



REPORT

LEGISLATIVE REFERENCE BUREAU

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24. DPW—Sewer Maintenance Fund, 2014

Proposed Plan and Executive Budget Review

24. Department of Public Works—Sewer Maintenance Fund

I. EXECUTIVE SUMMARY.

Table 24.1. Statement of Changes in Operating Budget, 2013 to 2014.

2012 Actual Budget	\$42,455,765
2013 Adopted Budget	\$57,623,548
Personnel Costs	
Salaries & Wages	\$181,932
Fringe Benefits	\$41,293
Total Changes	\$223,225
Operating Expenses	\$214,500
Equipment Purchases	\$43,900
Special Funds	(\$2,888,976)
Total Changes	(\$2,407,351)
2014 Proposed Budget	\$55,216,197

1. \$42.6 million for sewer replacement and relining. The 2014 Proposed Budget includes \$33.9 million in capital funding to replace 13 miles of sewer and an additional \$8.65 million to reline 19 miles of sewer. DPW will target this investment to the sewer sheds with the highest levels of infiltration and inflow and the greatest risk of basement backups.

2. \$1.65 million MMSD grant for I&I. Leaky sewer laterals located on private property are a major contributor to infiltration and inflow (I&I), accounting for between 60% and 80% of the clear water that enters sanitary sewer systems. The 2014 Sewer

Maintenance Fund I&I capital budget includes an estimated \$1.65 million in grants from MMSD for work on private property, a decrease of 37.5% from the 2013 Adopted Budget.

3. \$15.1 million payment to General Fund. The 2014 Proposed Budget will transfer \$15.1 million from the Sewer Maintenance Fund to the General Fund to pay for all tree care costs and pension payments associated with street-sweeping, leaf collection, brush collection and pruning.

4. \$2.5 million payment to Capital Fund. The 2014 Proposed Budget will transfer \$2.5 million from the SMF to the Capital Fund to support the tree planting and stump removal capital program, the Emerald Ash Borer Prevention program, and the Environmental Remediation program.

5. Sewer & Stormwater Fees Increase. In 2014, the Sewer Maintenance Fee will increase 4% to \$1.34 per 100 cubic feet of water. The Stormwater Management Fee per quarter per Equivalent Residential Unit will increase 5.0% to \$16.94.

6. Broader approach to water quality. In the past, water quality initiatives have focused on reducing the amount of total suspended solids (TSS) in storm water runoff. The DNR and MMSD are collaborating to create standards that will address broader water quality issues including bacteria and total phosphorus, in addition to TSS.

II. INITIATIVES AND PROGRAMS.

1. Sewer Replacement and Relining.

The City's sewer programs are aimed at efficiently delivering sanitary sewer flows to treatment plants to minimize surface flooding, basement backups, and sanitary sewer overflows. In addition, replacement and maintenance of the City's 2,446 miles of public sewers prevents rainwater from entering the sanitary sewer system and transports stormwater to lakes and streams more efficiently.

Through both an increase in investment and by taking advantage of the cost efficiencies of sewer relining, the City has been able to meet its targeted sewer replacement cycle of 90 years (roughly 27 miles of sewer per year). The City still has a backlog of over 200 miles of sewers over 90 years old and the life cycle of relined pipes is still being analyzed, but municipal sewers have seen significant improvements in recent years.

The 2014 proposed capital budget includes \$33.9 million to replace and reline 13 miles of sewer and an additional \$8.7 million to reline 19 miles of sewer in sewer sheds with the highest levels of infiltration and inflow and the greatest risk of basement backups.

2. Infiltration and Inflow pilot projects.

In 2011, the City's Flooding Study Task Force found that private property sources account for between 60% and 80% of the clear water that enters sanitary sewer systems. That same year, the City began a demonstration project to address private property I&I. In 2012, the City conducted a larger-scale project that included inspecting lateral connections and lateral rehabilitation at 526 homes. The City has monitored sewer flows in these areas but currently lacks sufficient data to make any policy recommendations. Continuing to monitor sewer flows in these areas will determine the effectiveness of private property work in reducing clear water flows to sanitary sewers. The 2014 Sewer Maintenance Fund I&I capital budget includes an estimated \$1.65 million in grants from MMSD for work on private property.

See also CAPITAL PROJECTS, Section X.

