW INTERCEPTOR

GOLF COURSE EFFLUENT IRRIGATION AREA 150 ACRES 10,000 G.P.D.

- LEGEND:**
- EFFLUENT FORCE MAIN
  - WASTEWATER FORCE MAIN (L.S. & GRINDERS)
  - WASTEWATER GRAVITY LINE
  - PROPOSED GRAVITY COLLECTION LINE
  - PROPOSED FORCE MAIN
  - ▲ EXISTING P.U.A. LIFT STATION
  - ▲ PROPOSED P.U.A. LIFT STATION
  - ▲ EXISTING LIFT STATION OWNED/OPERATED BY OTHERS
  - EFFLUENT IRRIGATION AREAS
  - CITY OF BEE CAVE CITY LIMITS
  - CITY OF BEE CAVE E.T.J.
  - SEPTIC OR NO SERVICE NEEDED
  - CONSERVATION OR PARK
  - WATERSHED BOUNDARY
  - SERVICE AREA BOUNDARY

- LEGEND**
- EXISTING FACILITIES
  - PROPOSED FACILITIES

PRELIMINARY DRAWING FOR PLANNING PURPOSES ONLY

**Murfee Engineering Company** Texas Registered Engineering Firm F-333

**WEST TRAVIS COUNTY P.U.A.**  
EXISTING W.W. C.I.P. EXHIBIT 2024

1101 Capitol of Texas Highway, South, Building D, Suite 110, Austin, Texas 78746, (512) 321-6204

JOB NO: 11-021-10	SCALE: AS NOTED	SHEET: 1 OF 1
DESIGNED BY: GWM	DATE: 9/10/2024	
DRAWN BY: RW/RC	DATE: 9/10/2024	

1. PREPARED BY: RW/RC. 2. CHECKED BY: GWM. 3. APPROVED BY: GWM. 4. DATE: 9/10/2024. 5. PROJECT: WEST TRAVIS COUNTY P.U.A. EXISTING W.W. C.I.P. EXHIBIT 2024.

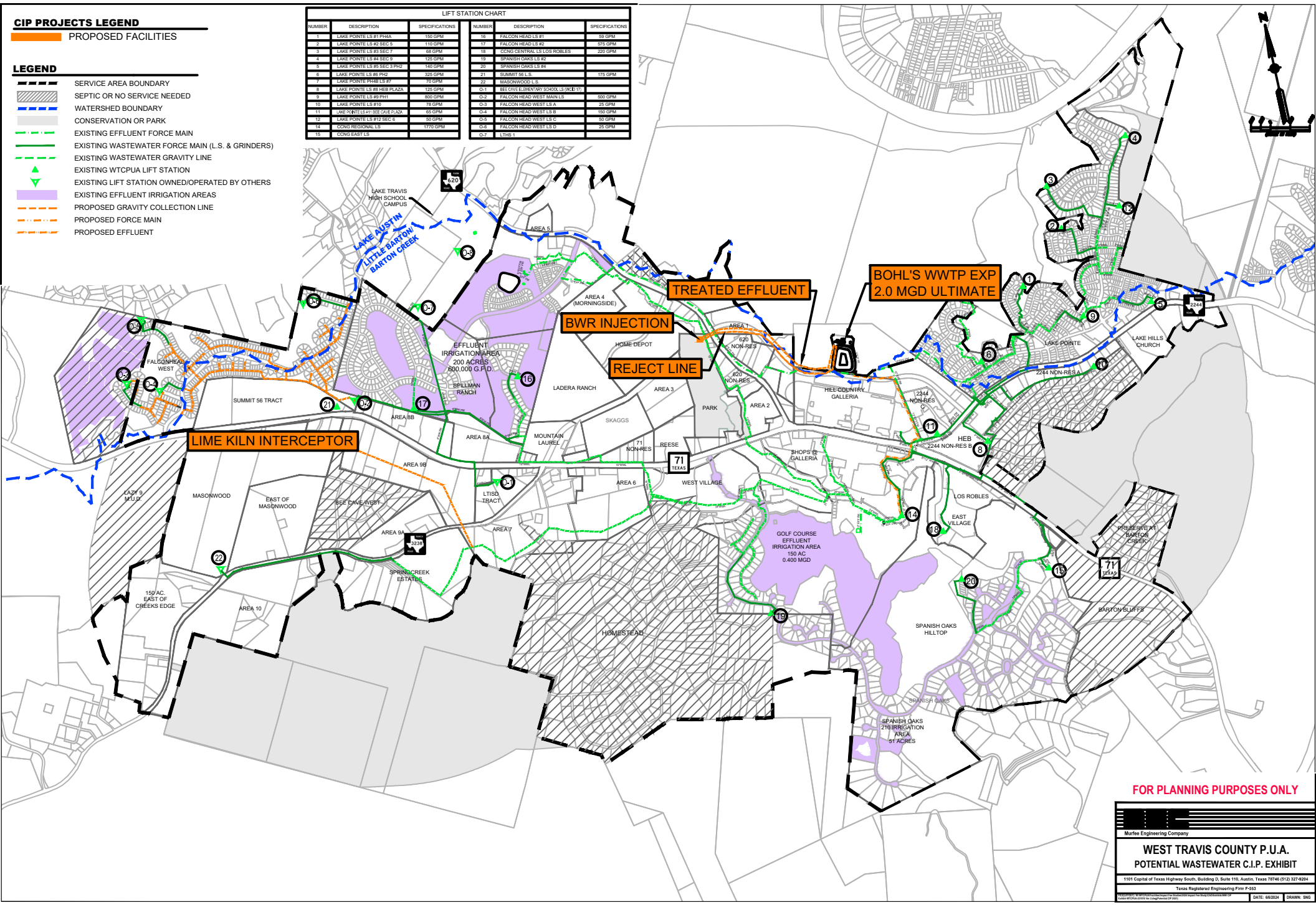
APPENDIX B-2:  
Proposed 2024 Wastewater CIP



**CIP PROJECTS LEGEND**

- LEGEND**
- SERVICE AREA BOUNDARY
  - SEPTIC OR NO SERVICE NEEDED
  - WATERSHED BOUNDARY
  - CONSERVATION OR PARK
  - EXISTING EFFLUENT FORCE MAIN
  - EXISTING WASTEWATER FORCE MAIN (L.S. & GRINDERS)
  - EXISTING WASTEWATER GRAVITY LINE
  - EXISTING WTCPUA LIFT STATION
  - EXISTING LIFT STATION OWNED/OPERATED BY OTHERS
  - EXISTING EFFLUENT IRRIGATION AREAS
  - PROPOSED GRAVITY COLLECTION LINE
  - PROPOSED FORCE MAIN
  - PROPOSED EFFLUENT

LIFT STATION CHART					
NUMBER	DESCRIPTION	SPECIFICATIONS			
1	LAKE PONTE LS #1 PHA1	150 GPM	16	FALCON HEAD LS #1	50 GPM
2	LAKE PONTE LS #2 SEC 5	110 GPM	17	FALCON HEAD LS #2	230 GPM
3	LAKE PONTE LS #3 SEC 7	85 GPM	18	COING CENTRAL LS LOS ROBLES	220 GPM
4	LAKE PONTE LS #4 SEC 9	125 GPM	19	SPANISH OAKS LS #2	
5	LAKE PONTE LS #5 SEC 3 PH2	140 GPM	20	SPANISH OAKS LS #4	
6	LAKE PONTE LS #6 PH2	325 GPM	21	SUMMIT 56	175 GPM
7	LAKE PONTE PRBLE LS #7	70 GPM	22	MASONWOOD L.S.	
8	LAKE PONTE LS #8 HEB PLAZA	125 GPM	0-1	HEE CAVE ELEMENTARY SCHOOL LS (W/17)	
9	LAKE PONTE LS #9 PH1	800 GPM	0-2	FALCON HEAD WEST MAIN LS	500 GPM
10	LAKE PONTE LS #10 PH2	110 GPM	0-3	FALCON HEAD WEST LS A	100 GPM
11	LAKE PONTE LS #11 HEB CAVE PLAZA	65 GPM	0-4	FALCON HEAD WEST LS B	100 GPM
12	LAKE PONTE LS #12 SEC 6	50 GPM	0-5	FALCON HEAD WEST LS C	50 GPM
13	COING REGIONAL LS	1770 GPM	0-6	FALCON HEAD WEST LS D	25 GPM
14	COING EAST LS		0-7	LH# 1	



FOR PLANNING PURPOSES ONLY

Murfo Engineering Company

**WEST TRAVIS COUNTY P.U.A.**  
**POTENTIAL WASTEWATER C.I.P. EXHIBIT**

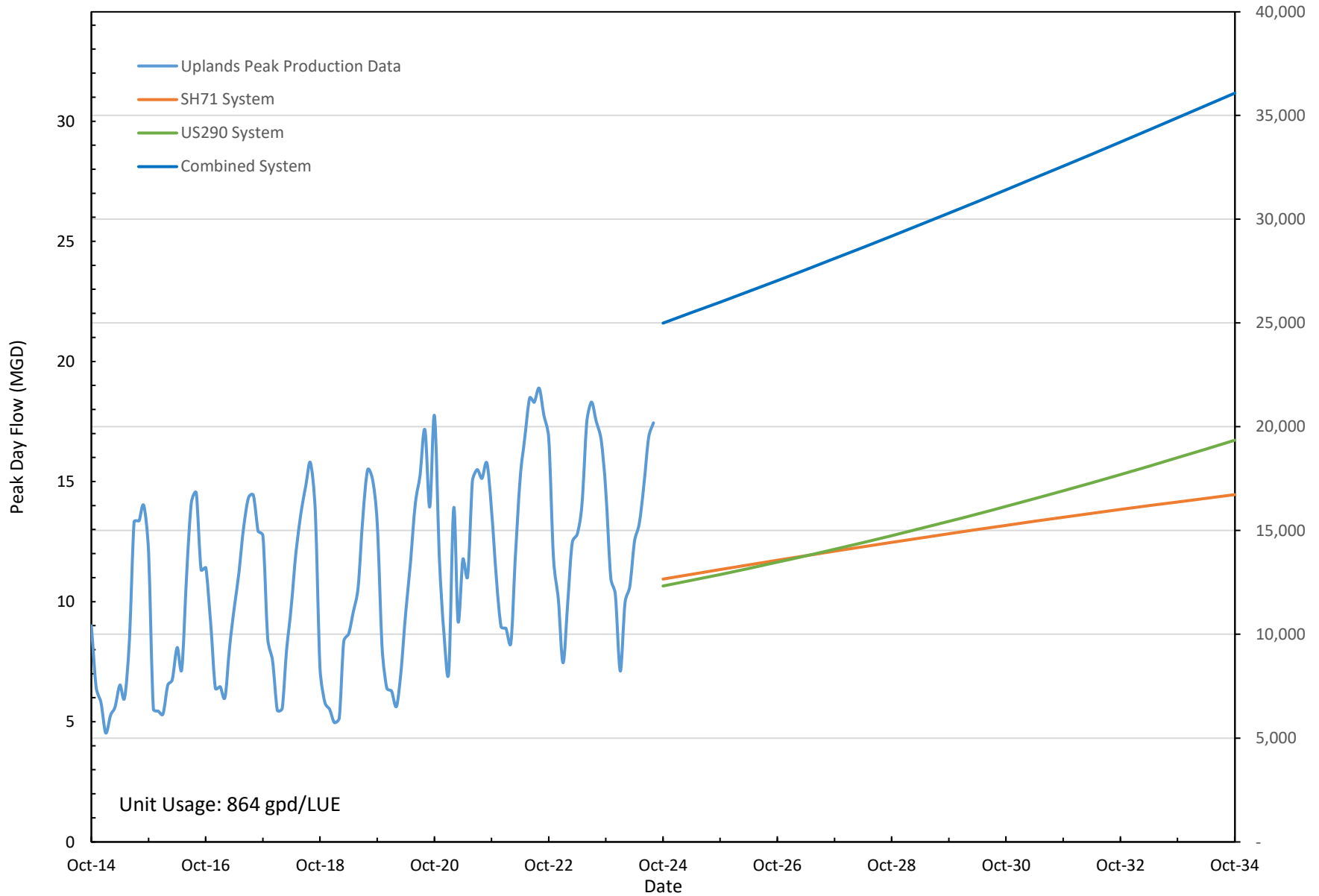
1101 Capital of Texas Highway South, Building D, Suite 110, Austin, Texas 78746 (512) 327-0204

