

**VILLAGE OF DOWNERS GROVE**  
**Report for the Village**  
**9/17/2019**

<b>SUBJECT:</b>	<b>SUBMITTED BY:</b>
Accept the final report of the Water Rate Study	Judy Buttny Finance Director

**SYNOPSIS**

A motion is requested to accept the final report of the Downers Grove Water Rate Study completed by Stantec Consulting Services, Inc.

**STRATEGIC PLAN ALIGNMENT**

The goals for 2017-2019 includes *Steward of Financial, Environmental and Neighborhood Sustainability* and *Top Quality Infrastructure*.

**FISCAL IMPACT**

The FY20 Budget will be prepared based on the results of this study.

**UPDATE & RECOMMENDATION**

This item was discussed at the September 10, 2019 Village Council meeting. Staff recommends approval on the September 17, 2019 consent agenda.

**BACKGROUND**

The Village issued a Request for Proposal (RFP) to analyze and update water rates in June 2019, and Council approved the consulting agreement with Stantec on July 9, 2019. The goal of this water rate study was to review current and future water rates to ensure adequate funding is available for current operations and maintenance as well as for identified capital maintenance and improvement projects into the future by developing a financial plan for a ten-year period.

The following are the findings of the water rate study:

- The Village has made significant strides in addressing the needs of the water system with annual investments in infrastructure
- The Village has been effective at leveraging low interest rate loans from IEPA
- The total costs of operating and maintaining the water system are largely fixed at approximately 50%, and the current rate structure gets 12% of revenues from a fixed charge
- The Village has experienced an overall annual reduction in water sales over the last five years

The study recommends that water revenues should be increased in FY20 (effective July 1, 2020) and subsequent years by 4.6% per year. The adjustments to the fixed charges would bring the revenue collection

from the fixed charge to approximately 15% of the total rate revenue in five years. The recommendations are made in order to:

- Continue proactive management of the water system through infrastructure investment
- Ensure the Village the opportunity to utilize low interest rate loans from IEPA
- Maintain minimum cash balance
- Offset the decline in usage

The Village last conducted a comprehensive water rate study in 2010. Through the study, the Village determined that water rates as of 2010 were not generating adequate revenues to cover the costs of operating and maintaining the water system in 2011 or future years. The study concluded that the Village should restructure water rates to a uniform rate structure with a base rate relating to meter size and a consumption charge, increase water rates, make needed improvements to the water system, and issue bonds at regular intervals to pay for water system improvements. These rates have been increased during the past nine years in order to keep up with increased material and personnel costs and aging infrastructure replacement.

To continue to construct replacement watermains throughout the system, the Village issued \$10 million in bonds in 2012 and \$5 million in 2015. In 2016, the Village entered into an agreement with the Illinois Environmental Protection Agency for low interest water loans from 2016-20. The debt service payments on these borrowings are below market rates and are less than projected in the water rate model. Consequently, the Village has been able to minimize rate increases since the cost of financing infrastructure improvements has been less than anticipated.

#### **ATTACHMENTS**

Water Rate Study Report

VILLAGE OF DOWNERS GROVE  
COUNCIL ACTION SUMMARY

INITIATED: Village Attorney DATE: September 17, 2019  
(Name)

RECOMMENDATION FROM: \_\_\_\_\_ FILE REF: \_\_\_\_\_  
(Board or Department)

**NATURE OF ACTION:**

**STEPS NEEDED TO IMPLEMENT ACTION:**

- Ordinance
- Resolution
- Motion
- Other

Motion to accept the Village of Downers Grove Water Rate Study Final Report dated August 30, 2019.



**SUMMARY OF ITEM:**

Adoption of this motion shall accept the Village of Downers Grove Water Rate Study Final Report dated August 30, 2019.

**RECORD OF ACTION TAKEN:**

---



---



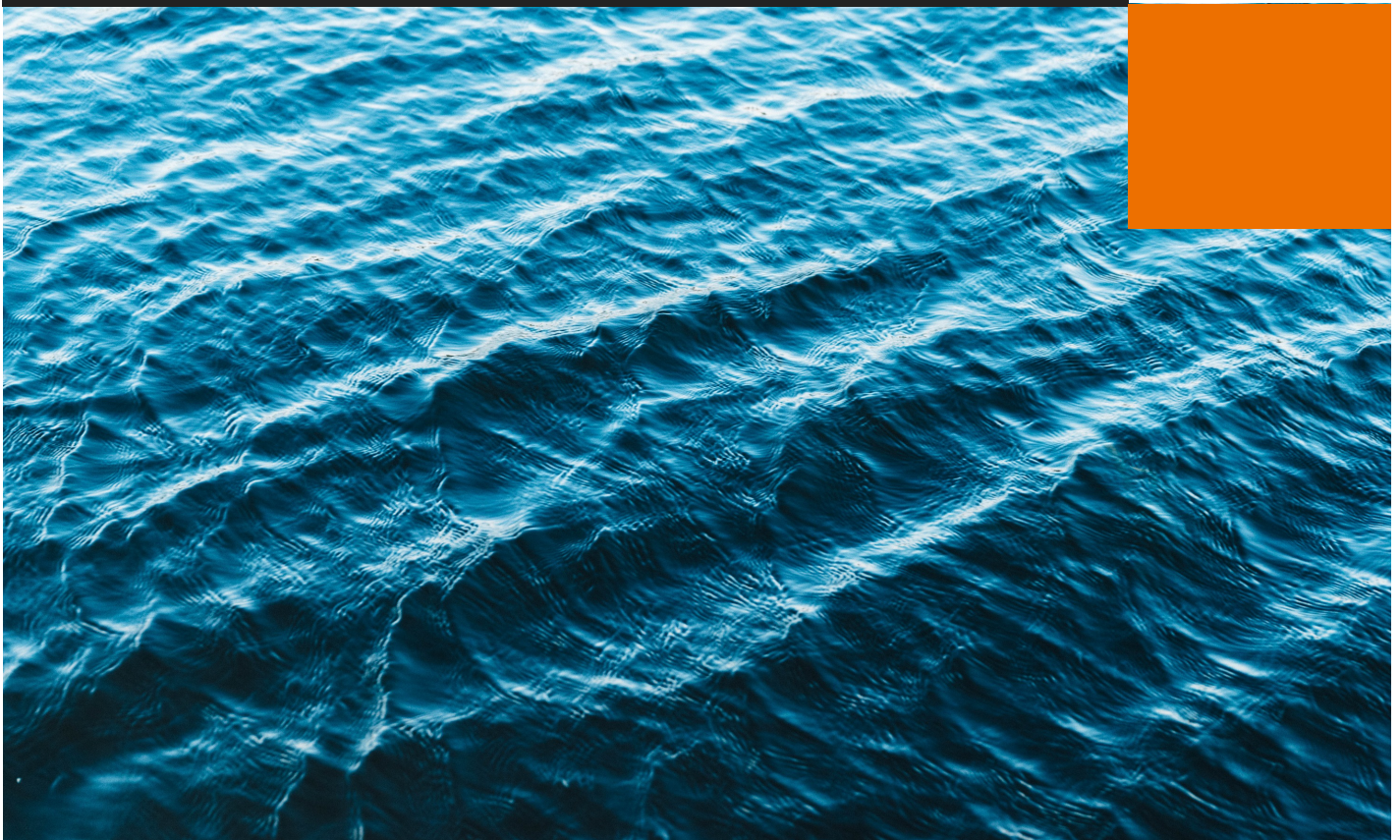
---



Village of Downers Grove, IL

# Water Rate Study - Final Report

August 30, 2019





August 30, 2019

Judy Buttny  
Finance Director  
Village of Downers Grove  
801 Burlington Ave  
Downers Grove, IL 60515

Re: Water Rate Study - Final  
Report

Dear Ms. Buttny,

Stantec Consulting is pleased to present this Final Report of the FY 2019 Water Rate Study that we performed for the Village of Downers Grove, IL. We appreciate the assistance provided by you and all the members of Village Staff who participated in this study.

If you or others at the Village have any questions, please do not hesitate to call me at (202) 585-6391 or email me at [david.hyder@stantec.com](mailto:david.hyder@stantec.com). We appreciate the opportunity to be of service to the Village and look forward to the possibility of doing so again in the near future.

Sincerely,

A handwritten signature in black ink, appearing to read "David Hyder".

David Hyder  
Principal – Financial Services

Stantec  
1101 14th Street NW Suite 1200  
Washington DC 20005-5637  
Direct: (202) 585-6391  
[david.hyder@stantec.com](mailto:david.hyder@stantec.com)

Enclosure

# TABLE OF CONTENTS

- 1. Executive Summary..... 1**
  - 1.1 Findings and Conclusions..... 1
  - 1.2 Recommendations ..... 2
- 2. Introduction..... 5**
  - 2.1 Background ..... 5
  - 2.2 Objectives ..... 6
- 3. Revenue Sufficiency Analysis ..... 7**
  - 3.1 Study Process ..... 7
  - 3.2 Source Data ..... 8
    - 3.2.1 Fund Balance..... 8
    - 3.2.2 Revenues..... 8
    - 3.2.3 Operating Expenditures ..... 8
    - 3.2.4 Capital Improvement Program..... 8
    - 3.2.5 Debt Service ..... 8
  - 3.3 Assumptions..... 9
    - 3.3.1 Cost Escalation..... 9
    - 3.3.2 Interest Earnings on Invested Funds..... 9
    - 3.3.3 Minimum Reserve Policy ..... 9
    - 3.3.4 Future Borrowing & Capital Funding ..... 10
    - 3.3.5 Debt Service Coverage..... 10
    - 3.3.6 Customer and Usage Changes ..... 10
  - 3.4 Revenue Sufficiency Results ..... 10
    - 3.4.1 Operating Expenditures ..... 10
    - 3.4.2 Capital Expenditures..... 11
    - 3.4.3 Existing and Future Debt Service ..... 11
    - 3.4.4 Total Revenue Requirements and Revenue Sufficiency..... 12
    - 3.4.5 Water Fund Balance and Debt Coverage..... 13
    - 3.4.6 Recommended Financial Management Plan..... 13
- 4. Rate Structure Analysis ..... 15**
  - 4.1 Current Rate Structure ..... 15
  - 4.2 Recommended Rate Structure ..... 16
- 5. Customer Impacts ..... 17**
  - 5.1 Customer Bill impacts ..... 17
  - 5.2 Residential Bill Survey ..... 18

- 6. Capital and Ancillary Fees ..... 20**
  - 6.1 Capital Fees ..... 20
    - 6.1.1 Meter Fees ..... 20
    - 6.1.2 Tap Fees ..... 20
    - 6.1.3 Capacity Fees ..... 20
  - 6.2 Ancillary Fees ..... 21
- 7. Findings, Conclusions, and Recommendations ..... 23**
  - 7.1 Findings and Conclusions ..... 23
  - 7.2 Recommendations ..... 24
- Appendix A: Supporting Schedules ..... 28**

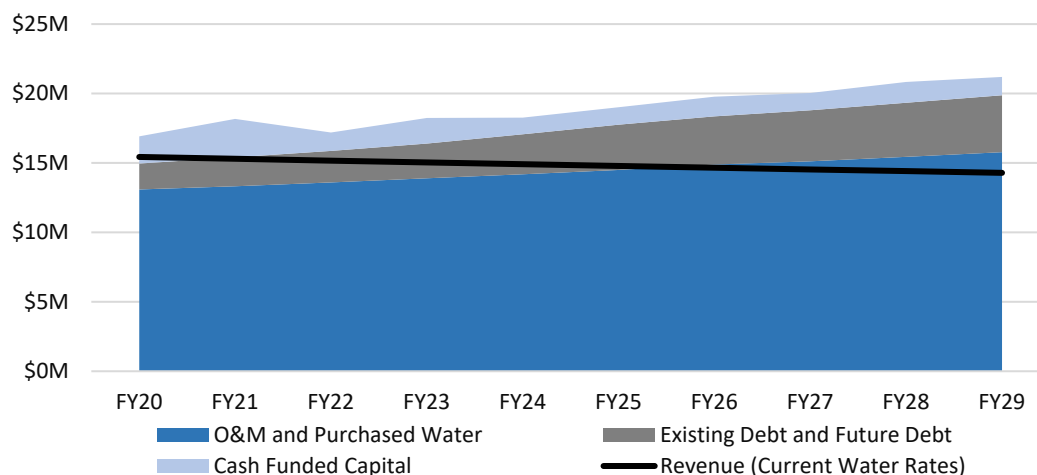
# 1. EXECUTIVE SUMMARY

This report was prepared to summarize the Water Rate Study (Study) performed by Stantec Consulting Services Inc. (Stantec) for the Village of Downers Grove (Village) Water System (System). The Study includes a 10-year cash flow analysis of the Village's Water Fund (Fund) to evaluate its current and projected financial condition and identify revenue enhancements and other financial adjustments that will provide a sustainable future for the Village over the multi-year projection period. This report describes in detail the approach taken to complete the assessment, as well as the results of the analysis, our concluding observations, and future considerations. This Executive Summary presents an overview of the results of the study.

## 1.1 FINDINGS AND CONCLUSIONS

The following findings and conclusions were developed during the course of the Study.

- The last comprehensive water rate study for the water system was completed in 2010. Since the completion of the prior study, the Village has made significant strides in addressing the needs of the water system, including ramping up annual investments in the water distribution system that provide for replacement of 1% of the system per year. The Village has been able to leverage low interest rate loans from the Illinois Environmental Protection Agency (IEPA) to fund the necessary capital investments while minimizing rate impacts.
- While the Village has made significant progress in addressing the needs of the water system, it is vitally important that the Village continue to address the ongoing and evolving needs of the water system to ensure that the Village can continue to provide reliable water service.
- Based on projected water sales, the Village's current water rates will not produce adequate revenues to cover the costs of operating and maintaining the water system in FY 2020 or any subsequent year of the projection period, as shown in the graph below.



- The annual deficits under existing rates will exhaust the Village's Water Fund cash balance by FY 2024.
- Given the annual shortfalls in revenues in the Water Fund and the projected results at current rates, it is unlikely that the Village would be able to secure future additional loans from the IEPA. This would require the Village to cash fund water line replacements, which would ultimately accelerate the depletion of the cash balance within the Water Fund.
- There are several reasons for the revenue shortfalls, which include the following:
  - The water system is in need of continued capital investments to maintain a proactive schedule of repair and replacement to mitigate the risk of system failures and significant disruptions in water service.
  - The Village has experienced an overall annual reduction in water sales over the last five years, which has directly impacted revenues from water sales since the majority of water system revenue (approximately 88%) is dependent on water sales.
  - While the Village has adjusted water rates over the past several years to cover the cost of purchased water, the Village has experienced increases in other non-purchased water operating expenses.
- To be able to secure future planned IEPA loan funding for capital projects, water system revenues will need to be sufficient to cover necessary operating and debt service expenses.
- The total costs of operating and maintaining the water system are largely fixed at approximately 50%. Under the current rate structure, the Village collects approximately 12% of its revenues from a bi-monthly maintenance fee (fixed charge), which has not been adjusted in over five years.

## 1.2 RECOMMENDATIONS

The following recommendations were developed during the course of the Water Rate Study. The recommendations are presented to the Village Staff and Council for consideration and adoption.

