

**City of Ferndale  
Oakland County, Michigan**

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**Water and Sewer Fund Financial Forecast  
For the Years Ending June 30, 2016 to 2020**

# **City of Ferndale, Oakland County, Michigan**

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City Manager  
City of Ferndale  
Oakland County, Michigan

As outlined in our engagement letter dated February 5, 2014, we have created a utility rate model using Microsoft Excel. That model has been delivered to the City's Finance Department. For the creation of the model, we obtained source documents including the City's audited financial statements, the City's budget, and various supporting documents to accumulate historical information about volume of water and sewer purchased and sold, administrative costs, future debt service, and future capital needs of the system. We met with various City employees in order to formulate the assumptions used in the model to forecast future performance of the system.

The purpose of the model is not just to calculate what the water and sewer rates charged to customers should be to cover costs in a one year period. Rather, the model calculates, based on management's assumptions, what the rate should be in order to achieve and then maintain a targeted level of modified working capital over an extended period of time.

On the following pages, we explain some of the more important or sensitive assumptions and estimates used in the model. Finally, based on the assumptions, we include a summary of the suggested rate changes as calculated by the model.

The following information is intended solely for the information and use of the City Council and management of the City and is not intended to be and should not be used by anyone other than these specified parties.

April 8, 2015

## **Summary of Significant Forecast Assumptions/ Significant Accounting Policies**

The assumptions disclosed herein are those that management believes are significant to the forecast.

All forecasted revenue and expenditures are reported using the cash flow basis. Revenue is recognized when it is received in cash. Expenditures are recorded when there is a cash outflow.

Significant assumptions include the following:

- The model projects operations on a cash basis so as to provide an analysis of sufficient modified working capital over a five year period.
- In previous years, the City's water and sewer commodity rates charged to its customers were identical. The model has divided the total costs of the Water and Sewer system into two distinct components, i.e the cost of providing water has been segregated from the cost of providing sewer. The cost of providing water is significantly less than the cost of sewer treatment. As a result, the model now calculates separate water and sewer rates to more accurately calculate the cost of providing these different services. The City's current customer rates for Water and Sewer are \$49.50 per MCF each (\$99.00 in total). For purposes of the model, we have reallocated this starting point to be \$65.83 for Sewer and \$33.17 for Water.
- Several years ago, the City implemented a fixed "ready to serve" charge in addition to the variable commodity charge to its customers. Recently, this charge was reduced from \$33 per quarter to \$29 per quarter. The actual cost pool that could possibly be used to calculate a ready to serve charge would actually support an increase to the ready to serve charge. Reasonably, this charge could be increased to as much as \$47 per quarter. This would be offset by a corresponding decrease to the commodity rate. For the purposes of the model, the ready to serve charge has remained at \$29 per quarter.
- Several years ago, as a few notable commercial customers left the City, the City experienced a significant drop in the volume of water purchased and sold. This decline seems to have bottomed out during the 2012-13 fiscal year. A slight rebound was experienced in the 2013-14 fiscal year. So far in fiscal year 2014-15, the City has seen another decrease over prior year. To be conservative, the assumption for water purchased going forward is based off the five year average of fiscal years 2009-10 through 2013-14, the last five years for which the City has complete data. As Oakland County bills the City for Sewer based on the volume of water purchased, the City assumes future sewer consumption will mirror that of water.