Texas Registered Engineering Firm F-353

DATE: 06/20/24 DRAWN: SMO

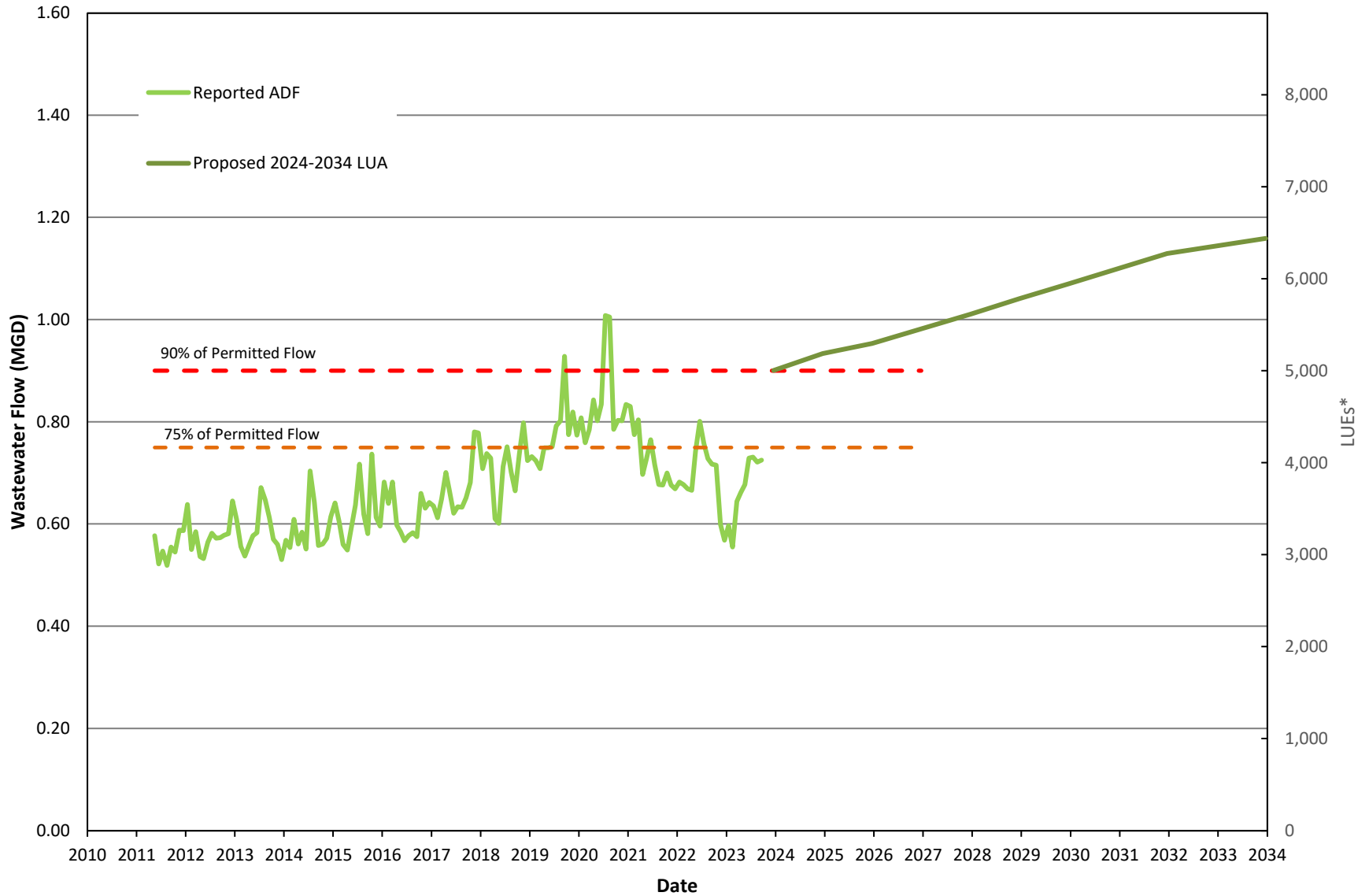
APPENDIX C:  
Water LUEs Summary Figures

### WTCPUA - Water LUA Summary 2024



APPENDIX D:  
Wastewater LUA Summary Figure

### WTCPUA - Wastewater LUA Summary 2024



\*Note: LUE= 180 gpd/LUE

APPENDIX E:

CIP Tables

E-1 Total Capital Allocated to Growth

E-2 Growth Allocation Existing Projects - Water

E-3 Growth Allocation Proposed 2024 CIP Projects - Water

E-4 Growth Allocation Existing Projects-Wastewater

E-5 Growth Allocation Proposed 2024 CIP Projects - Wastewater

## E-1 Total Capital Allocated to Growth

Table E-1 Total Capital Allocated to Growth

**WATER**

Proposed 2024 CIP Projects

System	Total Capital Allocated to Growth					Unit Cost	Combined*
	2024-2034 LUE Projected Growth	Existing	2024 CIP	Total	Total		
System-Wide	12,305	\$ 8,588,546	\$ 76,958,387	\$ 85,546,933	\$ 6,952.21		
US290	7,173	\$ 10,660,943	\$ 56,766,738	\$ 67,427,682	\$ 9,400.21	\$ 16,352.42	
SH71	3,995	\$ 4,917,377	\$ 8,339,413	\$ 13,256,790	\$ 3,318.35	\$ 10,270.55	

\* - unadjusted maximum allowable

**WASTEWATER**

2024 Impact Fee Study

System	Total Capital Allocated to Growth				Unit Cost
	LUEs	Existing	2024 CIP	Total	
System-Wide	1,561	\$ 8,186,714	\$ 17,420,500	\$ 25,607,214	\$ 16,404.37

\* - unadjusted maximum allowable



## E-2 Growth Allocation Existing Projects - Water

Table E-2 Growth Allocation Existing Projects - Water

WTCPUA Capital Improvements Program - Water									
Existing CIP Projects									
Project	Project Cost	Capacity (MGD or LUEs)	Current Capacity Used (MGD or LUEs)	Capacity Used 2024-2034 (MGD or LUEs)	Allocation for Current Capacity	Allocation for 2024-2034	Cost Allocation - Current	Cost Allocation - Growth	
<b>System-wide</b>									
System Hydraulic Modelling (2022)	\$ 75,917	N/A	N/A	N/A	10%	90%	\$ 7,592	\$ 68,325	
Uplands WTP Chem Building*	\$ 2,141,458	20	19.5	0.5	98%	2%	\$ 2,087,922	\$ 53,536	
Uplands WTP Ph1 (2012)	\$ 299,650	20	19.5	0.5	98%	2%	\$ 292,159	\$ 7,491	
Uplands WTP*	\$ 40,249,533	20	19.5	0.5	98%	2%	\$ 39,243,295	\$ 1,006,238	
Uplands Raw Water Intake Expansion*	\$ 416,305	20	19.5	0.5	98%	2%	\$ 405,897	\$ 10,408	
High Service Pump Station 8MGD-14MGD*	\$ 4,034,066	20	19.5	0.5	98%	2%	\$ 3,933,214	\$ 100,852	
Uplands Clearwell No. 2*	\$ 997,229	20	19.5	0.5	98%	2%	\$ 972,298.28	\$ 24,931	
Groundwater Feasibility Study	\$ 40,000	N/A	N/A	N/A	84%	16%	\$ 33,600	\$ 6,400	
Raw Water Line & (Uplands) WTP Expansion PER	\$ 173,726	N/A	N/A	N/A	28%	72%	\$ 48,643.28	\$ 125,083	
Raw Water Pump Station Expansion (Phase I) (3MGD)	\$ 1,592,603	3	0.4	2.6	13%	87%	\$ 212,347.07	\$ 1,380,256	
Raw Water Transmission Main No. 2	\$ 6,182,157	16.5	1.4	15.1	8%	92%	\$ 524,546.65	\$ 5,657,610	
Raw Water Transmission Main No. 2 Chlorine Injection Improvements	\$ 161,083	16.5	1.4	15.1	8%	92%	\$ 13,667.65	\$ 147,415	
Subtotal	\$ 56,363,727						\$ 47,775,181	\$ 8,588,546	
<b>SH71 System</b>									
HPR GST2	\$ 1,669,785	5000	200	2000	4%	96%	\$ 66,791	\$ 1,602,994	
West Bee Cave PS Upgrade (Phases III) <sup>1</sup>	\$ 178,073	2500	200	2000	8%	92%	\$ 14,246	\$ 163,827	
Lazy 9 SW 71 (20") Transmission Main*	\$ 3,090,461	20	19.5	0.5	98%	2%	\$ 3,013,199	\$ 77,262	
71 System Modeling	\$ 49,578	N/A	N/A	N/A	84%	16%	\$ 41,645.52	\$ 7,932	
SH71 EST (1.0 Mgal)	\$ 2,169,142	3000	1350	1650	45%	55%	\$ 976,114	\$ 1,193,028	
Misc. Improvements for 1280 Pressure Plane	\$ 177,037	3000	1350	1650	45%	55%	\$ 79,667	\$ 97,370	
West Bee Cave PS Upgrade (Phase I) (Add pump 4)	\$ 67,711	750	650	100	87%	13%	\$ 58,683	\$ 9,028	
West Bee Cave PS Upgrade (Phase II) (GST No2) <sup>2</sup>	\$ 1,448,644	5000	50	4950	1%	99%	\$ 14,486	\$ 1,434,158	
Transmission Main from Uplands Plant to Bee Cave Pump Station (1080-16)*	\$ 1,556,779	20	19.5	0.5	98%	2%	\$ 1,517,860	\$ 38,919	
Crystal Mountain EST*	\$ 1,917,518	20	19.5	0.5	98%	2%	\$ 1,869,580	\$ 47,938	
Senna Hills Bypass Line*	\$ 559,677	20	19.5	0.5	98%	2%	\$ 545,685	\$ 13,992	
HPR 1280 Pump Station Water	\$ 330,552	20	19.5	0.5	98%	2%	\$ 322,288	\$ 8,264	
HPR Water Line*	\$ 6,624,510	20	19.5	0.5	98%	2%	\$ 6,458,897	\$ 165,613	
Home Depot Pump Station*	\$ 392,792	20	19.5	0.5	98%	2%	\$ 382,972	\$ 9,820	
Home Depot Pump Station Expansion & Conversion	\$ 31,838	20	19.5	0.5	98%	2%	\$ 31,042	\$ 796	
Home Depot Ground Storage Tank*	\$ 147,043	20	19.5	0.5	98%	2%	\$ 143,367	\$ 3,676	
Bee Cave Ground Storage Tank, Pump Station & Piping (off Cuernevaca)*	\$ 699,851	20	19.5	0.5	98%	2%	\$ 682,355	\$ 17,496	
Bee Cave Waterline to Cuernevaca*	\$ 990,492	20	19.5	0.5	98%	2%	\$ 965,730	\$ 24,762	
HPR Conversion and Upgrade to 1,500 gpm	\$ 530	375	20	355	5%	95%	\$ 28	\$ 502	
Subtotal	\$ 22,102,013						\$ 17,184,636	\$ 4,917,377	
<b>US290 System</b>									
1240 EST	\$ 4,491,000	2250	662	1588 LUEs	29%	71%	\$ 1,321,352	\$ 3,169,648	
1420 Pump Station Upgrade <sup>2</sup>	\$ 649,509	3000	150	1100	5%	95%	\$ 32,475	\$ 617,034	
1340 TM (Sawyer Ranch Road Ext)	\$ 1,515,839	4500	2000	2500	44%	56%	\$ 673,706	\$ 842,133	
1340 Pump Station	\$ 1,863,638	2250	2000	250	89%	11%	\$ 1,656,567	\$ 207,071	
SWPPS Upgrade GST2 Phase 2 <sup>3</sup>	\$ 1,746,824	9500	500	9000	5%	95%	\$ 91,938	\$ 1,654,886	
County Line Pump Station Upgrade*	\$ 1,684,429	20	19.5	0.5	98%	2%	\$ 1,642,318	\$ 42,111	
290 Pipeline*									
24" SWPPS to County Line	\$ 12,841,593	20	19.5	0.5	98%	2%	\$ 12,520,553	\$ 321,040	
20" County Line to 1420 EST	\$ 3,411,212	20	19.5	0.5	98%	2%	\$ 3,325,932	\$ 85,280	
SH71 20" Transmission Main*	\$ 3,630,945	20	19.5	0.5	98%	2%	\$ 3,540,171	\$ 90,774	
20" Main Uplands to SWPPS Easements*	\$ 506,714	20	19.5	0.5	98%	2%	\$ 494,046	\$ 12,668	
1420 EST*	\$ 2,197,353	20	19.5	0.5	98%	2%	\$ 2,142,419	\$ 54,934	
Sawyer Ranch Road Ph 1 20"*	\$ 1,183,948	20	19.5	0.5	98%	2%	\$ 1,154,349	\$ 29,599	
Sawyer Ranch Road Ph 1 (Darden Hill)*	\$ 1,293,619	20	19.5	0.5	98%	2%	\$ 1,261,279	\$ 32,340	
SWPPS Upgrade to 5,900 gpm & GST1*	\$ 243,213	20	19.5	0.5	98%	2%	\$ 237,133	\$ 6,080	
SWPPS Upgrade Phase 1 GST	\$ 1,960,902	20	19.5	0.5	98%	2%	\$ 1,911,879	\$ 49,023	
1826 Phase IV 16" Water Line*	\$ 1,006,560	20	19.5	0.5	98%	2%	\$ 981,396	\$ 25,164	
1826 Phase IV 16" Water Line	\$ 48,480	20	19.5	0.5	98%	2%	\$ 47,268	\$ 1,212	
US290 System Modeling	\$ 79,955	N/A	N/A	N/A	84%	16%	\$ 67,162	\$ 12,793	
1340 EST	\$ 2,399,334	3000	1000	2000	33%	67%	\$ 799,778	\$ 1,599,556	
1340 Transmission	\$ 2,711,399	3000	1000	2000	33%	67%	\$ 903,800	\$ 1,807,599	
Subtotal	\$ 45,466,466						\$ 34,805,523	\$ 10,660,943	
<b>TOTALS</b>	\$ 123,932,206						\$ 99,765,340	\$ 24,166,866	

\*Denotes Projects Constructed by the LCRA, Purchased by WTCPUA

1. WBPS PH II & PH III projects separated. Phase II completed in 2020, consisting of a 0.5MG tank at 1LUE/200 gallons of capacity. Phase III construction started in 2021 & has been completed.