- To maintain the progress that the Village has made over the past decade and to address the needs of the water system, we recommend that the Village adjust water rates in FY 2020 as well as in subsequent years. We recommend that the Village increase water revenues by 4.6% to generate sufficient revenues for the system to offset the annual declines in water usage.
- We recommend the Village implement the following water rates effective July 1, 2020, as well as additional increases in subsequent years to meet the needs of the water system. The adjustments to the fixed charges would bring revenue collection from the fixed charge to approximately 15% of the total rate revenue by the end of the five-year period.

## 1. Executive Summary

**Table 1-1 Recommended Fixed Charges**

Bi-Monthly Fixed Charge	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
5/8"	\$13.72	\$14.95	\$16.30	\$17.77	\$19.37
1"	\$20.59	\$22.44	\$24.46	\$26.66	\$29.06
1 1/2"	\$68.64	\$74.82	\$81.55	\$88.89	\$96.89
2"	\$109.81	\$119.69	\$130.46	\$142.20	\$155.00
3"	\$205.91	\$224.44	\$244.64	\$266.66	\$290.66
4"	\$343.18	\$374.07	\$407.74	\$444.44	\$484.44
6"	\$686.33	\$748.10	\$815.43	\$888.82	\$968.81
10"	\$1,647.19	\$1,795.44	\$1,957.03	\$2,133.16	\$2,325.14

**Table 1-2 Recommended Usage Charges**

Charge per CCF	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Usage Charge Inside Village	\$6.33	\$6.57	\$6.82	\$7.08	\$7.35
Usage Charge Outside Village	\$7.26	\$7.53	\$7.81	\$8.10	\$8.40

- The recommended water rates will generate approximately 4.60% more revenue over the course of the twelve-month period starting July 1, 2020 to June 30, 2021. The same level of revenue adjustment is recommended for the subsequent years to ensure the continued health of the Water Fund, and to ensure that the Village is able to secure low interest rate loans from the IEPA to support the capital fund.
- The Village currently imposes a number of ancillary service fees related to providing water service. The fees were reviewed with Village Staff to determine if the fees cover the costs associated with providing each service. While many of the fees were determined to be appropriate, the following tables present those that are recommended for adjustment.

**Table 1-3 Ancillary Service Fees**

<b>Service Provided</b>	<b>Current</b>	<b>Recommended</b>
<b>Use of Public Hydrants</b>		
Administrative Fee	\$36	\$37
<b>Meter Repair / Replacement</b>	\$6.25 + cost of replacement	\$130 + cost of replacement
<b>Water Service Inspection Fees</b>	\$79	\$105

- The Village currently imposes capital fees that recover the cost of providing water service to a new customer or a customer that is requesting a larger service. The fees were reviewed with Village Staff to determine if the fees cover the costs associated with providing new service. The capital fees include tap fees, meter charges, and capacity fees. The tap fees and the meter charges are set based on the actual cost of providing the tap and the meter and adjusted as necessary. The capacity fees are based on the cost of providing system capacity. Based on our review of the capacity fees, we recommend that the current fees remain in place as they represent the cost of providing system capacity.

## 2. INTRODUCTION

Stantec Consulting Services Inc. (Stantec) has conducted a Water Rate Study (Study) for the Village of Downers Grove, IL (Village) Water System (System). The following sections of this report describe in detail the assumptions, procedures, and results of the analysis, as well as the conclusions and recommendations gathered from the analysis.

### 2.1 BACKGROUND

The Village of Downers Grove provides clean, safe, and reliable water service to residents and commercial establishments in and around the Village. The water system serves a residential population of approximately 50,000 with a service area that includes all areas within the Village limits and a limited area outside the Village. The primary source of water supply for the Village is from the DuPage Water Commission (Water Commission). The Water Commission is supplied with water from the City of Chicago which draws water from Lake Michigan. The Village has invested significant capital to develop the water system which consists of the following major components:

- 7 elevated storage tanks with a total storage volume of 8 million gallons,
- 6 rate control stations which control the flow of water in the distribution system,
- 200+ miles of water distribution mains that range in diameter from 4 to 24 inches (approximately the distance from the Village to Milwaukee and back),
- 2,600 public fire hydrants,
- 2,700 main line distribution valves, and
- Supervisory Control and Data Acquisition System (SCADA) that monitors, records and controls the operations of the water system.

The Village does not operate or maintain water treatment facilities but does maintain four backup wells. The wells are not able to meet the total water system demands and therefore serve as emergency backup supply.

As an enterprise fund, the Village does not rely on tax revenues to support the water system operations. The Water Fund is solely dependent on user charges and fees to fund its operations, maintenance, and long-term obligations related to the water system. The last comprehensive water rate study was completed for the Village in 2010. The study was used to help the Village address significant increases in purchased water costs from the Water Commission, as well as to start addressing reinvestment in the aging water system. Since the study was completed, the Village has made significant progress in addressing the needs of the water system. The Village has been able to replace 1% of the water distribution system on an annual basis, with plans to continue investments at this level for the foreseeable future. This level of investment should allow for system sustainability, with the assumption that water mains last approximately 100 years. To assist with the funding of the capital investments, the Village has utilized low interest rate loans from the

Illinois Environmental Protection Agency (IEPA). These loans have minimized the impact on rate payers while providing necessary capital to allow for continued replacement of water system assets. The use of loans also has allowed the Village to match the use of the asset with the repayment of the loan (i.e. the water main replacements will last decades and therefore it makes sense to retire the debt over a similar period of time).

While the Village has made significant progress over the past decade, there is still much that needs to be done to ensure that the water system is able to reliably deliver water to the residents and business within the Village. The Village will need to continue to invest in line replacements at the 1% annual level for the foreseeable future, the cost of purchased water is likely to continue to increase at inflationary levels, and the continued annual reductions in water sales due to conservation efforts will erode the Village's water usage rate revenues. To ensure the continued financial health and sustainability of the water system, the Village has asked Stantec to complete a Water Rate Study.

## 2.2 OBJECTIVES

The principal objectives or components of the Study are as follows:

**Revenue Sufficiency Analysis (RSA)** – Conduct an analysis that evaluates the current and projected financial condition of the Village's Water System and identify financial adjustments that will provide a sustainable future for the Village over a multi-year projection period.

**Rate Structure Recommendation** – Evaluate current rate structure and cost recovery levels to make a recommendation on the current structure of water rates.

**Ancillary and Capital Fee Review** – Evaluate the level of ancillary and capital fees to determine if the fees are appropriate or require adjustments to ensure that fees recover the cost of providing each service.

**Customer Impacts** – Conduct a survey that compares the bi-monthly water bill of the Village's typical residential users to those of other utility systems within the Village's surrounding geographic area.

## 3. REVENUE SUFFICIENCY ANALYSIS

This section presents the financial management plan developed during the Study. The financial management plan was developed based on the completion of a revenue sufficiency analysis (RSA) which evaluates the sufficiency of revenues to meet the current and future needs of the Water System.

### 3.1 STUDY PROCESS

In order to initialize our analysis, we obtained the historical and budgeted financial information regarding the operation of the Water System. We discussed with Village Staff any assumptions and policies that would affect the financial performance of the Water System such as additional expenses outside of the budget, required levels of operating and capital reserves, earnings on invested funds, escalation rates for operating costs, purchased water costs, and capital investment needs.

All this information was entered into our Financial Analysis and Management System (FAMS-XL) interactive model. The FAMS-XL model produced a ten-year projection of the sufficiency of the current revenues to meet all of the Water System's current and projected financial requirements and determined the level of revenue increases necessary in each year of the projection period to provide sufficient revenues to fund all of the Water System's cost requirements.

The financial model utilizes all projected available and unrestricted funds in each year of the projection period to pay for capital projects. The model is set up to reflect the capital funding assumptions discussed with Village Staff and produces a detailed summary of the funding sources to be used for each project in the capital improvement program.

Once the financial model was fully populated, we conducted an interactive work session with Village Staff. During this work session, we examined the impact of various alternatives upon key financial indicators by use of graphical representations projected on a large viewing screen from our computer rate models. In this way, we developed revenue adjustment plans for each alternative financial management plan identified, including the recommended financial management plan presented in this report, which will allow the Water System to meet its projected requirements and financial performance goals and objectives throughout the projection period.

## 3.2 SOURCE DATA

The analysis used both historical and projected information. The following presents the key source data utilized in the RSA:

### 3.2.1 Fund Balance

Village Staff provided the historical, audited financial information used to establish the beginning FY 2019 balances for the Water Fund. Any funds reserved or encumbered for specific capital projects were excluded from the beginning fund balances.

### 3.2.2 Revenues

Revenue sources utilized in the Study consist of rate revenues, other operating revenues from miscellaneous service charges, and interest earnings. All FY 2019 revenue sources reflect the FY 2019 Approved Budget, as provided by Village Staff. Each year thereafter, rate revenues reflect prior year revenue, adjusted for projected change in usage, and applicable rate adjustments. Other operating revenues are projected based on the FY 2019 budgeted amounts. Interest earnings were calculated annually based upon projected average fund balances and assumed annual interest earnings rates.

### 3.2.3 Operating Expenditures

Operating expenses include personal services costs, operations and maintenance costs, and minor capital outlays. The most significant operating cost is purchased water, representing 65% of FY 2019 operating expenditures. The cost of purchased water was projected based off an analysis of historical purchased water quantities and estimation of future cost escalation for purchased water contracts and related fees. Except for purchased water, all revenue requirements in FY 2019 reflect the FY 2019 Approved Budget and were projected each year thereafter based upon assumed future cost escalation factors and knowledge of planned expenditures provided by Village Staff.

### 3.2.4 Capital Improvement Program

Capital improvement projects represent repair and replacement of existing water system infrastructure. The capital improvement program was utilized for FY 2019-2025. Per discussions with Village Staff, future capital costs were projected for FY 2026-2029. Capital improvement costs were escalated by 3.00% annually beginning in FY 2021. Based on analysis of historical budget to actual capital spending and discussions with Village Staff, our analysis assumes that capital improvement expenditures will be executed within the financial plan at 90% in every year of the projection period beginning in FY 2020.

### 3.2.5 Debt Service

The Study reflects the annual principal and interest requirements associated with the Village's outstanding General Obligation Bonds, Series 2012 Water and Series 2015A, and the Village's outstanding annual IEPA Public Water Supply Loans, Series 2016, 2017, and 2018. The Village has been approved for an

additional IEPA loan in FY 2019 but as of the time of the Study, the final debt amortization schedule is not available. Due to this, the related debt service amounts have been calculated within the model for projection purposes.

### **3.3 ASSUMPTIONS**

The following presents the key assumptions utilized in the RSA.

#### **3.3.1 Cost Escalation**

Annual cost escalation factors for the various types of operating expenses were discussed with Village Staff and applied in each year of the projection period, beginning in FY 2020. The specific escalation factors assumed for each category of expense are presented in Appendix A of this report and reflect recent historical trends, current industry observations, and Village Staff expectations.

#### **3.3.2 Interest Earnings on Invested Funds**

The Study assumes annual interest-earning rates of 0.96% in FY 2019 and 1.00% in FY 2020 and each year thereafter.

#### **3.3.3 Minimum Reserve Policy**

Reserve balances for utility systems are funds set aside for a specific cash flow requirement, financial need, project, task, or legal covenant. These balances are maintained in order to meet short-term cash flow requirements, and at the same time, minimize the risk associated with meeting the financial obligations and continued operational and capital needs under adverse conditions. The level of reserves maintained by a utility is an important component and consideration of developing a utility system multi-year financial management plan.

Many utilities, rating agencies, and the investment community as a whole place a significant emphasis on having sufficient reserves available for potentially adverse conditions. The rationale related to the maintenance of adequate reserves is twofold. First, it helps to assure a utility that it will have adequate funds available to meet its financial obligations during unusual periods (i.e. when revenues are unusually low and/or expenditures are unusually high). Second, it provides funds for emergency repairs or replacements to the system, which may occur because of natural disasters or unanticipated system failures.

The financial management plan presented in this report assumes the Village will maintain a minimum Operating Fund balance or reserve equal to 3 months of annual rate revenues, including revenues from fixed and usage charges. This level of reserves is consistent with our experience with other healthy financial utility systems.

### 3.3.4 Future Borrowing & Capital Funding

New subordinate debt is projected during the forecast period to pay for portions of specific capital projects. This future debt is assumed to be similar to the existing outstanding IEPA loans. The debt service for the borrowings projected in the analysis were computed with a term of 20 years with no issuance costs. Interest rates for borrowing are projected to be 1.84% in FY 2019, 2.00% in FY 2020, 2.10% in FY 2021, and 2.15% in the remaining years of the projection.

### 3.3.5 Debt Service Coverage

The Water Fund does not have covenants per outstanding loans to maintain net revenues (gross revenues minus operating expenses) at a specific level. To ensure that the Village is able to continue to secure loans from the IEPA, Stantec would recommend maintaining net revenues that are at least 1.00 times greater than the annual debt service expense (i.e. the annual principal and interest payments) for outstanding loans and aiming for a target of 1.25.

### 3.3.6 Customer and Usage Changes

Per discussions with Village Staff regarding future development within the Village, this Study does not include any growth in the number of customers. Based upon analysis of historical consumption trends, a decline in usage on a per account basis for existing customers of -1.00% is projected annually.

## 3.4 REVENUE SUFFICIENCY RESULTS

The source data and assumptions were used to develop the Water System revenue requirements over a ten-year projection period within the financial model. The following sections outline each of the components of the revenue requirements and sufficiency of existing water rate revenues to meet the requirements of the Water System.

### 3.4.1 Operating Expenditures

The operating expenditures represent the costs associated with the operation and maintenance of the water system including the cost of purchasing water from the Water Commission. The two primary components of the operating expenditures are shown in Table 3-1 over a five-year projection period. The purchased water forecast incorporates a 1% reduction in annual purchase water amounts and a 3% annual increase in the cost of purchased water.

**Table 3-1 Operating Expenditure Forecast**

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Village Operating	\$4,450,945	\$4,507,547	\$4,617,259	\$4,730,184	\$4,846,433
Water Purchase	8,696,747	8,868,092	9,042,813	9,220,976	9,402,650
<b>Total</b>	<b>\$13,147,692</b>	<b>\$13,375,639</b>	<b>\$13,660,072</b>	<b>\$13,951,161</b>	<b>\$14,249,083</b>

### 3.4.2 Capital Expenditures

Table 3-2 presents the five-year capital plan provided by Village Staff by project type. While escalated in the financial model to reflect inflation, the projects in the table are presented in current day dollars. The Village anticipates using a combination of debt (IEPA loans) and cash to fund the capital projects. The table demonstrates the planned annual debt and cash portion. As shown in the table, approximately 75% of the capital projects will be funded with debt and the remaining will be funded with cash. This cash to debt split is appropriate as it is important for the Village to fund a portion of capital projects from cash to maintain financial flexibility.

**Table 3-2 Capital Improvement Plan**

Type of Project	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Watermain Replacement	\$5,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000
Water Facility Maintenance	225,000	125,000	125,000	125,000	125,000
Well Rehabilitation	105,000	900,000	105,000	900,000	-
SCADA System Maintenance	250,000	100,000	100,000	-	-
Water Storage Tank Rehabilitation	50,000	1,700,000	50,000	750,000	50,000
US Risk Assessment & Emergency Response Plan	50,000	50,000	-	-	-
Meter Replacement	-	-	-	-	3,000,000
<b>Total</b>	<b>\$5,680,000</b>	<b>\$6,875,000</b>	<b>\$4,380,000</b>	<b>\$5,775,000</b>	<b>\$7,175,000</b>
<b>Cash-Funded Portion</b>	<b>\$2,180,000</b>	<b>\$2,975,000</b>	<b>\$1,380,000</b>	<b>\$1,125,000</b>	<b>\$1,175,000</b>
<b>Debt-Funded Portion</b>	<b>\$3,500,000</b>	<b>\$3,900,000</b>	<b>\$3,000,000</b>	<b>\$4,650,000</b>	<b>\$6,000,000</b>

### 3.4.3 Existing and Future Debt Service

The existing annual debt service used to fund prior capital projects along with the future projected debt over the next five years is presented in Table 3-3. The table demonstrates that the annual debt service will increase by approximately \$1 million over the next five years.

