

VILLAGE OF NEWBERRY
WATER AND LIGHT BOARD MEETING
Tuesday, January 14, 2020
Meeting Location: 302 East McMillan Ave
Meeting Time: 5:30 p.m.

1. CALL TO ORDER

2. PLEDGE OF ALLEGIANCE

3. ROLL CALL

4. APPROVAL OF AGENDA - Agendas are not final until approved by a majority vote of the Water & Light Board members.

5. APPROVAL OF MINUTES

1. Water and Light Board Meeting – Regular Session – Tuesday, December 9, 2019

6. WATER AND LIGHT CHAIRPERSON ANNOUNCEMENTS

1. None Prescheduled

7. PUBLIC COMMENTS – Prior to consideration of official business, citizens may speak on any matter citizens may wish to bring to the attention of the Water and Light Board. Please limit comments to 3 minutes.

1. None Prescheduled

8. SUBMISSION OF BILLS AND FINANCIAL UPDATES

1. Water & Light – Monthly Bills – December 2019

582	Electric Fund	\$138,836.46
591	Water Fund	\$4,845.53
Total:		<u>\$143,681.99</u>

582	Save the Bells Fund Balance Summary	\$13,372.59
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2. Request for Disbursement of Funds –
 - a. Union Settlement – Third (Final) Installment payment of \$5,000
3. Perceptive Controls - Computer & Software for SCADA Well monitoring system
 - a. \$4,750.00 for Computer & Software
 - b. \$4,800.00 for Alarming with remote notification

- 9. PETITIONS AND COMMUNICATIONS** – Communications addressed to the Water and Light Board are distributed to all members and are acknowledged for information or are referred to a committee or staff for follow-up.

1. None Prescheduled

10. INTRODUCTION AND ADOPTION OF ORDINANCES AND RESOLUTIONS

1. None

- 11. REPORTS OF VILLAGE MANAGEMENT** – The Village Manager and Superintendent of Water and Light may submit reports or information to the Water and Light Board as updates and consideration.

1. Water and Light Acting Superintendent
 - a. Monthly Report
 - b. Electric Consumption/Billing Report
 - c. Electric Demand Large Power Report
 - d. Billed Electric kWh Report
 - e. Work Orders Report
 - f. Water Pumpage Report
2. Interim Village Manager
 - a. Community Development Block Grant – Update

12. UNFINISHED BUSINESS

1. 2019 Water Asset Management Plan

13. NEW BUSINESS

1. Bond Amortization Schedules Review
 - 2005 Water Supply Bond
 - 2009 Water Supply Bond
 - 2014 Water Supply Bond
 - 2002 Electric Bond
 - 2003 Electric Bond
 - 2005 Electric Bond

14. COMMENTS BY BOARD MEMBERS

15. ADJOURNMENT - REGULAR SESSION

NEWBERRY WATER & LIGHT BOARD
REGULAR MEETING MINUTES
December 10, 2019

Present: Board members: Vincent, Wendt, Freese, Michael Schnorr (Mr. Schnorr was administered the Oath of Office before the meeting convened.)

Absent: Hardenbrook (arrives at 5:31 p.m.)

Also Present: Clerk -Schummer, Interim Village Manager – Watkins, Lori Stokes, Bruce Lane, Charles Medelis.

Call to Order: Chairman Vincent called the meeting to order at 5:30 p.m. at the Village of Newberry Offices, 302 East McMillan Avenue, followed by the Pledge of Allegiance.

Hardenbrook arrives at 5:31 p.m.

Approval of Agenda: Moved by Freese, support by Wendt, **CARRIED**, to approve agenda with one addition – Under Approval of Minutes, add October 14, 2019 meeting minutes. Ayes: All.

Approval of Minutes: Moved by Freese, support by Wendt, **CARRIED**, to approve the minutes for the October 14, 2019 W&L meeting. Ayes: All. Moved by Freese, support by Wendt, **CARRIED**, to approve the November 12, 2019 meeting minutes. Ayes: All.

Water and Light Chairperson Announcements: Chairman thanked all the new and past members of the board.

Public Comments on Agenda Items: None.

Submission of Bills and Financial Updates:

A.) **Water & Light – Monthly Bills – November 2019** - Motion by Freese, support by Hardenbrook, **CARRIED**, recommend Village Council pay the November Electric Fund bill in the amount of \$102,916.50. Ayes: All. Motion by Freese, support by Hardenbrook, **CARRIED**, to recommend Village Council pay the November Water Fund bill in the amount of \$37,129.51. Discussion followed. Ayes: All.

B.) **Christmas Light Fund** – Fund amount is \$13,049.59.

C.) **Request for Disbursement of Funds:** Moved by Freese, support by Wendt, **CARRIED**, to recommend the Village Council approve the request for the disbursement of the Union Settlement – second installment payment of \$5,000.00 Ayes: All.

Petitions and Communications: None.

Introduction and Adoption of Ordinances and Resolutions:

1.) 2020 Operating Budget Adoption Resolution – for review.

Reports of Village Management:

1.) Superintendent of Water and Light: A written report was submitted. Watkins gave a verbal report.

2.) Interim Village Manager: Watkins gave a verbal report. Watkins stated there are two grants she is currently looking into for the Village, both are reimbursement grants and require a 10% match. She also updated the Board on the audit.

Unfinished Business:

1.) Selection of Chairperson: Moved by Freese, support by Hardenbrook, **CARRIED**, to have Lawrence Vincent remain as Chairperson of the Water and Light Board. Ayes: Vincent, Freese, Hardenbrook, Schnorr. Nay: Wendt.

New Business:

1.) Moved by Freese, support by Schnorr, **CARRIED**, to recommend Village Council approve proposed 2020 Operating Budget for Water Fund. Ayes: All.