2. Two 900 GPM Pumps Under Construction June 2021

3. GST 2: Second of two 950,000 Gal GST tanks Under Construction, one 750,000 GST Tank Demolished, Increase 1.15 MG (2018 IFA Project Capacity Increase 0.75MG), 200gpm/connection 500,000 gal tank

## E-3 Growth Allocation Proposed 2024 CIP Projects - Water

Table E-3 Growth Allocation Proposed Projects CIP - Water

WTCPUA Capital Improvements Program - Water						
Proposed CIP Projects						
Project	Planning Horizon	Project Costs	Completion Year Scheduled	Capacity (increase)	Capacity Allocation - Growth	Cost Allocation - Growth
<b>System-wide</b>						
<b>CIP Projects</b>						
CIP 2024/Impact Fee Study 2024		\$ 150,000	2024	N/A	100%	\$ 150,000
Uplands WTP Expansion to 33MGD (13 MGD) <sup>1</sup>		\$ 80,000,000	2027	13 MGD	93%	\$ 74,400,000
HPR TM No. 2 Upsize (West Bee Cave to HPR) <sup>7</sup>		\$ 2,000,000	2027	3100 LUEs	2400 LUEs	\$ 1,548,387
Ranch Road 12 16" TM (HPR to Fitzhugh) <sup>8</sup>		\$ -	2034	5200 LUEs	2100 LUEs	\$ -
Raw Water Pump Station Expansion (Phase II - PER Only) <sup>9</sup>		\$ -	2033	7 MGD	15%	\$ -
Additional Water Supply Development <sup>5</sup>		\$ 1,000,000	2033	N/A	86%	\$ 860,000
Subtotal		\$ <b>83,150,000</b>				\$ <b>76,958,387</b>
<b>SH71 System</b>						
<b>CIP Projects</b>						
1080 Bee Cave Transmission Main (Seg A+B) <sup>2</sup>		\$ 10,247,968	2025	15229 LUEs	9950 LUEs	\$ 6,696,000
West Bee Cave PS Upgrade (Electrical & Pumping)		\$ 1,560,000	2026	4200LUEs	2100 LUEs	\$ 780,000
HPR TM No. 2 (West Bee Cave to HPR)		\$ 1,760,000	2027	1963 LUEs	963 LUEs	\$ 863,413
Subtotal		\$ <b>13,567,968</b>				\$ <b>8,339,413</b>
<b>US290 System</b>						
<b>CIP Projects</b>						
Uplands WTP 30" TM to SWPPS Easement Acquisition <sup>6</sup>		\$ 1,000,000	2027	18350 LUEs	9175 LUEs	\$ 500,000
RR 12 Fitzhugh to CoDS TM		\$ 6,000,000	2027	5200 LUEs	2200 LUEs	\$ 2,538,000
1340 PS (HPR) <sup>10</sup>		\$ 2,822,400	2028	5200 LUEs	2100 LUEs	\$ 1,139,815
1340 EST at CoDS <sup>3</sup>		\$ 4,000,000	2025	5200 LUEs	4350 LUEs	\$ 3,346,000
Cross Country 16" TM		\$ 6,800,000	2027	5200 LUEs	2200 LUEs	\$ 2,876,923
CLPS 1340 Pump Improvements		\$ 2,725,000	2027	2500 LUEs	2500 LUEs	\$ 2,725,000
Nutty Brown 12" TM		\$ 5,640,000	2028	2900 LUEs	1000 LUEs	\$ 1,945,000
30" Parallel TM 2 (SWPPS to County Line)		\$ 32,780,000	2027	12000 LUEs	8810 LUEs	\$ 24,066,000
SWP PS Modifications		\$ 4,950,000	2025	12000 LUEs	8810 LUEs	\$ 3,634,000
Darden Hill RD 16" WL		\$ 8,000,000	2034	5200 LUEs	1800 LUEs	\$ 2,769,000
Fitzhugh Road 16" TM (CLPS to Crumley) <sup>8</sup>		\$ -	2034	5200 LUEs	3800 LUEs	\$ -
Fitzhugh Road 16" TM (Crumley to RR12) <sup>8</sup>		\$ -	2034	5200 LUEs	2200 LUEs	\$ -
1240 Conversion Water Line		\$ 4,400,000	2027	2700	2250	\$ 3,667,000
RM1826 Phase V 16" <sup>4</sup>		\$ -	TBD			\$ -
Heritage Oaks Loop Line <sup>4</sup>		\$ -	TBD			\$ -
Circle Drive Pump Station & GST		\$ 7,560,000	2027	3000	3000	\$ 7,560,000
Subtotal		\$ <b>86,677,400</b>				\$ <b>56,766,738</b>
<b>TOTALS</b>		\$ <b>183,395,368</b>				\$ <b>142,064,539</b>

1. Building, site improvements, electrical, & controls incorporated into 2024 expansion.
2. Additional Cost from 2018/2021 IFA, due to constraints in alignment, construction cost increase; easement delays and cost required phased construction
3. 1.0 MGD; Support Growth Fitzhugh Road to CoDS
4. Projects unnecessary in 10-year projected LUA growth phase; proposed capacity to be replaced by Nutty Brown and Fitzhugh TMs
5. AWS PER currently underway to study an increase in capacity in future expansions beyond the 10 year planning period
6. 2021 CIP Prop. Hwy 71 Parallel 20" TM2 (Uplands to SWPPS)
7. \$2,000,000 is the cost to oversize the Masonwood Development 16" TM to a 20" TM.
8. Project unnecessary in 10-year projected LUA growth phase; proposed capacity to be replaced by Cross Country 16" TM and CLPS 1340 Improvements.
9. Future expansion in coordination with AWS PER.
10. Moved to US290 system from System Wide as support for delivery of water to the City of Dripping Springs.

## E-4 Growth Allocation Existing Projects-Wastewater

Table E-4 Growth Allocation Existing Projects - Wastewater

<b>WTCPUA Capital Improvements Program - Wastewater</b>									
<b>Existing CIP Projects</b>									
<b>Project</b>	<b>Project Cost</b>	<b>Capacity (MGD)</b>	<b>Current Capacity Used (MGD)</b>	<b>Capacity Used 2024-2034 (MGD)</b>	<b>Allocation for Current Capacity</b>	<b>Allocation for 2024-2034</b>	<b>Cost Allocation - Current</b>	<b>Cost Allocation - Growth</b>	
Lake Pointe WWTP*	\$ 15,317,630	0.675	0.590	0.085	87%	13%	\$ 13,388,743	\$ 1,928,887	
Bee Cave Regional System*	\$ 8,499,620	1.0	0.800	0.200	80%	20%	\$ 6,799,696	\$ 1,699,924	
Spillman Effluent Irrigation System*	\$ 530,458	1.0	0.800	0.200	80%	20%	\$ 424,366	\$ 106,092	
CCNG Lift Station*	\$ 141,970	1.0	0.800	0.200	80%	20%	\$ 113,576	\$ 28,394	
RM 620 WW Line*	\$ 1,262,030	1.0	0.800	0.200	80%	20%	\$ 1,009,624	\$ 252,406	
SH71 WW Line*	\$ 998,809	1.0	0.800	0.200	80%	20%	\$ 799,047	\$ 199,762	
Bohls Effluent Pond and Lift Station	\$ 3,784,993	0.325	0.290	0.035	89%	11%	\$ 3,377,378	\$ 407,615	
Bohls WWTP	\$ 5,602,394	0.325	0.290	0.035	89%	11%	\$ 4,999,059	\$ 603,335	
Bohls WWTP Regional Lift Station/FM	\$ 2,100,864	0.325	0.290	0.035	89%	11%	\$ 1,874,617	\$ 226,247	
Little Barton Creek Interceptor*	\$ 2,851,077	0.267	0.038	0.229	14%	86%	\$ 403,021	\$ 2,448,056	
Master Planning & Permitting	\$ 310,867	N/A	N/A	N/A	8%	92%	\$ 24,869	\$ 285,998	
<b>TOTALS</b>	<b>\$ 41,400,712</b>						<b>\$ 33,213,998</b>	<b>\$ 8,186,714</b>	

\*Denotes Projects Constructed by the LCRA, Purchased by WTCPUA

1. Wastewater flow had a marginal increase in flow as calculated in Table 5; therefore percent allocations remain the same for the 2021 and 2024 Impact Fee Calculations

## E-5 Growth Allocation Proposed 2024 CIP Projects - Wastewater

Table E-5 Growth Allocation Proposed Projects 2024 CIP - Wastewater

<b>WTCPUA Capital Improvements Program - Wastewater</b>						
<b>Proposed 2024 CIP Projects</b>						
<b>Project</b>	<b>Planning Horizon Project Costs</b>	<b>Completion Year Scheduled</b>	<b>Capacity (increase)</b>	<b>Capacity Allocation - Growth</b>	<b>Cost Allocation - Growth</b>	
<b>2024 CIP Projects</b>						
CIP 2024/Impact Fee Study 2024	\$ 35,500	2024	N/A	100%	\$ 35,500	
Bohls WWTP Expansion. <sup>1</sup>	\$ 15,000,000	2027	1.0 MGD	32%	\$ 4,800,000	
BWR & Effluent Disposal Injection Well <sup>2</sup>	\$ -	2034	0.375 MGD	80%	\$ -	
BWR Phase 1 Supply/Reject FMs <sup>2</sup>	\$ -	2034	0.5 MGD	60%	\$ -	
Lime Kiln Interceptor	\$ 2,870,000	2027	1800 LUEs	50%	\$ 1,435,000	
<b>TLAP Disposal</b>	\$ 8,000,000	2027	0.232 MGD	100%	\$ 8,000,000	
<b>Effluent Line Extension</b>	\$ 1,800,000	2027	0.232 MGD	100%	\$ 1,800,000	
Bohls Service Area Expansion Lift Station & Force Main	\$ 1,800,000	2034	500 LUEs	75%	\$ 1,350,000	
<b>TOTALS</b>	<b>\$ 29,505,500</b>				<b>\$ 17,420,500</b>	

1. Increase in cost due to facility location space constraints, and BWR Phase 1 site relocation. Bohls expansion scope increased from 0.5 MGD to 1.0 MGD. Complete list of CIP Project expansions at Bohls' site, and potential Lake Pointe plant decommissioning, not listed due to no foreseeable allocation to growth.

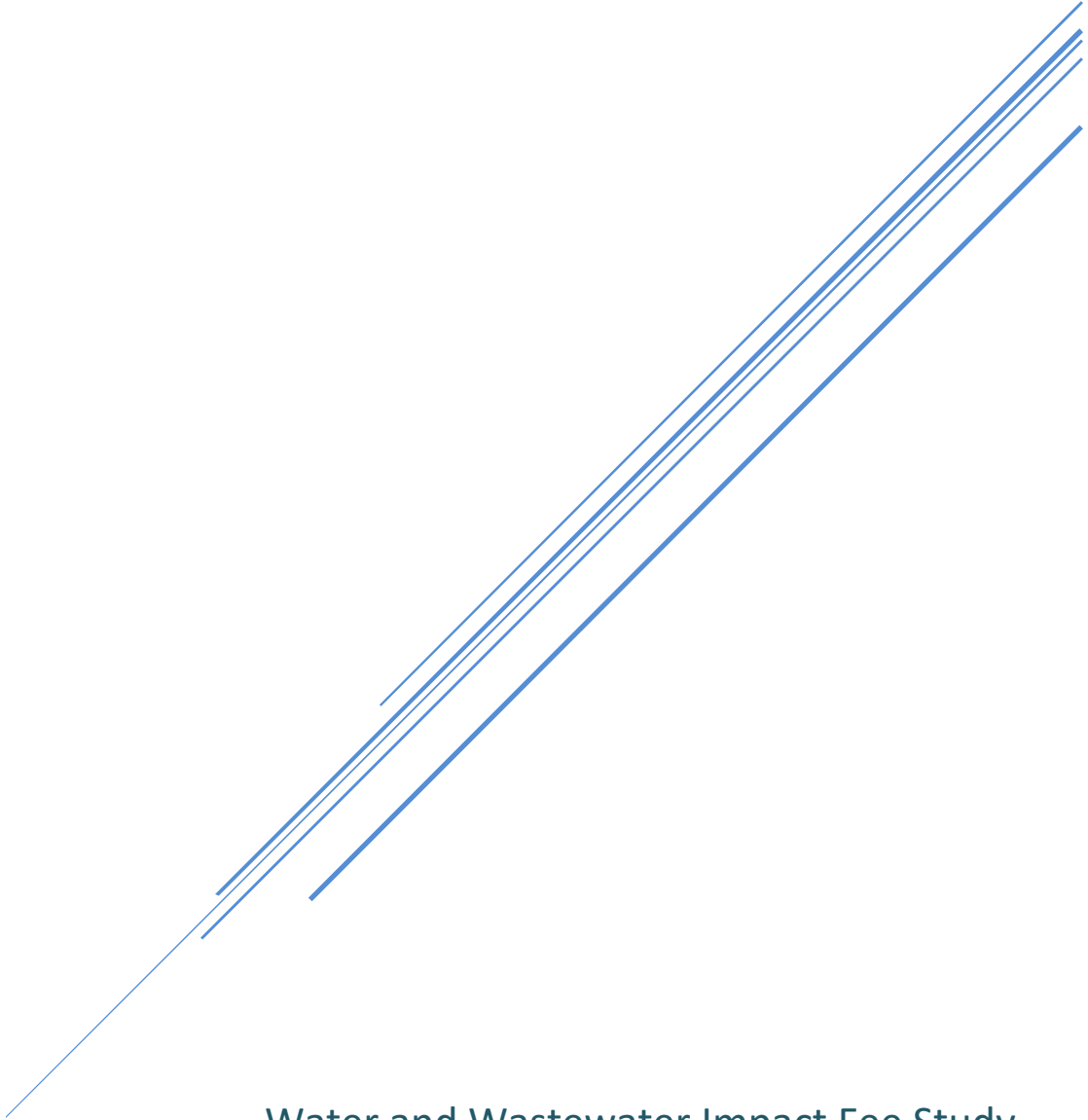
2. BWR & DPR/Injection well not approved by TCEQ and no support from the board moving forward.



