



Public Works Committee Agenda

Monday, April 17, 2017 at 4:00 pm

Whitefish Bay Village Hall

- 1. Call to Order**
- 2. Review and Approve minutes of February 13, 2017 Public Works Committee Meeting
see attachment**
- 3. Discussion of Utility Billing System**
- 4. Review Existing Meter Reading System along with Automated Metering Infrastructure (AMI)
for Water Utility - see attachment**
- 5. Review and Approve 2017 Private Property Infiltration / Inflow (PPII) Program – lateral lining**
- 6. Review and Approve PPII Program Engineering Services Agreement (Work Order #11) Clark
Dietz – see attachment**
- 7. 2017 Project Update**
- 8. Next scheduled meeting – Monday, May 15, 2017 at 4:00pm**
- 9. Adjournment**

Posted: 4/13/17

Note: It is possible that members and/or possibly a quorum of members of other governmental bodies of the municipality may be in attendance at the above-stated meeting to gather information; action will not be taken by any governmental body at the above-stated meeting other than the governmental body specifically referred to above in the notice.

Cc: Village Board; Village Manager, Department Heads; Village Attorney



Public Works Committee Minutes

Monday, February 13, 2017 at 4:00 pm

Whitefish Bay Village Hall

I. Call to Order and Roll Call

The meeting was called to order at 4:02 pm.

Present: Trustee Serebin, Trustee Miller, Trustee Davis, and Tom Kindschi.

Also Present: Village Manager Steven Sheiffer, Public Works Director John Edlebeck, Village Engineer Mustafa Emir, Staff Engineer Spencer Charczuk, Mafizul Islam with Sigma Group, and Randy Boness with Sigma Group.

II. Review and Approve minutes of December 29, 2016 Public Works Committee Meetings

Trustee Davis moved, seconded by Tom Kindschi to approve minute for December 29, 2016. Unanimous in favor. Motion approved.

III. Review and Approve Former Good Hope Landfill Work Items

John Edlebeck stated that there were 2 hot spots within the landfill that needed to be remediated using one of three options to be presented. The first option would be a clean soil cover to prevent direct contact with the contaminated area. Second option is to excavate and dispose of the contaminated areas. Third option is to fence the area to prevent contact with the contaminated areas. Staff recommends the fence enclosure. Fencing is the least expensive, there is no tree removal, and it can be inspected by the village annually to save ongoing expenses. Soil cover could need to be removed at a later date due to changes in DNR standard. If excavation and disposal is chosen there is a possibility that disposal sites may not take the material. Another risk is the potential for having to remove more than what was planned. Options to have DNR approve the closure and release the property and those potential associated costs were discussed. Manager Sheiffer questioned if there was any public health risk. Mafizul stated that when last tested there was not public health risk. The actual cost of the fence would be around \$29,950 as the village could save \$15,000 off the \$44,950 quote by performing its own annual inspections. Trustee Serebin was concerned about the public perception of WFB choosing to only put up a fence. Tom Kindschi stated that he prefers the option to use soil cover. Trustee Davis stated he preferred the option for removal. Randy Boness discussed what it may take for long term final closure.

Mafizul generally discussed possible remediation through chemical injection or natural attenuation. The option for write off and complete removal could be over \$500,000. The fence option could still require further work to address issues in the future.

Trustee Miller moved, seconded by Tom Kindschi to approve to recommend to the Village Board Remedial Options for Good Hope Landfill through construction of a fence enclosure. Trustee Serebin opposed. Motion approved 3-1.

Discussion of Part B for additional vapor and groundwater assessment south of the former Good Hope Road landfill.

DNR has requested further testing through vapor sampling and groundwater evaluation. Vapor testing can be completed at an estimated cost of \$13,500 and groundwater evaluation at an estimated cost of \$20,500.

Trustee Serebin moved, seconded by Trustee Davis to approve to recommend to the Village Board additional vapor and groundwater testing for Good Hope Landfill. Unanimous in favor. Motion approved.

