City of Colleyville
City Council
Agenda Briefing

City Hall
100 Main Street
Colleyville, Texas 76034
www.colleyville.com

Agenda Number PC-2 **Agenda Date** 06/02/2015
Type Presentation and Discussion
Department Public Works

Title
Discussion of the Water and Sewer Rate Study

Strategy Map Connection
C5- Achieve the highest standards of safety & security
F2- Invest to provide and maintain high quality public assets
F3- Forecast needs and plan for the future, balancing priorities with resources

Explanation
At the January 21, 2014 Pre Council meeting, staff made a presentation to City Council explaining the need for a comprehensive water and sewer master plan to determine the condition and adequacy of the City's existing water and wastewater systems. As part of the Master Plan Update, a rate study was done to determine what percentage of the fixed costs of operating the utility were being recovered in the base rate, and to recommend potential adjustments to the current rate structure to ensure fixed operating costs were being recovered, and to provide some funding for the capital projects identified in the Master Plan update, which total $55 million over the next 20 years. City Council formally adopted the Water and Wastewater Master Plan on March 17, 2015, by Resolution R-15-3859. In doing so, the capital projects identified in the Master Plan will be included in future Capital Improvement Programs. Identified projects include:

- upsizing water lines in various locations throughout the City
- replacing water and sewer lines that are showing signs of excessive wear due to age
- renewing and/or replacing sewer manholes that are in poor condition
- demolishing the Overland Trail storage tank and pump station
- adding or replacing pressure regulating and flow control valves to facilitate transfer of water between the high and low pressure planes
- construction of a new elevated storage tank in the southwest part of the City
- installing new water lines to complete loops in order to provide redundancy

On December 16, 2014, the results of the Water and Sewer Master Plan and Rate Study were presented (briefing and presentation attached as Exhibit B) to the City Council during the Pre Council meeting. The initial rate study proposed the following adjustments to the water and wastewater rate structure to ensure that fixed costs of operating the utility were being recovered in the base rate, and to provide funding for necessary capital improvements:

a. Removal of the initial 2,000 gallons included in the minimum bill over a two year period
b. Revision of the base rate structure based on meter size
c. Differentiation of the base charge for sewer for residential and non-residential accounts

At the December 16, 2014 meeting, City Council identified several issues that required clarification or additional information, and a follow up discussion was held on February 17, 2015 (see attached Exhibit C).

Based on questions and direction from City Council at the December 16, 2104 Pre Council meeting, the following changes were made to the proposed modifications to the water and sewer rate structure:

a. The removal of the 2,000 gallons included in the minimum bill has been changed to occur over a four year period at the rate of 500 gallons each year for four years beginning in 2016
b. Charge a higher monthly base rate for water meters 1.5" than for meters less than 1.5" and charge all water meters less than 1.5 inches in size, both residential and commercial, the same base rate
c. Except as noted above, non-residential customers will be charged a base rate of $6.00 per month higher for sewer than residential customers. This will be phased in with a $3.00 increase in 2016 and a second $3.00 increase in 2018

On February 17, 2015, staff presented to City Council revisions to the proposed rate structure that incorporated the changes listed above. No action was taken at that time and staff was directed to bring the rate study back to City Council for additional discussion. The City Council also directed staff to conduct research on the Tarrant Regional Water District's enabling legislation and use of revenue derived from mineral leases for various District purposes. The city attorney has completed this research and will be prepared to answer questions at the June 2 Pre Council meeting. The attached presentation (Exhibit A) summarizes the proposed modifications to the rate structure. The proposed rate structure includes the passing through of the annual Trinity River Authority increases for wholesale water and sewer rates.

If City Council chooses to adopt any or all of the recommended changes to the water and sewer rate structure, staff recommends they become effective on December 1, 2015. If any changes are made to the current rate structure staff will implement an aggressive public information program to communicate the changes to all water and sewer customers.

Should the City Council choose to leave the current rate structure in place, staff estimates approximately $1 million will be available on an annual basis for capital projects based on historical trends for water and sewer revenue. If the rate study recommendations are not implemented it will not be possible to execute the capital projects identified in the Water and Wastewater Master Plan within the 20 year period

in which they are needed. Current project funding levels will only allow for approximately 30-percent of the projects to be completed.

Attachments

1. Exhibit A - Continuation of Discussion on Water and Sewer Rate Study - June 2, 2015
2. Exhibit B - December 16, 2014 Colleyville Water and Wastewater Master Plan Presentation
3. Exhibit C - February 17, 2015 Colleyville Water and Wastewater Master Plan Update Presentation

EXHIBIT A

CONTINUATION OF DISCUSSION ON WATER AND SEWER RATE STUDY

June 2, 2015

Background

- Water and Wastewater Master Plan development authorized by City Council on February 18, 2014
- Plan presented to City Council on December 16, 2014
- A follow up presentation was made at the February 17, 2015 Pre Council Meeting
- City Council formally adopted Master Plan on March 17, 2015

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Purpose of Water and Wastewater Master Plan

- Assess current system
- Develop projections for future water usage and sewer flows
- Update existing water system model
- Create sewer system model
- Create roadmap for future development needs
- Determine capital project needs over next 20 years
- Conduct a rate study

Purpose of Rate Study

- To determine what percentage of the fixed costs of the water and sewer utility are covered by the base rate
- To evaluate potential for additional revenue to address capital project needs

Master Plan Findings and Recommendations

- Overall, both the water and wastewater systems are in reasonably good condition
- The Overland Trail tank and pump station can be taken out of service and demolished by changing watering days
- All of the storage tanks are in good condition
- 92% of the sewer manholes (2,819) are in good or fair condition
- 44 capital projects are needed to address condition or capacity and flow volumes on 12% (27 projects) of the water system and 4% (17 projects) of the sewer system

Updated Rate Study Recommendations

- Remove first 2,000 gallons from base rate for water and wastewater over four year period (500 gallons annually)
- Charge a higher minimum base monthly charge for water meters 1 ½" and greater than for meters less than 1 ½"
- Increase base monthly charge for non-residential wastewater by $6.00 to be implemented in two $3.00 increments in 2016 and 2018
- The TRA projected pass through rate increases are included in the proposed new rates

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Rate for 20,000 Gallons of Water for Meters Smaller than 1.5”

			Current		Proposed*		
	TRA Projected Increase	Cost per 1000 gals	Base Rate	Cost per 20,000 Gallons with TRA Projected Rate Increase Only	Proposed New Base Rate	Cost per 20,000 gals with Removal of First 2,000 gals from Base Rate	Difference in Cost for 20,000 gals
2015		$ 4.12	$ 13.28	$ 87.44	$ 13.28	$ 87.44	$ 0.0
2016	$ 0.18	$ 4.30	$ 13.64	$ 91.04	$ 13.55	$ 93.10	$ 2.06
2017	$ 0.14	$ 4.44	$ 13.92	$ 93.84	$ 13.69	$ 98.05	$ 4.21
2018	$ 0.16	$ 4.60	$ 14.24	$ 97.04	$ 13.77	$ 103.47	$ 6.43
2019	$ 0.13	$ 4.73	$ 14.50	$ 99.64	$ 13.77	$ 108.37	$ 8.73

Current Colleyville Rate

*Includes TRA projected pass through rate increases

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Residential Rate for 10,000 Gallons of Wastewater

			Current		Proposed*		
	TRA Projected Increase	Cost per 1000 gals	Base Rate	Cost per 10,000 Gallons with TRA Projected Rate Increase Only	Proposed New Base Rate	Cost per 10,000 gals with Removal of First 2,000 gals from Base Rate	Difference in Cost for 10,000 gals
2015		$ 2.95	$ 10.16	$ 33.76	$ 10.16	$ 33.76	$ 0.0
2016	$ 0.19	$ 3.14	$ 10.54	$ 35.66	$ 10.45	$ 37.14	$ 1.48
2017	$ 0.20	$ 3.34	$ 10.94	$ 37.66	$ 10.65	$ 40.71	$ 3.04
2018	$ 0.16	$ 3.50	$ 11.26	$ 39.26	$ 10.73	$ 43.98	$ 4.72
2019	$ 0.13	$ 3.63	$ 11.52	$ 40.56	$ 10.73	$ 47.03	$ 6.47

Current Colleyville Rate

*Includes TRA projected pass through rate increases

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Residential Rate for 20,000 Gallons of Water and 10,000 Gallons of Wastewater

	Combined Rate With TRA Projected Increase Only	Combined Cost with Removal of First 2,000 Gallons from Base Rate	Difference in Combined Cost with Removal of First 2,000 Gallons from Base Rate
2015	$ 121.20	$ 121.20	$ 0.00
2016	$ 126.70	$ 130.24	$ 3.54
2017	$ 131.50	$ 138.76	$ 7.26
2018	$ 136.30	$ 147.45	$ 11.15
2019	$ 140.20	$ 155.40	$ 15.20

Current Colleyville Rate

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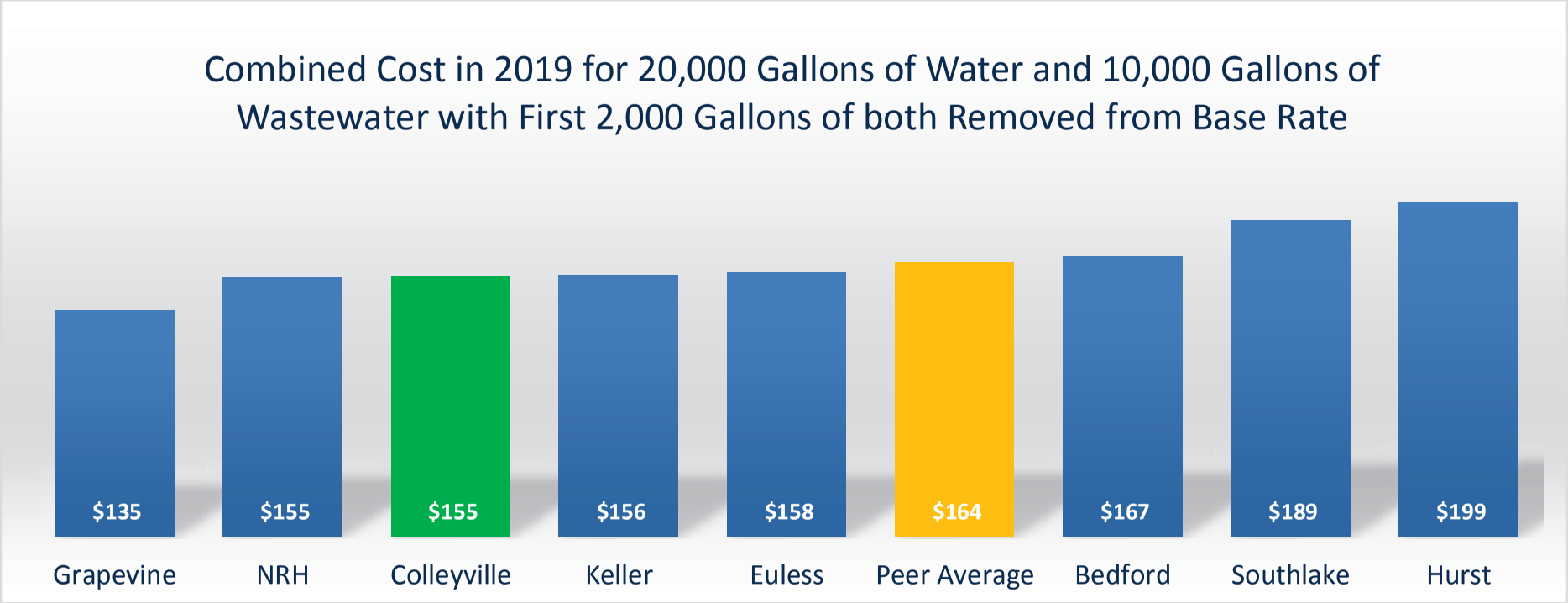
Peer Cities Comparison



Assumes non-TRA cities increase rates proportionally to TRA increases
Currently Colleyville Combined Rate is $121.20

Cash Flow Projection

(with proposed rate structure implemented)

	2015	2016	2017	2018	2019
Gross Revenues from Water and Wastewater Sales	$ 14,184,706	$ 15,310,654	$ 16,347,649	$ 17,427,644	$ 17,427,644
O&M Expenses less Debt Service	$ 12,350,354	$ 13,017,620	$ 13,772,453	$ 14,467,465	$ 15,069,560
Debt Service with 1.20 coverage ratio	$ 588,120	$ 526,068	$ 518,256	$ 226,548	$ 0
Potentially Available for CIP Projects*	$ 1,246,232	$ 1,766,966	$ 2,056,940	$ 2,733,630	$ 3,363,784

Current Fixed Cost Recovery (Water and Wastewater Combined) 41%
Combined Fixed Cost Recovery in 2019 if recommendations are adopted (2019) 89%

* Only includes revenue from water and wastewater sales

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Funding for Capital Projects

- Master Plan recommends 27 water and 17 wastewater projects over the next 20 years
- Estimated cost in 2015 dollars is
  - $39,862,934 for water projects
  - $15,044,200 for wastewater projects

    $54,907,134
- The 20 year average annual funding requirement is $2,745,907 (2015 dollars)

Capital Projects in Next 5 Years

- Master Plan recommends 12 water projects and 4 wastewater projects be executed between now and 2020
- Estimated cost in 2015 dollars is
  - $15,746,000 for water projects
  - $2,686,000 for wastewater projects

  $18,432,000
- Two projects ($ 1,990,000) were awarded on March 3, 2015 and funded from utility funds on hand
- Cost of remaining projects = $ 16,442,000
- Projected available funding = $ 16,063,181 (with proposed rate structure)

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Potential Revenue Available for Capital Projects from All Sources with Proposed Rate Structure

	2015	2016	2017	2018	2019
New Water and Wastewater Sales	$ 1,246,232	$ 1,766,966	$ 2,056,940	$ 2,733,630	$ 3,363,784
Impact Fees	$ 979,125	$ 979,126	$ 979,125	$ 979,125	$ 979,125
Yearly Total	$ 2,225,357	$ 2,746,095	$ 3,036,065	$ 3,712,755	$ 4,342,909
Five Year Total	$16,063,181*				

*Equates to 29% of funding needed for 20 year CIP ($55 million)

Five year average available funding is $ 3,212,637 per year

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Execution of Projects Identified as Short Term Projects ($33M) in Five Years

- Would require issuance of revenue bonds in the amount of $33,400,000 (20 year amortization - level annual payment)
- Annual debt service costs of $ 2,329,841 (4.70% assumed interest ate)
- 1.20 debt coverage ration required = $ 2,795,810
- Total interest paid = $16,216,827
- Not eligible for bank qualified interest rates (greater than $10 million in debt issued in a single year)
- Requires rate adequacy verification by City's external auditors
- Requires rate review by State Attorney General before bonds can be issued
- Would require additional staff to manage program of that magnitude

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Next Steps

- If approved, prepare new ordinance to adopt the new rate structure
- Develop and execute a public information program to inform customers of the new rate structure and why it is necessary
- Implement new rate structure on December 1, 2015
- Review and update rate structure in five years (2020)

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QUESTIONS AND DISCUSSION

EXHIBIT B

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COLLEYVILLE WATER & WASTEWATER MASTER PLAN

City Council
December 16, 2014

The following items mirror today's agenda and the scope of services

- Master Plan Purpose
- W / WW Facility Field Evaluations
- City GIS Updates
- W / WW Model Development
- CIP Development and Results
- Rate Study

The Master Plan was commissioned to properly plan for the future

Purpose

[redacted]

No in-depth assessment to date

Unknown level of service

Infrastructure growth plan

[redacted]

Master Plan Goals

Assess current systems

Project water usage and sewer flow

Update water model

Create a wastewater model

Future development planning

Recommend projects for a 20-year plan

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WATER & WW FACILITY FIELD EVALUATIONS

Water facility field evaluations were completed at two PS and three ESTs

FINDINGS

Overall good condition of active facilities

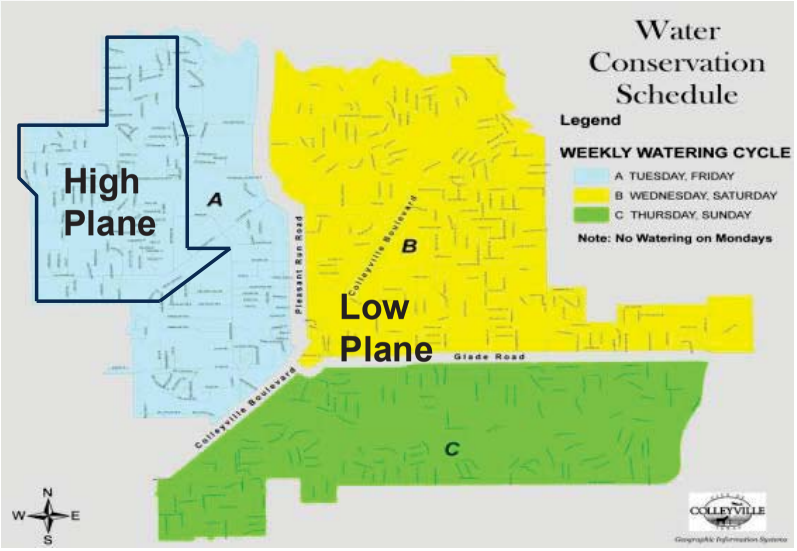
Minor site improvements needed

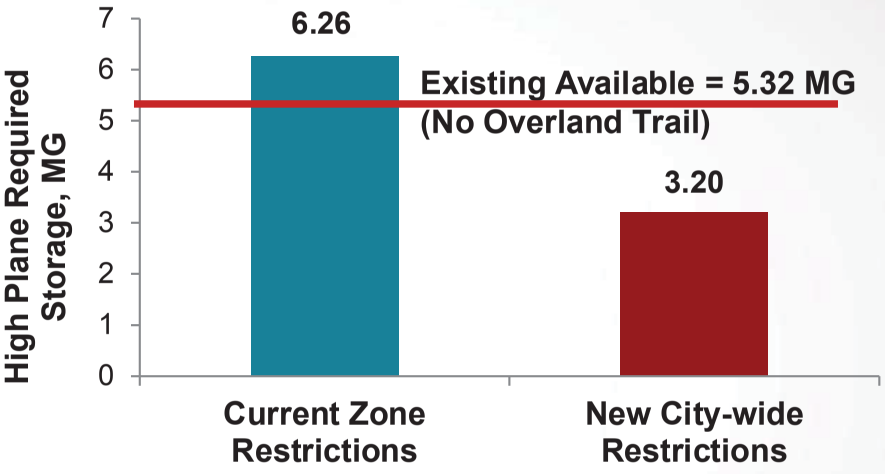
Fencing, drainage, painting

Overland Trail is in poor condition

Decommissioning recommended

Modifications to the watering zones were recommended





Current Watering Zones:

Cause large regionalized demands

Modification of restrictions will save the City at least $5M in additional infrastructure

Wastewater facility field investigations were completed at two lift stations

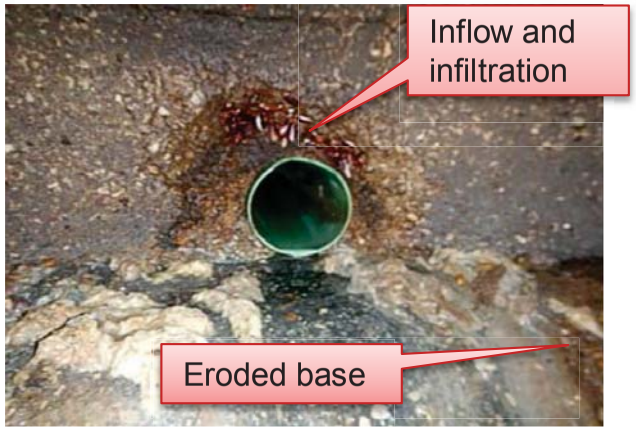
RESULTS

Overall good condition of facilities

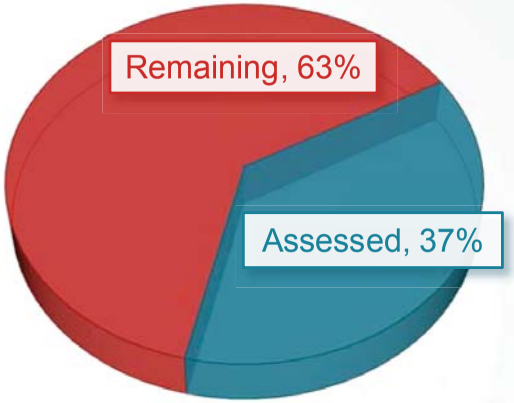
Minor site improvements needed

Fencing

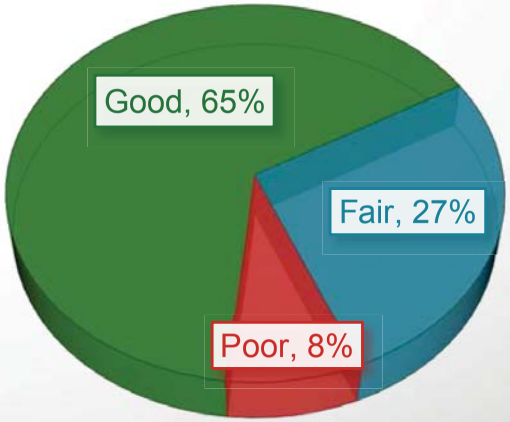
Wastewater manhole assessments were conducted on 1,134 manholes



Manhole Assessment Coverage



Manhole Condition Ratings



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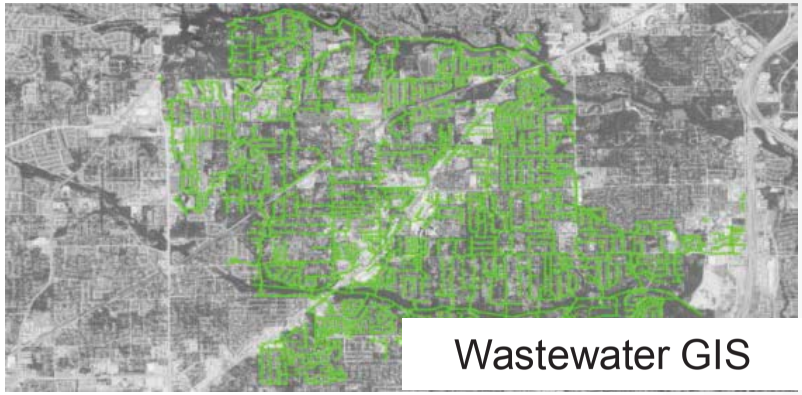
CITY GIS UPDATES

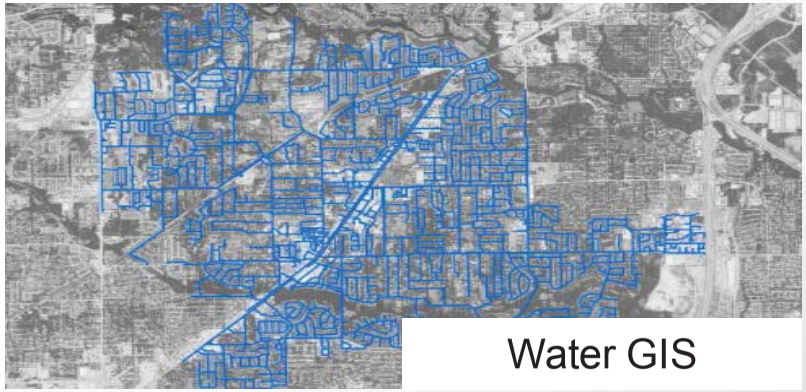
The existing City GIS system was updated

Garver used updated GIS for model development

Updated current GIS model with existing and proposed improvements



Wastewater GIS



Water GIS

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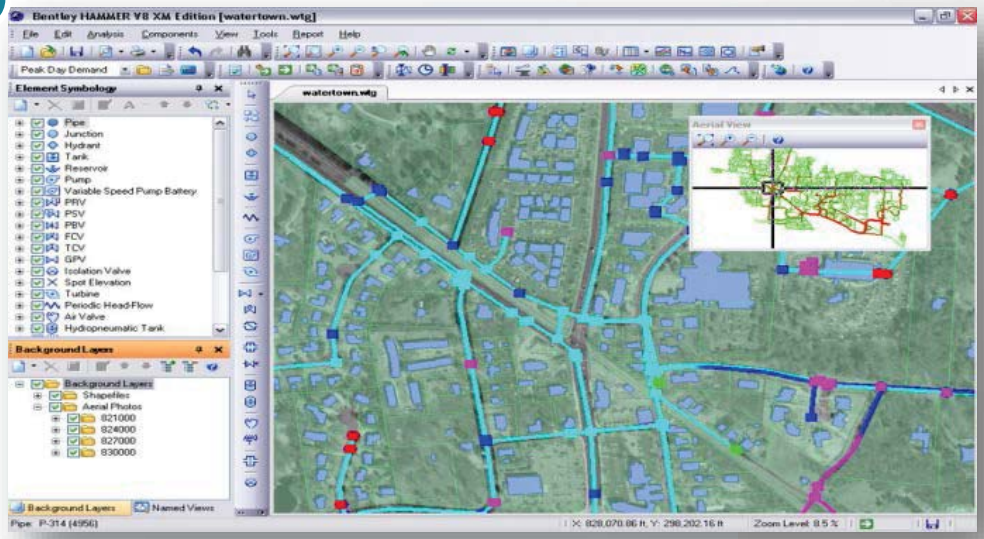
WATER MODEL DEVELOPMENT

Bentley WaterGEMS was used to model the system

Computer program allows the user to input

- Elevations
- Pipe types
- Tower sizes
- Pump sizes
- Level of Service
  - Demands
  - State Regulations
  - Insurance Requirements
  - O&M Considerations



Output helps determine what improvements are needed to provide the identified level of service

The Water Model allows us to identify issues within the system

Purpose:
Identify Issues

Low pressures, capacity, fire flow, excessive velocities, etc.

Results:

Water Capital Improvements Plan

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WASTEWATER MODEL DEVELOPMENT

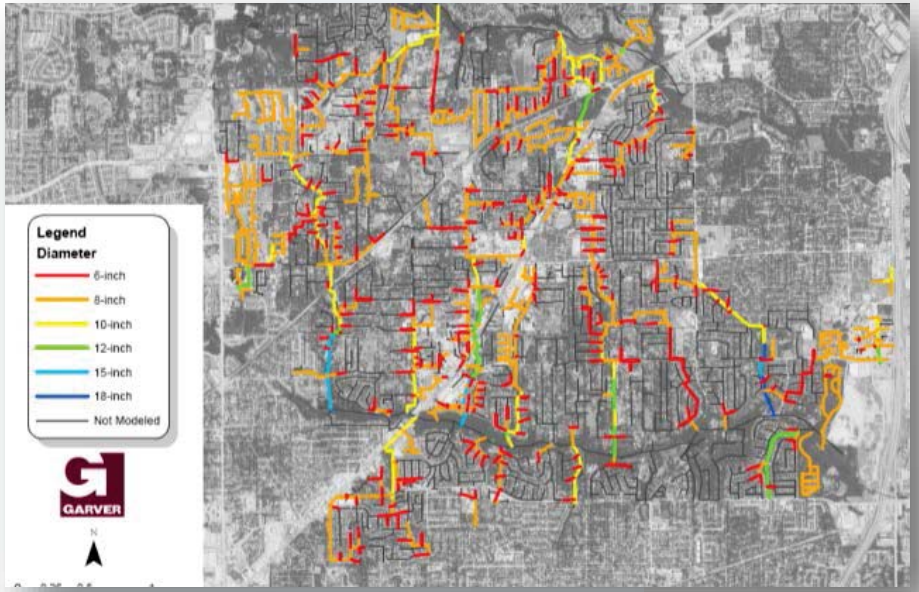
Bently SewerGEMS was used to identify capacity concerns in the sewer

Purpose:

Identify Issues with System

Results:

Wastewater Capital Improvements Plan



Flow monitoring was conducted

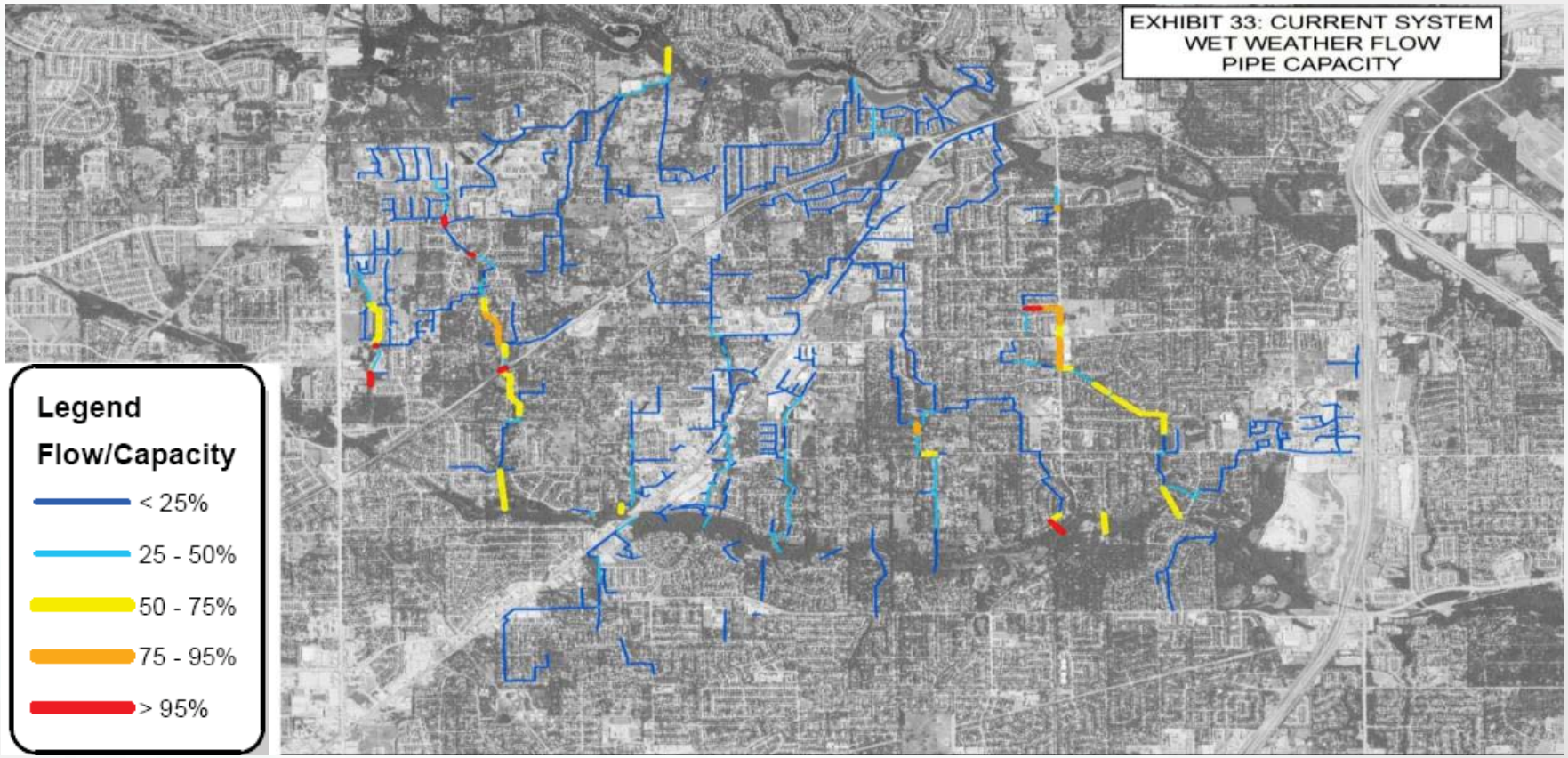
Purpose:

Establish current dry and wet weather flows

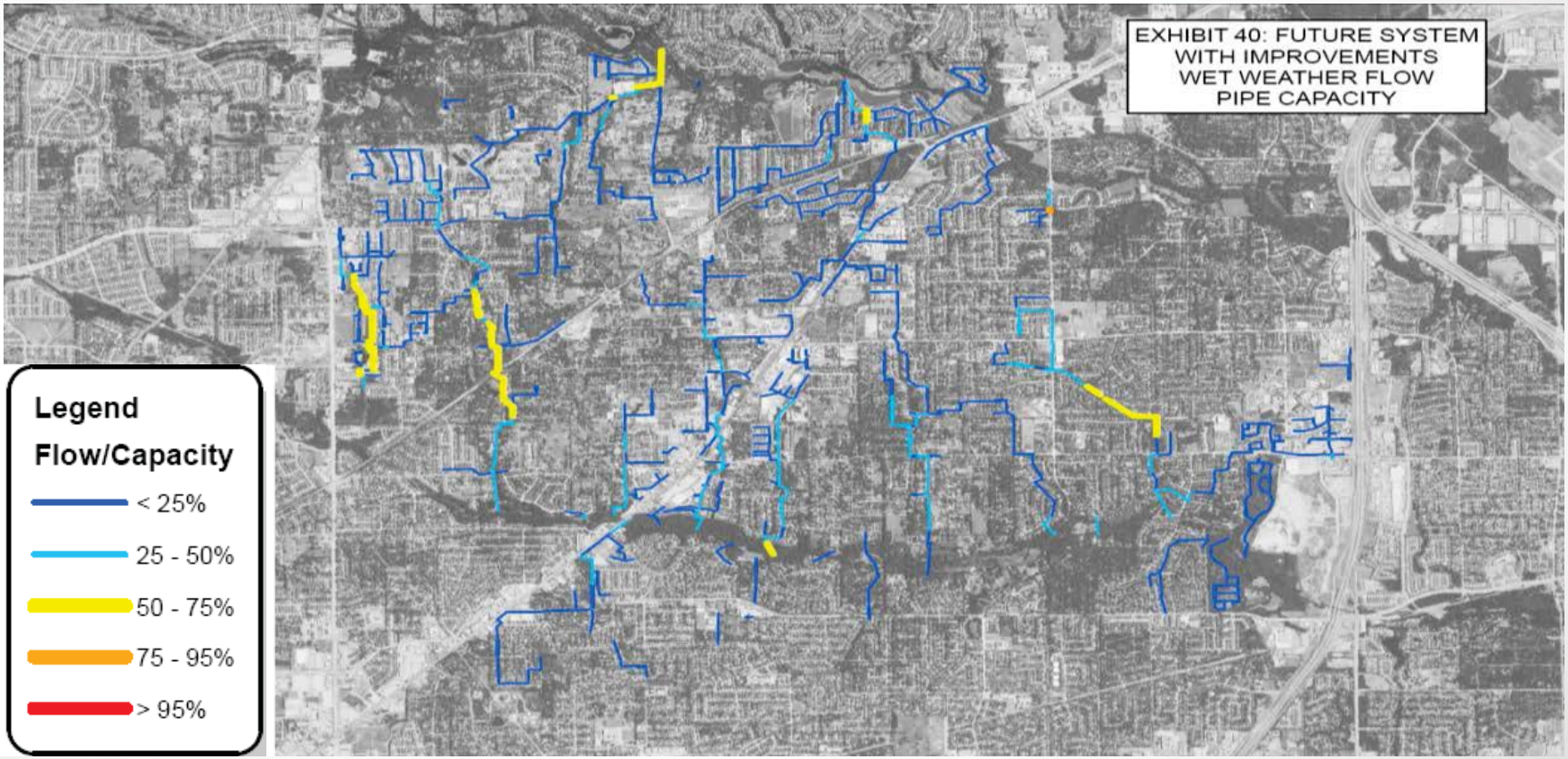
Results:

Overall system is in good shape	Majority of basins exhibit only a small reaction to rain events	~7.75 MG of 624.2MG (1.2%) annual sewer flow due to I/I

An example of a sewer capacity model iteration



An example of a sewer capacity model iteration



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CIP DEVELOPMENT

Capital Improvement triggers were defined and analyzed

WATER	WASTEWATER
• Regulatory • Capacity • Fire Flow • Condition • City-Identified • Operational	• Capacity • Condition • City-Identified • Operational

A method for prioritization of projects was developed

Regulatory and Capacity triggers take first precedence

Flexibility impacts precedence

For water, fire flow improvements are less flexible	For sewers, more limited capacity decreases flexibility