**EXHIBIT B**

# TECHNICAL REPORT

West Travis County PUA



Water and Wastewater Impact Fee Study  
November 2024

Nelisa Heddin Consulting  
[nheddin@nelisaheddinconsulting.com](mailto:nheddin@nelisaheddinconsulting.com)  
(512) 589-1028



# Executive Summary

The West Travis County Public Utility Agency (PUA) has retained Murfee Engineering Company, Inc. (MEC) and Nelisa Heddin Consulting (NH Consulting) to perform an update to the PUA's impact fee study. This report details the results of that analysis.

**Table 1: Summary of Water CIP Projects**

Water CIP Projects	System Wide	SH 71	US 290	Total
Existing Improvements	\$ 57,491,002	\$ 22,544,053	\$ 46,375,795	\$ 126,410,851
Previously Approved Future CIP	49,497,555	12,882,421	13,439,736	75,819,712
Newly Identified CIP	43,888,785	1,977,754	92,456,052	138,322,591
Total Improvements	\$ 150,877,342	\$ 37,404,228	\$ 152,271,583	\$ 340,553,153

**Table 2: Summary of Wastewater CIP Projects**

Wastewater CIP Projects	
Existing Improvements	\$ 42,228,726
Previously Approved Future CIP	28,283,746
Newly Identified CIP	5,274,109
Total Improvements	\$ 75,786,581

Table 3 provides the maximum allowable impact fee, including ad valorem tax credit for each scenario. Table 4 Provides a summary of the fees if assessed at 90%.

**Table 3: Summary of Maximum Allowable Impact Fees (Including Ad Valorem Tax Credit)**

Hwy 71 Water Impact Fee	\$ 18,068.70
US 290 Water Impact Fee	\$ 28,580.57
Wastewater Impact Fee	\$ 27,596.88



**Table 4: 90% of Maximum Allowable Impact Fees**

Hwy 71 Water Impact Fee	\$ 16,261.83
US 290 Water Impact Fee	\$ 25,722.52
Wastewater Impact Fee	\$ 24,837.19



# Background

## West Travis County Public Utility Agency

The PUA provides water and wastewater services to an estimated population of 60,000 people located in Travis and Hays counties. The PUA acquired the systems from the Lower Colorado River Authority (LCRA) in March 2012. Since that time, the PUA has continued to provide continuous and adequate service to the affected population.

The PUA was created in partnership through concurrent ordinances of the City of Bee Cave, Travis County Municipal Utility District #5 (now Lake Pointe Municipal Utility District), and Hays County as a vehicle to finance, own, and operate the West Travis County water and wastewater utility systems as a publicly owned utility. The PUA Board is currently comprised of five members, each appointed by each of the three sponsoring entities.

## Installment Purchase Agreement

In order to purchase the systems by a public entity rather than a divestiture to a private for-profit utility, the PUA was required to retire the debt which LCRA had outstanding against the systems. In March 2012, the principal balance of that debt exceeded \$140M, plus interest accrual. However, many of LCRA's bonds were not "callable." As such, immediately retiring the bonds would require the payment of defeasance costs, which would have added significant costs to ratepayers.

In order to avoid payment of additional defeasance costs, the PUA entered into an installment purchase agreement with the LCRA, which outlined specific timing for installment payments through 2019. These installment payments coincided with "call dates" associated with LCRA's bonds. Installment payments consisted of the principal balance on the callable bonds, plus capitalized interest accrued. The PUA made its first installment payment to the LCRA in July 2012. Since that time, the PUA funded subsequent installment payments through the issuance of bonds. The PUA made its final \$15M installment payment to the LCRA in the Spring of 2019. Installment payments to the LCRA included both the principal balance on the bonds as well as accrued interest.

## System Debt

Since its inception in 2012, the PUA has issued several series of revenue bonds. These issuances not only funded payments to the LCRA but also funded construction of existing and future capital improvement projects necessary to support regional growth.

In order to be rated for bonds, the PUA presented a financial pro forma which illustrated the PUA's ability to support its bonded indebtedness through rates and fees. In 2012, the PUA received an "A-" bond rating by Standard & Poors. In September, 2017 the PUA had its rating upgraded by Standard & Poors to "A positive" and "A1" by Moody's Investor Service. The PUA's rating was upgraded to "AA-" by Standard & Poors once again in December, 2022. This improved rating is due to increased cash reserves and improved operational and financial management of the utility, including significant cost reductions and revenue enhancements. Standard and Poors states that "the upgrade reflects conservative management that has enabled the system to have consistently very strong financial metrics and a manageable capital improvement program to deal with demand growth."



## System Revenues and Expenses

The PUA is a non-taxing entity. Accordingly, the PUA's only available avenues for revenue recovery are through rates and fees charged to current and future customers of the system. To the extent the PUA does not recover the costs of providing future service to customers through impact fees, those costs must be recovered through rates. The PUA is allowed to set impact fees at an amount at or below the maximum allowable fee as determined by the impact fee calculation. So long as the PUA does not go above the maximum allowable fee, the PUA may use policy initiatives to determine the appropriate level of the impact fee. This balance must be considered when setting an appropriate impact fee, realizing that any portion of the costs not recovered by impact fees will need to be recovered through monthly rates charged to customers.

## Impact Fee Fund

Impact fees are only collected from new growth in the system. Existing customers are not subject to pay impact fees<sup>1</sup>. The PUA maintains impact fees collected in a separate fund. The PUA spends impact fee monies only for authorized purposes in compliance with Chapter 395 of the Texas Local Government Code. The PUA has created a plan for spending those funds in accordance with Chapter 395.

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<sup>1</sup> Currently existing customers are not subject to impact fees with the exception of a currently existing customer who increases their level of service.



## Purpose of Report

One of the most effective growth management tools available to public utilities is the use of new customer impact fees, which facilitates growth paying for itself vs. existing customers paying for this cost burden in rates. The PUA has adopted a ten-year Land Use Assumptions and Capital Improvements Plan (CIP) to service growth in the system, and the cost of the 10-year CIP is the basis for calculating impact fees. Impact fees are calculated by taking the total cost of the CIP divided by the projected growth in living unit equivalents (LUEs) in the system for water and wastewater. The last step in the process to adopt an impact fee is the determination of the maximum allowable impact fees per the guidelines set forth in Chapter 395 of the Texas Local Government Code.

Chapter 395 of the Texas Local Government Code provides specific requirements that cities, water districts and other political subdivisions in Texas must abide by while determining, assessing, and collecting Impact Fees. The process outlined for implementing or amending fees includes:

1. Development of Land Use Assumptions (LUA);
2. Development of Capital Improvement Plan (CIP) based on LUA;
3. Development of maximum impact fees;
4. Public hearing on LUA, CIP and impact fees;
5. Adoption of or amendment to LUA, CIP and impact fees;

NH Consulting has been retained by the PUA to determine the maximum allowable impact fee per requirements set forth in Chapter 395 of the Texas Local Government Code, based upon the Land Use Assumptions and Capital Improvements Plan adopted by the PUA Board of Directors.

This report is intended to outline the methodology utilized by NH Consulting in determining the maximum allowable impact fee that can be charged by the PUA.



# Methodology and Findings

In developing amendments to impact fees charged to the PUA’s customers, it was first necessary to develop a future assumption of system growth. Next, capital improvements which are necessary to meet the needs of that growth are identified. Finally, a maximum allowable impact fee may be determined. Making this determination involves a systematic progression of steps, which are outlined below.

## Step 1: Land Use Assumptions

The PUA relied upon MEC to develop Land Use Assumptions, which have been summarized below. The values shown in Tables 5 and 6 are projected new living unit equivalents (LUEs) for each year in the study.

**Table 5: Future Land Use Assumptions – Water (New LUEs per Year)**

	US 290	SH71	Total
Oct-25	340	342	682
Oct-26	588	448	1,036
Oct-27	622	438	1,060
Oct-28	659	427	1,086
Oct-29	688	415	1,103
Oct-30	721	402	1,123
Oct-31	752	390	1,142
Oct-32	784	377	1,161
Oct-33	810	362	1,172
Oct-34	837	348	1,185
	6,801	3,949	10,750





**Table 6: Future Land Use Assumptions – Wastewater (New LUEs per Year)**

New LUEs per Year	Residential	Commercial	Wholesale	Total
Oct-24				
Oct-25	95.00	24.00	8.00	127.00
Oct-26	112.50	62.50	8.00	183.00
Oct-27	47.50	52.50	8.00	108.00
Oct-28	47.50	103.50	8.00	159.00
Oct-29	47.50	103.50	8.00	159.00
Oct-30	42.50	118.50	8.00	169.00
Oct-31	37.50	118.50	8.00	164.00
Oct-32	37.50	118.50	8.00	164.00
Oct-33	37.50	118.50	8.00	164.00
Oct-34	<u>37.50</u>	<u>118.50</u>	<u>8.00</u>	<u>164.00</u>
	542.50	938.50	80.00	1,561.00

**Step 2: Existing Improvements**

Chapter 395 of the Texas Local Government Code regulates impact fees that utilities may charge. Chapter 395 requires that impact fees collected by a utility should be utilized to pay for capital improvements necessitated by growth. Capital improvements utilized in the calculation may include existing improvements that have excess capacity as well as future improvements that will meet growth needs. Such projects were isolated by MEC and are included in the impact fee calculation.

**Step 3: Planned Improvements**

Planned improvements are improvements projected to be necessary in the future, which are driven by growth. Maintenance repair or replacement projects not driven by future growth may not be included in the impact fee calculation. MEC identified future projects that would be necessary to meet the needs of future growth based on projected timing of that growth.

**Step 4: Capacity Analysis**

Once projects eligible for inclusion in the impact fee have been determined, the next step is to perform a capacity analysis for each of those improvements. State law stipulates that only costs associated with available capacity projected to meet future growth needs in the ten-year planning period can be included in the fee determination.

**Step 5: Determination of Costs to be Included in Fee**

State law allows the following costs to be included in the impact fee calculation:



- ❖ Construction contract price;
- ❖ Surveying and engineering fees;
- ❖ Land acquisition costs;
- ❖ Projected interest and finance costs;
- ❖ Fees paid to a qualified engineer or financial consultant, preparing or updating the capital improvements plan.

As MEC estimated construction and engineering costs for each project in the CIP, NH Consulting used those cost estimates and grossed them up for legal and permitting costs as well as bond issuance costs (for bond funded projects) in order to arrive at an estimate of CIP costs in 2024 dollars. Given that many of the projects included in the CIP will be constructed in future years, NH Consulting then grossed up CIP cost estimates in order to account for future inflationary impacts to project costs, as described below.

- ❖ Allowable project design and construction costs, as described above, which were then inflated at 3% annually until projected project construction;
- ❖ Legal and permitting costs estimated at 1.5% of design and construction costs;
- ❖ Bond issuance costs estimated at 2% of design, construction, legal and permitting costs<sup>2</sup>;
- ❖ Interest Expense (assumed a 30 year bond at 4% interest)<sup>3</sup>.

The total costs that may be included in the water impact fees are identified on Schedules 1, 2 and 3; the costs that may be included in the wastewater impact fees are identified on Schedules 4, 5 and 6.

### *Step 6: Determination of Maximum Allowable Fee*

NH Consulting determined a maximum allowable impact fee, which collects all revenues to pay for allowable projects, related fees and interest associated with the pro-rata share or projects that are anticipated to be funded through the issuance of debt.

### *Step 7: Determination of Rate Revenue Credit*

In addition to describing the costs that can be included in the maximum impact fee calculation, Chapter 395 of the Texas Local Government Code also specifically states that the fee shall:

*“Provide a plan for awarding:*

- (a) A credit for the portion of ad valorem tax and utility service revenues generated by new service units during the program period that is used for the payment of improvements, including the payment of debt that is included in the capital improvements plan; or
- (b) In the alternative, a credit equal to 50 percent of the total projected cost of implementing the capital improvements plan.”

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<sup>2</sup> Bond issuance costs were only included for existing projects.

<sup>3</sup> Interest expense for existing projects included all accrued interest to-date, plus 10 years of future interest. Interest expense for future projects, if included, was for only 10 years of future interest.



Accordingly, the utility may elect to adopt a fee that is equal to 50% of the calculated amount or develop a plan for awarding a credit for utility service revenues that are generated to pay for debt associated with assets in the capital improvements plan.