**Table 3-3 Existing and Future Debt Service**

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Existing Debt	\$1,390,159	\$1,392,184	\$1,393,659	\$1,393,459	\$1,391,559
Future Debt	475,029	698,268	857,993	1,113,967	1,491,065
<b>Total</b>	<b>\$1,865,188</b>	<b>\$2,090,452</b>	<b>\$2,269,652</b>	<b>\$2,507,426</b>	<b>\$2,882,624</b>

### 3.4.4 Total Revenue Requirements and Revenue Sufficiency

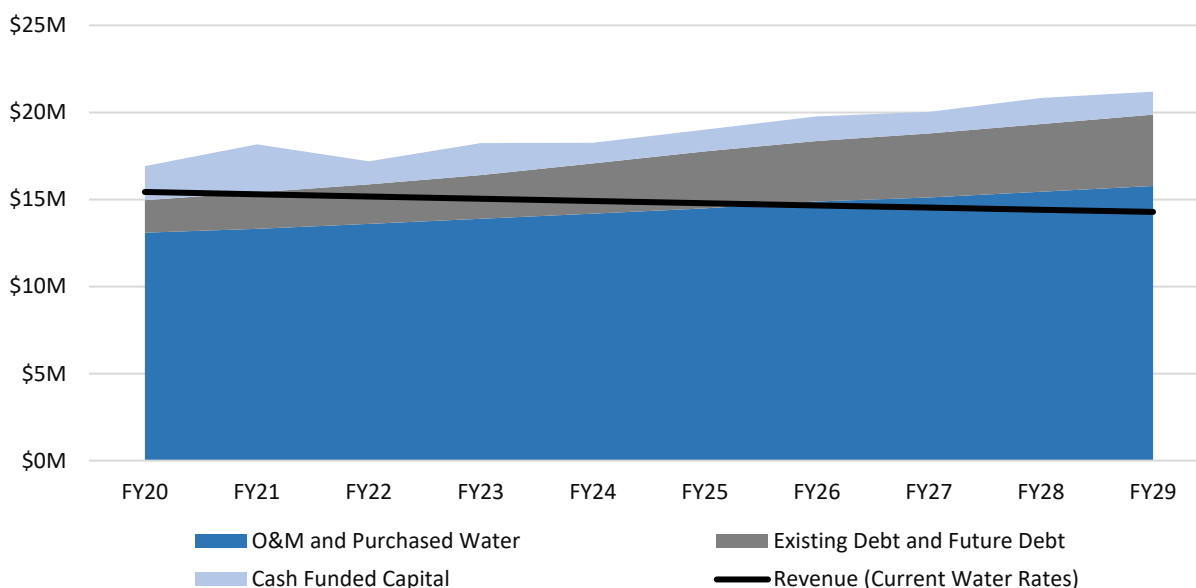
The combination of all annual expenditures results in the total revenue requirements. Table 3-4 presents the total Water System revenue requirements over the next five years. The table also shows the current water revenues at existing rates and shows the insufficiency of the current revenues to meet the annual expenditures.

**Table 3-4 Revenue Requirements and Revenue Sufficiency**

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Operating	\$13,147,692	\$13,375,639	\$13,660,072	\$13,951,161	\$14,249,083
Existing and Future Debt	1,865,188	2,090,452	2,269,652	2,507,426	2,882,624
Cash Funded Capital	1,962,000	2,757,825	1,317,638	1,843,977	1,190,226
<b>Total Revenue Requirements</b>	<b>\$16,974,880</b>	<b>\$18,223,917</b>	<b>\$17,247,362</b>	<b>\$18,302,564</b>	<b>\$18,321,932</b>
<b>Revenues with Existing Rates</b>	<b>\$15,519,353</b>	<b>\$15,368,709</b>	<b>\$15,218,422</b>	<b>\$15,063,142</b>	<b>\$14,910,895</b>
<b>Annual (Shortfall) / Surplus</b>	<b>(\$1,455,527)</b>	<b>(\$2,855,207)</b>	<b>(\$2,028,941)</b>	<b>(\$3,239,421)</b>	<b>(\$3,411,036)</b>

As demonstrated in Table 3-4, the existing water system revenues will not be sufficient to meet the annual revenue requirement during any portion of the projection period. This same result is expected to occur during the entire projection period as shown in Figure 3-1.

**Figure 3-1 Ten-Year Revenue Requirements and Revenues at Current Rates**



### 3.4.5 Water Fund Balance and Debt Coverage

The revenue sufficiency analysis has demonstrated the insufficiency of the Village’s current water rates to meet the revenue requirements of the Water System over the near and long-term. The annual shortfalls that result over the planning period would completely exhaust the Water Fund cash balance by FY 2024. Additionally, beginning in FY 2021 the Water Fund would generate insufficient funds to make the annual debt payments, as shown by the debt service coverage falling below 1.0. This would likely result in the Village not being able to obtain additional loans from IEPA due to the demonstrated annual shortfalls. The Water Fund projected cash balance and debt coverage at current rates are presented in Table 3-5.

**Table 3-5 Water Fund Cash Balance and Debt Coverage**

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
<b>End of Year Cash Balance</b>	\$8,437,343	\$5,583,743	\$3,551,189	\$307,282	(\$3,103,754)
<b>Debt Service Coverage</b>	1.30	0.98	0.71	0.47	0.25

### 3.4.6 Recommended Financial Management Plan

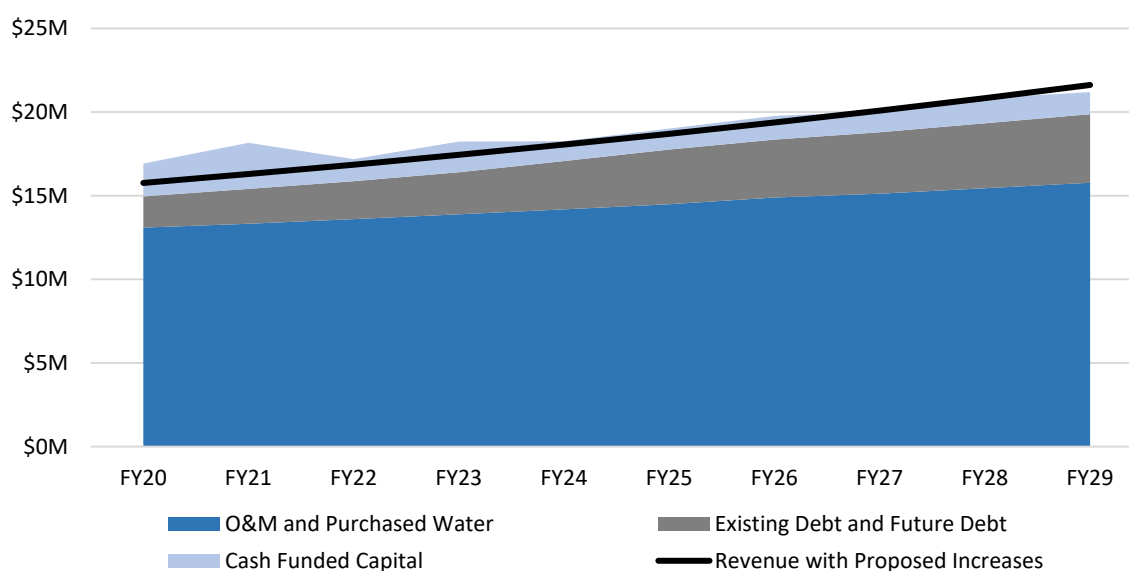
Given the insufficiency of the anticipated revenues from current water rates over the projection period, we have developed a recommended financial management plan to increase water system revenues in an effort to allow the Village to continue to fund the operations, debt service, and capital investments in the Water System while maintaining the financial health of the Water Fund. The recommended financial management plan consisting of annual revenue adjustments is presented Table 3-6.

**Table 3-6 Financial Management Plan**

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
<b>Water Revenue Adjustments</b>	4.60%	4.60%	4.60%	4.60%	4.60%

As shown in the table, we recommend annual adjustments in water revenues of 4.60% over the five-year period with additional increases at the same level over the subsequent five years. As demonstrated in Figure 3-2, revenue adjustments at these levels will align revenues with annual system revenue requirements.

**Figure 3-2 Ten-Year Revenue Requirements and Revenues with Recommended Financial Management Plan**



The financial management plan will also ensure that the Village maintains a reasonable cash balance within the Water Fund and is able to meet the annual debt service coverage. These two items will likely ensure the ability of the Village to continue to fund capital projects with IEPA loans. The Water Fund projected cash balance and debt coverage under the recommended financial plan are presented in Table 3-7.

**Table 3-7 Water Fund Cash Balance and Debt Coverage with Financial Plan**

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
<b>End of Year Cash Balance</b>	\$8,769,326	\$6,921,470	\$6,598,106	\$5,799,383	\$5,589,045
<b>Debt Service Coverage</b>	1.48	1.46	1.46	1.44	1.36

## 4. RATE STRUCTURE ANALYSIS

This section of the report examines the manner which the water rates are structured within the recommended financial plan.

### 4.1 CURRENT RATE STRUCTURE

The vast majority of revenues for the Water System are generated from ongoing charges for water service billed to customers on a bi-monthly basis. The current water rate structure includes a fixed charge assessed based on the size of the water meter serving the location and volumetric usage charges based on metered water use. The current fixed charges and usage charges are shown in the following tables.

**Table 4-1 Current Fixed Charges**

Meter Size	Bi-Monthly Fixed Charge
5/8"	\$12.59
1"	\$18.89
1 1/2"	\$62.97
2"	\$100.74
3"	\$188.91
4"	\$314.84
6"	\$629.66
10"	\$1,511.18

**Table 4-2 Current Usage Charges**

Location	Charge per 100 Cubic Feet
Inside Village	\$6.10
Outside Village	\$7.00

The current water rate structure used by the Village is consistent with industry practice. Most communities impose a fixed charge to recover a portion of the fixed costs of administering, operating, and maintaining the system and a usage charge to correlate the customers' bills with the actual amount of water used at the customer location. It is important to note however that the Village has not increased the fixed charge since 2014, while the usage charges have been adjusted over the past five years. As a result, the portion of revenue generated from the fixed charge as a percentage of total water charges is approximately 12%. This level of fixed revenues puts the Village in a position where any reductions in meter water sales would have a significant impact on water system revenues since usage charges make up such a large portion of revenues.

## 4.2 RECOMMENDED RATE STRUCTURE

Based on our review of the current water rate structure, we do not recommend that the Village make specific changes to the structure other than increasing the portion of revenues generated from the fixed charge as the Village adjusts the water revenues over future years. As mentioned above, the current fixed charges only make up about 12% of Water System revenues. It is not uncommon for water utilities to target this percentage recovery to be closer to 30%. Many utilities set the fixed charge at this level to help provide revenue stability and to align fixed costs with fixed charges. Given the fact that the Village purchases water and therefore a portion of the annual expenditures are variable, we recommend that the Village target a level of 15% of revenues from fixed charges by FY 2024 and 20% by end of the ten-year projection period. These targets can be met gradually, while staying consistent with the financial management plan of revenue adjustments presented in the prior section of this report. The recommended fixed and usage charges over the five-year period are presented in the following tables.

**Table 4-3 Recommended Fixed Charges**

Bi-Monthly Fixed Charge	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
5/8"	\$13.72	\$14.95	\$16.30	\$17.77	\$19.37
1"	\$20.59	\$22.44	\$24.46	\$26.66	\$29.06
1 1/2"	\$68.64	\$74.82	\$81.55	\$88.89	\$96.89
2"	\$109.81	\$119.69	\$130.46	\$142.20	\$155.00
3"	\$205.91	\$224.44	\$244.64	\$266.66	\$290.66
4"	\$343.18	\$374.07	\$407.74	\$444.44	\$484.44
6"	\$686.33	\$748.10	\$815.43	\$888.82	\$968.81
10"	\$1,647.19	\$1,795.44	\$1,957.03	\$2,133.16	\$2,325.14

**Table 4-4 Recommended Usage Charges**

Charge per CCF	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Usage Charge Inside Village	\$6.33	\$6.57	\$6.82	\$7.08	\$7.35
Usage Charge Outside Village	\$7.26	\$7.53	\$7.81	\$8.10	\$8.40

The recommended fixed and usage charges will generate an additional 4.60% more revenue per year over the projection period. However, it is important to note that given the change in the proportion between the fixed and usage charges, typical customer bills may vary from this percentage based on the amount of water that they use. Customer bill impacts are presented in the following section of the report.

## 5. CUSTOMER IMPACTS

This section of the report presents sample bills for typical residential customers over the five-year projection period to demonstrate the impacts of revenue increases and adjustments to the fixed and usage charges. This section also provides a comparison of water bills for Village customers to those in the surrounding area. The comparison presents the total bills as well as a comparison of the rate structure (i.e. fixed and usage components of the water bill).

### 5.1 CUSTOMER BILL IMPACTS

The following tables demonstrate the range of customer bill impacts based on the size of the customer meter and the bi-monthly water usage. It should be noted that the typical Village customer has a 5/8" meter (83% of total customers) and uses approximately 9,000 gallons bi-monthly.