III. EXPENDITURES.**Table 24.2. Changes in Expenditure Amounts by Account.**

Expenditure Account	2012 Actual	2013 Adopted Budget	% Chng.	2014 Proposed Budget	% Chng.
Salaries and Wages	\$4,164,167	\$4,421,553	6.2%	\$4,603,485	4.1%
Fringe Benefits	\$2,329,397	\$2,122,345	-8.9%	\$2,163,638	1.9%
Operating Expenditures	\$6,975,982	\$6,215,500	-10.9%	\$6,430,000	3.5%
Equipment Purchases	\$243,980	\$416,100	70.5%	\$460,000	10.6%
Special Funds	\$28,742,239	\$44,448,050	54.6%	\$41,559,074	-6.5%
Total Operating Budget	\$42,455,765	\$57,623,548	35.7%	\$55,216,197	-4.2%

1. Budget Summary.

The total 2014 Proposed Budget is \$55,216,197, a decrease of \$2,407,351 (-4.2%) from the 2013 Adopted Budget amount of \$57,623,548.

2. Personnel Costs.

Personnel costs in the 2014 Proposed Budget are \$6,767,123, an increase of \$223,225 (3.4%). Salaries and wages increase \$181,932 (4.1%) Fringe benefits increase \$41,293 (1.9%).

3. Operating Expenditures.

Operating Expenditures in the 2014 Proposed Budget are \$6,430,000, an increase of \$214,500 (3.5%) from the 2013 Adopted Budget amount of \$6,215,500.

4. Equipment Purchases.

Equipment purchases in the 2014 Proposed Budget are \$460,000, an increase of \$43,900 (10.6%) from the 2013 Adopted Budget amount of \$416,100. These changes can mostly be attributed to an increase in funding for one Jet-Vac Sewer Cleaner from \$295,000 in 2013 to \$390,000 in 2014. This increase is partially offset by the elimination of funding for Small Pumps (\$71,000) in 2014.

5. Special Funds.

The 2014 Proposed Budget provides \$41,559,074 in special funds, a decrease of \$2,888,976 (-6.5%) from the 2013 Adopted Budget amount of \$44,448,050. Changes in each fund are detailed in Table 24.3.

Table 24.3. Changes in Special Fund Allocations.

Special Fund	2012 Actual	2013 Adopted Budget	% Change	2014 Proposed Budget	% Change
Water Administration	\$423,000	\$423,000	0.0%	\$427,735	1.1%
Debt Service – Sewer Maintenance	\$4,575,239	\$14,920,600	226.1%	\$15,423,000	3.4%
Payment to General Fund	\$12,140,000	\$14,437,000	18.9%	\$15,059,000	4.3%
Payment to Capital Fund	\$2,507,000	\$3,627,000	44.7%	\$2,485,000	-31.5%
Payment to G.O. Debt	\$8,253,000	\$9,727,800	17.9%	\$6,784,384	-30.3%
Lease Payment for Tower Facility	\$844,000	\$844,000	0%	\$844,000	0%
Pension Contribution for Normal Cost	\$0	\$428,650	--	\$495,955	15.7%
Channel Maintenance	\$0	\$40,000	--	\$40,000	0%
Total	\$28,742,239	\$44,448,050	54.6%	\$41,559,074	-6.5%

- **Water Administration.**

For the 2014 Proposed Budget, funding for the Water Administration special fund is budgeted at \$427,735, an increase of \$4,735 (1.1%) from 2013. The fund is used to reimburse the Milwaukee Water Works for the cost of administering and collecting the sewer maintenance and storm water management fees as part of the municipal services bills.

- **Debt Service-Sewer Maintenance.**

For the 2014 Proposed Budget, funding for the Debt Service-Sewer Maintenance special fund is budgeted at \$15,423,000, an increase of \$502,400 (3.4%) from 2013. This fund pays for the debt service on capital sewer work incurred since the Sewer Maintenance Fund was created. It includes repayments of revenue bonds and loans through the Clean Water Fund.

- **Payment to General Fund.**

The Sewer Maintenance Fund makes an annual payment to the General Fund to finance all tree care costs and pension payments associated with street-sweeping, leaf collection, brush collection and pruning, provided by the Department of Public Works – Operations Division. The transfer also includes \$40,000 to fund the Health Department's Beach Water Quality and Advisory program. The 2014 Proposed Budget will transfer \$15,059,000 to the General Fund, an increase of \$622,000 (4.3%) from 2013. The increase is related to salaries and benefits, fuel costs, and disposal costs.

