

WATER FUND

Statement of Purpose

The Public Works Department provides for the safe and efficient delivery of potable water to residents through the operation, maintenance and replacement of the water delivery systems including water mains, pumps, valves, hydrants, water towers and other associated infrastructure. The Department is responsible for complying with all laws and regulations associated with the safe delivery of potable water. Additionally, staff assists residents through customer service in areas such as leak detection and high consumption investigations.

Scope of Work

Duties of Water Department personnel include water main and service leak repair, hydrants, valves, roundways, and meter replacement. The Water Department pumps an average of 1.88 million gallons (mg) per day of Lake Michigan water to the 4,600 water services in La Grange. Lake Michigan water from the Village of McCook is pumped through a meter vault at the East Avenue Pumping Station into a reservoir where it is re-chlorinated and pumped into the distribution system. Storage includes a 1.5 million gallon (mg) elevated storage tank, a 2.0 mg standpipe and 2.2 mg reservoir, and 59 miles of water main ranging in size from 4" to 16".

FY 2013-14 Key Objectives

1. Maintain the infrastructure of the water system to achieve the highest quality of water and service to the residents of the Village.
2. Continue to assess unaccounted for water loss within the Village's water distribution system and make recommendations for improvements.
3. Complete the Water Meter Replacement Program in order to improve water accountability.
4. Collect monthly water samples for testing in accordance with water standards to meet IEPA water quality requirements.
5. Complete the annual water leak survey of the entire Village.
6. Continue the back flow prevention program to maintain compliance with IEPA rules.
7. Complete the detailed engineering, design and inspection services for improvements to the East Avenue Pumping Station.
8. Continue with process of securing competitively bid prices for the purchase of electricity at the Village's pumping station.

9. Assess water mains within corridors that are planned for resurfacing. Assess alternate technologies for water main replacement that could lower cost for main replacement such as water main lining.

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Performance Measures	2010	2011	2012
Incoming gallons	581,965,000	577,730,000	585,537,000
Outgoing gallons	571,620,000	569,605,000	578,991,000
Gallons billed	436,291,186	426,616,564	450,847,491
Water Samples			
Bacterial	204	204	204
TTHM	16	16	16
Lead (every 3 years 2008)	0	30	0
Meter readings	29,548	29,559	29,656
Final readings (customer move readings)	182	202	168
Meter exchanges	74	98	53
Main breaks	33	30	65
Service leaks	9	14	11
Hydrants installed/ repaired	7	19	83

VILLAGE OF LA GRANGE
WATER FUND
WORKING CAPITAL SUMMARY THROUGH APRIL 30, 2018

Working Capital, April 30, 2010			1,235,721
Revenues	2010-11	3,225,249	
Expenses	2010-11	<u>(3,662,491)</u>	<u>(437,242)</u>
Working Capital, April 30, 2011			798,479
Revenues	2011-12	3,420,332	
Expenses	2011-12	<u>(3,219,147)</u>	<u>201,185</u>
Working Capital, April 30, 2012			999,664
Revenues	2012-13	6,295,211	
Expenses	2012-13	<u>(5,214,324)</u>	<u>1,080,887</u>
Working Capital, April 30, 2013			2,080,551
Revenues	2013-14	4,397,100	
Expenses	2013-14	<u>(4,912,360)</u>	<u>(515,260)</u>
Working Capital, April 30, 2014			1,565,292
Revenues	2014-15	4,732,100	
Expenses	2014-15	<u>(4,456,069)</u>	<u>276,031</u>
Working Capital, April 30, 2015			1,841,323
Revenues	2015-16	5,102,100	
Expenses	2015-16	<u>(5,452,838)</u>	<u>(350,738)</u>
Working Capital, April 30, 2016			1,490,585
Revenues	2016-17	5,107,100	
Expenses	2016-17	<u>(5,061,171)</u>	<u>45,929</u>
Working Capital, April 30, 2017			1,536,514
Revenues	2017-18	5,112,100	
Expenses	2017-18	<u>(5,121,854)</u>	<u>(9,754)</u>
Working Capital, April 30, 2018			<u><u>1,526,759</u></u>