## **Summary of Significant Forecast Assumptions/ Significant Accounting Policies (Continued)**

- Due to the settlement of a recent legal action, the debt service expense (both principal and interest) related to the City's share of the Kuhn Drain bonds has been excluded from the model as the debt service will be placed on the City's property tax levy. In addition, 40 percent of the storm water pollution treatment charges will also be placed on the tax bills as a special assessment. The remaining 60 percent of estimated charges are factored into the model as an expense of sewer activities. Total pollution charges are expected to increase 5.0 percent per year, consistent with the past several years.
- The Detroit Water and Sewerage Department (DWSD) recently announced that the "per unit" cost of water purchased from the DWSD is expected to increase from \$5.41 to \$5.47 per Mcf for 2015-2016, an increase of 1.1 percent. In addition, the fixed fee component, a monthly charge to the City, is expected to increase 30.4 percent, from \$34,051 to \$44,400 per month. In total, the cost of water purchased is effectively going up 16.2 percent. Recently, as DWSD is transitioning from a department of the City of Detroit to the new Great Lakes Water Authority (GLWA), the media has reported a "capped" increase of 4 percent. This "cap" is actually meant to be system-wide. Individual communities could experience rate increases more or less than 4 percent. The most recently proposed rates are actually closer to 9 percent increases system wide (some customers could be in excess of 9 percent), not 4 percent, due to the DWSD system revenue requirements. For the purpose of the model, and factoring in that Ferndale's rate just went up 16.2 percent, the City has assumed total DWSD/GLWA cost increases of 10 percent going forward. As this is a very sensitive estimate subject to much potential change once the GLWA is up and running, we highly recommend reviewing this assumption in great detail every year when updating the model
- .Over the past several years, the cost of sewer from Oakland County has increased, on average, 8.1 percent per year. The cost related to the pollutant surcharge has increased, on average, 5.0 percent per year. Going forward, the model assumes these same increases annually.
- For the eight-year period from 2006 to 2014, water loss averaged approximately 5.0 percent per year; however, since the City replaced its water meters in fiscal year 2013, water loss has only averaged 3.0 percent per year. For the sake of conservatism and the fact that aging meters will begin to be less accurate with the passing of time, for the purposes of the model the City has assumed water loss will be 5 percent per year.

## **Summary of Significant Forecast Assumptions/ Significant Accounting Policies (Continued)**

- As mentioned above, the City replaced its water meters in 2011. The City estimates the cost of replacing the meters again would be approximately \$2,500,000, but this would not need to occur again for approximately 10 - 15 years. The model does not incorporate any large-scale meter replacement in the next 5 years, nor does it build in any kind of “savings” toward eventual meter replacement. Presumably the future meter replacement would need a separate funding mechanism such as the issuance of debt.
- The City has developed a 15 year capital improvement plan for the replacement of water mains. Over the course of 15 years, the estimated cost is approximately \$7.8 million dollars. On average, this is \$520,000 per year. The model assumes the cost of each main replaced will be purchased out of current cash flow.
- Due the aging of the City’s vehicle fleet, the City expects to purchase several vehicles funded by water and sewer rates over the next few years. The model assumes vehicles will be purchased out of current cash flow.
- Purchase of other miscellaneous equipment will be funded by water and sewer rates annually.
- For operating and administrative expenses without a separate assumption, a 3 percent inflationary increase has been assumed.
- System administrative expenses that support both water and sewer activities equally are allocated 50/50 within the model based on the fiscal year 2014-15 budget and include various inflationary components going forward as noted below.
- The cost of health insurance has fluctuated significantly over the past several years. For a while, double-digit percentage increases were commonplace. In fiscal year 2014, the City actually saw a double digit decrease. For fiscal year 2015, costs are back on the rise, although not to the extent seen earlier in the decade. Suffice it to say, this is a difficult assumption to pin down. Given the recent changes seen nation-wide as a result of the Affordable Care Act, it is reasonable to assume costs will continue to rise over an extended period of time. As such, the model assumes annual 8.0 percent increases to 2015 budget estimates thereafter.
- Most employees of the Water and Sewer Fund are included in the City’s defined contribution pension plan. Pension contributions are estimated to fluctuate as a function of wage expense.

## Summary of Significant Forecast Assumptions/ Significant Accounting Policies (Continued)

- The City has historically contributed close to 100 percent of actuarially calculated amounts related to the other postemployment benefits (i.e. “OPEB” or retiree healthcare) trust, although the fiscal year 2013-14 contribution fell to 58 percent of the actuary’s calculation. For purposes of the model, the assumption is that 2016 and beyond will be based off of the 2015 budget, plus any inflationary increases used in the wage rate assumption.

### Proposed Water and Sewer Rates

As a result of the assumptions above, and after several discussions with the City management, the model proposes the following changes to the City’s Water and Sewer rate structure:

	Current Rate (FY 15)	Reallocated Current Rate (FY 15)	Suggested by Model (FY 16)	Suggested Annual Change
Water	\$ 49.50	\$ 33.17	\$ 36.58	10.3%
Sewer	49.50	65.83	\$ 65.24	-0.9%
	\$ 99.00	\$ 99.00	\$ 101.82	<b>2.8%</b>
Fixed Charge/Ready to Serve (quarterly)	\$ 29.00	\$ 29.00	\$ 29.00	0.0%

If the assumptions detailed above hold true, at this suggested annual rate change, both water and sewer operations will achieve the target level of modified working capital after the forecasted five years.