IV. Review and Approve Proposed 2017-2019 Public Works Capital/Borrowing Plan

Steve Sheiffer discussed the Public Works Capitol Borrowing Plan. This is a proposed revamp from the previous 15 Year CIP. Many of the improvements made will allow the village to begin to reduce borrowing in the future. General Funds were discussed including storm water, sidewalk rehabilitation, roadway and alley reconstruction, pavement mill and overlay, and miscellaneous items such as street lighting, and building and park improvements. Trustee Miller asked about PPII funds and where we go once MMSD funds are gone. Likely a sewer rate increase would be needed if the program exceeds MMSD annual funding. There will be further discussions in regards to Village Hall / Police Department facility work in February and discussions on Parks in March.

V. Review and Approve Proposed Cramer Street Storm Sewer Project-Design Report

John Edlebeck discussed the project Design Report. There are an estimated 12 private lead water services and 17 identifiable private sump pumps in the project limits. There are 3 water main valves that should be replaced as well due to their condition. There was a brief discussion regarding the addition of private storm sewer laterals and there will expect to be some work on the sanitary sewer main.

Trustee Serebin moved, seconded by Trustee Miller to approve to recommend to the Village Board the proposed Cramer Street storm sewer project-Design Report. Unanimous in favor. Motion approved.

VI. Cramer Street Storm Sewer Improvement Project-Design Engineering Contract Amendment work Authorization #10-Clark Dietz

John Edlebeck discussed this amendment is for the additional utility work beyond the originally scoped storm sewer project that will now be addressed in the project.

Trustee Davis moved, seconded by Trustee Miller to approve to recommend to the Village Board proposed Cramer Street storm sewer improvement project-Design Engineering Contract Amendment work authorization #10. Unanimous in favor. Motion approved.

VII. Village PPII Program Update

Steve discussed the implementation strategy for the PPII program to include downspout disconnection, public direct disconnections, lining of private sanitary sewer laterals, pilot residential foundation drain disconnection and sump pump program, and pilot existing sump pump connection program.

VIII. 2017 Project Update

John Edlebeck presented an update to the current projects. Palisades Road sanitary sewer lift station has been installed and boring is approaching Woodruff Ave on Fairmount Avenue. The Lancaster Ave. storm sewer lining project is proposed to begin around February 20 with lining beginning approximately February 28. Pavement Improvement Mill and Overlay and Sidewalk Improvement have been sent out and a bid date set. Village municipal recycling service recommendations are being formulated.

IX. Next Scheduled Meeting – tentative

Monday, March 13, 2017 @ 4:00pm.

X. Adjournment

Trustee Davis motioned to adjourn, seconded by Trustee Serebin. Unanimous in favor. Motion approved. Meeting adjourned at 5:44pm.



Village of Whitefish Bay
5300 N. Marlborough Drive
Whitefish Bay, Wisconsin 53217

Memorandum

To: Public Works Committee
From: Jen Amerell, Finance Director/Clerk
Date: April 13, 2017
Re: Utility Billing System

Background

The Village currently bills residents for utility usage on a staggered triannual basis. The start of one billing cycle (meter read) to the end (when resident receives bill) is approximately two months. Since the period covered is for four months, theoretically, residents are receiving a bill for usage six months prior. Therefore, if a homeowner has a leak it could potentially go undetected for six months. Moving from the current cycle to a quarterly cycle will allow leaks or other issues to be detected much sooner which results in better customer service. It will also allow more transparency in resident bills by reducing the period between actual usages and receiving the bill for that usage, rather than receiving a bill in January for usage in August. Quarterly billing is by far the most common practice among water utilities.

Procedure

The Village will contract with City Water to assist with conversion. We will work with the Public Service Commission and MMSD to ensure the conversion is done properly. The Village Water Code is outdated and will need revision. Communication in numerous platforms will be provided to Village residents on billing system changes. The goal is to be fully converted to start the new billing cycle system as of January 1, 2018.

City Water is very familiar with the current Village billing procedures. We contracted with them to perform our utility billing tasks for six months while there was a vacancy in the Finance Department. City Water is very knowledgeable on utility systems and has many years of experience with various water utilities.

