Byrne, Randall (Treasury)

From:	Gerald Ambrose <gambrose@cityofflint.com>
Sent:	Tuesday, March 18, 2014 5:22 PM
To:	Workman, Wayne (TREASURY); Koryzno, Edward (Treasury)
Cc:	Darnell Earley; Cline, Richard (Treasury)
Subject:	Fwd: order for Flint

Wayne and Ed,

We greatly appreciate the call made after our last meeting to DEQ by Eric Cline regarding the pending ACO. It has moved along, but still in process.

Any additional assistance you an give would be greatly appreciated. As you can see from Dave Massaron's email, formal approval of the ACO is required in order for the bond sale to proceed.

Thanks and see you tomorrow.

Jerry

-------- Forwarded message --------
From: **Massaron, David P.** <Massaron@millercanfield.com>
Date: Tue, Mar 18, 2014 at 2:53 PM
Subject: RE: order for Flint
To: Gerald Ambrose <gambrose@cityofflint.com>
Cc: Darnell Earley <dearley@cityofflint.com>, Elizabeth Murphy <emurphy@cityofflint.com>, "Robinson Michael" <MRobinson@wnj.com>

Jerry,

As you know the KWA is far along in the process of issuing the first series of bonds (approximately $220,000,000) for the construction of the pipeline. It has received Treasury Approval, engaged an underwriter, and begun the rating process. Paul Stauder, as financial advisor to KWA, and TJ Whitehouse, as KWA's investment banker at JPMorgan, are working hard on the rating agencies now in hopes of having a rating by the end of the week.

The next step is to post investor disclosure after receipt of ratings. Once that investor disclosure, or preliminary official statement, is posted, KWA can close on its bond issue within two weeks according to its banker and financial advisor.

However, we cannot take that step until the DEQ Administrative Consent Order ("ACO") is effective. The DEQ order is necessary for two reasons: 1) There is extensive disclosure on the water treatment plant, ACO and Flint's ability to use that plant in the POS and 2) More importantly, if the KWA project is done to comply with an ACO, the debt associated with the project would not "count" towards the City's debt limit. As you know, the City of Flint has lived through a dramatic decline in property values and state revenue sharing. These declines have dramatically reduced its debt

capacity under the Home Rule City Act. In order to ensure that the entire project can be financed (1st and 2nd series of bonds) and that the City will have some debt capacity in the future, the ACO is a condition precedent to proceeding with transaction. Put another way, we will cannot continue with the transaction without the ACO. If there is much more of a delay, the KWA will have expended its initial resources and be forced to stop construction and the project will be delayed for at least one construction cycle. Assuming the ratings come in as planned, the City needs the ACO in place by the end of this week.

By way of background, it is my understanding that there is not disagreement at DEQ about what is being ordered in the ACO. In fact, what is being ordered is exactly why Flint is moving forward with KWA. The ACO simply states that after Detroit cancelled the contract and Flint decided to use its water treatment plant, the City has two options under current DEQ standards. It can either undertake the KWA improvement project or it will need to undertake other public improvement projects to use the Flint River as a water source. Flint, in consultation with its engineers, has decided that improvements needed to use the river are more costly than the KWA project.

Hope this helps,

-Dave

David P. Massaron | Attorney and Counselor at Law

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Byrne, Randall (Treasury)

From: Jason Lorenz <jlorenz@cityofflint.com>
Sent: Tuesday, April 15, 2014 4:29 PM
Subject: PRESS RELEASE: City of Flint Water Presentations
Attachments: Water.Presentations.4.17.2014.pdf

For Immediate Release

City of Flint to Hold Special Public Presentations on Water Ahead of Planned Switch to Flint River as City's Water Source

Flint, Michigan – April 15, 2014 – The City of Flint will be holding two separate public presentations on the topic of water on Thursday, April 17, 2014. There will be a forum for Flint restaurateurs held at 3:00pm inside Café Rhema at 432 S. Saginaw Street in which local managers and owners can address any concerns on the river's use. An informational presentation for the general public will then be held at 5:30pm inside the City Council Chambers of Flint City Hall. That event will include a panel of City of Flint officials as well as John O'brien from the Genesee County Drain Commissioner's office and a representative from the Raftelis Financial Consulting firm.

Use of the river, upgrades and maintenance required for the water and sewer infrastructure and the overall cost of the system will be addressed in the presentation. Last week, the Raftells firm presented the findings of a water and sewer rate study undertaken at the request of Emergency Manager Darnell Earley to the Flint City Council Public Works Committee.

"The results of the study, along with items related to the use of the river for the period during which the KWA pipeline is built, will be included in this comprehensive view of the present and future of the City's water service system and what will be required to maintain its operation long term," said Emergency Manager Darnell Earley. "We have a strategic vision of how to preserve and improve upon that service and plan on sharing it with the people of Flint." Both events come as the City prepares to begin using the Flint River as its primary source, which is scheduled to occur sometime after this Thursday.

-END-

-Jason Lorenz
Public Information Officer
City of Flint
(810) 237-2039
jlorenz@cityofflint.com

Byrne, Randall (Treasury)

From: Jason Lorenz <jlorenz@cityofflint.com>
Sent: Wednesday, April 16, 2014 5:32 PM
Subject: MEDIA ADVISORY: DPW Press Briefing

FOR MEDIA PLANNING PURPOSES ONLY.

MEDIA ADVISORY: Flint Dept. of Public Works Press Briefing Regarding Water

WHEN: Thursday, April 17, 2014 at 9:00am

WHERE: Mayor's Office Conference Room, Flint City Hall

-Jason Lorenz
Public Information Officer
City of Flint
(810) 237-2039
jlorenz@cityofflint.com

Byrne, Randall (Treasury)

From: Jason Lorenz <jlorenz@cityofflint.com>
Sent: Thursday, April 17, 2014 12:23 PM
Subject: MEDIA ADVISORY: Water Plant Photo Op

MEDIA ADVISORY: Water Treatment Plant Drawing from Flint River Photo Opportunity

WHEN: Thursday, April 17, 2014 at 2:00pm

WHERE: Flint Water Treatment Plant, 4500 N. Dort Hwy., at Stewart Ave.

DETAILS: Join us for an historic event as Flint's Water Treatment Plant begins drawing Flint River water for treatment and softening. This is the next major step towards using the Flint River as a primary water source for the first time in almost 50 years and a major step in securing Flint's water independence.

-Jason Lorenz
Public Information Officer
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(810) 237-2039
jlorenz@cityofflint.com

Byrne, Randall (Treasury)

From:	Cline, Richard (Treasury)
Sent:	Thursday, April 17, 2014 3:52 PM
To:	Byrne, Randall (Treasury); Dube, Mathieu (Treasury); Vandegrift, Drew (TREASURY); Widigan, Robert (TREASURY)
Subject:	City says Flint River water will be pumped to homes, businesses Monday, April 21 | MLive.com

http://www.mlive.com/news/flint/index.ssf/2014/04/treatment_plant_starts_test_ru.html

FYI.

Eric Cline | Unit Operations Specialist - Office of Fiscal Responsibility State of Michigan | Michigan Department of Treasury
430 W. Allegan Street, 3rd Floor | Lansing, MI 48922
(517) 335-2078 | cline1@michigan.gov | Traverse City Extension (231) 922-5228

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CITY OF FLINT
OFFICE OF EMERGENCY MANAGER
DARNELL EARLEY
ICMA-CM, MPA

Jason Lorenz
Public Information Officer
(810) 237-2039
jlorenz@cityofflint.com

For Immediate Release

Emergency Manager Darnell Earley and City of Flint Department of Public Works Director Statements on Finalization of Water Treatment Plant Ahead of Flint River Use

Flint, Michigan – April 21, 2014 – The City of Flint's Emergency Manager Darnell Earley and Department of Public Works Director have released the following statements in regard to the final work to be completed at the Water Treatment Plant ahead of Flint River use.

"We are preparing to install the final two pumps required to maintain the necessary water pressure for chlorination; that work will be completed by mid-week. Once the necessary pumps are operational, water quality tests will continue to be performed to ensure the water passes both DEQ safety standards as well as our own stringent water quality standards." –Howard Croft, DPW Director

"After this final step has been completed, Flint will then be able to shut the intake from Detroit and begin using the river. We are still on track to be using the river this week as early as Thursday and remain enthusiastic about this historic event."
–Darnell Earley, City of Flint Emergency Manager

–END–

Byrne, Randall (Treasury)

From:	Koryzno, Edward (Treasury)
Sent:	Thursday, April 24, 2014 4:37 PM
To:	Cline, Richard (Treasury); Dube, Mathieu (Treasury); Vandegrift, Drew (TREASURY); Widigan, Robert (TREASURY)
Cc:	Dempkowski, Angela (Treasury)
Subject:	FW: MEDIA ADVISORY: Flint River Water Transition Event

FYI

Edward B. Koryzno, Jr. | Director - Bureau of Local Government Services
State of Michigan | 430 W. Allegan Street, 3rd Floor | Lansing, MI 48922
(517) 373-4415 | (517) 373-0633 (fax)
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Thank you

From: Jason Lorenz [mailto:jlorenz@cityofflint.com]
Sent: Thursday, April 24, 2014 4:33 PM
Subject: MEDIA ADVISORY: Flint River Water Transition Event

MEDIA ADVISORY:
City of Flint Transition to Flint River Water Ceremony

WHERE: Flint Water Treatment Plant, 4500 N. Dort Hwy. by Stewart Ave.

WHEN: Friday, April 25, 2014 at 2:00pm

Description: The City of Flint is holding a ceremony tomorrow to officially begin the transition to use of the Flint River by shutting the valve to the intake pipe from Detroit.

The DEQ has given Flint final authorization to begin water distribution from the Flint Water Treatment Plant. City, Genesee County, and Michigan Department of Environmental Quality officials will be on hand to witness this historic event and answer media questions.

-Jason Lorenz
Public Information Officer
City of Flint
(810) 237-2039
jlorenz@cityofflint.com

Darnell Earley
ICMA-CM, MPA
Emergency Manager

Dayne Walling
Mayor

Jason Lorenz
Public Information Officer
(810) 237-2039
jlorenz@cityofflint.com

For Immediate Release

City of Flint Officially Begins Using Flint River as Temporary Primary Water Source

Flint, Michigan – April 25, 2014 – For the first time in fifty years, the City of Flint is using the Flint River—part of the Saginaw River watershed—as a primary water source for city residents. Today the valve to the pipeline from Detroit was closed and the Flint River officially became Flint's water supply. The temporary switchover is scheduled to support the city's primary water needs for the next two years while construction of the forthcoming pipeline from Lake Huron is completed by Karegnondi Water Authority. Officials from the City of Flint, the Genesee County Drain Commission and the Michigan Department of Environmental Quality were all on hand to witness the historic event.

The Flint River was once the primary source of water for city residents up to the 1960s. Over the past 40 years, it has provided water to city residents as a back-up to water provided to us by Detroit. During our partnership with Detroit, Flint has had to transition to the use of the Flint River for residential water on a few different occasions, with the most recent temporary switchover happening in 2009. Each temporary stint on local water proved three things to city employees and residents alike: That a transition to local river water could be done seamlessly, and that it was both sensible and safe for us to use our own water as a primary water source in Flint.

–CONTINUE–

Darnell Earley
ICMA-CM, MPA
Emergency Manager

Dayne Walling
Mayor

Even with a proven track record of providing perfectly good water for Flint, there still remains lingering uncertainty about the quality of the water. In an effort to dispel myths and promote the truth about the Flint River and its viability as a residential water resource, there have been numerous studies and tests conducted on its water by several different independent organizations. In addition to what has been found in independent studies, it is also the responsibility of the City of Flint Water Service Center to continually test the water provided to city residents. Michael Prysby of the Michigan DEQ Office of Drinking Water verified that "the quality of the water being put out meets all of our drinking water standards and Flint water is safe to drink."

For nearly 10 years Mike Glasgow has worked in the laboratory at the City of Flint Water Service Center. He has run countless tests on our drinking water to ensure its safety for public use. Mike has not only conducted tests on water provided to us by Detroit, but also on local water from nearby rivers, lakes and streams including the Flint River. When asked if over the last decade if he has seen any abnormalities of major concern in the water, his response was an emphatic, "No." In his words, "there has been nothing seen that was of major concern," during his ongoing tenure working in the lab. "The tests results have shown that our water is not only safe, but of the high quality that Flint customers have come to expect," announced DPW Director Howard Croft, "we are proud of the end result."

Apart from the water plant's devotion to ensuring that our water is good, Flint is doubly blessed in having the Flint River Watershed Coalition as a separate organization

–CONTINUE–

Darnell Earley
ICMA-CM, MPA
Emergency Manager

Dayne Walling
Mayor

dedicated to monitoring the overall welfare of local bodies of water, overseeing more than 30 different nearby locations. Rebecca Fedewa has been director of the watershed coalition since 2008. By virtue of her passion for her work and her position on the board, she is very conversant with the condition of the Flint River. In her words, "The Flint River is increasingly healthy, and completely suitable as a drinking water source." Fedewa and FRWC are working closely with the city "to monitor flows and habitats between the intake and the waste water treatment plant to ensure there are minimal to no impacts to the overall health of the river."

FRWC also invites city residents to be a part of their monitoring exercises during this spring in order "to gain firsthand knowledge in the health and vitality of our Flint River." Mayor Dayne Walling invited everyone at today's event to toast to Flint's water. "It's regular, good, pure drinking water, and it's right in our backyard," said Mayor Walling, "this is the first step in the right direction for Flint, as we take this monumental step forward in controlling the future of our community's most precious resource."

–END–

City Hall
1101 S. Saginaw Street - Flint, Michigan 48502
810-766-7346 FAX: 810-766-7218 www.cityoflint.com

RAFTELIS
FINANCIAL CONSULTANTS, INC.

CITY OF FLINT, MICHIGAN
1855

CITY OF FLINT

Water and Wastewater Rate Study

Final Report | June 19, 2014

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1. EXECUTIVE SUMMARY

1.1 BACKGROUND OF THE STUDY

On November of 2013, the City of Flint ("City") engaged Raftelis Financial Consultants ("RFC") to perform water and wastewater utility rate studies. The scope of services included the following:

- Evaluate the adequacy of existing water and wastewater revenues to meet each utility's projected revenue requirements
- Develop comprehensive water and wastewater financial plans based on sound financial management practices for a 10 year forecast period
- Determine water and wastewater rates which adequately recover the cost of operating the water and wastewater utilities under the existing rate structures and provide alternatives based on a comprehensive cost of service study
- Analyze the impact of transitioning from the use of purchased potable water from the Detroit Water and Sewerage District ("DWSD") to the treatment of raw water from the Karegnondi Water Authority ("KWA").
- Review the City's water and wastewater operations in comparison to Best Management Practices criteria.

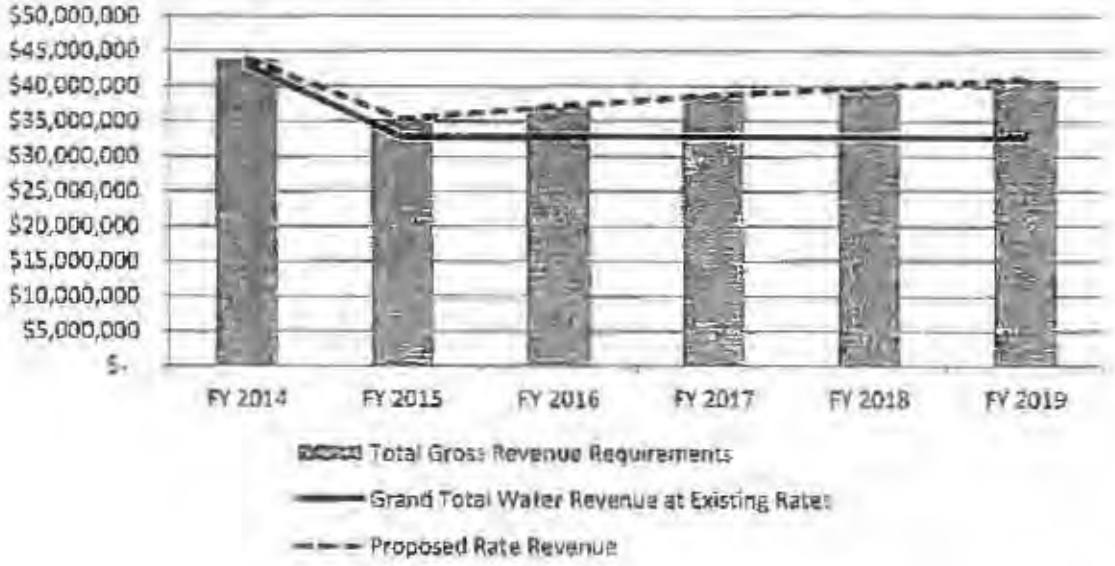
1.2 ADEQUACY OF EXISTING WATER AND WASTEWATER REVENUES

Charts ES-1 and 2 below summarize our conclusions with respect to the adequacy of water and wastewater revenue at existing rates. As the charts indicate, beginning in FY 2015, water and wastewater utility revenues are insufficient to recover each utility's revenue requirement. Key drivers of this disparity are:

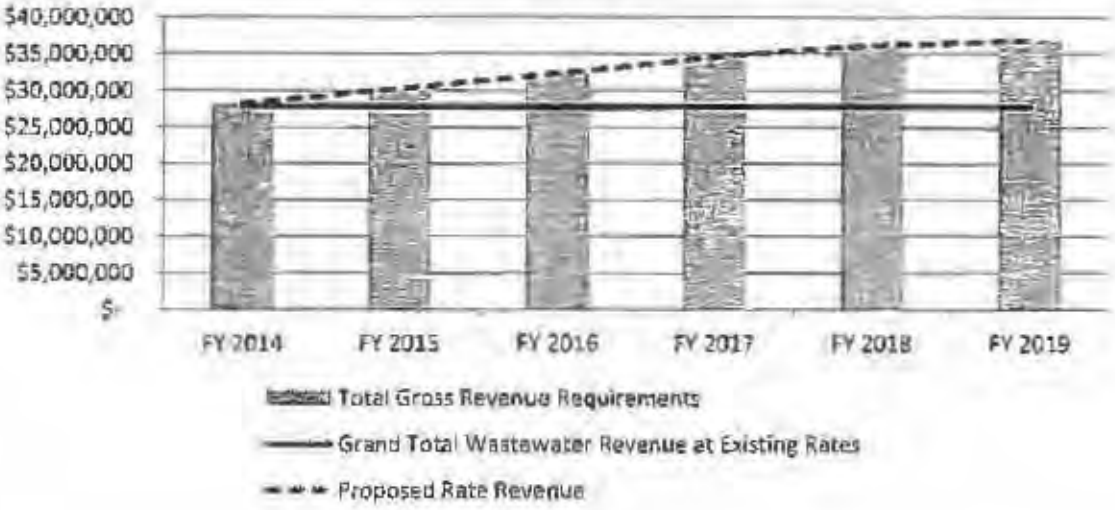
- A marked decrease in billed usage, the cause of which is currently being evaluated by RFC under a separate contract.
- A normal pattern of declining per customer usage for both utilities overall due to conservation, efficient appliances, etc.
- Increases in utility revenue requirements associated with the financial plans including operating cost inflation, capital improvements and policies which support the sound financial management of each utility in accordance with best management practices.

Consequently, the proposed increases in rate revenue are necessary to ensure each utility can adequately fund its operation and maintenance expenditures, make payments on existing debt service, provide funding for needed capital improvements and ensure adequate operating reserves.

ES-1: Water Utility Revenues at Existing Rates



ES-2: Wastewater Utility Revenues at Existing Rates



1.1 WATER AND WASTEWATER FINANCIAL PLANS

Tables ES-3 and ES-4 below summarize the proposed water and wastewater financial plans and rate revenue increases for the first 5 years of the forecast period.

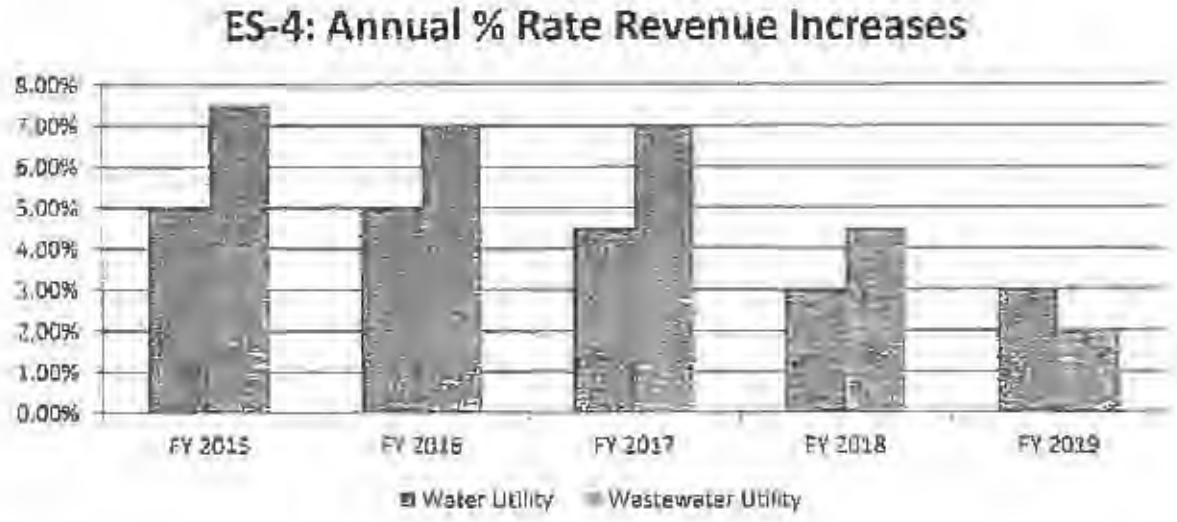
The financial plans and proposed increased in rate revenues are driven by the following factors:

- Inflationary increases in O&M expenditures for both utilities
- For the water utility:
  - Decreases in revenues associated with the cessation of service to Genesee County
  - Decreases in O&M expenditures associated with an elimination of DWSD water purchases
  - Increases in O&M expenditures associated with transitioning from back-up to primary operation of the Flint WTP
  - Increases in capital expenditures associated with improvements to the Flint WTP in preparation for the treatment of raw water from KWA
  - Increases in debt service associated with Flint's share of projected KWA debt service
- Necessary cash funded recapitalization of wastewater utility assets
- A build-up, for each utility, of operating reserves equivalent to 90 days of projected O&M expenditures and debt service payments, the minimum, according to financial management practices ("BMP").

ES-3: SUMMARY OF WATER AND WASTEWATER FINANCIAL PLANS

Water Utility	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019
REVENUES						
Grand Total Water Revenue at Existing Rates	$ [illegible]	$ 32,782,575	$ 32,782,575	$ 32,782,575	$ 32,782,575	$ 32,782,575
Additional Revenue from Rate Increases	$ -	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
Total Non-Rate Revenues	$ 466,000	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
Add Transfer in from General Fund	$ -	$ -	$ -	$ -	$ -	
Total Rate and Non-Rate Revenues	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
GROSS REVENUE REQUIREMENTS						
O&M	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
Debt	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
Transfers to Operating Reserve	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
Total Gross Revenue Requirements	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
DEFICIT (EXISTING REVENUES – REVENUE REQ.)	$ -	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]

Wastewater Utility	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019
REVENUES						
Grand Total Wastewater Revenue at Existing Rates	$ 27,777,374	$ 27,777,374	$ 27,777,374	$ 27,777,374	$ 27,777,374	$ 27,777,374
Additional Revenue from Rate Increases	$ -	$ 2,083,300	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
Total Non-Rate Revenues	$ 395,872	$ 423,872	$ 420,946	$ [illegible]	$ [illegible]	$ [illegible]
Add Transfer in from General Fund	$ -	$ -	$ -	$ -	$ -	
Total Rate and Non-Rate Revenues	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
GROSS REVENUE REQUIREMENTS						
O&M	$ 24,825,837	$ 23,051,385	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
Debt	$ 5,500,000	$ 7,000,000	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
Transfer to Operating Reserve	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
Total Gross Revenue Requirements	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
DEFICIT (EXISTING REVENUES – REVENUE REQ.)	$ -	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]



As indicated in the previous section, water and wastewater utility revenues at existing rates are not adequate to recover the projected costs each utility will incur over the forecast period. Consequently additional rate revenue will be needed to ensure adequate recovery of each utility's revenue requirements.

1.4 COST OF SERVICE STUDY AND WATER AND WASTEWATER RATES

Table ES-5 below summarizes the results of the water and wastewater cost of service studies. The customer classes included are those which are recognized in the City's existing customer information system ("CIS"). While the City does not currently have either a water or wastewater rate structure which recognizes these customer classes, rates by customer class have been calculated and are included as appendices A and B to this report. The totals for each customer class represent the contribution of that class to the overall costs of each utility. This is based on the allocation processes described in sections 4 and 5 of this report.

Given the transition from KWA to DWSD the City will not be making any rate structure changes at this time. It is our opinion that the current water and wastewater rate structures are reasonable. The declining block water rates generally recognizing the fact that higher volume customers (i.e. large commercial and industrial) contribute less to peak demand and overall water utility costs. Additionally, the relatively high proportion of fixed charge revenue recovery provides a less climatically variable revenue stream, which given that the majority of the utility's costs are fixed, is entirely appropriate.

ES-5: SUMMARY OF COST OF SERVICE STUDY RESULTS

CUSTOMER CLASS	WATER	WASTEWATER
Allocated Cost of Service		
Total Inside City Residential COS	$ 18,345,672	$ 16,412,799
Total Inside City Commercial/Industrial COS	$ 15,263,704	$ 13,378,697
Total Inside City Lawn COS	$ 370,646	N/A
Total Inside City COS	$ 33,980,022	$ 29,791,496
Total Outside City Residential COS	$ 99,483	$ 2,382
Total Outside City Commercial/Industrial COS	$ 321,169	$ 66,796
Total Outside City Lawn COS	$ -	N/A
Total Outside City COS	$ 420,653	$ 69,178
Total System Cost of Service	$ 34,400,675	$ 29,860,674

Tables ES-6 and ES-7 summarize the projected fixed and volumetric rates for the first 5 years of the forecast period, given financial plans and rate revenue increases proposed above. For every dollar of rate revenue generated by each utility approximately $.66 is derived from volumetric charges and $.34 is derived from fixed charges.

It is typical for water and wastewater utilities to design fixed charges which recover, at a minimum, the costs of meter reading, billing and collection and customer service. Additionally, fixed charges may also relate to fixed investment in utility assets associated with providing service which is available at all times regardless of usage levels by City customers. These costs, known as readiness to serve costs, have also been incorporated into the water and wastewater fixed charges.

Volumetric rates recover the variable costs associated with operating the water and wastewater utilities. For the water utility variable costs are associated with water treatment, transmission and distribution, pumping, and storage and are driven primarily by the design requirements associated with peak water usage. For the wastewater utility variable costs are associated with wastewater treatment, collection, and pumping, and are driven by the wastewater volume and strength.