- **Payment to Capital Fund.**

The Sewer Maintenance Fund makes an annual payment to the Capital Fund to finance the Emerald Ash Borer Readiness and Response program, the Environmental Remediation program, and Tree Production capital costs. The 2014 Proposed Budget will transfer \$2,485,000 to the Capital Fund, a decrease of \$1,142,000 (-31.5%) from 2013. For the 2013 budget, the Common Council voted to include \$500,000 for stump removal to allow Forestry to catch up on a back-log of stumps. The elimination of this funding, in addition to the elimination of associated tree planting costs, largely accounts for this decrease.
- **Payment to Debt Fund on Prior G.O. Debt.**

The 2014 Proposed Budget includes a \$6,784,384 transfer from the Sewer Maintenance Fund to the Debt Fund for sewer-related GO debt service, a decrease of \$2,943,416 (-30.3%) from 2013. This fund pays for debt on capital sewer work incurred before the Sewer Maintenance Fund was established.
- **Lease Payment for Tower Facility Special Fund.**

The 2014 Proposed Budget funding for the Lease Payment for the Tower Facility special fund is budgeted at \$844,000, the same as 2013.
- **Pension Contribution for Normal Cost Special Fund.**

For the 2014 Proposed Budget, funding for the Pension Contribution for Normal Cost special fund is budgeted at \$495,955, an increase of \$67,305 (15.7%) from 2013. This fund pays for the pension contribution for employees of the Sewer Maintenance Fund.
- **Channel Maintenance Special Fund.**

The 2014 budget allocates \$40,000 toward the Channel Maintenance special fund, the same as 2013.

IV. PERSONNEL.**Table 22.4. Changes in Full-Time Equivalent (FTE) and Authorized Positions.**

Position Category	2012 Actual	2013 Adopted Budget	Change	2014 Proposed Budget	Change
O&M FTEs	108.05	103.65	-4.4	100.05	-3.6
Non-O&M FTEs	24.95	11.35	-13.6	14.95	3.6
Total Authorized Positions	164	146	-18	146	0

1. Personnel Changes.

The total number of authorized positions in the department under the 2014 Proposed Budget is 146, the same as the 2013 Adopted Budget. In 2013, seasonal positions were not funded due to an oversight. In the 2014 budget, funding for Operations Driver/Worker and City Laborer positions increases by \$60,000 and \$105,000, respectively. These seasonal positions allow the SMF to handle increases in sewer cleaning, sewer repairs, and street ponding and backwater calls during the summer months, when there is a higher potential for flood control emergencies.

2. Vacancies.

There are currently 17 vacant positions in the department. Most of these positions are anticipated to be filled by the end of 2013. Filling of the Civil Engineer II and Civil Engineer III positions are dependent on the amount of anticipated work in stormwater management plan review and I&I program development. The remaining Office Assistant II and Sewer Crew Leader II positions are being considered for consolidation.

Table 24.5. Summary of Vacant Positions, 2014.

Position	Date Vacant	Plans for position
Civil Engineer III (storm water)	January, 2012	Dependent on # of Stormwater Management Plan submittals
Civil Engineer II (sewer design)	October, 2012	Dependent on private property I&I program development
Office Assistant II	July, 2012	Being reviewed for possible consolidation
Sewer Crew Leader I (5 positions)	Various	Expected to be filled by the end of the year
Sewer Crew Leader II (2 positions)	2013	Being reviewed for possible consolidation with Sewer Crew Leader I positions
Sewer Laborer II (6 positions)	Various	Expected to be filled by the end of the year
Sewer Laborer I	2013	Expected to be filled by the end of the year

V. SPECIAL PURPOSE ACCOUNTS (SPA).

None.

VI. REVENUES.

The 2014 Proposed Budget estimates that \$99,766,197 will be generated in revenues by the department, a \$2,367,351 (2.3%) decrease from the 2013 Budget estimate. The largest reduction in revenue from the 2013 budget is an anticipated \$4,614,137 (87.1%) decrease in withdrawals from retained earnings.

Table 24.6. Changes in Revenue by Category.