WATER FUND

ACCT. NO.	ACCOUNT DESCRIPTION	2010-11 ACTUAL	2011-12 ACTUAL	2012-13 BUDGET	2012-13 EST. ACT	2013-14 BUDGET	2014-15 BUDGET	2015-16 BUDGET	2016-17 BUDGET	2017-18 BUDGET
5000	REVENUES									
	CHARGES FOR SERVICES									
5200	WATER SALES	3,130,783	3,321,609	4,053,750	4,110,000	4,295,000	4,620,000	4,970,000	4,970,000	4,970,000
5201	WATER TAPS	33,011	38,940	20,000	40,000	35,000	35,000	35,000	35,000	35,000
5203	FIRE LINES	11,925	12,370	11,000	12,000	12,000	12,000	12,000	12,000	12,000
5209	PENALTY	39,365	42,869	37,000	45,000	45,000	45,000	45,000	45,000	45,000
	SUBTOTAL	3,215,084	3,415,788	4,121,750	4,207,000	4,387,000	4,712,000	5,062,000	5,062,000	5,062,000
	INTEREST INCOME									
5500	INVESTMENT INTEREST	8,729	1,628	4,000	4,000	10,000	20,000	40,000	45,000	50,000
	SUBTOTAL	8,729	1,628	4,000	4,000	10,000	20,000	40,000	45,000	50,000
	FINANCING REVENUES									
5700	BOND PROCEEDS	-	-	2,000,000	2,080,000	-	-	-	-	-
	SUBTOTAL	-	-	2,000,000	2,080,000	-	-	-	-	-
	MISCELLANEOUS REVENUES									
5899	MISCELLANEOUS	1,436	2,916	100	4,211	100	100	100	100	100
	SUBTOTAL	1,436	2,916	100	4,211	100	100	100	100	100
	TOTAL REVENUES	3,225,249	3,420,332	6,125,850	6,295,211	4,397,100	4,732,100	5,102,100	5,107,100	5,112,100

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WATER FUND

REVENUE NOTES

1. Water Sales

The Water Fund was established as an enterprise fund to finance the cost of operating, maintaining and replacing the Village's water distribution system. Our goal is to maintain Water Fund reserves at about 50% of operating expenses. The Water Fund reserve balance as of April 30, 2012 is approximately 31% percent of annual operating expenses.

It has been a longstanding Village policy to "pass on" water rate increases from the Village of McCook which supplies Lake Michigan water to the Village. McCook receives Lake Michigan water directly from the City of Chicago. The City of Chicago announced water rate increases in the amounts of 25%, 15%, 15% and 15% over four years starting on January 1, 2012. Staff continues to work with the West Central Municipal Conference to advocate for lowering these planned increases from Chicago. Staff has assumed for budgeting purposes that these increases will be implemented as presented by the City of Chicago.

In order for the Water Fund to continue to 1) fund ongoing operations including the water rate increase from the City of Chicago, 2) fund the water meter replacement program/pumping station bonds 3) remain active with the replacement of water mains as part of the neighborhood street replacement program, 4) replace mains where know deficiencies exist within the system and 5) rebuild/maintain reserves; water rate increases in the amount of 15%, 6.0%, 7.5% and 7.5% are included in the proposed budget over four fiscal years starting May 1, 2012.

The 15% increase includes 10% for the City of Chicago rate increase and 5% to fund bonds issued for the water meter replacement program. The 6.0% increase was adjusted by the Village Board at the budget workshop held on March 8, 2013, to only include "passing on" the water rate increases from the City of Chicago. The additional rate increases of 1.5% in subsequent years include funding for operations, capital improvements and reserves, pending the results of the water meter replacement program.

While we have developed this plan based on the proposed City of Chicago rate increases, we will evaluate future Village water rate increases, one year at a time, pending actual rate increases from McCook and Chicago.