Similar triggers are grouped geographically when possible

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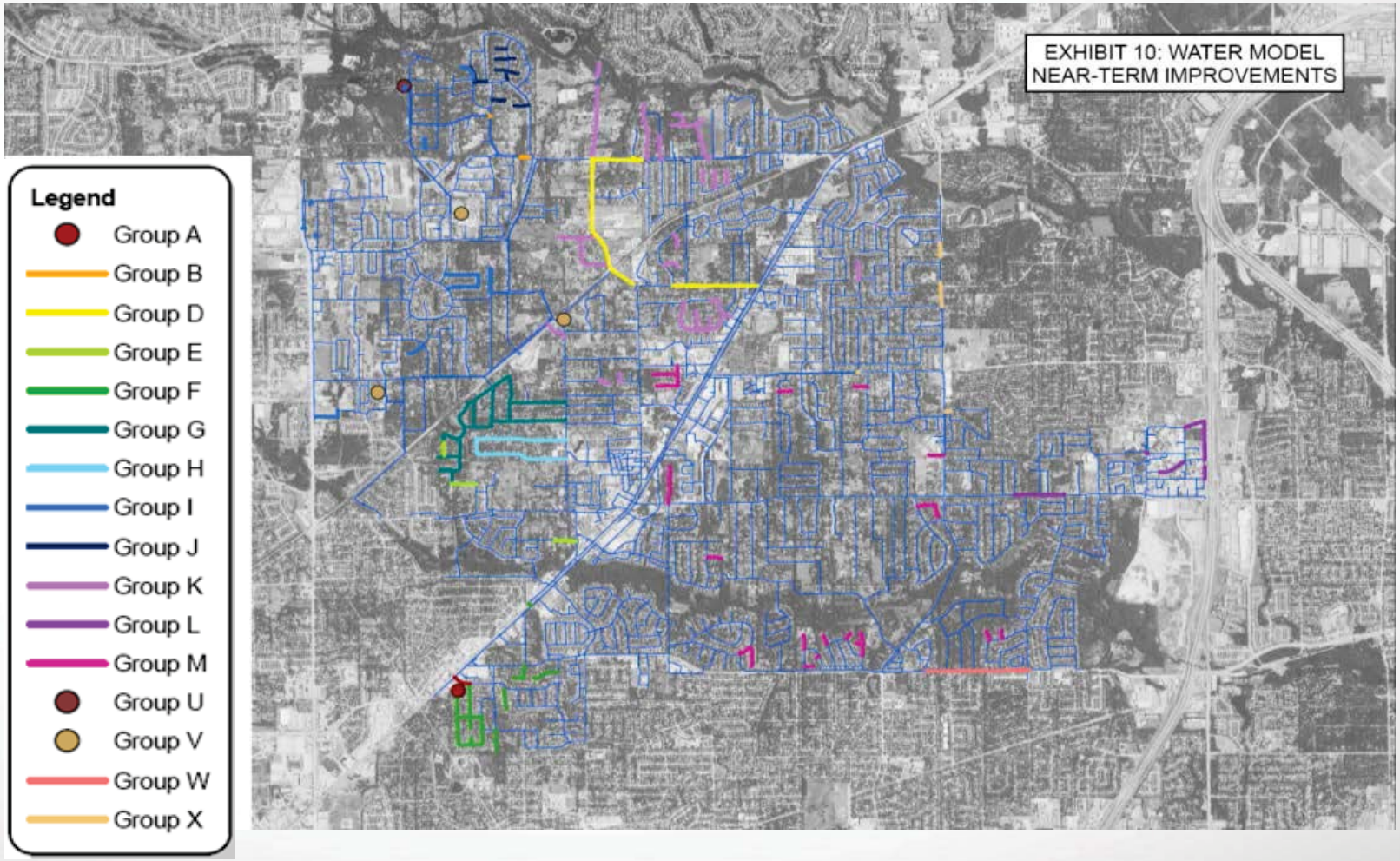
CIP RESULTS

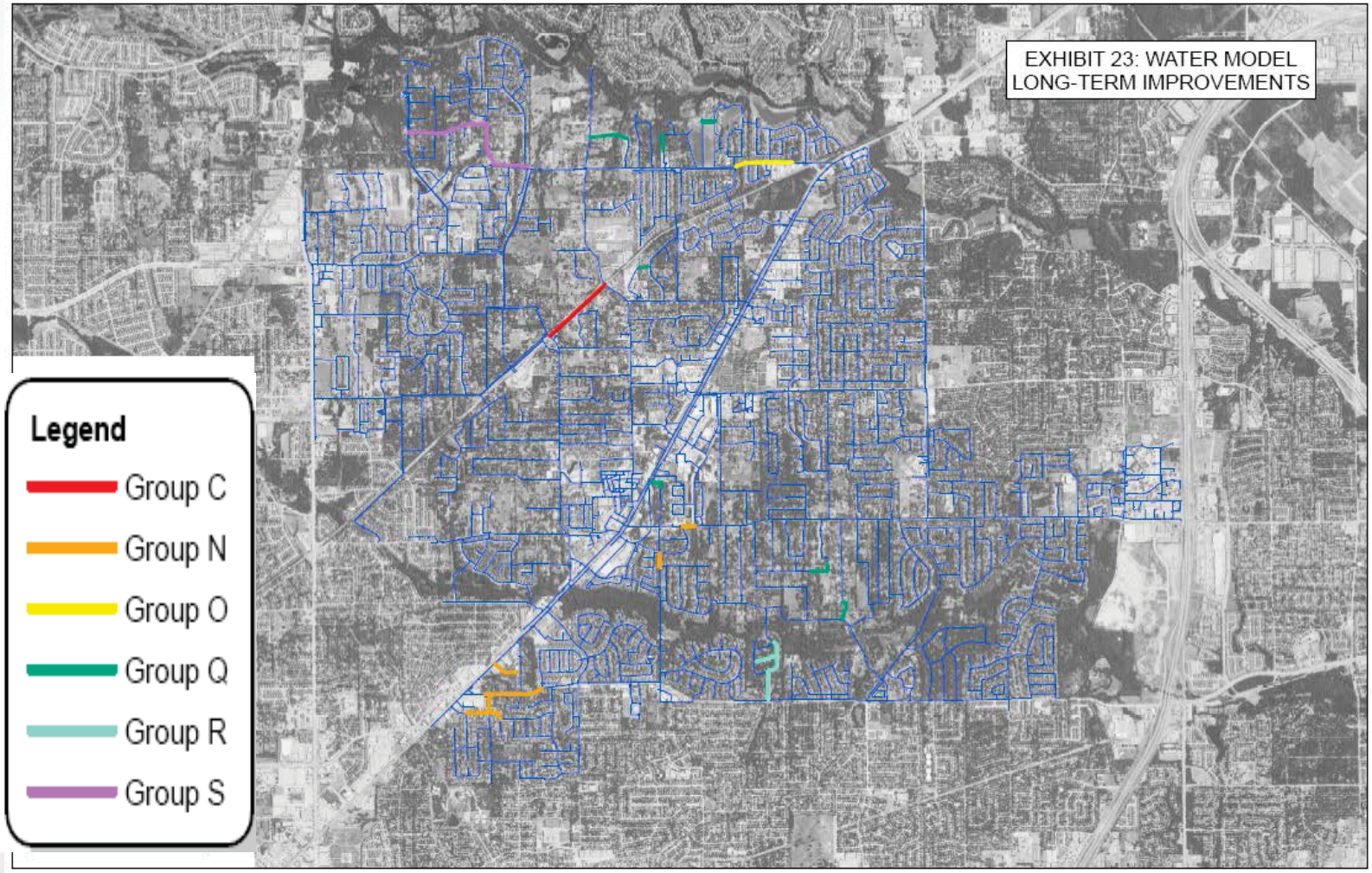
The Capital Improvements Plan identified 44 separate projects

Projects Developed:	
27 Water Projects **12% of system**	17 Wastewater Projects **4% of system**

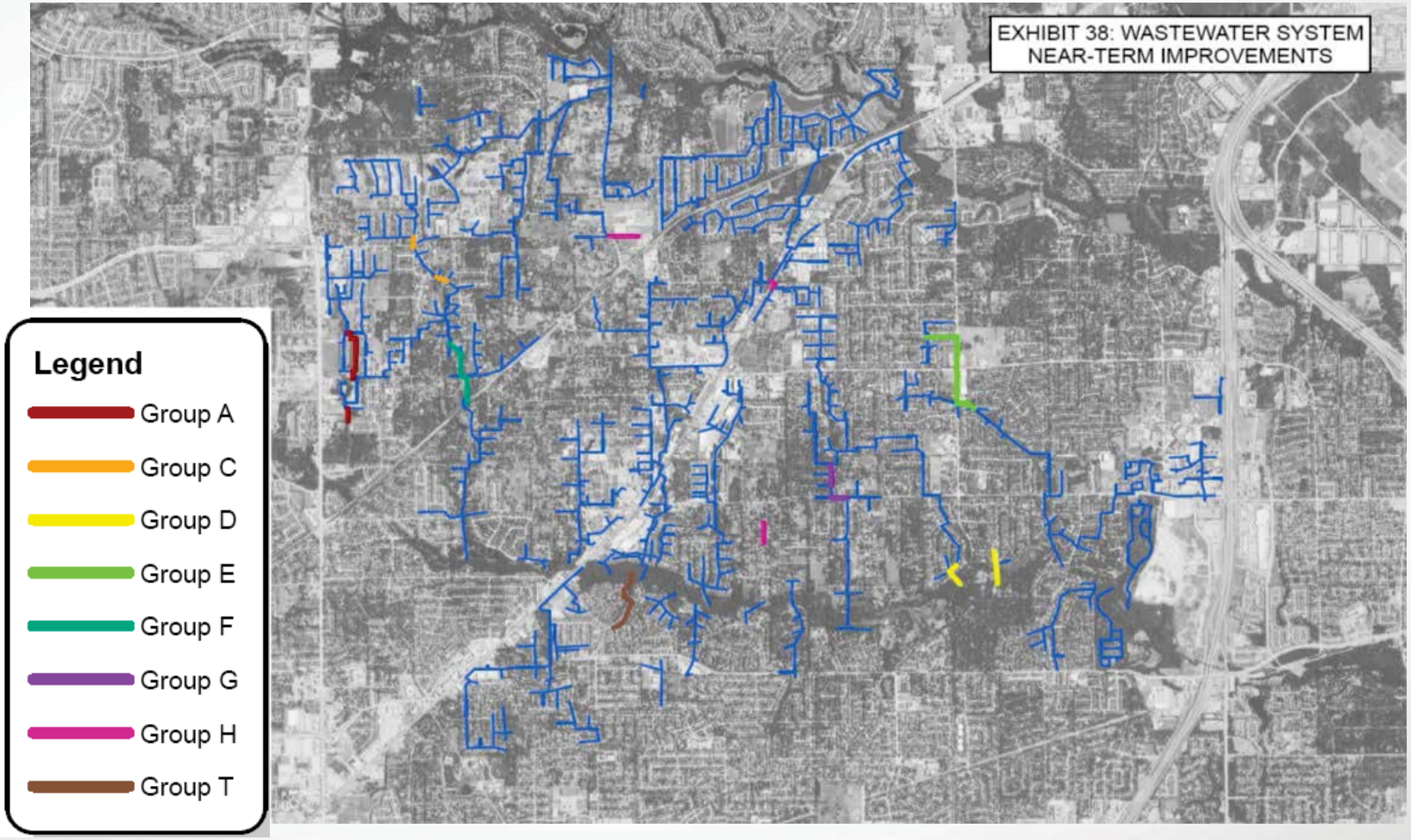
Near-term water improvements



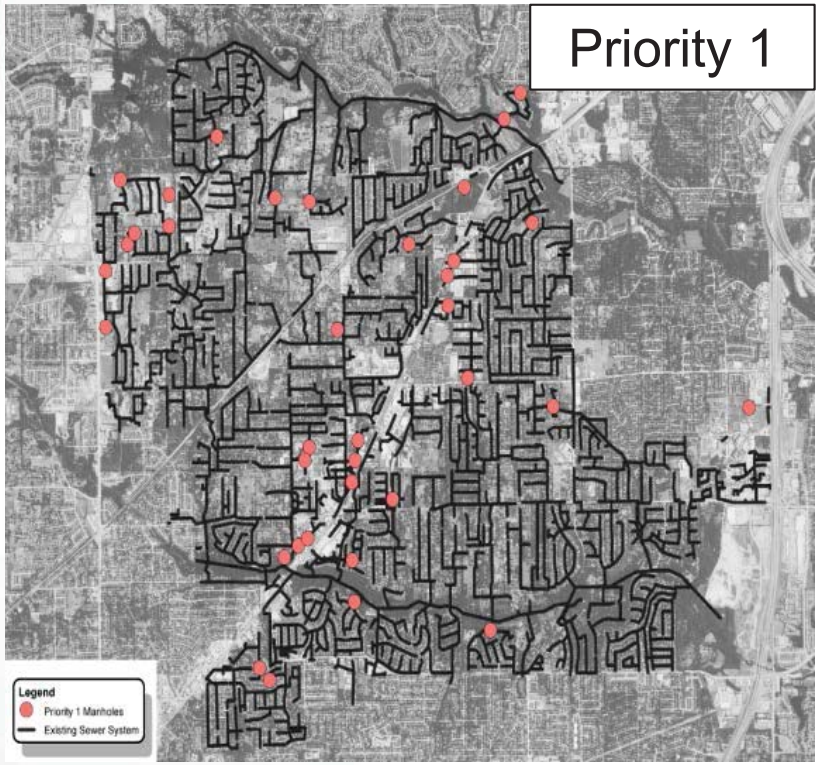
Long-term water improvements

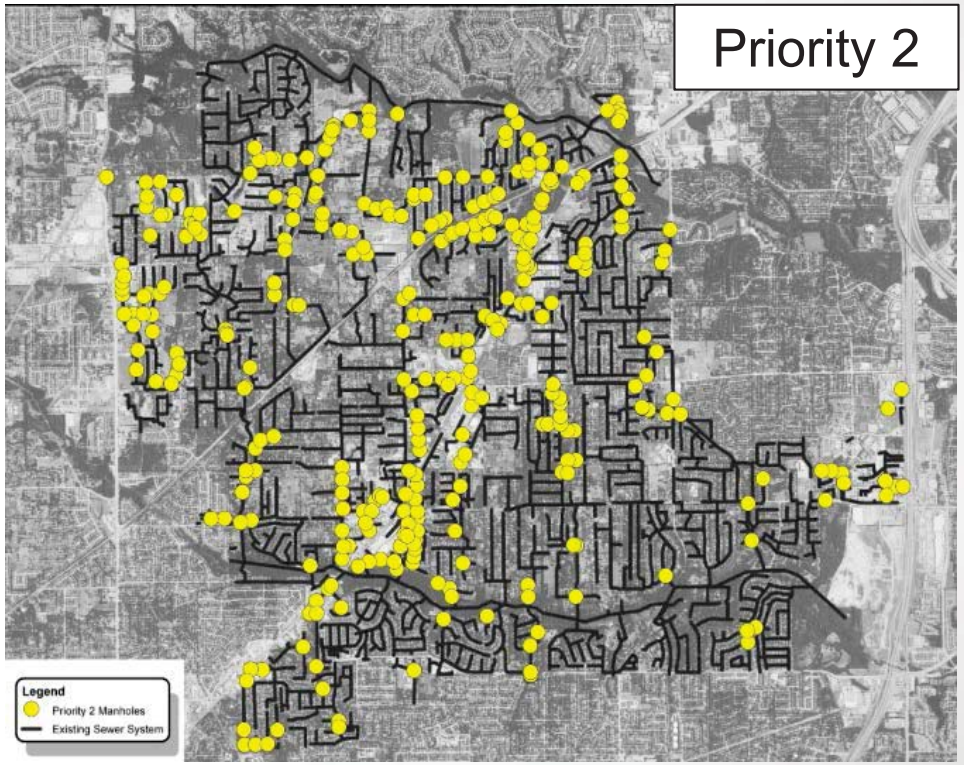


Near-term sewer improvements



Near-term sewer improvements – identified manholes





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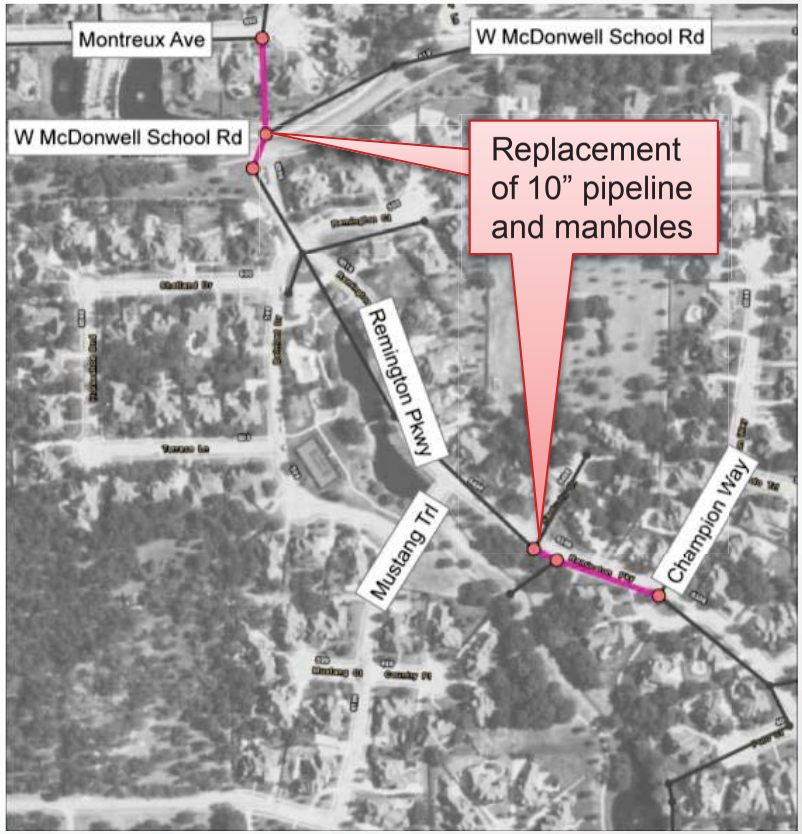
Sample Sewer Projects

Wastewater project example – capacity

SEWER GROUP C

- North of L.D. Lockett Road
- Upsizing of existing pipe
- Addresses capacity during wet weather flows
- Trenchless technology likely preferred

