

Wimberley Wastewater System

**Council Workshop
August 14, 2018**

Presentation Outline

- City Wastewater Project - Recap and Discuss Current Status
- City/Aqua Option
- City and City/Aqua Options - Comparisons
- Conclusions

Acknowledgements

Thanks to everyone who provided valuable input, including but not limited to:

- Alan Plummer Associates
- Texas Water Development Board (TWDB)
- Economic Development Administration (EDA)
- Texas Commission on Environmental Quality (TCEQ)
- Public Utility Commission (PUC) of Texas
- Aqua Texas
- Hays County
- Wimberley ISD
- Inframark (formerly Severn Trent)
- Raftelis Financial Consultants
- City Attorney
- Citizen Input

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Stakeholder Committee Recommendation

Central Wimberley Wastewater Stakeholder Committee:

Recommendations to Wimberley City Council in response to mission statement provided by Council

Nov. 20, 2013

Alternative Position in the Event Objective II is Not Accomplished

- In the event that construction costs for city treatment and reuse systems exceed the engineer's estimate (including contingency, relocation of plant within Blue Hole, and Winter's Mill reuse line) by more than 10%, if the City's expanded 5-5-2-1 plant permit is denied, or the City fails to commit the funds necessary to construct the treatment plant, the City shall negotiate with Aqua Texas to send the planned capacity to Aqua for wholesale treatment

Ad Hoc Committee Recommendation

Wimberley
Downtown Wastewater System
Citizens Ad Hoc Committee
Presentation of Report
Dated June 25, 2016
Presented June 30, 2016

- **Key Observation** – City has never seriously negotiated with Aqua Texas to develop a proposal that would allow a fair comparison. This made it impossible for the Committee to fully determine the economic feasibility of the Aqua options in relation to the City’s proposed wastewater system.
 - **Conclusion** - Explore the viability of the various options with Aqua in greater depth during the bidding process to avoid any delay should the project prove not to be economically feasible
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Objectives of City Wastewater System

Clean up Cypress Creek (to extent caused by failing septics)

Maintain Local Control with City Owned CCN

**Provide Infrastructure to Allow for Controlled Growth
Downtown as Permitted by the City**

Provide Water to Irrigate Blue Hole Park

**Protect Our Environment - Blanco River, Cypress Creek,
and Aquifers**

Make Rates Affordable to Sewer Customers

Accomplish in a Financially Responsible Manner

City Wastewater Project

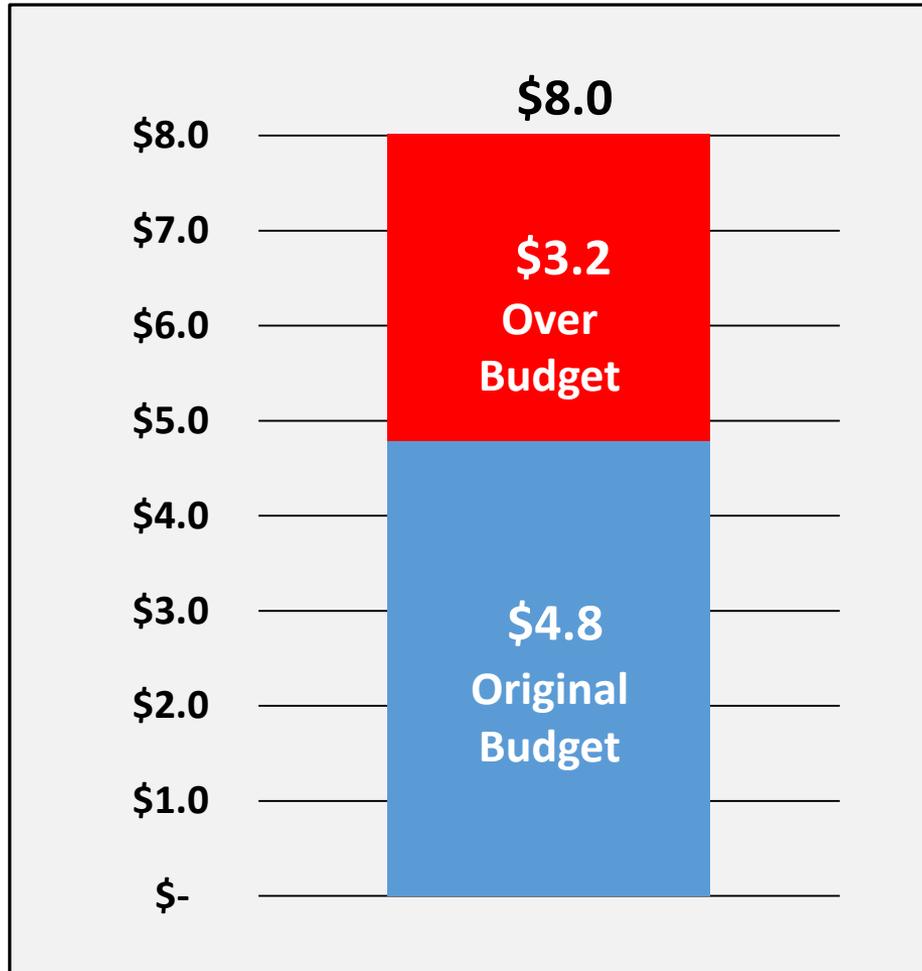
- Project Status
- Project Cost Status
- Funding Status
- Operating Costs
- Revenue Requirements
- Customer Rates

City - Project Status

- Collection System is under construction; current issues being worked include:
 - Easements
 - Property acquisition to relocate lift station
 - TXDOT permits
 - Re-routing lines
- Sewer Plant at Blue Hole Park on hold pending this evaluation
 - Only on-site activity has been clearing plant and storage tank site

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City - Project Cost (\$ millions)



As the two construction contracts were awarded –
The estimated project cost has grown from \$4.8 to \$8.0 million
(\$3.2 million, or 67% over budget)

Project Cost Summary

	Original Budget	Current Estimate	Variance
Collection System	\$ 2,259,000	\$ 3,616,230	\$ 1,357,230
Treatment Plant	1,365,100	3,068,900	1,703,800
Total Construction Costs	\$ 3,624,100	\$ 6,685,130	\$ 3,061,030
Contingency Funds	512,998	479,521	(33,477)
Bond Reserve and Origination Fee	343,636	333,354	(10,282)
Subtotal	\$ 4,480,734	\$ 7,498,005	\$ 3,017,271
Bond Counsel and Financial Advisor	46,310	68,950	
Project Administration	-	175,000	
Construction Administration	-	77,575	
EDA Administration	-	25,000	
Other	30,000	-	
Construction Interest (2 years)	232,271	170,847	
Total Other Costs	\$ 308,581	\$ 517,372	\$ 208,791
Total Project Cost	\$ 4,789,315	\$ 8,015,377	\$ 3,226,062
Percentage Over Budget			67%

See Appendix 1 for Original Budget from Alan Plummer Associates

Excludes reclaimed water line to Central Wimberley removed from project scope

City - Project Funding

	Sources	Comments	
Texas Water Development Board (TWDB) Revenue Bond	\$ 5,498,005	Loan Funded October 2017	✓
Economic Development Agency (EDA) Grant	1,000,000	Grant Available	✓
Way Family Foundation Grant	1,000,000	Due to 2017 Project Plan and Budget Changes and Late Start, Grant May No Longer be Binding and Available Since Agreement Never Amended	?
Subtotal	\$ 7,498,005		
City's Operating Reserves	517,372	Costs Being Paid from City's Operating Reserves	✓
Total Sources of Funds	\$ 8,015,377		

Who Pays for Sewer System

- Financed with TWDB Revenue Bonds
- Total Annual Costs and Debt Service to be paid by Users (Not Taxpayers)
- Users defined as Sewer Customers and Blue Hole (for Reclaimed Water)
- Formula for determining revenue requirements from Sewer Customers:

Expected Annual Operating Costs

+ Debt Service on TWDB Loan (already fixed)