Please note the Village rate increases are significantly less than the City of Chicago rate increases as they are primarily applied to the cost of the water purchased in the Water Fund, which is just one component of the total expenses for providing water to residents.

It is estimated that the initial 15% increase will cost homeowners approximately \$100 annually, the 6% increase costing homeowners approximately \$50 each year, with the two subsequent 7.5% increases costing homeowners approximately \$65 annually. The Village

will reevaluate the need for subsequent increases on an annual basis during budget preparation in future years.

Sewer service fees are based on the cubic feet of water used by a property owner multiplied by a separate sewer rate. Therefore, an increase in the water rate does not affect sewer revenues.

Please note the water rate increases do not take into account any increase in revenues due to improved water accuracy which we expect to achieve as a result of the water meter replacement project. Should revenues increase due to improved meter accuracy, future water rate increases could be reduced or eliminated to reflect the additional revenue. Water rates will continue to be reviewed on an annual basis.

FY 2012-13, revenues from Water Sales are estimated to be over budget due to above average water usage resulting from the dry summer conditions. Budgeted revenues are based on average annual consumption with minor variations expected depending on spring/summer weather conditions. The higher than normal usage does not reflect an increase in water accountability due to the meter replacement project.

2. Water Taps

Revenues reflect water tapping fees and meter installation charges. These fees reflect recovery of Village costs for providing these services for new construction.

3. Fire Lines

This fee represents an annual facility charge for all fire suppression lines. The fee is based on the size of the fire line and is billed through the regular water billing process.

4. Bond Proceeds

The Village issued alternate revenue bonds in FY 2012-13 to fund the water meter replacement program and improvements at the East Avenue Water Pumping Station. The advantage of bonding for these two projects rather than completing on a pay as you go basis is the Village is able to: 1) complete these projects within the next fiscal year while amortizing the expenses over the useful life (20 years) of the improvements, 2) address the ongoing water accountability issue in a timely fashion, 3) utilize new meter technology which eliminates reading meters manually, and 4) bill residents for actual water usage in an equitable manner. In addition, financial conditions were such that the Village benefited by financing these projects with municipal bonds while interest rates are at historical lows.

5. Miscellaneous Revenues

Miscellaneous revenues include frozen meters, construction water and sale of scrap metals.