2.) Moved by Freese, support by Hardenbrook, **CARRIED**, to recommend Village Council approve proposed 2020 Operating Budget for Electric Fund. Ayes: All.

3.) Review of Board Positions and Terms.

Comments By Board Members: None.

Adjourn Meeting: Motion by Wendt, support by Freese, **CARRIED**, to adjourn meeting at 6:02 p.m. Ayes: All.

These minutes are unapproved until voted on at the next meeting.

Terese Schummer, Clerk

Lawrence Vincent, Chairperson

Village of Newberry
Water Light Payables
December 7, 2019 to January 10, 2020

GL Number	Inv. Line Desc	Vendor	Invoice Desc.	Due Date	Amount	Check #
Fund 582 Electric Fund						
Dept 000						
582-000-042.000	UNAPPLIED CREDIT	NORRIS CONTRACTING INC	UB refund for account: 6-99999-89	12/23/19	9.99	43950
582-000-255.000	DEPOSIT	PUCKETT EMILY	UB deposit refund for account: 4-01950-0	12/23/19	250.00	43949
			Total For Dept 000		259.99	
Dept 582 ELECTRIC DISTRIBUTION						
582-582-850.000	TELEPHONE	ATT U.VERSE	LARGE CAPACITY METER UVERSE	12/23/19	41.10	43898
			Total For Dept 582 ELECTRIC DISTRIBUTION		41.10	
Dept 583 GENERAL EXPENSES						
582-583-719.000	HOSPITALIZATION	44 NORTH	COBRA RETIREES	12/31/19	3.22	43957
582-583-752.000	OFFICE SUPPLIES	AMAZON CAPITAL SERVICES	TAX DOC ENVELOPES	01/05/20	12.12	43892
582-583-752.000	OFFICE SUPPLIES	AMAZON CAPITAL SERVICES	TONERS	02/02/20	78.47	
582-583-752.099	BANK FEES	US BANK OPERATIONS CENTER	CAPITAL IMPROVEMENT BOND DTD 8-1-02	12/27/19	250.00	43930
582-583-752.099	BANK FEES	U.S. BANK	REVENUE BDS DTD BI 5045	12/30/19	250.00	43944
582-583-752.100	OPERATING SUPPLIES	LYNN AUTO PARTS INC.	RAGS IN BOX	01/10/20	33.98	43960
582-583-752.100	OPERATING SUPPLIES	AMAZON CAPITAL SERVICES	BATTERIES	02/03/20	5.00	
582-583-752.100	OPERATING SUPPLIES	NEWBERRY CHAMBER OF COMMERCE	BUSINESS DUES	01/30/20	40.00	
582-583-752.100	OPERATING SUPPLIES	RAHILLY IGA	WATER/409 CLEANER	01/10/20	4.35	
582-583-752.100	OPERATING SUPPLIES	RAHILLY IGA	WATER	01/10/20	3.99	
582-583-753.000	TOOLS & EQUIP (UND CAP THRESH)	FOSTER HARDWARE	SCREWDRIVER SET	01/10/20	135.35	43956
582-583-753.000	TOOLS & EQUIP (UND CAP THRESH)	FOSTER HARDWARE	EXTRACTOR BIT SET	01/10/20	7.50	43956
582-583-759.000	GAS & OIL - ELECTRIC	WEX BANK - SPEEDWAY UNIVERSAL	GAS/FUEL	01/22/20	157.03	
582-583-767.000	CLOTHING - UNIFORMS	AMAZON CAPITAL SERVICES	ICE CLEATS	01/10/20	22.77	
582-583-801.000	PROFESSIONAL & CONTRACTUAL	WATKINS ROSS	RETIREE HEALTH CARE PLAN PREP FOR COMP	12/10/19	925.00	43948
582-583-801.000	PROFESSIONAL & CONTRACTUAL	MISS DIG SYSTEM	ANNUAL MEMBERSHIP FEE	01/11/20	427.00	43915
582-583-801.000	PROFESSIONAL AND CONTRACTUAL	FAIR, ALMA	OFFICE CLEANING	01/30/20	100.00	
582-583-801.000	PROFESSIONAL AND CONTRACTUAL	RANGE TELECOMMUNICATIONS	MISSDIGS	01/02/20	12.14	
582-583-801.000	PROFESSIONAL & CONTRACTUAL	MICHIGAN MUNICIPAL ELECTRIC ASSOCIA	DUES-MEMBERSHIP	01/22/20	3,438.00	
582-583-850.000	TELEPHONE	VERIZON	ACCOUNT NUMBER 942077532-00001 FAX	01/07/20	11.45	43966