**Table 5-1 Sample Bi-Monthly Water Bills (5/8" Metered Customer)**

Bi-Monthly Usage	Current	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
4,000 gallons	\$45.21	\$47.57	\$50.08	\$52.77	\$55.63	\$58.67
% Change		5.2%	5.3%	5.4%	5.4%	5.5%
<b>9,000 gallons</b>	<b>\$85.99</b>	<b>\$89.88</b>	<b>\$94.00</b>	<b>\$98.36</b>	<b>\$102.96</b>	<b>\$107.81</b>
% Change		4.5%	4.6%	4.6%	4.7%	4.7%
12,000 gallons	\$110.45	\$115.27	\$120.35	\$125.71	\$131.35	\$137.28
% Change		4.4%	4.4%	4.5%	4.5%	4.5%

**Table 5-2 Sample Bi-Monthly Water Bills (1" Metered Customer)**

Bi-Monthly Usage	Current	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
4,000 gallons	\$51.51	\$54.44	\$57.57	\$60.93	\$64.52	\$68.36
% Change		5.7%	5.8%	5.8%	5.9%	6.0%
9,000 gallons	\$92.29	\$96.75	\$101.49	\$106.52	\$111.85	\$117.50
% Change		4.8%	4.9%	5.0%	5.0%	5.1%
12,000 gallons	\$116.75	\$122.14	\$127.84	\$133.87	\$140.24	\$146.97
% Change		4.6%	4.7%	4.7%	4.8%	4.8%

**Table 5-3 Sample Bi-Monthly Water Bills (1 1/2" Metered Customer)**

Bi-Monthly Usage	Current	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
4,000 gallons	\$95.59	\$102.49	\$109.95	\$118.02	\$126.75	\$136.19
% Change		7.2%	7.3%	7.3%	7.4%	7.5%
9,000 gallons	\$136.37	\$144.80	\$153.87	\$163.61	\$174.08	\$185.33
% Change		6.2%	6.3%	6.3%	6.4%	6.5%
12,000 gallons	\$160.83	\$170.19	\$180.22	\$190.96	\$202.47	\$214.80
% Change		5.8%	5.9%	6.0%	6.0%	6.1%

**Table 5-4 Sample Bi-Monthly Water Bills (2" Metered Customer)**

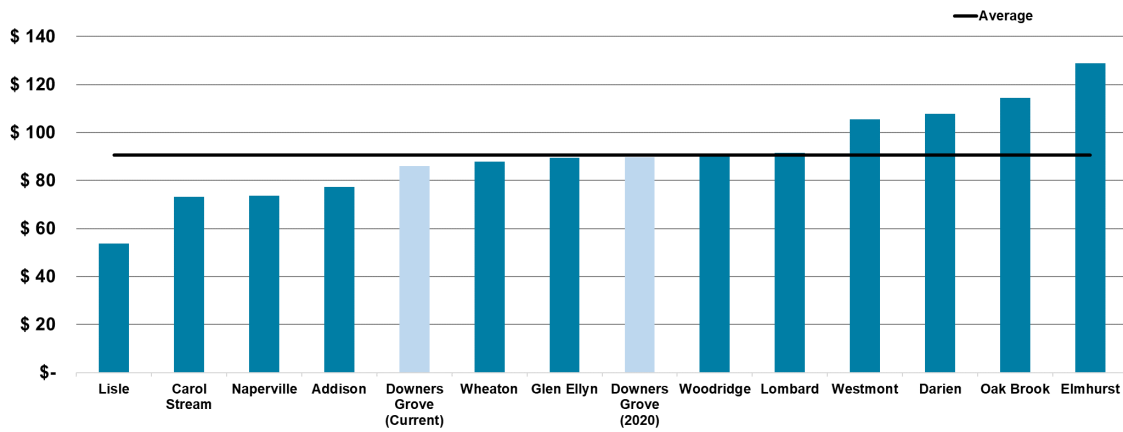
Bi-Monthly Usage	Current	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
16,000 gallons	\$231.22	\$245.21	\$260.22	\$276.34	\$293.64	\$312.22
% Change		6.1%	6.1%	6.2%	6.3%	6.3%
48,000 gallons	\$492.18	\$516.01	\$541.29	\$568.11	\$596.53	\$626.66
% Change		4.8%	4.9%	5.0%	5.0%	5.1%
92,000 gallons	\$851.01	\$888.37	\$927.76	\$969.28	\$1,013.00	\$1,107.40
% Change		4.4%	4.4%	4.5%	4.5%	4.5%

As demonstrated in the tables above, there are a wide range of bill impacts based on the size of the customer meter and the bi-monthly water usage.

## 5.2 RESIDENTIAL BILL SURVEY

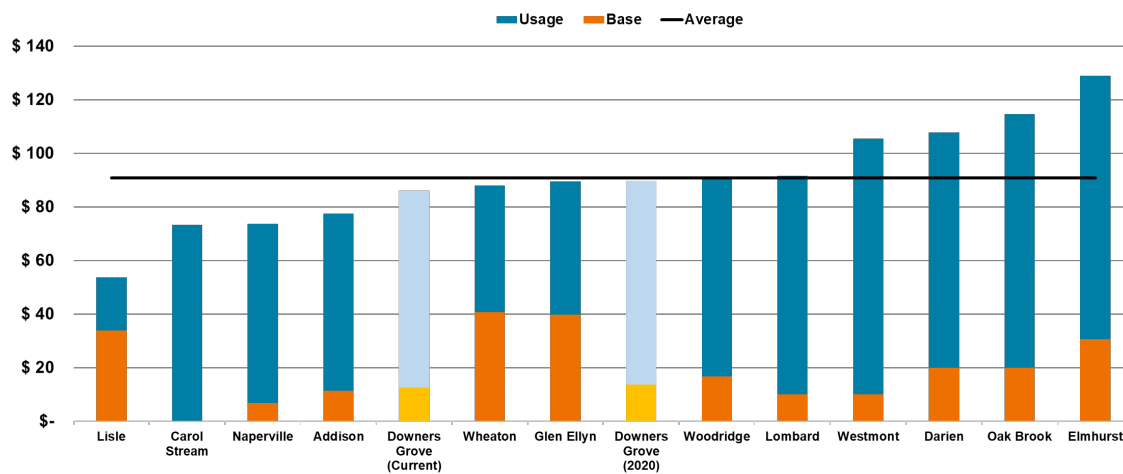
We also performed a comparative water residential bi-monthly bill survey of communities in the Village's surrounding geographic area that also are served by the DuPage Water Commission. The survey presents the typical bi-monthly water bill in effect for each community as of July 1, 2019 with assumed usage of 9,000 gallons per month.

**Figure 5-1 Community Bill Comparison**



As identified above, the survey results indicate the Village charges water rates that are currently below the average market range for the Village’s neighboring entities that also purchase water from DuPage Water Commission. Furthermore, it is likely that some of the utility systems surveyed will implement water rate adjustments in the near future due to rising costs of purchased water and other expenses. Therefore, as the Village continues implementing water rate adjustments, it is reasonable to expect the Village’s rates to remain within the market range. A similar comparison is provided in Figure 5-2 but demonstrates the portion of the typical customer bill resulting from the fixed charge versus the usage charge.

**Figure 5-2 Community Bill Comparison Rate Structure**



The figure demonstrates that the fixed portion of the customer bill in Downers Grove is at the lower end of the range compared to surrounding communities.

## 6. CAPITAL AND ANCILLARY FEES

Capital fees are collected from new water customers when they connect to the water system or when an existing service is increased in size. Ancillary service fees are imposed upon customers for individual services that are provided and are unrelated to the general utility operations or the day-to-day use of the water system. They include items such as penalties, public hydrant use, and other one-time type activities related to the water system. This section of the report provides an overview of our review of the current capital and ancillary fees charged by the Village.

### 6.1 CAPITAL FEES

The Village currently collects capital fees from new customers joining the water system or from customers requiring increases in service (i.e. a larger meter to meet service demands). The capital fees are intended to recover the cost of providing service to a new customer. The capital fees include tap fees, meter fees, and capacity fees. The review of each capital fee is discussed below.

#### 6.1.1 Meter Fees

The current meter fees imposed by the Village are intended to recover the cost of providing a water meter to a new customer. The fees are based on the size of the meter, which is standard industry practice. Based on discussion with Village Staff, the meter fees are adjusted annually based on the actual cost of providing water meters. Based on our review of the meter fees, we recommend that the Village continue with the current practice for assessing meter fees.

#### 6.1.2 Tap Fees

Tap fees are intended to recover the actual costs incurred by the Village while tapping the water line for connection and providing the corporation stop, B-box, and other materials. Currently, the Village charges tap fees based on the size of the line for the tap, which is standard industry practice. Similar to the water meter fees, the Village adjusts the tap fees annually based on the cost of providing the tap. Based on our review of the tap fees, we recommend that the Village continue with the current practice of adjusting the tap fee based on actual cost of providing the service.

#### 6.1.3 Capacity Fees

It is common for communities to assess capacity fees to recover the cost of providing water system capacity to new customers. There are three primary approaches to calculating capacity fees including system buy-in, incremental, and hybrid. The system buy-in approach is typically utilized for a water system with ample capacity to provide to new customers. The incremental approach is used when a system has limited or no existing capacity to provide for new customers and a significant capital improvement plan designed to construct new capacity. The hybrid approach is appropriate for a community with some capacity to sell but also a plan of capital projects designed

## 6. Capital and Ancillary Fees

to increase system capacity. Given that the Village has capacity within the water system to sell, the buy-in approach was utilized. Under this approach, the historical investments made by the Village to construct the water system are used as the cost basis for the fees. The historical investments in the water system used in the analysis are represented as the replacement cost new less depreciation (RCNLD). This value represents the current replacement cost of the non-depreciated assets in the water system. This value serves as a proxy for the cost of providing capacity to new water customers. The Village water system RCNLD value equals approximately \$70 million. Since the Village has outstanding debt associated with the water system which is recovered from users of the system through usage charges, the principal on the debt must be removed from the system value. If the principal is not removed, the Village would essentially be double-recovering a portion of the system from new connections (i.e. in the capacity fee and then in the ongoing usage charges). The Water Fund outstanding principal on debt is \$18 million. The net system value used in the capacity fee calculation was therefore \$52 million.

To calculate the capacity fees, the value of the system is divided by the capacity of the system as represented by the units of service associated with a new water customers. The units of service within a water system are typically expressed as equivalent dwelling units (EDUs). The Village currently assesses capacity fees for 1" and larger meters. Based on a 1" meter representing 1 EDU and the current water allocation for the Village per the Illinois Department of Natural Resources (IDNR), the Village water system has capacity to serve approximately 20,000 EDUs. Therefore, the cost of providing capacity is \$52 million divided by 20,000 EDUs. This results in a capacity fee of \$2,600 per EDU. The current capacity fee assessed by the Village per EDU or for a 1" meter is \$2,663. After review of the calculated value of the capacity fees and the current fee, we recommend that the current capacity fees remain in place.

## 6.2 ANCILLARY FEES

While the primary service provided by the Village water system is the delivery of water service, there are specific services provided by the Village outside of this primary focus. The Village currently charges ancillary service fees in relation to the provision of specific services to individual customers. The intent of ancillary service fees is to ensure the recipient of a specific service bears the costs associated with providing that service. Revenue from ancillary fees is considered an offset to the revenue requirements that need to be recovered from the fixed bi-monthly charges and water usage charges. While the Village collects minimal amounts of revenue from the ancillary fees, it is important that the fees be appropriately set to provide an equitable distribution of the cost of providing water system services.

The ancillary fees were reviewed with Village Staff to determine if the current fees are appropriate and recover the cost of providing each individual service. The following table presents the current fees and any recommended changes. In many instances the current fee was deemed appropriate with adjustments only recommended to the public hydrant use administrative fee, meter repair/replacement fee, and water service inspection fee.

## 6. Capital and Ancillary Fees

Table 6-1 Ancillary Service Fees

Service Provided	Current	Recommended
<b>Watering Permit</b>	\$37.00	\$37.00
<b>Temporary Use of Public Hydrants</b>		
Administrative Fee	\$36.00	\$37.00
Security Deposit:		
5/8" Meter	\$657	\$657
1" Meter	\$930	\$930
3" Meter	\$3,100	\$3,100
Meter Rental (per week)	\$15	\$15
Water Meter Bond	\$1,000	\$1,000
Charge for Water Used	200% of current water rates	200% of current water rates
<b>Water Service Deposit</b>	2 months estimated water service charge or \$100 (whichever is greater)	2 months estimated water service charge or \$100 (whichever is greater)
<b>Meter Repair / Replacement</b>	\$6.25 + cost of replacement	\$130 + cost of replacement
<b>Water Reconnection:</b>		
During standard operating hours	\$42	\$42
During non-standard operating hours	\$50	\$50
<b>Water Billing Late Fee</b>	10% of delinquency	10% of delinquency
<b>Disconnection of Water Service Pipes</b>	Actual cost	Actual cost
<b>Water Service Inspection Fees</b>	\$79	\$105
<b>Construction Water Charge</b>		
Multiple Family Residence	\$170	\$170
Commercial or Industrial Structure	\$170	\$170
Residential Single Family	\$83	\$83

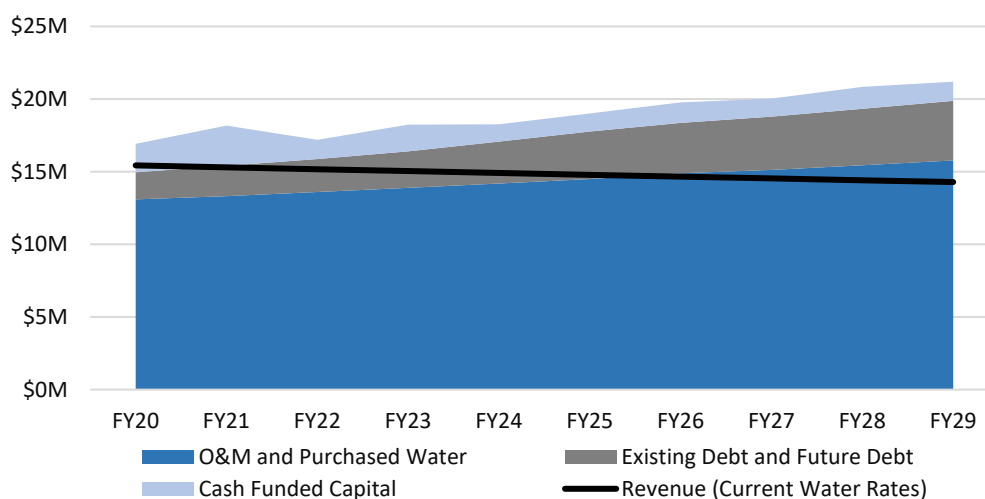
## 7. FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This section of the report presents the key findings and conclusions developed during the Water Rate Study, as well as our recommendations for Village Staff and Council consideration and adoption.

### 7.1 FINDINGS AND CONCLUSIONS

The following findings and conclusions were developed during the course of the Study.

- The last comprehensive water rate study for the water system was completed in 2010. Since the completion of the prior study, the Village has made significant strides in addressing the needs of the water system including ramping up annual investments in the water distribution system that provide for replacement of 1% of the system per year. The Village has been able to leverage low interest rate loans from the Illinois Environmental Protection Agency (IEPA) to fund the necessary capital investments while minimizing rate impacts.
- While the Village has made significant progress in addressing the needs of the water system, it is vitally important that the Village continue to address the needs of the water system to ensure that the Village can continue to provide reliable water service.
- Based on projected water sales, the Village’s current water rates will not produce adequate revenues to cover the costs of operating and maintaining the water system in FY 2020 or any subsequent year of the projection period, as displayed in the graph below.



## 7. Findings, Conclusions, and Recommendations

- The annual deficits under existing rates will exhaust the Village's Water Fund cash balance by FY 2024.
- Given the annual shortfalls in revenues in the Water Fund and the projected results at current rates, it is unlikely that the Village would be able to secure future additional loans from the IEPA. This would require the Village to cash fund water line replacements, which would ultimately accelerate the depletion of the cash balance within the Water Fund.
- There are several reasons for the revenue shortfalls, which include the following:
  - The water system is in need of continued capital investments to maintain a proactive schedule of repair and replacement to mitigate the risk of system failures and significant disruptions in water service.
  - The Village has experienced an overall annual reduction in water sales over the last five years which has directly impacted revenues from water sales since the majority of water system revenue (approximately 88%) is dependent on water sales.
  - While the Village has adjusted water rates over the past several years to cover the cost of purchased water, the Village has experienced increases in other non-purchased water operating expenses.
- To be able to secure future planned IEPA loan funding for capital projects, water system revenues will need to be sufficient to cover necessary operating and debt service expenses. We recommend that the Village increase water revenues by 4.60% to generate sufficient revenues for the system to offset the annual declines in water usage.
- The total cost of operating and maintaining the water system are largely fixed at approximately 50%. Under the current rate structure, the Village collects approximately 12% of its revenues from a fixed charge which has not been adjusted for over five years.

## 7.2 RECOMMENDATIONS

The following recommendations were developed during the course of the Water Rate Study. The recommendations below are presented to Village Staff and Council for consideration and adoption.