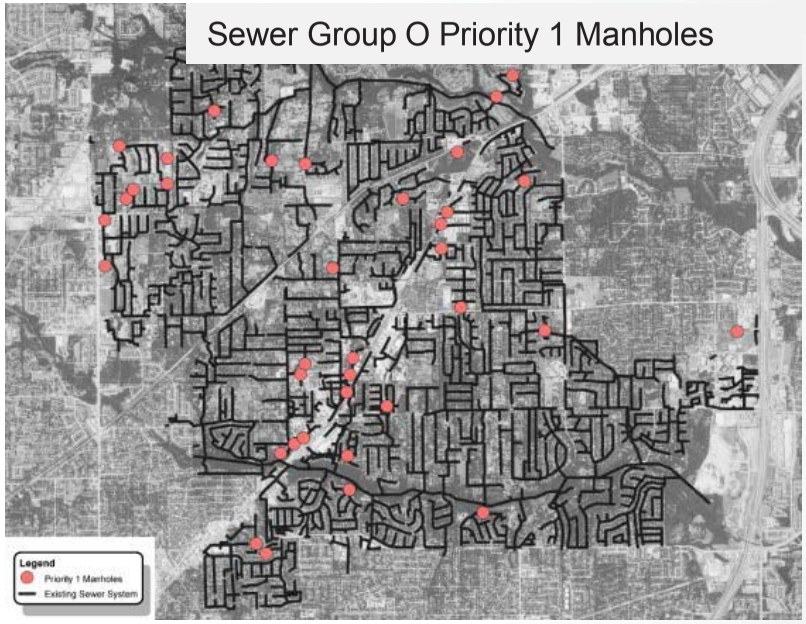


Wastewater project example – condition

SEWER GROUP O

Repair of assessed manholes

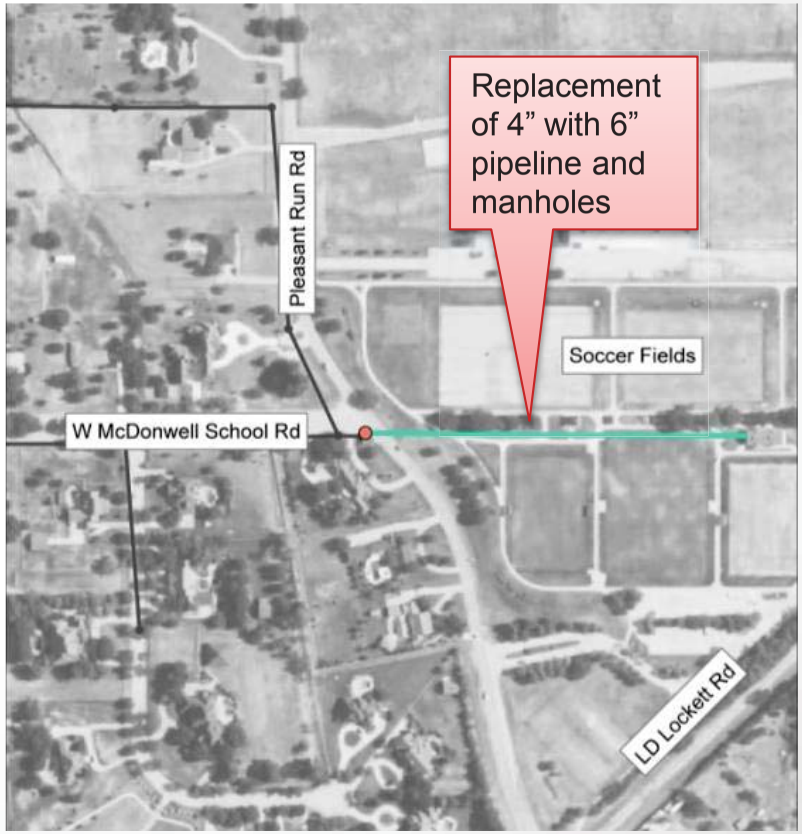
Upsizing of existing pipe



Wastewater project example – city identified

SEWER GROUP H

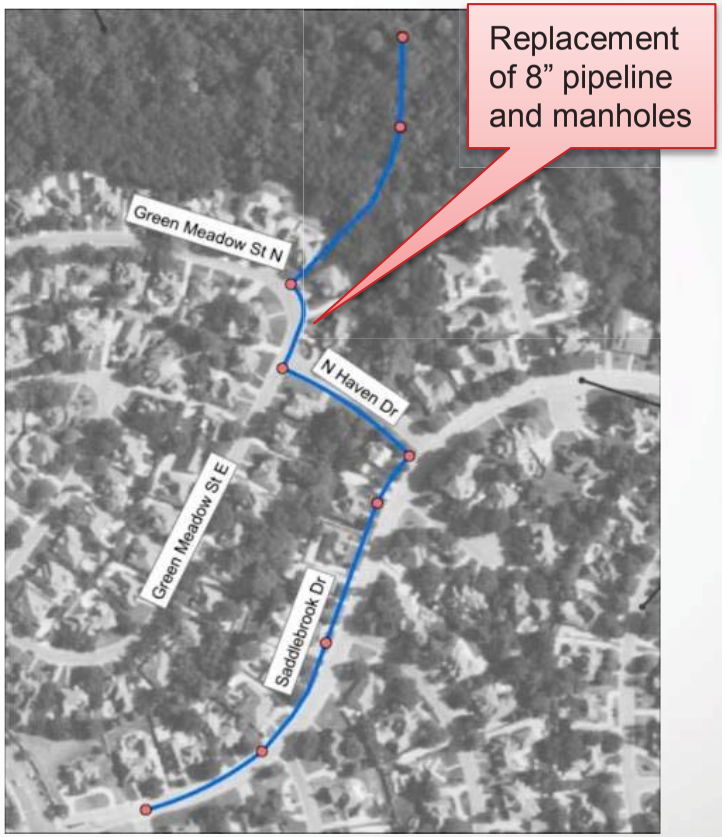
- Near City soccer field
- Replacement of existing pipe with new slopes
- Replaces bottlenecks



Wastewater project example – operational and city identified

SEWER GROUP T

- Near Little Bear Creek
- Replacement of pipe with slope issues
- Addresses maintenance concerns



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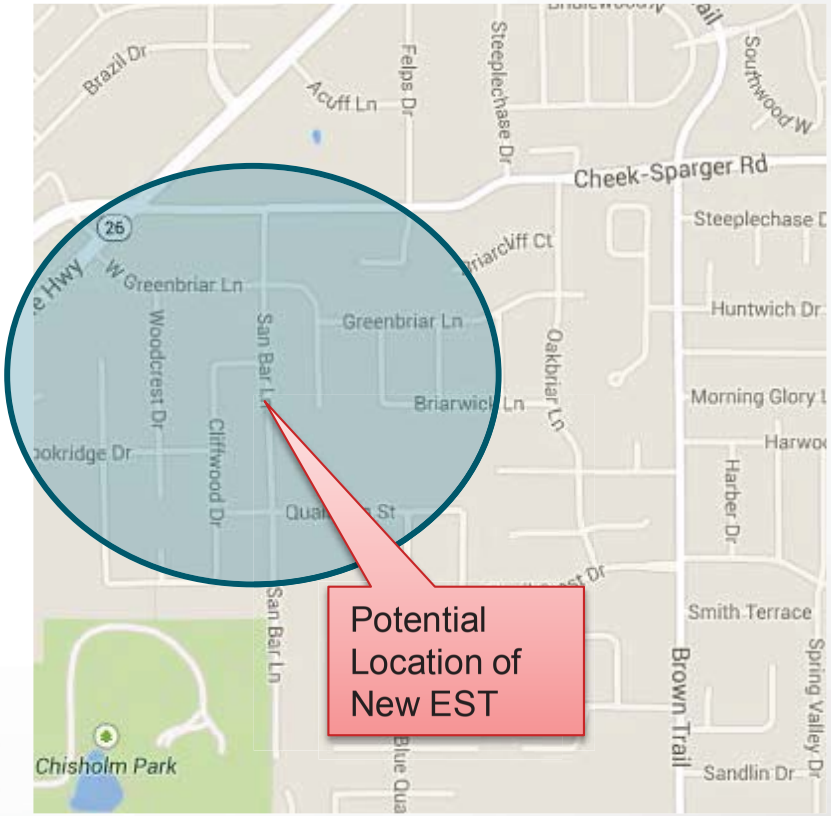
Sample Water Projects

Water project examples – regulatory and capacity

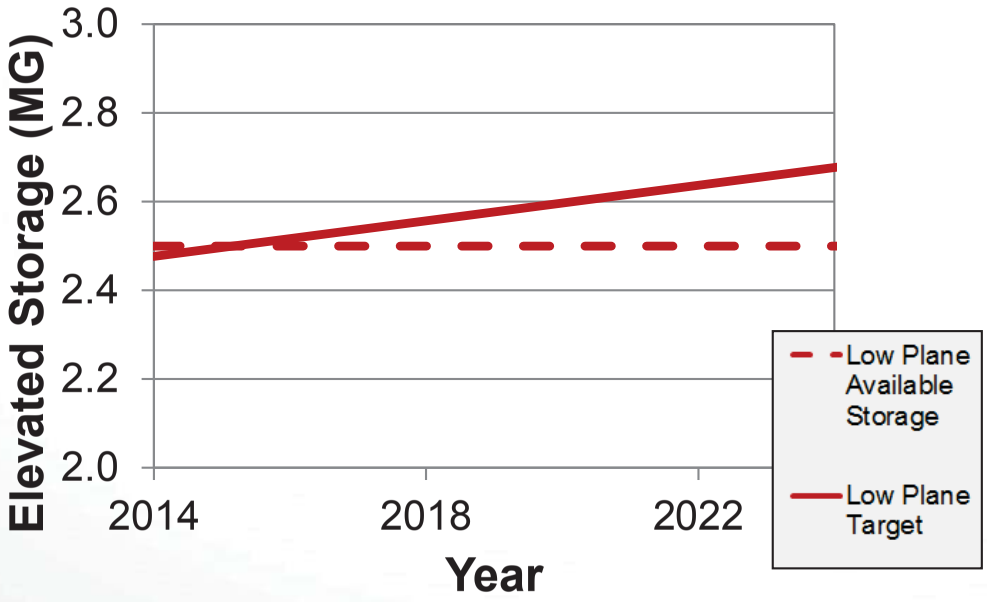
WATER GROUP A

- South portion of town
- Address storage for max day demands
- EST and replacement of pipe



The tank is necessary to meet two requirements

- Storage



- Pressures
  - Current minimum pressure during maximum day falling below 35 PSI requirement

Our evaluation included three additional alternatives

Large Diameter Conveyance Pipelines

- Negatively impacts pressures and flows throughout low plane

In-line booster station

- Causes regionalized low pressures

Ground storage and booster station

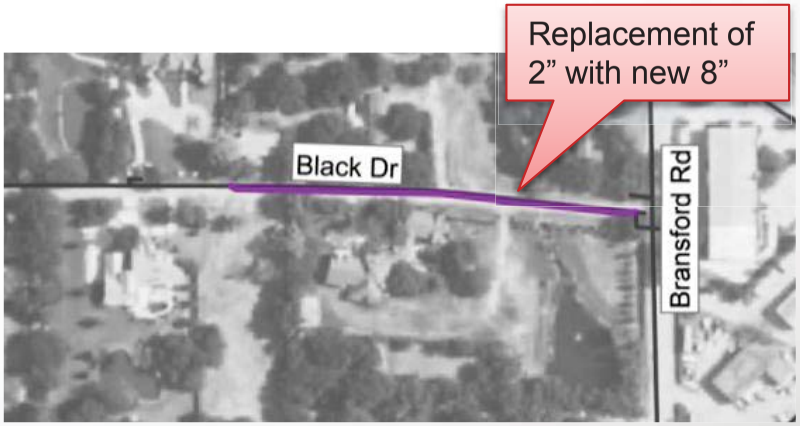
- Additional mechanical infrastructure

None of these alternatives provided the required elevated storage

Water project example - fire flow and city identified

WATER GROUP E

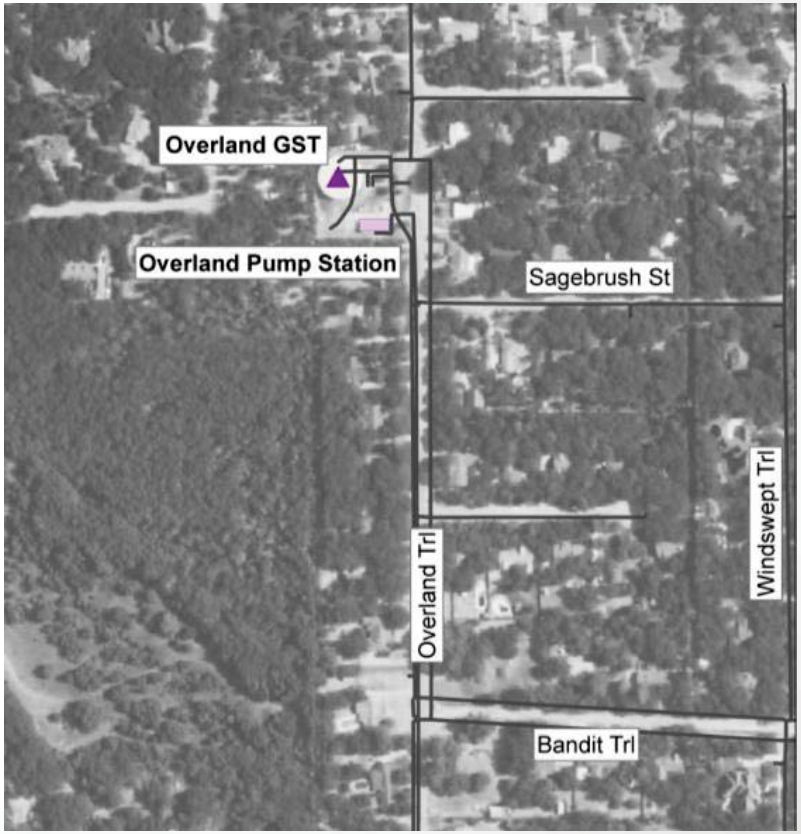
- Between Glade Road and Colleyville Blvd
- Installation of connecting pipelines
- Improves fire flow, looping



Water project example - condition and operational

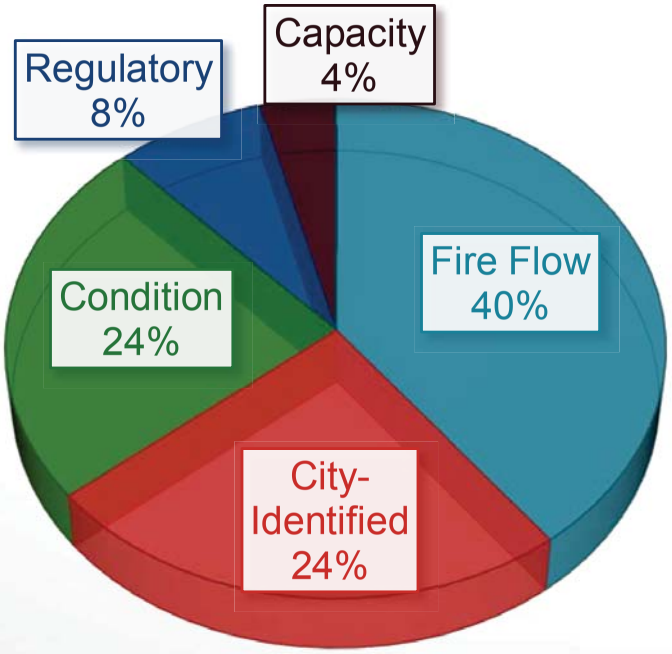
WATER GROUP U

- Decommissioning of Overland Trail
- Addresses conditional concern and reduces maintenance

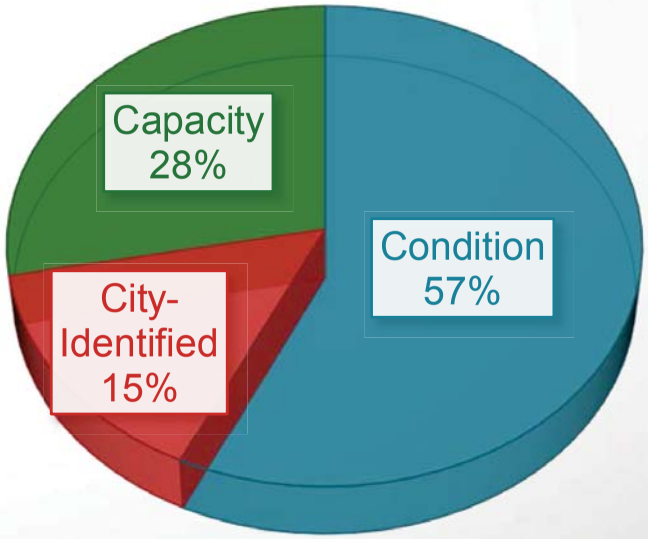


Capital Improvements Program based on triggers

DISTRIBUTION OF WATER BY PRIMARY TRIGGER



DISTRIBUTION OF WASTEWATER PROJECTS BY PRIMARY TRIGGER



Previous studies identified capital projects

Previously Identified Capital Projects (in 2015 dollars):		
	Water	Wastewater
2002 Water Improvements Study	$18,362,000	$-
2012 Impact Fee (Without TRA projects)	$1,915,000	$664,000
Total	**$20,277,000**	**$664,000**
Completed Projects	*$9,017,000*	*$-*
Identified Projects Not Constructed	**$11,260,000**	**$664,000**

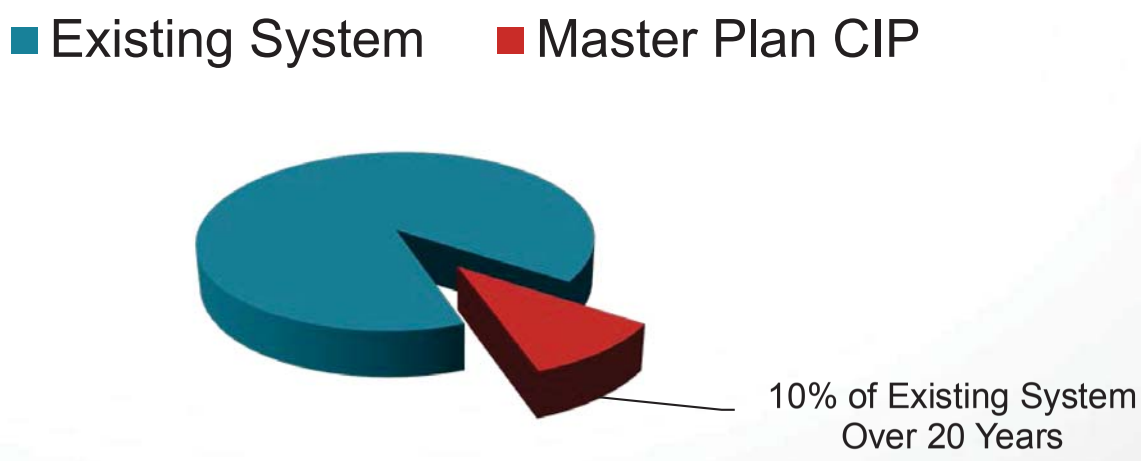
Capital Improvement Plan

Master Plan CIP (in 2015 dollars):		
	Water CIP	Wastewater CIP
City's Current 5 Year CIP	$4,408,000	$1,556,000
Master Plan Identified	$35,455,000	$13,488,000
Total	**$39,863,000**	**$15,044,000**

Short Term Needs	**$33,108,000**	**$4,624,000**

How do these numbers relate to the overall system?

	Water	Wastewater	Total
Existing System (estimated replacement value)	$302M	$237M	**$539M**
Master Plan CIP	$40M	$15M	**$55M**



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RATE STUDY

Rate study objectives

Evaluate current rate structure

- Are fixed/variable revenues in-line with fixed/variable expenses?

Evaluate rate structures of surrounding cities with same wholesale rates

- Do volumetric rates apply to all consumption?
- How are larger meters billed?
- Are commercial rates differentiated from residential rates?