Revenue Category	2012 Actual	2013 Adopted Budget	% Change	2014 Estimated	% Change
Sewer Maintenance Fee	\$29,124,898	\$28,389,121	-2.5%	\$28,934,192	1.9%
Stormwater Management Fee	\$24,164,552	\$25,720,339	6.4%	\$27,006,356	5.0%
Charges for Service	\$1,666,224	\$1,782,830	7.0%	\$1,727,338	-3.1%
Interest Revenue	-\$815,971	\$242,623	--	\$163,813	-32.5%
Miscellaneous Revenue	\$757,172	\$0	-100.0%	\$0	0%
Developer Financed	\$0	\$0	0%	\$100,000	--
Proceeds from Borrowing	\$28,667,909	\$38,060,000	32.8%	\$39,500,000	3.8%
Grant and Aid	\$3,533,447	\$2,640,000	-25.3%	\$1,650,000	-37.5%
Assessable	\$0	\$0	0%	\$0	0%
Withdrawal from Retained Earnings	\$0	\$5,298,635	--	\$684,498	-87.1%
Total	\$87,098,231	\$102,133,548	17.3%	\$99,766,197	-2.3%

1. Sewer Maintenance Fee

In 2014, the rate will increase 4% to \$1.34 per 100 cubic feet of water (CCF). The typical residential user will pay \$90.57 a year for local service. The local sewerage charge will generate \$28.9 million in 2014. Another rate increase is anticipated in 2015.

2. Stormwater Management Fee.

In 2014, the Stormwater Management Fee per quarter per Equivalent Residential Unit (ERU) will increase 5% to \$16.94, generating \$27.0 million in revenue in 2014. All one- to 4-unit residential properties are charged one ERU per quarter. Charges for other properties are based on impervious surface (one ERU is equivalent to 1,610 square feet of impervious surface). Another rate increase is anticipated in 2015.

3. Charges for Services and Miscellaneous Revenues.

The Charges for Service and Miscellaneous Revenues includes deferred sewer assessments, unused sewer life, certified survey plat review, stormwater management manual sales, sewer maintenance non-City services, sewer maintenance plat and reviews and sewer user penalty for transfers to the property tax roll.

VII. CAPITAL PROJECTS.

The 2014 Proposed Budget includes \$44,550,000 in funding for 6 capital projects, an increase of \$40,000 (0.1%) from the 2013 Budget. Capital projects for 2014 are summarized in Table 24.7 and the discussion that follows.

The increase is due to a higher level of funding in the Sewer Relief and Relay program. Funding for the Sewer Relief and Relay Program has increased significantly in recent years resulting in a replacement cycle that closely approximates the current recommended cycle.

In addition to replacing and relining sewer mains, the City is using a more diversified approach to improving the performance of the sewer system. Strategies include reducing the amount of clear water that enters the sewer system, constructing bio-swales to help manage stormwater runoff and restoring capacity to various channels and drainage ditches.

The City anticipates issuing \$31.9 million of debt for the Sewer Main program and \$6.6 million of debt for the I&I program. The remainder will be funded with revenues collected from the Sewer Maintenance Fee and the Stormwater Management Fee. The City also anticipates receiving \$1.65 million in grant funding for the I&I program.

Table 24.7. Capital Program Summary, 2014.

Program	2014 Proposed Budget	2013 Actual Budget	Increase (decrease)	% Chng.	6-year Request
Sewer Relief & Relay Program	\$33,900,000	\$32,800,000	\$1,100,000	3.4%	\$201,000,000
Water Quality for TMDLs (BMPs for TSS Reduction)	\$1,000,000	\$500,000	\$500,000	100%	\$3,500,000
Pump Facility Projects	\$700,000	\$750,000	(\$50,000)	-6.7%	\$4,200,000
River Channel Maintenance	\$200,000	\$160,000	\$40,000	25.0%	\$1,200,000
I&I Reduction Projects	\$8,650,000	\$10,300,000	(\$1,650,000)	-16.0%	\$52,500,000
Developer Out of Program	\$100,000	\$0	\$100,000	0%	
Total	\$44,550,000	\$44,510,000	\$40,000	0.1%	\$262,400,000