- To maintain the progress that the Village has made over the past decade and to address the ongoing needs of the water system, we recommend that the Village adjust water rates in FY 2020 as well as in subsequent years.
- We recommend the following water rates be implemented effective July 1, 2020, as well as additional increases in subsequent years to meet the needs of the water system. The adjustments to fixed charges would bring revenue collection from fixed charges to approximately 15% of the total rate revenue.

## 7. Findings, Conclusions, and Recommendations

**Table 7-1 Fixed Charges**

Bi-Monthly Fixed Charge	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
5/8"	\$13.72	\$14.95	\$16.30	\$17.77	\$19.37
1"	\$20.59	\$22.44	\$24.46	\$26.66	\$29.06
1 1/2"	\$68.64	\$74.82	\$81.55	\$88.89	\$96.89
2"	\$109.81	\$119.69	\$130.46	\$142.20	\$155.00
3"	\$205.91	\$224.44	\$244.64	\$266.66	\$290.66
4"	\$343.18	\$374.07	\$407.74	\$444.44	\$484.44
6"	\$686.33	\$748.10	\$815.43	\$888.82	\$968.81
10"	\$1,647.19	\$1,795.44	\$1,957.03	\$2,133.16	\$2,325.14

**Table 7-2 Usage Charges**

Charge per CCF	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Usage Charge Inside Village	\$6.33	\$6.57	\$6.82	\$7.08	\$7.35
Usage Charge Outside Village	\$7.26	\$7.53	\$7.81	\$8.10	\$8.40

- The recommended water rates will generate 4.60% more revenues over the course of the twelve-month period from July 1, 2020 to June 30, 2021. The same level of revenue adjustment is recommended for the subsequent years to ensure the continued health of the Water Fund, and to ensure that the Village is able to secure low interest rate loans from the IEPA to support capital funding.
- The Village currently imposes a number of ancillary service fees related to providing water service. The fees were reviewed with Village Staff to determine if the fees cover the costs associated with providing each service. While many of the fees were determined to be appropriate the following tables present those that are recommended for adjustment.

**Table 7-3 Ancillary Service Fees**

<b>Service Provided</b>	<b>Current</b>	<b>Recommended</b>
<b>Use of Public Hydrants</b>		
Administrative Fee	\$36	\$37
<b>Meter Repair / Replacement</b>	\$6.25 + cost of replacement	\$130 + cost of replacement
<b>Water Service Inspection Fees</b>	\$79	\$105

- The Village currently imposes capital fees that recover the cost of providing water service to a new customer or a customer that is requesting a larger service. The fees were reviewed with Village Staff to determine if current fees cover the costs associated with providing new service. The capital fees include tap fees, meter charges, and capacity fees. The tap fees and the meter charges are charged based on the actual cost of providing the tap and the meter and adjusted as necessary. The capacity fees are based on the cost of providing system capacity. Based on our review of the capacity fees, we recommend that the current fees remain in place as they represent the cost of providing system capacity.

## Disclaimer

*This document was produced by Stantec Consulting Services, Inc. (“Stantec”) for the Village of Downers Grove, IL (“Village”) and is based on a specific scope agreed upon by both parties. Stantec’s scope of work and services do not include serving as a “municipal advisor” for purposes of the registration requirements of the Dodd-Frank Wall Street Reform and Consumer Protection Act (2010) or the municipal advisor registration rules issued by the Securities and Exchange Commission. Stantec is not advising the Village, or any municipal entity or other person or entity, regarding municipal financial products or the issuance of municipal securities, including advice with respect to the structure, terms, or other similar matters concerning such products or issuances.*

*In preparing this report, Stantec utilized information and data obtained from the Village or public and/or industry sources. Stantec has relied on the information and data without independent verification, except only to the extent such verification is expressly described in this document. Any projections of future conditions presented in the document are not intended as predictions, as there may be differences between forecasted and actual results, and those differences may be material.*

*Additionally, the purpose of this document is to summarize Stantec’s analysis and findings related to this project, and it is not intended to address all aspects that may surround the subject area. Therefore, this document may have limitations, assumptions, or reliances on data that are not readily apparent on the face of it. Moreover, the reader should understand that Stantec was called on to provide judgments on a variety of critical factors which are incapable of precise measurement. As such, the use of this document and its findings by the Village should only occur after consultation with Stantec, and any use of this document and findings by any other person is done so entirely at their own risk.*

## APPENDIX A: SUPPORTING SCHEDULES

- Schedule 1 Assumptions
- Schedule 2 Beginning Balances
- Schedule 3 Cash In
- Schedule 4 Cash Out
- Schedule 5 Cost Escalation Factors
- Schedule 6 Capital Improvement Program
- Schedule 7 FAMS Control Panel
- Schedule 8 Pro Forma
- Schedule 9 Capital Project Funding Summary
- Schedule 10 Funding Summary by Fund
- Schedule 11 Subordinate Borrowing Projections

## Downers Grove, IL - Water Fund

---

FY 2019 Water Revenue Sufficiency Analysis  
Assumptions & Preliminary Results Workbook



Appendix A: Assumptions

**Assumptions**

**Schedule 1**

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
<b><u>Rate Increase Adoption Date</u></b>	7/1/2019	7/1/2020	7/1/2021	7/1/2022	7/1/2023	7/1/2024	7/1/2025	7/1/2026	7/1/2027	7/1/2028	7/1/2029
<b><u>Annual Growth</u></b>											
<b>Water</b>											
Ending # of ERCs	26,484	26,484	26,484	26,484	26,484	26,484	26,484	26,484	26,484	26,484	26,484
ERC Growth	N/A	-	-	-	-	-	-	-	-	-	-
% Change in ERCs	N/A	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Usage	2,083,521	2,083,521	2,062,686	2,042,059	2,021,638	2,001,422	1,981,408	1,961,593	1,941,978	1,922,558	1,903,332
% Change in Usage	N/A	0.00%	-1.00%	-1.00%	-1.00%	-1.00%	-1.00%	-1.00%	-1.00%	-1.00%	-1.00%
<b><u>Capital Spending</u></b>											
Annual Capital Budget (Future Year Dollars)	\$ 7,080,102	\$ 5,112,000	\$ 6,373,125	\$ 4,182,068	\$ 5,679,449	\$ 7,267,973	\$ 7,512,096	\$ 4,638,893	\$ 4,565,907	\$ 4,921,402	\$ 4,843,970
Annual Percent Executed	100%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
<b><u>Average Annual Interest Earnings Rate</u></b>											
On Fund Balances	0.96%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
<b><u>Operating Budget Reserve</u></b>											
Target (as % of Annual Rate Revenue)	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
<b><u>Operating Budget Execution Percentage</u></b>											
Personal Services	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Variable Operations and Maintenance	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Fixed Operations and Maintenance	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Capital Outlay	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

**FY 2019 Beginning Balances as of 1/1/2019****Schedule 2**

Revenue Fund

**Current Unrestricted Assets**

Cash and Cash Equivalents	\$ 2,810,230
Investments	8,209,812
Receivables:	
Billed	3,281
Other	2,046,090
Allowance for Doubtful Accounts	(15,645)
Interest Receivable	34,450
<b>Total Assets</b>	<b>\$ 13,088,219</b>

**Current Liabilities**

Accounts Payable	\$ (1,072,627)
Accrued Payroll	(55,044)
Other Accrued Liabilities	(223,926)
Deposits Payable	(291,442)
Unearned Revenue	(54,843)
Accrued Compensated Absences	(30,959)
<b>Calculated Fund Balance (Assets - Liabilities)</b>	<b>\$ 11,359,378</b>

<b>Available Fund Balance</b>	<b>\$ 11,359,378</b>
-------------------------------	----------------------

Appendix A: Cash In

Projection of Cash Inflows

Schedule 3

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
<b>1 Rate Revenue Assumptions</b>											
<b>2 Water Growth Assumptions</b>											
3 % Change in Accounts	N/A	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
4 % Change in Usage	N/A	0.00%	-1.00%	-1.00%	-1.00%	-1.00%	-1.00%	-1.00%	-1.00%	-1.00%	-1.00%
<b>5 Assumed Water Rate Revenue Increases</b>											
6 Assumed Fixed Rate Increase	N/A	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
7 Assumed Usage Rate Increase	N/A	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%
<b>8 Water Rate Revenue</b>											
9 Fixed Rate Revenue	\$ 1,783,870	\$ 1,864,583	\$ 2,032,636	\$ 2,215,574	\$ 2,414,975	\$ 2,632,011	\$ 2,869,232	\$ 3,127,463	\$ 3,408,935	\$ 3,715,298	\$ 4,048,722
10 Usage Rate Revenue	13,240,244	13,489,855	13,856,470	14,232,327	14,618,378	15,014,141	15,422,181	15,840,508	16,270,182	16,710,663	17,162,214
<b>11 Total Water Rate Revenue</b>	<b>\$ 15,024,114</b>	<b>\$ 15,354,438</b>	<b>\$ 15,889,106</b>	<b>\$ 16,447,900</b>	<b>\$ 17,033,354</b>	<b>\$ 17,646,152</b>	<b>\$ 18,291,413</b>	<b>\$ 18,967,971</b>	<b>\$ 19,679,116</b>	<b>\$ 20,425,961</b>	<b>\$ 21,210,936</b>
<b>12 Other Operating Revenue</b>											
13 Watering Permit Fee	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500	\$ 500
14 Un-Metered Water Sales	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
15 Water Administrative Fee	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
16 Water Sys Capacity Chrg	190,000	190,000	190,000	190,000	190,000	190,000	190,000	190,000	190,000	190,000	190,000
17 Water Sys Connection Chg	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
18 Water Meter & Mike Sales	155,000	155,000	155,000	155,000	155,000	155,000	155,000	155,000	155,000	155,000	155,000
19 Water Shut-off Fee	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000
20 Review & Inspection Fees	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000
21 Costs Recovd For Services	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
<b>22 Total Other Operating Revenue</b>	<b>\$ 408,500</b>	<b>\$ 408,500</b>	<b>\$ 408,500</b>	<b>\$ 408,500</b>	<b>\$ 408,500</b>	<b>\$ 408,500</b>	<b>\$ 408,500</b>	<b>\$ 408,500</b>	<b>\$ 408,500</b>	<b>\$ 408,500</b>	<b>\$ 408,500</b>
<b>23 Interest Income</b>											
24 Unrestricted	\$ 101,540	\$ 93,287	\$ 78,454	\$ 67,598	\$ 61,987	\$ 56,942	\$ 54,289	\$ 50,632	\$ 48,748	\$ 48,832	\$ 50,767
<b>25 Total Interest Income</b>	<b>\$ 101,540</b>	<b>\$ 93,287</b>	<b>\$ 78,454</b>	<b>\$ 67,598</b>	<b>\$ 61,987</b>	<b>\$ 56,942</b>	<b>\$ 54,289</b>	<b>\$ 50,632</b>	<b>\$ 48,748</b>	<b>\$ 48,832</b>	<b>\$ 50,767</b>
<b>26 Total Cash Inflows</b>	<b>\$ 15,534,154</b>	<b>\$ 15,856,224</b>	<b>\$ 16,376,060</b>	<b>\$ 16,923,998</b>	<b>\$ 17,503,841</b>	<b>\$ 18,111,594</b>	<b>\$ 18,754,202</b>	<b>\$ 19,427,102</b>	<b>\$ 20,136,364</b>	<b>\$ 20,883,293</b>	<b>\$ 21,670,203</b>

Appendix A: Cash Out

Projection of Cash Outflows

Schedule 4

Expense Line Item	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
<b>1 Financial Services</b>											
<b>2 Personal Services</b>											
3 Salaries, Exempt	\$ 21,343	\$ 21,877	\$ 22,423	\$ 22,984	\$ 23,559	\$ 24,148	\$ 24,751	\$ 25,370	\$ 26,004	\$ 26,654	\$ 27,321
4 Salaries, Non-Exempt	62,573	64,137	65,741	67,384	69,069	70,796	72,565	74,380	76,239	78,145	80,099
5 Imrf Pension Contribs	7,200	8,496	8,921	9,367	9,835	10,327	10,843	11,385	11,955	12,552	13,180
6 Medicare Contributions	1,217	1,247	1,279	1,311	1,343	1,377	1,411	1,447	1,483	1,520	1,558
7 Social Security Contributions	5,203	5,333	5,466	5,603	5,743	5,887	6,034	6,185	6,339	6,498	6,660
8 Life Insurance	274	279	285	291	297	303	309	315	321	327	334
9 Health Insurance	20,083	21,087	22,142	23,249	24,411	25,632	26,913	28,259	29,672	31,155	32,713
10 Optical Insurance	110	112	114	117	119	121	124	126	129	131	134
11 Dental Insurance	1,898	1,936	1,975	2,014	2,054	2,096	2,137	2,180	2,224	2,268	2,314
<b>12 Operations &amp; Maintenance</b>											
13 Supplies	\$ 2,000	\$ 2,050	\$ 2,101	\$ 2,154	\$ 2,208	\$ 2,263	\$ 2,319	\$ 2,377	\$ 2,437	\$ 2,498	\$ 2,560
14 Professional Services	155,000	45,000	46,125	47,278	48,460	49,672	50,913	52,186	53,491	54,828	56,199
15 Postage	26,000	26,650	27,316	27,999	28,699	29,417	30,152	30,906	31,678	32,470	33,282
16 Other Equipment Repair and Maintenance	4,400	4,532	4,668	4,808	4,952	5,101	5,254	5,411	5,574	5,741	5,913
<b>17 Total Financial Services</b>	<b>\$ 307,301</b>	<b>\$ 202,737</b>	<b>\$ 208,556</b>	<b>\$ 214,558</b>	<b>\$ 220,749</b>	<b>\$ 227,137</b>	<b>\$ 233,727</b>	<b>\$ 240,528</b>	<b>\$ 247,546</b>	<b>\$ 254,790</b>	<b>\$ 262,267</b>
<b>18 Water Administration</b>											
<b>19 Personal Services</b>											
20 Salaries, Exempt	\$ 320,473	\$ 328,485	\$ 336,697	\$ 345,114	\$ 353,742	\$ 362,586	\$ 371,650	\$ 380,942	\$ 390,465	\$ 400,227	\$ 410,233
21 Salaries, Non-Exempt	128,629	131,845	135,141	138,519	141,982	145,532	149,170	152,899	156,722	160,640	164,656
22 Part-Time Employee Wages	6,397	6,557	6,721	6,889	7,061	7,238	7,419	7,604	7,794	7,989	8,189
23 Overtime	10,000	10,250	10,506	10,769	11,038	11,314	11,597	11,887	12,184	12,489	12,801
24 Imrf Pension Contribs	28,237	33,320	34,986	36,735	38,572	40,500	42,525	44,652	46,884	49,228	51,690
25 Medicare Contributions	4,864	4,986	5,110	5,238	5,369	5,503	5,641	5,782	5,926	6,074	6,226
26 Social Security Contributions	20,801	21,321	21,854	22,400	22,960	23,534	24,123	24,726	25,344	25,978	26,627
27 Life Insurance	965	984	1,004	1,024	1,045	1,065	1,087	1,108	1,131	1,153	1,176
28 Health Insurance	69,895	73,390	77,059	80,912	84,958	89,206	93,666	98,349	103,267	108,430	113,852
29 Optical Insurance	292	298	304	310	316	322	329	335	342	349	356
30 Dental Insurance	4,968	5,067	5,169	5,272	5,378	5,485	5,595	5,707	5,821	5,937	6,056
<b>31 Operations &amp; Maintenance</b>											
32 Uniforms	\$ 1,080	\$ 1,107	\$ 1,135	\$ 1,163	\$ 1,192	\$ 1,222	\$ 1,252	\$ 1,284	\$ 1,316	\$ 1,349	\$ 1,382
33 Supplies	7,200	7,380	7,565	7,754	7,947	8,146	8,350	8,559	8,773	8,992	9,217
34 Books & Periodicals	300	308	315	323	331	339	348	357	366	375	384
35 Small Tools & Equipment	450	461	473	485	497	509	522	535	548	562	576
36 Dues And Memberships	915	938	961	985	1,010	1,035	1,061	1,088	1,115	1,143	1,171
37 Seminars, Conferences & Meetings	7,500	7,688	7,880	8,077	8,279	8,486	8,698	8,915	9,138	9,366	9,601
38 Recognition Program-Staff	1,600	1,640	1,681	1,723	1,766	1,810	1,856	1,902	1,949	1,998	2,048
39 Professional Services	20,195	20,700	21,217	21,748	22,292	22,849	23,420	24,006	24,606	25,221	25,851
40 Printing Services	400	410	420	431	442	453	464	475	487	500	512
41 Telephone	2,220	2,276	2,332	2,391	2,450	2,512	2,575	2,639	2,705	2,772	2,842
42 Postage	1,200	1,230	1,261	1,292	1,325	1,358	1,392	1,426	1,462	1,499	1,536
43 Other Equipment Repair and Maintenance	530	546	562	579	597	614	633	652	671	692	712
44 Rentals	450	461	473	485	497	509	522	535	548	562	576
45 Transfer To ISFs For Allocation	6,235	6,391	6,550	6,714	6,882	7,054	7,230	7,411	7,596	7,786	7,981
46 Transfer To ISFs For Allocation	2,743	2,811	2,882	2,954	3,027	3,103	3,181	3,260	3,342	3,425	3,511
47 Transfer To ISFs For Allocation	32,954	33,778	34,622	35,488	36,375	37,284	38,217	39,172	40,151	41,155	42,184
48 Transfer To ISFs For Allocation	30,206	50,000	51,250	52,531	53,845	55,191	56,570	57,985	59,434	60,920	62,443
49 Misc Transfers	1,071,440	1,082,154	1,092,976	1,103,906	1,114,945	1,126,094	1,137,355	1,148,729	1,160,216	1,171,818	1,183,536
<b>50 Capital Outlay</b>											
51 Capital Equipment	\$ 2,000	\$ 2,060	\$ 2,122	\$ 2,185	\$ 2,251	\$ 2,319	\$ 2,388	\$ 2,460	\$ 2,534	\$ 2,610	\$ 2,688
<b>52 Total Water Administration</b>	<b>\$ 1,785,138</b>	<b>\$ 1,838,840</b>	<b>\$ 1,871,227</b>	<b>\$ 1,904,396</b>	<b>\$ 1,938,369</b>	<b>\$ 1,973,173</b>	<b>\$ 2,008,834</b>	<b>\$ 2,045,379</b>	<b>\$ 2,082,837</b>	<b>\$ 2,121,238</b>	<b>\$ 2,160,613</b>
<b>53 Water Pumping And Treatment</b>											
<b>54 Personal Services</b>											
55 Salaries, Non-Exempt	\$ 77,472	\$ 79,409	\$ 81,394	\$ 83,429	\$ 85,515	\$ 87,652	\$ 89,844	\$ 92,090	\$ 94,392	\$ 96,752	\$ 99,171
56 Overtime	6,000	6,150	6,304	6,461	6,623	6,788	6,958	7,132	7,310	7,493	7,681
57 Imrf Pension Contribs	6,647	7,843	8,236	8,647	9,080	9,534	10,010	10,511	11,037	11,588	12,168
58 Medicare Contributions	1,123	1,151	1,180	1,209	1,240	1,271	1,302	1,335	1,368	1,402	1,438
59 Social Security Contributions	4,803	4,923	5,046	5,172	5,302	5,434	5,570	5,709	5,852	5,998	6,148
60 Life Insurance	192	196	200	204	208	212	216	221	225	229	234