Village of Newberry
Water Light Payables
December 7, 2019 to January 10, 2020

GL Number	Inv. Line Desc	Vendor	Invoice Desc.	Due Date	Amount	Check #
Dept 583 GENERAL EXPENSES (continued)						
582-583-850.000	906-450-0919 LINEMAN	VERIZON	ACCOUNT NUMBER 942077532-00002 - CELL	01/07/20	21.59	43966
582-583-850.000	906-291-0136 MECHANIC	VERIZON	ACCOUNT NUMBER 942077532-00002 - CELL	01/07/20	21.60	43966
582-583-850.000	906-291-0055 HR	VERIZON	ACCOUNT NUMBER 942077532-00002 - CELL	01/07/20	10.79	43966
582-583-850.000	906-291-0608 LINEMAN	VERIZON	ACCOUNT NUMBER 942077532-00002 - CELL	01/07/20	21.59	43966
582-583-850.000	906-291-1223 MANAGER	VERIZON	ACCOUNT NUMBER 942077532-00003 DESK	01/07/20	7.04	43966
582-583-850.000	906-291-1621 A.V.M.	VERIZON	ACCOUNT NUMBER 942077532-00003 DESK	01/07/20	7.05	43966
582-583-850.000	906-291-1622 H.R.	VERIZON	ACCOUNT NUMBER 942077532-00003 DESK	01/07/20	7.05	43966
582-583-850.000	906-291-1627 W/L	VERIZON	ACCOUNT NUMBER 942077532-00003 DESK	01/07/20	14.09	43966
582-583-850.000	906-293-8531	VERIZON	ACCOUNT NUMBER 942077532-00003 DESK	01/07/20	13.52	43966
582-583-850.000	906-291-1625 FINANCE	VERIZON	ACCOUNT NUMBER 942077532-00003 DESK	01/07/20	7.05	43966
582-583-850.000	906-293-3433 GENRAL	VERIZON	ACCOUNT NUMBER 942077532-00003 DESK	01/07/20	7.04	43966
582-583-850.000	906-293-5681 W/L CLERK 40%	VERIZON	ACCOUNT NUMBER 942077532-00003 DESK	01/07/20	10.82	43966
582-583-850.000	TELEPHONE	AT&T	WATER/LIGHT PHONE	01/07/20	56.79	43954
582-583-850.000	JAMADOTS INTERNET	HTC-HIAWATHA TELEPHONE CO	ACCT 00042108-7	01/27/20	23.75	
582-583-850.000	JAMADOTS - FIBER-OPTICS	HTC-HIAWATHA TELEPHONE CO	ACCT 00042364-7	01/27/20	25.00	
582-583-851.000	POSTAGE	ARISTA INFORMATION SYSTEMS INC	UB POSTAGE	12/31/19	221.60	43952
582-583-900.000	PRINTING AND PUBLISHING	ARISTA INFORMATION SYSTEMS INC	UB BILLIG	12/31/19	284.05	43952
582-583-932.000	VEHICLES REPAIRS & MAINTENANCE	DANNY'S AUTO VALUE INC	PLOW GUIDES	02/01/20	6.99	
582-583-932.000	VEHICLES REPAIRS & MAINTENANCE	AMAZON CAPITAL SERVICES	TIRE	02/01/20	119.54	
582-583-932.000	VEHICLES REPAIRS & MAINTENANCE	NEALS AUTOMOTIVE PARTS INC	TIRE PATCH	01/10/20	2.98	
582-583-932.000	VEHICLES REPAIRS & MAINTENANCE	BURBACH SALES & SERVICE	USED TAIL PIPE	01/30/20	73.30	
582-583-968.100	BOND RESERVE	TAHOUEMENON AREA CREDIT UNION	BOND RESERVE -- ACCT NO 1305590	12/30/19	44,000.00	43928
			Total For Dept 583 GENERAL EXPENSES		50,880.60	
Dept 586 PURCHASED POWER						
582-586-801.000	PROFESSIONAL AND CONTRACTUAL	MICHIGAN PUBLIC POWER AGENCY	GREEN PRICING SVC COMM/RENEWABLE PORTFOLIO	12/25/19	85.40	43940
582-586-926.000	PURCHASED POWER	CLOVERLAND ELECTRIC CO-OP	MONTHLY POWER BILL	01/21/20	74,132.23	
582-586-926.100	ATC TRANSMISSION MONTHLY INV	AMERICAN TRANSMISSION COMPANY	PURCHASED POWER - CAPACITY	01/09/20	12,141.88	
			Total For Dept 586 PURCHASED POWER		86,359.51	
Dept 587 ENERGY OPTIMIZATION						
582-587-801.000	PROFESSIONAL & CONTRACTUAL	MECA	MONTHLY INCENTIVES	01/07/20	1,295.26	
			Total For Dept 587 ENERGY OPTIMIZATION		1,295.26	
			Total For Fund 582 Electric Fund		138,836.46	