WATER FUND

ACCT. NO.	ACCOUNT DESCRIPTION	2010-11 ACTUAL	2011-12 ACTUAL	2012-13 BUDGET	2012-13 EST. ACT	2013-14 BUDGET	2014-15 BUDGET	2015-16 BUDGET	2016-17 BUDGET	2017-18 BUDGET
5000	EXPENDITURES	PERSONNEL								
6000	SALARIES - FULL-TIME	635,976	661,468	701,868	698,653	725,040	756,400	786,438	817,850	850,708
	SALARY ALLOCATIONS									
	Salaries - F/T - Admin	104,023	102,937	106,670	106,872	111,926	115,870	120,162	124,638	129,306
	Salaries - F/T - Finance	110,208	106,559	121,018	122,131	128,055	130,914	134,910	139,043	143,319
	Salaries - F/T - DPW	(78,209)	(76,694)	(66,305)	(68,122)	(71,834)	(72,384)	(73,764)	(75,153)	(76,550)
	Salaries - F/T - Sewer	(18,592)	(17,877)	(18,399)	(18,535)	(19,721)	(20,056)	(20,558)	(21,072)	(21,599)
		<u>753,406</u>	<u>776,393</u>	<u>844,852</u>	<u>841,000</u>	873,466	910,745	947,188	985,306	1,025,185
6001	SALARIES - PART-TIME	21,833	17,354	8,500	9,000	9,000	9,500	10,000	10,500	11,000
	Salaries - P/T - Finance	19,526	23,131	-	-	-	-	-	-	-
	Salaries - President	1,980	1,980	1,980	1,980	1,980	1,980	1,980	1,980	1,980
		<u>43,339</u>	<u>42,465</u>	<u>10,480</u>	<u>10,980</u>	10,980	11,480	11,980	12,480	12,980
6002	SALARIES - OVERTIME	49,991	29,478	31,500	30,000	33,075	34,729	36,465	38,288	40,203
6004	IMRF CONTRIBUTIONS	110,803	108,245	113,926	108,543	126,916	132,366	137,711	143,303	149,154
6005	FICA/MEDICARE	62,315	62,273	67,691	67,435	70,039	73,055	76,014	79,108	82,344
6009	IRMA CONTRIB / CLAIMS	83,491	86,473	95,531	93,491	102,272	102,272	102,272	102,272	102,272
6010	HEALTH INSURANCE	116,114	125,613	131,089	139,955	144,117	154,887	166,463	178,905	192,279
6020	TRAINING & MEMBERSHIP	1,681	2,361	3,200	3,200	3,200	3,200	3,200	3,200	3,200
6021	UNIFORMS	4,848	4,274	5,400	4,400	4,800	4,800	4,800	4,800	4,800
	SUBTOTAL	<u>1,225,988</u>	<u>1,237,575</u>	<u>1,303,669</u>	<u>1,317,377</u>	1,368,865	1,432,879	1,491,685	1,553,514	1,612,417
	SUPPLIES & MATERIALS									
6100	SUPPLIES	2,788	1,674	3,300	3,300	3,300	3,300	3,300	3,300	3,300
6101	PRINTING & POSTAGE	14,007	14,624	15,000	21,201	15,000	15,000	15,000	15,000	15,000
6102	GAS & OIL	9,586	14,229	13,200	15,738	16,000	16,000	16,000	16,000	16,000
	SUBTOTAL	<u>26,381</u>	<u>30,527</u>	<u>31,500</u>	<u>40,239</u>	34,300	34,300	34,300	34,300	34,300
	OPERATIONS & CONTRACTUAL									
6210	TELEPHONE	9,935	9,551	10,200	10,094	10,000	10,000	10,000	10,000	10,000
6211	ELECTRIC FEES	47,685	35,653	40,000	37,230	40,000	40,000	40,000	40,000	40,000
6220	MAINTENANCE - WATER	100,992	94,844	90,000	100,000	100,000	100,000	100,000	100,000	100,000
6230	PROFESSIONAL SERVICES	35,207	27,032	32,000	32,000	28,000	63,000	63,000	63,000	63,000
6232	AUDITING	9,980	10,126	10,546	10,546	11,755	11,195	12,658	13,038	13,418
6290	WATER PURCHASES-McCOOK	1,660,333	1,666,836	2,120,000	2,150,000	2,275,000	2,500,000	2,750,000	2,750,000	2,750,000
6291	LEAK STUDY	-	9,115	13,000	13,000	13,000	13,000	13,000	13,000	13,000
	SUBTOTAL	<u>1,864,132</u>	<u>1,853,157</u>	<u>2,315,746</u>	<u>2,352,870</u>	2,477,755	2,737,195	2,988,658	2,989,038	2,989,418