Provide a rate structure that will allow the City to cover fixed expenses by incorporating

- Volumetric rate for first two thousand gallons
- Meter size based minimum charges
- Different minimum charge for non-residential services

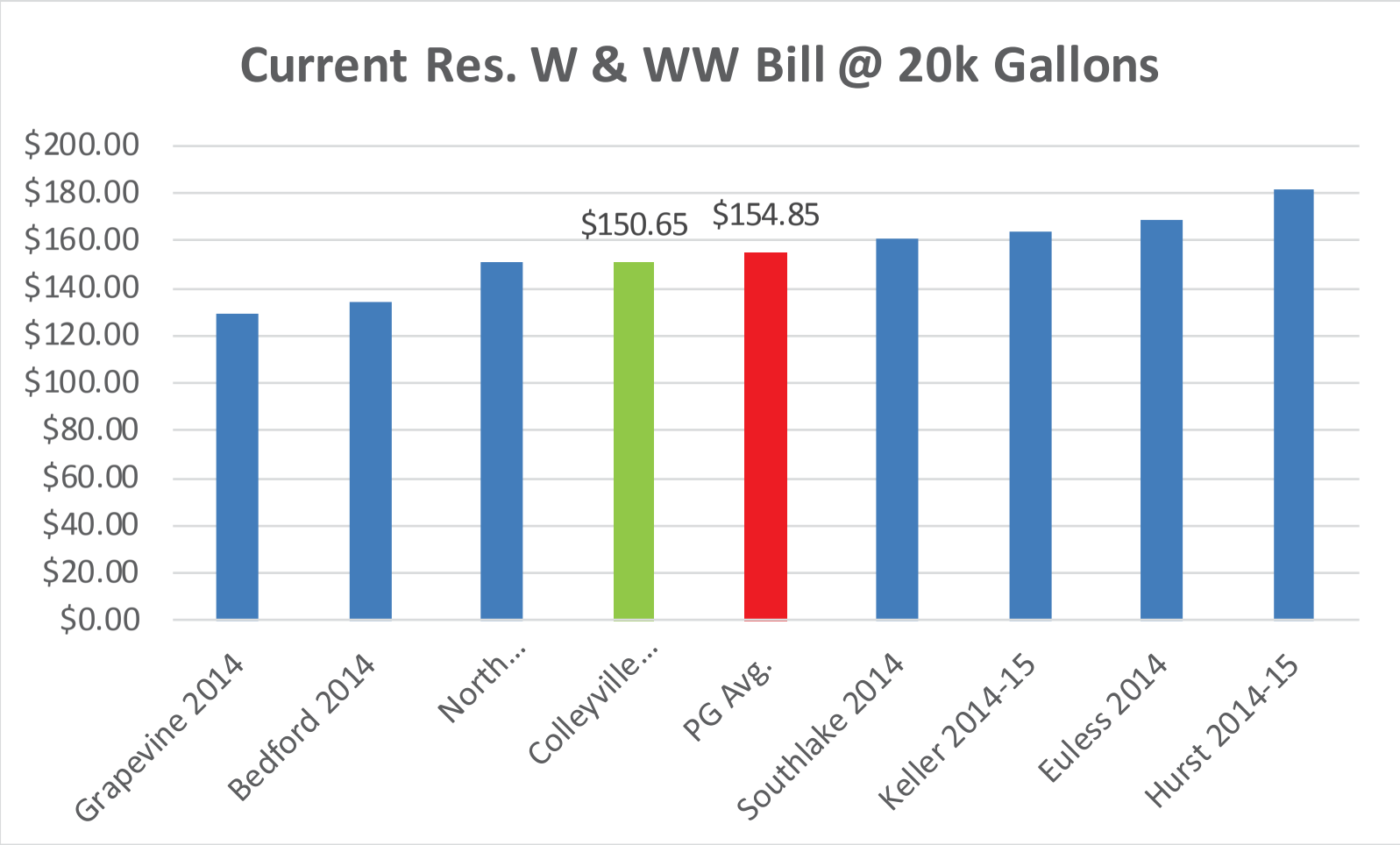
Evaluation of fixed and variable components

	Water			Wastewater		
	Fixed	Variable	Total	Fixed	Variable	Total
Personnel	$1,522,882		$1,522,882	$251,189		$251,189
Operating	$1,660,087	$6,949,456	$8,609,543	$115,778	$2,635,049	$2,750,826
Capital Outlays	$200,000		$200,000	$50,000		$50,000
Debt Service	$490,100		$490,100	$0		$0
Total Expenses	$3,873,069	$6,949,456	$10,822,525	$416,966	$2,635,049	$3,052,015
Total, %	**36%**	**64%**	**100%**	**14%**	**86%**	**100%**
Average Residential Bill	**15%**	**85%**	**100%**	**16%**	**84%**	**100%**

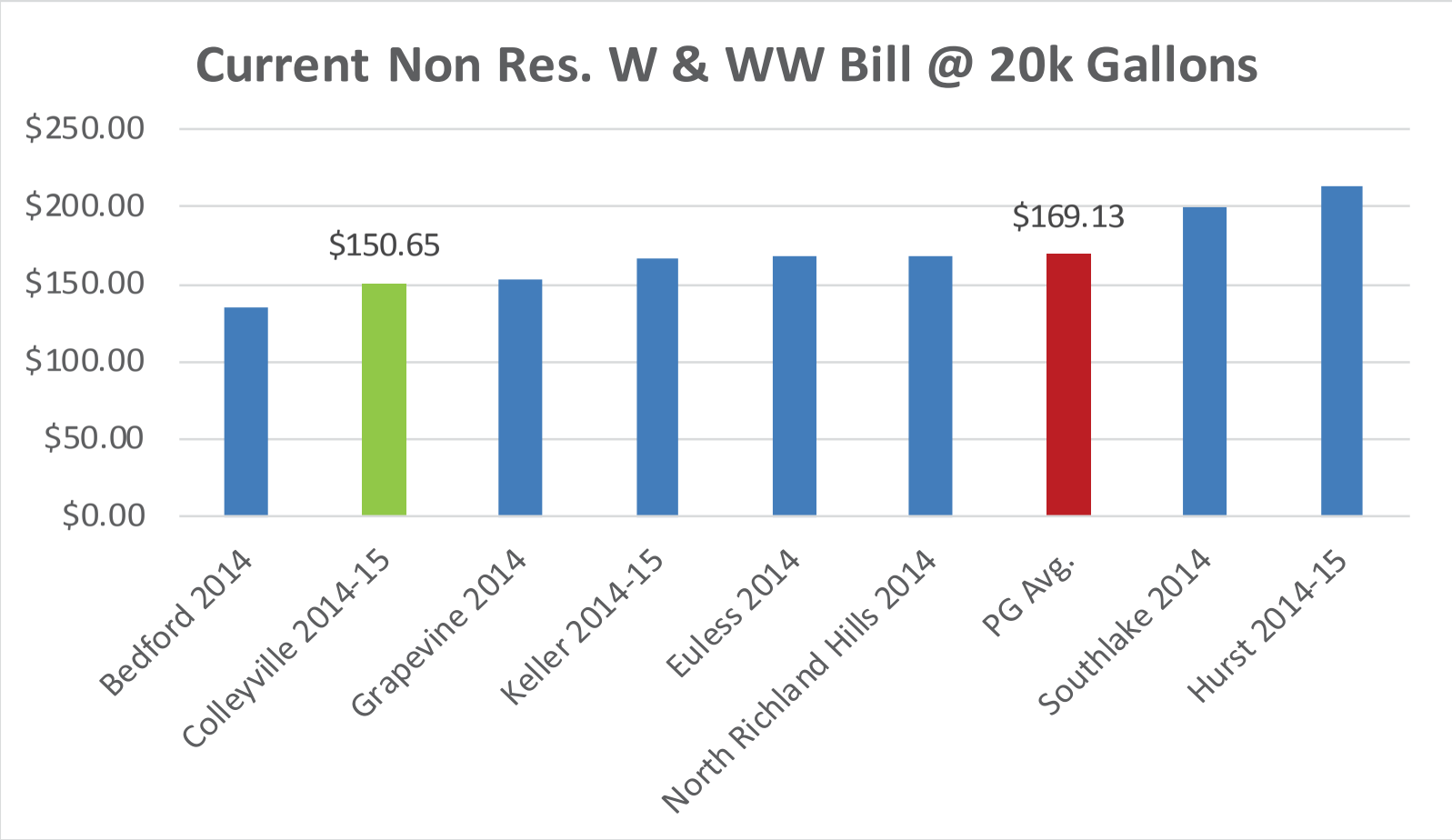
Benchmarking the current rate structure

City	Volumetric rates charged for all metered consumption?	Do larger meters pay a higher min. charge?	Residential and non-residential rates differentiated?
Colleyville 2014-15	No	No	No
Grapevine 2014	No	Yes	Yes
Euless 2014	Yes	Yes	Yes
Bedford 2014	Yes	Yes	No
NRH 2014	Yes	Yes	No
Southlake 2014	No	Yes	Yes
Keller 2014-15	Yes	Yes	Yes
Hurst 2014-15	Yes	Yes	Yes
	= TRA Water Customers		

Benchmarking the current rates



Benchmarking the current rates



Summary of findings

Fixed to variable water rate structure ratio does not reflect expense ratios

Rate structure is independent of meter size

Residential and non-residential services are provided at the same rate structure

Summary of findings

Fixed to variable water rate structure ratio does not reflect expense ratios

INCURRED FIXED COSTS NOT RECOVERED

Residential and non-residential services are provided at the same rate structure

Proposed rate structure change

FY 2015

2-YEAR

- Standard monthly volumetric rates
  - First 2,000 gallons
- Minimum for non-residential wastewater services

4-YEAR

- Meter size-based minimum billing for water services

Impact of 2-year transition

VOLUMETRIC CHARGE FOR FIRST 2,000 GALLONS

Average monthly bill change $7.27/year (4.6%)

Reflective of variable treated water expense

Rate structures consistent with 3 of 4 peer group water customers

Impact of 2-year transition

DIFFERENTIATED MINIMUM RATE FOR NON-RESIDENTIAL WASTEWATER SERVICE

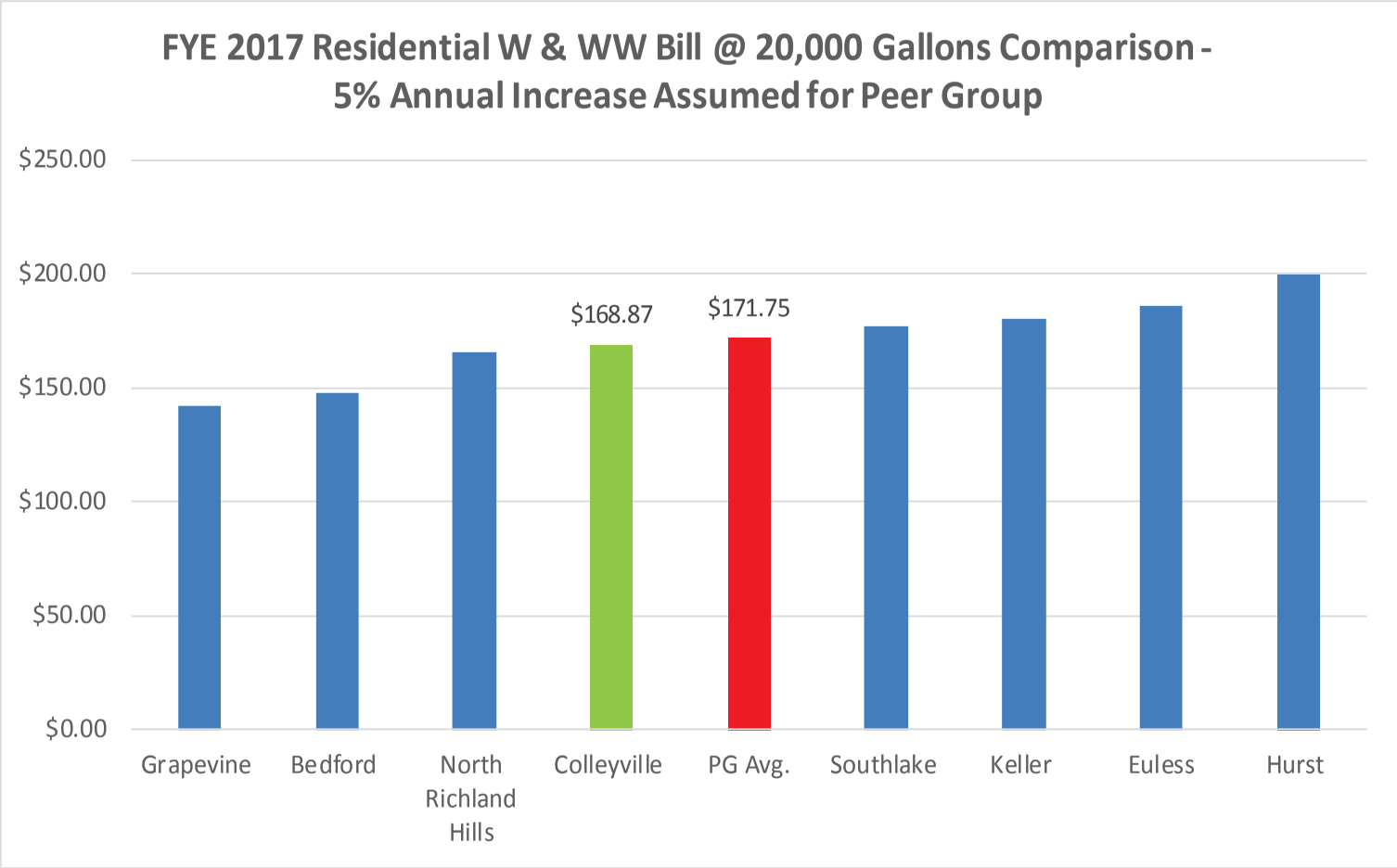
Average monthly bill change $3.00/year (0.1%) for non-residential

Rate structures consistent with 5 of 7 peer group wastewater customers

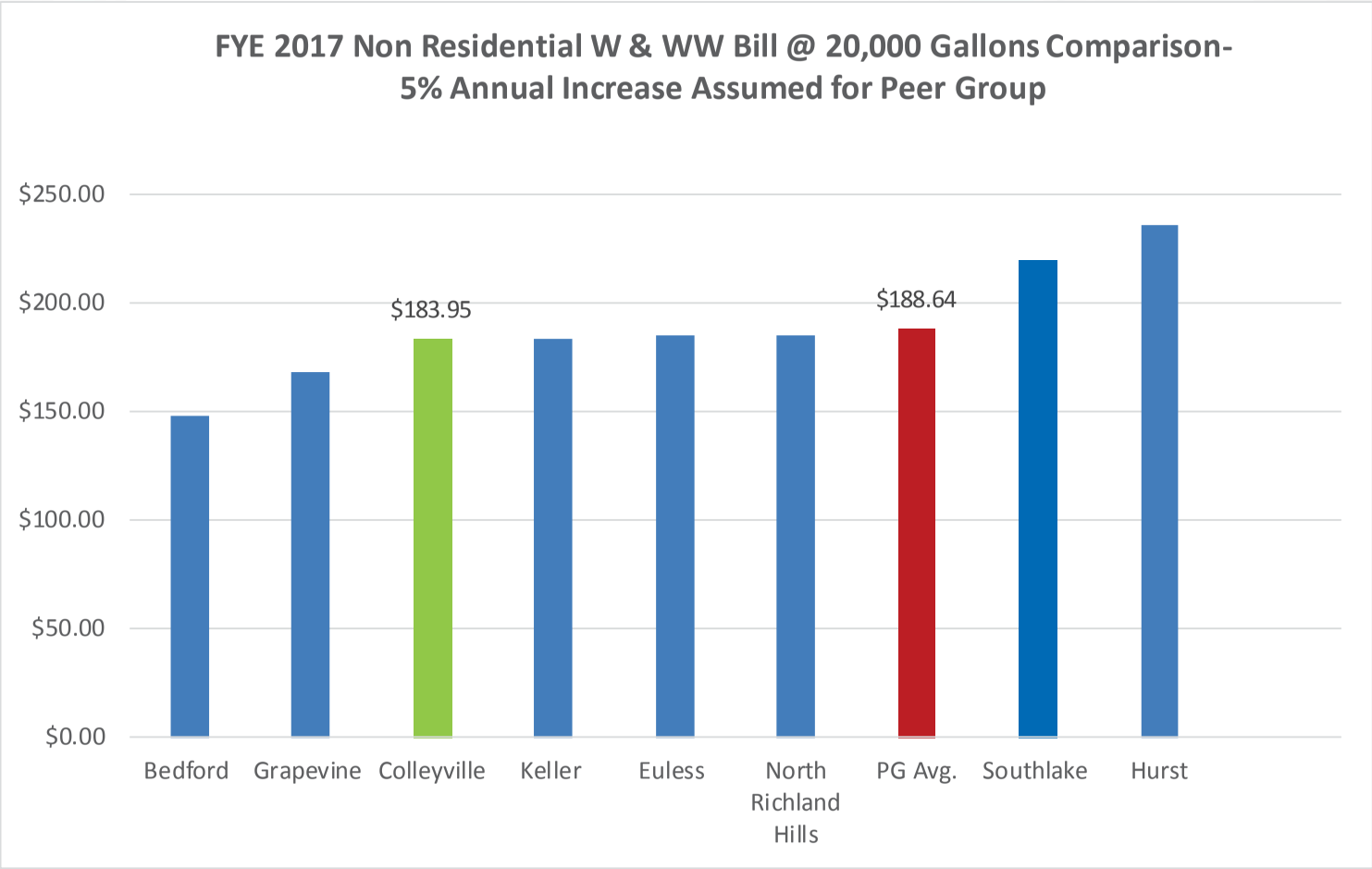
Impact of 4 year transition to meter size - based minimum charges

Meter Size (in.)	# in City	Average usage (Gal/Mo)	Existing Minimum Bill (/Mo)	Proposed Minimum Bill (/Mo)
<1.5 Res.	4,227	20,000	$13.28	$20.40
<1.5 Non-Res.	406	30,000	$13.28	$31.63
1.5	128	40,000	$13.28	$40.73
2	207	50,000	$13.28	$84.24
3	12	250,000	$13.28	$150.81
4	2	500,000	$13.28	$154.50