Village of Newberry
Water Light Payables
December 7, 2019 to January 10, 2020

GL Number	Inv. Line Desc	Vendor	Invoice Desc.	Due Date	Amount	Check #
Fund 591 Water Fund						
Dept 536 WATER SYSTEM						
591-536-719.000	HOSPITALIZATION	44 NORTH	COBRA RETIREES	12/31/19	2.70	43957
591-536-752.000	OFFICE SUPPLIES	AMAZON CAPITAL SERVICES	TAX DOC ENVELOPES	01/05/20	12.12	43892
591-536-752.000	OFFICE SUPPLIES	AMAZON CAPITAL SERVICES	TONERS	02/02/20	78.47	
591-536-752.100	OPERATING SUPPLIES	EGL E CASHIER OFFICE	NPDES ANNUAL PERMIT FEE	01/15/20	400.00	43942
591-536-752.100	OPERATING SUPPLIES	TAHQVAMENON AREA CREDIT UNION	CHART RECORDER PENS	11/09/19	74.34	43928
591-536-752.100	OPERATING SUPPLIES	DANNY'S AUTO VALUE INC	MINI ACETYLENE	01/10/20	28.99	9
591-536-752.100	OPERATING SUPPLIES	DANNY'S AUTO VALUE INC	WASHER SOLVENT	01/10/20	4.38	43955
591-536-752.100	OPERATING SUPPLIES	HAWKINS INC	AZONE	01/18/20	113.05	43968
591-536-752.100	OPERATING SUPPLIES	AMAZON CAPITAL SERVICES	BATTERIES	02/03/20	5.00	
591-536-752.100	OPERATING SUPPLIES	NEWBERRY CHAMBER OF COMMERCE	BUSINESS DUES	01/30/20	40.00	
591-536-752.100	OPERATING SUPPLIES	RAHILLY IGA	WATER/409 CLEANER	01/10/20	4.34	
591-536-752.100	OPERATING SUPPLIES	RAHILLY IGA	WATER	01/10/20	3.99	
591-536-753.000	TOOLS & EQUIP UND CAP THRESH	FOSTER HARDWARE	SCREWDRIVER SET	01/10/20	135.35	43956
591-536-753.000	TOOLS & EQUIP UND CAP THRESH	FOSTER HARDWARE	EXTRACTOR BIT SET	01/10/20	7.49	43956
591-536-759.000	GAS, OIL & GREASE - WATER	WEX BANK - SPEEDWAY UNIVERSAL	GAS/FUEL	01/22/20	157.02	
591-536-767.000	UNIFORMS	AMAZON CAPITAL SERVICES	ICE CLEATS	01/10/20	22.77	
591-536-801.000	PROFESSIONAL & CONTRACTUAL S	ISAULT STE MARIE CITY HALL	MONTHLY WATER SAMPLES	12/27/19	54.00	43941
591-536-801.000	PROFESSIONAL & CONTRACTUAL	WATKINS ROSS	RETREE HEALTH CARE PLAN PREP FOR COMP G	12/10/19	925.00	43948
591-536-801.000	PROFESSIONAL & CONTRACTUAL	MISS DIG SYSTEM	ANNUAL MEMBERSHIP FEE	01/11/20	427.00	43915
591-536-801.000	PROFESSIONAL & CONTRACTUAL	OHM ADVISORS	ASSET INVENTORY/CONDITION ASSESSMENT	01/09/20	1,566.31	
591-536-801.000	PROFESSIONAL & CONTRACTUAL S	FAIR, ALMA	OFFICE CLEANING	01/30/20	100.00	
591-536-801.000	PROFESSIONAL & CONTRACTUAL S	RANGE TELECOMMUNICATIONS	MISSDIGS	01/02/20	12.14	
591-536-850.000	FAX	VERIZON	ACCOUNT NUMBER 942077532-00001 FAX	01/07/20	11.45	43966
591-536-850.000	906-450-0919 LINEMAN	VERIZON	ACCOUNT NUMBER 942077532-00002 - CELL	01/07/20	21.59	43966
591-536-850.000	906-291-0608 LINEMAN	VERIZON	ACCOUNT NUMBER 942077532-00002 - CELL	01/07/20	21.59	43966
591-536-850.000	906-291-0055 HR	VERIZON	ACCOUNT NUMBER 942077532-00002 - CELL	01/07/20	10.79	43966
591-536-850.000	906-293-5681 W/L CLERK 40%	VERIZON	ACCOUNT NUMBER 942077532-00003 DESK	01/07/20	10.82	43966
591-536-850.000	906-293-3433 GENERAL	VERIZON	ACCOUNT NUMBER 942077532-00003 DESK	01/07/20	7.04	43966
591-536-850.000	906-291-1625 FINANCE	VERIZON	ACCOUNT NUMBER 942077532-00003 DESK	01/07/20	7.05	43966
591-536-850.000	906-291-1627 W/L	VERIZON	ACCOUNT NUMBER 942077532-00003 DESK	01/07/20	14.09	43966
591-536-850.000	906-291-1622 H.R.	VERIZON	ACCOUNT NUMBER 942077532-00003 DESK	01/07/20	7.04	43966
591-536-850.000	906-291-1621 A.V.M	VERIZON	ACCOUNT NUMBER 942077532-00003 DESK	01/07/20	7.05	43966
591-536-850.000	906-291-1223 MANAGER	VERIZON	ACCOUNT NUMBER 942077532-00003 DESK	01/07/20	7.04	43966

Village of Newberry
Water Light Payables
December 7, 2019 to January 10, 2020

GL Number	Inv. Line Desc	Vendor	Invoice Desc.	Due Date	Amount	Check #
Fund 591 Water Fund (continued)						
591-536-850.000	TELEPHONE	AT&T	WATER/LIGHT PHONE	01/07/20	56.78	43954
591-536-850.000	JAMADOTS INTERNET	HTC-HIAWATHA TELEPHONE CO	ACCT 00042108-7	01/27/20	23.75	
591-536-850.000	JAMADOTS FIBER- OPTICS	HTC-HIAWATHA TELEPHONE CO	ACCT 00042364-7	01/27/20	25.00	
591-536-851.000	POSTAGE	ARISTA INFORMATION SYSTEMS INC	UB POSTAGE	12/31/19	125.00	43952
591-536-900.000	PUBLISHING & PRINTING	ARISTA INFORMATION SYSTEMS INC	UB BILLIG	12/31/19	160.23	43952
591-536-929.000	REPAIRS & MAINTENANCE	TAQUAMENON AREA CREDIT UNION	JCBLANCH BADGER METER HEAD	01/28/20	52.00	
591-536-932.000	VEHICLES REPAIRS & MAINTENANCE	L L YNN AUTO PARTS INC.	15 16 12P LG COM WRN	01/10/20	19.49	43960
591-536-932.000	VEHICLES REPAIRS & MAINTENANCE	DANNY'S AUTO VALUE INC	PLOW GUIDES	02/10/20	7.00	
591-536-932.000	VEHICLES REPAIRS & MAINTENANCE	NEALS AUTOMOTIVE PARTS INC	TIRE PATCH	01/10/20	2.97	
591-536-932.000	VEHICLES REPAIRS & MAINTENANCE	BURBACH SALES & SERVICE	USED TAIL PIPE	01/30/20	73.30	
			Total For Dept 536 WATER SYSTEM		4,845.53	
			Total For Fund 591 Water Fund		4,845.53	
		Fund Totals:				
			Fund 582 Electric Fund		138,836.46	
			Fund 591 Water Fund		4,845.53	
			Total For All Funds:		143,681.99	