1. Currently-Funded Projects.**Sewer Relief and Relay Program, \$33,900,000.**

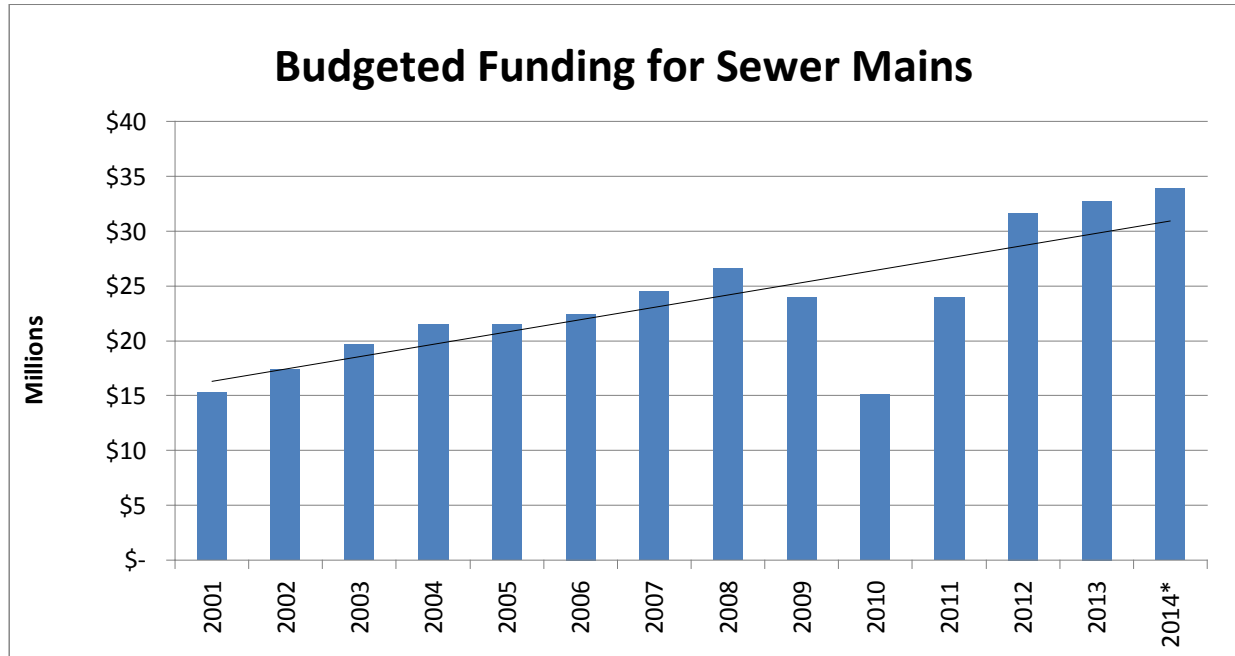
This on-going program provides funding for the replacement and rehabilitation of the City's sanitary, storm and combined sewer main and other miscellaneous repairs. The 2014 Proposed Budget reflects the continuation of a more aggressive strategy to maintain the City's sewers. Annual funding has been trending upward for over a decade. The replacement cycle based on current funding is between 65 and 70 years. The replacement cycle in 2010 was approximately 160 years.

The type of bonds used to finance the Sewer Relay Program influences the actual amount of work that is to be done. If revenue bonds are issued, a portion of the budgeted program must be held in reserve and may not be used to finance construction. The reserve requirement is usually 10%. If general obligation bonds are used, more sewers can be constructed with the budgeted amount, but concerns about the City's statutory debt limit may constrain the amount of debt the City can issue. The 2014 Proposed Budget includes a reserve for each project that requires borrowing authority.

Although the increased level of funding will address on-going maintenance and rehabilitation needs, it does not address the existing backlog of older sewers. There are currently over 200 miles of sewers that are more than 90 years old. DPW estimates that even at the current level of funding, which exceeds the recommended 90-year replacement cycle, there will be nearly 250 miles of sewer mains that have exceeded their useful lives by 2020.

The estimates of useful life do not take into consideration that a significant portion of the sewer main program consists of sewer lining projects – not replacement projects. Sewer-lining is a technique that has proven to be a cost-effective alternative for rehabilitating many sewers that in the past would have required complete replacement. So far, the relining projects have exceeded expectations for extending useful sewer main life, but it is unknown if the lined sewers will achieve the same 90-year useful life as traditionally installed sewer mains.

Table 24.8. Budgeted Sewer Main Funding 2001 - Proposed 2014.



*Proposed Budget

Pump Facility Projects, \$700,000.

Funding for this program provides for the inspection, rehabilitation and replacement of sanitary pump facilities. The 2014 Proposed Budget decreased funding for this project by \$50,000 (6.7%) from the 2013 budget. This program was funded as requested by the department. A backlog of projects in this program has been addressed allowing funding to be reduced.

The City owns and maintains 7 sanitary lift stations and 83 sanitary bypass pump stations. These pumps reduce the risk of sewage backing up into homes and businesses. Pumps are located in areas that historically had sewer backup occurrences during periods of heavy rain.