ES-6: SUMMARY OF WATER AND WASTEWATER VOLUMETRIC RATES

Water Volumetric Rates

CUSTOMER CLASS	CONSUMPTION BLOCK	UNITS	FY 2014 Existing Block Rates	Test-Year FY 2015 Proposed Block Rates	Forecast FY 2016 Proposed Block Rates	Forecast FY 2017 Proposed Block Rates	Forecast FY 2018 Proposed Block Rates	Forecast FY 2019 Proposed Block Rates
Annual % Increase in Rate Revenues			0.00%	5.00%	5.00%	4.50%	3.00%	3.00%
Total Inside City All Classes								
Inside City Block 1	0-35 CCF	($/CCF)	$ 7.52	$ 7.92	$ 8.32	$ 8.69	$ 8.95	$ 9.22
Inside City Block 2	36-2000 CCF	($/CCF)	$ 7.31	$ 7.67	$ 8.00	$ 8.36	$ 8.61	$ 8.87
Inside City Block 3	above 2000 CCF	($/CCF)	$ 5.79	$ 6.08	$ 6.40	$ 6.68	$ 6.88	$ 7.09
Total Outside City All Classes								
Outside City Block 1	0-35 CCF	($/CCF)	$ 11.20	$ 11.66	$ 12.48	$ 13.04	$ 13.43	$ 13.83
Outside City Block 2	36-2000 CCF	($/CCF)	$ 10.77	$ 11.42	$ 12.00	$ 12.54	$ 12.91	$ 13.30
Outside City Block 3	above 2000 CCF	($/CCF)	$ 8.68	$ 9.14	$ 9.60	$ 10.03	$ 10.33	$ 10.64

Wastewater Volumetric Rates

CUSTOMER CLASS		FY 2014 Existing Rates	Test-Year FY 2015 Proposed Rates	Forecast FY 2016 Proposed Rates	Forecast FY 2017 Proposed Rates	Forecast FY 2018 Proposed Rates	Forecast FY 2019 Proposed Rates
Annual % Increase in Rate Revenues		0.00%	7.50%	7.00%	7.00%	4.50%	2.00%
Total Inside City All Classes	($/CCF)	$ 4.80	$ 5.17	$ 5.53	$ 5.92	$ 6.18	$ 6.31
Total Outside City All Classes	($/CCF)	$ 5.29	$ 5.68	$ 6.08	$ 6.51	$ 6.80	$ 6.94

ES-7: SUMMARY OF WATER AND WASTEWATER FIXED CHARGES

CUSTOMER CLASS	WATER FIXED CHARGES						WASTEWATER FIXED CHARGES					
	FY 2014 Existing Charge	Test-Year FY 2015 Proposed Charge	Forecast FY 2016 Proposed Charge	Forecast FY 2017 Proposed Charge	Forecast FY 2018 Proposed Charge	Forecast FY 2019 Proposed Charge	FY 2014 Existing Charge	Test-Year FY 2015 Proposed Charge	Forecast FY 2016 Proposed Charge	Forecast FY 2017 Proposed Charge	Forecast FY 2018 Proposed Charge	Forecast FY 2019 Proposed Charge
Inside City Residential												
5/8"	$ 31.78	$ 32.99	$ 34.05	$ 35.13	$ 36.09	$ 36.60	$ 32.00	$ 34.40	$ 36.90	$ 39.48	$ 41.20	$ 42.00
3/4"	$ 41.80	$ 44.03	$ 46.23	$ 48.31	$ 49.78	$ 51.25	$ 46.92	$ 50.04	$ 54.10	$ 57.69	$ 60.49	$ 61.70
1"	$ 55.28	$ 58.15	$ 61.05	$ 63.60	$ 65.72	$ 67.09	$ 65.34	$ 70.41	$ 75.32	$ 80.61	$ 84.24	$ 85.92
1 1/2"	$ 65.28	$ 58.15	$ 61.05	$ 63.60	$ 65.72	$ 67.09	$ 65.34	$ 70.41	$ 75.32	$ 80.61	$ 84.24	$ 85.92
2"	$ 55.28	$ 58.15	$ 61.05	$ 63.60	$ 65.72	$ 67.09	$ 65.34	$ 70.41	$ 75.32	$ 80.61	$ 84.24	$ 85.92
Inside City Commercial												
5/8"	$ 63.39	$ 66.79	$ 69.68	$ 64.21	$ 67.05	$ 94.44	$ 54.92	$ 55.50	$ 59.81	$ 64.00	$ 66.86	$ 68.21
3/4"	$ 61.29	$ 64.05	$ 67.22	$ 70.25	$ 72.35	$ 74.52	$ 64.43	$ 68.37	$ 74.33	$ 79.42	$ 83.00	$ 84.66
1"	$ 75.10	$ 78.40	$ 82.41	$ 86.11	$ 88.70	$ 91.30	$ 94.71	$ 91.30	$ 97.58	$ 104.41	$ 109.11	$ 111.29
1 1/2"	$ 107.76	$ 112.60	$ 118.23	$ 123.56	$ 127.26	$ 131.00	$ 137.64	$ 148.40	$ 158.79	$ 169.97	$ 177.60	$ 181.13
2"	$ 150.62	$ 157.40	$ 165.27	$ 172.71	$ 177.89	$ 183.22	$ 190.10	$ 211.19	$ 225.97	$ 241.79	$ 252.67	$ 257.73
3"	$ 297.45	$ 310.83	$ 326.37	$ 341.08	$ 351.29	$ 361.83	$ 430.00	$ 471.02	$ 504.04	$ 539.96	$ 564.20	$ 575.55
4"	$ 527.50	$ 547.05	$ 574.40	$ 600.25	$ 618.26	$ 636.81	$ 721.84	$ 777.14	$ 831.54	$ 889.75	$ 929.79	$ 948.39
6"	$ 1,039.43	$ 1,075.75	$ 1,129.54	$ 1,180.37	$ 1,215.78	$ 1,252.25	$ 1,450.95	$ 1,571.00	$ 1,681.02	$ 1,799.05	$ 1,880.53	$ 1,918.14
8"	$ 1,892.88	$ 1,960.05	$ 2,058.05	$ 2,151.77	$ 2,216.32	$ 2,282.81	$ 2,146.21	$ 2,312.79	$ 2,474.68	$ 2,647.91	$ 2,767.07	$ 2,822.41
10"	$ 2,090.75	$ 2,153.48	$ 2,261.10	$ 2,362.91	$ 2,433.80	$ 2,506.81	$ 2,916.39	$ 3,141.94	$ 3,361.04	$ 3,597.28	$ 3,759.63	$ 3,834.30
12"	$ 2,493.12	$ 2,606.31	$ 2,735.57	$ 2,858.07	$ 2,944.43	$ 3,032.77	$ 3,420.23	$ 3,686.72	$ 3,946.93	$ 4,223.22	$ 4,413.20	$ 4,501.67
18"	$ 3,100.64	$ 3,247.25	$ 3,444.30	$ 3,557.50	$ 3,664.28	$ 3,774.21	$ 4,523.95	$ 4,870.53	$ 5,211.47	$ 5,578.27	$ 5,827.20	$ 5,943.74
20"	$ 3,351.16	$ 3,501.96	$ 3,677.00	$ 3,842.84	$ 3,957.62	$ 4,076.50	$ 5,320.87	$ 5,754.90	$ 6,136.41	$ 6,505.90	$ 6,801.42	$ 6,938.05
Outside City Residential												
5/8"	$ 32.46	$ 34.17	$ 35.87	$ 37.49	$ 38.61	$ 39.77	$ 46.01	$ 44.19	$ 47.28	$ 50.59	$ 52.87	$ 53.93
3/4"	$ 62.71	$ 65.96	$ 69.25	$ 72.31	$ 74.54	$ 76.70	$ 60.01	$ 60.35	$ 64.57	$ 69.09	$ 72.20	$ 73.64
1"	$ 82.79	$ 87.09	$ 91.43	$ 95.55	$ 98.42	$ 101.37	$ 70.99	$ 83.90	$ 88.78	$ 94.90	$ 99.25	$ 101.23
1 1/2"	$ 82.79	$ 87.09	$ 91.43	$ 95.55	$ 98.42	$ 101.37	$ 70.99	$ 82.90	$ 88.78	$ 94.90	$ 99.25	$ 101.23
2"	$ 82.79	$ 87.09	$ 91.43	$ 95.55	$ 98.42	$ 101.37	$ 70.99	$ 82.90	$ 88.78	$ 94.90	$ 99.25	$ 101.23
Outside City Commercial												
5/8"	$ 88.13	$ 93.74	$ 97.93	$ 91.68	$ 94.04	$ 97.10	$ 58.12	$ 62.51	$ 65.95	$ 71.04	$ 74.46	$ 76.38
3/4"	$ 91.72	$ 95.84	$ 100.03	$ 105.10	$ 108.32	$ 111.67	$ 73.02	$ 78.76	$ 84.69	$ 90.75	$ 94.93	$ 96.73
1"	$ 112.07	$ 117.76	$ 123.03	$ 129.19	$ 133.00	$ 137.00	$ 98.05	$ 105.50	$ 112.00	$ 120.00	$ 126.30	$ 128.87
1 1/2"	$ 164.79	$ 177.03	$ 187.57	$ 195.51	$ 191.07	$ 196.00	$ 164.60	$ 177.43	$ 189.05	$ 203.14	$ 213.28	$ 218.52
2"	$ 226.09	$ 236.29	$ 249.07	$ 259.94	$ 267.81	$ 275.92	$ 232.43	$ 250.24	$ 267.16	$ 286.50	$ 299.39	$ 305.38
3"	$ 440.47	$ 460.55	$ 492.00	$ 514.23	$ 529.85	$ 545.59	$ 592.07	$ 662.97	$ 702.22	$ 744.49	$ 673.50	$ 680.97
4"	$ 785.37	$ 829.71	$ 881.74	$ 900.52	$ 927.63	$ 955.35	$ 886.01	$ 953.89	$ 1,020.00	$ 1,092.10	$ 1,144.25	$ 1,164.07
6"	$ 1,593.87	$ 1,615.34	$ 1,664.60	$ 1,770.23	$ 1,823.34	$ 1,878.04	$ 1,770.10	$ 1,905.74	$ 2,039.18	$ 2,181.66	$ 2,280.07	$ 2,325.97
8"	$ 2,239.47	$ 2,340.24	$ 2,457.20	$ 2,507.00	$ 2,044.87	$ 2,724.21	$ 2,648.52	$ 2,849.71	$ 3,046.72	$ 3,267.13	$ 3,416.93	$ 3,477.11
10"	$ 3,197.48	$ 3,247.30	$ 3,409.67	$ 3,503.10	$ 3,670.00	$ 3,750.10	$ 3,972.54	$ 3,793.41	$ 4,057.00	$ 4,341.93	$ 4,537.31	$ 4,628.06
12"	$ 3,730.51	$ 3,807.77	$ 4,103.10	$ 4,287.10	$ 4,416.19	$ 4,546.93	$ 4,132.57	$ 4,446.17	$ 4,760.02	$ 5,093.66	$ 5,323.08	$ 5,429.53
16"	$ 4,952.87	$ 4,603.38	$ 5,400.44	$ 5,338.73	$ 5,496.12	$ 5,661.31	$ 6,407.01	$ 6,919.11	$ 8,333.45	$ 8,770.79	$ 7,981.75	$ 7,223.30
20"	$ 5,463.82	$ 5,709.07	$ 5,995.10	$ 6,204.94	$ 6,452.59	$ 6,646.48	$ 6,532.02	$ 7,032.34	$ 7,524.72	$ 8,051.45	$ 8,413.78	$ 8,583.04

1.5 TRANSITION FROM DWSD TO KWA

A key aspect of this study involved analyzing the impact of the anticipated April 1, 2014 transition from the Detroit Water and Sewerage District ("DWSD") to the Karegnondi Water Authority ("KWA"). The expectation is that the transition will strengthen the water utility's financial position going forward, by affording the City greater control over its operating and capital costs. As part of this engagement the City asked RFC to estimate the potential savings to a typical Flint customer as a result of transitioning from DWSD to the KWA.

A summary of the potential savings, based on an alternative water financial planning scenario is summarized in Table ES-8 below. For example, a City customer using 5 CCF per month would see a combined monthly bill of approximately $122.83 under the KWA. This is based on a 5% water rate increase over existing rates. That same customer, should the City continue receiving service from DWSD, is estimated to have a bill of approximately $127.70. This represents estimated 13% water rate increase over existing rates. Consequently, the savings to the typical City is approximately $4.87 per month, or $58.44 per year. Finally, note that the cumulative water rate increase over the next 5 years is estimated to be 18% under the KWA and 41% under DWSD.

ES-8: POTENTIAL RESIDENTIAL BILL SAVINGS (KWA VS. DWSD)

Cumulative Increase KWA (Water Rates)	0%	5%	10%	15%	19%	22%
Additional With DWSD (Water Rates)	0%	9%	19%	20%	21%	21%
Total Under DWSD	0%	14%	29%	35%	39%	44%

RATE IMPACT 5/8" Customer	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Monthly Usage (CCF)						
1	$ 65.10	$ 70.48	$ 74.79	$ 79.22	$ 82.28	$ 84.27
2	$ 78.41	$ 83.57	$ 88.84	$ 93.83	$ 97.41	$ 99.80
3	$ 90.73	$ 96.66	$102.49	$108.44	$112.55	$115.33
4	$103.05	$109.74	$116.33	$123.05	$127.68	$130.85
5	$115.37	$122.83	$130.18	$137.66	$142.82	$146.38
6	$127.69	$135.92	$144.03	$152.26	$157.95	$161.91
7	$140.00	$149.01	$157.88	$166.87	$173.09	$177.44
8	$152.32	$162.10	$171.72	$181.48	$188.23	$192.97
9	$164.64	$175.18	$185.57	$196.09	$203.36	$208.49
10	$176.96	$188.28	$199.42	$210.70	$218.50	$224.02

ESTIMATED MONTHLY SAVINGS	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Monthly Usage (CCF)						
1	$ -	$ (2.42)	$ (5.37)	$ (5.80)	$ (5.98)	$ (6.15)
2	$ -	$ (3.04)	$ (6.74)	$ (7.26)	$ (7.50)	$ (7.72)
3	$ -	$ (3.65)	$ (8.11)	$ (8.76)	$ (9.02)	$ (9.25)
4	$ -	$ (4.26)	$ (9.47)	$ (10.23)	$ (10.54)	$ (10.86)
5	$ -	$ (4.87)	$ (10.84)	$ (11.71)	$ (12.08)	$ (12.42)
6	$ -	$ (5.48)	$ (12.21)	$ (13.18)	$ (13.58)	$ (13.99)
7	$ -	$ (6.09)	$ (13.58)	$ (14.67)	$ (15.11)	$ (15.56)
8	$ -	$ (6.71)	$ (14.94)	$ (16.14)	$ (16.63)	$ (17.13)
9	$ -	$ (7.32)	$ (16.31)	$ (17.62)	$ (18.15)	$ (18.69)
10	$ -	$ (7.93)	$ (17.68)	$ (19.10)	$ (19.67)	$ (20.26)

1.6 WATER AND WASTEWATER UTILITY OPERATIONS AND BEST MANAGEMENT PRACTICES

We reviewed the City's water and wastewater utility performance in relation to Best Management Practices ("BMP") that have been published by Fitch Ratings ("Fitch"). These criteria are used by Fitch when reviewing the performance of a utility as part of the bond rating process. Table ES-9 below summarizes our assessment of the City's water and wastewater utility operations with respect to BMP. The City's operations generally comport with BMP. The City is working to improve consistency in four areas: first, as mentioned above, the financial plans build-up to the minimum recommended 90 operating reserve and should achieve this reserve, all else equal, in the next 5 years. Second, the City is working with RFC, under a separate contract, to identify sources of lost water and wastewater revenue to improve the City's revenue collections, and reduce the cost of utility service theft to paying customers. Third, the City is currently determining arrangements whereby the general fund can repay its obligations to the water and wastewater utilities, ensuring the water and wastewater funds are not subsidizing general government operations going forward. Finally, the transition to KWA will allow the City greater control over its operating and capital costs, and as mentioned above, should result in more affordable rates than the alternative.

ES-9: FITCH BEST MANAGEMENT PRACTICES

Criteria	Consistent	Improving	Inconsistent
Financial Profile			
Financial Forecasting	X		
Debt Service Coverage and Operating Reserves		X	
Financial Reporting and Monitoring	X		
Limited Exposure to Growth Revenues	X		
Timely Collection of Payment and Penalty Enforcement		X	
Political Willingness to Adjust Rates	X		
Limited Exposure to General Govt. Finances		X	
GAAP Compliance	X		
Affordability			X
Debt Profile			
Prioritized Capital Improvement Plans	X		
Debt Policy	X		
Hedge Agreements			
Operating Profile			
Management Experience	X		
Use of Professional Engineers	X		
Consultation with Local/Regional Growth Planners	X		

2. INTRODUCTION AND STUDY OBJECTIVES

2.1 INTRODUCTION

In November of 2013, the City of Flint ("City") engaged Raftelis Financial Consultants ("RFC") to perform water and wastewater utility rate studies. The need for engagement was precipitated by the City's transition from the use of purchased water from the Detroit Water and Sewerage District ("DWSD") to participation in the Karegnondi Water Authority ("KWA") on April 1, 2014. Following the transition, the City will treat raw water from the KWA at its existing water treatment plant, which is currently undergoing the improvements necessary to become the primary source of treated water for the City of Flint. The expectation is that the transition will strengthen the water utility's financial position going forward, affording the City greater control over its operating and capital costs as a result.

From a financial perspective, the following are a few notable aspects of the transition:

- Water Operation and Maintenance ("O&M") expenditures are projected to decrease significantly as the cost of purchasing water from DWSD ceases as of FY 2015.
- Water Capital costs are projected to increase as the City begins paying its share of the Karegnondi Water Authority's debt service and incurs the cost of the necessary water treatment plant improvements.
- Water utility revenues will decrease as the City's wholesale customer, Genesee County ("County"), will no longer be receiving water service from the City as a result of the transition
- Projected water increases under the KWA are projected to be lower than they would have been, had the City continued to purchase water from DWSD
- City of Flint residential customer water bills are projected to be lower under the KWA than if the City had continued to purchase water from DWSD (see Table 1 below).

TABLE 1: ESTIMATED RATE INCREASES (KWA VS. DWSD)

CUMULATIVE % RATE REVENUE INCREASE	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
KWA	0%	5%	10%	15%	19%	22%
DWSD	0%	14%	29%	35%	39%	44%

ESTIMATED MONTHLY SAVINGS	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Monthly Usage (CCF)						
1	$ -	$ (2.42)	$ (5.37)	$ (5.80)	$ (5.98)	$ (6.15)
2	$ -	$ (3.04)	$ (6.74)	$ (7.28)	$ (7.50)	$ (7.72)
3	$ -	$ (3.65)	$ (8.11)	$ (8.76)	$ (9.02)	$ (9.29)
4	$ -	$ (4.26)	$ (9.47)	$ (10.23)	$ (10.54)	$ (10.86)
5	$ -	$ (4.87)	$ (10.84)	$ (11.71)	$ (12.06)	$ (12.42)
6	$ -	$ (5.48)	$ (12.21)	$ (13.19)	$ (13.58)	$ (13.99)
7	$ -	$ (6.09)	$ (13.58)	$ (14.67)	$ (15.11)	$ (15.56)
8	$ -	$ (6.71)	$ (14.94)	$ (16.14)	$ (16.63)	$ (17.13)
9	$ -	$ (7.32)	$ (16.31)	$ (17.62)	$ (18.15)	$ (18.69)
10	$ -	$ (7.93)	$ (17.68)	$ (19.10)	$ (19.67)	$ (20.26)

2.2 RATE STUDY OBJECTIVES

The objectives of this study are as follows:

- Evaluate the adequacy of existing water and wastewater revenues to meet the projected revenue requirements
- Develop comprehensive water and wastewater financial plans based on sound financial management practices for a 10 year forecast period
- Determine water and wastewater rates which adequately recover the cost of operating the water and wastewater utilities under the existing rate structures and provide alternatives based on a comprehensive cost of service study
- Evaluate the City's current financial position and adjust the comprehensive financial plans for both the mid-year transition to the KWA and going forward.

3. WATER AND WASTEWATER UTILITY FINANCIAL PLANS

3.1 THE FINANCIAL PLANNING PROCESS

The general objective of the financial planning process is to arrive at the level of water and wastewater rate revenue required to ensure the financial sustainability of each utility on a going forward basis. This revenue requirement is then distributed to each customer class as part of the cost of service study.

For this study financial plans were developed for the current fiscal year, the test year and a ten-year forecast period. The current year is typically the year in which the study occurs, in this case fiscal

year 2014 ("FY 2014"), or the year ending July 30, 2014. For the current year the financial plans represent an estimate, for each utility, of year-end financial position.

This serves as the basis for the test year financial plan. For this study, the test year is the following fiscal year, FY 2015. While the current year serves as an estimate of each utility's current financial position, the test year represents a projection of utility revenues, expenditures and operating reserve levels. The ten-year forecast period allows the City to evaluate trends over time and evaluate the impact of challenges that occur beyond the test year. For the purposes of this study separate financial plans were developed for each utility to ensure that each would be self-sustaining.

The following steps are necessary to arrive at the test year revenue requirement for each utility:

- Forecast customer units of service and revenue at existing water and wastewater rates
- Forecast operation and maintenance expenditures ("O&M") for each utility
- Forecast capital expenditures, including the payment of existing water and wastewater debt service and the financing of planned capital improvements
- Develop detailed cash flow forecasts summarizing planned O&M and capital expenditures, recommended rate revenue increases and operating reserve levels

3.2 WATER UTILITY FINANCIAL PLAN

3.2.1 Forecast Water Units of Service and Revenue at Existing Rates

Water Utility Rates

The City recovers the cost of operating the water utility via volumetric rates (rates based on the amount of water used) and fixed monthly service charges (a charge per customer bill). The City's existing water volumetric charge is a declining block rate, or a rate that decreases on a per unit basis as the amount of water consumed increases. The existing water volumetric rate structure is shown in Table 2 below:

TABLE 2: EXISTING WATER VOLUMETRIC RATES

CUSTOMER CLASS	CONSUMPTION-BLOCK	UNITS	FY 2014 Existing Block Rates
Total Inside City All Classes			
Inside City Block 1	0-35 CCF	($/CCF)	$ 7.52
Inside City Block 2	36-2000 CCF	($/CCF)	$ 7.31
Inside City Block 3	above 2000 CCF	($/CCF)	$ 5.79
Total Outside City All Classes			
Outside City Block 1	0-35 CCF	($/CCF)	$ 11.26
Outside City Block 2	36-2000 CCF	($/CCF)	$ 10.77
Outside City Block 3	above 2000 CCF	($/CCF)	$ 8.68

A distinction is made between customers residing within in the City of Flint, and those who receive City water service, but do not reside within the City. As Table 2 indicates, outside city volumetric rates are approximately 150% of inside city volumetric rates. This is a common policy for municipal water utilities and recognizes inside city customers as "owners" of the utility, who should be compensated for the risk of investing in and maintaining their utility system.

In addition to the volumetric rates, the existing water rate structure includes a fixed service charge which varies by customer water meter size. The rates are charged per customer bill and are shown in Table 3 on the following page.

TABLE 3: EXISTING WATER FIXED CHARGES

CUSTOMER CLASS	FY 2014 Proposed Fixed Charge
Inside City Residential Customers	
5/8"	$ 21.78
3/4"	$ 41.86
1"	$ 55.28
1-1/2"	$ 55.28
2"	$ 55.28
Inside City Commercial/Industrial Customers	
5/8"	$ 53.39
3/4"	$ 61.26
1"	$ 75.10
1-1/2"	$ 107.76
2"	$ 150.62
3"	$ 297.45
4"	$ 523.50
6"	$ 1,029.43
8"	$ 1,492.88
10"	$ 2,060.75
12"	$ 2,493.12
16"	$ 3,102.04
20"	$ 3,351.18
Outside City Residential Customers	
5/8"	$ 32.48
3/4"	$ 52.71
1"	$ 82.79
1-1/2"	$ 82.79
2"	$ 82.79
Outside City Commercial/Industrial Customers	
5/8"	$ 80.13
3/4"	$ 91.72
1"	$ 112.67
1-1/2"	$ 161.79
2"	$ 226.09
3"	$ 448.47
4"	$ 785.37
6"	$ 1,543.87
8"	$ 2,239.47
10"	$ 3,107.48
12"	$ 3,739.51
16"	$ 4,653.87
20"	$ 5,463.82

Most Flint residential customers have a 5/8" meter and currently pay the $21.78 fixed monthly service charge. For the monthly fixed charge the same distinction is made between inside and outside city customers, with the outside city charge set at approximately 150% of the inside city charge. Additionally, the current fixed charge structure further distinguishes between residential commercial customers.

In addition to the retail rates discussed above, the City currently serves a wholesale water customer, Genesee County. Genesee County pays a commodity charge of $346,863, a fixed monthly service charge of $114,000 and a volumetric rate of $1.30 per CCF. As mentioned above, as of April 1, 2014, the County will no longer be a customer of the City.

Forecast Water Units of Service

In order to forecast the level of revenue under existing water rates, the number of water accounts at each meter size and the level of water consumption in each consumption block must be estimated for the forecast period.

The number of accounts at each meter size was determined by dividing the number of annual bills at each meter size by the 12 monthly billing periods. The number of historical and forecast water utility customer accounts, by meter size, is indicated in Tables 4 and 5 on the following two pages. Note that the historical data appear to indicate a 14% increase in inside city accounts and a 27% increase in outside city accounts from FY 2012 to FY 2013. This increase in accounts does not appear to have been sustained into FY 2014. The City has indicated that water and wastewater billings have decreased approximately 12% from FY 2013 to FY 2014 year to date. Given this change and for the sake of developing a conservative estimate we have adjusted the forecast level of water accounts to 13% below their FY 2013 level. As no significant growth in the City's customer base is expected, no growth in water utility accounts has been projected over the forecast period.

TABLE 4: FORECAST INSIDE CITY WATER ACCOUNTS

Customer Class	Historical FY 2012	Historical FY 2013	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Inside City Residential														
5/8"	25,003	25,480	24,777	24,777	24,777	24,777	24,777	24,777	24,777	24,777	24,777	24,777	24,777	24,777
3/4"			-											
1"	272	336	294	294	294	294	294	294	294	294	294	294	294	294
1 1/2"	35	33	29	29	29	29	29	29	29	29	29	29	29	29
2"	8	11	8	9	9	9	9	9	9	9	9	9	9	9
Unmetered														
Total Inside City Residential Remote	25,310	26,862	25,110	25,110	25,110	25,110	25,110	25,110	25,110	25,110	25,110	25,110	25,110	25,110
Inside City Commercial/Industrial														
5/8"	382	409	356	356	356	356	356	356	356	356	356	356	356	356
3/4"														
1"	245	281	244	244	244	244	244	244	244	244	244	244	244	244
1 1/2"	250	279	242	242	242	242	242	242	242	242	242	242	242	242
2"	250	289	249	249	249	249	249	249	249	249	249	249	249	249
3"	84	96	83	83	83	83	83	83	83	83	83	83	83	83
4"	59	62	56	56	56	56	56	56	56	56	56	56	56	56
6"	35	41	30	30	30	30	30	30	30	30	30	30	30	30
8"	2	2	3	2	2	2	2	2	2	2	2	2	2	2
10"														
12"														
16"														
20"														
Unmetered														
Total Inside City Commercial/Industrial	1,307	1,457	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268
Inside City Lawn														
5/8"	38	35	30	30	30	30	30	30	30	30	30	30	30	30
3/4"	-	-												
1"	11	13	11	11	11	11	11	11	11	11	11	11	11	11
1 1/2"	4	5	4	4	4	4	4	4	4	4	4	4	4	4
2"	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3"														
4"														
6"														
8"														
10"														
12"														
16"														
20"														
Unmetered														
Total Inside City Lawn	43	53	46	46	46	46	46	46	46	46	46	46	46	46
Total Inside City Accounts	26,661	28,372	26,423	26,423	26,423	26,423	26,423	26,423	26,423	26,423	26,423	26,423	26,423	26,423
% Change		14%	-13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

TABLE 5: FORECAST OUTSIDE CITY WATER ACCOUNTS

Customer Class	Historical FY 2012	Historical FY 2013	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Outside City Residential														
½		0												
⅝		0												
5/8"	106	121	121	121	121	121	121	121	121	121	121	121	121	121
3/4"		0												
1"	2	3	3	3	3	3	3	3	3	3	3	3	3	3
1-1/2"		0												
2"		0												
Unmetered		0												
Total Outside City Residential Remote	110	144	125	125	125	125	125	125	125	125	125	125	125	125
Outside City Commercial/Industrial														
½														
⅝														
5/8"	14	10	11	11	11	11	11	11	11	11	11	11	11	11
3/4"														
1"	10	12	11	11	11	11	11	11	11	11	11	11	11	11
1-1/2"	3	4	3	3	4	3	4	3	3	4	3	3	3	3
2"	5	7	6	6	6	6	6	6	6	6	6	6	6	6
3"														
4"	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6"	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8"														
10"														
12"														
16"														
20"														
Unmetered														
Total Outside City Commercial/Industrial	35	40	35	35	35	35	35	35	35	35	35	35	35	35
Outside City Lawn														
½	0	0												
⅝	0	0												
5/8"	0	0												
3/4"	0	0												
1"	0	0												
1-1/2"	0	0												
2"	0	0												
3"	0	0												
4"	0	0												
6"	0	0												
8"	0	0												
10"	0	0												
12"	0	0												
16"	0	0												
20"	0	0												
Unmetered	0	0												
Total Outside City Lawn														
Total Outside City Accounts	145	184	160	160	160	160	160	160	160	160	160	160	160	160
% Change		27%	-13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

In addition to forecasting the number of accounts by meter size, the level of water consumption in each consumption block must be estimated for the forecast period. The historical and forecast level of water consumption by customer class and block is indicated in Tables 6 and 7 on the following two pages.

Note that—consistent with the significant increase in inside city water accounts in FY 2013—inside city water consumption has increased significantly in FY 2013 (18%). Given the uncertainty surrounding the increase in billed consumption in FY 2013, and the subsequent decrease in billed revenues in FY 2014, we have forecast retail consumption at 6% below FY 2013 levels for FY 2014, FY 2015 and the remainder of the ten year forecast period.

As noted above, the City anticipates discontinuing DWSD water service as of April 1, 2014. At that point Genesee County will no longer be a wholesale customer of the City. Therefore the forecast of the County's consumption has been adjusted to account for the final 3 months of FY 2014 (i.e. April, May and June) during which the City will not be providing water service to the County.