First National Bank

Main Office:

P.O. Box 187 * 132 North State Street
St. Ignace, Michigan 49781
Voice: 906-643-6800 Fax: 906-643-6808

Les Cheneaux Branch

P.O. Box 177 - 192 S Meridian St.
Cedarville, MI 49719 * 906-484-2262

Mackinac Island Branch

P.O. Box 534 - 534 Market St.
Mackinac Island, MI 49757 * 906-847-3732

West Mackinac Branch

P.O. Box 142 - W11635 West U.S. 2
Naubinway, MI 49762 * 906-477-6263

Newberry Branch

P.O. Box 466 - 1014 S. Newberry Ave.
Newberry, MI 49868 * 906-293-5160

1315703

NEWBERRY WATER & LIGHT BOARD
NEWBERRY SAVE THE BELLS
307 E MCMILLAN AVE
NEWBERRY MI 49868

Date 12/31/19 Page 1 of 1
ACCOUNT NUMBER 7703432

MUNICIPAL MONEY MARKET			1
ACCOUNT NUMBER	7703432	Statement Dates 12/01/19 thru 12/31/19	
PREVIOUS BALANCE	13,277.79	DAYS IN STATEMENT PERIOD	31
1 CREDITS TOTALING	89.14	AVERAGE LEDGER BAL	13,323
DEBITS TOTALING	.00	AVERAGE COLLECTED BAL	13,323
SERVICE CHARGE AMOUNT	.00	Interest Earned	5.66
INTEREST PAID	5.66	Annual Percentage Yield Earned	0.50%
CURRENT STMT BALANCE	13,372.59	2019 Interest Paid	65.58

DEPOSITS AND OTHER CREDITS.....

DATE	DESCRIPTION	AMOUNT
12/16	DDA REGULAR DEPOSIT	89.14
12/31	INTEREST PAID 31 DAYS	5.66

DAILY BALANCE SUMMARY.....

DATE.....	BALANCE	DATE.....	BALANCE	DATE.....	BALANCE
12/01	13,277.79	12/16	13,366.93	12/31	13,372.59

INTEREST RATE SUMMARY.....

DATE.....	INTEREST RATE
11/30	.50%





Subject: Perceptive Controls, Inc._Proposal Q2020-323

January 2020

We are pleased to provide you a proposal to upgrade your SCADA computer.

Computer and software.....	\$4,750.00
Alarming with remote notification	\$4,800.00

Services by Perceptive Controls:

- Supply a new computer with updated Rockwell software (SCADA software)
 - Computer, windows 10, i7 processor, 8 GB ram, 256 GB SSD, 24" monitor
 - UPS for above computer
 - Upgrade Rockwell support contract

- Provide Hardware and software for alarming
 - Labor to program
 - Alarm via text/email alerts
 - Remote acknowledge of alarms
 - Schedule who gets the alerts
 - Remote (smart phone) view into SCADA system
 - Training on the system
 - Alarm acknowledgment and reset
 - Scheduling

Delivery of above

Note: we are not planning to install this solution on site. We will prepare the solution and ship it to Newberry. It is a plug and play solution. If a service trip is required; we will bill \$125/hr plus travel and expenses.

Regards,

Rod Koning

Rod Koning
Application Engineer
Mobile 616-292-9882
rkoning@perceptivecontrols.com

VILLAGE OF NEWBERRY



302 East McMillan Avenue, Newberry, MI 49868 Phone: 906-293-3433 Fax: 906-293-8890

Water and Light Report December 2019 Dan Kucinkas

- Red Tags
- Christmas Light Maintenance
- Meter Reads
- Christmas Parade
- Miss Digs
- Seasonal Shut Offs
- Shut Off & Turn On – Non-Payments
- Snow Blowed Out Sub Station
- Water Residuals
- Lead & Copper Paper Work
- Water Testing
- Ran Generator For 2hrs

Happy New Years!