Comparison of member cities – proposed rate structure



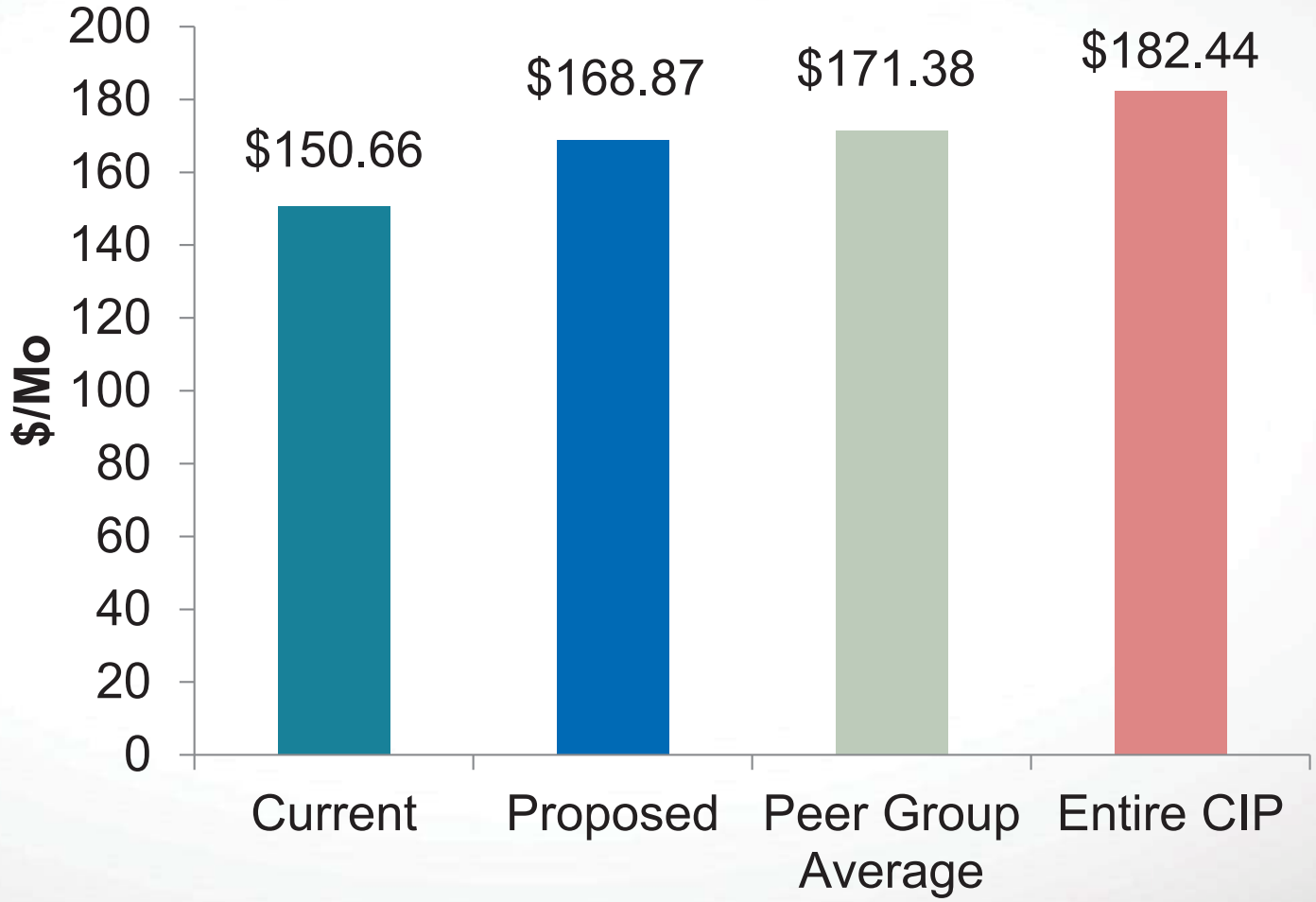
Comparison of member cities – proposed rate structure



Cash flow projection
(assumes proposed structure is implemented)

	2016	2017	2018	2019
Total Revenues	$16,722,262	$17,792,328	$18,122,224	$18,389,502
O&M, Net of Dept.	$13,929,163	$14,779,132	$15,688,411	$16,661,372
CIP Funding	$2,354,710	$2,581,316	$2,245,023	$1,628,130
Total Expenses	$16,283,872	$17,360,448	$17,993,434	$18,289,502
Net Rev. Avail. For Debt Svc.	$438,390	$431,880	$188,790	$100,000
Total All Debt Services	$365,325	$359,900	$157,325	$0
FY End Balance	$73,065	$71,980	$31,465	$100,000

Rates to fund the entire CIP – example of residential 20,000 gallon bill



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QUESTIONS?

EXHIBIT C

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COLLEYVILLE WATER & WASTEWATER MASTER PLAN

Colleyville City Council
February 17, 2015

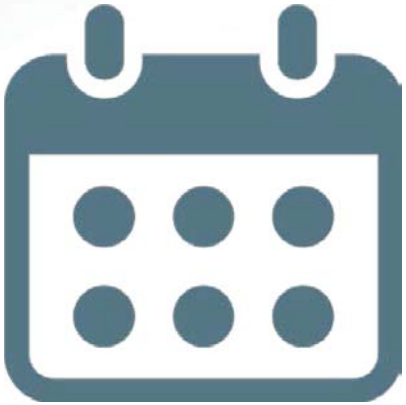
Outline of Presentation

Review of December 16, 2014 presentation at Pre Council Meeting

Additional discussion of the proposed new Elevated Storage Tank (EST)

Continuation of the Rate Study Discussion

December 16, 2014 Meeting



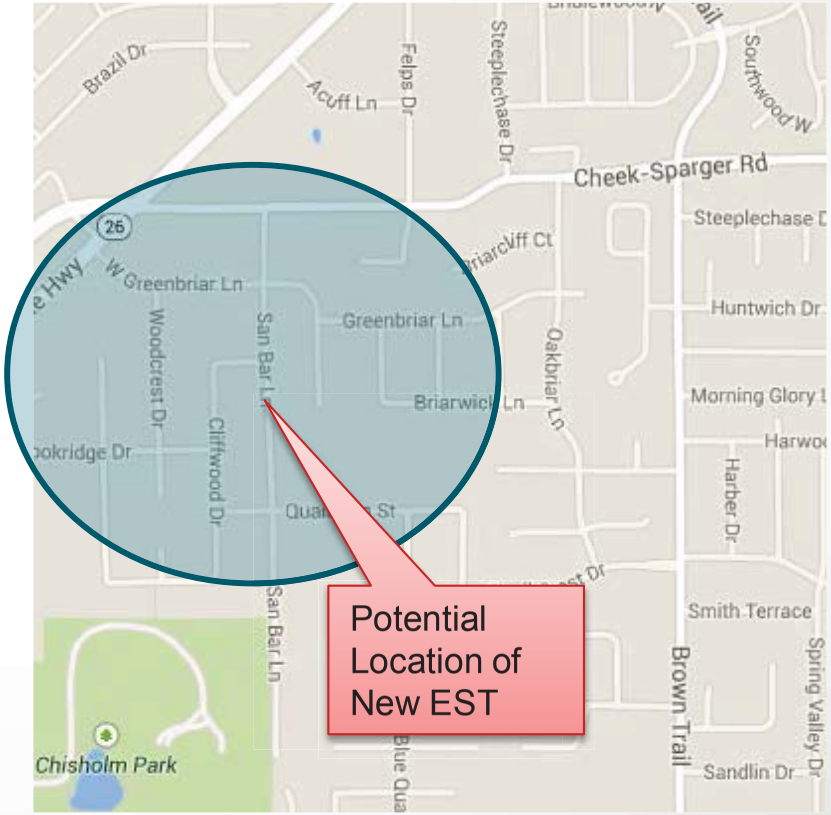
- Master Plan Highlights
- CIP Projects that were identified
- Dollars needed to fund identified CIP Projects
- Rate Study Recommendations

Elevated Storage Tank Justification

Address storage and pressure for maximum day demands

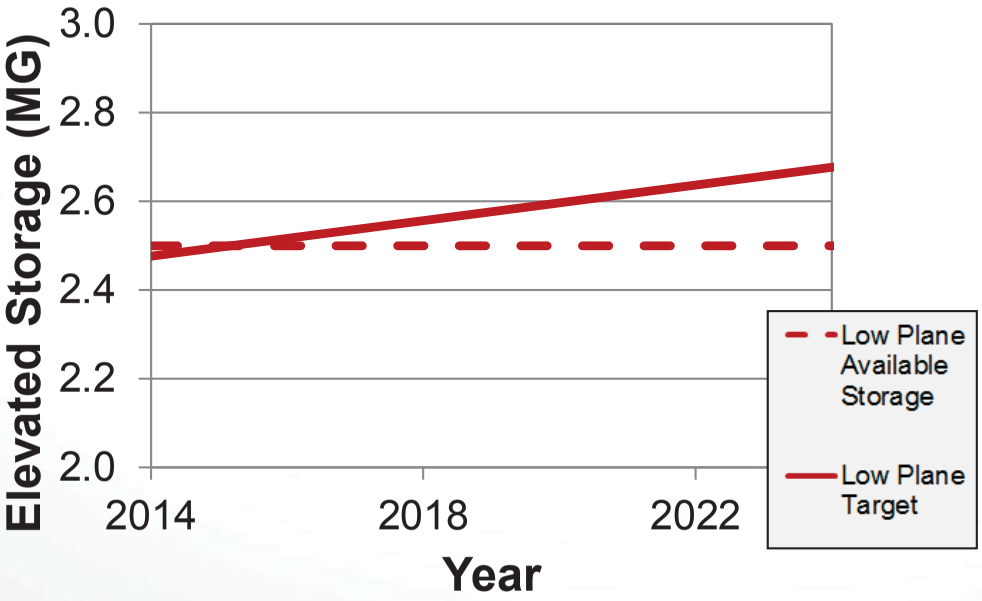
New Elevated Storage Tank and replacement of pipe

South portion of town



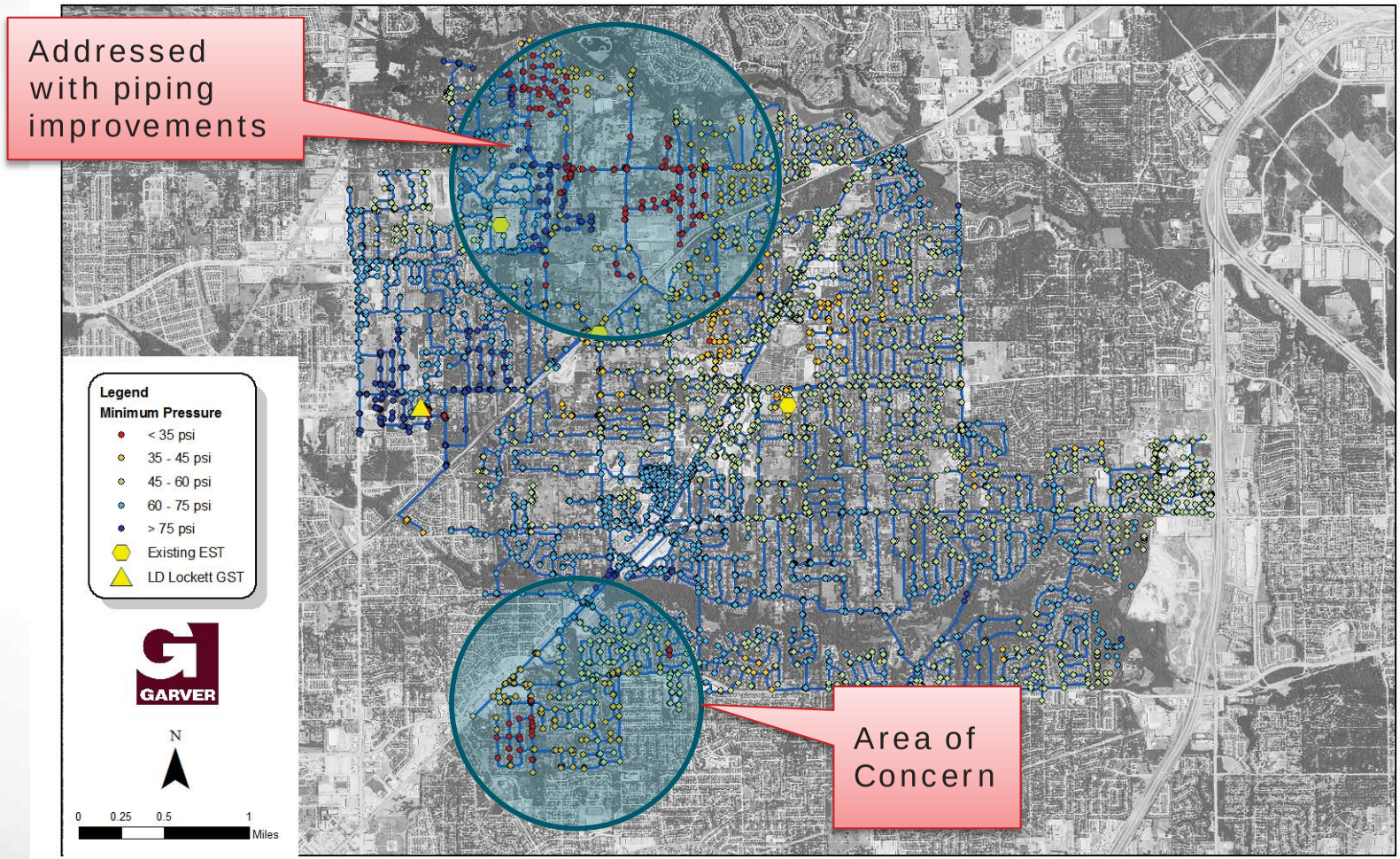
The Tank is Necessary to Meet Two Requirements

- Storage

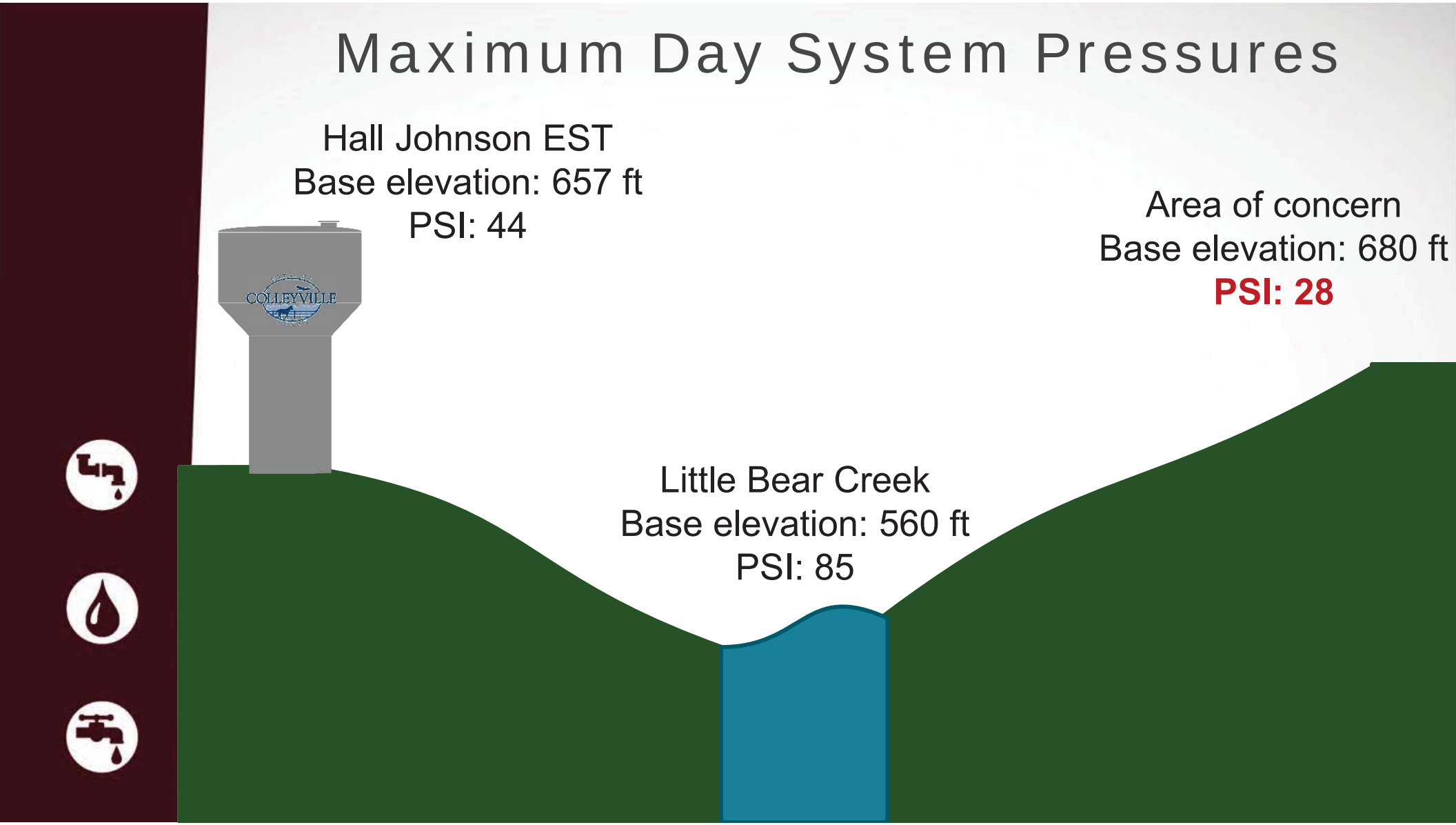


- Pressures
  - Current minimum pressure during maximum day falling below 35 PSI requirement

Low Pressure is a Concern in Two Areas



Maximum Day System Pressures



Our Evaluation Included Five Alternative Options

Large diameter conveyance pipelines

In-line booster station

Ground storage and booster station

Elevated Storage

Other water supply connections

Large Diameter Conveyance (Pipelines)

High impact construction
-Costly
-Traffic concerns
-Impact to residents

Relocates pressure and flow
-Additional projects needed
-Minimal pressure boost

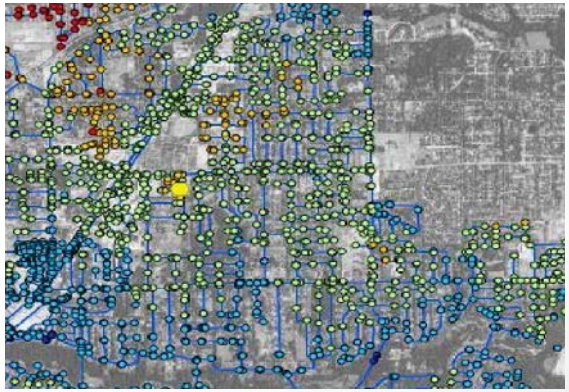
Elevated storage
criteria not met
-No emergency storage

In-line Booster Station

Mechanical
-Operations & maintenance

Relocates pressure and flow
-Additional projects needed
-Suction pressure issues

Elevated storage criteria not met
-No emergency storage
-Feed main bursts may decommission