The City's lift stations pump sanitary flow from low areas into gravity sanitary sewers so the flow can reach the Milwaukee Metropolitan Sewerage District's collection and treatment system. The sanitary bypass pump stations are covered under the Sanitary Bypass permit issued by the DNR. If the bypass pumps operate during large rain events, DNR has not objected to their use. If the bypass pumps operate during dry weather, or during small rain events, the DNR will work with the City to establish a course of action to prevent these types of operations. The 2005 stipulation with the Wisconsin Department of Justice allows for the DNR to assess a fine for the operation of bypass pumps during small events or dry weather.

The DNR has established new sanitary sewer overflow rules. There are no specific guidelines on sanitary bypass pumps. It is DPW's understanding that the revised rules will not eliminate the use of sanitary bypass pumps as long as the municipality is maintaining its system and addressing infiltration and inflow problems.

Funding for this program began in 2008. Since that time, \$3.95 million has been budgeted. Actual expenditures through the end of 2012 total \$3.0 million.

Infiltration and Inflow (I&I) Reduction Projects, \$8,650,000.

Infiltration and Inflow is the occurrence of stormwater or groundwater entering into municipal wastewater systems. The extraneous water enters the sanitary sewer system through cracked pipes (mains and laterals), leaking manholes, and downspouts, sump pumps and foundation drains that are connected directly to the sanitary sewer system. When too much excess water enters the system, sewage may back up into buildings, overflow from manholes or bypass treatment facilities. In 2005, the Milwaukee County Circuit Court stipulated a variety of actions that the City must take to eliminate sanitary sewer overflows. These actions included identifying and correcting leaks in selected sewer basins.

Funding for this program began in 2008. Since that time, \$48.5 million in funding has been budgeted including \$9.7 million in grant funding. The 2014 Proposed Budget reduces City funding by \$600,000 (8.6%) from the 2013 Budget. The reduction is in borrowing authority. Anticipated grant funding for 2014 is \$1.65 million, a reduction of nearly \$1 million (37.5%) from the 2013 Budget. All work on private property done to date has been paid for with grant funding from MMSD. There is no provision in the 2014 Proposed Budget to assess property owners for work done in conjunction with this program.

The department has not established policies regarding the repair of private sewer laterals to address I&I issues because the effectiveness of the lateral lining projects has not yet been determined. The City's consultant is currently evaluating data and working to finalize the results.

- **Cooper Park Sewer Lateral Demonstration Project.**

To address I&I issues on private property, DPW conducted a pilot project to repair defective sanitary sewer laterals on private property. The project was located in an area bounded by West Burleigh Street, West Center Street, North 82nd Street and North 92nd Street, which is an area where multiple homes have experienced basement backups and which has been shown to have excessive I&I. The cost of the project, which included some public lateral work, was jointly funded by the City and MMSD. Property owners were not assessed for the work.

The work consisted of sanitary lateral inspection and lateral rehabilitation using a cured-in-place lining. The project did not include the disconnection of foundation drains or the installation of backflow preventers. Participation in the project was voluntary. Approximately 95% of property owners chose to participate. Work began in November, 2011, and was completed in September, 2012. DPW began monitoring sanitary flows in the area to observe improvements. The extended drought in 2012 delayed the collection of meaningful data. Although rain totals increased in 2013, the pattern of rain events was not optimal for the direct evaluation of system improvements. The consultant is still working to properly calibrate the computer model before finalizing the results.

A second project is underway in the Clemens School neighborhood (north of Capitol Drive and west of 35th Street.). The project has 449 properties with an average cost of \$6,700 per property. Work began in March 2013 and is expected to be complete in October 2013. The average cost per lateral is \$116 less than in the Cooper Park project primarily because the average lateral length is shorter. The per-foot price was slightly higher in the Clemens project even though there were more bidders. The same contractor was awarded both projects.

Information about the status of the projects as well as I&I projects in other communities is available on the MMSD website (basementconnection.mmsd.com).

- **Pilot Rehabilitation Project.**

In addition to the area wide I&I demonstration project, the City has also piloted a rehabilitation project on 5 City-owned homes. The scope of the work included the rehabilitation of the sewer lateral with a cured-in-place liner, removal of the palmer valve and floor drain replacement, installation of a sump, pump and discharge piping, and the installation of a backflow valve to prevent sewer backups. The total cost per home was approximately \$18,600. Work was completed in 2011.

The key challenges that were encountered with this project were the need to upgrade the existing electrical system to accommodate the installation and operation of the sump pump, difficulties locating the sump pump discharge piping, and the extensive coordination that was required to schedule work with the tenants.