2019 - ELECTRIC CONSUMPTION / BILLING

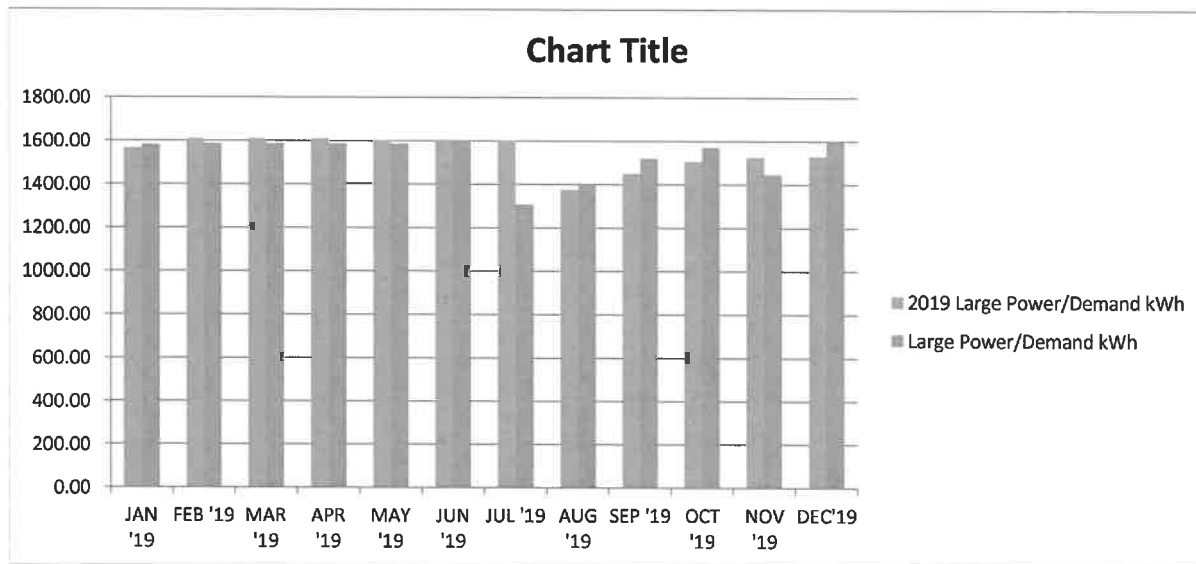
	RESIDENTIAL										COMMERCIAL										LARGE POWER										DEMAND			
	ER KW	METERS	ER FUEL ADJ	EO BASE	ER AMT BILLED	EC KW	METERS	EC FUEL ADJ	AMT BILLED	EC COT	LG	METERS	LG AMT BILLED	FUEL ADJ	DEMAND KW	METERS	DEMAND AMT BILLED																	
2019																																		
JAN	814308.00	1188	\$ 17,403.15	\$ 1,160.15	\$ 85,266.66	328583.00	210	\$ 7,007.66	\$ 40,334.69	581551.00	15	\$ 31,638.67	\$ 15,825.61	1567.00	13	\$ 14,344.16																		
FEB	758225.00	1188	\$ 16,217.48	\$ 1,081.35	\$ 79,405.50	275482.00	208	\$ 5,864.06	\$ 34,167.79	459941.00	15	\$ 25,245.16	\$ 12,783.60	1610.00	13	\$ 14,656.35																		
MAR	632228.00	1196	\$ 10,544.74	\$ 899.47	\$ 66,207.35	274463.00	207	\$ 4,571.48	\$ 34,044.94	480731.00	15	\$ 25,332.39	\$ 8,152.17	1610.00	13	\$ 14,646.51																		
APR	687758.00	1188	\$ 11,473.95	\$ 978.65	\$ 72,020.51	260879.00	207	\$ 4,364.87	\$ 30,610.22	464458.00	15	\$ 24,478.59	\$ 7,920.20	1610.00	13	\$ 14,652.68																		
MAY	583244.00	1189	\$ 9,730.89	\$ 830.02	\$ 61,076.90	267090.00	207	\$ 4,462.85	\$ 31,333.07	512409.00	15	\$ 26,990.87	\$ 8,539.07	1605.00	13	\$ 14,610.43																		
JUN	574345.00	1190	\$ 9,583.04	\$ 817.18	\$ 60,099.81	236337.00	208	\$ 3,968.17	\$ 27,854.25	526257.00	15	\$ 27,713.48	\$ 8,870.46	1606.00	13	\$ 14,610.43																		
JUL	507616.00	1192	\$ 8,469.39	\$ 722.47	\$ 53,084.65	241098.00	217	\$ 4,054.84	\$ 28,442.53	501500.00	15	\$ 26,408.65	\$ 8,373.24	1605.00	13	\$ 14,610.43																		
AUG	602194.00	1187	\$ 10,865.24	\$ 856.78	\$ 62,949.68	323166.00	217	\$ 5,876.54	\$ 38,107.77	664908.00	15	\$ 35,029.69	\$ 12,076.22	1377.00	13	\$ 13,010.12																		
SEPT	582888.00	1184	\$ 10,524.65	\$ 828.81	\$ 60,765.93	280897.00	217	\$ 5,103.00	\$ 33,115.67	573512.00	15	\$ 30,201.24	\$ 10,436.20	1452.00	13	\$ 13,639.88																		
OCT	457806.00	1188	\$ 8,309.84	\$ 654.48	\$ 47,936.48	206074.00	216	\$ 3,728.36	\$ 24,184.76	486774.00	15	\$ 26,146.29	\$ 8,982.33	1508.00	13	\$ 14,072.84																		
NOV	691019.00	1185	\$ 12,477.63	\$ 982.74	\$ 70,868.89	268396.00	216	\$ 4,855.20	\$ 31,489.00	572492.00	15	\$ 30,153.25	\$ 10,474.85	1527.00	13	\$ 14,171.24																		
DEC	717382.00	1185	\$ 12,952.87	\$ 1,020.15	\$ 74,767.78	261472.00	214	\$ 4,725.57	\$ 30,622.85	502628.00	15	\$ 26,491.67	\$ 9,304.31	1531.00	13	\$ 14,113.58																		
TOTAL	7609013.00	14260.00	\$ 138,552.87	\$ 10832.25	\$ 794,450.14	3223877.00	2544.00	\$ 58,582.60	\$ 384,307.54	6337161.00	180.00	\$ 335,829.95	\$ 121,738.26	18608.00	156.00	\$ 171,138.65																		
AVG	634084.4167	1188.333	\$ 11546.0725	\$ 902.6875	\$ 66204.17833	268656.4167	212	\$ 4881.883333	\$ 32025.62833	528096.75	15	\$ 27985.82917	\$ 10144.855	1550.667	13	\$ 14261.55417																		