Appendix A: Cash Out

Projection of Cash Outflows

Schedule 4

Expense Line Item	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
61 Health Insurance	22,834	23,976	25,174	26,433	27,755	29,143	30,600	32,130	33,736	35,423	37,194
62 Optical Insurance	88	90	92	93	95	97	99	101	103	105	107
63 Dental Insurance	1,518	1,548	1,579	1,611	1,643	1,676	1,710	1,744	1,779	1,814	1,850
<b>64 Operations &amp; Maintenance</b>											
65 Uniforms	\$ 600	\$ 615	\$ 630	\$ 646	\$ 662	\$ 679	\$ 696	\$ 713	\$ 731	\$ 749	\$ 768
66 Supplies	1,575	1,614	1,655	1,696	1,739	1,782	1,827	1,872	1,919	1,967	2,016
67 Chemicals And Salt	650	683	717	752	790	830	871	915	960	1,008	1,059
68 Maintenance Supplies	2,000	2,050	2,101	2,154	2,208	2,263	2,319	2,377	2,437	2,498	2,560
69 Water Pump Maintenance Supplies	500	513	525	538	552	566	580	594	609	624	640
70 Small Tools & Equipment	5,500	5,638	5,778	5,923	6,071	6,223	6,378	6,538	6,701	6,869	7,040
71 Water Purchase	8,528,713	8,696,747	8,868,092	9,042,813	9,220,976	9,402,650	9,587,903	9,776,805	9,969,430	10,165,849	10,366,139
72 Dues And Memberships	100	103	105	108	110	113	116	119	122	125	128
73 Seminars, Conferences & Meetings	1,100	1,128	1,156	1,185	1,214	1,245	1,276	1,308	1,340	1,374	1,408
74 Professional Services	84,410	86,520	88,683	90,900	93,173	95,502	97,890	100,337	102,845	105,417	108,052
75 Telephone	46,950	48,124	49,327	50,560	51,824	53,120	54,448	55,809	57,204	58,634	60,100
76 Building Maintenance Services	20,000	20,600	21,218	21,855	22,510	23,185	23,881	24,597	25,335	26,095	26,878
77 Utilities	34,380	35,240	36,120	37,023	37,949	38,898	39,870	40,867	41,889	42,936	44,009
78 Other Equipment Repair and Maintenance	12,000	12,360	12,731	13,113	13,506	13,911	14,329	14,758	15,201	15,657	16,127
79 Transfer To ISFs For Allocation	3,523	3,611	3,701	3,794	3,889	3,986	4,085	4,188	4,292	4,400	4,510
80 Transfer To ISFs For Allocation	1,368	1,403	1,438	1,474	1,510	1,548	1,587	1,627	1,667	1,709	1,752
81 Transfer To ISFs For Allocation	16,813	17,233	17,664	18,106	18,558	19,022	19,498	19,985	20,485	20,997	21,522
<b>82 Capital Outlay</b>											
83 Capital Equipment	\$ 41,500	\$ 42,745	\$ 44,027	\$ 45,348	\$ 46,709	\$ 48,110	\$ 49,553	\$ 51,040	\$ 52,571	\$ 54,148	\$ 55,773
<b>84 Total Water Pumping And Treatment</b>	<b>\$ 8,922,359</b>	<b>\$ 9,102,211</b>	<b>\$ 9,284,874</b>	<b>\$ 9,471,248</b>	<b>\$ 9,661,410</b>	<b>\$ 9,855,439</b>	<b>\$ 10,053,415</b>	<b>\$ 10,255,421</b>	<b>\$ 10,461,542</b>	<b>\$ 10,671,862</b>	<b>\$ 10,886,472</b>
<b>85 Water Transmission</b>											
<b>86 Personal Services</b>											
87 Salaries, Non-Exempt	\$ 579,917	\$ 521,651	\$ 534,692	\$ 548,060	\$ 561,761	\$ 575,805	\$ 590,200	\$ 604,955	\$ 620,079	\$ 635,581	\$ 651,471
88 Part-Time Employee Wages	10,573	10,837	11,108	11,386	11,671	11,962	12,261	12,568	12,882	13,204	13,534
89 Overtime	72,000	73,800	75,645	77,536	79,475	81,461	83,498	85,585	87,725	89,918	92,166
90 Imrf Pension Contribs	49,757	58,713	61,649	64,731	67,968	71,366	74,935	78,681	82,615	86,746	91,084
91 Medicare Contributions	8,562	8,776	8,995	9,220	9,451	9,687	9,929	10,178	10,432	10,693	10,960
92 Social Security Contributions	36,610	37,525	38,463	39,425	40,411	41,421	42,456	43,518	44,606	45,721	46,864
93 Life Insurance	1,824	1,860	1,898	1,936	1,974	2,014	2,054	2,095	2,137	2,180	2,223
94 Health Insurance	167,165	175,523	184,299	193,514	203,190	213,350	224,017	235,218	246,979	259,328	272,294
95 Optical Insurance	574	585	597	609	621	634	646	659	673	686	700
96 Dental Insurance	11,245	11,470	11,699	11,933	12,172	12,415	12,664	12,917	13,175	13,439	13,708
<b>97 Operations &amp; Maintenance</b>											
98 Uniforms	\$ 4,800	\$ 4,920	\$ 5,043	\$ 5,169	\$ 5,298	\$ 5,431	\$ 5,567	\$ 5,706	\$ 5,848	\$ 5,995	\$ 6,144
99 Supplies	3,000	3,075	3,152	3,231	3,311	3,394	3,479	3,566	3,655	3,747	3,840
100 Maintenance Supplies	60,600	62,115	63,668	65,260	66,891	68,563	70,277	72,034	73,835	75,681	77,573
101 Trans & Distribution Supplies-New Constr	80,000	82,000	84,050	86,151	88,305	90,513	92,775	95,095	97,472	99,909	102,407
102 Transmission & Distribution Maintenance	35,580	36,647	37,747	38,879	40,046	41,247	42,484	43,759	45,072	46,424	47,817
103 Hydrant Maintenance Supplies	62,490	64,052	65,654	67,295	68,977	70,702	72,469	74,281	76,138	78,041	79,992
104 Small Tools & Equipment	15,450	15,836	16,232	16,638	17,054	17,480	17,917	18,365	18,824	19,295	19,777
105 Dues And Memberships	500	513	525	538	552	566	580	594	609	624	640
106 Seminars, Conferences & Meetings	3,200	3,280	3,362	3,446	3,532	3,621	3,711	3,804	3,899	3,996	4,096
107 Professional Services	20,800	21,320	21,853	22,399	22,959	23,533	24,122	24,725	25,343	25,976	26,626
108 Personnel Recruitment	120	123	126	129	132	136	139	143	146	150	154
109 Telephone	6,618	6,783	6,953	7,127	7,305	7,488	7,675	7,867	8,063	8,265	8,472
110 Contracted Services	420,960	433,589	446,596	459,994	473,794	488,008	502,648	517,728	533,260	549,257	565,735
111 Waste Disposal	60,000	40,000	40,400	40,804	41,212	41,624	42,040	42,461	42,885	43,314	43,747
112 Other Equipment Repair and Maintenance	55,650	57,320	59,039	60,810	62,635	64,514	66,449	68,442	70,496	72,611	74,789
113 Rentals	5,200	5,330	5,463	5,600	5,740	5,883	6,030	6,181	6,336	6,494	6,656
114 Transfer To ISFs For Allocation	32,761	33,580	34,420	35,280	36,162	37,066	37,993	38,943	39,916	40,914	41,937
115 Transfer To ISFs For Allocation	52,718	54,036	55,387	56,772	58,191	59,646	61,137	62,665	64,232	65,838	67,483
<b>116 Capital Outlay</b>											
117 Capital Equipment	\$ 9,700	\$ 9,991	\$ 10,291	\$ 10,599	\$ 10,917	\$ 11,245	\$ 11,582	\$ 11,930	\$ 12,288	\$ 12,656	\$ 13,036
<b>118 Total Water Transmission</b>	<b>\$ 1,868,374</b>	<b>\$ 1,835,252</b>	<b>\$ 1,889,008</b>	<b>\$ 1,944,473</b>	<b>\$ 2,001,708</b>	<b>\$ 2,060,774</b>	<b>\$ 2,121,737</b>	<b>\$ 2,184,663</b>	<b>\$ 2,249,621</b>	<b>\$ 2,316,683</b>	<b>\$ 2,385,926</b>
<b>119 Information Technology</b>											
<b>120 Personal Services</b>											