WATER FUND

ACCT. NO.	ACCOUNT DESCRIPTION	2010-11 ACTUAL	2011-12 ACTUAL	2012-13 BUDGET	2012-13 EST. ACT	2013-14 BUDGET	2014-15 BUDGET	2015-16 BUDGET	2016-17 BUDGET	2017-18 BUDGET
<u>CAPITAL OUTLAY</u>										
6600	NEW EQUIPMENT	5,909	6,895	7,000	7,000	5,000	5,000	5,000	5,000	5,000
6605	COMPUTER EQUIPMENT	890	400	1,000	1,000	1,000	1,000	1,000	1,000	1,000
6660	EQUIPMENT - RESERVE (ERF)	45,055	45,055	43,529	43,529	46,310	46,465	46,465	47,589	47,589
6691	MAINS / IMPROVEMENTS	442,420	5,122	2,250,000	1,395,776	795,000	20,000	700,000	250,000	250,000
6692	METERS	20,673	17,011	20,000	20,000	20,000	20,000	20,000	20,000	20,000
6693	HYDRANT & VALVES	25,902	17,410	20,000	19,612	20,000	20,000	20,000	20,000	20,000
	SUBTOTAL	540,849	91,893	2,341,529	1,486,917	887,310	112,465	792,465	343,589	343,589
<u>FINANCING EXPENSES</u>										
6700	BOND PRINCIPAL	-	-	155,000	-	85,000	85,000	90,000	90,000	90,000
6701	BOND INTEREST	-	-	-	8,421	45,930	44,230	42,530	40,730	38,930
	SUBTOTAL	-	-	155,000	8,421	130,930	129,230	132,530	130,730	128,930
<u>MISCELLANEOUS EXPENSES</u>										
6899	MISC/LAB EXPENSES	5,141	5,995	10,000	8,500	13,200	10,000	13,200	10,000	13,200
	SUBTOTAL	5,141	5,995	10,000	8,500	13,200	10,000	13,200	10,000	13,200
	TOTAL FOR DEPARTMENT	3,662,491	3,219,147	6,157,444	5,214,324	4,912,360	4,456,069	5,452,838	5,061,171	5,121,854

WATER FUND

Personnel Services	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18
Director	.425	.425	.425	.425	.425	.425	.425	.425
Assistant Director	.75	.75	.75	.75	.75	.75	.75	.75
Crew Leader	2	2	2	2	2	2	2	2
General Utility Worker	5	5	5	5	5	5	5	5
Office Manager	1	1	1	1	1	1	1	1
Total Full-Time	9.175	9.175	9.175	9.175	9.175	9.175	9.175	9.175
Regular part-time & Seasonal	3	3	2	2	2	2	2	2
Total Part-Time	3	3	2	2	2	2	2	2
TOTAL	12.175	12.175	11.175	11.175	11.175	11.175	11.175	11.175

EXPENSE NOTES

1. **Salaries - Full-time**

FY 2012-13 full-time salaries are slightly under budget due to the retirement of a Water Fund Crew Leader. This vacant position was subsequently filled by a highly qualified internal candidate.

The Village has implemented a cost containment plan to reduce operating expenses due to the length and severity of the recession. The cost -containment includes no general wage adjustment or merit increase for the Public Works Director in FY 2011-12 and a 2.0% general wage adjustment for non-union departmental staff effective May 1, 2011, rather than the previously budgeted 2.7% increase.

In addition, as a result of mid-term bargaining concessions with the Public Works Union, General Utility Worker and Crew Leader salaries reflect a decrease in the contractual annual wage adjustment from 2.75% to 2.0%, effective May 1, 2011.

2. **Salaries - Part-time**

FY 2012-13 part-time salaries reflect the elimination of the part-time water meter reader position and the part-time water billing clerk position as part of restructuring efforts within the Public Works and Finance Departments. The responsibilities of these positions have

been assigned to full-time personnel within the General and Water Funds, the impact of which was budget neutral in the Water Fund.

Subsequent year budgets reflect part-time employees hired during the summer months and over winter break to assist with maintenance of water systems and infrastructure.

3. Salaries - Overtime

This account is estimated to be under budget in FY 2012-13 due to the mild winter conditions. It is important to note that the Public Works Department makes a concerted effort to control costs where ever possible and still provide quality services, while working under the cost containment plan.

The Village received reimbursement in the amount of approximately \$42,000 from Federal Emergency Management Agency (FEMA) for snow removal expenses related to the severe winter storm event in FY 2010-11 (February 1-2, 2011). The Village was reimbursed for salaries, overtime and contractual services related to plowing and hauling snow and salting streets during this major winter storm.

4. Health Insurance

Expenses for health insurance are over budget in FY 2012-13 due to one employee electing family coverage rather than single.