TABLE 5: FORECAST INSIDE CITY WATER CONSUMPTION

Customer Class		Historical FY 2012	Historical FY 2013	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Inside City Residential															
Inside City Block 1	0-35	1,510,554	1,729,826	1,626,913	1,626,913	1,626,913	1,626,913	1,626,913	1,626,913	1,626,913	1,626,913	1,626,913	1,626,913	1,626,913	1,626,913
Inside City Block 2	35-2000	14,669	34,254	88,599	88,599	88,599	88,599	88,599	88,599	88,599	88,599	88,599	88,599	88,599	88,599
Inside City Block 3	above 2000		33,003	31,023	31,023	31,023	31,023	31,023	31,023	31,023	31,023	31,023	31,023	31,023	31,023
Total Inside City Residential		1,516,243	1,800,082	1,746,535	1,746,535	1,746,535	1,746,535	1,746,535	1,746,535	1,746,535	1,746,535	1,746,535	1,746,535	1,746,535	1,746,535
Inside City Commercial/Industrial															
Inside City Block 1	0-35	109,142	110,533	111,202	111,202	111,202	111,202	111,202	111,202	111,202	111,202	111,202	111,202	111,202	111,202
Inside City Block 2	35-2000	802,549	818,439	849,757	849,757	849,757	849,757	849,757	849,757	849,757	849,757	849,757	849,757	849,757	849,757
Inside City Block 3	above 2000	379,839	544,443	511,780	511,780	511,780	511,780	511,780	511,780	511,780	511,780	511,780	511,780	511,780	511,780
Total Inside City Commercial/Industrial		1,255,531	1,473,416	1,484,239	1,484,239	1,484,239	1,484,239	1,484,239	1,484,239	1,484,239	1,484,239	1,484,239	1,484,239	1,484,239	1,484,239
Inside City Lawn															
Inside City Block 1	0-35	4,102	5,864	5,504	5,504	5,504	5,504	5,504	5,504	5,504	5,504	5,504	5,504	5,504	5,504
Inside City Block 2	35-2000	5,505	7,534	7,082	7,082	7,082	7,082	7,082	7,082	7,082	7,082	7,082	7,082	7,082	7,082
Inside City Block 3	above 2000														
Total Inside City Lawn		10,410.00	13,398.00	12,585.00	12,585.00	12,585.00	12,585.00	12,585.00	12,585.00	12,585.00	12,585.00	12,585.00	12,585.00	12,585.00	12,585.00
Total Inside City All Classes															
Inside City Block 1	0-35	1,663,838	1,854,387	1,743,119	1,743,119	1,743,119	1,743,119	1,743,119	1,743,119	1,743,119	1,743,119	1,743,119	1,743,119	1,743,119	1,743,119
Inside City Block 2	35-2000	802,554	1,047,487	956,438	956,438	956,438	956,438	956,438	956,438	956,438	956,438	956,438	956,438	956,438	956,438
Inside City Block 3	above 2000	379,839	577,150	542,803	542,803	542,803	542,803	542,803	542,803	542,803	542,803	542,803	542,803	542,803	542,803
Grand Total Inside City Water Consumption		2,846,672	3,449,319	3,242,360	3,242,360	3,242,360	3,242,360	3,242,360	3,242,360	3,242,360	3,242,360	3,242,360	3,242,360	3,242,360	3,242,360
			19%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

TABLE 7: FORECAST OUTSIDE CITY WATER CONSUMPTION

Customer Class	Historical FY 2013	Historical FY 2015	Budget Year FY 2016	Next Year FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025	Forecast FY 2026
Outside City Residential													
Outside City Block 1 0-25	3,922	7,690	7,220	7,220	7,220	7,220	7,220	7,220	7,220	7,220	7,220	7,220	7,220
Outside City Block 2 26-2000	188	848	884	884	884	884	884	884	884	884	884	884	884
Outside City Block 3 above 2000	-	-											
Total Outside City Residential	5,129	8,538	8,112	8,112	8,112	8,112	8,112	8,112	8,112	8,112	8,112	8,112	8,112
Outside City Commercial/Industrial													
Outside City Block 1 0-25	3,242	3,599	3,298	3,298	3,298	3,298	3,298	3,298	3,298	3,298	3,298	3,298	3,298
Outside City Block 2 26-2000	2,673	10,229	9,607	9,607	9,607	9,607	9,607	9,607	9,607	9,607	9,607	9,607	9,607
Outside City Block 3 above 2000	36,398	14,214	13,351	13,351	13,351	13,351	13,351	13,351	13,351	13,351	13,351	13,351	13,351
Total Outside City Commercial/Industrial	42,313	27,943	26,256	26,256	26,256	26,256	26,256	26,256	26,256	26,256	26,256	26,256	26,256
Outside City Lawn													
Outside City Block 1 0-25													
Outside City Block 2 26-2000		-											
Outside City Block 3 above 2000													
Total Outside City Lawn													
Total Outside City All Classes													
Outside City Block 1 0-25	9,164	11,499	10,527	10,527	10,527	10,527	10,527	10,527	10,527	10,527	10,527	10,527	10,527
Outside City Block 2 26-2000	3,058	11,564	10,490	10,490	10,490	10,490	10,490	10,490	10,490	10,490	10,490	10,490	10,490
Outside City Block 3 above 2000	36,398	14,214	13,351	13,351	13,351	13,351	13,351	13,351	13,351	13,351	13,351	13,351	13,351
Grand Total Inside City Water Consumption	48,620	37,277	34,370	34,370	34,370	34,370	34,370	34,370	34,370	34,370	34,370	34,370	34,370
TOTAL RETAIL													
Total Block 1	[illegible]	1,805,561	1,753,646	1,753,646	1,753,646	1,753,646	1,753,646	1,753,646	1,753,646	1,753,646	1,753,646	1,753,646	1,753,646
Total Block 2	888,050	1,028,647	865,928	865,928	865,928	865,928	865,928	865,928	865,928	865,928	865,928	865,928	865,928
Total Block 3	449,227	539,165	555,164	555,164	555,164	555,164	555,164	555,164	555,164	555,164	555,164	555,164	555,164
Grand Total Retail Consumption	2,806,318	3,453,892	3,174,738	3,174,738	3,174,738	3,174,738	3,174,738	3,174,738	3,174,738	3,174,738	3,174,738	3,174,738	3,174,738
		19%	-8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WHOLESALE													
Genesee County Wholesale Rate													
Genesee County Consumption	6,121,890	6,214,740	-661,651										
GRAND TOTAL WATER CONSUMPTION	8,928,208	9,668,632	7,037,793	3,870,138	3,870,738	3,870,738	3,870,738	3,870,738	3,870,738	3,870,738	3,870,738	3,870,738	3,870,738
		8%	-10%	-38%	0%	0%	0%	0%	0%	0%	0%	0%	0%

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Forecast Water Revenue at Existing Rates

Water utility revenue at existing rates is the sum of the volumetric and fixed charge revenue. Fixed charge revenue at existing rates was determined by multiplying the number of forecast accounts at each meter size, by the existing rate for that size and again by 12, for each of the monthly bills. Volumetric revenue was determined by multiplying the level of consumption in each consumption block, by the existing rate for that block. Table 8 on the following page summarizes the level of water revenue at existing water rates.

The total level of water revenue at existing rates in FY 2014 is forecast to be approximately $43 Million. Of this, around 70% is derived from the volumetric rates and 30% is associated with the fixed monthly service charges. In FY 2015, the level of revenue at existing rates is forecast to decline to approximately $32 Million. This change can be attributed to the loss of Flint's existing wholesale customer Genesee County, which will occur as a result of the City's discontinuing DWSD water service. On a going forward basis, the level of revenues at existing water rates would remain at 32 Million assuming consumption and account growth remain flat and the City makes no adjustments to water rates.

TABLE 8: FORECAST WATER REVENUE AT FY 2014 RATES

SUMMARY OF FORECAST WATER RATE REVENUE AT FY 2014 RATES												
Customer Class	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
GRAND TOTAL SYSTEM CONSUMPTION REVENUE	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633
GRAND TOTAL SYSTEM FIXED CHARGE REVENUE	$9,174,942	$9,174,942	$9,174,942	$9,174,942	$9,174,942	$9,174,942	$9,174,942	$9,174,942	$9,174,942	$9,174,942	$9,174,942	$9,174,942
GRAND TOTAL WATER REVENUE AT FY 2014 RATES	$32,762,575	$32,762,575	$32,762,575	$32,762,575	$32,762,575	$32,762,575	$32,762,575	$32,762,575	$32,762,575	$32,762,575	$32,762,575	$32,762,575

SUMMARY OF METERED WATER REVENUE												
Customer Class	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
TOTAL RETAIL CONSUMPTION REVENUE												
Total Within City Residential	$13,141,856	$13,141,856	$13,141,856	$13,141,856	$13,141,856	$13,141,856	$13,141,856	$13,141,856	$13,141,856	$13,141,856	$13,141,856	$13,141,856
Total Within City Commercial/Industrial	$10,352,630	$10,352,630	$10,352,630	$10,352,630	$10,352,630	$10,352,630	$10,352,630	$10,352,630	$10,352,630	$10,352,630	$10,352,630	$10,352,630
Total Within City Lawn	$ 93,146	$ 93,146	$ 93,146	$ 93,146	$ 93,146	$ 93,146	$ 93,146	$ 93,146	$ 93,146	$ 93,146	$ 93,146	$ 93,146
	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633
WHOLESALE CONSUMPTION REVENUE												
Genesee County Consumption	$ 5,064,033	$	$	$	$	$	$	$	$	$	$	$
GRAND TOTAL SYSTEM CONSUMPTION REVENUE	$28,651,666	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633	$23,587,633

SUMMARY OF FIXED CHARGE WATER REVENUE												
Customer Class	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
TOTAL RETAIL FIXED CHARGE REVENUE												
Total Within City Residential	$ 6,745,537	$ 6,745,537	$ 6,745,537	$ 6,745,537	$ 6,745,537	$ 6,745,537	$ 6,745,537	$ 6,745,537	$ 6,745,537	$ 6,745,537	$ 6,745,537	$ 6,745,537
Total Within City Commercial/Industrial	$ 2,393,268	$ 2,393,268	$ 2,393,268	$ 2,393,268	$ 2,393,268	$ 2,393,268	$ 2,393,268	$ 2,393,268	$ 2,393,268	$ 2,393,268	$ 2,393,268	$ 2,393,268
Total Within City Lawn	$ 36,139	$ 36,139	$ 36,139	$ 36,139	$ 36,139	$ 36,139	$ 36,139	$ 36,139	$ 36,139	$ 36,139	$ 36,139	$ 36,139
	$ 9,174,942	$ 9,174,942	$ 9,174,942	$ 9,174,942	$ 9,174,942	$ 9,174,942	$ 9,174,942	$ 9,174,942	$ 9,174,942	$ 9,174,942	$ 9,174,942	$ 9,174,942
WHOLESALE FIXED CHARGE REVENUE												
Total Genesee County Fixed Charge	$ 6,487,067	$	$	$	$	$	$	$	$	$	$	$
GRAND TOTAL SYSTEM FIXED CHARGE REVENUE	$15,662,009	$ 9,174,942	$ 9,174,942	$ 9,174,942	$ 9,174,942	$ 9,174,942	$ 9,174,942	$ 9,174,942	$ 9,174,942	$ 9,174,942	$ 9,174,942	$ 9,174,942

3.2.2 *Forecast of Water Operation and Maintenance Expenditures*

Water O&M Inflation Rates

The budgets provided by the City are the basis for the forecast of water utility O&M expenditures. Given that the transition from DWSD to KWA involves significant shifts in budgetary expenditures on a relatively detailed level, the City provided uninflated estimates of budgeted O&M expenditures for FY 2014 through FY 2017. To forecast the level of water utility O&M expenditures that the City would incur over the forecast period we applied the escalation rates shown in Table 9 below.

TABLE 9: WATER O&M ESCALATION RATES

Category	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Wages & Salaries	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Benefits	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Pension	0%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Medical	0%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Materials/Supplies	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
General	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Vehicle	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Plant	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Demo/Dealt Equip Replace	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cost Alloc Plan-Expense	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Utilities	0%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Maintenance	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Capital Outlay	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Water Supply Costs	0%	0%	0%	0%	5%	5%	5%	5%	5%	5%	5%	5%
KWA Bond Payment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
KWA Inflation Fee	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Purchase of KWA Raw Water	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Transfer to 101	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Transfer to 403	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

The rates shown above were developed based on discussions with City staff, and our experience with similar utilities.

Forecast Water Utility Operation and Maintenance Expenditures

Tables 10 and 11 on the following page indicate the estimated level of water utility O&M expenditures over the forecast period, both by the escalation rate categories and by department. In FY 2014, the largest O&M expenditures related to the "Water Plant-Operations" department within which the bulk water purchases from DWSD were included. Note that this amount decreases significantly in FY 2015 and going forward as the City transitions from DWSD to KWA. Excluding purchased water, the most notable expenditures are associated with personnel: Wages and Salaries, Benefits, Pension, and the City's share of retiree healthcare benefits ("Cost Alloc. Plan-Expense"). In general, water O&M expenditures are projected to decrease from around $36 Million currently to $21 Million in FY 2015 with inflationary increases thereafter.

TABLE 10: WATER O&M BY CATEGORY

O&M SUMMARY BY EXPENDITURE CATEGORY	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Category												
Wages & Salaries	$ 3,528,457	$ 3,672,236	$ 3,787,403	$ 3,895,815	$ 4,012,761	$ 4,133,132	$ 4,257,128	$ 4,384,842	$ 4,516,387	$ 4,651,878	$ 4,791,435	$ 4,935,178
Benefits	$ 1,187,924	$ 1,223,562	$ 1,260,269	$ 1,298,077	$ 1,337,019	$ 1,377,130	$ 1,418,463	$ 1,460,997	$ 1,504,827	$ 1,549,971	$ 1,596,471	$ 1,644,365
Pension	$ 1,903,068	$ 1,960,262	$ 2,087,815	$ 2,087,399	$ 2,191,676	$ 2,301,250	$ 2,416,323	$ 2,537,139	$ 2,663,896	$ 2,797,196	$ 2,937,056	$ 3,083,909
Medical	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Materials/Supplies	$ 1,615,000	$ 2,591,724	$ 2,578,036	$ 2,328,383	$ 2,398,234	$ 2,470,181	$ 2,544,287	$ 2,620,615	$ 2,699,234	$ 2,780,211	$ 2,863,618	$ 2,949,526
General	$ 3,311,638	$ 3,493,200	$ 3,646,609	$ 3,652,905	$ 3,762,576	$ 3,875,453	$ 3,991,717	$ 4,111,468	$ 4,234,812	$ 4,361,857	$ 4,492,712	$ 4,627,494
Vehicle	$ 659,336	$ 682,306	$ 702,672	$ 723,753	$ 745,465	$ 767,829	$ 790,884	$ 814,595	$ 839,028	$ 864,198	$ 890,124	$ 916,828
Film	$ 748,190	$ 764,953	$ 779,052	$ 795,453	$ 811,362	$ 827,401	$ 833,529	$ 858,[illegible]	$ 867,204	$ 884,648	$ 902,238	$ 920,283
Depre/Depletion Group Reviewer	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Cost Alloc Plan Expense	$ 4,040,800	$ 3,781,819	$ 4,206,673	$ 4,415,273	$ 4,647,731	$ 4,884,163	$ 4,824,688	$ 4,969,439	$ 5,118,519	$ 5,272,087	$ 5,430,239	$ 5,593,135
Utilities	$ 910,000	$ 1,386,700	$ 1,527,808	$ 1,557,945	$ 1,620,886	$ 1,647,732	$ 1,651,241	$ 1,717,291	$ 1,785,803	$ 1,857,822	$ 1,931,719	$ 2,008,990
Maintenance	$ 487,200	$ 477,300	$ 474,900	$ 449,010	$ 461,459	$ 475,302	$ 489,561	$ 504,248	$ 519,376	$ 534,957	$ 551,006	$ 567,536
Capital Outlay	$ 60,000	$ 30,900	$ 31,027	$ 33,782	$ 35,785	$ 34,776	$ 35,822	$ 36,896	$ 38,003	$ 39,143	$ 40,317	$ 41,527
Water Supply Costs	$ 18,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
KWA Bond Payment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
KWA Increase Fee	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Purchase of KWA raw water	$ -	$ -	$ -	$ 1,051,000	$ 1,051,000	$ 1,051,000	$ 1,051,000	$ 1,051,000	$ 1,051,000	$ 1,051,000	$ 1,051,000	$ 1,051,000
Transfer to 401	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000
Transfer to 495	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$ 35,985,208	$ 37,183,141	$ 38,140,018	$ 37,316,853	$ 23,999,604	$ 24,705,148	$ 25,433,601	$ 25,188,715	$ 26,958,360	$ 27,774,448	$ 28,607,924	$ 29,469,768

TABLE 11: WATER O&M BY DEPARTMENT

O&M DETAIL FOR FISCAL YEAR ENDED JUNE 30	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
DEPARTMENT												
Total Dept 636-100-Utilities - Water Administration	$ 7,492,394	$ 7,718,531	$ 7,845,452	$ 8,178,197	$ 8,419,695	$ 8,667,040	$ 8,923,374	$ 9,185,406	$ 9,457,312	$ 9,738,605	$ 10,024,288	$ 10,320,548
Total Dept 636-206-Utilities - Water Credit Connection Prog	$ 104,000	$ 106,204	$ 112,007	$ 116,018	$ 120,142	$ 124,409	$ 128,872	$ 133,486	$ 138,270	$ 143,254	$ 148,419	$ 153,782
Total Dept 640-100-Water Service Center Management	$ 1,223,240	$ 1,248,690	$ 1,284,275	$ 1,324,940	$ 1,365,829	$ 1,410,275	$ 1,455,037	$ 1,501,257	$ 1,548,089	$ 1,596,273	$ 1,649,172	$ 1,701,738
Total Dept 640-200-WSC - Capital Improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 640-200-Wsc-Meter Read/Prg - Water	$ 730,577	$ 733,284	$ 601,638	$ 670,643	$ 590,350	$ 610,774	$ 631,957	$ 653,913	$ 676,677	$ 700,281	$ 724,759	$ 750,145
Total Dept 540-202-Wsc-Water Distribution Mains	$ 3,250,597	$ 3,698,335	$ 3,824,447	$ 3,956,307	$ 4,090,691	$ 4,231,081	$ 4,376,590	$ 4,527,344	$ 4,683,818	$ 4,845,604	$ 5,013,523	$ 5,187,609
Total Dept 545-200-Water Plant - Operations	$ 2,645,458	$ 4,420,868	$ 3,808,034	$ 6,500,407	$ 6,482,080	$ 6,610,603	$ 6,865,022	$ 7,065,291	$ 7,277,975	$ 7,495,250	$ 7,720,402	$ 7,953,729
Total Dept 545-201-Water Plant Maintenance	$ 1,288,[illegible]	$ 1,829,451	$ 1,664,100	$ 1,740,751	$ 1,799,304	$ 1,863,043	$ 1,922,075	$ 1,987,937	$ 2,055,318	$ 2,125,094	$ 2,197,352	$ 2,272,219
Total Dept 545-202-Water Plant - Dam Operations	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 545-203-Water Plant - Dam Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 545-300-Water Plant - Capital Improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 995-101-Transfers out to fund 101	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
GRAND TOTAL WATER UTILITY	$ 35,985,208	$ 38,483,141	$ 38,140,018	$ 37,316,853	$ 23,999,604	$ 24,705,148	$ 25,433,601	$ 25,188,715	$ 26,958,360	$ 27,774,448	$ 28,607,924	$ 29,469,768

3.2.3 *Water Utility CIP and CIP Financing*

Tables 12 and 13 on the following two pages indicate the water capital improvements program ("CIP") provided by the City and the CIP financing plan.

As the plan we received from the City was presented in current year dollars, we escalated the project amounts 3% per year from FY 2015 onward. The largest capital improvements in dollar terms are associated with the rehabilitation of the City's water treatment plant (i.e. Water Plant-Phase II projects). These projects are in large part associated with transitioning the City's water treatment plant from back-up status to the primary source of treated water for the City. As discussed above, the improvements to the water treatment plant will allow the City to treat raw water purchased from the KWA for distribution to City customers. In general, the level of spending in the CIP decreases from $10 Million to $7.5 Million as the plant improvements are completed and increases again in the out years due to planned annual recapitalization.

There are three items of note in Table 13. First, all projects are projected to be cash financed at this time. The City may seek to leverage its revenue stream in the future via use of the State of Michigan's ("State") Drinking Water Revolving Revenue Fund ("DWRRF") loan program. This would be particularly beneficial for major water capital improvements, as it would spread the financing responsibility over existing and future ratepayers who receive the benefit of the improvement throughout the asset's useful life. Second, note that the proceeds from the recently completed sale of the Flint pipeline to Genesee County have been included to offset the costs of the treatment plant improvements. Finally, note that the "uses" category includes a line for additional uses, which represent the KWA initiation payments required of the City until it begins paying its share of KWA debt service in FY 2017.

TABLE 12: WATER CAPITAL IMPROVEMENTS PROGRAM

WATER CAPITAL PROJECTS (ESCALATED)		Budget Year FY 2014	Est. Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Projects													
3/4" or Transmission Main Annually	WSC Water Fund	$ -	$ 2,167,000	$ 2,852,250	$ 2,841,059	$ 2,975,323	$ 3,014,193	$ 3,104,536	$ 3,197,673	$ 3,291,899	$ 3,392,410	$ 3,494,163	$ 3,599,008
Water Meter Replacement	WSC Water Fund	$ 100,000	$ 1,287,500	$ 1,326,125	$ 54,636	$ 56,275	$ 57,964	$ 59,703	$ 61,494	$ 63,339	$ 65,239	$ 67,195	$ 69,210
Data Collection and GIS Implementation	WSC Water Fund	$ -	$ 515,000	$ 530,450	$ 546,364	$ 562,661	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vehicles, Dump Truck, Flatbeds, Step Van, Tractor	WSC Water Fund	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Valve Exercising	WSC Water Fund	$ 60,000	$ 61,800	$ 63,654	$ 65,563	$ 67,531	$ 69,556	$ 71,643	$ 73,792	$ 76,006	$ 78,286	$ 80,635	$ 83,054
Water Plant-Phase II, Segment I Rehabilitation	Water Plant	$ 7,200,000	$ 1,030,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Water Plant Phase II, Segment II Lime Residual Disposal	Water Plant	$ 795,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Terry Rd Booster Station Upgrades	Water Plant	$ 120,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Cedar St. Electrical Upgrades	Water Plant	$ 600,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Westside Roof Replacement	Water Plant	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24" Water Line Loop	Water Plant	$ -	$ 103,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SCADA Upgrades	Water Plant	$ 440,000	$ 412,000	$ 424,360	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Plant 2 to Dot Reservoir Fill Pump Station	Water Plant	$ -	$ 2,060,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Residual Treatment Solids Handling	Water Plant	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Plant 2 Lab and Ops Center Roof Replacement	Water Plant	$ -	$ 257,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Electrical Upgrades	Water Plant	$ -	$ 377,500	$ 388,825	$ 400,491	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Raw Water Line to PS4	Water Plant	$ -	$ -	$ 835,540	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Alum Feed System	Water Plant	$ -	$ -	$ 34,253	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Pre Filtration System	Water Plant	$ -	$ -	$ 347,220	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Hamilton Dam Shed Filling	Water Plant	$ -	$ -	$ 1,360,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Yard Valve Replacement 4	Water Plant	$ -	$ -	$ -	$ 218,645	$ 226,902	$ 231,885	$ 238,810	$ 245,975	$ 253,354	$ 260,955	$ 268,783	$ 276,847
Phosphoric Acid Feed System	Water Plant	$ -	$ -	$ -	$ 195,764	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Elevated Tank Altitude Valve Rebuilt	Water Plant	$ -	$ -	$ -	$ 54,636	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
New Fencing Around Water Plant	Water Plant	$ -	$ -	$ -	$ 109,272	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Security Cameras	Water Plant	$ -	$ -	$ -	$ 16,927	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Tread Lake Dam Replacement	Water Plant	$ -	$ -	$ -	$ 655,836	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Various Control Station Roof Replacements	Water Plant	$ -	$ -	$ -	$ -	$ 562,754	$ 579,637	$ 597,026	$ 614,937	$ 633,385	$ 652,387	$ 671,958	$ 692,117
Replace Pump 1 @ PS#3 with VFD	Water Plant	$ -	$ -	$ -	$ -	$ 45,029	$ 46,371	$ 47,762	$ 49,195	$ 50,671	$ 52,191	$ 53,757	$ 55,369
Replace Pumps 1&2 @ PS#4 with VFD's	Water Plant	$ -	$ -	$ -	$ -	$ 468,826	$ 473,894	$ 179,408	$ 184,481	$ 189,818	$ 195,746	$ 201,697	$ 207,835
Hatchery Drain Gate Rehab	Water Plant	$ -	$ -	$ -	$ -	$ 1,120,509	$ 1,159,274	$ 1,194,052	$ 1,229,874	$ 1,266,770	$ 1,304,773	$ 1,343,916	$ 1,384,234
Lindsay System Re-Construction	WSC Water Fund	$ -	$ -	$ 539,450	$ 1,997,777	$ 1,125,509	$ 1,159,274	$ 1,194,052	$ 1,229,874	$ 1,266,770	$ 1,304,773	$ 1,343,916	$ 1,384,234
		$ 9,675,000	$ 8,267,300	$ 8,819,137	$ 6,235,759	$ 6,415,400	$ 6,481,935	$ 7,283,749	$ 7,502,231	$ 7,727,297	$ 7,959,135	$ 8,197,859	$ 8,443,802

TABLE 13: WATER CIP FINANCING PLAN

Water Construction Fund Account	Budget Year FY 2014	Year Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Beginning CIP Fund Balance												
Beginning Year Construction Fund Balance	$	$ 144,700	$ 293,302	$ 169,165	$ 423,409	$ 19,009	$ 39,674	$ 242,855	$ 240,125	$ 12,027	$ 53,711	$ 355,921
Carry-Over CIP from Previous Year	$											
Net Funds Available for Current CIP	$	$ 144,700	$ 293,302	$ 169,165	$ 423,409	$ 19,009	$ 39,674	$ 242,855	$ 240,125	$ 12,027	$ 53,711	$ 355,921
Sources of CIP Financing												
Water Revenue Bonds Issued	$	$	$	$	$	$	$	$	$	$	$	$
Water Commercial Paper Program	$	$	$	$	$	$	$	$	$	$	$	$
Water Rate Revenue Financing (CIAP)	$ 7,000,000	$ 6,000,000	$ 6,500,000	$ 6,500,000	$ 6,000,000	$ 6,000,000	$ 7,500,000	$ 7,500,000	$ 7,500,000	$ 6,000,000	$ 6,500,000	$ 6,500,000
STIC Receipts Used for CIP Financing												
Proceeds from Sale of Fire Waterline	$ 3,957,700											
	$ 10,957,700	$ 6,144,700	$ 6,793,302	$ 6,669,165	$ 6,423,409	$ 6,019,009	$ 7,539,674	$ 7,742,855	$ 7,740,125	$ 6,012,027	$ 6,553,711	$ 6,855,921
Uses of CIP Funds												
Total WSC Water Fund	$ 500,000	$ 4,027,000	$ 4,102,929	$ 4,600,304	$ 4,288,488	$ 4,300,907	$ 6,028,950	$ 5,177,700	$ 5,330,102	$ 5,493,095	$ 5,867,908	$ 5,827,625
Total Water Plant	$ 9,110,000	$ 4,243,000	$ 2,837,209	$ 1,935,376	$ 2,127,212	$ 2,191,928	$ 2,255,759	$ 2,324,462	$ 2,391,195	$ 2,486,021	$ 2,546,003	$ 2,610,202
Additional Uses	$ 1,150,000	$ 594,000	$ 594,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Current Year CIP	$ 10,841,000	$ 8,864,300	$ 8,624,138	$ 6,335,680	$ 6,415,400	$ 6,491,835	$ 7,283,719	$ 7,502,231	$ 7,727,297	$ 7,969,116	$ 8,167,890	$ 8,443,827
Bond Issuance Costs	$	$	$	$	$	$	$	$	$	$	$	$
Refunding of Commercial Paper	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
ENDING: Ending CIP Fund Balance	$ 144,700	$293,302	$169,165	$423,409	$19,009	$39,674	$242,855	$240,125	$12,027	$53,711	$355,921	$411,094
Target Balance (% of New Years CIP) 25.0000%	$ 2,219,850	$ 2,150,034	$ 1,550,009	$ 1,083,850	$ 1,022,889	$ 1,020,040	$ 1,879,358	$ 1,931,824	$ 1,980,779	$ 2,049,472	$ 2,110,957	$
Variance from Target	($2,075,150)	($1,856,732)	($1,380,844)	($1,170,441)	($1,004,976)	($981,366)	($1,636,503)	($1,691,700)	($1,968,752)	($1,995,761)	($1,755,036)	$411,094

3.2.4 *Water Cash Flow Forecast*

The final step in the development of the water utility financial plan involves the preparation of a comprehensive cash flow forecast. A summary of the water cash flow forecast is presented in Table 14 on the following page. The key components of the forecast are Financial Plan Inputs, Revenues, Expenditures, and Operating Performance.

- The Financial Plan Inputs component indicates the forecast rate revenue increases. These increases were determined in consultation with City staff and are designed to:
- Ensure recovery of O&M expenditures and existing water utility debt service
- Provide cash financing for the capital projects outlined in the CIP including those necessary to transition from DWSD to the KWA
- Minimize the risk associated with operating a climate dependent enterprise via the build-up of operating reserves equivalent to 90 days of O&M and Debt Service

The Revenues component indicates the revenue at existing rates discussed previously, non-rate revenue and the additional revenue generated by the rate revenue increases shown in the Inputs section. Given the forecast of water demand, O&M and capital expenditures and the 90 Day operating reserve benchmark, the "additional revenue" line represents the amount of revenue needed—above existing rate revenues —to ensure adequate recovery of the water utility's revenue requirement in each year of the forecast.

The Expenditures component indicates the major sources of expenditures for the City's water utility: O&M expenditures, Capital expenditures (Rate Revenue Financing and Debt Service) and Transfers to the Operating Reserve.

The Operating performance component indicates the year end position of the water utility with respect to a few key factors. Included are the estimated operating reserve balance, the target reserve balance (90 Days of O&M and Debt Service), the construction fund ending balance and the water utility's debt service coverage ratio.