= Total Revenue Requirements

- Revenue from City for Reclaimed Water

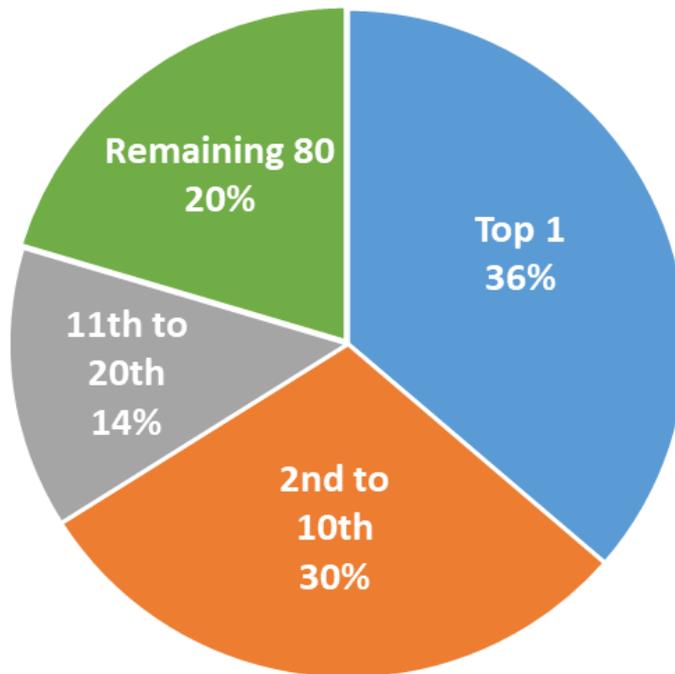
= Revenue Required from Sewer Customers

- Sewer Customer Rates Calculated from Revenue Required – Based on number of customers and volumes

Above formula illustrates the importance of keeping operating costs at lowest level to help ensure affordable rates for sewer customers

Volume Update – 100 Customer Base

**Initial Estimated Monthly Volume By
Customer - 27,000 gpd**



Ranking	
Top 1	36%
Top 10	66%
Top 20	80%
Bottom 80	20%

Source – Wimberley Water Supply Corporation – Residential based on winter averaging

Twelve months ended June 30, 2018

Note: Raftelis Updated Study Used 28,000 gpd

City - Annual Operating Costs

Step 1 - Update the Expected City Plant Operating Costs

Estimated O&M	Annual Costs
Collection System	\$ 19,500
Treatment Plant	214,249
Total Annual Operating Costs	\$ 233,749

Sources: Inframark (formerly Severn Trent) - current plant operator and Alan Plummer Associates. See Appendix 2 and 3

Updated City plant cost higher than existing plant and prior estimates. This is due to larger plant size, membrane technology, UV disinfection, higher energy needs and more testing requirements.

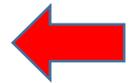
City – Revenue Requirements

Customer Rates Must Generate Sufficient Revenues to Pay Operating Costs Plus Debt Service

Operating Costs	\$ 233,749
Debt Service (TWDB Loan)	240,540
Total Revenue Required	\$ 474,289

Blue Hole Reclaimed Water (Subsidy)	\$ (200,000)
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Sewer Customer Revenue Required	\$ 274,289
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Approximately 100 Central Wimberley Property Owners will Initially be Responsible to Pay this Amount

City - Customer Rates

Revenue Requirements			
Sewer Customers (approx 100 customers)		\$	274,289
Blue Hole Reclaimed Water (Subsidy)	42% →		200,000
Total Revenue Required		\$	474,289
Rates Per Unit			
Base Rate - Per LUE		\$	35.00
Volume Rate - Per thousand gallons		\$	16.19
Capital Recovery Fee - Per LUE (over 8 yrs - \$26.04/mo)		\$	2,500
<u>Examples</u>	<u>Typical</u>	<u>Mo. Gallons</u>	<u>Monthly Bill</u>
Monthly Sewer Bills at Various Volumes (Water Usage)	Small Business	2,000	\$ 93
	Residential	4,000	\$ 126
		9,000	\$ 207
	Small Restaurant	15,000	\$ 345
		30,000	\$ 689
	Large Restaurant	50,000	\$ 1,149
	Deer Creek	300,000	\$ 6,024

Source: Raftelis Updated Study on 7-19-18 - Appendix 5

Note: 300,000 gal customer represents Deer Creek with no capital recovery fee

City/Aqua Option

- Aqua Offer
- Description of City/Aqua Option
- Project Cost
- Project Funding
- Operating Costs
- Revenue Requirements
- Customer Rates
- Project Timeline and Permits

Aqua Offer

- City Retains CCN - No CCN Transfer to Aqua
- Aqua takes downtown wastewater at Cypress Creek location and processes it at their non-discharge wastewater plant
- City will be an Aqua wholesale customer
- Aqua Cost is \$4,398 per month (\$52,776 per year) - Cost is based on PUC tariff rates in effect since 2009
 - No increase in rates for five years
 - Any increases thereafter is subject to an appeal process with PUC
- Aqua will upgrade entire plant from Type 2 to Type 1
- Reclaimed Type 1 effluent will be made available to Blue Hole for irrigation at no cost
- One time impact fee of \$300,000
- Timing of completion of their construction consistent with City's plans
- See Aqua Offer in Appendix 4

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Description of City/Aqua Option

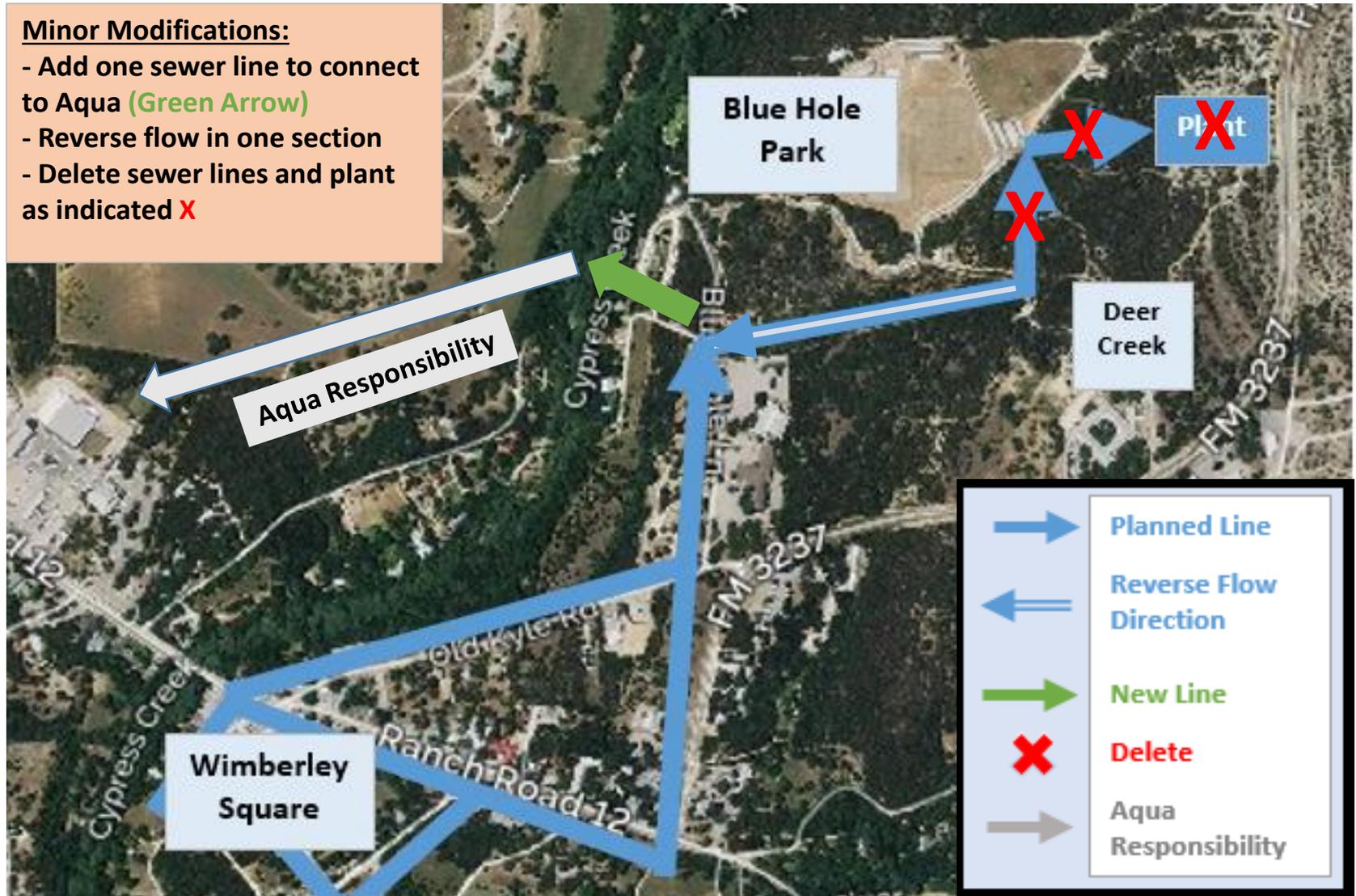
- City retains ownership of their CCN and therefore retains control of Wimberley growth
- City builds, owns and maintains the downtown collection system
- Wastewater facility is not built in Blue Hole Park; wastewater is sent to Aqua for processing
- Appropriately sized storage tank/irrigation system is built to meet watering needs of the Park
- Type 1 effluent is provided to the storage tank in the Park via a reclaimed water line running down Winters Mill Parkway
- City of Wimberley is retail provider to its customers and will set/control rates