Water Quality for Total Maximum Daily Loads (TMDL), \$1,000,000.

(formerly BMPs for TSS Reduction)

This program has provided funding to construct various Best Management Practices (BMPs), such as green streets, rain gardens, wet detention ponds, bio-infiltration areas, and end of pipe treatments to reduce the amount of Total Suspended Solids (TSS) that enter waterways. Due new DNR regulations that are pending, this program is being transitioned to a more comprehensive water quality program. The new focus of this program will be to continue to construct best management practices, but it will take a broader approach to water quality, focusing on bacteria and total phosphorus as well as total suspended solids. It is anticipated that complying with the bacteria loads will be the most challenging aspect of the new standards. Between 2009 and 2013, the City has allocated over \$5.6 million for the program. The program has \$500,000 in carryover borrowing authority.

MMSD and the DNR are working jointly to develop the standards that will apply to impaired watersheds with respect to TMDLs. These watersheds include the Menomonee River, the Milwaukee River, the Kinnickinnic River and estuary areas. The standards are expected to be largely complete by the end of 2013. The City will have 3 permit cycles (5 years each) to comply with the new standards.

The Wisconsin Department of Natural Resources' regulation in ch. 151, Wis. Adm. Code, required the City to reduce the amount of TSS in runoff by 40%. The project began in 2009 and was intended to continue until the 40% TSS goal was reached.

The original deadline for compliance was March 10, 2013. To meet the compliance deadline, the City worked with the DNR to be given credit for the TSS removed by the treatment of stormwater in the combined sewer area. With the allowance of this credit, the City had attained the 40% compliance rate. The new TMDL standards will measure compliance on a watershed by watershed basis which may affect the City's overall compliance rate and the amount of work that may need to be done in the future.

River Channel Maintenance, \$200,000.

This capital program was created in 2012 to provide funding for the restoration of the channels and drainage ditches which carry stormwater to local waterways during rain events. Over time, sediment and vegetation can reduce their capacity and intensify the effects of excessive rainfall. As part of a broader strategy for managing storm water run-off and preventing flooding, the City will be reviewing these channels and restoring their capacity as necessary. This account is not intended for routine maintenance or mowing activities. \$400,000 was included in the 2012 Budget, and \$160,000 was included in the 2013 Budget.

Projects proposed for 2014 include Cherokee Park Creek (approx. S. 30th Street extended) from West Howard Avenue to West Loomis Avenue and the Holmes Avenue Branch Creek, which is in an area bounded by the Soo Line Railroad ROW, South 2nd Street, East Edgerton Avenue and West Layton Avenue.

Funding in 2013 made improvements to the Noyes Park Creek from east of North Hasting Street to North 90th Street. In addition, the department has applied for a Chapter 30 permit from the Department of Natural Resources to perform work in the portion of Noyes Park Creek from 100' south of West Acacia Street to 100' north of West Green Tree Road.

2. Unfunded Capital Requests.

None.

3. Project Updates.

There are no significant capital projects that are not part of an on-going program.

4. Future Capital Requests.

There are no out year requests except those related to on-going programs.

VIII. ISSUES TO CONSIDER.

1. Policy Questions.

Grant funding from MMSD for work on private sewer laterals is decreasing from \$2.6 million in 2013 to \$1.65 million in 2014. Now that the DPW has completed 2 pilot I&I reduction projects, the City may soon be able to address best management practices for I&I reduction on City and private property. Although SMF management currently lack sufficient data to make any policy recommendations, the cost-efficiencies of current projects could potentially provide a starting point for policy discussions.

Policy questions include the appropriateness of using public funds to improve private property, the use of special assessments as a form of cost recovery, the level of cost recovery, and the appropriateness of the City mandating that property owners make repairs to their laterals to reduce the amount of I&I. User fees, taxes and special assessments could all be used to defray sewer maintenance costs. So far, all work done on private laterals has been grant-funded, but policy decisions regarding funding for sewer maintenance and replacement in the future, especially on private property, will need to be discussed, especially given the City's limited ability to increase the levy, decreases in water consumption, and recent shifts away from the use of special assessments.

2. Project Coordination.

Given the cost to rehabilitate a building's sewer system – including lateral lining, foundation drain disconnection, sump pump installation and an upgrade of the electrical system – it may not be feasible or even appropriate to make sewer-related upgrades on some properties. This may be especially true in neighborhoods that have experienced a disproportionately high number of foreclosures. As such, the City must consider the appropriateness of using public funds to improve private property, its own ability or desire to improve City-owned properties, and whether or not to mandate sewer-related repairs on private property.