TABLE 14: WATER CASH FLOW FORECAST

Water Utility	Budget Year FY 2014	Last Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
FINANCIAL PLAN INPUTS												
Cumulative % Increase		6.9%	10.3%	16.3%	18.7%	22.2%	25.3%	27.8%	30.3%	33.0%	35.6%	38.3%
Annual % Increase in Rate Revenues	0.0%	5.0%	5.0%	4.5%	1.0%	3.0%	2.5%	2.0%	2.0%	2.0%	2.0%	2.0%
REVENUES												
Grand Total Water Revenues at Existing Rates	$ 32,974,371	$ 32,702,575	$ 32,702,575	$ 32,702,575	$ 32,702,575	$ 32,702,575	$ 32,702,575	$ 32,702,575	$ 32,702,575	$ 32,702,575	$ 32,702,575	$ 32,702,575
Additional Revenue from Rate Increases	$ -	$ 1,638,100	$ 3,358,100	$ 4,863,500	$ 6,115,000	$ 7,282,300	$ 8,283,400	$ 9,104,300	$ 9,941,000	$ 10,795,700	$ 11,666,900	$ 12,555,600
Total Non-Rate Revenues	$ 886,000	$ 813,314	$ 931,644	$ 927,886	$ 920,503	$ 929,131	$ 934,145	$ 930,728	$ 933,107	$ 930,388	$ 936,677	$ 942,491
Add Transfers in from General Fund	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Rate and Non-Rate Revenues	*$ 33,860,371*	*$ 35,153,989*	*$ 37,092,319*	*$ 38,673,761*	*$ 39,806,078*	*$ 40,974,006*	*$ 41,977,120*	*$ 42,797,601*	*$ 43,637,282*	*$ 44,454,639*	*$ 45,305,895*	*$ 46,200,666*
EXPENDITURES												
Total O&M Expenditures	*$ 20,865,265*	*$ 21,483,441*	*$ 22,140,013*	*$ 23,316,857*	*$ 23,909,504*	*$ 24,705,140*	*$ 25,434,603*	*$ 26,189,715*	*$ 26,968,980*	*$ 27,774,449*	*$ 28,607,934*	*$ 29,469,769*
Grand Total Existing and Proposed Debt Service	$ 2,747,946	$ 2,742,821	$ 2,749,423	$ 9,149,440	$ 9,644,000	$ 9,643,180	$ 9,639,927	$ 9,492,721	$ 9,576,674	$ 9,065,923	$ 9,423,746	$ 9,900,000
Water Rate Revenue Financing (Cash)	$ 7,000,000	$ 9,000,000	$ 6,500,000	$ 6,500,000	$ 6,000,000	$ 5,500,000	$ 5,000,000	$ 7,500,000	$ 7,500,000	$ 6,000,000	$ 6,500,000	$ 6,500,000
Water Transfer to Equipment Replacement Fund	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Capital Expenditures	*$ 9,747,946*	*$ 11,742,821*	*$ 11,249,423*	*$ 15,149,440*	*$ 15,644,000*	*$ 15,143,180*	*$ 14,639,927*	*$ 16,992,721*	*$ 16,576,674*	*$ 16,065,923*	*$ 15,923,746*	*$ 15,400,000*
Net Surplus/(Deficit)	*$ (2,752,775)*	*$ 2,007,727*	*$ 3,059,883*	*$ (791,543)*	*$ 163,445*	*$ 125,682*	*$ (697,411)*	*$ (883,835)*	*$ 492,329*	*$ 624,503*	*$ (165,083)*	*$ 1,300,766*
GROSS REVENUE REQUIREMENTS												
O&M	$ 20,865,265	$ 21,483,441	$ 22,140,013	$ 23,316,857	$ 23,909,504	$ 24,705,140	$ 25,434,603	$ 26,189,715	$ 26,968,980	$ 27,774,449	$ 28,607,934	$ 29,469,769
Capital	$ 9,747,946	$ 11,742,821	$ 11,249,423	$ 15,149,440	$ 15,644,000	$ 15,143,180	$ 14,639,927	$ 16,092,721	$ 16,176,674	$ 16,065,923	$ 15,923,746	$ 15,400,000
Operating Surplus/(Deficit)	$ (2,752,775)	$ 2,007,727	$ 3,059,883	$ (791,543)	$ 163,445	$ 125,682	$ (697,411)	$ (883,835)	$ 492,329	$ 624,503	$ (165,083)	$ 1,300,766
Total Gross Revenue Requirements	*$ 33,860,371*	*$ 35,153,989*	*$ 37,092,319*	*$ 38,673,761*	*$ 39,806,078*	*$ 40,974,006*	*$ 41,977,120*	*$ 42,797,601*	*$ 43,637,282*	*$ 44,454,635*	*$ 45,365,602*	*$ 46,200,534*
OPERATING PERFORMANCE												
Ending Operating Reserve Balance	$ 7,975,096	$ 5,962,823	$ 9,128,706	$ 8,337,164	$ 8,500,609	$ 9,020,291	$ 9,020,901	$ 8,045,145	$ 8,537,471	$ 10,072,037	$ 9,905,388	$ 11,206,156
Target Operating Reserve Balance	$ 9,820,288	$ 8,056,560	$ 8,221,009	$ 8,241,020	$ 8,410,878	$ 8,367,089	$ 8,708,008	$ 8,445,369	$ 8,514,268	$ 8,585,019	$ 8,257,946	$ 9,062,442
Variance From Target	$ (1,844,192)	$ (893,743)	$ 2,907,697	$ 95,938	$ 89,731	$ 1,049,208	$ 259,373	$ 99,787	$ 428,219	$ 1,487,018	$ 847,451	$ 2,143,714
Construction Fund Ending Balance	$ 144,709	$ 293,392	$ 189,165	$ 433,409	$ 78,059	$ 38,074	$ 242,355	$ 240,725	$ 72,827	$ 53,771	$ 359,971	$ 411,394
Bond Alone DSCR	2.55	3.04	3.43	1.58	1.66	1.69	1.72	1.81	1.83	2.07	1.88	2.42

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3.3 WASTEWATER UTILITY FINANCIAL PLAN

3.3.1 Forecast Wastewater Units of Service and Revenues at Existing Rates

Wastewater Utility Rates

The City recovers the cost of operating the wastewater utility via volumetric rates (i.e. rates based on the amount of wastewater discharged) and fixed monthly service charges (a charge per customer bill). The City's existing wastewater volumetric charge is a uniform rate, or a rate that does not vary (on a per unit basis) as the amount of wastewater discharged varies. The existing wastewater volumetric rate structure is indicated in Table 15 below. Similar to the water utility volumetric rate structure a distinction is made between inside and outside city customers, with the outside city rate set at approximately 110% of the inside city rate.

TABLE 15: EXISTING WASTEWATER VOLUMETRIC RATES

CUSTOMER CLASS		Test-Year FY 2014 Existing Rates
Total Inside City All Classes	($/CCF)	$ 4.80
Total Outside City All Classes	($/CCF)	$ 5.29

The existing wastewater rate structure includes a fixed service charge which varies by customer water meter size. The rates are shown in Table 16 on the following page. Most Flint residential customers have a 5/8" meter and currently pay the $32.00 fixed monthly service charge. Similar to the wastewater volumetric rate, the wastewater fixed charges include an inside outside city differential (120%).

In addition to the retail wastewater rates, the City currently serves a wholesale wastewater customer, Beecher Metropolitan District ("District"). The District currently pays $1.34 per CCF of wastewater discharged, an amount that was negotiated in the 1995 Contract between the City and the District.

TABLE 16: EXISTING WASTEWATER FIXED CHARGES

CUSTOMER CLASS	Test-Year FY 2014 Existing Rates
Inside City Residential Customers	
5/8"	$ 32.00
3/4"	$ 46.92
1"	$ 65.34
1-1/2"	$ 65.34
2"	$ 65.34
Inside City Commercial/Industrial Customers	
5/8"	$ 51.92
3/4"	$ 64.43
1"	$ 84.71
1-1/2"	$ 137.84
2"	$ 196.16
3"	$ 438.06
4"	$ 721.84
6"	$ 1,459.95
8"	$ 2,148.21
10"	$ 2,916.39
12"	$ 3,426.23
16"	$ 4,523.95
20"	$ 5,326.87
Outside City Residential Customers	
5/8"	$ 41.01
3/4"	$ 56.01
1"	$ 76.99
1-1/2"	$ 76.99
2"	$ 76.99
Outside City Commercial/Industrial Customers	
5/8"	$ 58.12
3/4"	$ 73.62
1"	$ 96.05
1-1/2"	$ 164.80
2"	$ 232.43
3"	$ 522.87
4"	$ 886.01
6"	$ 1,770.13
8"	$ 2,646.52
10"	$ 3,522.54
12"	$ 4,132.57
16"	$ 5,497.91
20"	$ 6,532.02

Forecast Wastewater Units of Service

In order to forecast the level of revenue expected under existing wastewater fixed and volumetric rates, the number of wastewater accounts and the level of wastewater usage must be estimated for the forecast period. The number of historical and forecast wastewater utility accounts is indicated in Tables 17 and 18 on the following two pages.

Note that the raw billing data appear to indicate a 14% increase in inside city accounts and an 18% increase in outside city accounts from FY 2012 to FY 2013. This increase in accounts does not appear to have been sustained into FY 2014. The City has indicated that wastewater billings have decreased approximately 12% from FY 2013. Given this change we have adjusted the forecast level of wastewater accounts to be around 13% less than their FY 2013 level. As no significant growth the City's customer base is expected, no customer growth has been forecast on a going forward basis.

TABLE 17: FORECAST INSIDE CITY WASTEWATER ACCOUNTS

Customer Class	Historical FY 2012	Historical FY 2013	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Inside City Residential														
⅞														
⅝														
5/8"	24,575	28,490	24,760	24,760	24,760	24,760	24,760	24,760	24,760	24,760	24,760	24,760	24,760	24,760
3/4"														
1"	271	337	293	293	293	293	293	293	293	293	293	293	293	293
1-1/2"	26	30	29	29	29	29	29	29	29	29	29	29	29	29
2"	9	11	9	9	9	9	9	9	9	9	9	9	9	9
Unmetered														
Total Inside City Residential Remote	25,282	28,841	25,091	25,091	25,091	25,091	25,091	25,091	25,091	25,091	25,091	25,091	25,091	25,091
Inside City Commercial/Industrial														
⅞														
⅝														
5/8"	374	402	350	350	350	350	350	350	350	350	350	350	350	350
3/4"														
1"	240	273	238	238	238	238	238	238	238	238	238	238	238	238
1-1/2"	238	203	229	229	229	229	229	229	229	229	229	229	229	229
2"	237	271	236	236	236	236	236	236	236	236	236	236	236	236
3"	78	89	77	77	77	77	77	77	77	77	77	77	77	77
4"	56	61	53	53	53	53	53	53	53	53	53	53	53	53
6"	36	41	36	36	36	36	36	36	36	36	36	36	36	36
8"	3	3	3	3	3	3	3	3	3	3	3	3	3	3
10"														
12"														
16"														
20"														
Unmetered														
Total Inside City Commercial/Industrial	1,281	1,403	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221	1,221
Total Inside City Accounts	26,563	30,244	26,312	26,312	26,312	26,312	26,312	26,312	26,312	26,312	26,312	26,312	26,312	26,312
		14%	-13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

TABLE 18: FORECAST OUTSIDE CITY WASTEWATER ACCOUNTS

Customer Class	Historical FY 2012	Historical FY 2013	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Outside City Residential														
0	0	0												
00	0	0												
5/8"	6	7	6	6	6	6	6	6	6	6	6	6	6	6
3/4"	0	0												
1"	0	0												
1 1/2"	0	0												
2"	0	0												
Unmetered	0	0												
Total Outside City Residential Remote	6	7	6	6	6	6	6	6	6	6	6	6	6	6
Outside City Commercial/Industrial														
0														
00														
5/8"	5	5	4	4	4	4	4	4	4	4	4	4	4	4
3/4"														
1"	2	3	3	3	3	3	3	3	3	3	3	3	3	3
1 1/2"	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2"	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3"														
4"														
6"														
8"														
10"														
12"														
16"														
20"														
Unmetered														
Total Outside City Commercial/Industrial	11	11	11	11	11	11	11	11	11	11	11	11	11	11
Total Outside City Accounts	17	28	17	17	17	17	17	17	17	17	17	17	17	17
		18%	-13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

In addition to forecasting the number of accounts by meter size and customer class, the level of wastewater usage must also be estimated for the forecast period. The historical and forecast level of wastewater usage by customer class can be on Table 19 on the following page.

Note that—consistent with the significant increase in inside city water accounts in FY 2013—inside city wastewater usage has increased significantly in FY 2013 (18%). Given the uncertainty surrounding this most recent upswing in billed wastewater usage, and the subsequent decrease in billed wastewater revenues, retail usage has been forecast at 15% below FY 2013 levels for FY 2014, FY 2015 and the remainder of the ten year forecast period.

TABLE 19: FORECAST WASTEWATER USAGE

Customer Class	Historical FY 2012	Historical FY 2013	Budget Year FY 2014	Next Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
INSIDE CITY														
Inside City Monthly Wastewater Rate														
Total Inside City Residential	1,349,611	1,664,931	1,576,666	1,576,666	1,576,666	1,576,666	1,576,666	1,576,666	1,576,666	1,576,666	1,576,666	1,576,666	1,576,666	1,576,666
Total Inside City Commercial/Industrial	1,396,844	1,645,558	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721	1,398,721
Total Inside City All Classes	2,746,455	3,310,489	2,975,387	2,975,387	2,975,387	2,975,387	2,975,387	2,975,387	2,975,387	2,975,387	2,975,387	2,975,387	2,975,387	2,975,387
		27%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
OUTSIDE CITY														
Outside City Metered Wastewater Rate														
Total Outside City Residential	219	232	206	206	206	206	206	206	206	206	206	206	206	206
Total Outside City Commercial/Industrial	8,505	8,248	7,012	7,012	7,012	7,012	7,012	7,012	7,012	7,012	7,012	7,012	7,012	7,012
Total Outside City All Classes	8,724	8,481	7,217	7,217	7,217	7,217	7,217	7,217	7,217	7,217	7,217	7,217	7,217	7,217
		-3%	-15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TOTAL RETAIL														
Total Residential	1,349,830	1,665,163	1,576,872	1,576,872	1,576,872	1,576,872	1,576,872	1,576,872	1,576,872	1,576,872	1,576,872	1,576,872	1,576,872	1,576,872
Total Commercial/Industrial	1,405,349	1,653,805	1,405,733	1,405,733	1,405,733	1,405,733	1,405,733	1,405,733	1,405,733	1,405,733	1,405,733	1,405,733	1,405,733	1,405,733
	2,754,179	3,318,968	2,982,604	2,982,604	2,982,604	2,982,604	2,982,604	2,982,604	2,982,604	2,982,604	2,982,604	2,982,604	2,982,604	2,982,604
		27%	-15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WHOLESALE														
Beaufort Metered Wastewater Rate														
Beaufort Metered Wastewater Rate	520,193	513,673	513,673	513,673	513,673	513,673	513,673	513,673	513,673	513,673	513,673	513,673	513,673	513,673
GRAND TOTAL WASTEWATER USAGE	3,274,372	4,832,640	3,496,277	3,496,277	3,496,277	3,496,277	3,496,277	3,496,277	3,496,277	3,496,277	3,496,277	3,496,277	3,496,277	3,496,277
		23%	-13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Forecast Wastewater Revenue at Existing Rates

Wastewater utility revenue at existing rates is the sum of wastewater volumetric and fixed charge revenue. Fixed charge revenue at existing rates was determined by multiplying the number of forecast accounts at each meter size, by the existing rate for that size and again by 12 for each of the monthly bills. Volumetric revenue was determined by multiplying the level of consumption by customer class, by the existing volumetric rates. Table 20 on the following page indicates the level of wastewater revenue at existing rates.

Total wastewater revenue at existing rates in FY 2014 is forecast to be approximately $27 Million. Of this, approximately 54% is derived from the volumetric rates and 46% is associated with the fixed monthly service charges. On a going forward basis, the level of revenues at existing wastewater rates would remain at $27 Million assuming consumption remains flat and the City makes no adjustments to wastewater rates.

TABLE 20: FORECAST WASTEWATER REVENUE AT FY 2014 RATES

SUMMARY OF FORECAST WASTEWATER RATE REVENUE AT EXISTING RATES

Customer Class	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
GRAND TOTAL SYSTEM USAGE REVENUE	$15,005,754	$15,005,754	$15,005,754	$15,005,754	$15,005,754	$15,005,754	$15,005,754	$15,005,754	$15,005,754	$15,005,754	$15,005,754	$15,005,754
GRAND TOTAL SYSTEM FIXED CHARGE REVENUE	$12,771,621	$12,771,621	$12,771,621	$12,771,621	$12,771,621	$12,771,621	$12,771,621	$12,771,621	$12,771,621	$12,771,621	$12,771,621	$12,771,621
GRAND TOTAL WASTEWATER REVENUE AT EXISTING RA	$27,777,374	$27,777,374	$27,777,374	$27,777,374	$27,777,374	$27,777,374	$27,777,374	$27,777,374	$27,777,374	$27,777,374	$27,777,374	$27,777,374

SUMMARY OF REVISED WASTEWATER REVENUE

Customer Class	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
TOTAL RETAIL USAGE REVENUE												
Total Inside City Residential	$ 7,569,083	$ 7,569,083	$ 7,569,083	$ 7,569,083	$ 7,569,083	$ 7,569,083	$ 7,569,083	$ 7,569,083	$ 7,569,083	$ 7,569,083	$ 7,569,083	$ 7,569,083
Total Inside City Commercial/Industrial	$ 6,750,917	$ 6,750,917	$ 6,750,917	$ 6,750,917	$ 6,750,917	$ 6,750,917	$ 6,750,917	$ 6,750,917	$ 6,750,917	$ 6,750,917	$ 6,750,917	$ 6,750,917
	$14,320,000	$14,320,000	$14,320,000	$14,320,000	$14,320,000	$14,320,000	$14,320,000	$14,320,000	$14,320,000	$14,320,000	$14,320,000	$14,320,000
WHOLESALE USAGE REVENUE												
Beaches Meter Wholesale Rate	$ 685,753	$ 685,753	$ 685,753	$ 685,753	$ 685,753	$ 685,753	$ 685,753	$ 685,753	$ 685,753	$ 685,753	$ 685,753	$ 685,753
GRAND TOTAL SYSTEM USAGE REVENUE	$15,005,754	$15,005,754	$15,005,754	$15,005,754	$15,005,754	$15,005,754	$15,005,754	$15,005,754	$15,005,754	$15,005,754	$15,005,754	$15,005,754

SUMMARY OF FIXED CHARGE WASTEWATER REVENUE

Customer Class	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
TOTAL RETAIL FIXED CHARGE REVENUE												
Total Inside City Residential	$ 9,771,131	$ 9,771,131	$ 9,771,131	$ 9,771,131	$ 9,771,131	$ 9,771,131	$ 9,771,131	$ 9,771,131	$ 9,771,131	$ 9,771,131	$ 9,771,131	$ 9,771,131
Total Inside City Commercial/Industrial	$ 2,972,974	$ 2,972,974	$ 2,972,974	$ 2,972,974	$ 2,972,974	$ 2,972,974	$ 2,972,974	$ 2,972,974	$ 2,972,974	$ 2,972,974	$ 2,972,974	$ 2,972,974
	$12,744,105	$12,744,105	$12,744,105	$12,744,105	$12,744,105	$12,744,105	$12,744,105	$12,744,105	$12,744,105	$12,744,105	$12,744,105	$12,744,105
WHOLESALE FIXED CHARGE REVENUE												
Beaches Meter Fixed Charge	$ 27,516	$ 27,516	$ 27,516	$ 27,516	$ 27,516	$ 27,516	$ 27,516	$ 27,516	$ 27,516	$ 27,516	$ 27,516	$ 27,516
GRAND TOTAL SYSTEM FIXED CHARGE REVENUE	$12,771,621	$12,771,621	$12,771,621	$12,771,621	$12,771,621	$12,771,621	$12,771,621	$12,771,621	$12,771,621	$12,771,621	$12,771,621	$12,771,621

3.3.2 *Forecast Wastewater Utility Operation and Maintenance Expenditures*

Wastewater O&M Inflation Rates

The budgets provided by the City are the basis for the forecast of wastewater utility O&M expenditures. To forecast the level of wastewater utility O&M expenditures that the City is projected to incur over the forecast period we applied escalation rates shown in Table 21 below.

TABLE 21: WASTEWATER O&M ESCALATION RATES

Category	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Wages & Salaries	6%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Benefits	6%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Pension	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Medical	6%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Materials/Supplies	6%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Contract	6%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Vehicle	6%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Plant	6%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Depreciation Equip Replace	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cost Alloc Plan-Expense	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Utilities	0%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Maintenance	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Capital Outlay	0%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Water Supply Costs	0%	0%	0%	0%	5%	5%	5%	5%	5%	5%	5%	5%
KWA Bond Payment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
KWA Mission Fee	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Purchase of KWA Fee Right	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Transfer to 101	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Transfer to 483	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Forecast Wastewater Operation and Maintenance Expenditures

Tables 22 and 23 on the following page indicate level of wastewater O&M expenditures over the forecast period, by the escalation rate categories and by department.

Unlike the water utility there is no single large cost driver. The most notable expenditures are associated with personnel: Wages and Salaries, Benefits, Pension, and the City's share of retiree healthcare benefits ("Cost Alloc. Plan-Expense"). In general, wastewater O&M expenditures are projected to decrease from 24 Million in FY 2014 to 23 Million in FY 2015 with inflationary increases thereafter.

TABLE 22: WASTEWATER O&M BY CATEGORY

Category	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Wages & Salaries	$ 4,289,089	$ 4,321,275	$ 4,450,913	$ 4,584,440	$ 4,721,973	$ 4,863,632	$ 5,009,542	$ 5,159,828	$ 5,314,623	$ 5,474,061	$ 5,638,253	$ 5,807,437
Benefits	$ 1,594,933	$ 1,595,181	$ 1,643,036	$ 1,692,327	$ 1,743,097	$ 1,795,390	$ 1,849,252	$ 1,904,729	$ 1,961,871	$ 2,020,727	$ 2,081,349	$ 2,143,790
Pension	$ 2,097,927	$ 2,091,618	$ 2,155,155	$ 2,306,009	$ 2,431,309	$ 2,542,375	$ 2,659,494	$ 2,802,959	$ 2,943,111	$ 3,090,273	$ 3,244,788	$ 3,407,028
Medical	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Materials/Supplies	$ 1,414,060	$ 1,535,782	$ 1,581,886	$ 1,629,311	$ 1,678,190	$ 1,728,536	$ 1,780,392	$ 1,833,804	$ 1,888,818	$ 1,945,482	$ 2,003,847	$ 2,063,962
General	$ 3,301,203	$ 1,762,279	$ 1,814,970	$ 1,869,360	$ 1,925,441	$ 1,983,325	$ 2,042,025	$ 2,103,633	$ 2,167,242	$ 2,232,864	$ 2,300,276	$ 2,369,483
Vehicle	$ 760,802	$ 783,627	$ 807,136	$ 831,349	$ 856,290	$ 881,979	$ 908,438	$ 935,691	$ 963,762	$ 992,675	$ 1,022,455	$ 1,053,129
Rent	$ 1,246,300	$ 1,283,689	$ 1,322,149	$ 1,361,814	$ 1,402,707	$ 1,444,908	$ 1,488,304	$ 1,533,044	$ 1,579,035	$ 1,626,401	$ 1,675,181	$ 1,725,393
Depreciation/Depl / Equip Replace	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Cost Alloc Man Expense	$ 5,638,744	$ 5,489,906	$ 5,344,604	$ 5,505,012	$ 5,671,151	$ 5,841,205	$ 6,040,024	$ 6,197,630	$ 6,382,930	$ 6,574,418	$ 6,771,651	$ 6,974,800
Utilities	$ 2,303,030	$ 2,219,320	$ 1,980,944	$ 2,039,378	$ 2,100,554	$ 2,203,792	$ 2,254,103	$ 2,305,704	$ 2,481,216	$ 2,555,461	$ 2,583,083	$ 2,741,830
Maintenance	$ 404,800	$ 413,648	$ 426,467	$ 439,209	$ 452,008	$ 465,564	$ 479,524	$ 493,911	$ 508,235	$ 523,957	$ 539,717	$ 555,900
Capital Outlay	$ 46,700	$ 49,131	$ 50,605	$ 52,123	$ 53,687	$ 55,297	$ 56,956	$ 58,664	$ 60,423	$ 62,239	$ 64,109	$ 66,038
Water Supply Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
KCWA Bond Payment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
KCWA Inflation Fee	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Purchase of KCWA Increase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Interest	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Principal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transfer to 401	$ 1,527,470	$ 1,650,000	$ 1,500,000	$ 1,600,000	$ 1,650,000	$ 1,800,000	$ 1,850,000	$ 1,650,000	$ 1,800,000	$ 1,900,000	$ 1,800,000	$ 1,600,000
Transfer to 402	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$ 24,323,827	$ 23,953,282	$ 23,354,471	$ 24,891,980	$ 24,812,101	$ 25,557,115	$ 26,527,481	$ 27,124,115	$ 27,947,561	$ 28,600,000	$ 29,681,251	$ 30,832,370

TABLE 23: WASTEWATER O&M BY DEPARTMENT

DEPARTMENT	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Total Dept 510-101 Admin - Sewer Administration	$ 7,842,429	$ 7,863,542	$ 7,871,078	$ 8,098,818	$ 8,325,945	$ 8,563,051	$ 8,807,035	$ 9,058,091	$ 9,316,436	$ 9,582,261	$ 9,855,647	$ 10,137,343
Total Dept 510-100-Water Service Canal Management	$ 2,713,448	$ 833,470	$ 896,167	$ 894,149	$ 932,843	$ 957,507	$ 982,841	$ 1,014,800	$ 1,047,513	$ 1,081,349	$ 1,116,254	$ 1,152,330
Total Dept 510-200-WSC - Capital improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 510-207-Wwc-Meter Reading - Sewer	$ 709,618	$ 728,499	$ 702,349	$ 768,273	$ 844,516	$ 841,603	$ 867,702	$ 890,856	$ 928,976	$ 959,443	$ 992,877	$ 1,028,033
Total Dept 510-300-Wwc-Sewer Main/Construction	$ 2,703,193	$ 2,797,598	$ 2,896,717	$ 2,997,382	$ 3,102,027	$ 3,212,232	$ 3,325,786	$ 3,443,478	$ 3,565,984	$ 3,692,455	$ 3,824,049	$ 3,960,021
Total Dept 510-100-Wwc Operations	$ 5,178,142	$ 5,516,708	$ 5,907,332	$ 6,557,629	$ 6,759,179	$ 5,950,869	$ 6,172,409	$ 6,392,766	$ 6,629,256	$ 6,959,224	$ 7,104,040	$ 7,358,023
Total Dept 510-200-Wwc-Third Ave Pump Station	$ 909,913	$ 736,282	$ 761,809	$ 788,306	$ 817,034	$ 847,325	$ 878,149	$ 909,960	$ 942,990	$ 977,257	$ 1,012,807	$ 1,049,659
Total Dept 510-202-Wwc-Maintenance Expense	$ 2,817,689	$ 2,917,444	$ 3,020,477	$ 3,100,514	$ 3,242,560	$ 3,329,211	$ 3,431,236	$ 3,546,160	$ 3,665,137	$ 3,788,303	$ 3,915,829	$ 4,047,076
Total Dept 510-300-WPC - Capital improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 510-900-Non_dept_Exp-Sewer Portion	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 510-101-Transfers out to fund 101	$ 1,660,000	$ 1,650,000	$ 1,500,000	$ 1,600,000	$ 1,650,000	$ 1,800,000	$ 1,850,000	$ 1,650,000	$ 1,800,000	$ 1,900,000	$ 1,800,000	$ 1,600,000
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
GRAND TOTAL WASTEWATER O&M	$ 24,323,827	$ 23,953,282	$ 23,354,471	$ 24,891,980	$ 24,812,101	$ 25,557,115	$ 26,527,481	$ 27,124,115	$ 27,947,561	$ 28,600,000	$ 29,681,251	$ 30,832,370

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3.3.3 Wastewater Utility CIP and CIP Financing

Tables 24 and 25 on the following two pages indicate the wastewater capital improvements program ("CIP") provided by the City and the CIP financing plan. As the plan we received from the City was presented in current year dollars, we escalated the project amounts 3% per year from FY 2015 onward. The largest capital projects relate to rehabilitation of the City's wastewater treatment plant and pumping stations. In general, the level of spending in the CIP peaks at from $12 Million in FY 2018 and returns to an average level of around $8 Million going forward.

Table 25 summarizes the wastewater utility CIP financing plan. While the CIP financing plan used for this report only incorporates cash financing, the City may seek to leverage its revenue stream in the future via the issuance of revenue bonds or other alternative financing instruments. This would be particularly beneficial for major wastewater capital improvements, as it would spread the financing responsibility over existing and future ratepayers who receive the benefit of the improvement throughout the asset's useful life.