NH Consulting has performed the requisite credit calculation that determines the credit needed for both the water and the wastewater utility. In so doing, NH Consulting has identified the annual debt service for PUA issued bonds, which are associated with regional assets to be funded through rates. NH Consulting then determined the estimated LUEs in the system based on the current LUE count and projected growth in the system. Finally, NH Consulting divided the total debt service paid for regional projects through rates by the total LUEs that would pay those rates to determine the total credit which should be applied against the maximum allowable impact fee.

## Summary of Maximum Allowable Fees

### *Maximum Allowable Fees*

Table 7 provides the maximum allowable impact fee, including ad valorem tax. Table 8 Provides a summary of the fees if assessed at 90%.

**Table 7: Summary of Maximum Allowable Impact Fees (Including Ad Valorem Tax Credit)**

Hwy 71 Water Impact Fee	\$ 18,068.70
US 290 Water Impact Fee	\$ 28,580.57
Wastewater Impact Fee	\$ 27,596.88

**Table 8: 90% of Maximum Allowable Impact Fees**

Hwy 71 Water Impact Fee	\$ 16,261.83
US 290 Water Impact Fee	\$ 25,722.52
Wastewater Impact Fee	\$ 24,837.19

West Travis County Public Utility Agency  
2024 Impact Fee Analysis - Water Utility

Schedule 1  
Future CIP Projects, Before Interest Expense - Previously Approved Projects (2018 Study)

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Project	Year Scheduled	Design/ Construction Costs (2024 Cost)	Legal/Permitting Costs (1.5%)	Issuance Costs (2% of Debt Funded Portion)	Subtotal (2024 Cost)	Future Cost (1)	Capacity Increase	Capacity Used in 2024-2034	Units	Percent Allocation to 2024- 2034 Growth	Cost Allocated to 2024-2034 Growth
<b>System Wide</b>											
Uplands WTP Expansion (2)	2027	43,076,923	646,154	594,656	44,317,733	48,427,184	13,000	12,090	MGD	93%	45,037,281
Additional Water Supply Development	2026	1,000,000	15,000	13,805	1,028,805	1,091,459				86%	938,654
		\$ 44,076,923	\$ 661,154		\$ 45,346,538	\$ 49,518,642					\$ 45,975,935
<b>US290 System</b>											
1240 Conversion Water Line	2027	4,400,000	66,000	60,740	4,526,740	4,946,491	2700	2250	LUE	83%	4,122,076
Circle Drive Pump Station	2027	7,560,000	113,400	104,362	7,777,762	8,498,971	3000	3000	LUE	100%	8,498,971
		\$ 11,960,000	\$ 179,400		\$ 12,304,502	\$ 13,445,462					\$ 12,621,046
<b>State Highway 71 System</b>											
West Bee Cave PS Upgrade (Electrical & Pumping)	2026	1,560,000	23,400	21,535	1,604,935	1,702,676	4200	2100	LUE	50%	851,338
1080 Bee Cave Transmission Main (Seg A+B)	2025	10,247,968	153,720	141,468	10,543,156	11,185,234	15229	9950	LUE	65%	7,307,970
		\$ 11,807,968	\$ 177,120	\$ 163,003	\$ 12,148,091	\$ 12,887,910					\$ 8,159,308
<b>Total Previously Approved Future CIP</b>		<b>\$ 67,844,891</b>	<b>\$ 1,017,673</b>	<b>\$ 163,003</b>	<b>\$ 69,799,130</b>	<b>\$ 75,852,013</b>					<b>\$ 66,756,290</b>

(1) Assumed 3% annual inflation to scheduled year.

(2) Total expansion planned expansion includes adding 13MGD at a total cost of \$80M, or \$6.15M per MGD. The 2018 study included an expansion of 7 MGD. Costs included on this sheet are for 7 MGD of the total expansion at \$6.15M per MGD. The remaining costs for the expansion are listed on Schedule 2, Future CIP - new projects

West Travis County Public Utility Agency  
2024 Impact Fee Analysis - Water Utility

Schedule 2  
Future CIP Projects, Before Interest Expense - Newly Identified Projects



Project	Year Scheduled	Design/ Construction Costs (2024 Cost)	Legal/Permitting Costs (1.5%)	Issuance Costs (2%)	Newly Proposed Projects		Capacity Increase	Capacity Used In 2024-2034	Units	Percent Allocation to 2024- 2034 Growth	Cost Allocated to 2024-2034 Growth
					Subtotal (2024 Cost)	Future Cost (1)					

System Wide

Impact Fee Update 2024	2024	150,000				150,000				100%	150,000
Uplands WTP Expansion to 33 MGD	2027	36,923,077	553,846	493,318	37,970,241	41,491,107	13,000	12,090	MGD	93%	38,586,730
HPR TM No. 2 Upsize (West Bee Cave to HPR)	2027	2,000,000	30,000	26,721	2,056,721	2,247,435	3,100	2,400	LUES	77%	1,739,950
		\$ 39,073,077	\$ 583,846	\$ 520,039	\$ 40,176,962	\$ 43,888,542					\$ 40,476,680

US 290 System

Uplands WTP 30" TM to SWPPS Easement Acquisition	2027	1,000,000	15,000	13,361	1,028,361	1,123,717	18,350	9,175	LUES	50%	561,859
RR 12 Fitzhugh to CODSTM	2027	6,000,000	90,000	80,164	6,170,164	6,742,305	5,200	2,200	LUES	42%	2,852,514
1340 PS (HPR)	2028	2,822,400	42,336	37,709	2,902,445	3,266,728	5,200	2,100	LUES	40%	1,319,255
1340 EST at CODS	2025	4,000,000	60,000	53,443	4,113,443	4,236,846	5,200	4,350	LUES	84%	3,544,285
Cross Country 16" TM	2027	12,780,000	191,700	170,750	13,142,450	14,361,110	5,200	2,200	LUES	42%	6,075,854
CLPS 1340 Pump Improvements	2027	2,725,000	40,875	36,408	2,802,283	3,062,130	2,500	2,500	LUES	100%	3,062,130
Nulty Brown 12" TM	2028	5,640,000	84,600	75,354	5,799,954	6,527,900	2,900	1,000	LUES	34%	2,251,000
30" Parallel TM 2 (SWPPS to County Line)	2027	32,780,000	491,700	437,963	33,709,663	36,835,459	12,000	8,810	LUES	73%	27,043,366
SWP PS Modifications	2025	4,950,000	74,250	66,135	5,090,385	5,243,097	12,000	8,810	LUES	73%	3,849,307
Darden Hill Rd 16" WL	2034	8,000,000	120,000	106,886	8,226,886	11,056,246	5,200	1,800	LUES	35%	3,827,162
Fitzhugh Road 16" TM (CLPS to Crumley)	2027	-	-	-	-	-	-	-	-	-	-
Fitzhugh Road 16" TM (Crumley to RR12)	2027	80,697,400	1,210,461	1,078,173	82,986,034	92,455,538	-	-	-	-	\$ 54,386,732

SH71 System

HPR TM No. 2 (West Bee Cave to HPR)	2027	1,760,000	26,400	23,515	1,809,915	1,977,743	1,963	963	LUES	49%	970,232
		\$ 1,760,000	\$ 26,400	\$ 23,515	\$ 1,809,915	\$ 1,977,743					\$ 970,232

Total New Proposed		\$ 121,530,477	\$ 1,820,707	\$ 1,621,727	\$ 124,972,911	\$ 138,321,823					\$ 95,833,644
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(1) Future cost determined by applying 3% annual inflation to scheduled year.

(2) Total expansion planned expansion includes adding 13MGD at a total cost of \$70M, or \$6.15M per MGD. The 2018 study included an expansion of 7 MGD. Costs included on this sheet are for 6 MGD of the total expansion at \$6.15M per MGD. The remaining costs for the expansion are listed on Schedule 1, Future CIP - previously approved projects

West Travis County Public Utility Agency  
2024 Impact Fee Analysis - Water Utility



Schedule 3  
Existing Projects, Before Interest Expense

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Project	Debt Funded	Actual Project Cost	Debt Issuance Cost	Total Project Cost (MGD or LUES)	Capacity (MGD or LUES)	Current Capacity Used (MGD or LUES)	Capacity Used In 2024-2034 (MGD or LUES)	Capacity Used Beyond 2034 (MGD or LUES)	Percent Allocation Current	Percent Allocation 2024-2034	Percent Allocation Beyond 2034	Costs Allocated to Current	Costs Allocated to 2024-2034 Growth	Costs Allocated Beyond 2027	Debt Funded Portion of Impact Fee Eligible Cost
System Hydraulic Modeling (2022)	Yes	75,917	1,518	77,435	20.00	19.50	0.50	-	10.0%	2.5%	0.0%	\$ 7,744	\$ 69,692	\$ 69,692	\$ 69,692
Uplands WTP Chem Building*	Yes	2,141,458	42,829	2,184,288	20.00	19.50	0.50	-	97.5%	2.5%	0.0%	2,129,680	54,607	54,607	54,607
Uplands Ph 1 (2012)	Yes	299,650	5,993	305,643	20.00	19.50	0.50	-	97.5%	2.5%	0.0%	298,002	7,641	7,641	7,641
Uplands WTP Plant*	Yes	40,249,533	804,991	41,054,524	20.00	19.50	0.50	-	97.5%	2.5%	0.0%	40,028,161	1,026,363	1,026,363	1,026,363
Uplands Raw Water Intake Expansion*	Yes	416,305	8,326	424,631	20.00	19.50	0.50	-	97.5%	2.5%	0.0%	414,015	10,616	10,616	10,616
High Service Pump Station 8MGD to 14 MGD*	Yes	4,034,066	80,681	4,114,747	20.00	19.50	0.50	-	97.5%	2.5%	0.0%	4,011,879	102,869	102,869	102,869
UPADS Cleanwell #2*	Yes	997,229	19,945	1,017,174	20.00	19.50	0.50	-	97.5%	2.5%	0.0%	991,744	25,429	25,429	25,429
Groundwater Feasibility Study	Yes	40,000	800	40,800	20.00	19.50	0.50	-	84.0%	16.0%	0.0%	34,272	6,528	6,528	6,528
Raw Water Line & Uplands WTP Expansion PER	Yes	173,726	3,475	177,201	3.00	0.40	2.60	-	28.0%	72.0%	0.0%	49,616	127,584	127,584	127,584
Raw Water Line & WTP Expansion (Phase 1)	Yes	1,592,603	31,852	1,624,455	16.50	1.40	15.10	-	13.3%	86.7%	0.0%	216,594	1,407,861	1,407,861	1,407,861
Raw Water Transmission Main No. 2	Yes	6,182,157	123,643	6,305,800	16.50	1.40	15.10	-	8.5%	91.5%	0.0%	535,038	5,770,763	5,770,763	5,770,763
Raw Water Transmission Main No. 2 Chlorine Injection Improvements	Yes	161,083	3,222	164,305	16.50	1.40	15.10	-	8.5%	91.5%	0.0%	13,941	150,364	150,364	150,364
<b>S&amp;T2 System</b>		<b>\$ 56,368,727</b>	<b>\$ 1,127,275</b>	<b>\$ 57,496,002</b>								<b>\$ 48,730,685</b>	<b>\$ 8,760,317</b>	<b>\$ -</b>	<b>\$ 8,760,317</b>
HRR GST2	Yes	1,669,785	33,396	1,703,181	5,000	200	2,000	2,800	4.0%	40.0%	56.0%	68,127	681,272	953,781	681,272
WEST BEE CAVE PS UPGRADE (PHASE III)	Yes	178,073	3,561	181,634	2,500	200	2,000	300	8.0%	80.0%	12.0%	14,531	145,308	21,796	145,308
Lazy 9 SW T1 Transmission Main*	Yes	3,090,461	61,809	3,152,270	20.00	19.50	0.50	-	97.5%	2.5%	0.0%	3,073,463	78,807	78,807	78,807
T1 System Modeling	Yes	49,578	992	50,570	3,000	1,350	1,650	-	84.0%	16.0%	0.0%	42,478	8,091	8,091	8,091
SH71 EST (1.0 Mgal)	Yes	2,169,142	43,383	2,212,525	3,000	1,350	1,650	-	45.0%	55.0%	0.0%	995,636	1,216,889	1,216,889	1,216,889
Misc Improvements for 1280 Pressure Plane	Yes	177,037	3,541	180,578	3,000	1,350	1,650	-	45.0%	55.0%	0.0%	81,260	99,318	99,318	99,318
WEST BEE CAVE PS UPGRADE (PHASE I)	Yes	67,711	1,354	69,065	750	650	100	-	86.7%	13.3%	0.0%	59,857	9,209	9,209	9,209
West Bee Cave PS Upgrade Phase II (GST no 2)	Yes	1,448,644	28,973	1,477,617	5,000	50	4,950	-	1.0%	99.0%	0.0%	14,776	1,462,841	1,462,841	1,462,841
Transmission Main from Uplands Plant to Bee Cave Pump Station*	Yes	1,556,779	31,136	1,587,915	20	19.50	0.50	-	97.5%	2.5%	0.0%	1,548,217	39,698	39,698	39,698
Crystal Mountain EST*	Yes	1,917,518	38,350	1,955,868	20	19.50	0.50	-	97.5%	2.5%	0.0%	1,906,972	48,897	48,897	48,897
Senna Hills Bypass Line*	Yes	559,677	11,194	570,871	20	19.50	0.50	-	97.5%	2.5%	0.0%	556,599	14,272	14,272	14,272
Hanilton Pool Road 1280 Pump Station Water Line*	Yes	330,552	6,611	337,163	20	19.50	0.50	-	97.5%	2.5%	0.0%	328,734	8,429	8,429	8,429
Hanilton Pool Road Water Line*	Yes	6,624,510	132,490	6,757,000	20	19.50	0.50	-	97.5%	2.5%	0.0%	6,588,075	168,925	168,925	168,925
Home Depot Pump Station*	Yes	392,792	7,856	400,648	20	19.50	0.50	-	97.5%	2.5%	0.0%	390,632	10,016	10,016	10,016
Home Depot Pump Station Expansion & Conversion	Yes	31,838	637	32,475	20	19.50	0.50	-	97.5%	2.5%	0.0%	31,653	812	812	812
Home Depot Ground Storage Tank*	Yes	147,043	2,941	149,984	20	19.50	0.50	-	97.5%	2.5%	0.0%	146,234	3,750	3,750	3,750
Bee Cave Ground Storage Tank Pump Station, Piping (off Chemaral)*	Yes	699,851	13,997	713,848	20	19.50	0.50	-	97.5%	2.5%	0.0%	696,002	17,846	17,846	17,846
Bee Cave Water Line to Chemaral*	Yes	990,492	19,810	1,010,302	20	19.50	0.50	-	97.5%	2.5%	0.0%	985,044	25,258	25,258	25,258
HRR Conversion and Upgrade to 1500 gpm	Yes	530	11	541	375	20	355	-	5.3%	94.7%	0.0%	512	512	512	512
		<b>\$ 22,102,013</b>	<b>\$ 442,040</b>	<b>\$ 22,544,053</b>								<b>\$ 17,528,329</b>	<b>\$ 4,040,147</b>	<b>\$ 975,577</b>	<b>\$ 4,040,147</b>
<b>US290 System</b>															
1240 EST	Yes	4,491,000	89,820	4,580,820	2,250	662	1,100	488	29.4%	48.9%	21.7%	1,347,779	2,239,512	993,529	2,239,512
1420 Pump Station Upgrade	Yes	649,509	12,990	662,499	3,000	150	1,100	1,750	5.0%	36.7%	58.3%	33,125	242,916	386,458	242,916
1340 TM (Lawyer Ranch Road Ext)	Yes	1,515,839	30,317	1,546,156	4,500	2,000	2,500	-	44.4%	55.6%	0.0%	687,180	858,975	-	858,975