Additional Materials

Please see memo from City Water regarding benefits from moving from our current billing system to a quarterly billing system. Also attached is a Professional Services proposal from City Water who will assist the Village in the conversion.

memo



To: Jennifer Amerell – Village of Whitefish Bay
From: Tom Nennig – City Water
C: Paul Boening, Xenia Ramos – Village of Whitefish Bay
Date: March 28, 2017
Re: Utility Billing Cycle

Comments: Listed below are the goals / objectives for switching from a rolling trimester Utility billing cycle to Village wide quarterly billing cycle.

Improved meter reading efficiency – The change to quarterly billing coincides with the current initiative of the Water Utility to finish replacing the walk-by touch pad meter reading system. The Water Utility will soon have a full drive-by meter reading system, eliminating the need to collect meter readings on foot. The drive-by system will reduce the amount of time required to collect meter readings and free staff to complete other Utility duties. The current system required approximately 7-10-days to read only a third of the Village. The drive-by system will only take a few days to complete meter readings for the entire Village.

Improved implementation of rate increases – Utility rate increases are currently applied across the rolling trimesters in the Village. It can take up to 8-months after a rate increase has been issued before the Village has fully implemented the new rates. A quarterly Utility billing schedule will allow for a shorter implementation of rate increases, improved cash flow, and eliminates confusing water bills.

Seasonal billing and payment process – Quarterly billing will provide a seasonal billing process for all residents. Seasonal bills will be split into a Winter – Spring – Summer – and Fall quarter. This will eliminate residents receiving a summer use bill during mid-winter. Quarterly billing will provide customers with more relevant readings, and allow the Utility to identify homeowner leaks more efficiently. Staff will only be processing Utility bills once a quarter instead of 9 months a year during the current meter reading process.

Quarterly billing is industry standard – Public Service Commission (PSC) prefers Water Utilities conduct meter reading and billing on a quarterly basis (at a minimum) to provide Utility staff and customers with timely information. The majority of water utilities that have a drive-by meter reading system bill on a quarterly basis. The proposed meter reading and billing change would also allow revenues to align with the Village fiscal year end, and eliminate estimating during the audit process.



March 28, 2017

Jennifer Amerell
Finance Director/Clerk Village of Whitefish Bay
5300 N. Marlborough Drive
Whitefish Bay, WI 53217

Re: Professional Services for Quarterly Utility Billing

Dear Jen:

Thank you for the opportunity to help the Village transition to quarterly Utility billing. City Water obtained a unique perspective regarding meter reading, and utility billing when we served as the temporary Utility Billing Supervisor. Our experience in Utility billing in surrounding communities combined with our knowledge of the BS&A software (utilized by the Village) will greatly help in the transition process.

Project Understanding

The Village generates customer Utility bills that includes water, sanitary sewer, and storm water fees. Water meter readings are used to generate the Utility bills. The Village is divided into three (3) meter reading and billing cycles, that operate on a rolling trimester for Utility customers. The Village has a combination meter reading system of Sensus touch pad, and Sensus drive-by remote meter reading capabilities. As the Village continues to replace the touch pad remote readers with drive-by technology, the need for a rolling trimester meter reading and billing schedule becomes obsolete. With a majority of the water meters connected to a drive-by meter reading system, the meters can be read in less than two (2) days allowing labor to work on other high priority tasks. The efficiency of meter reading will allow the billing unit of the Utility to generate, deliver, and collect customer bills on a quarterly basis instead of the rolling trimester. Quarterly billing is today's industry standard in WI. Quarterly billing will help the Village improve efficiencies, conserve water, and improve customer service.

Having worked as the Village's Utility billing clerk in 2016, City Water is familiar with the meter reading and billing process. We will assist the Village in navigating through the perils of transitioning from a rolling trimester billing schedule to a Village wide quarterly billing schedule. Village staff has indicated the beginning of January 2018 as a goal to begin quarterly meter reading and billing practices. We have prepared the following Scope of Services to meet the January 1, 2018 goal. We are ready to begin upon receiving Village approval for the project.