Coordination between public and private sewer projects could help defray certain costs (for the City as well as the property owner) and improve overall cost-efficiencies. In addition, continued coordination with other City departments – such as DNS or DCD – could create cost-efficiencies on improvements to City-owned properties. Given the City's increased focus on managing foreclosed properties in the 2014 budget, now would be an appropriate time to increase coordination on sewer-related maintenance and replacement projects.

SMF management currently work closely with MMSD on a variety of issues, including infiltration & inflow, development of green infrastructure, and addressing flooding issues. Management has also been working with the Milwaukee County Parks Department to address flooding issues and water quality improvements as part of improvements to park facilities.

3. TMDL Regulations.

New water quality standards being developed by MMSD and the DNR may change how the City implements water quality projects. In addition to more efficiently conveying water once it enters the sewer system, SMF management may need to increase emphasis on preventing water from entering the system in the first place and improving the quality of water that does reach waterways through the reduction of non-point source pollution. In 1987, the International Joint Commission designated the Milwaukee Estuary an Area of Concern. Since then, the area has seen numerous improvements in water quality, but the designation remains.

It is expected that the state's new Total Maximum Daily Load (TMDL) requirements will place limits on phosphorus and bacteria, in addition to total suspended solids. Meeting anticipated bacteria requirements in particular could be very challenging, and may require significant work in the future to modify storm sewer outfalls to ensure the City is not exceeding maximum daily loads for the waterway. Compliance will be measured on a watershed-by-watershed basis. It is expected the City will have 3 full permit cycles (5 years each) to meet the new requirements, but until the new rules have been finalized, it will be difficult to say what impact these regulations will have on SMF operations. The 2014 capital budget includes \$1,000,000 for the installation of various Best Management Practices (BMPs).

4. Revenue vs. GO Bonds.

Before 2000, the Relief and Relay Sewer capital program was largely cash-financed. Since then, it has been financed through issuance of revenue or GO bonds and paid for from Sewer Maintenance Fee revenues. The 10% reserve requirement on revenue bonds means less money can be spent on sewer-related projects than with the same amount in GO bonds, but revenue bonds don't count against the City's debt limit. SMF management should continue to meet regularly with the Comptroller's debt management staff to discuss financing of capital improvements.

5. Lower water consumption.

Because sewer maintenance fees are based on water consumption rates, lower volumes of water use over the past decade (21% decline in metered water sales since 2003) have eroded this portion of the Sewer Maintenance Fund. For instance, despite a 4% increase in the Sewer Maintenance Fee, this portion of the SMF's revenue is projected to increase by only 1.9% from 2013. Increasing water and/or sewer maintenance fees could further increase water conservation.

6. Replacement Cycle Considerations.

The City has met its sewer replacement cycle goal of 90 years; however, SMF management considers many factors apart from sewer age when determining work priority. For instance, much of the sewer work planned for in the 2014 Proposed Budget involves relining. The City is continuing to monitor lined sewers, but is currently unsure of the useful life of these improvements. Additionally, the City will continue to see an increase in the number of sewers already older than 90 years if the current replacement rate is maintained. Because these sewers may actually exceed their useful lives, SMF management routinely monitors and evaluates overall sewer condition. Apart from age, management looks at structural (level of deterioration) and hydraulic conditions and prioritizes work accordingly.

7. Cross-training Efficiencies.

Historically, sewer crews consisted of sewer maintenance staff and DPW Fleet staff. DPW Fleet staff would drive or operate the various large vehicles and equipment required by each crew. Sewer Maintenance would reimburse DPW - Fleet Services for this service. In addition, the use of sewer equipment was subject to the availability of DPW Fleet staff. When DPW Fleet staff was unavailable, sewer crews could not perform their duties.

During 2012, sewer crew leaders were trained to operate certain large vehicles and pieces of sewer maintenance equipment. This training provided Sewer Maintenance with the flexibility to operate equipment when DPW Fleet staff was unavailable. In 2013, SMF management saw a decrease in the charges to their equipment account as a result of having their own staff operate sewer jet-vac equipment. Additionally, Sewer Maintenance staff was able to respond more quickly and efficiently to emergency night and weekend work. Overall, management estimates this has resulted in roughly \$100,000 in savings.

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