TOTAL kwh 17188.66
AVERAGE MET 1428.333333

Water & Light

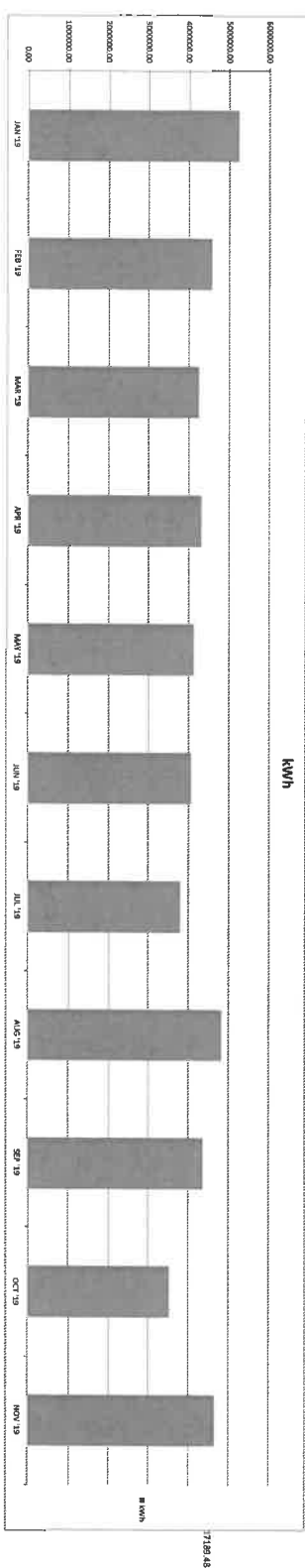
Electric Demand Report Large Power/Industrial 2019

MONTH:	LG POWER/INDUSTRIAL	BILLED AMOUNT
DEC '18	1596.00	\$ 14,580.32
JAN '19	1567.00	\$ 14,344.16
FEB '19	1610.00	\$ 14,656.35
MAR '19	1610.00	\$ 14,646.51
APR '19	1610.00	\$ 14,652.68
MAY '19	1605.00	\$ 14,610.43
JUN '19	1606.00	\$ 14,610.43
JUL '19	1605.00	\$ 14,610.43
AUG '19	1377.00	\$ 13,010.12
SEP '19	1452.00	\$ 13,639.88
OCT '19	1508.00	\$ 14,072.84
NOV '19	1527.00	\$ 14,171.24
DEC'19	1531.00	\$ 14,113.58



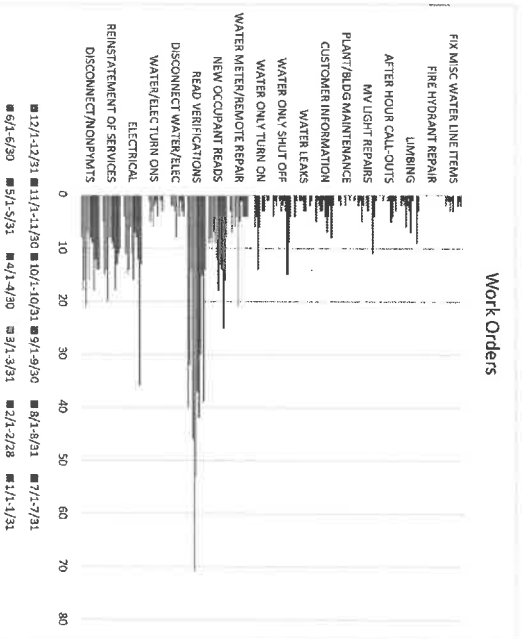
Water & Light
Billed Electric kWh Report - 2019

MONTH:	RES/COM kWh	DEM. BILLED	RES/COM BILL	CONSUMERS	MIPA	MISO	ATC	CECHDIO	2019 PAID	2018 PAID	2017 PAID	2016 PAID	2015 PDI	SAVED:
JAN 19	5244620.00	\$ 14,344.16	\$ 250,418.95	\$ 89,467.68	\$ 63.37	\$ 3,212.50	\$ 12,141.88	\$ 5,064.28	\$ 109,949.71	\$ 119,277.59	\$ 120,394.74	\$ 103,229.64	\$ 146,658.48	\$ 19,577.52
FEB 19	4567513.00	\$ 14,656.35	\$ 207,076.23	\$ 80,135.58	\$ 40.30	\$ 4,411.30	\$ 12,141.88	\$ 4,942.98	\$ 101,672.04	\$ 119,447.55	\$ 111,398.64	\$ 102,655.58	\$ 168,374.53	\$ 18,173.51
MAR 19	4246644.00	\$ 14,646.51	\$ 189,244.37	\$ 79,410.54	\$ 39.58	\$ 2,830.30	\$ 12,141.88	\$ 5,012.77	\$ 99,485.07	\$ 114,411.84	\$ 114,411.84	\$ 130,760.97	\$ 135,195.29	\$ 36,970.17
APR 19	4308186.00	\$ 14,652.68	\$ 186,487.07	\$ 74,868.95	\$ 88.56	\$ 3,105.23	\$ 12,141.88	\$ 5,005.56	\$ 95,210.19	\$ 106,956.15	\$ 106,494.00	\$ 91,265.91	\$ 114,707.13	\$ 11,745.96
MAY 19	4128992.00	\$ 14,610.43	\$ 179,542.43	\$ 65,008.14	\$ 57.49	\$ 2,396.55	\$ 11,141.88	\$ 5,209.73	\$ 84,813.79	\$ 99,338.04	\$ 98,979.16	\$ 121,856.40	\$ 145,099.13	\$ 14,524.25
JUN 19	4068850.00	\$ 14,610.43	\$ 179,245.90	\$ 55,831.06	\$ 38.79	\$ 2,877.14	\$ 11,141.88	\$ 5,294.88	\$ 75,983.75	\$ 82,250.55	\$ 103,695.18	\$ 106,919.67	\$ 121,802.87	\$ 6,268.00
JUL 19	3791030.00	\$ 14,610.43	\$ 169,332.97	\$ 64,986.33	\$ 100.51	\$ 2,683.72	\$ 11,141.88	\$ 5,377.21	\$ 85,289.65	\$ 90,756.59	\$ 102,915.50	\$ 60,546.96	\$ 74,453.89	\$ 5,493.94
AUG 19	4892893.00	\$ 13,010.12	\$ 199,141.84	\$ 60,772.47	\$ 109.19	\$ 3,262.19	\$ 11,141.88	\$ 4,665.70	\$ 80,431.49	\$ 115,480.83	\$ 102,013.56	\$ 118,956.76	\$ 58,814.19	\$ 35,049.40
SEP 19	4897068.00	\$ 13,693.88	\$ 184,840.56	\$ 51,975.71	\$ 129.26	\$ 2,951.76	\$ 11,141.88	\$ 5,560.45	\$ 79,439.06	\$ 85,710.61	\$ 98,627.29	\$ 115,892.05	\$ 98,525.67	\$ 6,771.55
OCT 19	3527514.00	\$ 14,072.84	\$ 153,237.88	\$ 55,110.22	\$ 96.86	\$ 2,483.68	\$ 12,141.88	\$ 5,302.49	\$ 75,035.19	\$ 84,092.82	\$ 97,767.67	\$ 107,256.72	\$ 122,946.54	\$ 9,037.68
NOV 19	4657865.00	\$ 14,171.24	\$ 196,863.66	\$ 74,026.02	\$ 85.40	\$ 2,786.01	\$ 12,141.88	\$ 5,294.11	\$ 94,303.42	\$ 95,811.47	\$ 114,041.05	\$ 103,927.00	\$ 64,483.12	\$ 157,862.67
DEC 19	4515049.00	\$ 14,113.58	\$ 194,944.00	\$ 74,132.23	\$ 85.40	\$ 3,089.70	\$ 11,141.88	\$ 5,226.88	\$ 94,590.79	\$ 102,589.66	\$ 123,757.90	\$ 118,349.60	\$ 157,862.67	\$ 1,400,005.53
	52756652.00	\$ 171,158.65	\$ 2,249,112.94	\$ 831,024.94	\$ 849.51	\$ 34,030.08	\$ 145,702.56	\$ 61,547.14	\$ 981,568.24	\$ 1,072,237.04	\$ 1,294,437.93	\$ 1,288,637.86	\$ 1,400,005.53	\$ 89,165.75