5. Printing & Postage

Expenses include mailing monthly water bills and the annual Consumer Compliance Report which is mandated by the EPA. This report provides residents information regarding water quality in the Village and in the City of Chicago.

FY 2012-13 estimated actual expenditures are over budget due to various publications of required legal notices relating to the alternate revenue bond issue.

6. Electric Fees

In response to the increasing cost of electricity and the recent deregulation of Commonwealth Edison, a municipal cooperative was formed to pool the energy needs of members in order to secure more competitive pricing based on higher volumes. The Village joined the Northern Illinois Municipal Electric Cooperative (NIMEC) which bids out the energy costs on behalf of its members. Beginning in FY 2011-12 and in subsequent year budgets, expenditures for electricity reflect estimated annual savings based upon favorable competitive pricing.

7. Maintenance - Water

This account reflects expenses required for water mains, pipes and sleeves, vehicle equipment maintenance, pump station maintenance and chlorine. Expenses associated with water main breaks are also included in this account.

8. Professional Services

Expenses in this line item include emergency locates, outsourcing of printing and mailing of monthly water bills (which includes payments via the internet), engineering service for the water system including the Pump Station, and professional services for the Backflow Prevention Program. Beginning in FY2012-13 this line item also reflects \$6,000 for miscellaneous engineering for water related issues.

In 2011 staff proposed funding for the implementation of a Geographic Information System (GIS). A GIS system provides for electronic mapping and record keeping of Village utilities in a standardized format that can be shared across the organization. At that time, the Village Board elected to delay this objective due to budgetary constraints. Staff proposes to re-initiate funding for this program in FY2014-15, which would be shared with the Sewer Fund. Additional information on the proposed GIS program will be presented to the Village Board as part of the next year's budget.

In order to provide additional options to Village residents for paying their water bill, in FY2012-13 staff upgraded the existing billing software to allow residents to pay their water bill on-line. Customers can now pay their bill either through the mail, in person, automatic withdrawal from a checking account or on-line. There is a one-time cost to purchase the software, which is reflected in FY2012-13, in the amount of \$4,000 and a yearly maintenance fee thereafter of \$500. Customers are required to pay a \$1 transaction fee for this service, which is assessed at the time of payment by the software company.

As a potable water supplier, the IEPA requires that the Village have a backflow prevention program in place that monitors the testing of backflow prevention devices on private systems. Backflow prevention devices are required in certain applications such as fire sprinkler systems, irrigation systems, and restaurants in order to prevent the potential for contaminants to enter the Village's water system through private service lines. These lines must be inspected on a yearly basis and the Village is responsible for tracking and reporting the testing of these private systems. The Village is not responsible for performing the actual tests.

In order to improve the administration of our backflow prevention program, an outside firm was hired to administer the program. The firm is responsible for sending out notifications of inspection due dates and tracking devices that require inspection. Additionally, the firm also performs inspections of facilities for compliance with State laws regarding backflow prevention. The contractor completed the inspection of all commercial facilities in FY 2012-13 for compliance with State laws regarding backflow prevention.

9. Water Purchases - Mc Cook

FY 2012-13 estimated actual expenses are over budget due to above average water usage resulting from the dry summer conditions. For financial planning purposes, subsequent year budgets reflect the actual and anticipated water rate increases of 25%, 15%, 15% and 15% from the City of Chicago, starting January 1, 2012. Staff will continue to work with the West Central Municipal Conference to advocate for lowering these planned increases from Chicago.

The total amount paid to the Village of Mc Cook fluctuates with seasonal variations. Through an annual leak detection survey, the Village continues to take steps to locate and correct water system leaks and replace defective meters which result in unaccounted water losses.

10. Leak Study

Each year the Village performs a leak survey with electronic equipment in order to detect possible water leakage on hydrants, valves, mains and services. This program helps the Village maintain its water accountability (pumped vs. billed ratio) within the water distribution system.