Scope of Services

Business Case

We will begin by developing a business case for the meter reading and billing schedule change. The Business case will help layout a framework for the decisions on the project including timing, finance, regulatory issues, human resources, and customer relations. The Business Case will:

1. Qualify and quantify the benefits to be achieved by the change
2. Identify existing and future work flow procedures
3. Outline existing resources and processes, and their capabilities and relevance to new meter reading and billing procedure.
4. Develop a timeline for new billing schedule detailing critical milestones
5. Develop prorated schedules for each billing schedule
6. Perform a detailed economical evaluation of the new billing schedule. Determine the return on investment for the new schedule.

At the end of this task, we will prepare a business case report that can be presented to the Village for review and comment. We are available to present the report to the Village board at the request of Village staff.

Work Flow Transition

We will develop work flow transitions detailing the new procedures required for quarterly billing from generating the meter reading file through bill collection. Work flow transition will include work flow diagrams and detailed standard operating procedures for each process. We will develop a new meter reading, and billing schedule to file with PSC and MMSD.

We will assist the Village in filing with the Public Service Commission (PSC) to obtain approval to move from trimester to quarterly Utility billing.

Test Scenarios

We work with Village staff and outside third party vendors to establish a test environment for each of their software pieces involved in the process. We want to test the new meter reading, billing, and printing procedures prior to moving to a Go-Live situation. The goal is to confirm customers will get accurate utility bills to help limit the amount of confusion staff will deal with during the first billing quarter.

Implementation

We assist Village staff moving existing software and databases from a test environment to Go-Live implementation. We will verify meter readings and billing information has transferred successfully into each phase of the billing process including

- BSA to/from Autoread – meter reading files
- BSA – proper proration of fixed, and usage fees for the 2018 first quarter utility bills
- MMSD – usage information of certified accounts, allocation of residential and commercial fees, and yearly hazardous waste fee.
- Final Bill Calculation– generation of final bills and quality control checks
- Transfer of print file to Utility bill printer.

We will walk through proposed procedures with Village staff and update SOP's during the first quarter meter reading, and billing cycle.

Village Responsibility

Provide workspace, and Village computer for City Water to work in the test environment
Provide login account to Auto-read, and BS&A software

Fee

The level of effort listed below illustrates our hourly estimate to complete the tasks listed above for the project. We propose on completing the project for a lump sum fee of \$7,000.

Task \ Staff	Principal Engineer	Operations Manager	Billing Supervisor	Total Cost
Business Case	4	8	10	\$ 1,920
Work Flow	2	6	10	\$ 1,490
Test Environment	2	12	16	\$ 2,450
Implementation	2	4	8	\$ 1,170
Totals	10	30	44	\$ 7,030

Reimbursable expenses such as mileage expense, printing, and reproduction would be charged at actual cost.

We look forward to helping the Village of Whitefish Bay through this transition period.

Kindest Regards,

Thomas Nennig

Thomas Nennig, P.E.
President
City Water, LLC



April 13, 2017

Memo to: Chairman Miller and Public Works Committee Members
From: John Edlebeck, Director of Public Works *JOE*
Re: **Water Utility Meter Reading System - Overview**

Existing Water Meter Reading System

The Village owns and operates separate Water and Sanitary Sewer Utilities. These utilities are enterprise funds, operating primarily off of revenues generated by metered water and sewer use. The village owns and operates 4810 water meters. The meters are currently read on a rotating 4 month basis, with 25% of the village water meters being read and invoices sent out every month. There are several ways in which the current water meters need to be read:

- 18% Walk up to house and type in water meter reading (856)
- 19% Walk up to house and hold device next to touch pad (895)
- 53% Walk or drive by house and obtain weak radio signal read (2566)
- 10% Walk or drive by house and obtain strong radio signal read (493)

The Village contracts with a part time meter reader to perform these reads at approximately 30hrs per month. There are approximately 50 reads that come in every month that are incorrect, either showing no use, high use, a missing read or an inoperative meter. These meters require a reread and in many cases require the village staff to personally make contact with the property owner to address the meter reading problem. This can take weeks or months for homeowners to respond, sometime continuing on to future billing periods.