### Other Capital Needs

If other large-scale improvements to either system are identified in the future, the calculated rates above may not provide sufficient working capital in order to achieve targeted levels. While the forecast does include the accumulation of some money to help pay for these projects, it is possible that another source of funding, such as bonds or other issuances of debt, would be required at some time in the future.

# City of Ferndale Water and Sewer Rate Changes

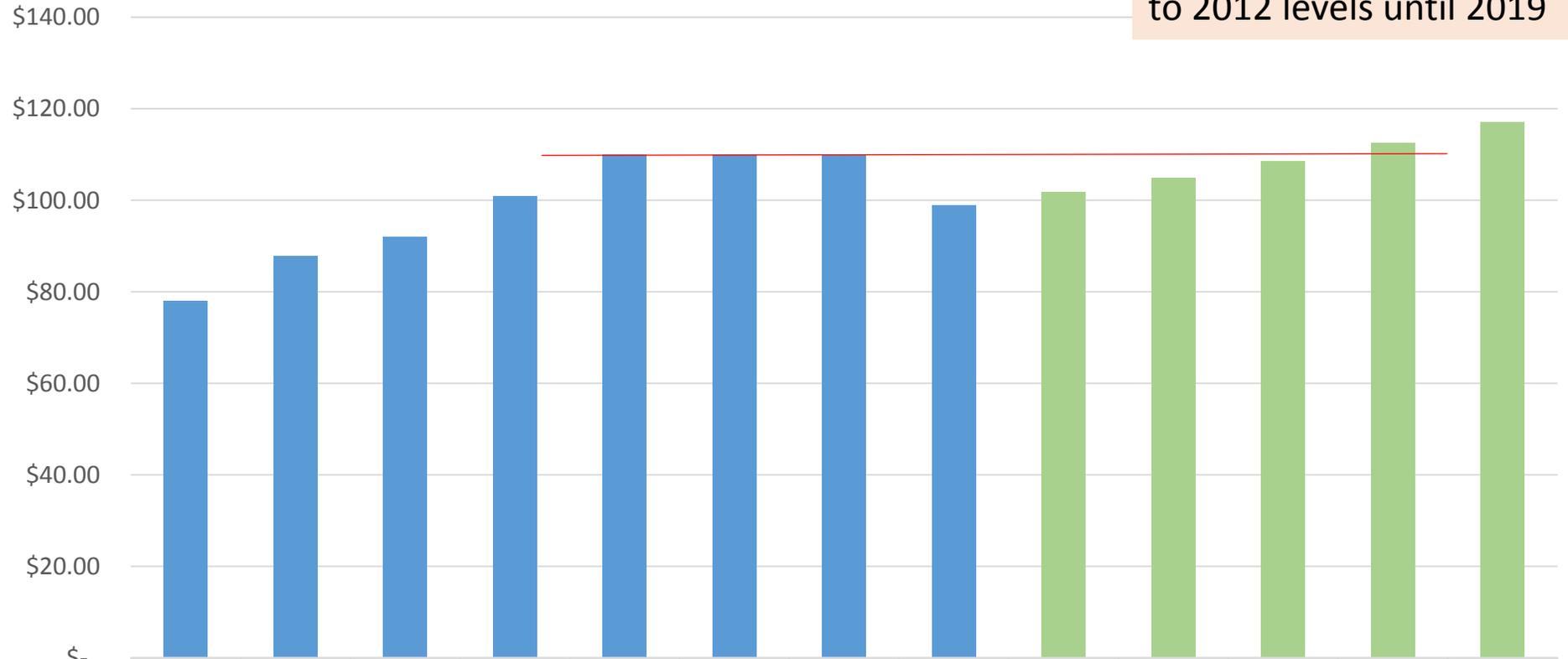
Rates were frozen in 2013 and 2014, and then cut 10% for 2015



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
■ Water/Sewer Rate Increase	12.6%	4.8%	9.8%	8.9%	0.0%	0.0%	-10.0%	2.8%	3.1%	3.4%	3.7%	4.0%

# City of Ferndale Combined Water and Sewer Rates

Forecasted rates do not return to 2012 levels until 2019



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
■ Combined Water/Sewer Rate	\$78.00	\$87.80	\$92.00	\$101.00	\$110.00	\$110.00	\$110.00	\$99.00	\$101.82	\$105.00	\$108.57	\$112.58	\$117.06





# City of Ferndale Customer Sample – Family 2015 - 2020

Forecasted rate change for 2016 costs an average family of four \$23 more per year (2.5%)