TABLE 24: WASTEWATER CAPITAL IMPROVEMENTS PROGRAM

Project		Budget Year FY 2014	Budget Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025	Forecast FY 2026
[illegible]	WSC Sewer Fund	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
[illegible]	WSC Sewer Fund	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
[illegible]	WSC Sewer Fund	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
Vehicles: Sewer Fund, 2 Vacuum Sewer Pipe Jetters, 2 Flatbed Dumps, 1 Tractor	WSC Sewer Fund	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
[illegible] Gas Facility	Water Pollution Control	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
[illegible] Gas Facility Engineering	Water Pollution Control	$ [illegible]	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering to [illegible]	Water Pollution Control	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TPS Bar Screen Replacement	Water Pollution Control	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
[illegible] Retrofit [illegible]	Water Pollution Control	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
WWTP Emergency Generator	Water Pollution Control	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RTO Flowmeter	Water Pollution Control	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
[illegible] Actuator	Water Pollution Control	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sigma Samplers	Water Pollution Control	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
GPS Units	Water Pollution Control	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TAPS Aeration	Water Pollution Control	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TAPS Conveyor	Water Pollution Control	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Lighting Upgrades	Water Pollution Control	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Distribution Upgrades	Water Pollution Control	$ [illegible]	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Replacement of Battery A Cell	Water Pollution Control	$ -	$ -	$ [illegible]	$ -	$ -	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
[illegible] Paving, Sidewalk, Incidental Infrastructure	Water Pollution Control	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Final Tank Coatings	Water Pollution Control	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Main Centrifuge Repairs	Water Pollution Control	$ -	$ [illegible]	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Aeration Blower Replacement	Water Pollution Control	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Assistant Blower Replace	Water Pollution Control	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Main Valve Replace	Water Pollution Control	$ -	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Replacement of Lift Station 8	Water Pollution Control	$ -	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
WWC Repairs	Water Pollution Control	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Primary Tank Rehab	Water Pollution Control	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Concrete Coatings	Water Pollution Control	$ -	$ -	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Secondary Site Concrete Repairs	Water Pollution Control	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Backwash Pipe Repair	Water Pollution Control	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Plant Painting	Water Pollution Control	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Replacement Pumps at Total Area Pumping Station	Water Pollution Control	$ -	$ -	$ -	$ -	$ -	$ -	$ [illegible]	$ [illegible]	$ [illegible]	$ -	$ -	$ -	$ -
Replacement Pumps at [illegible]	Water Pollution Control	$ -	$ -	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Replacement Pumps at Lift 3	Water Pollution Control	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Battery B Cell Fixing	Water Pollution Control	$ -	$ -	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Air Diffuser Upgrades Battery B	Water Pollution Control	$ -	$ -	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
[illegible] Vault Rehabilitation	Water Pollution Control	$ -	$ -	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Battery B Isolation Gates	Water Pollution Control	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
[illegible] Switchgear	Water Pollution Control	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Addition to Vehicle Storage Building	Water Pollution Control	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Lift Station 5 Electrical Upgrades	Water Pollution Control	$ -	$ -	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Final 5 Building Roof Replacement	Water Pollution Control	$ -	$ -	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Lighting Panel Upgrades	Water Pollution Control	$ -	$ -	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Primary Feeder Rehabilitation	Water Pollution Control	$ -	$ -	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Battery A Intake Valve Replacement	Water Pollution Control	$ -	$ -	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sludge Cake Storage	Water Pollution Control	$ -	$ -	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sewer Rehab Enhancement	Water Pollution Control	$ -	$ -	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
All Diffuser Upgrades Battery A	Water Pollution Control	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Roadway Improvements	Water Pollution Control	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Final Tank Rehab Lead Free Tanks	Water Pollution Control	$ -	$ -	$ [illegible]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Vehicles	Water Pollution Control	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Capacity System Assessment	WSC Sewer Fund	$ -	$ -	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
		$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]

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TABLE 25: WASTEWATER CIP FINANCING PLAN

Water Construction Fund/Account		Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Beginning CIP Fund Balance													
Beginning Year Construction Fund Balance		$ -	$ 294,324	$ 74,024	$ 301,758	$ 16,575	$ 764,047	$ 91,165	$ 180,717	$ 86,993	$ 296,357	$ 272,002	$ 6,016
Carry-Over CIP from Previous Year		$ -											
Net Funds Available for Current CIP		$ -	$ 294,324	$ 74,024	$ 301,758	$ 16,575	$ 764,047	$ 91,165	$ 180,717	$ 86,993	$ 296,357	$ 272,002	$ 6,016
Sources of CIP Financing													
Wastewater Revenue Bonds Issued		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Wastewater Commercial Paper Program		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Wastewater Rate Revenue Financing (Cash)		$ 5,500,000	$7,000,000	$ 9,500,000	$ 9,500,000	$12,500,000	$ 7,500,000	$ 8,000,000	$ 7,500,000	$ 8,000,000	$ 8,000,000	$ 8,000,000	$ 8,500,000
SRF Receipts Used for CIP Financing													
Other Sources of CIP Financing													
		$ 5,500,000	$7,294,324	$ 9,574,024	$ 9,801,758	$12,516,575	$ 8,264,047	$ 8,091,165	$ 7,680,717	$ 8,086,993	$ 8,296,357	$ 8,272,002	$ 8,506,016
Uses of CIP Funds													
Total WSC Sewer Fund		$ 2,420,000	$5,217,706	$ 5,559,316	$ 4,425,549	$ 5,663,819	$ 7,013,608	$ 7,224,016	$ 7,410,737	$ 7,663,959	$ 7,893,878	$ 8,130,694	$ 8,374,611
Total Water Pollution Control		$ 3,085,976	$3,883,100	$ 3,713,150	$ 5,257,640	$ 6,070,706	$ 1,159,274	$ 715,431	$ 122,987	$ 126,677	$ 130,477	$ 134,392	$ 138,425
Additional Uses													
Total Current Year CIP		$ 5,505,976	$9,220,806	$ 9,272,466	$ 9,683,189	$11,734,525	$ 8,172,882	$ 7,949,446	$ 7,533,724	$ 7,790,636	$ 8,024,355	$ 8,265,086	$ 8,511,036
Bond Issuance Costs		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Refunding of Commercial Paper		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EOY/BOY Ending CIP Fund Balance		$294,324	$74,024	$301,758	$16,575	$764,047	$91,165	$180,717	$86,993	$296,357	$272,002	$6,016	$(6,020)
Target Balance (% of Next Years CIP)	25.00%	$ 1,000,075	$2,316,067	$ 2,445,706	$ 2,936,631	$ 2,013,221	$ 3,985,112	$ 1,800,951	$ 1,947,659	$ 2,006,000	$ 2,069,271	$ 2,126,390	$ -
Variance from Target		($1,000,701)	($2,244,042)	($2,144,008)	($2,920,056)	($1,249,175)	($3,893,947)	($1,620,234)	($1,866,666)	($1,709,732)	($1,794,269)	($2,120,373)	($6,020)

3.3.4 *Wastewater Cash Flow Forecast*

The final step in the development of the wastewater utility financial plan involves the preparation of a comprehensive cash flow forecast. A summary of the wastewater cash flow forecast is presented in Table 26 on the following page. The key components of the forecast are Financial Plan Inputs, Revenues, Expenditures, and Operating Performance.

The Financial Plan Inputs component indicates the forecast rate revenue increases. These increases were determined in consultation with City staff and are designed to:

- Ensure recovery of wastewater utility O&M expenditures
- Provide cash financing for the wastewater capital projects outlined in the CIP
- Minimize risk via the build-up of operating reserves equivalent to 90 days of O&M and Debt Service

The Revenues component indicates the revenue at existing rates discussed previously, non-rate revenue and the additional revenue generated by the rate revenue increases shown in the inputs section. Given the forecast of wastewater demand, O&M and capital expenditures and the 90 Day operating benchmark, the "additional revenue" line represents the amount of revenue needed—above existing rate revenues—to ensure adequate recovery of the wastewater utility's revenue requirement going forward.

The Expenditures component indicates the major sources of expenditures for the City's wastewater utility: O&M expenditures, Capital expenditures (Rate Revenue Financing and Debt Service) and Transfers to the Operating Reserve.

The Operating performance section indicates the year end position of the wastewater utility with respect to a few key factors. Included are the estimated operating reserve balance, the target reserve balance (90 Days of O&M and Debt Service), and the construction fund ending balance.

TABLE 26: WASTEWATER CASH FLOW FORECAST

Wastewater Utility	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
FINANCIAL PLAN INPUTS												
Cumulative % Increase		7.0%	14.0%	22.1%	22.0%	31.2%	33.8%	36.5%	39.2%	42.0%	44.8%	47.7%
Annual % Increase in Rate Revenue	0.0%	7.0%	7.0%	7.0%	4.5%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
REVENUES												
Drains Total Wastewater Revenue at Existing Rates	$ 27,777,374	$ 27,777,374	$ 27,777,374	$ 27,777,374	$ 27,777,374	$ 27,777,374	$ 27,777,374	$ 27,777,374	$ 27,777,374	$ 27,777,374	$ 27,777,374	$ 27,777,374
Additional Revenue from Rate Increases	$ -	$ 2,083,303	$ 4,173,503	$ 6,410,160	$ 7,948,500	$ 8,669,000	$ 9,381,600	$ 10,130,200	$ 10,853,500	$ 11,666,900	$ 12,455,600	$ 13,290,001
Total Non-Rate Revenue	$ 395,872	$ 403,562	$ 420,948	$ 426,068	$ 432,741	$ 439,354	$ 501,088	$ 528,118	$ 535,407	$ 552,300	$ 567,990	$ 590,610
Add Transfers in From General Fund	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Rate and Non-Rate Revenues	$ 28,173,246	$ 30,264,237	$ 32,371,823	$ 34,613,532	$ 36,158,615	$ 36,875,728	$ 37,670,242	$ 38,433,692	$ 39,167,281	$ 39,996,600	$ 40,801,164	$ 41,616,493
EXPENDITURES												
Total O&M Expenditures	$ 24,227,927	$ 23,093,392	$ 22,294,671	$ 24,091,669	$ 24,812,101	$ 25,587,115	$ 26,217,191	$ 27,124,115	$ 27,647,951	$ 28,600,000	$ 29,001,257	$ 30,597,770
Direct Total Existing and Proposed Debt Service	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Wastewater Rate Revenue Financing (Cash)	$ 5,300,000	$ 7,000,000	$ 9,500,000	$ 2,500,000	$ 12,000,000	$ 8,000,000	$ 8,000,000	$ 7,500,000	$ 8,000,000	$ 8,000,000	$ 8,000,000	$ 8,000,000
Wastewater Transfer to Equipment Replacement Fund	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Capital Expenditures	$ 5,300,000	$ 7,000,000	$ 9,500,000	$ 2,500,000	$ 12,000,000	$ 8,000,000	$ 8,000,000	$ 7,500,000	$ 8,000,000	$ 8,000,000	$ 8,000,000	$ 8,000,000
Net Surplus/Deficit	$ (1,354,681)	$ 300,845	$ (422,848)	$ 1,021,863	$ (653,486)	$ 2,288,613	$ 2,341,051	$ 2,808,576	$ 3,520,330	$ 3,396,600	$ 3,799,907	$ 2,018,723
GROSS REVENUE REQUIREMENTS												
O&M	$ 24,227,927	$ 23,093,392	$ 22,294,671	$ 24,091,669	$ 24,812,101	$ 25,587,115	$ 26,217,191	$ 27,124,115	$ 27,647,951	$ 28,600,000	$ 29,001,257	$ 30,597,770
Debt	$ 5,300,000	$ 7,000,000	$ 9,500,000	$ 2,500,000	$ 12,000,000	$ 8,000,000	$ 8,000,000	$ 7,500,000	$ 8,000,000	$ 8,000,000	$ 8,000,000	$ 8,000,000
Operating Surplus/Deficit	$ (1,354,681)	$ 300,845	$ (422,848)	$ 1,021,863	$ (653,486)	$ 2,288,613	$ 2,341,051	$ 2,808,576	$ 3,520,330	$ 3,396,600	$ 3,799,907	$ 2,018,723
Total Gross Revenue Requirements	$ 28,173,246	$ 30,264,237	$ 32,371,823	$ 34,613,532	$ 36,158,615	$ 36,875,728	$ 37,670,242	$ 38,433,692	$ 39,167,281	$ 39,996,600	$ 40,801,164	$ 41,616,493
OPERATING PERFORMANCE												
Ending Operating Reserve Balance	$ 5,307,252	$ 5,608,097	$ 5,185,249	$ 6,207,112	$ 5,373,726	$ 7,662,341	$ 9,993,392	$ 12,802,072	$ 16,322,402	$ 19,918,602	$ 23,718,509	$ 25,736,232
Target Operating Reserve Balance	$ 6,060,907	$ 5,773,348	$ 5,588,968	$ 6,422,902	$ 6,203,025	$ 6,396,278	$ 6,581,870	$ 6,781,029	$ 6,916,988	$ 7,200,000	$ 7,420,313	$ 7,645,182
Variance From Target	$ (753,655)	$ (165,251)	$ (403,419)	$ 14,000	$ (829,299)	$ 1,267,062	$ 1,411,522	$ 2,021,043	$ 3,405,414	$ 2,718,602	$ 2,298,196	$ 2,091,050
Construction Fund Ending Balance	$ 204,324	$ 79,021	$ 101,758	$ 18,873	$ 264,047	$ 21,565	$ (50,71)	$ 86,981	$ 298,487	$ 272,002	$ 6,918	$ (9,721)
Street Alone DSCR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

4. WATER UTILITY COST OF SERVICE STUDY

Following the determination of the water utility financial plan, the next steps are to summarize the water utilities total rate revenue requirement, determine the proportion of that requirement which is attributable to each customer class, and calculate the volumetric and fixed rates.

4.1 WATER REVENUE REQUIREMENT FROM RATES

Table 27 below indicates the level of water utility expenditures which must be recovered from rates in the FY 2015 test year and each year of the forecast period. It is comprised of the forecast water utility O&M and capital expenditures, and is offset by non-rate revenues the water utility is anticipated to receive over the forecast period. The total test year revenue requirement is approximately $34 Million.

TABLE 27: WATER REVENUE REQUIREMENTS

OPERATION AND MAINTENANCE EXPENDITURES												
Revenue/Expense Item	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Total Dept 530.100-Utilities - Water Administration	$ 7,482,304	$ 7,210,511	$ 7,845,452	$ 8,176,407	$ 8,419,955	$ 8,697,940	$ 8,923,374	$ 9,186,386	$ 9,457,512	$ 9,736,593	$ 10,024,296	$ 10,320,946
Total Dept 530.200-Utilities - Water Cross Connection P	$ 104,509	$ 108,231	$ 112,037	$ 116,015	$ 120,142	$ 124,426	$ 128,872	$ 133,489	$ 138,276	$ 143,254	$ 148,428	$ 153,782
Total Dept 540.100-Water Service Center Management	$ 1,323,240	$ 1,344,660	$ 1,364,276	$ 1,384,049	$ 1,366,925	$ 1,419,276	$ 1,452,037	$ 1,501,357	$ 1,548,965	$ 1,598,273	$ 1,649,172	$ 1,701,759
Total Dept 540.300-WSC - Capital Improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 540.200-Wsc-Meter Reading - Water	$ 730,577	$ 533,201	$ 551,628	$ 570,642	$ 590,350	$ 610,770	$ 631,891	$ 653,813	$ 676,877	$ 700,261	$ 724,759	$ 750,441
Total Dept 540.202-Wsc-Water Distribution Mains	$ 3,390,697	$ 3,508,220	$ 3,634,447	$ 3,755,207	$ 4,080,684	$ 4,231,061	$ 4,378,060	$ 4,527,344	$ 4,683,618	$ 4,846,984	$ 5,011,321	$ 5,187,008
Total Dept 545.200-Water Plant - Operations	$ 21,545,158	$ 5,429,889	$ 5,600,034	$ 6,390,165	$ 6,482,080	$ 6,670,603	$ 6,865,922	$ 7,068,391	$ 7,277,975	$ 7,495,250	$ 7,720,402	$ 7,953,720
Total Dept 545.201-Water Plant Maintenance	$ 1,288,621	$ 1,528,451	$ 1,564,128	$ 1,740,751	$ 1,759,383	$ 1,850,643	$ 1,922,875	$ 1,987,037	$ 2,058,313	$ 2,125,071	$ 2,197,267	$ 2,272,210
Total Dept 545.202-Water Plant - Dam Operations	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 545.203-Water Plant - Dam Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 545.300-Water Plant - Capital Improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 964.101-Transfers out to 000.101	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000	$ 1,130,000
Total Operation and Maintenance Expenditures	$ 30,965,506	$ 21,483,441	$ 22,140,002	$ 22,216,887	$ 22,993,594	$ 24,705,148	$ 25,434,593	$ 26,188,715	$ 26,969,040	$ 27,774,441	$ 28,607,324	$ 29,469,768

CAPITAL EXPENDITURES												
Revenue/Expense Item	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Grand Total Existing and Proposed Debt Service	$ 2,747,846	$ 2,742,821	$ 2,748,433	$ 2,846,448	$ 2,944,080	$ 3,043,199	$ 3,038,829	$ 3,130,721	$ 3,675,674	$ 3,068,603	$ 3,423,748	$ 3,969,000
Water Rate Revenue Financing (Cash)	$ 7,000,000	$ 5,000,000	$ 6,500,000	$ 6,500,000	$ 6,000,000	$ 6,500,000	$ 7,500,000	$ 7,000,000	$ 7,500,000	$ 8,000,000	$ 8,500,000	$ 8,500,000
Add: Net Operating Surplus (Deficit)	$ (2,252,276)	$ 3,047,727	$ 1,669,853	$ (704,543)	$ 163,488	$ 324,603	$ (397,316)	$ (93,030)	$ 492,309	$ 634,393	$ (166,668)	$ 1,399,788
Add: Water Transfers to Equipment Replacement Fu	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Capital Expenditures	$ 6,999,168	$ 13,930,548	$ 14,912,286	$ 15,358,903	$ 15,817,374	$ 16,268,858	$ 16,542,517	$ 16,608,696	$ 16,669,062	$ 16,720,187	$ 16,757,077	$ 16,790,788
GROSS REVENUE REQUIREMENT FROM RATES	$ 45,860,374	$ 35,049,080	$ 37,052,348	$ 38,075,791	$ 38,806,678	$ 40,974,006	$ 41,977,110	$ 42,797,411	$ 43,637,362	$ 44,494,628	$ 45,365,062	$ 46,259,888

NON-RATE REVENUE												
Revenue/Expense Item	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Total Non-Rate Revenues	$ 785,000	$ 813,314	$ 831,644	$ 927,069	$ 928,503	$ 929,131	$ 931,145	$ 930,720	$ 933,187	$ 936,369	$ 939,527	$ 942,481
NET REVENUE REQUIREMENT FROM RATES	$ 42,074,374	$ 34,400,670	$ 36,100,098	$ 37,148,678	$ 38,878,175	$ 40,044,875	$ 41,045,970	$ 41,866,690	$ 42,704,175	$ 43,558,259	$ 44,425,475	$ 45,310,000

4.2 WATER REVENUE REQUIREMENTS BY CUSTOMER CLASS

Following the development of the total test year revenue requirement, the proportion of the total revenue requirement allocable to each customer class must be determined. This allocation represents the level of revenues that must be recovered from each customer class, given the operational demands that class places on the water utility system. This allocation is performed via the multi-step process described below.

4.2.1 O&M Allocation to Function Categories

The first step in determining revenue requirements by customer class is to allocate the test year O&M revenue requirement to functional categories. These categories are functions that the water utility must perform in order to deliver water service to City customers. For the water utility they are: Administrative and General, Customer Service, Source of Supply, Pumping, Treatment, Storage, Transmission Mains, Distribution Mains, Meters and Services and Hydrants.
The O&M allocations, by department, are shown in Table 28 on the following page.

TABLE 28: WATER O&M ALLOCATION TO FUNCTIONAL CATEGORIES

DEPARTMENT	Total O&M Allocation	Administrative and General	Customer Service	Source of Supply	Pumping	Treatment	Storage	Transmission Mains	Distribution Mains	Meters and Services	Hydrants
Total Dept 535.1004-Wates - Water Administration	$ 7,718,511	$ 7,718,511	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 535.2004-Wates - Water Cross Connection	$ 108,204	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 108,204	$ -	$ -
Total Dept 540.100-Water Service Center Management	$ 1,244,850	$ -	$ 1,244,850	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 540.300-WSC - Capital Improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 540.200-WSC-Water Reading - Water	$ 533,281	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 533,281	$ -
Total Dept 540.202-WSC-Water Distribution Mains	$ 3,698,236	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,698,236	$ -	$ -
Total Dept 545.200-Water Plant - Operations	$ 5,420,888	$ -	$ -	$ -	$ -	$ 5,420,888	$ -	$ -	$ -	$ -	$ -
Total Dept 545.201-Water Plant Maintenance	$ 1,626,451	$ -	$ -	$ -	$ -	$ 1,626,451	$ -	$ -	$ -	$ -	$ -
Total Dept 545.202-Water Plant - Dam Operations	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 545.203-Water Plant - Dam Maintenance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 545.300-Water Plant - Capital Improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 905.101-Transfers out to fund 101	$ 7,130,000	$ 7,130,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
GRAND TOTAL WATER UTILITY	$ 21,480,441	$ 8,848,511	$ 1,244,850	$ -	$ -	$ 7,050,339	$ -	$ -	$ 3,806,440	$ 533,281	$ -

4.2.2 O&M Allocation to Cost Components

Once O&M costs have been allocated to functional categories, the total O&M revenue requirement allocated to each functional category must be further allocated based on the operational need that function is designed to fulfill. For this allocation RFC has utilized the "Base Extra Capacity" method described in the American Water Works Association ("AWWA") publication, "Manual of Water Supply Practices M1, Principles of Rates, Fees and Charges (M1)."

The cost components utilized in this study are: base demand, or water demand under average conditions; maximum day and hour demand, or water demand under peak load conditions; customer service, for functions related to customer billing and service; and fire protection, for functions pertaining to the use of public hydrants and private fire lines. Table 29 below indicates the classification of water O&M expenditures to the cost components described above.

TABLE 29: WATER O&M ALLOCATION TO COST COMPONENTS

		$ Allocation									
						Customer Units		Fire Protection			
FUNCTIONAL CLASSIFICATION	Total $ Allocation	Base Demand	Max Day Extra Capacity	Max Hour Extra Capacity	Equivalent Meters & Services	Size	Private Fire Equivalent Connections	Size	Public Fire Hydrants
Administrative and General	$ 8,848,517	$ 2,791,753	$ 4,431,010	$ 380,458	$ 1,245,291	$ -	$ -	$ -	$ -
Customer Service	$ 1,244,650	$ -	$ -	$ -	$ 1,244,650	$ -	$ -	$ -	$ -
Source of Supply	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Treatment	$ 7,060,319	$ 2,717,572	$ 4,342,747	$ -	$ -	$ -	$ -	$ -	$ -
Storage	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Transmission Mains	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Distribution Mains	$ 3,806,440	$ 1,208,810	$ 1,922,905	$ 314,724	$ -	$ -	$ -	$ -	$ -
Meters and Services	$ 533,291	$ -	$ -	$ -	$ 533,291	$ -	$ -	$ -	$ -
Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$ 21,493,441	$ 6,718,137	$ 10,696,662	$ 695,182	$ 3,023,462	$ -	$ -	$ -	$ -

4.2.3 Capital Cost Allocation to Functional Components

Similar to the allocation of the O&M revenue requirement described in the previous section, the capital revenue requirement must be allocated to functional categories. Table 30 on the following page indicates the functional allocation of capital costs.

The basis for the allocation of capital costs was the existing level of water utility investment in fixed assets. The existing net book value of each major asset class was allocated to the functional categories. The total capital revenue requirement, approximately 14 Million in the test year, was then allocated according to the proportion of existing investment in each functional category. As indicated, a large proportion of investment in fixed assets pertains to upgrades to the City's water treatment plant. As such, the majority of the capital revenue requirement (68%) has been allocated to the treatment function.

TABLE 30: WATER CAPITAL ALLOCATION TO FUNCTIONAL CATEGORIES

Allocation of Capital Costs to Functional Categories	Total	Administrative and General	Customer Service	Source of Supply	Pumping	Treatment	Storage	Transmission Mains	Distribution Mains	Meters and Services	Hydrants
Breakdown of Fixed Assets by Functional Category	100%	0.21%	0.00%	9.53%	0.48%	48.39%	0.00%	0.00%	19.28%	3.09%	0.04%
Total Capital Expenditures	$ 15,834,548	$ 33,511	$ -	$ 1,317,605	$ 66,010	$ 9,438,103	$ -	$ -	$ 2,663,637	$ 285,671	$ 5,810

Allocation of Water Fixed Assets to Functional Categories FIXED ASSET CATEGORY	Net Book Value	Administrative and General	Customer Service	Source of Supply	Pumping	Treatment	Storage	Transmission Mains	Distribution Mains	Meters and Services	Hydrants
01Land	$ 724,317	$ 73,098	$ -	$ 603,947	$ 8,325	$ 34,803	$ -	$ -	$ 5,050	$ -	$ -
02Construction-in-Progress	$ 755,591	$ 1,016	$ -	$ 71,992	$ 3,867	$ 510,782	$ -	$ -	$ 165,548	$ 16,828	$ 307
20Land improvement	$ 198,099	$ 426	$ -	$ 10,928	$ 948	$ 136,975	$ -	$ -	$ 38,268	$ 4,191	$ 81
21Building improvements	$ 3,464,602	$ 7,449	$ -	$ 330,684	$ 16,537	$ 2,308,449	$ -	$ -	$ 607,339	$ 72,670	$ 1,468
23Dist Plant - Hydrants	$ 18,459	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 18,459
24Dist Plant - Water mains	$ 7,175,835	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,175,835	$ -	$ -
25Dist Plant - Meters	$ 849,348	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 849,348	$ -
26Dist. - Struc & Improv	$ 629,585	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 629,585	$ -	$ -
27Lab Equip	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
28Office Equip & Furn	$ 12,923	$ 12,923	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
29Power operated equip	$ 4,990	$ 13	$ -	$ 572	$ 25	$ 3,101	$ -	$ -	$ 1,158	$ 120	$ 2
31Pump Plant (Electric Pump Equip)	$ 120,581	$ -	$ -	$ -	$ 120,581	$ -	$ -	$ -	$ -	$ -	$ -
32Pump Plant - Struc & Imp	$ 68,574	$ -	$ -	$ -	$ 68,574	$ -	$ -	$ -	$ -	$ -	$ -
33Source of Supplies - Main (Pipe Line)	$ 2,475,415	$ -	$ -	$ 2,475,415	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34Source of Water Supplies - Structure	$ 783,912	$ -	$ -	$ 783,912	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35Tools, Clnc, & Garage Eq	$ 3,080	$ 7	$ -	$ 293	$ 15	$ 2,107	$ -	$ -	$ 583	$ 65	$ 1
36Vehicle	$ 349,751	$ 747	$ -	$ 33,225	$ 1,685	$ 239,499	$ -	$ -	$ 61,172	$ 7,305	$ 143
37Treatment - Struc & Imp/	$ 384,645	$ -	$ -	$ -	$ -	$ 384,645	$ -	$ -	$ -	$ -	$ -
38Treatment Plant Equip	$ 115,892	$ -	$ -	$ -	$ -	$ 115,892	$ -	$ -	$ -	$ -	$ -
OWRLF Phase 1/Seg 1 Total	$ 3,978,530	$ -	$ -	$ -	$ -	$ 3,978,530	$ -	$ -	$ -	$ -	$ -
OWRLF Phase 1/Seg 2 Total	$ 4,300,011	$ -	$ -	$ -	$ -	$ 4,300,011	$ -	$ -	$ -	$ -	$ -
OWRLF Phase 1/Seg 3 Total	$ 4,388,588	$ -	$ -	$ -	$ -	$ 4,388,588	$ -	$ -	$ -	$ -	$ -
OWRLF Phase 1/Seg 4 Total	$ 7,579,458	$ -	$ -	$ -	$ -	$ 7,579,458	$ -	$ -	$ -	$ -	$ -
OWRLF Phase 1/Seg 5 Total	$ 8,085,880	$ -	$ -	$ -	$ -	$ 8,085,880	$ -	$ -	$ -	$ -	$ -
Total Water Fixed assets	$ 16,278,750	$ 97,040	$ -	$ 4,310,369	$ 218,343	$ 30,698,034	$ -	$ -	$ 8,730,667	$ 948,031	$ 18,397
% Breakdown	100.00%	0.21%	0.00%	9.53%	0.48%	48.39%	0.00%	0.00%	19.28%	3.09%	0.04%

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4.2.4 *Capital Cost Allocation to Cost Components*

As with the allocation of the O&M revenue requirement described above, the functionally allocated capital revenue requirement must also be allocated according to the operational need for which each function is designed to fulfill.

The "Base Extra Capacity" method described in AWWA M1 is also used to allocate the capital revenue requirement to cost components. Table 31 below summarizes this allocation.

TABLE 31: WATER CAPITAL ALLOCATION TO COST COMPONENTS

		[illegible]							
			Max Day	Max Hour	Customer Units		Fire Protection		
FUNCTIONAL CLASSIFICATION	Total $ Allocation	Base Demand	Extra Capacity	Extra Capacity	Equivalent Meters & Services	Bills	Private Fire Connections	Bills	Public Fire Hydrants
Administrative and General	29,611	-	-	-	29,611	-	-	-	-
Customer Service	-	-	-	-	-	-	-	-	-
Source of Supply	4,312,656	1,317,869	-	-	-	-	-	-	-
Pumping	99,010	25,447	49,165	-	-	-	-	-	-
Treatment	9,456,103	3,049,667	5,913,497	-	-	-	-	-	-
Storage	-	-	-	-	-	-	-	-	-
Transmission Mains	-	-	-	-	-	-	-	-	-
Distribution Mains	2,983,633	867,946	1,415,691	380,396	-	-	-	-	-
Meters and Services	300,678	-	-	-	299,678	-	-	-	-
Hydrants	5,513	5,513	-	-	-	-	-	-	-
Total Capital Expenditures	13,836,548	5,002,205	7,298,754	380,397	319,289				

4.2.5 *Non-Rate Revenue Allocation to Cost Components*

Non-rate revenue must be excluded from the O&M and Capital revenue requirements as these amounts are an offset to the revenue requirement which will be recovered from rates. Consequently, non-rate revenues are allocated to the cost components so that they can be removed from the total revenue requirement. In this case, non-rate revenues were allocated proportionally according to the total O&M revenue requirement allocation and can be seen in Table 32 on the below.

TABLE 32: WATER NON-RATE REVENUE ALLOCATION TO COST COMPONENTS

Account Number	Description	Total Allocation	Base Demand	Max Day Extra Capacity	Max Hour Extra Capacity	Customer Class Equivalent Meters & Service	Fire Protection Private Fire Equivalent Connections	Public Fire Hydrants
[illegible]	Fees - Housing Authority	-						
[illegible]	Charges For Sale	-						
[illegible]	Scrap Sales	5,000	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	Fines - Traffic On Fines - Jamies	120,000	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	Forfeited Discount - Utilities	350,000	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	Interest Earned On Bank Clearing	37,714	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	Rental - City Property	-						
[illegible]	Sale Of Tax Assets	25,000	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	Discounts Earned	-						
[illegible]	Post Fire Reserve	-						
[illegible]	Water Meter Sales	-						
[illegible]	Scrap Sales	-						
[illegible]	Rental - City Property	-						
[illegible]	Reimbursements	-						
[illegible]	Minimum & Adj Charge Sales	150,000	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	Charges For Sale	-						
[illegible]	Minimum & Adj Charge Sales	250,000	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	Fees - Water Meting - Utilities	-						
[illegible]	Charges For Sale	-						
[illegible]	Scrap Sales	-						
[illegible]	Other Income	-						
[illegible]	Reimbursements	-						
[illegible]	Discounts Earned	-						
Add Transfers In from General Fund		-						
Total Non-Rate Revenues		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		

4.2.6 *Determination of Maximum Day and Hour Peaking Factors*

Once each component of the revenue requirements has been determined, maximum day and hour peaking factors for each customer class are estimated. These are the basis upon which the maximum day and hour cost allocations, determined in the previous step, are allocated to each customer class. In general, the guidelines for determining maximum day and hour peaking factors outlined in AWWA M1 were the basis for this component of the analysis.

The maximum day demand for each customer class is estimated as the average usage per day in the highest usage month, divided by the annual average usage per day, weighted by the ratio of maximum day demand to the average demand in the maximum month for the entire water system. In other words:

- System Max Day to Average Day in Max Month=(System Max Day Demand)/(System Max Month/30)
- Class Maximum Day=[(Class Max Month/30)/(Class Annual Total)/365]*[System Max Day to Average Day in Max Month]

The weighting occurs because the exact maximum day, by customer class is not known, but is assumed to have the same relationship to the average day in the maximum month as the entire system. As the exact customer class maximum hour is not known, a similar weighting process occurs to determine the customer class maximum hour demands:

- System Max Hour to Average Day in Max Month=(System Max Hour)/(System Max Month/30)
- Class Maximum Hour=Class Max Day*System Max Hour to Average Day in Max Month

The determination of customer class peaking factors is shown in Table 33 on the below.