This meter reading system is highly inefficient and provides very poor customer service. A metered water leak in your home or business could go undetected for up to 4 months or longer, creating a substantially high water and sewer bill. Unfortunately the customer did use the water and it did get sent to the sanitary sewer system for treatment. The village must then bill for this use.

Proposed Water Meter Reading System

The Village is investigating the conversion of our current water meter reading system to an Automated Metering Infrastructure (AMI). This system utilizes a main radio antenna that communicates with each of the 4810 water meters via a transmitter. This system continuously and automatically collects stored consumption, diagnostic and status data from each water meter and then transfer that data to a central database for billing and analysis.

There are numerous benefits to converting to this AMI system:

- Substantially lowers cost of routine meter reading, call back and final meter reads
- Provides very accurate, real time data measurement
- Allow the village to implement a quarterly all-village billing cycle
- Greatly improves customer service
- Reduces billing errors
- Takes hourly readings and stores that data for each meter for flexible billing
- Records and provides staff access to the water use history of each meter
- Identifies and alerts staff to individual meter errors or water leaks on an hourly basis
- Provides consistent billing and faster billing resolution
- Takes advantage of some of our current water meter and meter radio system infrastructure
- Provides leak detection, pressure recording and demand data of the public water main system
- Allows the village to implement a quarterly all-village billing cycle

Total Estimated Conversion Costs:

AMI System Setup

Antenna and Base Station	\$ 50,000	
Program Tools, Setup, Integration & Training	\$ 25,000	
Software Cloud Hosting Fee		\$13,000 / year

Water Meter Installation

Residential Meters purchased (3054)	\$375,000	
Installation	\$300,000	
No replacement needed (1615)	0	
Commercial Meters purchased (35)	\$ 42,000	
Installation	\$ 36,000	
No replacement needed (102)	0	

Water Meter Radio Transmitter Installation

New radios purchased and installed (3421)	\$500,000	
Radio conversions purchased and installed (896)	\$125,000	
No conversion needed (493)	0	

TOTAL **\$1,453,000**

This proposed AMI system conversion takes advantage of the existing 1615 residential water meters, 102 commercial water meters and 493 radio transmitters that are in place that would be compatible with this new system.

Possible System Conversion Funding

The recently approved 2017 – 2019 Village Capital Project Fund identifies the following Water Utility funding:

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2017-2019</u>
Watermain Replacement	\$140,000	\$150,000	\$150,000	\$440,000
Valves and Hydrant Replacement	\$ 50,000	\$ 50,000	\$ 50,000	\$150,000
Automatic Meter Reading and Meter Replacement	<u>\$ 85,000</u>	<u>\$150,000</u>	<u>\$150,000</u>	<u>\$385,000</u>
Subtotal	\$275,000	\$350,000	\$350,000	\$975,000

Whether a new AMI meter reading system is implemented or we continue with our existing system, monies will need to be spent to replace out existing old water meters as required by the Wisconsin Public Service Commission. Village staff feels it is in the best interest of the village to begin this conversion to this AMI Meter Reading System as soon as possible. A conversion phasing plan can be prepared for review by the Public Works Committee that is financially prudent but still allows us to reach our ultimate implementation goals.



April 12, 2017

Memo to: Chairman Miller and Members of the Public Works Committee
From: John Edlebeck, Director of Public Works *JE*
Re: 2017 Village PPII Program – Engineering Services Contract
Clark Dietz Engineers

Attached is proposed Work Order #11 from Clark Dietz that identifies needed 2017 Village PPII Program engineering services. These services are related to both the investigation of direct public connections between the storm sewer and sanitary sewer systems as well as the 2017 PPII private lateral lining program.

Direct Connection Investigation

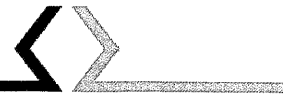
Services include field investigation, modeling and report preparation.