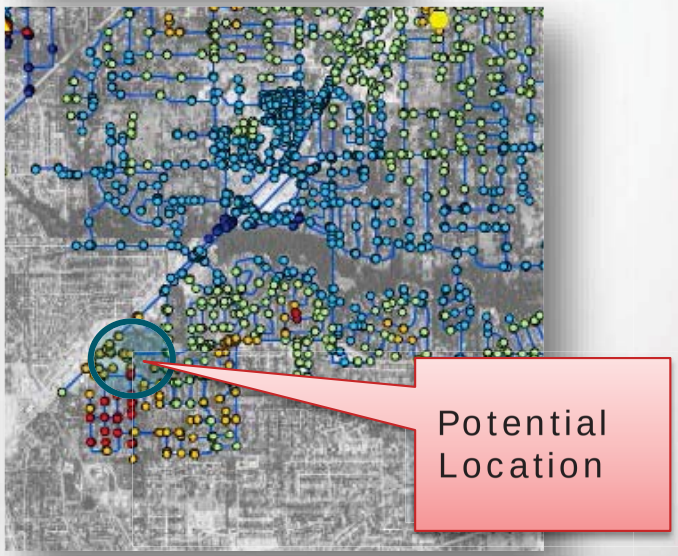


Ground Storage Tank and Booster Pumps

- Addresses pressure for maximum day demands
- Similar in cost to EST
- More mechanical equipment
- Elevated storage requirement not met

Elevated Storage Tank

- Addresses pressure for maximum day demands
- Addresses elevated storage requirement
- Accommodates emergency conditions
- Increases system flexibility



Consideration of Options

GST and BPS

- Less capital than EST with same lifecycle
- More mechanical

BPS

- Shifts pressure issues to other parts of City
- Additional projects likely

Pipelines

- Shifts pressure issues to other parts of City
- Additional projects likely

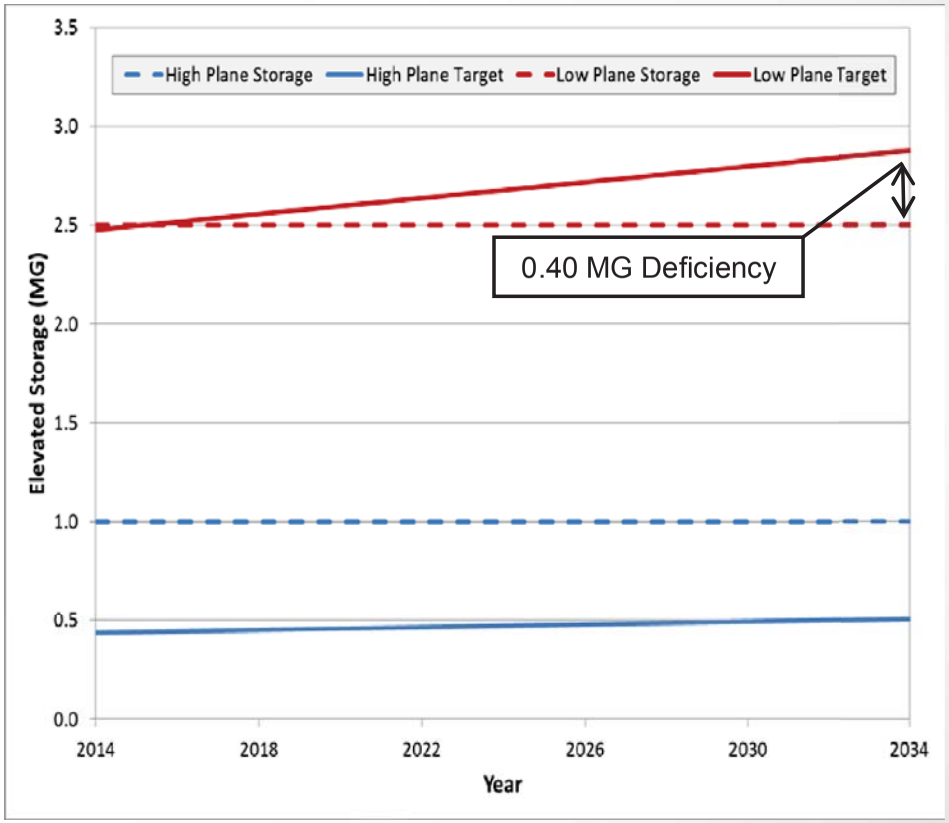
EST

- Meets all identified needs

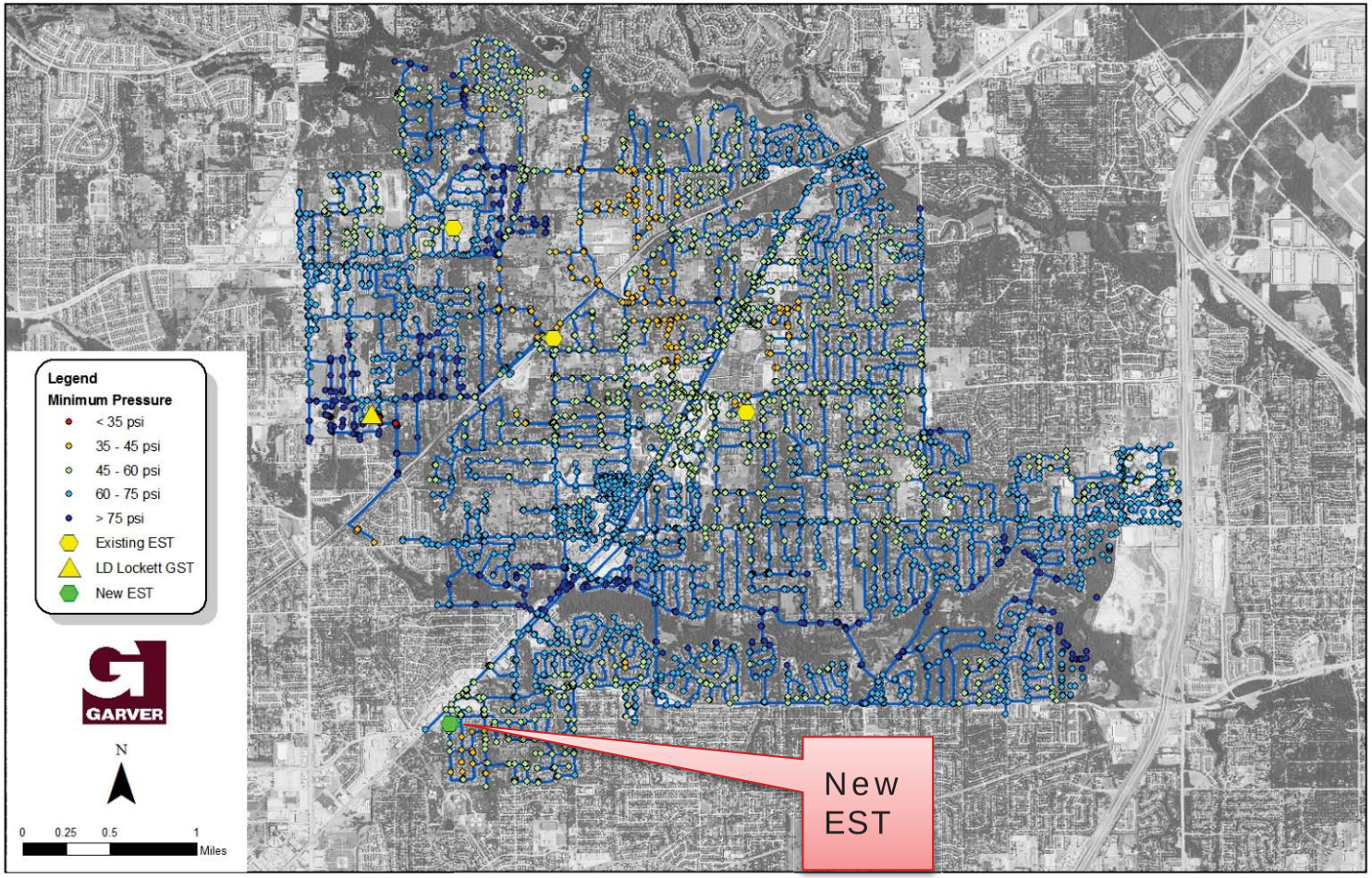
RECOMMENDED ALTERNATIVE

The Goal is to Provide 15% of the Maximum Daily Demand in Elevated Storage

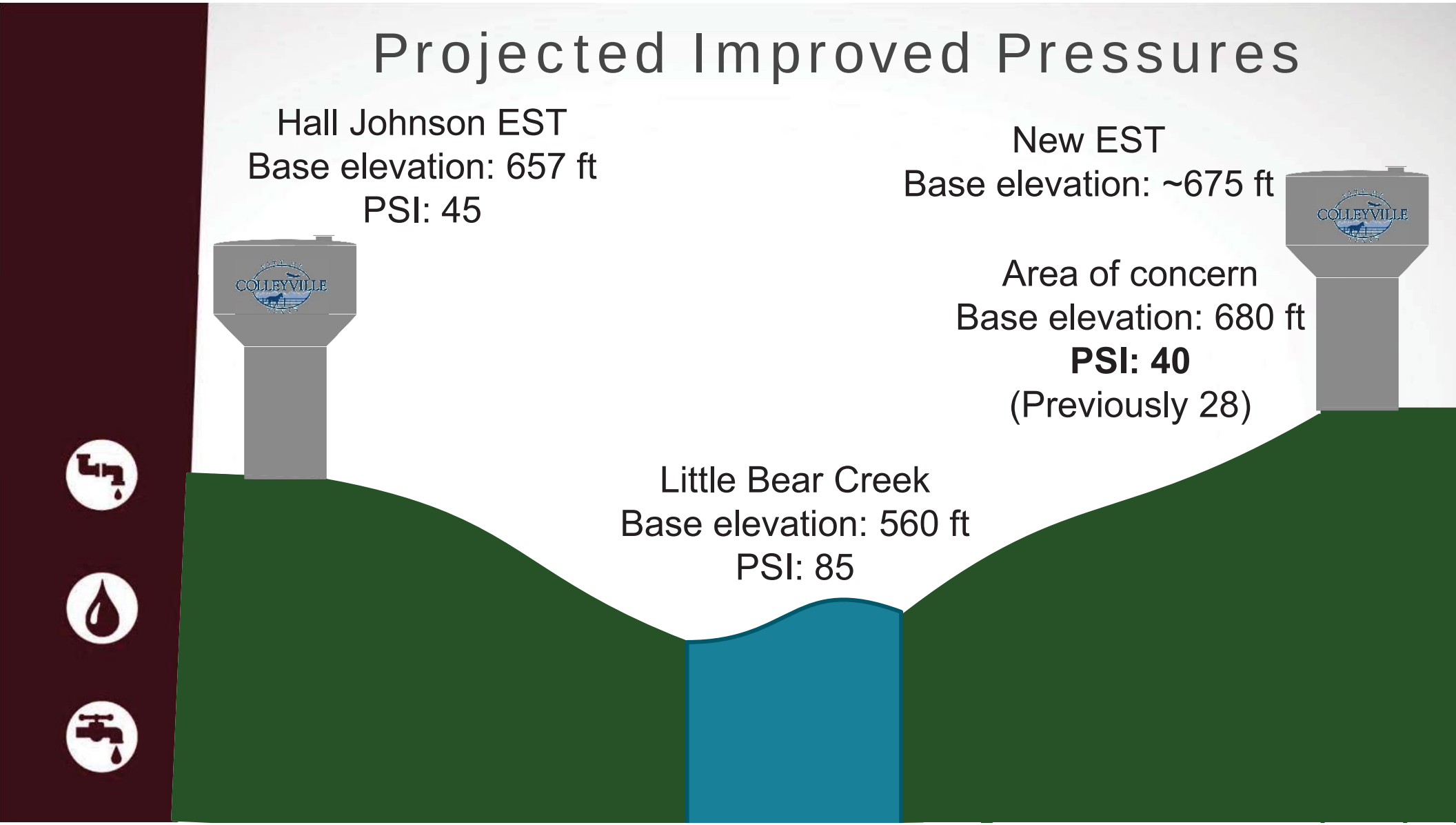
- Provides system flexibility and alleviates low fire flow condition
- Provides available water supply for loss-of-power situations
- Maintains minimum state required pressure



System Pressures With Proposed EST



Projected Improved Pressures



Recommended Course of Action

Consider Recommendation of EST

Move into a Conceptual Design Phase

Evaluate impact of design	Choose site for improvements	Finalize best-fit technology	Design Improvements

Construction and Implementation

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RATE STUDY

Benchmarking the Current Rate Structure

City	Volumetric rates charged for all metered consumption?	Do larger meters pay a higher minimum charge?	Residential and non-residential rates differentiated?
Colleyville	No	No	No
Grapevine	No	Yes	Yes
Euless	Yes	Yes	Yes
Bedford	Yes	Yes	Yes*
NRH	No	Yes	Yes
Southlake	No	Yes	Yes
Keller	Yes	Yes	Yes*
Hurst	No	Yes	Yes
TRA Customers			* For Wastewater Only

Rate Study

- Recommendations
  - Remove first 2,000 gallons from base rate for water and wastewater over four year period
  - Increase minimum base monthly charge for water meters in excess of 1 ½” over a four year period
  - Increase base monthly charge for non-residential wastewater by $6.00 to be implemented in two $3.00 increments in 2016 and 2018

Recommendation 1

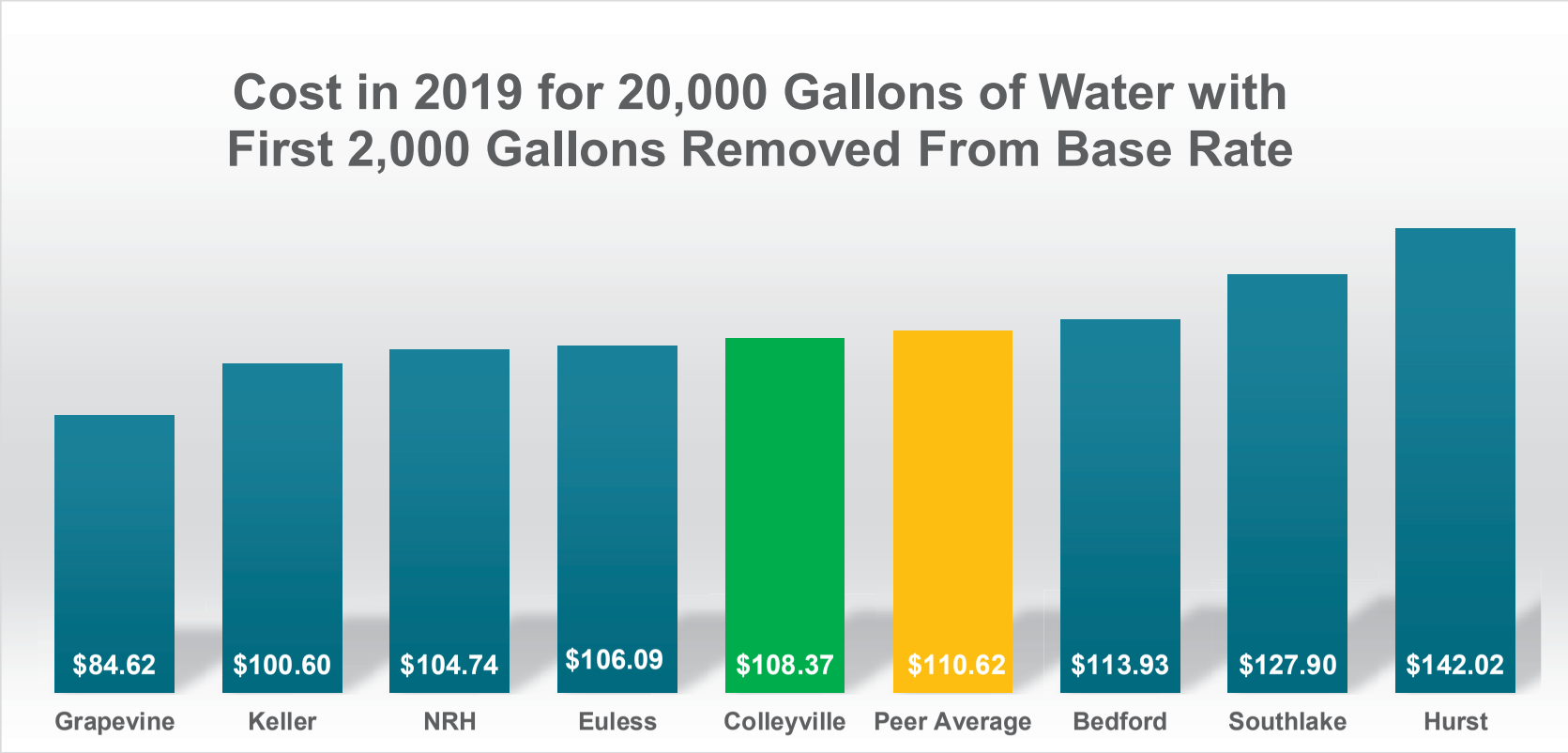
- Remove first 2,000 gallons from base rate for water and sewer over four year period
  - Impacts 100% (9,414) of water and wastewater customers
  - Assumes proposed TRA water rate increases of $0.88 per 1000 gallons over 5 years
  - Assumes proposed TRA wastewater rate increases of $0.79 per 1000 gallons over 5 years

Rate for 20,000 Gallons of Water for Meters Smaller than 1.5”

			Current		Proposed		
	TRA Projected Increase	Cost per 1000 gals	Base Rate	Cost per 20,000 Gallons with TRA Projected Rate Increase Only	Proposed New Base Rate	Cost per 20,000 gals with Removal of First 2,000 gals from Base Rate	Difference in Cost for 20,000 gals
2015		$ 4.12	$ 13.28	$ 87.44	$ 13.28	$ 87.44	$ 0.0
2016	$ 0.18	$ 4.30	$ 13.64	$ 91.04	$ 13.55	$ 93.10	$ 2.06
2017	$ 0.14	$ 4.44	$ 13.92	$ 93.84	$ 13.69	$ 98.05	$ 4.21
2018	$ 0.16	$ 4.60	$ 14.24	$ 97.04	$ 13.77	$ 103.47	$ 6.43
2019	$ 0.13	$ 4.73	$ 14.50	$ 99.64	$ 13.77	$ 108.37	$ 8.73