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City/Aqua Option - System Design Change

Minor Modifications:

- Add one sewer line to connect to Aqua (Green Arrow)
- Reverse flow in one section
- Delete sewer lines and plant as indicated X



City/Aqua Option - Reclaimed Water System



Water to Blue Hole - Includes new reclaimed water line, appropriately sized irrigation storage tank and irrigation system. Prepared by Alan Plummer Associates

Aqua Texas Information

- Provider of Wimberley sewer services north of Cypress Creek
 - Customers include Wimberley Schools, Wimberley Community Center, HEB, Brookshires, Ace, Leaning Pear, New Assisted Living Complex, and Others
- 10 Full-time employees in Wimberley Valley providing 24/7 service coverage
- Established company with experience, technical expertise and financial resources – operates 44 wastewater facilities in Texas
- Size allows for economies of scale to lower costs vs small treatment facilities

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Aqua Rates Subject to Regulatory Oversight

Aqua's Rates to the City Are Regulated

- Aqua's rate for the City connection is subject to a regulatory oversight by the Public Utility Commission (PUC), with customers (in this case the City) having appellate rights
- Aqua's last rate filing that resulted in a change of customer rates for the Wimberley Valley was in 2009
- Aqua is agreeing to hold the quoted rate to the City **for five more years**

The City's Rates to City Customers Are Not Regulated

- Under both options, the City Council has the sole authority for setting and changing customer rates. A City owned utility is not subject to the PUC customer appeal. So, the City's customers have no recourse other than their voice and voting power

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City/Aqua - Project Cost

Collection System	\$ 3,616,230
Treatment Plant	-
Terminate Treatment Plant Contract	TBD
Modifications to Collection System	146,592
Engineering Design	60,000
Aqua Impact Fee (one time)	300,000
Reclaimed Water Line, Storage Tank and Irrigation for Blue Hole	750,000
Total Construction Costs	\$ 4,872,822
Contingency Funds	479,521
Bond Reserve and Origination Fee	333,354
Subtotal	\$ 5,685,697
Bond Counsel and Financial Advisor	68,950
Project Administration	175,000
Construction Administration	77,575
EDA Administration	25,000
Construction Interest (2 years)	170,847
Total Other	\$ 517,372
Total Project Cost	\$ 6,203,069

Source of Const. Cost - Contract, Engineer's Estimates, Aqua Offer. See Appx. 4 & 7

City/Aqua Option Funding

	Sources	Comments	
Texas Water Development Board (TWDB) Revenue Bond	\$ 5,498,005	Loan Funded October 2017 Final Approval for Change Pending	✓ -
Economic Development Agency (EDA) Grant	1,000,000	Final Approval for Change Pending	✓ -
Way Family Foundation Grant	-	Assumed Not Available	X
Subtotal	\$ 6,498,005		
City's Operating Reserves	68,950	Costs Being Paid from City's Operating Reserves	✓
Total Sources of Funds	\$ 6,566,955		
Total Project Cost	\$ 6,203,069		
Excess Sources of Funds	\$ 363,886		

City/Aqua - Annual Operating Expenses

Estimated O&M	Annual Costs
Collection System	\$ 19,500
Treatment Plant	-
Aqua Treatment Fees	52,776
Total Annual Operating Costs	\$ 72,276

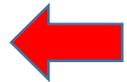
Sources: Inframark (formerly Severn Trent - current plant operator), Alan Plummer Associates, and Aqua Offer. See Appendix 2,3,4

Costs Determine Revenue Requirements and Customer Rates

City/Aqua – Revenue Requirements

Customer Rates Must Generate Sufficient Revenues to Pay Operating Costs Plus Debt Service

Operating Costs	\$ 72,276
Debt Service (TWDB Loan)	240,540
Total Revenue Required	\$ 312,816
Blue Hole Reclaimed Water (Subsidy)	\$ (200,000)
Sewer Customer Revenue Required	\$ 112,816



Approximately 100 Central Wimberley Property Owners will Initially be Responsible to Pay this Amount

City/Aqua - Customer Rates

Revenue Requirements			
Sewer Customers (approx 100 customers)		\$	112,816
Blue Hole Reclaimed Water (Subsidy)	64% 		200,000
Total Revenue Required		\$	312,816
Rates Per Unit			
Base Rate - Per LUE		\$	35.00
Volume Rate - Per thousand gallons		\$	0.46
Capital Recovery Fee - Per LUE (over 8 yrs - \$26.04/mo)		\$	2,500
<u>Examples</u>	<u>Typical</u>	<u>Mo. Gallons</u>	<u>Monthly Bill</u>
Monthly Sewer Bills at Various Volumes (Water Usage)	Small Business	2,000	\$ 62
	Residential	4,000	\$ 63
		9,000	\$ 65
	Small Restaurant	15,000	\$ 109
		30,000	\$ 217
	Large Restaurant	50,000	\$ 362
	Deer Creek	300,000	\$ 1,305



Source: Raftelis Updated Study on 7-19-18 - Appendix 5

Note: 300,000 gal customer represents Deer Creek with no capital recovery fee

Project Timeline and Permits

- Modifications to the wastewater design will require minor engineering and will not delay its current estimated completion date*
- Aqua construction commitment consistent with City's timeline*
- No permits required to bore under Cypress Creek*

*See Alan Plummer Associates Appendix 7f and 7g . Aqua Offer Appendix 4

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Comparison of Options City to City/Aqua

- **Project Cost**
- **Project Funding**
- **Operating Costs**
- **Revenue Requirements**
- **Customer Rates**
- **Environmental**

Project Cost Comparisons

	City Option	City / Aqua Option	Variance
Collection System	\$ 3,616,230	\$ 3,616,230	TBD
Treatment Plant	3,068,900	-	
Terminate Treatment Plant Contract		TBD	
Modifications to Collection System		146,592	
Engineering Design		60,000	
Aqua Impact Fee (one time)		300,000	
Reclaimed Water Line, Storage Tank and Irrigation for Blue Hole		750,000	
Total Construction Costs	\$ 6,685,130	\$ 4,872,822	\$ (1,812,308)
Contingency Funds	479,521	479,521	-
Bond Reserve and Origination Fee	333,354	333,354	-
Subtotal	\$ 7,498,005	\$ 5,685,697	\$ (1,812,308)
Bond Counsel and Financial Advisor	68,950	68,950	
Project Administration	175,000	175,000	
Construction Administration	77,575	77,575	
EDA Administration	25,000	25,000	
Construction Interest (2 years)	170,847	170,847	
Total Other	\$ 517,372	\$ 517,372	\$ -
Total Project Cost	\$ 8,015,377	\$ 6,203,069	\$ (1,812,308)

Funding Comparisons

	City	City/Aqua
Total Project Cost - Funding Required	\$ 8,015,377	\$ 6,203,069
Texas Water Development Board (TWDB) Revenue Bond	\$ 5,498,005	\$ 5,498,005
Economic Development Agency (EDA) Grant	1,000,000	1,000,000
Way Family Foundation Grant	1,000,000	-
Subtotal Funding	\$ 7,498,005	\$ 6,498,005
City's Operating Reserves	517,372	68,950
Total Sources of Funds	\$ 8,015,377	\$ 6,566,955
Excess Sources of Funds	\$ -	\$ 363,886