Appendix A: Cash Out

Projection of Cash Outflows

Schedule 4

Expense Line Item	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
121 Salaries, Non-Exempt	\$ 27,829	\$ 28,525	\$ 29,238	\$ 29,969	\$ 30,718	\$ 31,486	\$ 32,273	\$ 33,080	\$ 33,907	\$ 34,755	\$ 35,623
122 Part-Time Employee Wages	17,959	18,408	18,868	19,340	19,823	20,319	20,827	21,348	21,881	22,428	22,989
123 IMRF Pension Contributions	3,929	4,636	4,868	5,111	5,367	5,635	5,917	6,213	6,524	6,850	7,192
124 Medicare Contributions	664	681	698	715	733	751	770	789	809	829	850
125 Social Security Contributions	2,839	2,910	2,983	3,057	3,134	3,212	3,292	3,375	3,459	3,546	3,634
126 Life Insurance	144	147	150	153	156	159	162	165	169	172	176
127 Health Insurance	9,347	9,814	10,305	10,820	11,361	11,929	12,526	13,152	13,810	14,500	15,225
128 Optical Insurance	53	54	55	56	57	59	60	61	62	63	65
129 Dental Insurance	897	915	933	952	971	990	1,010	1,030	1,051	1,072	1,093
<b>130 Operations &amp; Maintenance</b>											
131 New Software - Customer Portal	\$ -	\$ 50,000	\$ 51,250	\$ 52,531	\$ 53,845	\$ 55,191	\$ 56,570	\$ 57,985	\$ 59,434	\$ 60,920	\$ 62,443
132 EPA Risk Assessment & Emergency Response Plan	50,000	50,000	-	-	-	-	-	86,946	-	-	-
<b>133 Total Information Technology</b>	<b>\$ 113,661</b>	<b>\$ 166,090</b>	<b>\$ 119,348</b>	<b>\$ 122,705</b>	<b>\$ 126,165</b>	<b>\$ 129,732</b>	<b>\$ 133,408</b>	<b>\$ 224,144</b>	<b>\$ 141,106</b>	<b>\$ 145,135</b>	<b>\$ 149,291</b>
<b>134 Capital</b>											
135 Auditing	\$ 2,500	\$ 2,563	\$ 2,627	\$ 2,692	\$ 2,760	\$ 2,829	\$ 2,899	\$ 2,972	\$ 3,046	\$ 3,122	\$ 3,200
<b>136 Total Capital</b>	<b>\$ 2,500</b>	<b>\$ 2,563</b>	<b>\$ 2,627</b>	<b>\$ 2,692</b>	<b>\$ 2,760</b>	<b>\$ 2,829</b>	<b>\$ 2,899</b>	<b>\$ 2,972</b>	<b>\$ 3,046</b>	<b>\$ 3,122</b>	<b>\$ 3,200</b>
<b>137 Total Expenses by Category</b>											
138 Personal Services	\$ 1,837,987	\$ 1,833,125	\$ 1,889,245	\$ 1,947,287	\$ 2,007,325	\$ 2,069,435	\$ 2,133,698	\$ 2,200,198	\$ 2,269,023	\$ 2,340,264	\$ 2,414,016
139 Variable Operations & Maintenance	8,528,713	8,696,747	8,868,092	9,042,813	9,220,976	9,402,650	9,587,903	9,776,805	9,969,430	10,165,849	10,366,139
140 Fixed Operations & Maintenance	2,579,434	2,563,024	2,561,862	2,611,838	2,662,983	2,715,325	2,768,896	2,910,673	2,879,853	2,937,304	2,996,118
141 Capital Outlay	53,200	54,796	56,440	58,133	59,877	61,673	63,524	65,429	67,392	69,414	71,496
<b>142 Total Expenses</b>	<b>\$ 12,999,334</b>	<b>\$ 13,147,692</b>	<b>\$ 13,375,639</b>	<b>\$ 13,660,072</b>	<b>\$ 13,951,161</b>	<b>\$ 14,249,083</b>	<b>\$ 14,554,020</b>	<b>\$ 14,953,106</b>	<b>\$ 15,185,697</b>	<b>\$ 15,512,831</b>	<b>\$ 15,847,768</b>
<b>143 Expense Execution Factors</b>											
144 Personal Services	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
145 Variable Operations & Maintenance	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
146 Fixed Operations & Maintenance	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
147 Capital Outlay	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>148 Total Expenses at Execution</b>											
149 Personal Services	\$ 1,837,987	\$ 1,833,125	\$ 1,889,245	\$ 1,947,287	\$ 2,007,325	\$ 2,069,435	\$ 2,133,698	\$ 2,200,198	\$ 2,269,023	\$ 2,340,264	\$ 2,414,016
150 Variable Operations & Maintenance	8,528,713	8,696,747	8,868,092	9,042,813	9,220,976	9,402,650	9,587,903	9,776,805	9,969,430	10,165,849	10,366,139
151 Fixed Operations & Maintenance	2,579,434	2,563,024	2,561,862	2,611,838	2,662,983	2,715,325	2,768,896	2,910,673	2,879,853	2,937,304	2,996,118
152 Capital Outlay	53,200	54,796	56,440	58,133	59,877	61,673	63,524	65,429	67,392	69,414	71,496
<b>153 Total Expenses at Execution</b>	<b>\$ 12,999,334</b>	<b>\$ 13,147,692</b>	<b>\$ 13,375,639</b>	<b>\$ 13,660,072</b>	<b>\$ 13,951,161</b>	<b>\$ 14,249,083</b>	<b>\$ 14,554,020</b>	<b>\$ 14,953,106</b>	<b>\$ 15,185,697</b>	<b>\$ 15,512,831</b>	<b>\$ 15,847,768</b>
<b>156 Debt Service</b>											
157 IEPA PUBLIC WATER SUPPLY LOAN PROGRAM Series 2016	\$ 77,409	\$ 77,409	\$ 77,409	\$ 77,409	\$ 77,409	\$ 77,409	\$ 77,409	\$ 77,409	\$ 77,409	\$ 77,409	\$ 77,409
158 IEPA PUBLIC WATER SUPPLY LOAN PROGRAM Series 2017	96,476	96,476	96,476	96,476	96,476	96,476	96,476	96,476	96,476	96,476	96,476
159 IEPA PUBLIC WATER SUPPLY LOAN PROGRAM Series 2018	148,695	208,124	208,124	208,124	208,124	208,124	208,124	208,124	208,124	208,124	208,124
160 General Obligation Bonds, Series 2012 Water	673,600	670,250	671,525	672,350	672,725	672,650	672,125	670,812	668,356	669,994	665,694
161 General Obligation Bonds, Series 2015A	337,050	337,900	338,650	339,300	338,725	336,900	334,925	337,725	335,300	337,000	332,813
162 New Debt	282,385	475,029	698,268	875,993	1,113,967	1,491,065	1,879,475	2,079,506	2,285,538	2,497,751	2,716,331
<b>163 Total Debt Service</b>	<b>\$ 1,615,615</b>	<b>\$ 1,865,188</b>	<b>\$ 2,090,452</b>	<b>\$ 2,269,652</b>	<b>\$ 2,507,426</b>	<b>\$ 2,882,624</b>	<b>\$ 3,268,534</b>	<b>\$ 3,470,052</b>	<b>\$ 3,671,203</b>	<b>\$ 3,886,754</b>	<b>\$ 4,096,847</b>
<b>164 Total Cash Outflows</b>	<b>\$ 14,614,949</b>	<b>\$ 15,012,880</b>	<b>\$ 15,466,092</b>	<b>\$ 15,929,724</b>	<b>\$ 16,458,587</b>	<b>\$ 17,131,706</b>	<b>\$ 17,822,553</b>	<b>\$ 18,423,158</b>	<b>\$ 18,856,900</b>	<b>\$ 19,399,586</b>	<b>\$ 19,944,615</b>

Appendix A: Cost Escalation Factors

Cost Escalation Factors

Schedule 5

Account Number	Expense Line Item Description	Inflation Factor	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
5101	Salaries, Exempt	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5102	Vacation Time	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5103	Sick Time	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5104	Bonus	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5111	Salaries, Non-Exempt	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5119	Part-Time Employee Wages	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5121	Overtime	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5131	Imrf Pension Contribs	Retirement	18.00% <sup>1</sup>	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
5131	IMRF Pension Contributions	Retirement	18.00% <sup>1</sup>	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
5132	IMRF Net Pension Obligation	Retirement	18.00% <sup>1</sup>	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
5133	Medicare Contributions	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5134	Social Security Contributions	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5140	Auto Allowance	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5166	Separation Expense	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5167	Compensated Absences	Salaries & Wages	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5190	Life Insurance	Insurance	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
5191	Health Insurance	Health Insurance	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
5195	Optical Insurance	Insurance	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
5197	Dental Insurance	Insurance	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
5205	Uniforms	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5210	Supplies	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5226	Chemicals And Salt	Fuel, Utilities, Chemicals	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
5240	Books & Periodicals	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5251	Maintenance Supplies	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5256	Water Pump Maintenance Supplies	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5257	Trans & Distribution Supplies-New Constr	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5258	Transmission & Distribution Maintenance	Repair & Maintenance	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
5259	Hydrant Maintenance Supplies	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5270	Asset Maintenance Supplies	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5280	Small Tools & Equipment	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5291	Water Purchase	Water Purchases	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
5302	Dues And Memberships	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5303	Seminars, Conferences & Meetings	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5308	Recognition Program-Staff	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5315	Professional Services	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5320	Professional Services - Engineering	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5322	Personnel Recruitment	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5323	Special Legal	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5334	Auditing	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5380	Printing Services	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5391	Telephone	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5392	Postage	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5430	Building Maintenance Services	Repair & Maintenance	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
5431	Contracted Services	Repair & Maintenance	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
5455	Waste Disposal	1%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
5461	Utilities	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5470	Other Equipment Repair and Maintenance	Repair & Maintenance	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
5481	Rentals	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5601	Principal Bond Payment	No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5602	Interest Payment	No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Appendix A: Cost Escalation Factors

**Cost Escalation Factors**

**Schedule 5**

5641	Amortization Of Capital Contributions	No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5650	Transfer To ISFs For Allocation	Default Operating	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
5670	Claims & Similar Exps	No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5687	Bad Debt Expense	No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5710	Land	Capital Outlay	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
5740	Infrastructure	Capital Outlay	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
5750	Buildings	Capital Outlay	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
5760	Improvements Other Than Buildings	Capital Outlay	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
5770	Capital Equipment	Capital Outlay	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
5810	Land	Capital Outlay	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
5840	Infrastructure	Capital Outlay	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
5850	Buildings	Capital Outlay	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
5860	Improvements Other Than Buildings	Capital Outlay	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
5870	Capital Equipment	Capital Outlay	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
5880	Intangible Assets (software)	Capital Outlay	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
5899	Depreciation - PW	No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5902	Misc Transfers	1%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
5930	Transfer for debt service	No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5987	Issue Costs	No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	<i>Weighted Average Increase in O&amp;M Expenses<sup>2</sup></i>		1.13%	1.73%	2.12%	2.13%	2.13%	2.14%	2.74%	1.55%	2.15%	2.16%

<sup>1</sup> The 18% adjustment in FY 2020 reflects the scheduled increase in retirement costs for FY 2020, per Village Staff.

<sup>2</sup> The Weighted Average Increase in O&M Expenses is reflective of the cost escalation factors presented on this schedule and the cost execution factors on Schedule 1.

Appendix A: Capital Improvement Program

Capital Improvement Program

Schedule 6

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
<b>1 Cash Funded</b>											
2 WA-006 Watermain Replacement, 55th St	\$ 750,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3 WA-028 Watermain Replacement, Annual Element	1,215,601	1,500,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
4 WP-010 Water Facility Maintenance, Annual Element	125,000	225,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000
5 WP-011 Existing Well Rehab	-	105,000	-	105,000	-	-	-	-	-	-	-
6 WP-018 SCADA System Maintenance	200,000	250,000	100,000	100,000	-	-	-	-	-	-	-
7 WP-019 Water Storage Tank Rehabilitation & Maintenance	-	50,000	1,700,000	50,000	-	50,000	-	150,000	-	150,000	-
8 Automatic Meter Reading System Data Collection Unit Upgrade	100,000	-	-	-	-	-	-	-	-	-	-
9 WP-022 US Risk Assessment & Emergency Response Plan	-	50,000	50,000	-	-	-	75,000	41,667	-	41,667	-
10 WP-021 Meter Replacement	-	-	-	-	-	-	-	-	-	-	-
<b>11 IEPA Funded</b>											
12 WA-028 Watermain Replacement, Annual Element	\$ 4,689,501	\$ 3,500,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000
13 WP-011 Existing Well Rehab	-	-	900,000	-	900,000	-	-	-	-	-	-
14 WP-019 Water Storage Tank Rehabilitation & Maintenance	-	-	-	-	750,000	-	-	-	-	-	-
15 WP-021 Meter Replacement	-	-	-	-	-	3,000,000	3,000,000	-	-	-	-
<b>16 Total CIP Budget (in current dollars)</b>	<b>\$ 7,080,102</b>	<b>\$ 5,680,000</b>	<b>\$ 6,875,000</b>	<b>\$ 4,380,000</b>	<b>\$ 5,775,000</b>	<b>\$ 7,175,000</b>	<b>\$ 7,200,000</b>	<b>\$ 4,316,667</b>	<b>\$ 4,125,000</b>	<b>\$ 4,316,667</b>	<b>\$ 4,125,000</b>
17 Cumulative Projected Cost Escalation <sup>1</sup>	0.0%	0.0%	3.0%	6.1%	9.3%	12.6%	15.9%	19.4%	23.0%	26.7%	30.5%
<b>18 Resulting CIP Funding Level</b>	<b>\$ 7,080,102</b>	<b>\$ 5,680,000</b>	<b>\$ 7,081,250</b>	<b>\$ 4,646,742</b>	<b>\$ 6,310,498</b>	<b>\$ 8,075,526</b>	<b>\$ 8,346,773</b>	<b>\$ 5,154,326</b>	<b>\$ 5,073,230</b>	<b>\$ 5,468,224</b>	<b>\$ 5,382,189</b>
19 Annual CIP Execution Percentage <sup>2</sup>	100%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
<b>20 Final CIP Funding Level</b>	<b>\$ 7,080,102</b>	<b>\$ 5,112,000</b>	<b>\$ 6,373,125</b>	<b>\$ 4,182,068</b>	<b>\$ 5,679,449</b>	<b>\$ 7,267,973</b>	<b>\$ 7,512,096</b>	<b>\$ 4,638,893</b>	<b>\$ 4,565,907</b>	<b>\$ 4,921,402</b>	<b>\$ 4,843,970</b>

<sup>1</sup> CIP Escalation factors are consistent with the Engineering News Record Construction Cost Index.

<sup>2</sup> In FY 2020-2029, a 90% execution on capital has been estimated, per analysis of historical capital spending and discussion with Village Staff.

FAMS - Control Panel

Schedule 7

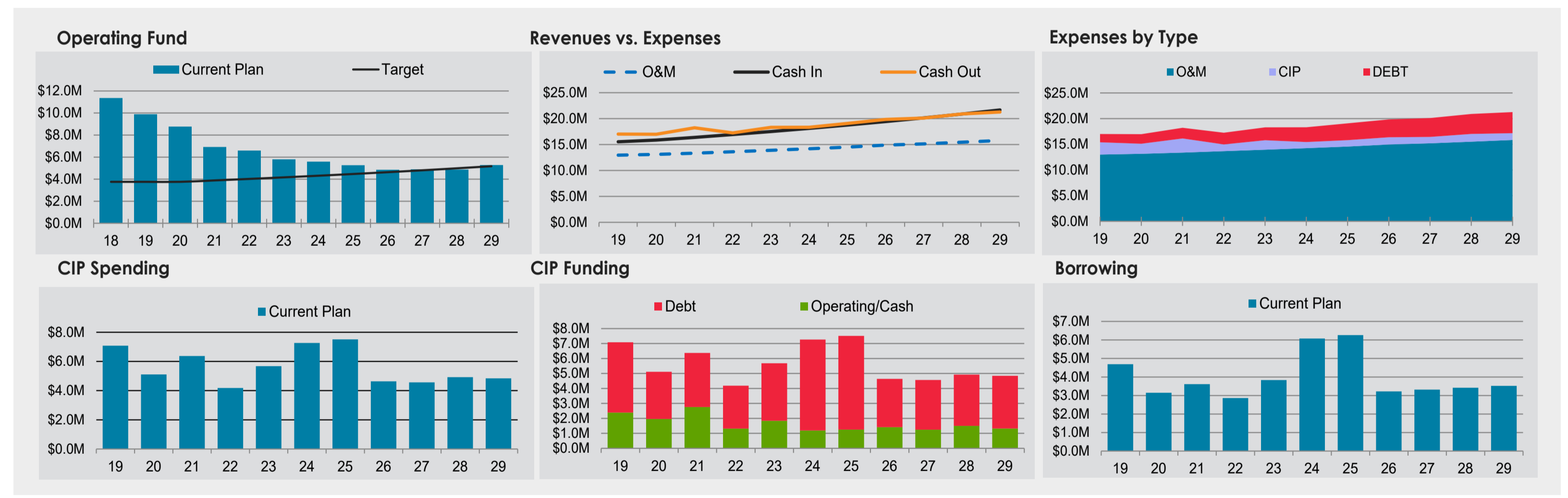
FAMS-XL

DOWNERS GROVE, IL

WATER FUND

CALC
SAVE
CTRL
LAST
OVR

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2023	FY 2028
Water Fixed Rate Plan	0.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	41.14%	117.16%
Water Usage Rate Plan	0.00%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%	16.07%	39.84%
All-In DSC	1.60	1.48	1.46	1.46	1.44	1.36	1.30	1.31	1.37	1.40	1.44		
Typical Residential Water Bill	\$85.79	\$89.68	\$93.79	\$98.14	\$102.73	\$107.57	\$112.67	\$118.05	\$123.72	\$129.70	\$136.00		
% Change in Avg Bill		4.53%	4.58%	4.64%	4.68%	4.71%	4.74%	4.78%	4.80%	4.83%	4.86%		
% Revenue from Fixed	11.9%	12.1%	12.8%	13.5%	14.2%	14.9%	15.7%	16.5%	17.3%	18.2%	19.1%		