TABLE 33: WATER PEAKING FACTOR CALCULATIONS

System Production Matrix	Annual Total	System Annual Average Day	System Max Month	Average Day In Max Month	System Max Day	System Max Day to Average Day	System Max Day to Average Day In MM	System Max Hour Peak (Estimated)	System Max Hour	System Max Hour to Average Day	System Max Hour to Average Day In MM
Total System	[illegible]	[illegible]	[illegible]	14,214	24,777	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Determination of Customer Class Peaking Factors										
Customer Class	Annual Total	Max Month	Max Day In Max Month Day	Annual Average Day	Max Day Average Day	System Max Day to Average Day	Max Day Peaking Factor	System Max Hour Day Average Day	Max Hour Peaking Factor
INSIDE CITY RETAIL									
Total Inside City Residential	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.75	[illegible]	1.95	[illegible]
Total Inside City Comm Industrial/Irr	[illegible]	[illegible]	[illegible]	4,320	[illegible]	1.75	[illegible]	1.95	[illegible]
Total Inside City Lawn	[illegible]	[illegible]	770	37	[illegible]	1.75	[illegible]	1.95	[illegible]
Total Inside City	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.75	[illegible]	1.95	[illegible]
OUTSIDE CITY RETAIL									
Total Outside City Residential	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.75	[illegible]	1.95	[illegible]
Total Outside City Comm/Industrial/Irr	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.75	[illegible]	1.95	[illegible]
Total Outside City Lawn						1.75		1.95	
Total Outside City	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.75	[illegible]	1.95	[illegible]
Total System	[illegible]	[illegible]	14,214	[illegible]	[illegible]				

4.2.7 *Calculation of Units of Service*

The next step in the cost allocation process is to summarize the units of service, which are the basis for the allocation of the total revenue requirement to each of the customer classes. The units are Base units, Maximum Day Extra Capacity units, Maximum Hour Extra Capacity units, Customer units and Direct Fire Protection Units and are indicated in Table 34 on the following page.

Base units are the annual usage for each customer class. Maximum Day Extra Capacity units represent the water demand in excess of that which is used on an average day for that customer class, and is a function of the average daily usage and the customer class peaking factor determined in the prior step.

As an example, the residential class is forecast to use 1.7 Million CCF on an annual basis in the test year. This equates to 4,700 CCF/day on an average day. Based on the maximum day peaking factor determined in the previous step, Residential customers, on their highest usage day of the year, typically use 1.7 times their average day usage, or around 8,200 CCF. The difference between the maximum day and average day, around 3,500 CCF, represents the Maximum Day Extra Capacity units.

A similar calculation is used to determine the Maximum Hour Extra Capacity Units, which are simply the usage forecast in the highest hour of the test year, less the maximum day demand.

Customer Units are equivalent meters, and customer monthly bills. The number of bills for each customer class was ascertained via an examination of the billing data from the City's Customer Information System ("CIS"). The equivalent meters are the number of customer meters at each meter size weighted by the potential water demand each meter can place on the water system.

Private fire connections and hydrants were not included as the City does not currently bill separately for public or private fire protection.

TABLE 34: WATER UNITS OF SERVICE

Water Units of Service	Base Units		Maximum Day Extra Capacity Units			Maximum Hour Extra Capacity Units			Customer Units		Direct Fire Protection		
	Forecast Annual Demand CCF	Forecast Average Day Demand	Capacity Factor	Total Capacity	Extra Capacity	Capacity Factor	Total Capacity	Extra Capacity	Equivalent Meters & Services	Bills	Equivalent Connections	Private Fire Bills	Public Fire Hydrants
INSIDE CITY RETAIL CONSUMPTION REVENUE													
Total Inside City Residential	4,745,535	4,783	2.63	12,063	7,281	4.95	23,621	11,150	28,621	281,217			
Total Inside City Commercial/Industrial	1,484,239	4,096	2.49	10,032	5,666	5.24	21,317	10,285	8,808	15,210			
Total Inside City Lawn	12,586	34	8.12	280	245	25.22	546	266	113	565			
Total Inside City	3,242,398	8,883		22,375	13,292	36	45,287	22,112	34,859	317,092			
OUTSIDE CITY RETAIL CONSUMPTION REVENUE													
Total Outside City Residential	8,112	22	3.00	67	44	5.85	130	63	129	1,502			
Total Outside City Commercial/Industrial	26,266	72	3.45	223	151	8.33	455	220	166	417			
Total Outside City Lawn	0		9.00			0.00							
Total Outside City	34,377	94		290	196	12	585	283	296	1,919			
Grand Total System Units of Service	3,276,775	8,977		22,665	13,488	38	45,872	22,395	35,154	319,011			

4.2.8 *Unit Cost of Service*

Following the allocation of the water revenue requirements to each of the cost components and the calculation of the units of service, a unit cost of service for each cost component can be determined. These unit costs are basis by which the revenue requirements by customer class are determined. The unit cost of service is the revenue requirement, as allocated to the cost components, divided by the units of service attributable to that component and is shown in Table 35 below.

TABLE 35: WATER UNIT COST OF SERVICE

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

For example, total base demand units are 3.2 Million CCF. This means that the O&M, Capital and Non-Rate Revenue Requirements cost $2.07, $1.80 and $(.09) per unit of base water demand. The total unit cost to serve base water demand is $3.78/CCF. The calculation is repeated for each cost component to determine the overall unit cost to serve base demand, extra capacity demand (max day and hour) and provide customer service.

4.2.9 *Revenue Requirements by Customer Class*

The customer class revenue requirements are the basis for establishing alternative rates by customer class. The City's existing rate structure does not include distinct rates by customer class. At this time the City will not be implementing any rate structure changes. However, the distinct class revenue requirements are shown in Table 36 below and are the basis for the alternative rates by customer class presented as Appendix A.

TABLE 36: WATER REVENUE REQUIREMENTS BY CUSTOMER CLASS

Water Units of Service											
					Customer Units		Direct Fire Protection				
							Private Fire				
CUSTOMER CLASS		Base Demand Units	Max Day Base Capacity	Max Hour Base Capacity	Equivalent Meters in Services	Bills	Equivalent Fire Connections	Fire Bills	Public Fire Hydrants	
Total System Revenue Requirements	$ 58,400,875	$ 12,372,288	$ 17,818,021	$ 11,108,152	$ 3,214,218	$ -	$ -	$ -	$ -	
Total System Unit COS		$ 3.78	$ 5,896.74	$ 23.50	$ 94.13	$ -	$ -	$ -	$ -	
Units of Service										
Total Inside City Residential		1,745,535	7,291	41,406	25,821	201,311				
Total Inside City Commercial/Industrial		1,444,239	5,860	40,385	8,509	45,210				
Total Inside City Lawn		12,568	249	288	138	552				
Total Inside City		3,212,330	13,398	82,112	34,468	247,068				
Total Outside City Residential		8,112	34	60	128	1,500				
Total Outside City Commercial/Industrial		26,268	191	222	166	417				
Total Outside City Lawn		-	-	-	-	-				
Total Outside City		34,379	225	283	295	1,920				
Total System Units of Service		3,246,708	13,598	82,397	34,763	248,988				
Allocated Cost of Service										
Total Inside City Residential COS	$ 18,845,872	$ 8,582,770	$ 8,780,340	$ 817,009	$ 2,355,365	$ -	$ -	$ -	$ -	
Total Inside City Commercial/Industrial COS	$ 15,303,704	$ 5,804,160	$ 8,284,911	$ 555,505	$ 810,029	$ -	$ -	$ -	$ -	
Total Inside City Lawn COS	$ 870,648	$ 47,581	$ 296,185	$ 14,275	$ 12,714	$ -	$ -	$ -	$ -	
Total Inside City COS	$ 35,020,224	$ 14,434,511	$ 17,361,436	$ 1,386,790	$ 3,178,107	$ -	$ -	$ -	$ -	
Total Outside City Residential COS	$ 59,483	$ 30,530	$ 31,842	$ 2,304	$ 11,822	$ -	$ -	$ -	$ -	
Total Outside City Commercial/Industrial COS	$ 321,189	$ 97,177	$ 194,843	$ 14,853	$ 15,286	$ -	$ -	$ -	$ -	
Total Outside City Lawn COS	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Total Outside City COS	$ 423,672	$ 128,707	$ 226,685	$ 17,158	$ 27,108	$ -	$ -	$ -	$ -	
Total System Cost of Service	$ 35,443,896	$ 14,563,218	$ 17,588,121	$ 1,403,948	$ 3,205,215	$ -	$ -	$ -	$ -	
Check on Total System COS (should be 0)	$ -									

As Table 36 indicates, the revenue requirement for each customer class is the total unit cost of service determined previously, multiplied by the units of service for each customer class. The total allocation is based on each customer class's contribution to the water utility's overall operating and capital costs, as represented by their units of service.

4.3 WATER RATE DESIGN

As mentioned previously, the water rates have been calculated under the City's existing rate structure. The rate calculation under existing rates will be presented here, with the alternative rates by customer class presented as Appendix A for informational purposes.

4.3.1 Volumetric Rate Calculations

As mentioned above, the City did not indicate a desire to significantly modify its water rate structure at this time. Therefore RFC maintained various components of the existing water volumetric rates including:

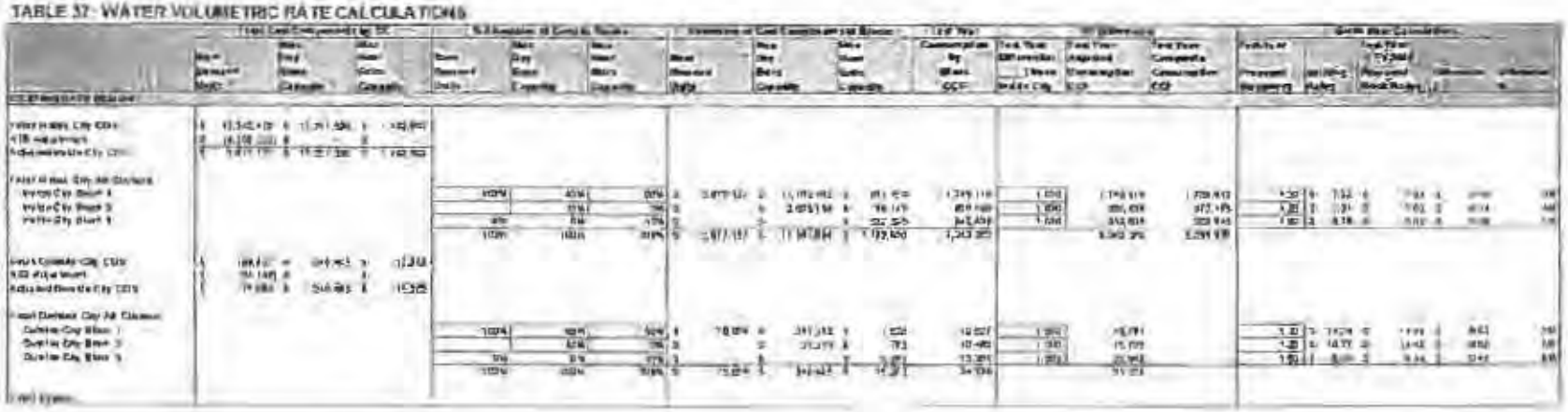
- The existing inside/outside city differential (i.e. outside=150% of inside)
- The existing steepness or difference between the highest, middle and lowest block rates
- The existing structure which charges the same volumetric rates for all customer classes
- The existing shift of some volumetric costs to the fixed service charge (i.e. a readiness to serve adjustment)

The calculation of the water volumetric rates involves the following steps

- Determine total composite volumetric revenue requirement:
  - Adjust the test-year volumetric revenue requirement (i.e. Base, Max Day and Max Hour costs) by the readiness to serve amount
  - Allocate the adjusted volumetric revenue requirement to the three consumption blocks
  - Add the block allocation for inside and outside city customers to determine a composite volumetric revenue requirement for all customer classes
- Determine the composite water volumetric units:
  - Multiply the consumption, by block, for inside and outside city customers, by their respective differentials (Outside=150% of Inside).
  - Add those units together.
- Calculate Inside and Outside City Volumetric Rates:
  - Determine a composite rate, for each block, for all customer classes:
    - Multiply the composite consumption for each block by the proposed steepness for that block and sum the result
    - For the lowest block divide the total composite revenue requirement by the total determined above.
    - For Blocks 2 and 3 multiply the Block 1 rate by the proposed steepness for Blocks 2 and 3.
  - Multiply the composite rates, by block determined above, by the outside and inside city differentials to determine the block rates for inside and outside city customers.

A summary of the water volumetric rate calculations are indicated in Table 37 below.

TABLE 37- WATER VOLUMETRIC RATE CALCULATIONS



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4.3.2 Fixed Charge Calculations

As noted above, the City did not express a desire to change rate structures at this time. Consequently, the following aspects of the existing rate structure have been maintained including:

- The existing inside/outside city differential (i.e. outside=150% of inside)
- The existing shift of some volumetric costs to the fixed service charge (i.e. a readiness to serve adjustment)
- The flow equivalencies for the various meter sizes

The calculation of the water fixed charges involves the following steps

- Determine total composite fixed charge revenue requirement by summing the fixed charge revenue requirements (i.e. those allocated to the customer service related cost components) and the readiness to serve revenue requirement
- Determine the composite fixed charge water units:
  - Multiply the number of inside and outside city equivalent accounts by the existing I/O differential (Outside=150% of Inside)
  - Add those units together to determine the composite number of equivalent customer accounts
- Calculate Inside and Outside City Volumetric Rates:
  - Determine an annual composite rate for all customer classes by dividing the total composite revenue requirement determined above, by the total composite water equivalent accounts
  - Determine a monthly rate for the 5/8" equivalent account by dividing the annual rate by 12.
  - Multiply the composite fixed charges by the Inside and Outside City differentials (100% for Inside City and 150% for Outside City) to determine the monthly fixed charge per 5/8" equivalent account for inside and outside city customer classes.
  - Multiply the monthly fixed charge for a 5/8" equivalent account by the meter equivalencies for each meter size to determine the monthly fixed charge for the remaining meter sizes.

The fixed charge calculations are shown in Table 38 on the following page.

TABLE 38: WATER FIXED CHARGE CALCULATIONS

CHARGE	Total Revenue Requirements By Charge	Composite Revenue Requirements	Equivalent Accounts	Test Year Differential Times Inside City	Test Year Adjusted Equivalent Accounts	Test Year Composite Equivalent Accounts	Monthly Fixed Charge Per 3/4" Equivalent
Total Inside City Residential	$ 7,083,534	$ 7,094,059	25,531	1.00	25,531	25,834	$ 22.90
Total Inside City Commercial/Industrial	$ 2,451,905	$ 2,538,122	9,048	1.00	9,048	9,277	$ [illegible]
	$ 9,542,429	$ 9,632,181	34,579		34,579	35,111	
Total Outside City Residential	$ 35,433		128	1.50	192		$ [illegible]
Total Outside City Commercial/Industrial	$ 45,819		165	1.50	248		$ [illegible]
	$ 81,252		293		440		

CUSTOMER CLASS	Inside City Meter Equivalency	Outside Meter Equivalency	Proposed Fixed Charge INSIDE CITY	Existing Fixed Charge INSIDE CITY	Difference	Proposed Fixed Charge OUTSIDE CITY	Existing Fixed Charge OUTSIDE CITY	Difference
Residential Customers								
5/8"	1.00	0.60	$ 22.90	$ 21.78	5%	$ 34.17	$ 32.49	5%
3/4"	1.67	1.67	$ 44.03	$ 41.85	5%	$ 65.95	$ 62.71	5%
1"	2.51	2.51	$ 58.15	$ 55.28	5%	$ 87.08	$ 82.78	5%
1-1/2"	2.64	2.63	$ 58.15	$ 55.28	5%	$ 87.08	$ 82.78	5%
2"	2.64	2.53	$ 58.15	$ 55.28	5%	$ 87.08	$ 82.78	5%
Commercial/Industrial Customers								
5/8"	2.45	2.45	$ 55.78	$ 53.585	4%	$ 83.74	$ 80.13	4%
3/4"	2.61	2.61	$ 64.02	$ 61.563	4%	$ 95.84	$ 91.72	4%
1"	3.43	3.43	$ 78.48	$ 75.100	4%	$ 117.74	$ 112.67	4%
1-1/2"	4.55	4.55	$ 103.60	$ 97.756	4%	$ 155.06	$ 146.79	4%
2"	6.30	6.30	$ 137.40	$ 130.822	4%	$ 206.28	$ 196.09	4%
3"	12.66	12.74	$ 276.63	$ 267.444	4%	$ 415.05	$ 401.47	3%
4"	24.04	24.04	$ 847.08	$ 823.438	4%	$ 820.71	$ 785.37	4%
6"	47.27	47.27	$ 1,675.75	$ 1,628.429	4%	$ 1,613.34	$ 1,543.87	4%
8"	88.56	88.56	$ 1,560.09	$ 1,452.875	4%	$ 2,340.14	$ 2,239.47	4%
10"	94.68	95.13	$ 2,183.48	$ 2,060.754	4%	$ 3,247.30	$ 3,107.44	4%
12"	114.45	114.48	$ 2,605.51	$ 2,483.124	4%	$ 3,907.77	$ 3,739.91	4%
18"	142.45	142.46	$ 3,242.25	$ 3,152.236	4%	$ 4,863.38	$ 4,653.37	4%
20"	163.69	167.27	$ 3,801.98	$ 3,651.183	4%	$ 5,709.67	$ 5,465.92	4%

4.3.3 *Summary of Existing and Forecast Water Rates*

Based on the calculations from the previous two sections, the existing and proposed rates for the forecast period are shown on Tables 39 and 40 on the following two pages. Note that while the test year rates have been calculated within the cost of service study, the rates for FY 2016 and beyond are based on the overall rate revenue increase from the water utility financial plan.

TABLE 39: SUMMARY OF EXISTING AND FORECAST VOLUMETRIC WATER RATES

Water Volumetric Rates

CUSTOMER CLASS	CONSUMPTION BLOCK	UNITS	FY 2014 Existing Block Rates	First Year FY 2015 Proposed Block Rates	Forecast FY 2016 Proposed Block Rates	Forecast FY 2017 Proposed Block Rates	Forecast FY 2018 Proposed Block Rates	Forecast FY 2019 Proposed Block Rates	Forecast FY 2020 Proposed Block Rates	Forecast FY 2021 Proposed Block Rates	Forecast FY 2022 Proposed Block Rates	Forecast FY 2023 Proposed Block Rates	Forecast FY 2024 Proposed Block Rates	Forecast FY 2025 Proposed Block Rates
Total Inside City All Classes														
Inside City Block 1	0-35 CCF	($/CCF)	$ 7.59	$ 7.93	$ 8.32	$ 8.69	$ 9.05	$ 9.22	$ 9.38	$ 9.54	$ 9.83	$ 10.03	$ 10.23	$ 10.44
Inside City Block 2	35-2000 CCF	($/CCF)	$ 7.31	$ 7.62	$ 8.00	$ 8.36	$ 8.61	$ 8.87	$ 9.09	$ 9.27	$ 9.46	$ 9.64	$ 9.84	$ 10.03
Inside City Block 3	Above 2000 CCF	($/CCF)	$ 5.73	$ 6.09	$ 6.40	$ 6.69	$ 6.89	$ 7.09	$ 7.27	$ 7.42	$ 7.56	$ 7.72	$ 7.87	$ 8.03
Total Outside City All Classes														
Outside City Block 1	0-35 CCF	($/CCF)	$ 11.38	$ 11.88	$ 12.48	$ 13.04	$ 13.44	$ 13.83	$ 14.08	$ 14.30	$ 14.75	$ 15.04	$ 15.35	$ 15.65
Outside City Block 2	35-2000 CCF	($/CCF)	$ 10.97	$ 11.42	$ 12.00	$ 12.54	$ 12.91	$ 13.30	$ 13.63	$ 13.90	$ 14.18	$ 14.47	$ 14.76	$ 15.05
Outside City Block 3	Above 2000 CCF	($/CCF)	$ 8.60	$ 9.14	$ 9.60	$ 10.03	$ 10.33	$ 10.64	$ 10.91	$ 11.12	$ 11.35	$ 11.61	$ 11.80	$ 12.04

TABLE 40: SUMMARY OF EXISTING AND FORECAST WATER FIXED CHARGES

Water Fixed Charges*

CUSTOMER CLASS	FY 2014 Existing Fixed Charge	Two Year FY 2015 Proposed Fixed Charge	Forecast FY 2016 Proposed Fixed Charge	Forecast FY 2017 Proposed Fixed Charge	Forecast FY 2018 Proposed Fixed Charge	Forecast FY 2019 Proposed Fixed Charge	Forecast FY 2020 Proposed Fixed Charge	Forecast FY 2021 Proposed Fixed Charge	Forecast FY 2022 Proposed Fixed Charge	Forecast FY 2023 Proposed Fixed Charge	Forecast FY 2024 Proposed Fixed Charge	Forecast FY 2025 Proposed Fixed Charge
Inside City Residential Customers												
5/8"	$ 21.76	$ 22.40	$ 24.05	$ 25.13	$ 25.85	$ 26.56	$ 27.30	$ 27.68	$ 28.43	$ 29.00	$ 29.58	$ 30.47
3/4"	$ 41.66	$ 44.03	$ 46.23	$ 48.31	$ 49.76	$ 51.25	$ 52.81	$ 53.50	$ 54.96	$ 56.25	$ 58.97	$ 59.00
1"	$ 55.28	$ 58.96	$ 61.65	$ 63.00	$ 65.72	$ 67.69	$ 69.38	$ 70.47	$ 72.49	$ 73.63	$ 75.10	$ 76.60
1 1/2"	$ 65.28	$ 68.96	$ 64.05	$ 63.00	$ 65.72	$ 67.69	$ 69.38	$ 70.77	$ 72.18	$ 73.63	$ 75.10	$ 76.60
2"	$ 55.28	$ 58.96	$ 61.65	$ 63.00	$ 65.72	$ 67.69	$ 69.38	$ 70.77	$ 72.18	$ 73.63	$ 75.10	$ 76.60
Inside City Commercial/Industrial Customers												
5/8"	$ 53.38	$ 55.79	$ 58.50	$ 61.24	$ 63.05	$ 64.94	$ 66.84	$ 67.90	$ 69.25	$ 70.64	$ 72.05	$ 73.46
3/4"	$ 61.26	$ 64.02	$ 67.02	$ 70.25	$ 72.35	$ 74.50	$ 76.69	$ 77.91	$ 79.47	$ 81.06	$ 82.68	$ 84.34
1"	$ 75.40	$ 78.84	$ 82.47	$ 86.33	$ 88.70	$ 91.36	$ 93.94	$ 95.62	$ 97.53	$ 99.37	$ 101.36	$ 103.38
1 1/2"	$ 107.78	$ 113.00	$ 118.23	$ 123.66	$ 127.26	$ 131.00	$ 134.35	$ 137.04	$ 139.79	$ 142.59	$ 145.43	$ 148.34
2"	$ 150.62	$ 157.46	$ 165.72	$ 172.73	$ 177.83	$ 183.22	$ 187.81	$ 191.50	$ 195.38	$ 199.33	$ 203.35	$ 207.35
3"	$ 297.46	$ 310.83	$ 326.31	$ 341.06	$ 354.29	$ 361.83	$ 370.89	$ 378.29	$ 385.86	$ 393.68	$ 401.45	$ 409.48
4"	$ 523.50	$ 547.05	$ 572.46	$ 600.26	$ 616.26	$ 628.61	$ 643.72	$ 656.78	$ 669.40	$ 682.68	$ 696.03	$ 709.68
6"	$ 1,029.43	$ 1,076.75	$ 1,129.64	$ 1,180.37	$ 1,215.71	$ 1,257.25	$ 1,288.56	$ 1,313.23	$ 1,339.49	$ 1,352.32	$ 1,389.36	$ 1,417.16
8"	$ 1,652.88	$ 1,560.98	$ 1,630.06	$ 1,719.77	$ 1,773.42	$ 1,818.81	$ 1,863.41	$ 1,899.04	$ 1,936.64	$ 1,975.31	$ 2,014.63	$ 2,054.43
10"	$ 2,060.76	$ 2,153.48	$ 2,241.16	$ 2,362.91	$ 2,433.60	$ 2,506.81	$ 2,580.47	$ 2,629.07	$ 2,679.29	$ 2,720.76	$ 2,793.29	$ 2,836.94
12"	$ 2,453.10	$ 2,606.36	$ 2,736.57	$ 2,858.67	$ 2,944.42	$ 3,032.77	$ 3,108.55	$ 3,179.70	$ 3,234.47	$ 3,278.96	$ 3,364.63	$ 3,432.32
16"	$ 3,102.64	$ 3,242.26	$ 3,464.36	$ 3,537.65	$ 3,654.29	$ 3,774.21	$ 3,869.07	$ 3,965.94	$ 4,064.98	$ 4,165.25	$ 4,167.46	$ 4,271.23
20"	$ 3,751.49	$ 3,594.59	$ 3,677.68	$ 3,842.54	$ 3,957.82	$ 4,075.56	$ 4,179.47	$ 4,282.04	$ 4,387.28	$ 4,494.23	$ 4,523.94	$ 4,613.57
Outside City Residential Customers												
5/8"	$ 32.48	$ 34.12	$ 35.87	$ 37.43	$ 38.41	$ 39.77	$ 40.71	$ 41.58	$ 42.41	$ 43.26	$ 44.13	$ 45.04
3/4"	$ 62.71	$ 65.95	$ 69.36	$ 72.31	$ 74.54	$ 76.78	$ 78.69	$ 80.37	$ 82.07	$ 83.51	$ 85.19	$ 86.89
1"	$ 82.29	$ 87.00	$ 91.43	$ 95.35	$ 98.47	$ 101.37	$ 103.93	$ 106.18	$ 108.10	$ 110.26	$ 112.47	$ 114.72
1 1/2"	$ 82.29	$ 87.00	$ 91.43	$ 96.15	$ 98.43	$ 101.37	$ 103.93	$ 106.18	$ 108.10	$ 110.26	$ 112.47	$ 114.72
2"	$ 82.29	$ 87.00	$ 91.43	$ 96.15	$ 98.43	$ 101.37	$ 103.93	$ 106.18	$ 108.10	$ 110.26	$ 112.47	$ 114.72
Outside City Commercial/Industrial Customers												
5/8"	$ 80.33	$ 83.34	$ 87.93	$ 91.68	$ 94.64	$ 97.45	$ 99.92	$ 101.91	$ 103.96	$ 106.03	$ 108.10	$ 110.22
3/4"	$ 91.22	$ 95.84	$ 100.63	$ 105.16	$ 108.32	$ 111.57	$ 114.38	$ 116.64	$ 118.98	$ 121.38	$ 123.79	$ 126.26
1"	$ 112.67	$ 117.74	$ 123.03	$ 128.19	$ 133.07	$ 137.06	$ 140.40	$ 143.30	$ 146.16	$ 149.08	$ 152.07	$ 155.11
1 1/2"	$ 154.79	$ 163.08	$ 172.02	$ 180.51	$ 191.07	$ 196.80	$ 201.72	$ 205.76	$ 209.87	$ 214.07	$ 218.35	$ 222.72
2"	$ 226.00	$ 238.28	$ 248.07	$ 259.24	$ 267.01	$ 275.03	$ 281.90	$ 287.54	$ 293.29	$ 299.15	$ 305.14	$ 311.24
3"	$ 448.47	$ 468.60	$ 492.00	$ 514.73	$ 529.85	$ 545.56	$ 559.19	$ 570.36	$ 581.77	$ 593.41	$ 605.27	$ 617.39
4"	$ 785.37	$ 820.71	$ 861.74	$ 900.52	$ 927.57	$ 955.38	$ 979.24	$ 998.81	$ 1,018.81	$ 1,039.18	$ 1,059.97	$ 1,081.17
6"	$ 1,643.80	$ 1,613.34	$ 1,694.00	$ 1,779.23	$ 1,823.24	$ 1,878.02	$ 1,924.95	$ 1,963.49	$ 2,002.76	$ 2,042.82	$ 2,083.67	$ 2,125.29
8"	$ 2,219.47	$ 2,340.24	$ 2,457.26	$ 2,567.93	$ 2,644.87	$ 2,724.29	$ 2,792.02	$ 2,849.16	$ 2,906.13	$ 2,964.23	$ 3,022.59	$ 3,082.96
10"	$ 3,187.40	$ 3,247.39	$ 3,409.69	$ 3,462.19	$ 3,670.00	$ 3,780.10	$ 3,874.60	$ 3,952.09	$ 4,031.12	$ 4,111.96	$ 4,193.99	$ 4,277.87
12"	$ 3,739.51	$ 3,917.77	$ 4,103.98	$ 4,287.00	$ 4,416.44	$ 4,548.93	$ 4,662.66	$ 4,755.91	$ 4,851.03	$ 4,948.05	$ 5,047.03	$ 5,147.96
16"	$ 4,553.87	$ 4,803.28	$ 5,106.44	$ 5,335.23	$ 5,498.32	$ 5,663.21	$ 5,803.74	$ 5,919.79	$ 6,037.17	$ 6,157.91	$ 6,281.07	$ 6,406.69
20"	$ 5,463.82	$ 5,769.57	$ 6,096.96	$ 6,264.94	$ 6,452.68	$ 6,646.48	$ 6,812.62	$ 6,948.22	$ 7,087.07	$ 7,229.42	$ 7,374.22	$ 7,521.79

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4.3.4 *Projected Residential Water Bills*

Table 41 below indicates projected water bills for Residential Inside City customers with a 5/8" meter. Also included are estimates of the bills, which residential customer may have seen, had the City continued to purchase water from DWSD. For example, had the City continued to purchase water from DWSD, a typical Flint customer using 5 CCF per month would have an estimated water bill in FY 2015 of $67.38. Given the shift to KWA, that same customer would see a bill of $62.51, a savings of $4.87 per month, or $58.44 per year.