Operating Expense Comparisons

Estimated O&M	City Option	City / Aqua Option	Variance
Collection System	\$ 19,500	\$ 19,500	
Treatment Plant	214,249	-	
Aqua Treatment Fees	-	52,776	
Total Annual Operating Costs	\$233,749	\$ 72,276	\$ (161,473)

Savings in excess of \$4 million over 30 years

Costs Determine Revenue Requirements and Rates

Revenue Requirement Comparisons

	City Option	City / Aqua Option	Variance
Operating Costs	\$ 233,749	\$ 72,276	\$ (161,473)
Debt Service (TWDB Loan)	240,540	240,540	-
Total Revenue Required	\$ 474,289	\$ 312,816	\$ (161,473)
Blue Hole Reclaimed Water (Subsidy)	\$ (200,000)	\$ (200,000)	\$ -
Sewer Customer Revenue Required	\$ 274,289	\$ 112,816	\$ (161,473)



2.4X

Significantly Higher City Costs Result in Higher City Sewer Customer Revenue Requirements

Resulting City Rates are **2.4X City/Aqua Rates**

Customer Rates – Comparison of Options

		City Option		City/Aqua Option
Revenue Requirements				
Sewer Customers (approx 100 customers)		\$ 274,289	2.4X 	\$ 112,816
Blue Hole Reclaimed Water (Subsidy)		200,000		200,000
Total Revenue Required		\$ 474,289		\$ 312,816
Rates Per Unit				
Base Rate - Per LUE		\$ 35.00		\$ 35.00
Volume Rate - Per thousand gallons		\$ 16.19		\$ 0.46
Capital Recovery Fee - Per LUE (over 8 yrs - \$26.04/mo)		\$ 2,500		\$ 2,500
Examples	Typical	Mo. Gallons	Monthly Bill	Monthly Bill
Monthly Sewer Bills at Various Volumes (Water Usage)	Small Business	2,000	\$ 93	\$ 62
	Residential	4,000	\$ 126	\$ 63
		9,000	\$ 207	\$ 65
	Small Restaurant	15,000	\$ 345	\$ 109
		30,000	\$ 689	\$ 217
	Large Restaurant	50,000	\$ 1,149	\$ 362
	Deer Creek	300,000	\$ 6,024	\$ 1,305

Average Rates Under City Option Are 2.4X City/Aqua Option

Customer Rates – Comparison of Options

Another Option is to Reduce the City Subsidy (Blue Hole Reclaimed Water)

		City Option	City/Aqua Option	Reduce City Subsidy		
				by \$50,000	by \$100,000	
Revenue Requirements						
Sewer Customers (approx 100 customers)		\$ 274,289	\$ 112,816	\$ 162,816	\$ 212,816	
Blue Hole Reclaimed Water (Subsidy)		200,000	200,000	150,000	100,000	
Total Revenue Required		\$ 474,289	\$ 312,816	\$ 312,816	\$ 312,816	
Rates Per Unit						
Base Rate - Per LUE		\$ 35.00	\$ 35.00	\$ 35.00	\$ 35.00	
Volume Rate - Per thousand gallons		\$ 16.19	\$ 0.46	\$ 5.33	\$ 10.20	
Capital Recovery Fee - Per LUE (over 8 yrs - \$26.04/mo)		\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	
Examples	Typical	Mo. Gallons	Monthly Bill	Monthly Bill	Monthly Bill	Monthly Bill
Monthly	Small Business	2,000	\$ 93	\$ 62	\$ 72	\$ 81
Sewer	Residential	4,000	\$ 126	\$ 63	\$ 82	\$ 102
Bills		9,000	\$ 207	\$ 65	\$ 109	\$ 153
at Various	Small Restaurant	15,000	\$ 345	\$ 109	\$ 182	\$ 255
Volumes		30,000	\$ 689	\$ 217	\$ 363	\$ 509
(Water	Large Restaurant	50,000	\$ 1,149	\$ 362	\$ 606	\$ 849
Usage)	Deer Creek	300,000	\$ 6,024	\$ 1,305	\$ 2,766	\$ 4,227

Above illustrates City Subsidy could be reduced and still achieve lower rates. Subsidy could be reduced to \$39,000 and still have same City Option rates.

Environmental - Discharge

No Amount of Effluent Discharge is Healthy for the Blanco River and Our Aquifers

- **Changing the natural chemistry with higher nutrient levels, such as nitrogen and phosphorus, creates an enhanced environment for algae blooms**
- **Unightly algae competes for oxygen with aquatic fish and wildlife**
- **Sewer treatment plants are not effective at removing pharmaceuticals, household cleaners and detergents, pesticides, herbicides, and other toxic chemicals**
- **Blanco River directly feeds our critical and sensitive aquifers – our source of drinking water**
- **Effluent discharge is a concern to both the aquatic environment and human health**

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Environmental – Discharge Options

New City Plant

- 75,000 gpd Discharge Permit (Type 1) into Deer Creek/Blanco River
- Plans for beneficial reuse for irrigation at Blue Hole
- 12 acres of irrigation and 500,000 gallon storage tank
- A No-Discharge permit from TCEQ would have required 29 acres and 5.7 million gallons of storage (Plummer report 12-13)
- **Plant will discharge into Blanco River when storage is full and there is no need for irrigation**

Aqua Plant

- 250,000 gpd Texas Land Application, No-Discharge Permit (TLAP) (Currently Type 2, but Aqua will upgrade entire plant to Type 1)
- 143 acres of irrigation and 19 million gallon storage pond
- **No discharge into waterways permitted at any time**

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Trucking Excess Effluent Not Economical



Gallons in Storage Tank	500,000
Reclaimed Water Value (Delivered) \$/thousand gallons (1)	\$ 1.47
Total Economic Value of Water Delivered to Customer	\$ 735

(1) Reclaimed water rates per thousand gallons (delivered to customers)
San Antonio \$1.38. San Marcos \$1.56. Average \$1.47 per thousand gallons



Tanker Size - Gallons >>>>	5,000	9,000
Number of Trucks Required To Empty Storage Tank >>	100	56

Options

- Pay Tens of Thousands of Dollars to Truck Away, or
- Discharge into Blanco River at No Cost

Conclusions

- **Alan Plummer Associates Opinion Letter**
- **Conclusions**

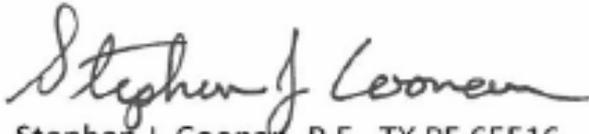
Engineer's Opinion Letter

We have reviewed the proposed modifications. In our professional opinion, these modifications are all technically feasible and will accomplish the City's goals of providing wastewater management services to the Central Wimberley area as well as providing irrigation water for the soccer fields at Blue Hole Park. Furthermore, it is our opinion that the proposed modifications will be protective of the special environment that exists in Wimberley.

If we can be of further assistance, please let us know.

Sincerely,

ALAN PLUMMER ASSOCIATES, INC.
TBPE Firm Registration No. 13

A handwritten signature in black ink that reads "Stephen J. Coonan". The signature is written in a cursive, flowing style.