West Travis County Public Utility Agency  
2024 Impact Fee Analysis - Water Utility



Schedule 3  
Existing Projects, Before Interest Expense

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Project	Debt Funded	Actual Project Cost	Debt Issuance Cost	Total Project Cost (MGD or LUES)	Capacity (MGD or LUES)	Current Capacity Used (MGD or LUES)	Capacity Used In 2024-2034 (MGD or LUES)	Capacity Used Beyond 2034 (MGD or LUES)	Percent Allocation Current	Percent Allocation 2034	Percent Allocation Beyond 2034	Costs Allocated to Current	Costs Allocated to 2024-2034 Growth	Costs Allocated Beyond 2027	Debt Funded Portion of Impact Fee Eligible Cost
1340 Pump Station	Yes	1,663,638	37,273	1,900,911	2,250	2,000	250	-	88.9%	11.1%	0.0%	1,689,698	211,212	-	211,212
SWPS Upgrade GS12 Phase 2	Yes	1,746,824	34,936	1,781,760	9,500	500	9,000	-	5.3%	94.7%	0.0%	93,777	1,687,984	-	1,687,984
Countyline Pump Station Upgrade	Yes	1,684,429	33,689	1,718,118	20	19.50	0.50	-	97.5%	2.5%	0.0%	1,675,165	42,953	-	42,953
290 Pipeline															
a) 24" SWPS to County Line*	Yes	12,841,593	256,832	13,098,425	20	19.50	0.50	-	97.5%	2.5%	0.0%	12,770,964	327,461	-	327,461
b) 20" Countyline to 1420 HGL EST*	Yes	3,411,212	68,224	3,479,436	20	19.50	0.50	-	97.5%	2.5%	0.0%	3,392,450	86,986	-	86,986
SH71 20" Transmission Main	Yes	3,630,945	72,619	3,703,564	20	19.50	0.50	-	97.5%	2.5%	0.0%	3,610,975	92,589	-	92,589
20" Main Uplands to SW Parkway (Easements)*	Yes	506,714	10,134	516,848	20	19.50	0.50	-	97.5%	2.5%	0.0%	503,927	12,921	-	12,921
1420 Elevated Storage*	Yes	2,197,353	43,947	2,241,300	20	19.50	0.50	-	97.5%	2.5%	0.0%	2,185,268	56,033	-	56,033
Sawyer Ranch Road Ph. 1 20"*	Yes	1,183,948	23,679	1,207,627	20	19.50	0.50	-	97.5%	2.5%	0.0%	1,177,436	30,191	-	30,191
Sawyer RR Ph. 1 (Barden Hill)*	Yes	1,293,619	25,872	1,319,491	20	19.50	0.50	-	97.5%	2.5%	0.0%	1,286,504	32,987	-	32,987
SWPS Upgrade to 5,900 GPM*	Yes	243,213	4,864	248,077	20	19.50	0.50	-	97.5%	2.5%	0.0%	241,975	6,202	-	6,202
SWPS Upgrade Phase 1 GS1	Yes	1,960,902	39,218	2,000,120	20	19.50	0.50	-	97.5%	2.5%	0.0%	1,950,117	50,003	-	50,003
1826 Phase IV 16" Water Line*	Yes	1,006,560	20,131	1,026,691	20	19.50	0.50	-	97.5%	2.5%	0.0%	1,001,024	25,667	-	25,667
1826 Phase IV 16" Water Line*	Yes	48,480	970	49,450	20	19.50	0.50	-	84.0%	16.0%	0.0%	48,213	1,236	-	1,236
US290 System Modeling	Yes	79,955	1,599	81,554	3,000	1,000	2,000	-	33.3%	66.7%	0.0%	68,505	13,049	-	13,049
1340 EST	Yes	2,399,334	47,987	2,447,321	3,000	1,000	2,000	-	33.3%	66.7%	0.0%	815,774	1,631,547	-	1,631,547
1340 Transmission	Yes	2,711,399	54,228	2,765,627	3,000	1,000	2,000	-	33.3%	66.7%	0.0%	921,876	1,843,751	-	1,843,751

**Total** \$ 123,932,206 \$ 2,478,644 \$ 126,410,851

\*LCRA Constructed Projects

\$ 101,760,647 \$ 22,294,639 \$ 2,355,564 \$ 22,294,639  
TRUIE \$ 126,410,851

West Travis County Public Utility Agency  
 2024 Impact Fee Analysis - Wastewater Utility

Schedule 4  
 Future CIP Projects, Before Interest Expense - Previously Approved Projects (2018 Study)

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Project	Year Scheduled	Design/ Construction Costs (2024 Cost)	Legal/Permitting Costs (1.5%)	Issuance Costs (2% of Debt Funded Portion)	Subtotal (2024 Cost)	Future Cost (1)	Capacity Increase in 2024-2034	Capacity Used in 2024-2034	Units	Percent Allocation to 2024-2034 Growth	Cost Allocated to 2024-2034 Growth
Bohls WWTP Expansion	2027	15,000,000	225,000	173,509	15,398,509	\$ 16,826,367	1,000	0,320	MGD	32%	5,384,437
TLAP Disposal	2027	8,000,000	120,000	92,538	8,212,538	8,974,062	0.232	0.232	MGD	100%	8,974,062
Bohls Service Area Expansion Lift Station & Force Mai	2034	1,800,000	27,000	20,821	1,847,821	2,483,317	500,000	375,000	LUES	75%	1,862,488
		\$ 24,800,000	\$ 372,000	\$ -	\$ 25,458,869	\$ 28,283,746					\$ 16,220,988
<b>Total Previously Approved Future CIP</b>		<b>\$ 24,800,000</b>	<b>\$ 372,000</b>	<b>\$ -</b>	<b>\$ 25,458,869</b>	<b>\$ 28,283,746</b>					<b>\$ 16,220,988</b>

(1) Assumed 3% annual inflation to scheduled year.



West Travis County Public Utility Agency  
 2024 Impact Fee Analysis - Wastewater Utility

Schedule 5  
 Future CIP Projects, Before Interest Expense - Newly Identified Projects



DRAFT

Project	Year Scheduled	Design/ Construction Costs (2024 Cost)	Legal/Permitting Costs (1.5%)	Newly Proposed Projects		Future Cost (1)	Capacity Increase In 2024-2034	Capacity Used In 2024-2034	Units	Percent Allocation to 2024- 2034 Growth	Cost Allocated to 2024-2034 Growth
				Issuance Costs (2%)	Subtotal (2024 Cost)						
2024 Impact Fee Study	2024	35,500	-	-	-	35,500				100%	35,500
BWR & Effluent Disposal Injection Well	2034	-	-	-	-	-					-
BWR Phase 1 Supply/Reject RMs	2027	2,870,000	43,050	33,198	2,946,248	3,219,445	1800	900	LUES	50%	1,609,722
Lime/Kin Interceptor	2027	1,800,000	27,000	20,821	1,847,821	2,019,164	0.232	0.232	M/GD	100%	2,019,164
Effluent Line Extension	2027	4,705,500	70,050	54,019	4,829,569	5,274,109					3,664,386
Total New Proposed		4,705,500	70,050	54,019	4,829,569	5,274,109					3,664,386

(1) Future cost determined by applying 3% annual inflation to scheduled year.

West Travis County Public Utility Agency  
 2024 Impact Fee Analysis - Wastewater Utility



Schedule 6  
 Existing Projects, Before Interest Expense

DRAFT

Project	Debt Funded	Actual Project Cost	Debt Issuance Cost	Total Project Cost	Capacity (MGD or LUEs)	Current Capacity Used (MGD or LUEs)		Capacity Used Beyond 2034 (MGD or LUEs)	Percent Allocation Current	Percent Allocation		Costs Allocated to Current	Costs Allocated to 2024-2034 Growth	Costs Allocated Beyond 2027	Debt Funded Portion of Impact Fee Eligible Cost
						2024-2034	2024-2034			2024-2034	Beyond 2034				
Lakepointe WWTP	Yes	\$ 15,317,630	\$ 306,353	\$ 15,623,983	0.675	0.590	0.085	-	87%	13%	0%	\$ 13,656,518	\$ 1,967,464	\$ -	\$ 1,967,464
Bee Cave Regional System	Yes	8,499,620	169,992	8,669,612	1,000	0.800	0.200	-	80%	20%	0%	6,935,600	1,733,922	-	1,733,922
Spillman Effluent Irrigation System	Yes	530,458	10,609	541,067	1,000	0.800	0.200	-	80%	20%	0%	432,854	108,213	-	108,213
CONG Lift Station	Yes	141,970	2,839	144,809	1,000	0.800	0.200	-	80%	20%	0%	115,848	28,962	-	28,962
RM 620 WW Line	Yes	1,262,030	25,241	1,287,271	1,000	0.800	0.200	-	80%	20%	0%	1,029,816	257,454	-	257,454
SHT1 WW Line	Yes	998,809	19,976	1,018,785	1,000	0.800	0.200	-	80%	20%	0%	815,028	203,757	-	203,757
Bohls Effluent Pond and Lift Station	Yes	3,784,993	75,700	3,860,693	0.325	0.290	0.035	-	89%	11%	0%	3,444,926	415,767	-	415,767
Bohls WWTP	Yes	5,602,394	112,048	5,714,442	0.325	0.290	0.035	-	89%	11%	0%	5,099,040	615,401	-	615,401
Bohls Regional Lift Station/FM	Yes	2,100,864	42,017	2,142,881	0.325	0.290	0.035	-	89%	11%	0%	1,912,109	230,772	-	230,772
Little Barton Creek Interceptor	Yes	2,851,077	57,022	2,908,099	0.267	0.230	0.035	-	14%	86%	0%	413,887	2,494,212	-	2,494,212
Master Planning & Permitting	Yes	310,867	6,217	317,084	0.267	0.038	0.229	-	8%	92%	0%	25,367	291,718	-	291,718
		\$ 41,400,712	\$ 828,014	\$ 42,228,726								\$ 33,881,083	\$ 8,347,643	\$ -	\$ 8,347,643

Total \$ 41,400,712 \$ 828,014 \$ 42,228,726

\*LCRA Constructed Projects

\$ 33,881,083 \$ 8,347,643 \$ - \$ 8,347,643

TRUE

## **ITEM B**



“A” and has recommended certain amendments to the Land Use Assumptions and Capital Improvements for the wastewater impact fee service area; and

**WHEREAS**, Nelisa Heddin Consulting has conducted a wastewater impact fee study, attached hereto as Exhibit “B” and has recommended certain amendments to the Impact Fees for the wastewater impact fee service area; and

**WHEREAS**, the WTCPUA has received a recommendation from the Impact Fee Advisory Committee to amend the Capital Improvements Plan, Land Use Assumptions and Wastewater Impact Fees for the wastewater impact fee service areas; and

**WHEREAS**, on November 18, 2024, the Board of Directors adopted an Order scheduling a public hearing regarding the proposed amendments to the Capital Improvements Plan, Land Use Assumptions and Wastewater Impact Fees for the wastewater impact fee service area; and

**WHEREAS**, after providing proper notice to the public, the WTCPUA held a public hearing on December 18, 2024, regarding the proposed amendments to the Capital Improvements Plan, Land Use Assumptions and Wastewater Impact Fees for the wastewater impact fee service area; and

**WHEREAS**, The Board of Directors has reviewed all public input provided at the public hearing and the comments provided by the Impact Fee Advisory Committee regarding the proposed amendments to the Capital Improvements Plan, Land Use Assumptions and Wastewater Impact Fees for the wastewater impact fee service area; and

**WHEREAS** the Board of Directors desires to amend the Capital Improvements Plan, Land Use Assumptions and Wastewater Impact Fees for the wastewater impact fee service area.