In FY 2011-12 a total of 30 leaks were discovered in the 158,400 lineal feet of water main surveyed. (17 hydrant leaks, 5 main leaks, 6 service leaks and 2 valve leaks.) Of note was a large leak discovered on Gilbert Avenue and 50th Street that was draining directly into an adjacent sewer underground. The leak was subsequently repaired. The FY 2012-13 leak survey is planned to be completed this spring.

This pro-active approach has resulted in some increase in water accountability this past year. Unfortunately, these surveys are snapshots of the system at the time they are conducted and cannot effectively anticipate the periodic main breaks of consequence which tend to occur during freeze/thaw cycles. We propose to continue with the annual leak study in order to improve accountability and detect leaks whenever possible. We will also explore the feasibility of utilizing new technologies in an effort to improve leak detection.

11. New Equipment

Estimated actual expenses in FY 2012-13 include the purchase of a valve exerciser/turner, \$6,200; and a hot water pressure washer, \$800. FY 2011-12 expenses reflect the purchase of trench shoring equipment which was shared equally with the Sewer Fund for a total cost of \$13,800. Expenses in FY 2010-11 include the purchase of a gas detector, \$2,900; and a confined space retrieval tool, \$3,000 required for main replacement and breaks.

12. Mains / ImprovementsWater Meter Replacement Program

The Village supplies potable water to residents through a network of pipes, pump stations, and storage reservoirs. Water usage is measured with water meters on the service lines located at each customers' property. There are approximately 4,600 meters throughout the Village for residential, commercial, and industrial customers. The last significant meter change out program was performed over twenty years ago between 1987 and 1990.

As water meters age, their accuracy decreases as the moving parts inside of the meters become worn. This decrease in accuracy has a direct, negative impact of the Village's water accountability because a worn meter will typically under-measure the water flowing through it, and thus the customer is under-billed for the water that the customer is using. This water loss through the meter represents one component of unaccounted for water loss in the Village's system. The total unaccounted for water in the Village is calculated as the difference in gallons between the amount of water received at the East Avenue Pumping Station and the total amount of water delivered to customers as recorded at the individual customer water meters. In addition to inaccurate meters, other sources of water loss in the system include water main breaks, hydrant flushing, and leaking water mains. The percentage of unaccounted for water over the past five years has ranged between 24-29%.

Staff has implemented various programs to reduce the unaccounted for water loss including leak studies and a large meter testing program. Unfortunately, these efforts to reduce the unaccounted for water did not reduce the overall water loss. Staff then focused on looking at individual water meters and implemented various tests to determine the accuracy of the existing water meters within the system. These tests showed that some of the meters tested were not operating properly, which is consistent with the expected loss in accuracy given the age of the meters.

Additionally external assessments of the Village's accountability by the Illinois Department of Natural Resources and the Village's auditors, Sikich, have determined that the Village's water loss exceeds industry standards for overall system water loss. From the analysis, staff recommended that the individual customer water meters be replaced.

After a thorough Board review and discussion, funding for the project was approved as part of the Alternate Revenue Water Bonds, Series 2012 issue. A contract was approved with HD Waterworks to replace all of the Village water meters. The estimated cost for the project is \$1.5 million and is expected to be substantially complete in FY2012-13.

Water Pump Station Improvements

The Village's pump station was constructed in 1984. Many of the components within the station have reached the end of their useful life and are in need of replacement. A study was

initiated to determine the remaining useful life of the equipment, make recommendations for repair, and suggest improvements for efficiency. This report was recently completed and included the following major recommendations for improvements:

1. Upgrade electronic controls for the pump station with new SCADA technology. The existing control system is over twenty years old and replacement parts are becoming difficult to find. Furthermore, computer and electronic pump control technology has changed significantly since this system was first put into place. The implementation of newer technology would decrease the costs of operating the station over time.
2. Replace the automatic transfer switch. Similar to the control equipment, the transfer switch is over twenty years old and needs to be replaced. Furthermore, replacement parts for this equipment are difficult to find.
3. Convert from gas to liquid chlorine additive systems. The existing gas chlorine system is outdated and in need of replacement. A safer alternative to the existing gas chlorine is liquid chlorine which will be considered during the design portion of the project.
4. Replace various valves and pumps due to corrosion.