Stephen J. Coonan, P.E., TX PE 65516
Principal

See entire letter from Alan Plummer Associates in Appendix 7h

Key Conclusions

A decision to implement the City/Aqua option will result in the following benefits to the City of Wimberley:

- Overall wastewater project commitments will be met:
 - Collection/processing of wastewater for downtown Wimberley
 - Type 1 effluent available for Blue Hole Park and no discharge into the Blanco River
- Overall wastewater project cost will be lower by \$1.8 million (less plant contract termination TBD)
- Annual operating expenses will be lower by \$161,000; saving the City and/or Customers over \$4 million over a 30-year period
- Customer rates will be 2.4 times higher under the City option vs City/Aqua (or City has option to share in cost savings)

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Other Key Benefits

- City of Wimberley retains CCN and local control for responsible downtown growth
- Avoids potential plant spills of wastewater and odor pollution in the park
- Avoids discharge of wastewater effluent into the Blanco River, or excess runoff into Cypress Creek, thereby preserving their natural state for the future
- Makes Type 1 effluent available to the Wimberley Valley that will help reduce the need to pull water out of our already stressed aquifers
- Eliminates the financial burden and risks of maintaining a plant, keeping it current with changing environmental standards, unexpected shutdowns and replacement at end of life

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Objectives of Wastewater System	City	City/ Aqua
Clean up Cypress Creek (to extent caused by failing septics)	✓	✓
Maintain Local Control with City Owned CCN	✓	✓
Provide Infrastructure to Allow for Controlled Growth Downtown as Permitted by the City	✓	✓
Provide Water to Irrigate Blue Hole Park	✓	✓
Protect Our Environment - Blanco River, Cypress Creek, and Aquifers	✗	✓
Make Rates Affordable to Sewer Customers	✗	✓
Accomplish in a Financially Responsible Manner	✗	✓
Conclusion – City/Aqua Option Better Choice		

Thank You

Appendix

- 1. Original Project Budget**
- 2. Updated Wastewater System Operating Costs**
- 3. Updated Costs - Inframark**
- 4. Aqua Offer**
- 5. Raftelis Updated Rate Study**
- 6. Detail Revenue and Rates**
- 7. Engineer's Updated Project Information**
- 8. Volume Update**

Original Project Budget 3-4-16

City of Wimberley Wastewater Project

	Quantity	Units	Cost per Unit	Total Cost
Collection System	1	LS	\$2,259,000	\$2,259,000
Effluent Discharge	1	LS	\$20,000	\$20,000
Treatment Plant	1	LS	\$941,600	\$941,600
Screening & Equalization	1	LS	\$20,000	\$20,000
Aeration / Blowers	1	LS	\$150,000	\$150,000
Final Clarification	1	LS	\$75,000	\$75,000
Filtration	1	LS	\$100,000	\$100,000
UV or Chlorination / Dechlorination	1	LS	\$25,000	\$25,000
Post Aeration	1	LS	\$30,000	\$30,000
Odor Control	1	LS	\$40,000	\$40,000
RAS/WAS Handling	1	LS	\$20,000	\$20,000
Sludge Holding / Aeration	1	LS	\$30,000	\$30,000
Phosphorous Removal	1	LS	\$20,000	\$20,000
Drainfield Decommissioning	1	LS	\$50,000	\$50,000
Site Work and Yard Piping	1	LS	\$140,800	\$140,800
Electrical and Instrumentation	1	LS	\$240,800	\$240,800
Reclaimed Waterline	13,000	LF	\$58	\$755,000
Reclaimed Water Storage Tank	1	LS	\$300,000	\$300,000
Reclaimed Water Pump Station	1	LS	\$60,000	\$60,000
BHRP Spray Irrigation System	1	LS	\$43,500	\$43,500
Subtotal, Construction				\$4,379,100
Contingency (~12%)				\$512,998
Total, Construction				\$4,892,098
Administrative and Legal				\$30,000
Debt Reserve & Construction Interest				\$480,455
Loan Origination Fee (1.85% total loan value)				\$95,452
Total Project Cost				\$5,498,005

Adjustments to Estimate

Total Project Cost Per Engineer's Estimate	\$ 5,498,005
Less Reclaimed Waterline to Central Wimberley That was Omitted from Project	(755,000)
Bond Counsel and Financial Advisor	46,310
Adjusted Estimated Total Project Cost	\$ 4,789,315



Appendix 1

Updated Wastewater System Operating Costs

City Option			City/Aqua Option
Plant Operating Costs			
Quote from Inframark (formerly Severn Trent) - Current Plant Operator			
Amount	Qty	Comments	Amount
\$ 30,815		New Lab Cost, includes an addition 4 trips per week to the lab.	\$ -
1,560	52	Additional LS checks, 1 per week @ 30 minutes	-
26,000	26	Sludge disposal (Bi-weekley liquid haul at 1%, 7000 gal, \$1K/load)	-
12,480	52	Additional weekends @ 2 hrs per day (travel and labor)	-
33,000		Corrective maintenance, suplies, alarms, all WO's	-
60,000		Existing cost	-
\$ 163,855			\$ -
Other Costs - Alan Plummer Associates			
\$ 30,394		Electricity - Up significantly due to UV disinfection and additional pumps	\$ -
20,000		Capital Reserves - Membranes, pumps, etc.	-
\$ 50,394			\$ -
\$ 214,249	Total Plant Operating Costs		\$ -
Collection System Costs			
Quote from Inframark (formerly Severn Trent) - Current Plant Operator			
\$ 10,500	15000 ft	approx sewer line Asset Mgt, 5 yr plan, 20% per year	\$ 10,500
Other Costs - Alan Plummer Associates			
\$ 5,000		Electricity	\$ 5,000
4,000		Capital Reserves	4,000
\$ 9,000			\$ 9,000
\$ 19,500	Total Collection System Operating Costs		\$ 19,500
Aqua Wastewater Treatment Fees			
Quote Aqua - Tariff Rates			
\$ -		Wastewater Treatment Fees	\$ 52,776
\$ 233,749	Total Plant and Collection System Operating Costs		\$ 72,276

Note: Above does not include general administrative expenses or providing operating reserves

Appendix 2

Updated Costs - Inframark



Mon 7/2/2018 1:29 PM

Tyler, Jason <Jason.Tyler@inframark.com>

RE: Wimberley Waste Water Treatment Plant

To Mayor

You replied to this message on 7/2/2018 1:46 PM.

[Bing Maps](#)

[+ Get more](#)

I believe you guys pay the utilities. I have received the quotes from the lab and revised the Budget number below. The special sampling cost were only about \$5,000 per year. This brings our average budget number to \$175 k. The plant PMs are included in the \$33,000 maintenance cost.

\$30,815		New Lab Cost, includes an addition 4 trips per week to the lab.
\$1,560	52	additional LS checks, 1 per week @ 30 minutes
\$10,500	15000	ft approx sewer line Asset Mgt, 5 yr plan, 20% per year
\$26,000	26	sludge disposal (Bi-weekley liquid haul at 1%, 7000 gal, \$1K/load)
\$12,480	52	additional weekends @ 2 hrs per day (travel and labor)
\$33,000		corrective maintenance, suplies, alarms, all WO's
\$60,000		existing cost
		other cost billed direct to City

\$174,355

Jason Tyler | Project Manager



Appendix 3

Aqua Offer



City of Wimberley
Attn: Susan Jagggers, Mayor
PO Box 2027
Wimberley, TX 78676

July 11, 2018

Dear Mayor,

Thank you for the opportunity to reiterate and update the proposed Aqua Texas offer that was submitted to the Wimberley City Council on June 23, 2017. The purpose of my letter is to formally document our conversation as well as our offer should the City Council decide to use our wastewater processing facilities.

Before I go any further, I want to reiterate that Aqua Texas has no desire or future intentions to own Wimberley's CCN. Our offer is strictly on a wholesale basis and hence, the City of Wimberley will retain obligation of their CCN and own and maintain any related wastewater facilities within the City's CCN.

With the above said, the following outlines our updated offer:

Aqua Texas will pay to extend a force main from the HEB lift station to a mutually agreed location on Cypress Creek. The size of the force main will be consistent with the City's current engineering drawings.

Aqua Texas will charge a wholesale flat rate of \$4,398.00/month to process wastewater from the downtown area. The rate will remain in effect for 5 years. Future increases will never exceed PUC Retail Rates which first must be approved by the City of Wimberley.

All of Aqua Texas' effluent will be upgraded to Type 1 from Type 2. Type 1 effluent will be available to the City of Wimberley at no cost based on the gallons treated on behalf of the City.

Aqua Texas and the WISD have agreed to commence with the Aqua Texas service connection extensions (water, wastewater and purple pipe) to the new WISD campus at Winters Mill Parkway and RR12 without delay. The point of connection for purple pipe to Blue Hole Park will be at the WISD campus and is estimated to be available in 2019. The City of Wimberley will be responsible for the cost to extend purple pipe from the WISD campus to Blue Hole park for watering purposes.