**NOW THEREFORE**, it is ordered by the Board of Directors of West Travis County Public Utility Agency as follows:

**Section 1:** The above recitals are true and correct and are incorporated into this Order for all purposes.

**Section 2:** The proposed amendments to the Capital Improvements Plan, Land Use Assumptions and Wastewater Impact Fees for the wastewater impact fee service area are reasonable and necessary for the WTCPUA to provide wastewater service from its wastewater system to customers of the WTCPUA service area.

**Section 3:** The WTCPUA hereby adopts the amendments to the Capital Improvements Plan, Land Use Assumptions and Wastewater Impact Fees for the wastewater impact fee service area provided in the study to be effective as of \_\_\_\_\_.

**Section 4:** The WTCPUA’s General Manager, Engineer and General Counsel are authorized to take all actions necessary to carry out the purposes of this Order and otherwise comply with applicable Texas Laws and regulations.

**PASSED AND APPROVED** this 18th day of December, 2024.

---

Scott Roberts, President  
Board of Directors

ATTEST:

---

Walt Smith, Secretary  
Board of Directors

**EXHIBIT A**

---

**LAND USE ASSUMPTIONS & CAPITAL IMPROVEMENTS PLAN**

**for**

**WEST TRAVIS COUNTY PUBLIC UTILITY AGENCY  
2024 IMPACT FEE STUDY**

---

October 2024



Prepared for:

West Travis County Public Utility Agency  
13215 Bee Cave Parkway  
Bldg B, Suite 110  
Bee Cave, Texas 78738



Prepared by:

Murfee Engineering Company, Inc.  
1101 Capital of Texas Highway, South  
Building D, Suite 110  
Austin, Texas 78746



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**APPENDICES**

- Appendix A-1: 2024 Impact Fee Study Overall Water Exhibit
- Appendix A-2: Proposed 2024 Water CIP Exhibit
- Appendix B-1: Existing 2024 Wastewater CIP Exhibit
- Appendix B-2: Proposed 2024 Wastewater CIP Exhibit
- Appendix C: Water LUA Summary Figures
- Appendix D: Wastewater LUA Summary Figure
- Appendix E: CIP Tables
  - E-1 Total Capital Allocated to Growth
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## **INTRODUCTION**

The purpose of this report is to develop the Land Use Assumptions (LUA) and Capital Improvements Plan (CIP) in support of the West Travis County Public Utility Agency 2024 Impact Fee Study for the 2024-2034 planning period. The process and methodology used will be described and the results summarized in tabular and graphical form for use in the impact fee calculations prepared by Nelisa Heddin Consulting, LLC. This report is prepared in accordance with the applicable provisions of Chapter 395 of the Local Government Code: *Financing Capital Improvements Required by New Development in Municipalities, Counties, and Certain Other Local Governments*.

## **BACKGROUND**

### ***Water***

The West Travis County Public Utility Agency (WTCPUA) regional water system currently serves approximately 23,776 Living Unit Equivalents (LUEs) in western Travis and northern Hays Counties. Raw water is diverted from Lake Austin under Firm Water Contracts with the Lower Colorado River Authority at intake structures and is delivered to both raw water customers as well as to the Uplands Water Treatment Plant located on Bee Cave Road at its intersection with Bee Cave Parkway. Potable water service is provided to retail and wholesale customers throughout the WTCPUA service area by the Uplands Water Treatment Plant. The distribution system is generally divided into the SH71 and US290 Systems, with the demarcation being the Southwest Parkway Pump Station and the facilities that supply it with water for pumping into the US290 System. This demarcation also includes future facilities that will supply the 290 system with water from Hamilton Pool Road south toward Fitzhugh road. Table 1 provides a summary of existing LUEs by system.

**Table 1: Summary of Existing Water LUEs**

<b>System</b>	<b>Total Existing Water LUEs</b>
SH71	11,598
US290	12,178
<b>TOTAL</b>	<b>23,776</b>

The division of the system into two main service areas is an operational and planning tool that also leads to separate impact fee calculation for each system. As such, the two-system planning and service strategy is carried through the Land Use Assumptions and Capital Improvements Plan to the calculation of impact fees. Table 2 shows the existing and projected water LUEs and Table 3 shows the existing and projected water LUEs by pressure plane. Table 4 depicts the water LUE growth assumptions by year. Appendix A-1: *Water CIP Exhibit* shows the WTCPUA water system, general division between the SH71 and US290 Systems, major system components, and existing CIP facilities. Appendix A-2: *Proposed CIP* depicts the proposed additional CIP facilities to serve the new growth for the next 10 years.

### ***Wastewater***

The WTCPUA regional wastewater system currently serves approximately 4,877 LUEs in a 4,800± acre service area generally within the extraterritorial jurisdiction (ETJ) of the City of Bee Cave. The wastewater collection system includes 21 lift stations and approximately 60 miles of pipe, which deliver raw wastewater for treatment to two wastewater treatment plants. Treated effluent is stored in two effluent holding ponds and is used for irrigation under a Texas Land Application Permit (TLAP) as well as an Authorization for Reclaimed Water (210 Authorization). Appendix B-1: *Wastewater CIP Exhibit* shows the wastewater collection system, service area boundary, major system components, and existing CIP facilities. Appendix B-2: *Proposed Wastewater CIP* shows the proposed CIP addition to provide services for full buildout which is expected in the next ten years.

**Table 2: Existing and Projected Water LUE Summary 2024-2034**

Murfee Engineering Company, Inc.							Date:	9/4/2024
Texas Registered Firm No. F-353		WTCPUA - Existing and Projected Water LUE Summary 2024-2034						
RETAIL CUSTOMERS								
System	Pressure Plane	Description	Demography Planning Unit	2023 Connections	2023 LUEs	2024-2034 Projected Growth	Ultimate 20 yr +/-	
US 290	1240	Echo Bluff, Hills of Texas, Bear Creek	39	275	288	67	355	
		Friendship Ranch, Whispering Oaks, Wildwood, Parten, Skyridge	40	461	667	173	840	
		Rim Rock	45	636	834	0	834	
		Fox Run, Barsana	46.1	5	12	8	20	
		S. of FM1826 Barsana to Bear Creek Pass	47.1	11	13.5	5	18	
		Bear Creek Estates	47.3	26	29	0	29	
		NW of Circle Dr.	116	3	3	5	8	
		US290 South of Circle Dr., Tanglewood W., Hillside	117	195	224	0	224	
		Appaloosa Run, Zyle Rd.	119	150	165	15	179	
		Overlook at Lewis Mountain	120	0	0	2	2	
		Rutherford West	122	170	215	0	215	
		Infill (Nuttly Brown)	38	40	46	84	200	
<b>1240 Retail Pressure Plane Total</b>			<b>1972</b>	<b>2496</b>	<b>359</b>	<b>2924</b>		
US 290	1340 N	Heritage Country, Big Country	18.3	118	137	6	143	
		Heritage Oaks, Ledge Stone, Oak Run West, Polo Club	20.2	510	718	41	759	
		Meadow Creek Ranch, Dripping Springs Ranch II	35.2	4	4	9	20	
		Fire Station West of Belterra	37.1	1	1	0	1	
		Signal Hill	38	40	46	71	167	
		Green Hills	44	23	27	6	33	
		N. of Fitzhugh to the County Line	113	18	22	4	26	
		Infill	16	N/A	0	275	550	
		Oak Run, S. of Fitzhugh to Blackstone	114	17	35	31	73	
		<b>1340 N Retail Pressure Plane Total</b>			<b>731</b>	<b>990</b>	<b>443</b>	<b>1772</b>
US 290	1340 S	Fire Station West of Belterra	37.1	1	1	0	1	
		Highpointe	41	1039	1223	0	1223	
		E. of Sawyer Highpointe to Darden Hill	42	44	63	57	133	
		Woodland Estates, Cypress Springs Elementary	43.2	4	13	26	58	
		Infill	34	N/A	0	275	550	
		Onion Creek Ranch, Creek of Driftwood	43.1	92	108	7	114	
		Darden Hill, KW, Penn	42	44	63	1437	3000	
Rimrock Tr., Spring Valley, Ledge Stone Terrace, Derecho	118	248	306	42	347			
<b>1340 S Retail Pressure Plane Total</b>			<b>1471</b>	<b>1775</b>	<b>1844</b>	<b>5426</b>		
US 290	1420 (290)	Sunset Canyon	19.3	391	443	43	486	
		Key Ranch, Saratoga Hills	20.1	157	224	33	257	
		Hays Country Acres & Creek	33.2	8	36	0	36	
		Sunset Canyon S, Sunset Canyon S Infill	35.1	157	183	28	211	
		Sawyer Ranch, US290 to Sunset Canyon Commercial Frontage	36	236	310	12	322	
<b>1420 (290) Retail Pressure Plane Total</b>			<b>949</b>	<b>1196</b>	<b>116</b>	<b>1312</b>		
<b>US 290 System Retail Subtotal</b>				<b>5,123</b>	<b>6,457</b>	<b>2,762</b>	<b>11,433</b>	
HWY 71	1080 (BCR)	Bee Cave West, Travis County, Infill	3D.5	122	222	109	330	
		Lake Pointe	5A	1084	1216	91	1307	
		Irrigation near Senna Hills	102	2	4	0	4	
		Seven Oaks	103	273	475	40	515	
		N. Crystal Creek Drive	104	7	24	4	28	
	S. Crystal Creek Drive	106	3	5	6	12		
	Angelwylde	107	1	1	9	20		
	<b>1080 (BCR) Retail Pressure Plane Total</b>			<b>1492</b>	<b>1946</b>	<b>259</b>	<b>2216</b>	
	1080 (CoBC)	Shops at the Galleria, Paseo, East Village, Infill	3H.1	401	696	180	876	
		Barton Creek Preserve	3H.2	4	5	6	13	
Uplands, HEB		4A.1	204	303	140	442		
The Preserve at Barton Creek		4A.2	46	56	0	56		
Backyard		8F	0	0	205	409		
Pearl, Hill Country Galleria & Surrounding (1080PPP)	5C	52	233	152	385			
<b>1080 (CoBC) Retail Pressure Plane Total</b>			<b>707</b>	<b>1292</b>	<b>683</b>	<b>2181</b>		
1280 (HPR)	Destiny Hills	3D.3	4	6	6	14		
	W. of Crumley HPR to county line, Rocky Creek	3E.1	399	586	238	823		
	Shield Ranch (Now inside conservancy)	3F	1	1.5	0.5	2		
<b>1280 (HPR) Retail Pressure Plane Total</b>			<b>404</b>	<b>593</b>	<b>245</b>	<b>839</b>		
1280 (CoBC)	Spanish Oaks	3H.1	201	348	848	1992		
	Homestead, Meadowfox, LTYA	3G.1	189	223	14	237		
	Lake Travis Middle School	3K.1	1	50	10	60		
	Cielo Apartments	5B	0	0	59	117		
	Falconhead, Brisa Townhomes	8A	732	950	38	987		
	Ladera, Morningside, Skaggs	8F	396	852	313	1165		
Hill Country Galleria & Surrounding (1175PPP)	5C	26	117	42	158			
<b>1280 (CoBC) Retail Pressure Plane Total</b>			<b>1544</b>	<b>2539</b>	<b>1324</b>	<b>4716</b>		
1420 (HPR)	Reimers Ranch and Peacock Commercial	3A	0	0	50	100		
	Lake Travis Independent School District	2C.1	0	0	50	100		
	N. of Hamilton Pool Madrone Ranch to Creeks Edge, Hatchett/Provence (TC MUD 22), Harris, Preservation Ranch, Huthnace Peacock	3D.2	672	907	1059	2621		
<b>1420 (HPR) Retail Pressure Plane Total</b>			<b>672</b>	<b>907</b>	<b>1159</b>	<b>2821</b>		
<b>HWY 71 System Retail Subtotal</b>				<b>4,819</b>	<b>7,277</b>	<b>3,670</b>	<b>12,773</b>	
<b>RETAIL TOTAL</b>				<b>9,942</b>	<b>13,734</b>	<b>6,432</b>	<b>24,206</b>	

\* - Calculation of LUEs is based on meter size.