Appendix A: Pro Forma

Pro Forma

Schedule 8

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
<b>1 Operating Revenue</b>											
2 Water Rate Revenue	\$ 15,024,114	\$ 15,024,114	\$ 15,681,171	\$ 16,228,778	\$ 16,802,242	\$ 17,403,255	\$ 18,033,642	\$ 18,695,378	\$ 19,390,595	\$ 20,121,599	\$ 20,890,885
3 Change in Revenue From Growth	-	-	(137,368)	(141,094)	(144,921)	(148,852)	(152,889)	(157,036)	(161,296)	(165,671)	(170,165)
4 Subtotal	\$ 15,024,114	\$ 15,024,114	\$ 15,543,804	\$ 16,087,685	\$ 16,657,322	\$ 17,254,403	\$ 17,880,753	\$ 18,538,342	\$ 19,229,299	\$ 19,955,928	\$ 20,720,720
5 <i>Weighted Average Rate Increase</i>	0.00%	2.20%	2.22%	2.24%	2.26%	2.27%	2.30%	2.32%	2.34%	2.36%	2.37%
6 Additional Rate Revenue From Rate Increase	-	330,324	345,302	360,215	376,032	391,749	410,660	429,629	449,817	470,033	490,216
7 Total Rate Revenue	\$ 15,024,114	\$ 15,354,438	\$ 15,889,106	\$ 16,447,900	\$ 17,033,354	\$ 17,646,152	\$ 18,291,413	\$ 18,967,971	\$ 19,679,116	\$ 20,425,961	\$ 21,210,936
8 Plus: Other Operating Revenue	408,500	408,500	408,500	408,500	408,500	408,500	408,500	408,500	408,500	408,500	408,500
9 <b>Equals: Total Operating Revenue</b>	<b>\$ 15,432,614</b>	<b>\$ 15,762,938</b>	<b>\$ 16,297,606</b>	<b>\$ 16,856,400</b>	<b>\$ 17,441,854</b>	<b>\$ 18,054,652</b>	<b>\$ 18,699,913</b>	<b>\$ 19,376,471</b>	<b>\$ 20,087,616</b>	<b>\$ 20,834,461</b>	<b>\$ 21,619,436</b>
<b>10 Less: Operating Expenses</b>											
11 Personal Services	\$ (1,837,987)	\$ (1,833,125)	\$ (1,889,245)	\$ (1,947,287)	\$ (2,007,325)	\$ (2,069,435)	\$ (2,133,698)	\$ (2,200,198)	\$ (2,269,023)	\$ (2,340,264)	\$ (2,414,016)
12 Variable Operations & Maintenance Costs	(8,528,713)	(8,696,747)	(8,868,092)	(9,042,813)	(9,220,976)	(9,402,650)	(9,587,903)	(9,776,805)	(9,969,430)	(10,165,849)	(10,366,139)
13 Fixed Operations & Maintenance Costs	(2,579,434)	(2,563,024)	(2,561,862)	(2,611,838)	(2,662,983)	(2,715,325)	(2,768,896)	(2,910,673)	(2,879,853)	(2,937,304)	(2,996,118)
14 <b>Equals: Net Operating Income</b>	<b>\$ 2,486,481</b>	<b>\$ 2,670,042</b>	<b>\$ 2,978,407</b>	<b>\$ 3,254,461</b>	<b>\$ 3,550,570</b>	<b>\$ 3,867,242</b>	<b>\$ 4,209,417</b>	<b>\$ 4,488,794</b>	<b>\$ 4,969,311</b>	<b>\$ 5,391,044</b>	<b>\$ 5,843,164</b>
<b>15 Plus: Non-Operating Income/(Expense)</b>											
16 Interest Income	\$ 101,540	\$ 93,287	\$ 78,454	\$ 67,598	\$ 61,987	\$ 56,942	\$ 54,289	\$ 50,632	\$ 48,748	\$ 48,832	\$ 50,767
17 <b>Equals: Net Income</b>	<b>\$ 2,588,020</b>	<b>\$ 2,763,329</b>	<b>\$ 3,056,861</b>	<b>\$ 3,322,059</b>	<b>\$ 3,612,557</b>	<b>\$ 3,924,185</b>	<b>\$ 4,263,706</b>	<b>\$ 4,539,426</b>	<b>\$ 5,018,059</b>	<b>\$ 5,439,876</b>	<b>\$ 5,893,931</b>
<b>18 Total All-In Debt Service Coverage Test</b>											
19 Net Income Available for Subordinate Debt Service	\$ 2,588,020	\$ 2,763,329	\$ 3,056,861	\$ 3,322,059	\$ 3,612,557	\$ 3,924,185	\$ 4,263,706	\$ 4,539,426	\$ 5,018,059	\$ 5,439,876	\$ 5,893,931
20 Total Senior-Lien Debt Service	-	-	-	-	-	-	-	-	-	-	-
21 Total Subordinate Debt Service	1,615,615	1,865,188	2,090,452	2,269,652	2,507,426	2,882,624	3,268,534	3,470,052	3,671,203	3,886,754	4,096,847
22 <b>Total Annual Debt Service</b>	<b>\$ 1,615,615</b>	<b>\$ 1,865,188</b>	<b>\$ 2,090,452</b>	<b>\$ 2,269,652</b>	<b>\$ 2,507,426</b>	<b>\$ 2,882,624</b>	<b>\$ 3,268,534</b>	<b>\$ 3,470,052</b>	<b>\$ 3,671,203</b>	<b>\$ 3,886,754</b>	<b>\$ 4,096,847</b>
23 <i>Calculated All-In Debt Service Coverage</i>	1.60	1.48	1.46	1.46	1.44	1.36	1.30	1.31	1.37	1.40	1.44
<b>24 Cash Flow Test</b>											
25 Net Income Available For Debt Service	\$ 2,588,020	\$ 2,763,329	\$ 3,056,861	\$ 3,322,059	\$ 3,612,557	\$ 3,924,185	\$ 4,263,706	\$ 4,539,426	\$ 5,018,059	\$ 5,439,876	\$ 5,893,931
26 Less: Non-Operating Expenditures											
27 Net Debt Service Payment	(1,615,615)	(1,865,188)	(2,090,452)	(2,269,652)	(2,507,426)	(2,882,624)	(3,268,534)	(3,470,052)	(3,671,203)	(3,886,754)	(4,096,847)
28 <b>Net Cash Flow</b>	<b>\$ 919,205</b>	<b>\$ 843,345</b>	<b>\$ 909,968</b>	<b>\$ 994,274</b>	<b>\$ 1,045,254</b>	<b>\$ 979,888</b>	<b>\$ 931,648</b>	<b>\$ 1,003,945</b>	<b>\$ 1,279,464</b>	<b>\$ 1,483,707</b>	<b>\$ 1,725,588</b>
<b>29 Unrestricted Reserve Fund Test</b>											
30 Balance At Beginning Of Fiscal Year	\$ 11,359,378	\$ 9,887,982	\$ 8,769,326	\$ 6,921,470	\$ 6,598,106	\$ 5,799,383	\$ 5,589,045	\$ 5,268,677	\$ 4,857,670	\$ 4,891,886	\$ 4,874,471
31 Cash Flow Surplus/(Deficit)	919,205	843,345	909,968	994,274	1,045,254	979,888	931,648	1,003,945	1,279,464	1,483,707	1,725,588
32 Projects Designated To Be Paid With Cash	(2,390,601)	(1,962,000)	(2,757,825)	(1,317,638)	(1,843,977)	(1,190,226)	(1,252,016)	(1,414,952)	(1,245,247)	(1,501,123)	(1,321,083)
33 <b>Balance At End Of Fiscal Year</b>	<b>\$ 9,887,982</b>	<b>\$ 8,769,326</b>	<b>\$ 6,921,470</b>	<b>\$ 6,598,106</b>	<b>\$ 5,799,383</b>	<b>\$ 5,589,045</b>	<b>\$ 5,268,677</b>	<b>\$ 4,857,670</b>	<b>\$ 4,891,886</b>	<b>\$ 4,874,471</b>	<b>\$ 5,278,976</b>
34 Minimum Working Capital Reserve Target	3,756,029	3,756,028	3,885,951	4,021,921	4,164,330	4,313,601	4,470,188	4,634,585	4,807,325	4,988,982	5,180,180
35 <b>Excess/(Deficiency) Of Working Capital To Target</b>	<b>\$ 6,131,953</b>	<b>\$ 5,013,298</b>	<b>\$ 3,035,519</b>	<b>\$ 2,576,185</b>	<b>\$ 1,635,053</b>	<b>\$ 1,275,444</b>	<b>\$ 798,489</b>	<b>\$ 223,085</b>	<b>\$ 84,562</b>	<b>\$ (114,511)</b>	<b>\$ 98,796</b>

Appendix A: Capital Project Funding Summary

<b>Capital Project Funding Summary</b>	<b>Schedule 9</b>										
<b>Final Capital Projects Funding Sources</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>
Subordinate Debt Proceeds	\$ 4,689,501	\$ 3,150,000	\$ 3,615,300	\$ 2,864,430	\$ 3,835,472	\$ 6,077,748	\$ 6,260,080	\$ 3,223,941	\$ 3,320,659	\$ 3,420,279	\$ 3,522,888
Projects Designated To Be Paid With Cash	2,390,601	1,962,000	2,757,825	1,317,638	1,843,977	1,190,226	1,252,016	1,414,952	1,245,247	1,501,123	1,321,083
<b>Total Projects Paid</b>	<b>\$ 7,080,102</b>	<b>\$ 5,112,000</b>	<b>\$ 6,373,125</b>	<b>\$ 4,182,068</b>	<b>\$ 5,679,449</b>	<b>\$ 7,267,973</b>	<b>\$ 7,512,096</b>	<b>\$ 4,638,893</b>	<b>\$ 4,565,907</b>	<b>\$ 4,921,402</b>	<b>\$ 4,843,970</b>

Appendix A: Funding Summary by Fund

Funding Summary by Fund

Schedule 10

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
<b>Revenue Fund</b>											
Balance At Beginning Of Fiscal Year	\$ 11,359,378	\$ 9,887,982	\$ 8,769,326	\$ 6,921,470	\$ 6,598,106	\$ 5,799,383	\$ 5,589,045	\$ 5,268,677	\$ 4,857,670	\$ 4,891,886	\$ 4,874,471
Net Cash Flow	919,205	843,345	909,968	994,274	1,045,254	979,888	931,648	1,003,945	1,279,464	1,483,707	1,725,588
Less: Cash-Funded Capital Projects	(2,390,601)	(1,962,000)	(2,757,825)	(1,317,638)	(1,843,977)	(1,190,226)	(1,252,016)	(1,414,952)	(1,245,247)	(1,501,123)	(1,321,083)
Subtotal	\$ 9,887,982	\$ 8,769,326	\$ 6,921,470	\$ 6,598,106	\$ 5,799,383	\$ 5,589,045	\$ 5,268,677	\$ 4,857,670	\$ 4,891,886	\$ 4,874,471	\$ 5,278,976
Less: Restricted Funds	(3,756,029)	(3,756,028)	(3,885,951)	(4,021,921)	(4,164,330)	(4,313,601)	(4,470,188)	(4,634,585)	(4,807,325)	(4,874,471)	(5,180,180)
Subtotal	\$ 6,131,953	\$ 5,013,298	\$ 3,035,519	\$ 2,576,185	\$ 1,635,053	\$ 1,275,444	\$ 798,489	\$ 223,085	\$ 84,562	\$ -	\$ 98,796
Add Back: Restricted Funds	3,756,029	3,756,028	3,885,951	4,021,921	4,164,330	4,313,601	4,470,188	4,634,585	4,807,325	4,874,471	5,180,180
Plus: Interest Earnings	101,540	93,287	78,454	67,598	61,987	56,942	54,289	50,632	48,748	48,832	50,767
Less: Interest Allocated To Cash Flow	(101,540)	(93,287)	(78,454)	(67,598)	(61,987)	(56,942)	(54,289)	(50,632)	(48,748)	(48,832)	(50,767)
<b>Balance At End Of Fiscal Year</b>	<b>\$ 9,887,982</b>	<b>\$ 8,769,326</b>	<b>\$ 6,921,470</b>	<b>\$ 6,598,106</b>	<b>\$ 5,799,383</b>	<b>\$ 5,589,045</b>	<b>\$ 5,268,677</b>	<b>\$ 4,857,670</b>	<b>\$ 4,891,886</b>	<b>\$ 4,874,471</b>	<b>\$ 5,278,976</b>

Appendix A: Subordinate Borrowing Projections

**Subordinate Borrowing Projections**

**Schedule 11**

	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Term (Years)	20	20	20	20	20	20	20	20	20	20	20
Interest Rate	1.84%	2.00%	2.10%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%
<b>Sources of Funds</b>											
Par Amount	\$ 4,689,501	\$ 3,150,000	\$ 3,615,300	\$ 2,864,430	\$ 3,835,472	\$ 6,077,748	\$ 6,260,080	\$ 3,223,941	\$ 3,320,659	\$ 3,420,279	\$ 3,522,888
<b>Uses of Funds</b>											
Proceeds	\$ 4,689,501	\$ 3,150,000	\$ 3,615,300	\$ 2,864,430	\$ 3,835,472	\$ 6,077,748	\$ 6,260,080	\$ 3,223,941	\$ 3,320,659	\$ 3,420,279	\$ 3,522,888
Cost of Issuance	0.00% of Par	-	-	-	-	-	-	-	-	-	-
Loan Repayment Res.	0.00% of Capital Cost	-	-	-	-	-	-	-	-	-	-
Loan Service Fee	0.00% of Capital Cost	-	-	-	-	-	-	-	-	-	-
Capitalized Interest	0 Years Interest	-	-	-	-	-	-	-	-	-	-
Debt Service Reserve	0 Year(s) of Debt Service	-	-	-	-	-	-	-	-	-	-
Other Costs	-	-	-	-	-	-	-	-	-	-	-
<b>Total Uses</b>	<b>\$ 4,689,501</b>	<b>\$ 3,150,000</b>	<b>\$ 3,615,300</b>	<b>\$ 2,864,430</b>	<b>\$ 3,835,472</b>	<b>\$ 6,077,748</b>	<b>\$ 6,260,080</b>	<b>\$ 3,223,941</b>	<b>\$ 3,320,659</b>	<b>\$ 3,420,279</b>	<b>\$ 3,522,888</b>
1 Year Interest	86,287	63,000	75,921	61,585	82,463	130,672	134,592	69,315	71,394	73,536	75,742
<b>Annual Debt Service</b>	<b>\$ 282,385</b>	<b>\$ 192,644</b>	<b>\$ 223,239</b>	<b>\$ 177,725</b>	<b>\$ 237,974</b>	<b>\$ 377,097</b>	<b>\$ 388,410</b>	<b>\$ 200,031</b>	<b>\$ 206,032</b>	<b>\$ 212,213</b>	<b>\$ 218,580</b>
Total Debt Service	5,647,707	3,852,873	4,464,786	3,554,503	4,759,480	7,541,945	7,768,203	4,000,625	4,120,643	4,244,263	4,371,590
<b>Cumulative New Annual Subordinate Debt Service</b>	<b>\$ 282,385</b>	<b>\$ 475,029</b>	<b>\$ 698,268</b>	<b>\$ 875,993</b>	<b>\$ 1,113,967</b>	<b>\$ 1,491,065</b>	<b>\$ 1,879,475</b>	<b>\$ 2,079,506</b>	<b>\$ 2,285,538</b>	<b>\$ 2,497,751</b>	<b>\$ 2,716,331</b>