Based on this offer, the City of Wimberley will pay a \$300,000 onetime impact fee for connecting. Aqua Texas also agrees to complete construction of facilities defined in this offer consistent with the timing the City of Wimberley completes its construction of its wastewater facilities (e.g., downtown collection system).

Pending your approval of this offer, I will finalize the agreement with my Board of Directors. This will take approximately 2 weeks from the date of your approval.

I'm available to discuss any aspects of this offer at your convenience.

Sincerely,

A handwritten signature in black ink that reads "Bob Laughman". The signature is written in a cursive, flowing style.

Bob Laughman

Raftelis Updated Rate Study

City of Wimberley, Texas Draft Pro Forma

Fiscal Year	Capital Recovery Fees Revenue (1)	Future Impact Fees (2)	Base Charge Revenue	Volumetric Rate Revenue	City Contribution (3)	Annual Adjustment (4)	Annual Revenue (5)	O&M Expenses (6)	Current Debt Service (7)	TWDB Loan (8)	Total Expenses (5)	Surplus/ (Deficit)	
Case A	2019	40,022	-	68,040	166,226	200,000	128,492	602,781	233,749	128,492	240,540	602,781	-
Case B	2019	40,022	-	68,040	4,753	200,000	128,492	441,308	72,276	128,492	240,540	441,308	-
Case C	2019	40,022	-	68,040	54,753	150,000	128,492	441,308	72,276	128,492	240,540	441,308	-
Case D	2019	40,022	-	68,040	104,753	100,000	128,492	441,308	72,276	128,492	240,540	441,308	-

Base and Volumetric Charge

Fiscal Year	Base Charge	Volumetric Rate	
Case A	2019	35.00	16.19
Case B	2019	35.00	0.46
Case C	2019	35.00	5.33
Case D	2019	35.00	10.20

Note: Above prepared by Raftelis Financial Consultants 7-19-18 to update rate study for volume and operating cost adjustments as described below

Recap of Revenues and Expenses from Above Updated Raftelis Study	Sewer Customers	City Contribution	Total Revenue	O&M Expenses	TWDB Loan	Total Expenses
Case A	274,289	200,000	474,289	233,749	240,540	474,289
Case B	112,816	200,000	312,816	72,276	240,540	312,816
Case C	162,816	150,000	312,816	72,276	240,540	312,816
Case D	212,816	100,000	312,816	72,276	240,540	312,816

Description of Cases		
Case A	City Option	Updated August 3, 2017 to reduce volume - Deer Creek to 305,873 gallons per month and eliminate Rio Bonito due to easement concession. City Collection and Plant costs updated.
Case B	City/Aqua Option	Updated August 3, 2017 to reduce volume - Reduce Deer Creek to 305,873 gallons per month and eliminate Rio Bonito due to easement concession. City Collection + Aqua fees
Case C	City/Aqua Option - Reduce City contribution by \$50,000	Updated August 3, 2017 to reduce volume - Reduce Deer Creek to 305,873 gallons per month and eliminate Rio Bonito due to easement concession. City Collection + Aqua fees
Case D	City/Aqua Option - Reduce City contribution by \$100,000	Updated August 3, 2017 to reduce volume - Reduce Deer Creek to 305,873 gallons per month and eliminate Rio Bonito due to easement concession. City Collection + Aqua fees

Detail for Revenue and Rates

			Revenues	Gallons>	2,000	4,000	9,000	15,000	30,000	50,000	300,000	
City - Raftelis		<u>Rates</u>	<u>\$ Amount</u>	<u>LUE's ></u>	1.00	1.00	1.00	1.67	3.33	5.56	33.33	
LUE's - For Base Rates	162.0000	\$ 35.00	68,040	Base>	35.00	35.00	35.00	58.33	116.67	194.44	1,166.67	
LUE's - For Capital Recovery Fees	128.0704	\$ 16.19	166,230	Vol>	32.38	64.76	145.71	242.85	485.70	809.50	4,857.00	
Monthly Volume - gallons	855,622	\$ 2,500	40,022	Cap Rec>	26.04	26.04	26.04	43.40	86.81	144.68	-	
				274,292	Mo Rates>	93.42	125.80	206.75	344.59	689.17	1,148.62	6,023.67
Required Revenues >>				274,289								
Rounding >>				3								

			Revenues	Gallons>	2,000	4,000	9,000	15,000	30,000	50,000	300,000	
City/Aqua - Raftelis		<u>Rates</u>	<u>\$ Amount</u>	<u>LUE's ></u>	1.00	1.00	1.00	1.67	3.33	5.56	33.33	
LUE's - For Base Rates	162.0000	\$ 35.00	68,040	Base>	35.00	35.00	35.00	58.33	116.67	194.44	1,166.67	
LUE's - For Capital Recovery Fees	128.0704	\$ 0.46	4,723	Vol>	0.92	1.84	4.14	6.90	13.80	23.00	138.00	
Monthly Volume - gallons	855,622	\$ 2,500	40,022	Cap Rec>	26.04	26.04	26.04	43.40	86.81	144.68	-	
				112,785	Mo Rates>	61.96	62.88	65.18	108.64	217.27	362.12	1,304.67
Required Revenues >>				112,816								
Rounding >>				(31)								

			Revenues	Gallons>	2,000	4,000	9,000	15,000	30,000	50,000	300,000	
City/Aqua - Raftelis - \$150k Subsidy		<u>Rates</u>	<u>\$ Amount</u>	<u>LUE's ></u>	1.00	1.00	1.00	1.67	3.33	5.56	33.33	
LUE's - For Base Rates	162.0000	\$ 35.00	68,040	Base>	35.00	35.00	35.00	58.33	116.67	194.44	1,166.67	
LUE's - For Capital Recovery Fees	128.0704	\$ 5.33	54,726	Vol>	10.66	21.32	47.97	79.95	159.90	266.50	1,599.00	
Monthly Volume - gallons	855,622	\$ 2,500	40,022	Cap Rec>	26.04	26.04	26.04	43.40	86.81	144.68	-	
				162,788	Mo Rates>	71.70	82.36	109.01	181.69	363.37	605.62	2,765.67
Required Revenues >>				162,816								
Rounding >>				(28)								

			Revenues	Gallons>	2,000	4,000	9,000	15,000	30,000	50,000	300,000	
City/Aqua - Raftelis - \$100k Subsidy		<u>Rates</u>	<u>\$ Amount</u>	<u>LUE's ></u>	1.00	1.00	1.00	1.67	3.33	5.56	33.33	
LUE's - For Base Rates	162.0000	\$ 35.00	68,040	Base>	35.00	35.00	35.00	58.33	116.67	194.44	1,166.67	
LUE's - For Capital Recovery Fees	128.0704	\$ 10.20	104,728	Vol>	20.40	40.80	91.80	153.00	306.00	510.00	3,060.00	
Monthly Volume - gallons	855,622	\$ 2,500	40,022	Cap Rec>	26.04	26.04	26.04	43.40	86.81	144.68	-	
				212,790	Mo Rates>	81.44	101.84	152.84	254.74	509.47	849.12	4,226.67
Required Revenues >>				212,816								
Rounding >>				(26)								

Volume Update

<u>Ranking</u>	<u>Gallons</u>		<u>%</u>
	<u>Per Mo.</u>	<u>Per Day</u>	
Top 1	302,356	9,939	36%
Next 9	246,955	8,118	30%
Next 10	113,303	3,725	14%
Remaining 80	169,444	5,570	20%
Total	832,058	27,352	100%

<u>Cumulative</u>	
Top 1	36%
Top 10	66%
Top 20	80%
Bottom 80	20%

Source: Wimberley Water Supply Corporation. 12 months ended June 2018
 Residential properties use winter averaging