**Table 2: Existing and Projected Water LUE Summary 2024-2034 Continued**

WHOLESALE CUSTOMERS								
System	Pressure Plane	Customer	Demography Planning Unit	Sep 2022-Sep 2023 Average Usage (gpd)	2023 Standardized Water LUEs <sup>1</sup>	2024-2034 Projected Growth	Buildout Total LUEs	
US290	1240 (1160)	Reunion Ranch WCID <sup>2</sup>	47.2	297,906	662	0	524	
		City of Dripping Springs - Driftwood	43.3 / 121	132,698	295	406	1,000	
	<b>1240 (1160) Wholesale Pressure Plane Total</b>				<b>430,604</b>	<b>957</b>	<b>406</b>	<b>1,524</b>
	1340 N	City of Dripping Springs - N.E.		0	0	2158	4,316	
		<b>1340 N Wholesale Pressure Plane Total</b>				<b>0</b>	<b>0</b>	<b>2,158</b>
	1340 S	Hays 1, Hays 2		74.2	950,973	2113	233	2,346
		<b>1340 S Wholesale Pressure Plane Total</b>				<b>950,973</b>	<b>2,113</b>	<b>233</b>
	1420 (290)	City of Dripping Springs - N.E.		43.3 / 121	0	0	759	1,518
			City of Dripping Springs - Headwaters	19.2	316,698	704	579	1,425
		Dripping Springs WSC		n/a	876,123	1947	276	2,222
<b>1420 (290) Wholesale Pressure Plane Total</b>				<b>1,192,821</b>	<b>2,651</b>	<b>1,614</b>	<b>5,165</b>	
<b>US 290 System Wholesale Subtotal</b>				<b>2,574,398</b>	<b>5,721</b>	<b>4,411</b>	<b>13,351</b>	
HWY 71	1080 (BCR)	Barton Creek West WSC <sup>2</sup>	108	308,687	686	0	427	
		Crystal Mountain	105	58,281	130	0	118	
		Eanes ISD	n/a	18,976	42	16	58	
		Senna Hills	102	212,225	472	14	485	
		<b>1080 (BCR) Wholesale Pressure Plane Total</b>				<b>598,169</b>	<b>1,329</b>	<b>30</b>
	1280 (71)	Lazy Nine MUD 1A - Sweetwater		3K.1	90,483	201	1009	2,420
		TC MUD 12 - Rough Hollow		2C.2	850,335	1890	256	2,145
		TC MUD 18 - Bella Colinas / Masonwood		3D.4	214,497	477	167	643
	<b>1280 (71) Wholesale Pressure Plane Total</b>				<b>1,155,315</b>	<b>2,567</b>	<b>1,432</b>	<b>5,208</b>
	1420 (HPR)	Deer Creek <sup>2,3</sup>		n/a	191,253	425	0	310
<b>1420 (HPR) Wholesale Pressure Plane Total</b>				<b>191,253</b>	<b>425</b>	<b>0</b>	<b>310</b>	
<b>HWY 71 System Wholesale Subtotal</b>				<b>1,944,737</b>	<b>4,322</b>	<b>1,462</b>	<b>6,606</b>	
<b>WHOLESALE TOTAL</b>				<b>4,519,135</b>	<b>10,043</b>	<b>5,873</b>	<b>19,957</b>	
1 - Using 450 gpd/LUE								
2-2020 Wholesale contract a nnuual average consumption exceeds agreement amount								
3- Contract states 310 built out LUEs, max 400 gpm consumption								
					<b>US 290 System Total</b>	<b>12,178</b>	<b>7,173</b>	<b>24,784</b>
					<b>HWY 71 System Total</b>	<b>11,598</b>	<b>5,132</b>	<b>19,379</b>
					<b>GRAND TOTAL</b>	<b>23,776</b>	<b>12,305</b>	<b>44,163</b>

## LAND USE ASSUMPTIONS

The Living Unit Equivalent is utilized as the service unit to determine the ultimate system's demand. For this analysis one Service Unit is defined as one LUE. Table 4 shows the ten-year growth for the water service area. The land use assumptions include existing customers, wholesale and retail commitments, assumptions on infill and projects that are known to be in the development pipeline. Notably in the 290 System an additional 7,173 LUEs are in the planning stages and 5,132 LUEs have been committed to by the PUA for service in the Dripping Springs area, US290 corridor, RR 1826 corridor, and Fitzhugh Lane. In addition to these corridors, growth along Nutty Brown Road is also occurring, including a new HEB constructed in 2023. Within the SH 71 System Bee Cave Road is essentially built-out, while the City of Bee Cave has 2900± LUEs in the development pipeline with infill of 760 LUEs expected in the SH71 and Bee Cave Parkway area. Hamilton Pool Road has commitments for service from the PUA for Belvedere, Provence, Preserve, Huthnance and Deer Creek. A minor amount of infill is expected along Hamilton Pool Road. Of note: Table 2 identifies four wholesale customers that are exceeding their contracted amounts based on an average day usage. These wholesale users include Reunion Ranch WCID, Barton Creek West WSC, Crystal Mountain and Deer Creek; it is unknown if this trend is expected to continue. Wholesale LUEs were calculated by sorting the wholesale customer data from September 2022 to September 2023 and summing the billed consumption for each month by customer. After calculating the total billed consumptions an average was taken for the year in gpd usage and this average was used to calculate LUEs using a 450 gpd/LUE assumption.

**Table 3: Existing and Projected Water LUE Count by Pressure Plane**

Existing and Projected Water LUE Count by Pressure Plane				
System	Pressure Plane	2023 LUES*	2024-2034 Projected Growth	Ultimate 20 yr +/-
<b>US 290</b>	1240	3,453	765	4,448
	1340 N	990	2,601	6,088
	1340 S	3,887	2,077	7,771
	1420 (290)	3,847	1,730	6,477
<b>US 290 Total</b>		<b>12,178</b>	<b>7,173</b>	<b>24,784</b>
<b>HWY 71</b>	1080 (BCR)	3,275	289	3,304
	1080 (CoBC)	1,292	683	2,181
	1280 (HPR)	593	245	839
	1280 (CoBC)	2,539	1,324	4,716
	1280 (71)	2,567	1,432	5,208
	1420 (HPR)	1,332	1,159	3,131
<b>HWY 71 Total</b>		<b>11,598</b>	<b>5,132</b>	<b>19,379</b>
<b>TOTAL</b>		<b>23,776</b>	<b>12,305</b>	<b>44,163</b>

\*Calculation of LUE based on meter size

**Table 4: Water Land Use Growth Assumption Summary Tabulation**

Impact Fee Planning Period Year	TOTAL LUEs		
	US290	SH71	TOTAL
<b>Oct-25</b>	12,890	13,123	26,013
<b>Oct-26</b>	13,478	13,571	27,049
<b>Oct-27</b>	14,100	14,009	28,109
<b>Oct-28</b>	14,759	14,436	29,195
<b>Oct-29</b>	15,447	14,851	30,298
<b>Oct-30</b>	16,168	15,253	31,421
<b>Oct-31</b>	16,920	15,643	32,562
<b>Oct-32</b>	17,704	16,020	33,724
<b>Oct-33</b>	18,514	16,382	34,896
<b>Oct-34</b>	19,351	16,730	36,081

Appendix C: *Water LUE Summary Figures* provide a graphical representation of the water LUA.

Tables 5-7 provide a similar summary tabulation for wastewater to that described and provided for water. Since not all water customers in the Bee Caves/ Hwy 71 system receive wastewater service, the growth and total connections will differ.

**Table 5: Existing Wastewater LUEs**

Murfee Engineering Company, Inc. Texas Registered Firm No. F-353			6/05/2024	
<b>WTCPUA - April 2024 SH71 System WW LUE Summary</b>				
<b>RETAIL CUSTOMERS</b>				
Rate District	Read Route & Description	Connections	Exist WW LUEs*	
SH 71	311 Seven Oaks	9	39	
	312 Uplands	7	50	
	313 Seven Oaks	1	5	
	314 Falconhead	463	504	
	315 Spanish Oaks & Hwy 71	443	457	
	316 Lake Pointe 1	266	273	
	317 Lake Pointe 2	217	233	
	318 Shops at the Galleria	95	570	
	319 Lake Pointe 3	208	212	
	320 Lake Pointe 4	253	253	
	321 620 & 71	739	1297	
<b>TOTAL</b>		<b>2,701</b>	<b>3,892</b>	
* - Calculation of LUEs is based on meter size. Meters with zero consumption were not counted.				
<b>WHOLESALE CUSTOMERS</b>				
Customer	January-December 2023 Average Usage (gpd)	January-December 2023 Peak Month Usage (gpd)	Exist WW LUEs	
Masonwood	102,547	122,107	570	
WCID 17**	74,816	79,867	416	
<b>TOTAL</b>		<b>177,363</b>	<b>201,974</b>	
** - Calculation of Wholesale LUEs is based on 180 gpd/LUE				
<b>GRAND TOTAL</b>			<b>4,877</b>	



**Table 6: Wastewater Land Use Assumption Tabulation; by Development**

Upcoming Development	GROWTH from 2024-2034				TOTAL LUEs
	Retail		Wholesale	Total	
	Residential	Commercial			
Backyard	0	357	0	357	4,877
Ladera Ridge	0	19	0	19	5,234
Masonwood	0	0	80	80	5,333
Pearl (Terraces)	205	0	0	205	5,538
West Village	337.5	337.5	0	675	6,213
Infill/Buildout*	0	225	0	225	6,438
<b>Subtotal</b>	<b>542.5</b>	<b>938.5</b>	<b>80</b>	<b>1,561</b>	<b>6,438</b>
<b>TOTAL</b>	<b>1,481</b>				

\*Infill/Buildout assumed to be commercial

**Table 7: Wastewater Land Use Assumption Tabulation; by Year**

Impact Fee Planning Period Year	GROWTH				TOTAL LUEs
	Retail		Wholesale	Total	
	Residential	Commercial			
2025	95	24	8	127	5,004
2026	112.5	62.5	8	183	5,187
2027	47.5	52.5	8	108	5,295
2028	47.5	103.5	8	159	5,454
2029	47.5	103.5	8	159	5,613
2030	42.5	118.5	8	169	5,782
2031	37.5	118.5	8	164	5,946
2032	37.5	118.5	8	164	6,110
2033	37.5	118.5	8	164	6,274
2034	37.5	118.5	8	164	6,438
<b>Subtotal</b>	<b>542.5</b>	<b>938.5</b>	<b>80</b>	<b>1,561</b>	<b>6,438</b>
<b>TOTAL</b>	<b>1,481</b>				

A graphical representation of the wastewater LUA is presented in Appendix D: *Wastewater LUA Summary Figure*.

## SYSTEM PLANNING CRITERIA

In order to step forward to a Capital Improvements Plan from the Land Use Assumptions it is necessary to define the units used in the projections. Therefore the projections are defined in terms of water and wastewater system usage as well as the criteria used to establish the capacities of regional facilities. The capacity of the system's existing and proposed CIP infrastructure are generally sized to serve the projected growth.

### *Unit Usage*

Based on the operational history of the system under the WTCPUA, which now spans approximately twelve years, unit usage in gallons per day per living unit equivalent (gpd/LUE) has been developed for both the water and wastewater systems. Table 8 presents a comparison of the unit usage used in the 2012 Impact Fee Study (IFS) and the revised unit usage used in this report. As can be seen below peak day water usage has dropped to 864 gpd/LUE (the state minimum requirement) from 1,090 gpd/LUE. Similarly the wastewater demand average has decreased to 180 gpd/LUE from 205 gpd/LUE.

**Table 8: Water System Unit Usage Comparison**

System	2012 IFS Unit Usage (gpd/LUE)	2024 IFS Unit Usage (gpd/LUE)	Description
Water	450	450	Annual average
	1,090	864	Peak day
Wastewater	205	180	30-day average

### *System Criteria*

The primary criteria used to establish the capacity of the existing facilities and allocate for growth in CIP projects are pipe velocities, pumping capacity, and system storage. Transmission main capacity is evaluated using peak day unit usage and a 5 feet per second (fps) limitation on velocity. Pumping capacity is evaluated using the Firm Capacity (the capacity of a pump station when the largest pump

is out of service), which is the methodology required by the Texas Commission on Environmental Quality (TCEQ). A water distribution system model is used to evaluate the system dynamically and assist in sizing the facilities to provide minimum service level benchmarks. Once facilities are evaluated using the water distribution system model, the facilities' service areas are delineated and the preliminary capacity is evaluated in terms of the TCEQ minimum water system capacity requirements described in TAC §290.45. For the WTCPUA water system, the pumping requirements are 2.0 gpm/connection in service sub-areas where 200 gallons/connection of ground and elevated storage are not provided and 0.6 gpm/connection in sub-areas that meet the 200 gallons/connection threshold. Total storage is evaluated using dynamic peak day analyses in the water distribution system model as well as the TCEQ minimum criteria of 200 gallons/connection total storage, 100 gallons/connection elevated storage, 20 gallons/connection hydropneumatic system storage, and a clearwell storage capacity of 5% of the water plant's production capacity.

### **CAPITAL IMPROVEMENTS PLAN**

Using the above-described LUAs and the unit usage and system planning criteria, a Capital Improvements Plan was developed that identifies the projects required to meet the forecasted demands as well as estimated dates that the projects will be needed and forecasted project costs. Appendix E contains tables for water and wastewater project capacity assessments and allocations for existing projects as well as those for the proposed projects. The existing and proposed projects together define the CIP for the purposes of the impact fee calculations.

APPENDIX A-1:

2024 Impact Fee Study Overall Water Exhibit