PPII Private Lateral Lining Program

Services include resident coordination/project management, design, bidding, construction inspection and MMSD reporting.

Clark Dietz has substantial experience in local private lateral lining projects and a vast knowledge of our sanitary and storm sewer systems as well as system modeling abilities to provide the best value to the village for these services.

I ask that the Public Work Committee vote to recommend to the Village Board the award of Clark Dietz Work Order #11 outlining needed engineering services related to the 2017 Village PPII Program for the billed hourly amount not to exceed \$127,400.



April 3, 2017

Mr. John Edlebeck, PE
Director of Public Works
Village of Whitefish Bay
5300 N. Marlborough Drive
Whitefish Bay, WI 53217

Re: Work Order Authorization No. 11
2017 PPII Program

Dear John,

We are presenting the work elements needed to accomplish the goals of the Village's newly implemented PPII Program. It is our understanding that the Program will consist of the following items:

1- Investigation of Direct Connections from Public Sources

In the 2017 priority area, we have identified six active sanitary sewer bypass locations where the sanitary sewers are meant discharge into storm sewers in cases of surcharging. The purpose of these bypassing is to protect against sewer backups in basements.

The investigation will focus on evaluating the effectiveness of the bypasses and to confirm that these connections do not function in "reverse" where the sanitary sewer pipes receive flow from storm sewer pipes. This effort includes field work and computer modeling of sanitary and storm sewers.

The investigation will also include a review of previous studies in the priority area in search of suspected connections between the sanitary and storm pipes. Previous studies available to us include smoke tests (where sanitary sewers are filled with smoke and the presence of smoke in the area indicates an unintended connection) and dye water transference tests (where the storm sewers are filled with colored water and the presence of the color in the sanitary sewers indicates an unintended connection).

The result of this investigation will be a report that lists every public connection between sanitary and storm sewers and provide a recommendation to eliminate these connections.

2- Rehabilitation of Private Laterals by lining

The rehabilitation of private property laterals is accomplished by lining the laterals to stop groundwater from entering the lateral (and the sanitary sewer collection system) through cracks and misaligned joints.

To accomplish this within the priority area, we are proposing to perform the following work elements:

- a) Project outreach and communications with residents in the priority area. After the initial information package is sent to residents, we will conduct informational meetings as needed or requested, directly communicating with residents to answer any questions and offer clarifications on the program.
- b) We will manage the consent forms and maintain a database of properties that will participate in the program.
- c) We will prepare the project bid package for the public bidding of the rehabilitation work.
- d) Post-bid opening resident communications, both written and in-person.
- e) Construction phase services, consisting of contractor observation, documentation, pay request processing, quality control and project review.
- f) Construction phase resident communications as needed and in-person.
- g) We anticipate lining 200 laterals in 2017.
- h) Project closeout, documentation and report back to MMSD for reimbursements.

Estimated Construction Costs:

	Included Items	Construction Estimate
Investigation of Direct Connections from Public Sources	Construction activity not anticipated now.	\$0
Rehabilitation of Private Laterals by lining	Includes full lining of 200 private laterals	\$1,085,000
Total		\$1,085,000

Professional Fees:

	Estimated Hours	Fee
Investigation of Direct Connections from Public Sources	Field and Office Investigation:	40 hrs
	Hydraulic Model Update:	20 hrs
	<u>Report:</u>	<u>20 hrs</u>
	Total:	80 hrs
Rehabilitation of Private Laterals by lining - Estimated 200 laterals	Resident Coordination/Information:	80 hrs
	Design and Bidding:	80 hrs
	Construction Inspection (4 hrs per lateral)	800 hrs
	<u>Report to MMSD:</u>	<u>20 hrs</u>
	Total:	980 hrs
Total		\$127,400

Sincerely,
Clark Dietz, Inc.



Mustafa Emir, PhD, PE
Village Engineer

WORK ORDER APPROVAL

Steven Sheiffer, Village Manager

Date