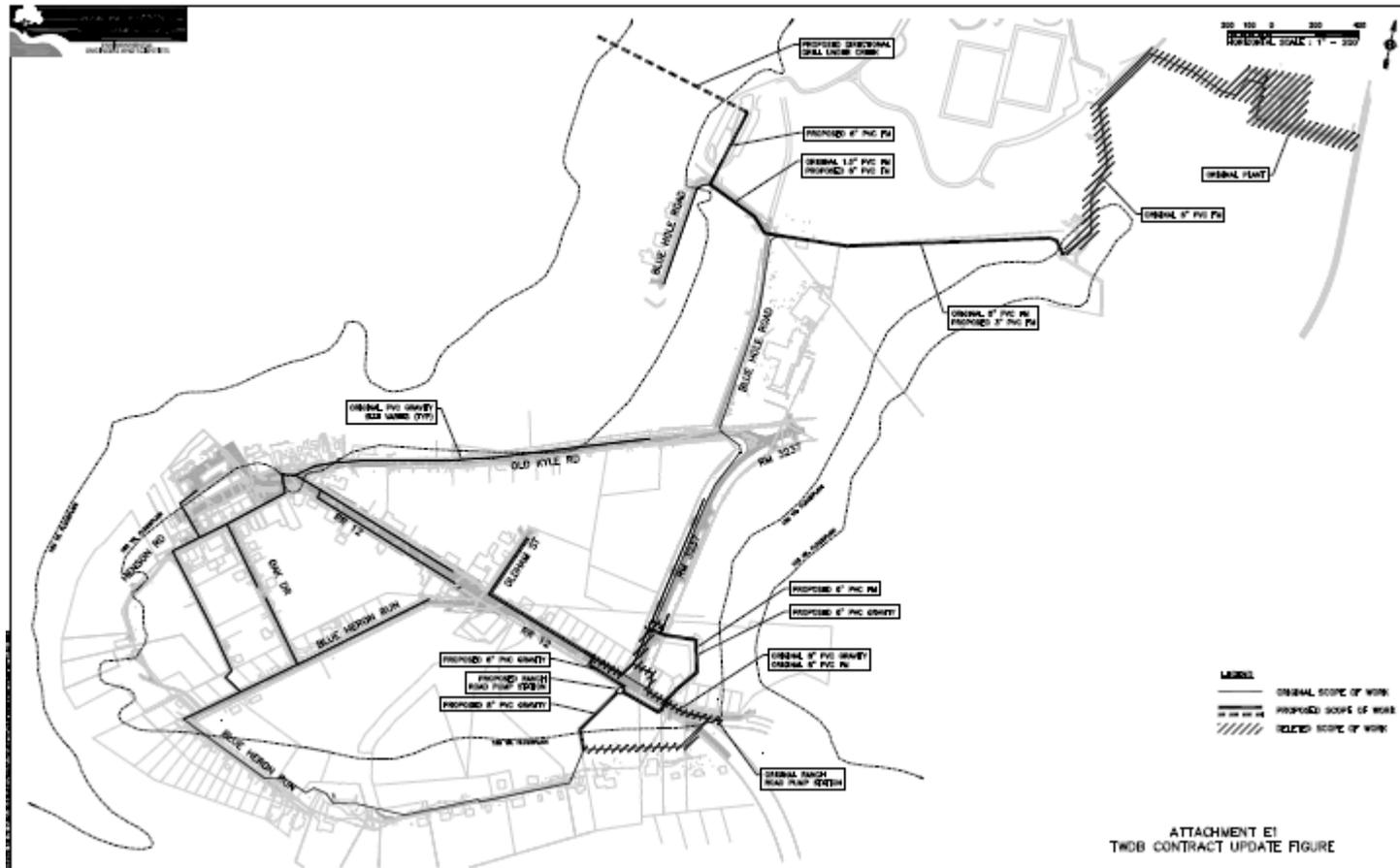
Note: Raftelis updated study used 28,000 gallons

Engineer's Updated Project Information

Alan Plummer Associates Updated the Project Cost Estimates for the Proposed Change in Scope in the Following Exhibits

- Map of Changes to Collection System
- Map of New Reclaimed Water Line
- Updated Costs for Collection System
- Cost Estimate for Reclaimed Water System
- Time Schedule

Map of Changes to Collection System



Map prepared by Alan Plummer Associates. Includes modifications to collection system to connect to Aqua and delete plant, plus some other unrelated changes

Appendix 7a

Map of Reclaimed Water System



Map prepared by Alan Plummer Associates. Includes new reclaimed water line, storage tank and irrigation system.

Appendix 7b

Updated Costs for Collection System

EXHIBIT A
CITY OF WIMBERLEY, TEXAS
COLLECTION SYSTEM PROJECT BUDGET UPDATE
July 30, 2018

Bid Item	Unit	Description	Original Quantity	Estimated Quantity	New Unit Price	Original Total	New Total
Gravity							
510-AWW 6" Dia.	LF	Pipe, 6" Dia. PVC Type (all depths), including Excavation and Backfill	6650	7860	140	\$ 931,000.00	\$ 1,100,400.00
510-AWW 8" Dia.	LF	Pipe, 8" Dia. PVC Type (all depths), including Excavation and Backfill	4050	4260	190	\$ 769,500.00	\$ 809,400.00
509S-1	LF	Trench Excavation Safety Protective Systems (all depths over 5')	12300	13640	2.2	\$ 27,060.00	\$ 30,008.00
506S MWW	EA	Standard Pre-cast Manhole w/Pre-cast Base, 4' Dia.	45	44	8500	\$ 382,500.00	\$ 374,000.00
506S EDMWW	LF	Extra Depth of Manhole, 4' Dia.	233	235	440	\$ 102,520.00	\$ 103,400.00
506S DWW	EA	Drop Manhole w/Pre-Cast Base, 4' Dia.	12	12	6600	\$ 79,200.00	\$ 79,200.00
506S EDM DWW	LF	Extra Depth of Drop Manhole, 4' Dia.	80	80	275	\$ 22,000.00	\$ 22,000.00
510-HR 6" Dia.	LF	Cement Stabilized Backfill, 6" Dia.	65	65	66	\$ 4,290.00	\$ 4,290.00
510-HR 8" Dia.	LF	Cement Stabilized Backfill, 8" Dia.	30	30	66	\$ 1,980.00	\$ 1,980.00
510-HR 4" Dia.	EA	Cement Stabilized Backfill, 4' Dia. Manhole	10	10	7700	\$ 77,000.00	\$ 77,000.00
510-AR 6" Dia.	LF	150 PSI Pressure Class Pipe, 6" Dia	375	375	82	\$ 30,750.00	\$ 30,750.00
510-AR 8" Dia.	LF	150 PSI Pressure Class Pipe, 8" Dia	1050	1050	92	\$ 96,600.00	\$ 96,600.00
510-SSSC-WW 4" Dia	EA	4" Dia. Short Sanitary Sewer Connection (1'-100')	39	39	1900	\$ 74,100.00	\$ 74,100.00
510-MSSC-WW 4" Dia	EA	4" Dia. Medium Sanitary Sewer Connection (101'-200')	69	69	2300	\$ 158,700.00	\$ 158,700.00
510-LSSC-WW 4" Dia	EA	4" Dia. Long Sanitary Sewer Connection (201'-300')	11	11	2900	\$ 31,900.00	\$ 31,900.00
Force Main Line							
5P-002	LS	Ranch Road Pump Station, Valve Vault, & Electrical	1	1	360000	\$ 360,000.00	\$ 360,000.00
511-A6	EA	Valves, Plug Valve, 6" Dia.	3	3	2750	\$ 8,250.00	\$ 8,250.00
510-AR 6" Dia.	LF	Pipe 6" Dia. PVC Type (all depths), including Excavation and Backfill	4100	3540	77	\$ 315,700.00	\$ 272,580.00
509S-1	LF	Trench Excavation Safety Protective Systems, (all depths over 5')	3900	3370	2.2	\$ 8,580.00	\$ 7,414.00
510-AR 1.5" Dia.	LF	Pipe 1.5" Dia. PVC Type (all depths), including Excavation and Backfill	1000	500	27.5	\$ 27,500.00	\$ 13,750.00
510-SSL-WW 1.25" Dia	EA	1.25" Dia. Sanitary Sewer Lateral	7	7	1100	\$ 7,700.00	\$ 7,700.00
5P-003	EA	Residential Grinder Pump Station	7	7	12000	\$ 84,000.00	\$ 84,000.00
5P-003a	EA	Grinder Pump Station Electrical Allowance	7	7	2200	\$ 15,400.00	\$ 15,400.00
New Item	LF	Pipe 3" Dia. PVC Type (all depths), including Excavation and Backfill		1350	50	\$ -	\$ 67,500.00
Bnew Item	LF	Pipe 6" Dia. HDPE Direction Drill		600	200	\$ -	\$ 120,000.00
Totals						\$ 3,616,230.00	\$ 3,762,822.00

Cost update prepared by Alan Plummer Associates. Includes modifications to collection system to connect to Aqua, plus some other unrelated changes.