TABLE 41: PROJECTED RESIDENTIAL WATER BILLS

ESTIMATED MONTHLY SAVINGS (DWSD vs. KWA)	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Monthly Usage (CCF)												
1	$ -	$ (2.42)	$ (5.37)	$ (6.60)	$ (5.88)	$ (6.15)	$ (6.31)	$ (6.65)	$ (7.00)	$ (7.37)	$ (7.76)	$ (7.87)
2	$ -	$ (3.04)	$ (6.74)	$ (7.28)	$ (7.80)	$ (7.72)	$ (7.81)	$ (8.34)	$ (8.78)	$ (9.28)	$ (9.73)	$ (9.92)
3	$ -	$ (3.65)	$ (8.11)	$ (8.78)	$ (9.02)	$ (9.29)	$ (9.62)	$ (10.04)	$ (10.57)	$ (11.13)	$ (11.70)	$ (11.93)
4	$ -	$ (4.25)	$ (9.47)	$ (10.23)	$ (10.64)	$ (10.86)	$ (11.13)	$ (11.73)	$ (12.36)	$ (13.01)	$ (13.68)	$ (13.95)
5	$ -	$ (4.87)	$ (10.84)	$ (11.75)	$ (12.04)	$ (12.42)	$ (12.74)	$ (13.43)	$ (14.14)	$ (14.88)	$ (15.65)	$ (15.96)
6	$ -	$ (5.48)	$ (12.24)	$ (13.19)	$ (13.56)	$ (13.99)	$ (14.34)	$ (15.12)	$ (15.93)	$ (16.78)	$ (17.63)	$ (17.98)
7	$ -	$ (6.09)	$ (13.58)	$ (14.67)	$ (15.14)	$ (15.55)	$ (15.95)	$ (16.81)	$ (17.71)	$ (18.64)	$ (19.60)	$ (19.99)
8	$ -	$ (6.71)	$ (14.94)	$ (16.14)	$ (16.63)	$ (17.12)	$ (17.56)	$ (18.51)	$ (19.50)	$ (20.52)	$ (21.58)	$ (22.01)
9	$ -	$ (7.32)	$ (16.31)	$ (17.62)	$ (18.15)	$ (18.69)	$ (19.16)	$ (20.20)	$ (21.28)	$ (22.40)	$ (23.56)	$ (24.03)
10	$ -	$ (7.93)	$ (17.68)	$ (19.10)	$ (19.67)	$ (20.26)	$ (20.77)	$ (21.90)	$ (23.07)	$ (24.28)	$ (25.53)	$ (26.04)

RATE IMPACT 5/8" Customer (KWA Version)	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Monthly Usage (CCF)												
1	$ 29.29	$ 30.03	$ 32.57	$ 33.62	$ 34.94	$ 35.68	$ 36.79	$ 37.52	$ 38.27	$ 39.03	$ 39.83	$ 40.61
2	$ 36.61	$ 38.75	$ 43.68	$ 45.51	$ 47.79	$ 48.91	$ 49.39	$ 47.16	$ 46.10	$ 48.06	$ 50.04	$ 51.04
3	$ 44.33	$ 46.87	$ 49.05	$ 51.23	$ 53.74	$ 54.32	$ 55.00	$ 56.60	$ 57.93	$ 59.09	$ 60.27	$ 61.48
4	$ 51.85	$ 54.59	$ 57.32	$ 59.50	$ 61.69	$ 63.35	$ 65.13	$ 66.44	$ 67.77	$ 69.12	$ 70.50	$ 71.91
5	$ 59.37	$ 62.51	$ 65.54	$ 68.58	$ 70.65	$ 72.77	$ 74.50	$ 76.08	$ 77.60	$ 79.15	$ 80.76	$ 82.38
6	$ 66.88	$ 70.43	$ 73.86	$ 77.28	$ 79.80	$ 81.99	$ 84.06	$ 85.72	$ 87.43	$ 89.18	$ 90.98	$ 92.78
7	$ 74.40	$ 78.35	$ 82.27	$ 85.97	$ 88.46	$ 91.21	$ 93.49	$ 95.36	$ 97.27	$ 99.21	$ 101.20	$ 103.22
8	$ 81.92	$ 86.27	$ 90.59	$ 94.66	$ 97.50	$ 100.43	$ 102.94	$ 105.00	$ 107.10	$ 109.24	$ 111.43	$ 113.65
9	$ 89.44	$ 94.20	$ 98.91	$ 103.36	$ 106.46	$ 109.65	$ 112.39	$ 114.64	$ 116.93	$ 119.27	$ 121.66	$ 124.09
10	$ 96.96	$ 102.12	$ 107.22	$ 112.05	$ 115.41	$ 118.87	$ 121.84	$ 124.28	$ 126.77	$ 129.30	$ 131.89	$ 134.52

RATE IMPACT 5/8" Customer (DWSD Version)	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Monthly Usage (CCF)												
1	$ 29.29	$ 32.45	$ 37.94	$ 39.82	$ 40.81	$ 42.04	$ 42.98	$ 44.17	$ 45.27	$ 46.40	$ 47.56	$ 48.61
2	$ 36.61	$ 41.78	$ 47.42	$ 49.79	$ 51.28	$ 52.83	$ 54.10	$ 55.50	$ 56.89	$ 58.31	$ 59.77	$ 60.98
3	$ 44.33	$ 50.91	$ 57.11	$ 58.90	$ 61.78	$ 63.61	$ 65.20	$ 66.83	$ 68.54	$ 70.22	$ 71.97	$ 73.45
4	$ 51.85	$ 58.85	$ 66.79	$ 70.13	$ 72.28	$ 74.40	$ 76.26	$ 78.17	$ 80.12	$ 82.13	$ 84.16	$ 85.88
5	$ 59.37	$ 67.38	$ 76.48	$ 80.30	$ 82.71	$ 85.18	$ 87.32	$ 89.50	$ 91.74	$ 94.03	$ 96.36	$ 98.31
6	$ 66.88	$ 75.91	$ 86.16	$ 90.47	$ 93.18	$ 95.96	$ 98.38	$ 100.84	$ 103.36	$ 105.94	$ 108.59	$ 110.76
7	$ 74.40	$ 84.45	$ 95.85	$ 100.64	$ 103.66	$ 106.77	$ 109.44	$ 112.17	$ 114.98	$ 117.88	$ 120.80	$ 123.21
8	$ 81.92	$ 92.98	$ 105.53	$ 110.81	$ 114.13	$ 117.56	$ 120.50	$ 123.51	$ 126.60	$ 129.78	$ 133.00	$ 135.66
9	$ 89.44	$ 101.51	$ 115.22	$ 120.98	$ 124.61	$ 128.34	$ 131.56	$ 134.84	$ 138.23	$ 141.67	$ 145.21	$ 148.11
10	$ 96.96	$ 110.05	$ 124.90	$ 131.15	$ 135.08	$ 139.12	$ 142.61	$ 146.18	$ 149.85	$ 153.66	$ 157.42	$ 160.56

5. WASTEWATER UTILITY COST OF SERVICE STUDY

Following the development of the wastewater utility financial plans the next step is to determine the level of rate revenues required to adequately recover the cost of providing wastewater service. This is typically performed for a test year, which—as mentioned previously—is the year ending June 30, 2014 (FY 2015).

5.1 WASTEWATER REVENUE REQUIREMENT FROM RATES

Table 42 below indicates the level of wastewater utility expenditures which must be recovered from rates in the FY 2015 test year. As the table indicates, the total test year revenue requirement is approximately $29 Million.

TABLE 42: WASTEWATER REVENUE REQUIREMENTS

OPERATION AND MAINTENANCE EXPENDITURES												
Revenue/Expense Item	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Total Dept 535 101-Utilities - Sewer Administration	$ 7,442,485	$ 7,553,942	$ 7,553,942	$ 7,650,942	$ 7,871,578	$ 8,095,516	$ 8,325,943	$ 8,563,951	$ 8,807,503	$ 9,059,071	$ 9,316,436	$ 9,582,281
Total Dept 540 100 Water Service Center Management	$ 2,712,445	$ 639,676	$ 639,476	$ 639,476	$ 650,367	$ 694,148	$ 702,948	$ 682,563	$ 683,141	$ 1,014,500	$ 1,047,313	$ 1,081,346
Total Dept 540 300-WSC - Capital Improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 540 207-Wastewater Reading - Sewer	$ 700,018	$ 730,419	$ 730,419	$ 730,419	$ 762,939	$ 786,273	$ 814,819	$ 841,683	$ 869,758	$ 898,858	$ 928,970	$ 960,145
Total Dept 540 208-Wtr&Sewer Maint/Construction	$ 2,707,193	$ 2,797,696	$ 2,797,696	$ 2,797,696	$ 2,905,717	$ 2,997,382	$ 3,102,837	$ 3,212,292	$ 3,326,725	$ 3,443,478	$ 3,565,654	$ 3,692,453
Total Dept 550 100-Wpc Operations	$ 5,175,842	$ 5,516,466	$ 5,183,966	$ 5,103,366	$ 5,357,112	$ 5,557,929	$ 5,755,776	$ 5,950,028	$ 6,172,483	$ 6,392,759	$ 6,621,255	$ 6,856,259
Total Dept 550 200-Wpc Third Ave Pump Station	$ 676,903	$ 735,282	$ 735,282	$ 735,282	$ 761,601	$ 789,306	$ 817,834	$ 847,420	$ 878,110	$ 909,950	$ 942,950	$ 977,207
Total Dept 550 202-Wpc Maintenance Expense	$ 2,817,690	$ 2,912,411	$ 2,912,411	$ 2,912,411	$ 3,000,177	$ 3,109,314	$ 3,212,950	$ 3,320,211	$ 3,431,233	$ 3,545,160	$ 3,663,132	$ 3,786,306
Total Dept 550 300-WPC - Capital Improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 550 800-Non_plant_Exp-Sewer Portion	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 905 101-Transfers out to fund 101	$ 1,660,000	$ 1,660,000	$ 1,660,000	$ 1,660,000	$ 1,660,000	$ 1,660,000	$ 1,660,000	$ 1,660,000	$ 1,660,000	$ 1,660,000	$ 1,660,000	$ 1,660,000
Total Operation and Maintenance Expenditures	$ 24,323,627	$ 23,045,391	$ 23,790,086	$ 23,728,592	$ 23,294,471	$ 24,091,869	$ 24,812,901	$ 25,547,149	$ 26,237,451	$ 27,124,116	$ 27,647,381	$ 28,600,000

CAPITAL EXPENDITURES												
Revenue/Expense Item	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Grand Total Existing and Proposed Debt Service	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Wastewater Rate Revenue Financing (Cash)	$ 5,500,000	$ 5,500,000	$ 5,000,000	$ 5,500,000	$ 2,500,000	$ 1,500,000	$ 2,000,000	$ 1,500,000	$ 5,000,000	$ 5,000,000	$ 5,000,000	$ 5,000,000
Add Net Operating Surplus(Deficit)	$ (2,059,201)	$ 1,454,151	$ (1,191,396)	$ 817,000	$ (1,296,376)	$ 3,905,353	$ 2,141,843	$ 3,674,100	$ 3,002,644	$ 3,049,602	$ 2,952,772	$ 2,430,434
Add Wastewater Transfers to Division and Replacement Fund	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Capital Expenditures	$ 3,940,799	$ 6,954,151	$ 3,809,604	$ 6,317,000	$ 11,103,624	$ 11,105,353	$ 11,141,843	$ 11,174,100	$ 11,002,644	$ 11,049,602	$ 10,947,772	$ 10,930,434
GROSS REVENUE REQUIREMENT FROM RATES	$ 28,073,346	$ 30,007,537	$ 27,599,690	$ 30,007,592	$ 34,398,330	$ 35,197,222	$ 35,953,841	$ 36,891,249	$ 37,239,125	$ 38,173,670	$ 38,594,754	$ 39,531,434

NON-RATE REVENUES												
Revenue/Expense Item	Budget Year FY 2014	Test Year FY 2015	Forecast FY 2016	Forecast FY 2017	Forecast FY 2018	Forecast FY 2019	Forecast FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025
Total Non-Rate Revenues	$ 395,972	$ 424,670	$ 418,202	$ 423,308	$ 415,326	$ 434,357	$ 469,097	$ 513,167	$ 528,662	$ 545,894	$ 563,880	$ 582,642
NET REVENUE REQUIREMENT FROM RATES	$ 27,777,374	$ 29,582,874	$ 31,200,911	$ 33,634,374	$ 34,001,874	$ 34,763,574	$ 35,484,874	$ 36,168,074	$ 36,691,474	$ 37,625,274	$ 38,031,874	$ 38,948,874

5.2 WASTEWATER REVENUE REQUIREMENTS BY CUSTOMER CLASS

Following the development of the total test year revenue requirement, the proportion of that revenue requirement attributable to each customer class must be determined. This allocation is performed via the multi-step process described below.

5.2.1 O&M Allocation to Function Categories

The first step in determining revenue requirements by customer class is to allocate the test year O&M revenue requirement to functional categories. These categories are functions that the wastewater utility must perform in order to deliver wastewater service to City customers. For the wastewater utility they are: Administrative and General, Customer Service, Collection, Pumping, and Treatment.

The O&M allocations, by department, are shown in Table 43 below:

TABLE 43: WASTEWATER O&M ALLOCATION TO FUNCTIONAL CATEGORIES

DEPARTMENT	Total $ Allocation	Administrative and General	Customer Service	Collection System	Lift Stations and Pumping	Wastewater Treatment
Total Dept 535.101-Utilities - Sewer Administration	$ 7,653,542	$ 7,653,542	$ -	$ -	$ -	$ -
Total Dept 540.100-Water Service Center Management	$ 839,478	$ -	$ 839,478	$ -	$ -	$ -
Total Dept 540.300-WSC - Capital Improvements	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 540.207-Wsc-Meter Reading - Sewer	$ 738,419	$ -	$ 738,419	$ -	$ -	$ -
Total Dept 540.208-Wsc-Sewer Maint./Construction	$ 2,797,696	$ -	$ -	$ 2,797,696	$ -	$ -
Total Dept 550.100-Wpc Operations	$ 5,816,166	$ -	$ -	$ -	$ -	$ 5,816,166
Total Dept 550.200-Wpc-Third Ave Pump Station	$ 735,282	$ -	$ -	$ -	$ 735,282	$ -
Total Dept 550.202-Wpc-Maintenance Expense	$ 2,612,411	$ -	$ -	$ -	$ -	$ 2,612,411
Total Dept 550.300-WPC - Capital Improvements	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 550.600-Non_dep_Exp-Sewer Portion	$ -	$ -	$ -	$ -	$ -	$ -
Total Dept 900.101-Transfers out to fund 101	$ 1,860,000	$ 1,860,000	$ -	$ -	$ -	$ -
GRAND TOTAL WASTEWATER UTILITY	$ 22,053,193	$ 9,513,542	$ 1,577,894	$ 2,797,696	$ 735,282	$ 8,428,578

5.2.2 O&M Allocation to Cost Components

Once O&M costs have been allocated to functional categories, the total O&M revenue requirement allocated to each functional category must be further allocated based on the operational need which they are designed to fulfill. For this allocation RFC has generally utilized the cost allocation methodology described in the Water Environment Federation's Manual of Practice No. 27, "Financing and Charges for Wastewater Systems."

The costs components utilized in this study are: volume or wastewater utility costs which are incurred on the basis of the quantity of wastewater discharged into the system; strength measures such as Biochemical Oxygen Demand ("BOD"), Total Suspended Solids ("TSS") and Phosphorus; and customer measures such as equivalent meters and monthly bills. A summary of the allocation of the wastewater O&M revenue requirement is included in Table 44 on the following page.

TABLE 44: WASTEWATER O&M ALLOCATION TO COST COMPONENTS

FUNCTIONAL CLASSIFICATION	Total $ Allocation	Volume Allocation	Strength: Allocation To BOD	Strength: Allocation to TSS	Strength: Allocation to Phosphorous	Customer: Customer Meters	Customer: Customer Bills
Administrative and General	$ 9,513,942	$ 2,452,584	$ 1,974,206	$ 1,974,206	$ 1,974,206	$ 1,100,760	$ -
Customer Service	$ 1,577,894	$ -	$ -	$ -	$ -	$ 1,577,894	$ -
Collection System	$ 2,797,696	$ 2,797,696	$ -	$ -	$ -	$ -	$ -
Lift Stations and Pumping	$ 705,282	$ 705,282	$ -	$ -	$ -	$ -	$ -
Wastewater Treatment	$ 8,428,578	$ -	$ 2,809,526	$ 2,809,526	$ 2,809,526	$ -	$ -
	$ 23,063,392	$ 6,015,562	$ 4,783,732	$ 4,783,732	$ 4,783,732	$ 2,688,654	$ -

5.2.3 *Capital Cost Allocation to Functional Components*

Similar to the allocation of the O&M revenue requirement described in the previous section, the capital revenue requirement must be allocated to functional categories. Table 45 below indicates the allocation of capital costs.

TABLE 45: WASTEWATER CAPITAL ALLOCATION TO FUNCTIONAL CATEGORIES

Allocation of Capital Costs to Functional Categories	Total	Administrative and General	Customer Service	Collection System	Lift Stations and	Wastewater Treatment
Breakdown of Fixed Assets by Function	100%	0.32%	0.00%	82.79%	4.31%	12.58%
Total Capital Expenditures	$ 2,230,845	$ 22,623.92	$ -	$ 5,986,709	$ 311,745	$ 908,967

$ Allocation of Water Fixed Assets to Functional Categories						
FIXED ASSET CATEGORY	Net Book Value	Administrative and General	Customer Service	Collection System	Lift Stations and	Wastewater Treatment
01Land	$ 38,077	$ 120	$ -	$ 31,526	$ 1,642	$ 4,790
02Construction-in-progress	$ 527,288	$ 1,664	$ -	$ 436,561	$ 22,733	$ 66,327
11Land improvements	$ 3,480,377	$ 10,986	$ -	$ 2,881,545	$ 150,050	$ 437,796
12Building improvements	$ 752,952	$ 2,377	$ -	$ 623,399	$ 32,462	$ 94,714
13Sewage disposal plant & equipment	$ 6,661,444	$ -	$ -	$ -	$ -	$ 6,661,444
14Vehicle	$ 456,125	$ -	$ -	$ 456,125	$ -	$ -
15 Sewage Pumping Station	$ 2,255,719	$ -	$ -	$ -	$ 2,255,719	$ -
16Office & Other Equipment	$ 28,892	$ 28,892	$ -	$ -	$ -	$ -
17Sewer SSR	$ 42,862,474	$ -	$ -	$ 42,862,474	$ -	$ -
18Sanitary Sewers (Engg only)	$ 136,257	$ 136,257	$ -	$ -	$ -	$ -
Total Water Fixed assets	$ 57,119,603	$ 180,286	$ -	$ 47,291,830	$ 2,462,606	$ 7,165,071
% Breakdown	100.00%	0.32%	0.00%	82.79%	4.31%	12.55%

As the table above indicates, the basis for the allocation of capital costs was the existing level of wastewater utility investment in fixed assets. The existing net book value of each major asset class was allocated to the functional categories. The total capital revenue requirement, approximately 7 Million in the test year, was then allocated according to the proportion of existing investment in each functional category. For example, a large proportion of investment in wastewater fixed assets relates to the rehabilitation of the City's collection system ("Sewer SSR"). As such, the majority of the capital revenue requirement (82%) has been allocated to the collection system function.

5.2.4 Capital Cost Allocation to Cost Components

As with the allocation of the O&M revenue requirement described above, the functionally allocated capital revenue requirement must also be further allocated according to the operational need that each function is designed to fulfill.

Table 46 below summarizes this allocation.

TABLE 46: WASTEWATER CAPITAL ALLOCATION TO COST COMPONENTS

			Strength			Customer	
FUNCTIONAL CLASSIFICATION	Total $ Allocation	Volume Allocation	Allocation To BOD	Allocation to TSS	Allocation to Phosphorous	Customer Meters	Customer Bills
Administrative and General	22,624	19,944	960	960	960	-	-
Customer Service	-	-	-	-	-	-	-
Collection System	5,986,709	5,986,709	-	-	-	-	-
Lift Stations and Pumping	311,745	311,745	-	-	-	-	-
Wastewater Treatment	909,567	-	303,189	303,189	303,189	-	-
Total Capital Expenditures	7,230,645	6,316,397	304,149	304,149	304,149	-	-

5.2.5 Non-Rate Revenue Allocation to Cost Components

Non-rate revenue must be excluded from the O&M and Capital revenue requirements as these amounts are an offset to the revenue requirement which will be recovered from rates. Consequently, non-rate revenues are allocated to the cost components so that they can be removed from the total revenue requirement. In this case, non-rate revenues were allocated proportionally according to the total O&M revenue requirement allocation and can be seen in Table 47 below.

TABLE 47: WASTEWATER NON-RATE REVENUE ALLOCATION TO COST COMPONENTS

			Strength			Customer	
ACCOUNT CODE - DESCRIPTION	Total $ Allocation	Volume Allocation	Allocation To BOD	Allocation to TSS	Allocation to Phosphorous	Customer Meters	Customer Bills
590-536.101-455.00C Bus Licenses & Permits - Utilities	21,672	5,767	5,336	5,336	5,336	2,541	-
590-536.101-530.00C Federal Grants							
590-536.101-539.00C State Grants							
590-536.101-857.00C Fees - Turn-On Fees - Utilities							
590-536.101-857.10C Federal Discount - Utilities	350,000	91,320	72,637	72,637	72,637	40,709	
590-536.101-898.00C Self Insurance Insurance							
590-536.101-649.50C Due From Fund Balance							
590-536.101-899.25C Prior Year Revenue							
590-540.100-677.00C Reimbursements							
590-540.208-826.00C Charges For Services Reimbursement - Internal			-			-	
590-540.208-826.90C Charges For Services Reimbursement - Internal							
590-540.208-677.00C Reimbursements							
590-540.208-677.50C Reimbursements - Internal Fund							
590-550.100-646.00C Scrap Sales	10,000	2,611	2,110	2,110	2,110	2,261	
590-550.100-849.00C Auction Sale - Fixtures & Equip							
590-550.100-857.00C Fees - Turn-On Fees - Utilities							
590-550.100-677.00C Reimbursements							
590-550.100-649.00C Due From Fund Balance							
590-550.200-660.00C Discounts Earned	2,000	522	415	415	415	231	
590-550.201-455.00C Bus Licenses & Permits - Internal	2,000	522	415	415	415	231	
590-550.202-649.00C Due From Fund Balance							
590-550.600-661.10C Interest Earned	23,000	7,225	5,946	5,946	5,946	3,251	
Add Transfers In from General Fund							
Total Non-Rate Revenues	408,672	108,924	87,862	87,862	87,862	49,302	

5.2.6 *Plant Balance Analysis*

Once each component of the revenue requirements has been determined, wastewater strength units, by customer class must be estimated. These are the basis upon which the strength costs, determined in the previous step, are allocated to each customer class.

This allocation is performed via a proportional distribution of each measure of strength to each customer class, based on the contribution of that class to overall billed wastewater volumes. This calculation is shown in Table 48 below.

TABLE 48: WASTEWATER PLANT BALANCE ANALYSIS CALCULATIONS

Customer Class	Test Year Volume (CCF)	Biochemical Oxygen Demand mg/L	Biochemical Oxygen Demand Pounds	Total Suspended Solids mg/L	Total Suspended Solids Pounds	Phosphorous mg/L	Phosphorous Pounds	Test Year Calculated Pounds
Treatment Plant Volumes	1,009,010	84.5	1,635,291.27	38.3	1,171,991.30	4.225	99,765.50	5,910,018
Less:								
Total Inside City Residential	1,524,605	100	989,080	80	916,417	3	17,177	1,922,674
Total Inside City Commercial/Industrial	1,288,721	100	977,451	80	912,001	3	15,238	1,705,690
Total Outside City Residential	306	100	199	80	159	3	1	351
Total Outside City Commercial/Industrial	4,012	100	4,597	80	4,076	3	16	8,550
Total System Billed Volumes	2,817,644	100	1,971,059	80	1,733,653	3	32,431	3,637,182
Total Infiltration and Inflow	390,442	15	64,372.49	15.3	64,372.49	15	64,372.49	199,917
Balance	-		0%		0%		-	
Gallons per CCF	748							
Millions per Year	630,592							
Mgal per Day	1,728.0							
% Infiltration and Inflow	25%							

As an example, consider Biochemical Oxygen Demand. The proportion of BOD contributed to the wastewater system by each class, is function of the overall volume contributed by that class. Therefore the BOD units are allocated to each customer class based on their proportion of total billed volumes. Inside City Residential customers, for example, are forecasted to contribute 1.5 Million CCF in billed wastewater volumes in the test year, or 53% of total billed volumes. Consequently, they are assigned 53% of total forecast BOD. The same calculations are performed for the remaining strength units, TSS and Phosphorous.

The result is a total level of strength units for each customer class, which is then used to determine unit costs by customer class and allocate the test year revenue requirement.

5.2.7 *Calculation of Units of Service*

The next step in the cost allocation process is to summarize the units of service, which are used as the basis for the allocation of the total revenue requirement to each of the customer classes. The units pertain to each of the cost components mentioned above (i.e. strength, volume and customer units). In the following step, the units will be used to determine a unit cost for each cost component.

The wastewater units of service are shown in Table 49 below.

TABLE 49: WASTEWATER UNITS OF SERVICE

WASTEWATER UNITS OF SERVICE		Residential		Commercial/Industrial	
	Total System (CCF)	Total Inside City Residential	Total Outside City Residential	Total Inside City Commercial/Industrial	Total Outside City Commercial/Industrial
Volume Units					
% Breakdown		52.9%	0.0%	46.9%	0.2%
Total System Billed Volumes	2,982,604	1,576,656	306	1,398,721	7,012
Total Infiltration and Inflow	686,412	352,852	47	321,900	1,614
Total Volume	3,669,016	1,929,517	353	1,720,620	8,625
Strength Units					
BOD	1,671,059	889,080	129	777,451	4,399
TSS	1,793,658	918,457	120	873,007	4,076
Phosphorus	32,484	17,177	2	15,238	76
Total Wastewater Strength (Pounds)	3,857,192	1,922,694	251	1,705,696	8,550
Customer Units					
Meters	33,177	25,436	6	7,699	35
Bills	415,053	301,095	73	14,046	137

As mentioned above the units determined for each customer class are volume (the total forecast wastewater contribution) strength (the proportion of wastewater strength units determined in the plant balance analysis) and customer (equivalent meters and customer bills as in the water cost of service study).

5.2.8 Unit Cost of Service

Following the allocation of the wastewater revenue requirements to each of the cost components and the calculation of the units of service, a unit cost of service for each cost component can be determined. These unit costs are the basis by which the revenue requirements by customer class are determined.

The unit cost of service is the total revenue requirement, as allocated to the cost components, divided by the units of service attributable to each component and is shown in Table 50 on the following page.

TABLE 50: WASTEWATER UNIT COST OF SERVICE

Wastewater Units of Service		Strength			Customer	
CUSTOMER CLASS	Volume Allocation	Allocation To BOD	Allocation to TSS	Allocation to Phosphorous	Customer Meters	Customer Bills
Total Inside City Residential	1,896,517	969,080	916,437	11,177	25,436	301,098
Total Outside City Residential	253	129	120	2	8	71
Total Inside City Commercial/Industrial	1,720,620	877,451	813,007	10,238	7,899	14,646
Total Outside City Commercial/Industrial	6,625	4,399	2,076	75	35	137
Grand Total System Units of Service	3,623,016	1,871,059	1,733,639	22,494	33,177	315,952

Wastewater Cash Basis Revenue Requirements			Strength			Customer	
REVENUE REQUIREMENT	Total	Volume Allocation	Allocation To BOD	Allocation to TSS	Allocation to Phosphorous	Customer Meters	Customer Bills
Total Operation and Maintenance Expenditures	$ 23,843,382	$ 6,016,642	$ 4,783,732	$ 4,783,732	$ 4,783,732	$ 2,636,654	$
Unit Cost		$ 1.64	$ 2.56	$ 2.76	$ 147.22	$ 80.60	$
Total Capital Expenditures	$ 7,228,848	$ 6,318,393	$ 304,149	$ 304,149	$ 304,149	$ -	$
Unit Cost		$ 1.72	$ 0.18	$ 0.18	$ 9.25	$ -	$
Total Non-Rate Revenues	$ (423,882)	$ (110,624)	$ (87,882)	$ (87,882)	$ (87,882)	$ (66,382)	$
Unit Cost		$ (0.03)	$ (0.05)	$ (0.05)	$ (2.70)	$ (1.49)	$
Total System Revenue Requirements	$ 29,648,674	$ 12,225,416	$ 4,999,999	$ 4,999,999	$ 4,999,999	$ 2,537,293	$
Total System Unit Cost	$ -	$ 3.33	$ 2.67	$ 2.89	$ 153.67	$ 75.49	$

For example, the total volume units are 3.6 Million CCF. This means that the O&M, Capital and Non-Rate Revenue Requirements cost $1.64, $1.72 and $(.03) per unit of wastewater volume. The total unit cost associated with wastewater volume is $3.33/CCF. The calculation is repeated for each cost component to determine the overall unit cost associated with wastewater volume, strength (BOD, TSS and Phosphorous) and customer service.

5.2.9 Revenue Requirements by Customer Class

The customer class revenue requirements are the basis for establishing alternative rates by customer class. The City's existing wastewater rate structure does not include distinct rates by customer class. At this time the City does not wish to make major rate structure changes. However, the revenue requirements by customer class are shown in Table 51 on the following page and are the basis for the alternative wastewater rates presented as appendix B to this report.