These repairs will support the continued delivery of potable water to residents and reduce operating costs over the long term. Baxter & Woodman concludes in their analysis that the life of the pump station can be extended for approximately 20 more years with the improvements noted above. Engineering services and construction costs relating to this project in the amount of \$500,000 are budgeted in FY 2013-14. Funding for this project is also included as part of the Alternate Revenue Water Bonds, Series 2012 issue.

Water Mains

The Water Main line item includes expenses generally associated with Capital Improvement Projects in the Water Fund. For future budget planning, the Village allocates \$250,000 each year towards Capital Improvements in the Water Fund.

In general, staff attempts to coordinate water main replacement projects in conjunction with street resurfacing in order to limit disruption and reduce overall project costs. Staff has assessed the water mains along future roadway resurfacing projects and provides the following recommendations:

Cossitt Avenue Resurfacing Project

As part of the Cossitt Avenue Resurfacing Program staff recommends replacement of the water main on Cossitt Avenue from Gilbert Avenue to Leitch Avenue. This main was installed in 1925 and has experienced a number of recent water main breaks. The remaining water main on Cossitt Avenue from Leitch Avenue to Park Road was replaced in 1995.

Included in the FY2013-14 budget is \$15,000 for engineering of the replacement the Cossitt Avenue water main. Included in the FY2015-16 budget is \$250,000 for construction of the water main as part of the resurfacing project scheduled in FY2015-16.

FY2015-16 Street Resurfacing Program

As part of the FY2015-16 street resurfacing program, staff has indentified the water mains on Beach Avenue and Newberry Avenue from Shawmut Avenue to the BNSF Railroad for replacement. Staff has identified the water main on these two streets as needing replacement due to periodic water main breaks, and as such has proposed these water main segments for replacement to coincide with the resurfacing program. These water mains were installed in the 1930's. Included in the FY2014-15 budget is \$20,000 for engineering services for replacement of the water main. Included in the FY2015-16 budget is \$450,000 for construction of the water main to coincide with the street resurfacing program.

Given the low traffic volumes on these streets, staff intends to further assess the condition of these streets and water mains over the next year. Staff proposes keeping the budget as is while cost estimates and alternate construction methods such as street patching and water main lining are assessed. Inclusion of these streets and water mains in future budget years would then be revisited during next year's Capital Improvement Program for final direction.

Other Water Fund projects "identified, but not yet budgeted" include the following:

47th Street Water Main Replacement

The water main that runs the entire length of the 47th Street corridor is between 77 and 86 years old and has experienced frequent breaks. The estimated replacement cost exceeds \$1.0 million. Staff plans to consider new technology for lining this water main instead of the traditional removal and replacement. The advantage of lining this water main would be to reduce costs by not having to replace the roadway due to water main excavation. Additionally, limiting the disruption on 47th Street by lining the water main is beneficial since 47th Street is under the jurisdiction of IDOT and carries a significant amount of traffic. Staff will be assessing the cost of replacing this water main and will make recommendations for expenditures once the various alternatives have been assessed.

Edgewood Avenue Water Main Replacement

The water main on Edgewood Avenue from 51st Street to Linklater Court has experienced frequent water main breaks. The replacement of this water main will be considered as part of any future resurfacing project on this street.

13. Bond Principal/Interest

Due to the delay in the water meter replacement project, the first full bond payment was not required in FY 2012-13. Subsequent year bond payments reflect reduced required funding for the water meter replacement and pumping station projects, based on actual bids received.

14. Miscellaneous Lab Expenses

Expenses include testing of water samples per IEPA requirements and costs associated with credit card charges from over the counter and on-line water bill payments.

This account also reflects increased expenses every other year due to IEPA requirements for lead water testing and new regulations which will require additional water sampling and lab testing.