Net Change is \$146,652 increase
See next Appendix for breakdown.

THESE DOCUMENTS ARE FOR TEXAS WATER DEVELOPMENT BOARD REVIEW ONLY
AND ARE NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES.

Appendix 7c

Updated Costs for Aqua Connection

Collection System Project Budget Update Source of Data: Alan Plummer Associates

Aqua Connection Modifications	Ft	\$/Ft	Total
<u>Blue Hole Road</u>			
Delete 1.5" PVC	(500)	27.50	\$ (13,750)
Add 6" PVC	500	77.00	38,500
<u>Blue Hold Road to Boring Location</u>			
Add 6" PVC	500	77.00	38,500
Directional Drill	600	200.00	120,000
<u>Reverse Flow Line from Deer Creek</u>			
Add 3" PVC Pipe	1,350	50.00	67,500
Delete 6" PVC Pipe	(1,350)	77.00	(103,950)
Trench Protective Systems	1,100	2.20	2,420
Changes Attributable to Aqua Connection			\$ 149,220
Original Contract Total			\$ 3,616,230
New Contract Total			3,762,822
Net Change			\$ 146,592
Net Change Attributable to:			
Aqua Connection			\$ 149,220
Other Modifications			(2,628)
Total Net Change			\$ 146,592

This schedule prepared from data from prior appendix that was prepared by Alan Plummer Associates.

It shows the breakdown of the changes attributable to the connection to Aqua.

Substantially all of the change is due to the Aqua modification.

Appendix 7d

Cost Estimate for Reclaimed Water System

ATTACHMENT B
CITY OF WIMBERLEY
RECLAIMED WATER SYSTEM
OPINION OF PROBABLE COST

	Unit	Description	Units	Unit Price	Total
1	LF	Pipe, 4" Dia. PVC Type (all depths)	15000	35	\$ 525,000.00
	LF	Trench Excavation Protection	15000	1	\$ 15,000.00
2	LF	Roadway Bore - 12"	100	400	\$ 40,000.00
3	LS	Driveway Pavement Replacement	1	20000	\$ 20,000.00
4	EA	Storage Tank (100,000 gallons)	1	75000	\$ 75,000.00
5	LF	Irrigation Pumps	2	20000	\$ 40,000.00
6	EA	Soccer Field Irrigation System	1	35000	\$ 35,000.00
				Totals	\$ 750,000.00

7/30/2018

Prepared by Alan Plummer Associates

Appendix 7e

Time Schedule

Attachment D
City of Wimberley
Schedule Update
30-Jul-18

Phase	Start Date	End Date
<i>Collection System</i>	4/5/2018	4/5/2019
<i>WWTP Project*</i>	3/12/2018	11/27/2018
<i>Reclaimed Water</i>		
<i>Design</i>	8/15/2018	11/30/2018
<i>Bidding</i>	12/1/2018	1/31/2019
<i>Construction</i>	2/1/2019	6/30/2019

* Contract proposed for cancellation

Prepared by Alan Plummer Associates

Environmental Permits and TCEQ



August 9, 2018

Mayor Susan Jagers
City of Wimberley
221 Stillwater
Wimberley, TX 78676

Re: Central Wastewater Project

Dear Mayor:

You recently requested that I provide you additional information concerning the proposed modifications to the wastewater collection system and the redirection of the flow to the Aqua Texas collection system. I have the following answers to your specific questions.

Environmental Permits

As we discussed, the proposed crossing under Cypress Creek will not need any specific environmental permits. The two permits that were considered were a Sand, Gravel and Marl permit from the Texas Parks and Wildlife Department. This permit is not needed because public utilities are exempted from this requirement when constructing a line across a creek. The second consideration was a 404 Permit from the Army Corps of Engineers. This permit is not required because there will not be any surface disturbance within the ordinary high water mark of the creek.

You also mentioned the Chapter 210 Reclaimed Water Authorization for irrigation of the park with reclaimed water. An approval for this activity from the Texas Commission on Environmental Quality (TCEQ) will be needed, but this need is not associated with the proposed change to cross the creek. However, since Aqua Texas will be the source of reclaimed water, they will be the ones to apply for that approval.

In addition, while not a specific environmental permit, the Texas Water Development Board (TWDB) has indicated that they may want to review the proposed changes. To date the TWDB has only requested an aerial graphic showing the proposed changes and a description of the revised project.

Texas Commission on Environmental Quality

You asked what involvement the TCEQ would have in the proposed alternative. As this project is being funded through the TWDB, the TWDB takes the lead on reviewing the construction plans. TCEQ review is not needed and no permits other than the previously discussed Chapter 210 authorization are required.

Appendix 7g

Alan Plummer Opinion Letter (1 of 2)



August 3, 2018

Mayor Susan Jaggers
City of Wimberley
221 Stillwater
Wimberley, TX 78676

Re: Central Wastewater Project

Dear Mayor:

Alan Plummer Associates, Inc. (APA) understands that the City is considering making changes to the Central Wastewater Project. Specifically, APA understands that the City may cancel the construction contract with Black Castle for the installation of a City-owned wastewater treatment plant. If the City cancels the contract, the following changes would need to be implemented:

1. Revise the wastewater collection system such that the wastewater collected from the Central Wimberley area is conveyed to Aqua Texas for treatment at their Woodcreek Wastewater Treatment Plant. This would require the construction of a force main under Cypress Creek to be able to connect to Aqua Texas' collection system on the north side of the creek. The opinion of probable construction cost for this revision is \$130,000. We understand that the City has contacted potential landowners and that easements are not expected to be an issue. With that in mind, we believe that this revision can be made without extending the completion date for the collection system contract. Maintaining this schedule could be adversely affected if the TWDB requires extensive reviews of the proposed modifications.
2. Design and construct a new reclaimed water line along Winters Mill Parkway that would return treated water to Blue Hole park for irrigation of the soccer fields. This would include the installation of a smaller reclaimed water storage tank at the park, irrigation pumps, and an irrigation system for the soccer fields. The opinion of probable construction cost for these improvements is \$750,000. The City has indicated that Hays County is amenable to constructing the lines within their right-of-way and easement for the trail system. We would anticipate that this project would need to be bid separately. The design, bidding, and construction of these improvements could be completed in a 10-month time frame. However, extensive review requirements by funding agencies could extend the schedule.

Appendix 7h

Alan Plummer Opinion Letter (1 of 2)

Mayor Susan Jaggers
Page 2
August 3, 2018

We have reviewed the proposed modifications. In our professional opinion, these modifications are all technically feasible and will accomplish the City's goals of providing wastewater management services to the Central Wimberley area as well as providing irrigation water for the soccer fields at Blue Hole Park. Furthermore, it is our opinion that the proposed modifications will be protective of the special environment that exists in Wimberley.

If we can be of further assistance, please let us know.

Sincerely,

ALAN PLUMMER ASSOCIATES, INC.
TBPE Firm Registration No. 13


Stephen J. Coonan, P.E., TX PE 65516
Principal

Appendix 7h

City - Customer Rates – Detail Examples

Two Examples of Calculations from Prior Slide

Rates Per Unit	
Base Rate - Per LUE	\$ 35.00
Volume Rate - Per thousand gallons	\$ 16.19
Capital Recovery Fee - Per LUE (over 8 yrs - \$26.04/mo)	\$ 2,500

Residential Customer - 4,000 Gallons			
Base	No. LUE	1.00	\$ 35.00
Volume	Gallons	4,000	\$ 64.76
Capital Recovery	No. LUE	1.00	\$ 26.04
Total Monthly Bill			\$ 125.80

Large Restaurant Customer - 50,000 Gallons			
Base	No. LUE	5.56	\$ 194.44
Volume	Gallons	50,000	\$ 809.50
Capital Recovery	No. LUE	5.56	\$ 144.67
Total Monthly Bill			\$ 1,148.61

Appendix 8