TABLE 51: WASTEWATER REVENUE REQUIREMENTS BY CUSTOMER CLASS

Wastewater Units of Service			Strength				Customer	
CUSTOMER CLASS		Volume Allocation	Allocation To BOD	Allocation to TSS	Allocation to Phosphorous	Customer Meters	Customer Bills
Total System Revenue Requirements	$ 29,660,674	$ 12,223,415	$ 4,998,999	$ 4,998,999	$ 4,998,999	$2,637,292	$ -
Total System Unit COS	$	$ 3.33	$ 2.67	$ 2.69	$ 153.87	$ 79.49	$ -
Units of Service							
Total Inside City Residential		1,039,517	969,090	916,437	17,177	25,428	301,096
Total Inside City Commercial/Industrial		1,720,620	877,451	813,007	15,238	7,699	14,040
		3,660,138	1,866,531	1,729,444	32,415	33,126	315,136
Total Outside City Residential		283	129	129	2	8	71
Total Outside City Commercial/Industrial		6,825	4,389	4,076	78	35	137
		8,678	4,528	4,195	79	42	208
Total System Units of Service		3,669,016	1,871,059	1,733,639	32,494	33,177	315,952
Allocated Cost of Service							
Total Inside City Residential COS	$ 18,412,799	$ 9,461,549	$ 2,643,097	$ 2,643,097	$ 2,643,097	$2,021,959	$ -
Total Inside City Commercial/Industrial COS	$ 10,378,697	$ 3,732,288	$ 2,344,793	$ 2,344,793	$ 2,344,793	$ 612,030	$ -
Total Inside City All Classes	$ 28,791,496	$ 12,193,837	$ 4,987,890	$ 4,987,890	$ 4,987,890	$2,633,989	$ -
Total Outside City Residential COS	2,302.19	$ 843	$ 345	$ 345	$ 345	$ 525	$ -
Total Outside City Commercial/Industrial COS	86,796.05	$ 28,734	$ 11,754	$ 11,754	$ 11,754	$ 2,778	$ -
Total Outside City All Classes	$ 89,178	$ 29,578	$ 12,099	$ 12,099	$ 12,099	$ 3,303	$ -
Total System Cost of Service	$ 28,880,674	$ 12,223,415	$ 4,999,989	$ 4,999,989	$ 4,999,989	$2,637,292	$ -
Check on Total System COS (Should be $0)	$ -						

The revenue requirement for each customer class is the total unit cost of service determined previously, multiplied by the units of service for each customer class. The result is a total allocation to each customer class made up of each of the cost components discussed previously. The allocation is based on each customer class's contribution to the wastewater utility's overall operating and capital costs, as represented by their units of service.

5.3 WASTEWATER RATE DESIGN

The wastewater rates have been calculated under the existing rate structure and under a new structure which recognizes the customer classes present in the City's CIS. The rate calculation under existing rates will be presented here, with the alternative rates by customer class presented as an appendix B.

5.3.1 Volumetric Rate Calculations

As mentioned above, the City did not indicate a desire to significantly modify the existing wastewater rate structure. Therefore RFC maintained various components of the existing water volumetric rates including:

- The existing inside/outside city differential (i.e. outside=110% of inside)
- The existing structure which charges the same volumetric rates for all customer classes
- The existing shift of some volumetric costs to the fixed service charge (i.e. a readiness to serve adjustment)

The calculation of the wastewater volumetric rates involves the following steps

- Determine total composite volumetric revenue requirement:
  - Adjust the test-year revenue requirement allocated to the volume cost component by the readiness to serve amount
  - Add the wastewater strength related cost components (BOD, TSS and Phosphorous)
  - Remove Beecher Metro Revenue
  - Add the inside and outside city revenue requirements to determine a composite revenue requirement for all customer classes
- Determine the composite wastewater units:
  - Multiply the units of inside and outside city customers by the existing I/O differential (Outside=110% of Inside)
  - Add those units together.
- Calculate Inside and Outside City Volumetric Rates:
  - Determine a composite rate for all customer classes by dividing the total composite revenue requirement determined above, by the total composite wastewater units
  - Multiply the composite rates by the Inside and Outside City differentials (100% for Inside City and 110% for Outside City) to determine the rates for each customer class.

The above calculations are summarized in Table S2 on the following page.

TABLE 52: WASTEWATER VOLUMETRIC RATE CALCULATIONS

	Revenue Requirements									Test Year Volumes					Test Year Rate Calculation			
	Test Year Volume (M)	Test Year Strength (M) (mg/l)	Test Year Strength (CF) (1,000)	Test Year Strength (M) (Mgal)	Test Year Total Volumetric (M)	Less Energy/Metro Revenue	Adjusted Revenue Requirement	Composite Revenue Requirement	Test Year Billed Volumes (CF)	Test Year Billed Volumes (% Consumption)	Test Year Consumption (Times Billed Vol)	Test Year Adjusted Consumption (CF)	Test Year Composite Consumption (CF)	Test Year Volumetric Rates ($/CCF)	Existing Volumetric Rates ($/CCF)	Difference ($)	Difference (%)
EXISTING RATE MODEL																	
Total Inside City COS	$ 13,193,430	$ 1,987,890	$ 1,987,890	$ 1,987,890	$ -	$ -	$	$									
RTS Adjustment	$ (14,570,300)	$ -	$ -	$ -	$ -	$	$	$									
Total Inside City All Classes	$ 1,115,526	$ 1,987,890	$ 1,987,890	$ 1,987,890	$ 14,879,199	$ (714,510)	$ 14,267,645	$ 15,417,844	2,987,890	100.00%	1.000	2,987,890	2,987,890	$ 4.77	$ 4.8	$ 0.03	0%
Total Outside City COS	$ 29,578	$ 12,090	$ 12,090	$ 12,090	$ -	$	$	$									
RTS Adjustment	$ (17,491)	$ -	$ -	$ -	$ -	$	$	$									
Total Outside City All Classes	$ 12,088	$ 12,090	$ 12,090	$ 12,090	$ 51,985	$ 14,710	$ 66,695	$			1.000			$ 5.50	$ 5.50	$ 0.00	0%
Total System	$ 1,127,614	$ 1,999,980	$ 1,999,980	$ 1,999,980	$ 14,931,183	$ (699,800)	$ 14,231,383	$ 15,417,844	15,417,844								

5.3.2 *Fixed Charge Calculations*

As noted above, the City did not express a desire to change rate structures at this time. Consequently, the following aspects of the existing rate structure have been maintained including:

- The existing inside/outside city differential (i.e. outside=120% of inside)
- The existing shift of some volumetric costs to the fixed service charge (i.e. a readiness to serve adjustment)
- The flow equivalencies for the various meter sizes

The calculation of the wastewater fixed charges involves the following steps:

- Determine total composite fixed charge revenue requirement by summing the fixed charge revenue requirements (i.e. those allocated to the customer service related cost components) and the readiness to serve revenue requirement.
- Determine the composite fixed charge wastewater units:
  - Multiply the number of inside and outside city equivalent accounts by the existing I/O differential (Outside=120% of Inside)
  - Add those units together to determine the composite number of equivalent customer accounts
- Calculate Inside and Outside City Volumetric Rates by:
  - Determine an annual composite rate for all customer classes by dividing the total composite revenue requirement determined above, by the total composite wastewater equivalent accounts
  - Determine a monthly rate for the 5/8" equivalent account by dividing the annual rate by 12.
  - Multiply the composite fixed charges by the Inside and Outside City differentials (100% for Inside City and 110% for Outside City) to determine the monthly fixed charge per 5/8" equivalent account for inside and outside city customer classes.
  - Multiply the monthly fixed charge for a 5/8" equivalent account by the meter equivalencies for each meter size to determine the monthly fixed charge for the remaining meter sizes.

The calculations described in the narrative above are summarized in Table 53 on the following page.

TABLE 53: WASTEWATER FIXED CHARGE CALCULATIONS

CUSTOMER CLASS	Fixed Charge Revenue Requirement	Readiness to Serve Adjustment	Readiness to Serve Revenue Req.	Base Fixed RR Allocated on Customer Service	Base Fixed RR Allocated on Customer Sales
Total Inside City Residential COS	$ 2,021,959	420.5%	$ 8,504,158	$ 2,021,959	$
Total Outside City Residential COS	$ 505	420.5%	$ 2,123	$ 505	$
Total Inside City Commercial/Industrial COS	$ 612,030	420.5%	$ 2,574,140	$ 612,030	$
Total Outside City Commercial/Industrial COS	$ 2,799	420.5%	$ 11,769	$ 2,799	$
Total Inside City Residential COS Adjustment	$ 2,021,959	$ 8,504,158			
Total Outside City Residential COS Adjustment	$ 505	$ 2,123			
Total Inside City Commercial/Industrial COS Adjustment	$ 612,030	$ 2,574,140			
Total Outside City Commercial/Industrial COS Adjustment	$ 2,799	$ 11,769			

CHARGE	Total Revenue Requirements By Charge	Composite Revenue Requirements	Equivalent Accounts	Test Year Differential Times Inside City	Test Year Adjusted Equivalent Accounts	Test Year Composite Equivalent Accounts	Monthly Fixed Charge Per 3/4" Equivalent
Total Inside City Residential	$ 10,526,117	$ 10,526,755	25,436	1.00	25,436	25,444	$ 34.46
Total Inside City Commercial/Industrial	$ 3,186,170	$ 3,200,736	7,699	1.00	7,699	7,742	$ 34.45
	$ 13,712,290	$ 13,729,491	33,136		33,136	33,186	
Total Outside City Residential	$ 2,627		8	1.2	8		$ 41.38
Total Outside City Commercial/Industrial	$ 14,588		36	1.2	42		$ 41.34
	17,493		42		50		

CUSTOMER CLASS	Inside City Meter Equivalency	Inside City Meter Equivalency	Proposed Fixed Charge INSIDE CITY	Existing Fixed Charge INSIDE CITY	Difference	Proposed Fixed Charge OUTSIDE CITY	Existing Fixed Charge OUTSIDE CITY	Difference
Residential Customers								
3/4"	1.00	1.07	$ 34.46	$ 32.00	8%	$ 44.19	$ 41.01	8%
3/4"	1.47	1.46	$ 50.56	$ 46.92	8%	$ 50.36	$ 56.01	8%
1"	2.04	2.00	$ 70.41	$ 65.34	8%	$ 82.96	$ 76.99	8%
1-1/2"	2.04	2.00	$ 70.41	$ 65.34	8%	$ 82.96	$ 76.99	8%
2"	2.04	2.00	$ 70.41	$ 65.34	8%	$ 82.96	$ 76.99	8%
Commercial/Industrial Customers								
3/4"	1.62	1.61	$ 55.50	$ 51.39	8%	$ 65.57	$ 60.72	8%
3/4"	2.61	2.62	$ 89.37	$ 82.83	8%	$ 79.26	$ 73.42	8%
1"	2.85	2.84	$ 97.20	$ 90.00	8%	$ 105.56	$ 98.05	8%
1-1/2"	4.31	4.25	$ 146.40	$ 135.63	8%	$ 177.43	$ 164.30	8%
2"	6.13	6.02	$ 211.18	$ 195.53	8%	$ 250.24	$ 232.41	8%
3"	13.59	13.62	$ 471.82	$ 436.83	8%	$ 562.83	$ 521.07	8%
4"	22.56	22.67	$ 777.14	$ 719.64	8%	$ 963.69	$ 892.01	8%
6"	45.52	46.09	$ 1,571.80	$ 1,455.56	8%	$ 1,905.74	$ 1,770.13	8%
8"	67.41	68.92	$ 2,312.79	$ 2,140.73	8%	$ 2,849.57	$ 2,646.82	8%
10"	91.16	91.73	$ 3,141.97	$ 2,910.32	8%	$ 3,792.41	$ 3,522.56	8%
12"	107.66	107.61	$ 3,668.72	$ 3,425.22	8%	$ 4,448.17	$ 4,132.57	8%
16"	141.35	142.17	$ 4,870.53	$ 4,523.94	8%	$ 5,918.11	$ 5,497.91	8%
20"	186.45	170.09	$ 5,734.36	$ 5,326.86	8%	$ 7,000.44	$ 6,502.02	8%

5.3.3 Summary of Existing and Forecast Wastewater Rates

Based on the calculations from the previous two sections, the existing and proposed rates for the forecast period are shown in Tables 54 and 55 on the following page.

Note that while the test year FY 2015 rates have been calculated within the cost of service study, the rates for FY 2016 and beyond are based on the overall rate revenue increase from the wastewater utility financial plan.

TABLE 54: SUMMARY OF EXISTING AND FORECAST VOLUMETRIC WASTEWATER RATES

CUSTOMER CLASS		Test-Year FY 2014 Existing Rates	Test-Year FY 2015 Proposed Rates	Forecast FY 2016 Proposed Rates	Forecast FY 2017 Proposed Rates	Forecast FY 2018 Proposed Rates	Forecast FY 2019 Proposed Rates	Forecast FY 2020 Proposed Rates	Forecast FY 2021 Proposed Rates	Forecast FY 2022 Proposed Rates	Forecast FY 2023 Proposed Rates	Forecast FY 2024 Proposed Rates	Forecast FY 2025 Proposed Rates
Total Inside City All Classes	($/CCF)	$ 4.80	$ 5.17	$ 5.53	$ 5.92	$ 6.16	$ 6.31	$ 6.42	$ 6.58	$ 6.69	$ 6.83	$ 6.96	$ 7.10
Total Outside City All Classes	($/CCF)	$ 5.25	$ 5.66	$ 6.06	$ 6.51	$ 6.80	$ 6.94	$ 7.08	$ 7.22	$ 7.36	$ 7.51	$ 7.66	$ 7.81

TABLE 55: SUMMARY OF EXISTING AND FORECAST WASTEWATER FIXED CHARGES

METER SIZE	Last-Year FY 2016 Existing Rates	Two-Year FY 2017 Proposed Rates	Forecast FY 2018 Proposed Rates	Forecast FY 2019 Proposed Rates	Forecast FY 2020 Proposed Rates	Forecast FY 2021 Proposed Rates	Forecast FY 2022 Proposed Rates	Forecast FY 2023 Proposed Rates	Forecast FY 2024 Proposed Rates	Forecast FY 2025 Proposed Rates	Forecast FY 2026 Proposed Rates	Forecast FY 2027 Proposed Rates
Inside City Residential Customers												
5/8"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
3/4"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
1"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
1-1/2"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
2"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
Inside City Commercial/Industrial Customers												
5/8"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
3/4"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
1"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
1-1/2"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
2"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
3"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
4"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
6"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
8"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
10"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
12"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
16"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
20"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
Outside City Residential Customers												
5/8"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
3/4"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
1"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
1-1/2"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
2"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
Outside City Commercial/Industrial Customers												
5/8"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
3/4"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
1"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
1-1/2"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
2"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
3"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
4"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
6"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
8"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
10"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
12"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
16"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
20"	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]

5.3.4 *Projected Residential Wastewater Bills*

Table 56 below indicates projected wastewater bills for Residential Inside City customers with a 5/8" meter;

TABLE 56: PROJECTED RESIDENTIAL WASTEWATER BILLS

RATE IMPACT 5/8" Customer	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Monthly Usage (CCF)												
1	$ 38.40	$ 39.65	$ 42.42	$ 45.40	$ 47.44	$ 48.39	$ 49.36	$ 50.34	$ 51.35	$ 52.38	$ 53.42	$ 54.49
2	$ 41.60	$ 44.82	$ 47.96	$ 51.31	$ 53.82	$ 54.79	$ 55.78	$ 56.80	$ 58.04	$ 59.20	$ 60.39	$ 61.60
3	$ 44.80	$ 49.98	$ 53.49	$ 57.23	$ 59.61	$ 61.09	$ 62.22	$ 63.47	$ 64.74	$ 66.03	$ 67.35	$ 68.70
4	$ 51.20	$ 55.14	$ 59.02	$ 63.18	$ 65.69	$ 67.39	$ 68.68	$ 70.03	$ 71.45	$ 72.88	$ 74.31	$ 75.80
5	$ 58.00	$ 60.32	$ 64.55	$ 69.05	$ 72.17	$ 73.68	$ 75.09	$ 76.59	$ 78.12	$ 79.68	$ 81.28	$ 82.90
6	$ 59.10	$ 63.46	$ 70.08	$ 74.98	$ 78.36	$ 79.82	$ 81.52	$ 83.18	$ 84.81	$ 86.51	$ 88.24	$ 90.01
7	$ 65.60	$ 70.66	$ 75.61	$ 80.92	$ 84.54	$ 86.23	$ 87.85	$ 89.71	$ 91.59	$ 93.34	$ 95.20	$ 97.11
8	$ 70.40	$ 73.82	$ 82.14	$ 88.01	$ 92.72	$ 95.54	$ 98.39	$ 99.27	$ 98.39	$ 100.16	$ 102.17	$ 104.21
9	$ 75.20	$ 81.00	$ 88.07	$ 92.73	$ 98.90	$ 99.84	$ 100.82	$ 102.81	$ 104.89	$ 106.99	$ 109.13	$ 111.31
10	$ 80.00	$ 85.18	$ 92.20	$ 98.05	$ 103.09	$ 105.15	$ 107.25	$ 109.40	$ 111.59	$ 113.82	$ 116.09	$ 118.43

6. DISCUSSION OF BEST MANAGEMENT PRACTICES (BMP)

We reviewed the City's water and wastewater utility performance in relation to Best Management Practices that have been published by Fitch Ratings ("Fitch"). These criteria are used by Fitch when reviewing the performance of a utility as part of the bond rating process.

6.1 FINANCIAL PROFILE

"Long term integrated financial forecasting that considers future demand, expected rate increases, regulations, and infrastructure renovation and renewal needs."

In general, the City's practices are consistent with this BMP. This report includes ten year comprehensive financial plans for both the water and wastewater utilities. These were developed in collaboration with City staff and reflect the rate revenue increases necessary to adequately fund operation and maintenance expenditures, make necessary capital improvements and ensure fiscal sustainability for each utility on a going forward basis. In addition to these general objectives, the water utility financial plans reflect the transition from DWSD to the KWA, which is expected to lower the level of future rate increases and afford the City greater control over the water utility's operating costs.

"Policies ensure appropriate financial margins, including debt service coverage and operating liquidity levels."

In general the City is taking steps to improve consistency with this BMP. The aforementioned water and wastewater utility financial plans move the City towards an operating reserve target of 90 days

of O&M and debt service. These reserves are critical to mitigate the risk inherent in operating a seasonal enterprise. That said, it is also importance to recognize the sensitivity of ratepayers to further increases, especially given the relatively high level of existing rates. Consequently, the City has decided to work up to the 90 day target over the next few fiscal years to mitigate the potential rate impact.

Coverage of existing water utility debt service is quite strong. This stems primarily from the fact that, given the City's past financial difficulties, it has limited access to capital markets for the purpose of funding its capital improvements. At this time, all major capital improvements are forecast to be made out of current rate revenues. If this policy is maintained throughout the forecast period, water utility debt service coverage will likely continue to improve. In the future the City may choose to leverage its water revenues via the Michigan Drinking Water Revolving Revenue Fund, which would spread the rate impact of the forecast capital improvements. Currently, the City does not have any outstanding wastewater debt.

"Regular financial reporting and monitoring systems enable policymaker's access to timely information on fiscal performance relative to the budget."

It is our understanding that the City's reporting systems are consistent with this BMP.

"Limited exposure to growth sensitive revenues, such as tap, connection, or impact fees."

The City's practices are consistent with this BMP. The City currently receives little to no revenue from growth related fees, mostly due to the fact that customer account growth has largely been negative or flat in recent years. Consequently the City is not overly reliant on such fees. However, if customer account growth becomes positive in the future, the City should consider implementing growth related fees to ensure that new customers are adequately compensating existing customers for their investment in the water and wastewater systems.
"Collection policies that regularly track the rate of timely payment receipts and enforce penalties against late payers or terminate service for non-payment."

The City has taken steps to improve consistency with this BMP. In recent years, account delinquency and non-payment has become a significant problem for the City. In addition, City staff has cited issues regarding potential water theft. Given these challenges, the City has engaged a consulting firm to aid in the analysis of their customer information system data, in an effort to recover the lost revenue associated with these issues. This is a critical in that it ensures paying customers are not bearing the burden of water theft going forward.

"Willingness of political leaders to adjust rates when necessary."

The City's practices are consistent with this BMP. Emergency Manager Darnell Early has the authority to raise rates as necessary to ensure the ongoing financial sustainability of the water and wastewater utilities. It is our understanding however, that input from political stakeholders will continue to be part of that City's rate adjustment process going forward.

"Limited exposure to financial operations of the general government so that system revenues can be relied upon for use to operate and improve the utility. For transfers to the general fund policies that specifically limit their scope and growth are favorable."

The City is taking steps to improve consistency with this BMP. It is our understanding that approximately $10 million is due from the City's general fund to the water and wastewater utilities. A potential course of action would be to reduce the amount of administrative fees the water and wastewater utilities pay each year to the general fund, until the amount owed is paid back in full. Regardless of the method, the City has indicated that, as a worst case scenario, the general fund would repay the amount owed to the water and wastewater utilities by FY 2019.

"Compliance with industry accounting practices and establishment of appropriate internal controls."

It is our understanding that the City's accounting practices adhere to the generally accepted accounting practices ("GAAP") set forth by the Governmental Accounting Standards Board ("GASB").

"Rate affordability guidelines that consider absolute levels of rates and their affordability relative to income levels."

The City is working to improve consistency with this BMP. Affordability is a critical consideration for the City especially given the relatively high level of existing rates. As mentioned above, a key component of this study involved analyzing the impact of transitioning from DWSD to the KWA, a policy which should generate savings to ratepayers in lieu of what would have happened had the City continued to purchase water from DWSD.

6.2 DEBT PROFILE RELATED

"Prioritized capital improvement plans that cover at least five years and consider capacity, supply, regulatory and replacement and renewal needs."

The City's practices are consistent with this BMP. The City has provided five year capital improvements plans for the water and wastewater utilities as well as guidance for forecasting beyond that period, both of which have been incorporates into the water and wastewater financial plans. Based on our experience with utility operations and an examination of the provided plans, it is our opinion that the City is working to address capacity, supply and regulatory issues.

"Debt issuance policies including types, terms, and suitability under specific conditions, as well as the amount of variable-rate debt deemed appropriate."

Currently the City's wastewater utility has no debt and the level of water utility relatively modest. Though the debt associated with the joining KWA will increase this amount in the coming years, it will not reach unsustainable levels.

"Development of comprehensive policies on the use of hedge agreements and their disclosure prior to entering into any such agreements."

The water and wastewater utilities are not currently party to any such agreements and there are no plans to utilize such agreements in the future.

6.3 OPERATING PROFILE RELATED

"Key management industry experience and active participation in organizations that keep pace with sector issues, regulatory mandates and technological advances."

The City's practices are consistent with BMP in this regard.

"Use of professional engineers, either within the utility or outside of it, to prepare objective reviews of system performance and needs on regular basis and provide periodic revisions to construction cost estimates."

The City's practices are consistent with BMP in this regard.

"Regular consultation with regional and local growth planners, community development officials, and demographers to predict and, if possible, limit infrastructure needs related to population and business growth."

The City has been very active in such activities in recent years, as evidenced by their participation in the KWA effort to secure a more economical source of water to better meet the City's needs in the future.

APPENDICES

APPENDIX A: ALTERNATIVE WATER VOLUMETRIC RATES

	% Allocation of Costs to Blocks			Allocation of Cost Components to Blocks			Test Year Consumption by Block CCF	CD Differential			Block Rate Calculations				
	Base Demand Units	Max Day Extra Capacity	Max Hour Extra Capacity	Base Demand Units	Max Day Extra Capacity	Max Hour Extra Capacity		Test Year Differential Times Inside City	Test Year Adjusted Consumption CCF	Test Year Composite Consumption CCF	Test Year Proposed Surcharge Multiplier	Test Year Existing Rates	Test Year Proposed Block Rates $	Difference $	Difference %
RATE DESIGN BY CUSTOMER CLASS															
Inside City Residential															
Inside City Block 1	100%	35%	30%	$	$	$ 396,545	1,025,011	1.000	1,025,011	1,025,011	1.30	$ 7.57	$ 8.50	$ (1.06)	-11%
Inside City Block 2		15%	5%	$	$	$ 39,654	88,527	1.000	88,527	88,527	1.25	$ 7.31	$ 8.25	$ (0.94)	-13%
Inside City Block 3	0%	0%	45%	$	$	$ 275,460	31,023	1.000	31,023	31,023	1.00	$ 5.59	$ 5.00	$ 0.59	14%
	100%	100%	100%	$	$	$	1,145,535		1,145,535	1,152,153					
Outside City Residential															
Outside City Block 1	100%	85%	50%	$	$	$ 1,604	7,325	1.500	10,943		1.30	$ 11.29	$ 9.74	$ 1.51	17%
Outside City Block 2		15%	5%	$	$	$ 160	884	1.500	1,326		1.25	$ 10.77	$ 9.37	$ 1.39	15%
Outside City Block 3	0%	0%	45%	$	$	$ 1,425		1.500			1.00	$ 8.06	$ 7.50	$ 1.19	16%
	100%	100%	100%	$	$	$ 3,189	8,212		12,109						
Total Residential															
Inside City Commercial/Industrial															
Inside City Block 1	100%	85%	50%	$	$	$ 277,202		1.000			1.30	$ 7.57	$	$ 2.85	27%
Inside City Block 2		15%	5%	$	$	$ 37,738		1.000			1.25	$ 7.31	$ 9.28	$ 1.69	22%
Inside City Block 3	0%	0%	45%	$	$	$ 259,015		1.000			1.00	$ 5.59	$ 7.28	$ 1.53	27%
	100%	100%	100%	$	$	$ 575,955									
Outside City Commercial/Industrial															
Outside City Block 1	100%	85%	50%	$	$	$ 1,952		1.500			1.30	$ 11.29	$ 14.35	$ 3.40	27%
Outside City Block 2		15%	5%	$	$	$ 593		1.500			1.25	$ 10.76	$ 13.69	$ 3.94	30%
Outside City Block 3	0%	0%	45%	$	$	$ 3,518		1.500			1.00	$ 8.07	$ 11.04	$ 3.31	27%
	100%	100%	100%	$	$	$ 11,963									
Total Commercial/Industrial															
Inside City Lawn															
Inside City Block 1	100%	85%	50%	$ 22,110	$	$ 1,111	5,524	1.000	5,524	5,524	1.30	$ 7.58	$ 27.01	$ 19.43	256%
Inside City Block 2		15%	5%	$	$ 14,128	$ 111	7,032	1.000	7,032	7,032	1.25	$ 7.31	$ 25.97	$ 18.66	256%
Inside City Block 3	0%	0%	45%	$	$	$		1.000			1.00	$ 5.79	$ 20.77	$ 14.98	259%
Outside City Lawn															
Outside City Block 1	100%	85%	50%	$	$	$		1.500			1.30	$ 11.29	$ 40.94	$ 29.65	263%
Outside City Block 2		15%	5%	$	$	$		1.000			1.25	$ 10.76	$ 38.69	$ 28.93	269%
Outside City Block 3	0%	0%	45%	$	$	$		1.500			1.00	$ 8.07	$ 31.16	$ 23.10	286%
	100%	100%	100%	$	$	$									
Total Lawn															

000335

APPENDIX B: ALTERNATIVE WASTEWATER VOLUMETRIC RATES

		Test Year Volumes									
	Comparable Rate Up By Difference	Test Year Billed Volumes CCF	Test Year Billed Volumes Conversion	Test Year Difference (Inside City)	Test Year Adjusted Consumption CCF	Test Year Comparable Consumption CCF	Test Year Volumetric Rates $/CCF	Existing Volumetric Rates $/CCF	Difference $	Difference %
Inside City Customers										
Total Inside City Residential CCF										
Total Inside City Residential CCF Adjustment										
Total Inside City Residential	$ [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$ [illegible]	[illegible]	[illegible]	[illegible]
Total Outside City Residential CCF										
Total Outside City Residential CCF Adjustment										
Total Outside City Residential		[illegible]	[illegible]	[illegible]	[illegible]		$ [illegible]	[illegible]	[illegible]	[illegible]
Total Inside City Commercial/Industrial CCF										
Total Inside City Commercial/Industrial CCF Adjustment										
Total Inside City Commercial/Industrial	$ [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$ [illegible]	[illegible]	[illegible]	[illegible]
Total Outside City Commercial/Industrial CCF										
Total Outside City Commercial/Industrial CCF Adjustment										
Total Outside City Commercial/Industrial		[illegible]	[illegible]	[illegible]	[illegible]		$ [illegible]	[illegible]	[illegible]	[illegible]

City of Flint Wednesday 9:00am Phone Conference Agenda

June 11, 2014

1) **Public Safety Update – FPD, MSP, (FFD, if needed)**
   a) FPD stats – homicides status
   b) FFD Vote
   c) Other update from Chief Tolbert and MSP

2) **Governor's Office Update - Rich, Baird, H. Holbus**

3) **Lawsuits – Status, Issues**
   a) Kincaid v City of Flint – TRO has been denied.

   b) Retiree Lawsuit – Our attorneys filed a motion Friday, May 23, 2014 asking Judge Tarnow to reverse his decision on the injunction which is resulting in the additional $5 million in expenses in the upcoming budget, offset by significant reductions in police and fire staffing. A status conference has been scheduled for mid-June.

   c) Letters were sent last week via Registered Mail to pre-65 retirees because 40% did not respond to the requirement to enroll in health insurance.

4) **Financial Update**
   a) Budget revisions have been completed. Preparing EM Order to adopt 6/23/14. Also, as part of FY15, the day-today management of the Public Works Department and the Planning & Development Department will be handled by Mayor Walling.

   b) Preparing for close of the fiscal year 6/30/14. No surprises to report.

   c) Treasury financial support for FY15.

   d) Bid for Audit Services – see attached.

   e) Treasury has draft to impose FPOA contract; COF is awaiting response. This needs to be ready to go to City Council for the June 23rd meeting. Note also, AFSME Local 1600 voted to ratify new contract; a decision point is coming on Local 1799.

   f) EM is preparing to issue an Order approving the deficit elimination plan.

g) Treasury has been 3 weeks reviewing the EM Resolution for $250,000 to Ginosko for public areas landscaping at Smith Village. Can we get this moving?

5) **City Council Update**
   a) Public hearings on the biennial budget, the street lightening assessment were held on Monday, June 9, 2014. We did not hear any comments which will cause a revision to the proposed budget.

   b) The next monthly City Council meeting is scheduled for Monday, June 23, 2014 when the Council will officially receive the two year budget

6) **Blue Ribbon Committee on Governance**
   a) Dr. Scorsone is writing the first draft of the report of the Blue Ribbon Committee's findings. The committee will meet to make any changes to the report at the end of June and expects to hold a public comment session in mid-July.

7) **Water Issues**
   a) River processed water continues to meet all DEQ standards.
   b) Pipe line sale – COF is waiting for corrected letter from Treasury approving sale.

8) **Other Items**

Attachment: Audit Information

1-888-557-8511, access code 3389106

Created on: 06/09/14