Current Colleyville Rate

Peer Cities Comparison



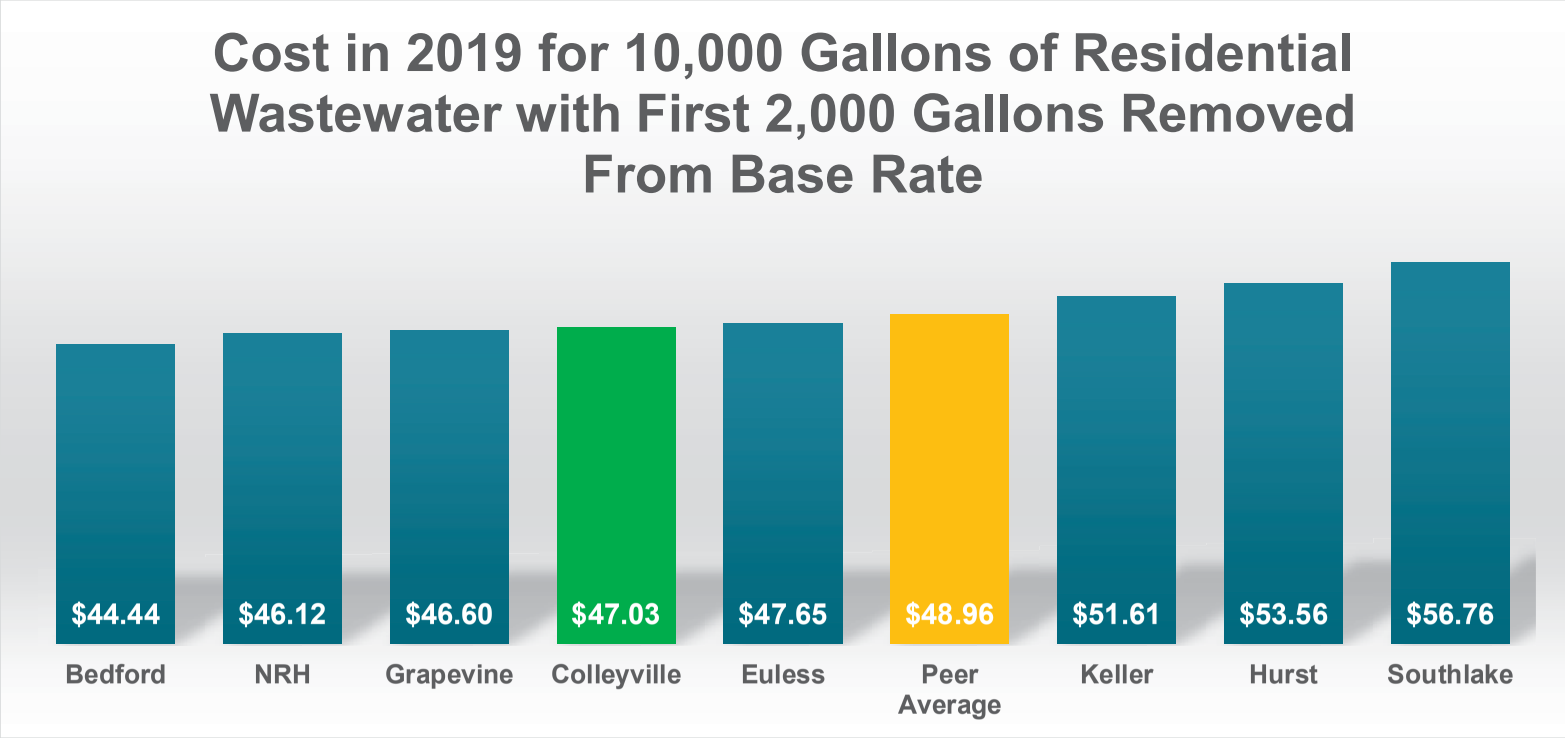
Assumes non-TRA cities increase rates proportionally to TRA increases
Currently Colleyville rate for 20,000 gals = $87.44

Residential Rate for 10,000 Gallons of Wastewater

	TRA Projected Increase	Cost per 1000 gals	Current		Proposed		
			Base Rate	Cost per 10,000 Gallons with TRA Projected Rate Increase Only	Proposed New Base Rate	Cost per 10,000 gals with Removal of First 2,000 gals from Base Rate	Difference in Cost for 10,000 gals
2015		$ 2.95	$ 10.16	$ 33.76	$ 10.16	$ 33.76	$ 0.0
2016	$ 0.19	$ 3.14	$ 10.54	$ 35.66	$ 10.45	$ 37.14	$ 1.48
2017	$ 0.20	$ 3.34	$ 10.94	$ 37.66	$ 10.65	$ 40.71	$ 3.04
2018	$ 0.16	$ 3.50	$ 11.26	$ 39.26	$ 10.73	$ 43.98	$ 4.72
2019	$ 0.13	$ 3.63	$ 11.52	$ 40.56	$ 10.73	$ 47.03	$ 6.47

Current Colleyville Rate

Peer Cities Comparison



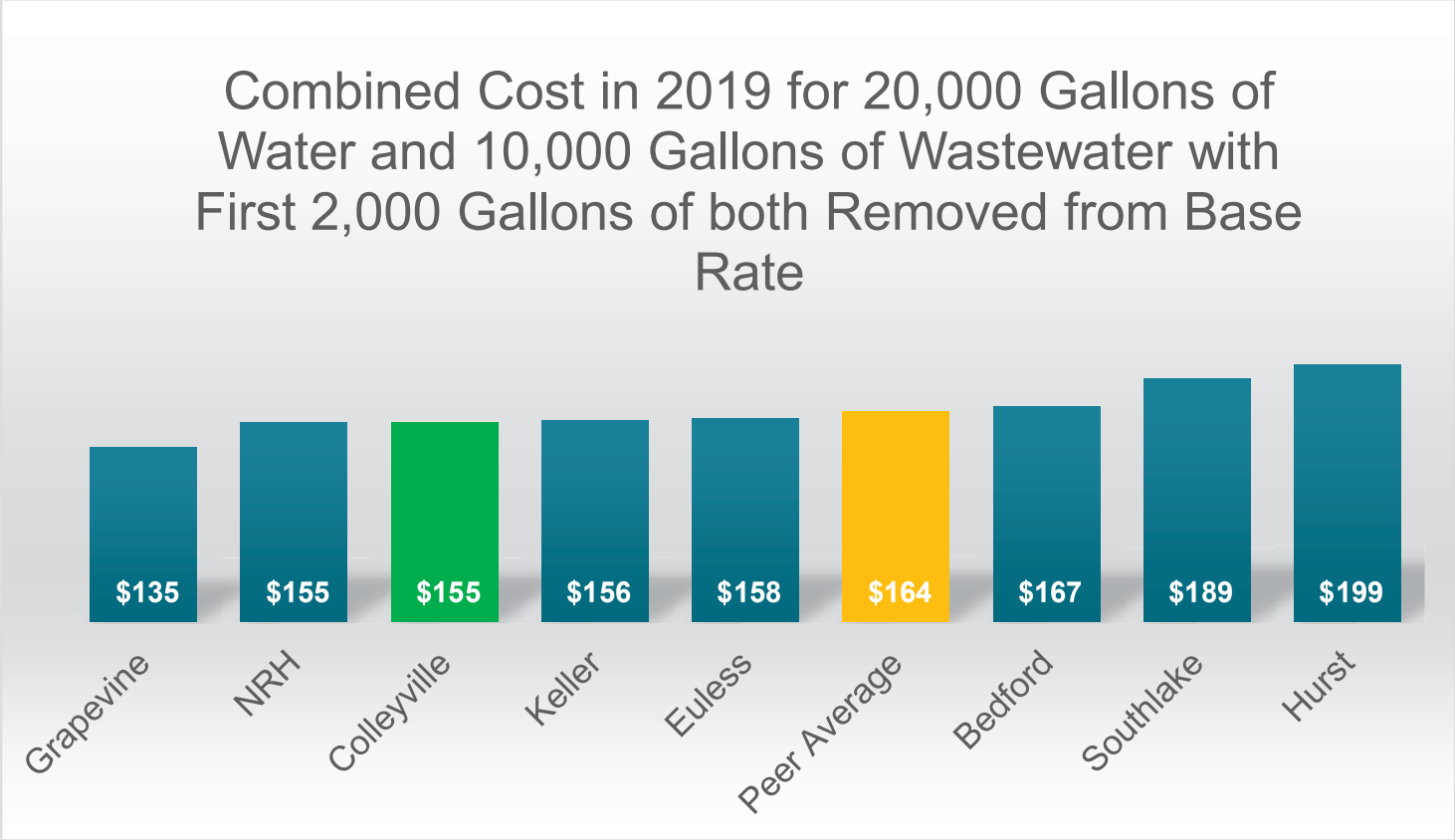
Assumes non-TRA cities increase rates proportionally to TRA increases
Currently Colleyville rate for 10,000 gals = $33.76

Residential Rate for 20,000 Gallons of Water and 10,000 Gallons of Wastewater

	Combined Rate With Projected TRA Increase Only	Combined Cost with Removal of First 2,000 gals from Base Rate	Difference in Combined Cost with Removal of First 2,000 Gallons from Base Rate
2015	$ 121.20	$ 121.20	$ 0.00
2016	$ 126.70	$ 130.24	$ 3.54
2017	$ 131.50	$ 138.76	$ 7.26
2018	$ 136.30	$ 147.45	$ 11.15
2019	$ 140.20	$ 155.40	$ 15.20

Current Colleyville Rate

Peer Cities Comparison



Assumes non-TRA cities increase rates proportionally to TRA increases
Currently Colleyville Combined Rate is $121.20

Recommendation 2

- Increase minimum base monthly charge for water meters in excess of 1 ½”
  - Impacts 3.7% (349) of customers
  - Implemented with equal annual adjustments over four year period

Proposed Base Rate for Meters Greater than 1.5”

Meter Size	Number of Meters	2015	2016	2017	2018	2019
<1.5” Meter	9065	$ 13.28	$ 13.55	$ 13.69	$ 13.77	$ 13.77
1.5” Meter	128	$ 13.28	$ 15.77	$ 18.26	$ 20.75	$ 23.24
2" Meter	207	$ 13.28	$ 20.29	$ 27.30	$ 34.30	$ 41.43
3" Meter	12	$ 13.28	$ 33.20	$ 53.11	$ 73.03	$ 92.95
4" Meter	2	$ 13.28	$ 51.27	$ 89.26	$ 127.25	$ 165.24

Currently all meter sizes pay the same base rate of $13.28 per month

Billing for Average Monthly Usage by Meter Size (Water Bill Only)

	Current Rate <1.5“ (20,000)*	Proposed Rate <1.5" (20,000)*	Current Rate 1.5“ (40,000)*	Proposed Rate 1.5" (40,000)*	Current Rate 2“ (50,000)*	Proposed Rate 2" (50,000)*	Current Rate 3“ (250,000)*	Proposed Rate 3" (250,000)*	Current Rate 4“ (500,000)*	Proposed Rate 4" (500,000)*
2015	$ 87.44	$ 87.44	$186.64	$186.64	$244.64	$ 244.64	$ 1,516.64	$ 1,516.64	$ 3,106.64	$ 3,106.64
2016	$ 91.04	$ 93.10	$193.84	$198.12	$253.64	$ 262.44	$ 1,561.64	$ 1,583.35	$ 3,196.64	$ 3,234.27
2017	$ 93.84	$ 98.05	$199.44	$208.22	$260.64	$ 278.46	$ 1,596.64	$ 1,640.27	$ 3,266.64	$ 3,341.98
2018	$ 97.84	$103.47	$205.84	$219.26	$268.64	$ 295.60	$ 1,636.64	$ 1,702.33	$ 3,346.64	$ 3,450.65
2019	$ 99.64	$108.37	$211.04	$229.24	$275.14	$ 311.53	$ 1,669.14	$ 1,757.05	$ 3,411.64	$ 3,562.38

(xx,xxx)* Denotes average monthly usage in gallons

Recommendation 3

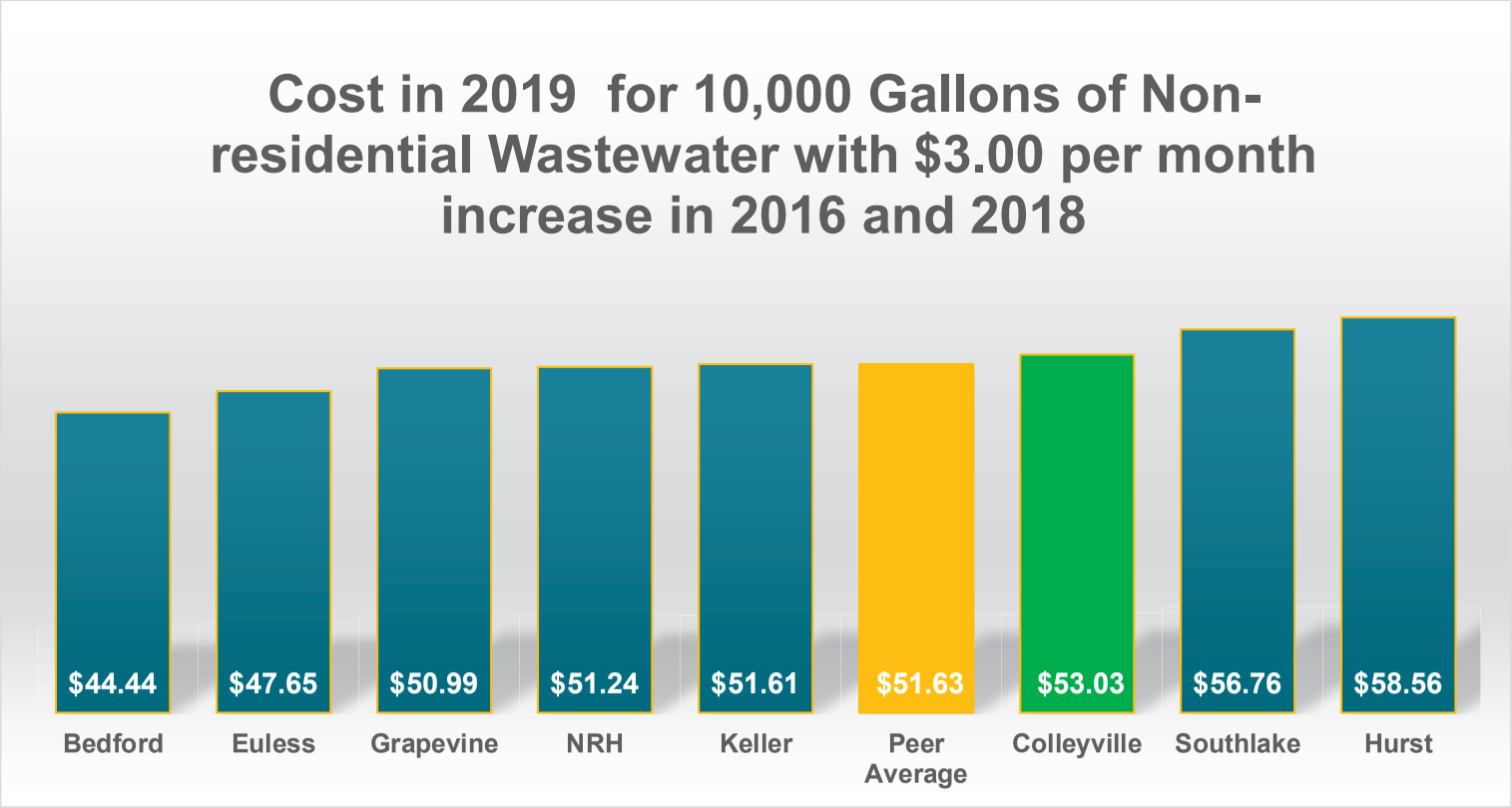
- Increase base monthly charge for non-residential wastewater by $6.00 to be implemented in two $3.00 increments in 2016 and 2018
  - Impacts 4.5% of customers (425)
  - Colleyville and all peer cities charge for wastewater based on year-round water usage for non-residential customers

Non-Residential Rate for 10,000 Gallons of Wastewater

	TRA Projected Increase	Cost per 1000 gals	Current		Proposed		
			Base Rate	Cost per 10,000 Gallons with TRA Projected Rate Increase Only	Proposed New Base Rate	Cost per 10,000 gals with Removal of First 2,000 gals from Base Rate	Difference in Cost for 10,000 gals
2015		$ 2.95	$ 10.16	$ 33.76	$ 10.16	$ 33.76	$ 0.0
2016	$ 0.19	$ 3.14	$ 10.54	$ 37.14	$ 13.45	$ 40.14	$ 3.00
2017	$ 0.20	$ 3.34	$ 10.94	$ 40.71	$ 13.65	$ 43.71	$ 3.00
2018	$ 0.16	$ 3.50	$ 11.26	$ 43.98	$ 16.73	$ 49.98	$ 6.00
2019	$ 0.13	$ 3.63	$ 11.52	$ 47.03	$ 16.73	$ 53.03	$ 6.00

Current Colleyville Rate

Peer Cities Comparison



Assumes non-TRA cities increase rates proportionally to TRA increases
Currently Colleyville rate for 10,000 gals = $33.76

Impacts of Implementing Recommendations

- Reduces dependency on water sales to adequately fund fixed costs
- More accurately reflects the true cost of service
- Provides revenue for identified CIP projects

Analysis of Fixed and Variable Components (2015)

	Water			Wastewater		
	Fixed	Variable	Total	Personnel	Variable	Total
Personnel	$ 1,511,113		$ 1,511,113	$ 188,411		$ 188,411
Operating	$ 710,828	$ 7,851,514	$ 8,562,342	$ 97,156	$ 1,741,331	$ 1,838,487
Capital	$ 200,000		$ 200,000	$ 50,000		$ 50,000
Debt Service	$ 490,100		$ 490,100			
Total Expenses	$ 2,912,041	$ 7,851,514	$ 10,763,555	$ 335,567	$ 1,741,331	$ 2,076,898
Current Fixed Cost Recovery (Water and Wastewater Combined)						41%
Combined Fixed Cost Recovery if recommendations are adopted (2019)						89%

Cash Flow Projection

(assumes proposed structure is implemented)

	2015	2016	2017	2018	2019
Gross Revenues from Water and Wastewater Sales	$ 14,184,706	$ 15,310,654	$ 16,347,649	$ 17,427,644	$ 17,427,644
O&M Expenses less Debt Service	$ 12,350,354	$ 13,017,620	$ 13,772,453	$ 14,467,465	$ 15,069,560
Debt Service	$ 490,100	$ 438,390	$ 431,880	$ 188,790	$ 0
1.2 X Debt Coverage Ratio	$ 588,120	$ 526,068	$ 518,256	$ 226,548	$ 0
Potentially Available for CIP Projects*	$ 1,246,232	$ 1,766,966	$ 2,056,940	$ 2,733,630	$ 3,363,784

* Only includes revenue from water and wastewater sales

Potential Revenue Available for Capital Projects from All Sources

	2015	2016	2017	2018	2019
Water and Wastewater Sales	$ 1,246,232	$ 1,766,966	$ 2,056,940	$ 2,733,630	$ 3,363,784
Impact Fees	$ 979,125	$ 979,126	$ 979,125	$ 979,125	$ 979,125
Yearly Total	$ 2,225,357	$ 2,746,095	$ 3,036,065	$ 3,712,755	$ 4,342,909
Five Year Total	$16,063,181*				

*Equates to 29% of funding needed for 20 year CIP ($55 million)

Next Steps

- If approved, prepare new ordinance to adopt the new rate structure
- Develop and execute a public information program to inform customers of the new rate structure and why it is necessary
- Implement new rate structure on December 1, 2015
- Review and update rate structure in five years (2019)