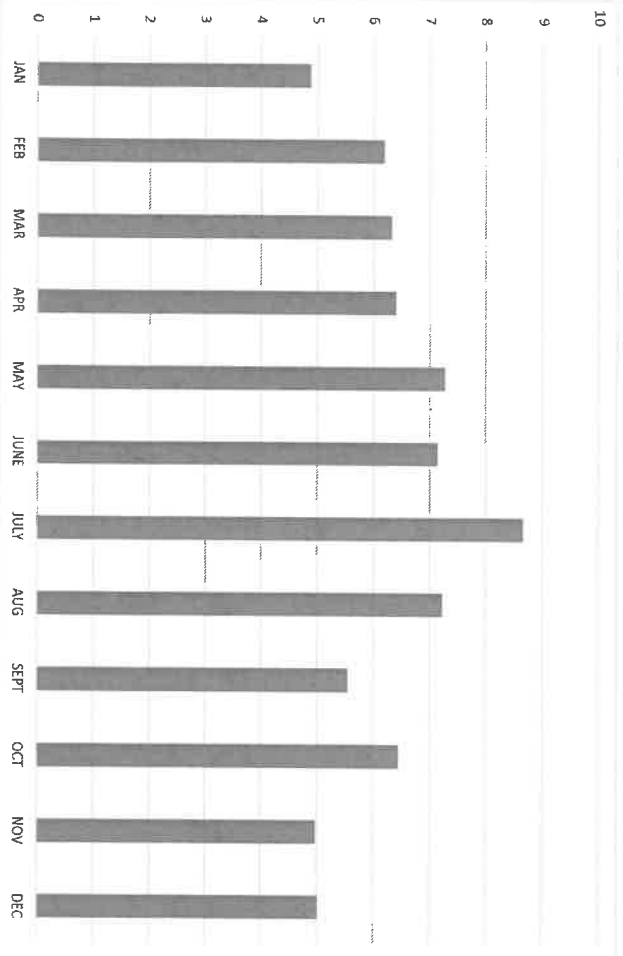
Water & Light Work Orders Report - 2019

CUSTOMER INFORMATION	1/1-1/31	2/1-2/28	3/1-3/31	4/1-4/30	5/1-5/31	6/1-6/30	7/1-7/31	8/1-8/31	9/1-9/30	10/1-10/31	11/1-11/30	12/1-12/31
DISCONNECT/NONPMITS	8	18	16	21	7	16	8	9	18	12	14	14
REINSTATEMENT OF SERVICES	5	15	14	20	8	8	9	10	18	13	11	10
ELECTRICAL	4	11	15	14	6	11	16	7	8	12	36	13
WATER/ELEC TURN ONS	0	0	1	5	3	6	2	1	4	0	1	3
DISCONNECT WATER/ELEC	0	0	0	2	2	3	8	0	4	1	3	4
READ VERIFICATIONS	40	32	14	46	71	53	37	42	30	15	39	14
NEW OCCUPANT READS	9	8	9	7	9	12	18	13	14	25	16	8
WATER METER/REMOTE REPAIR	3	7	0	6	4	21	5	1	4	4	4	4
WATER ONLY TURN ON	0	0	6	4	14	6	0	3	3	0	1	1
WATER ONLY SHUT OFF	4	1	2	0	1	3	2	1	3	15	9	4
WATER LEAKS	4	1	0	1	1	1	3	3	0	0	2	1
CUSTOMER INFORMATION	5	1	2	3	3	1	4	7	4	2	8	2
PLANT/BLDG MAINTENANCE	0	1	2	0	0	2	0	0	1	0	0	1
NEW LIGHT REPAIRS	2	1	5	2	0	2	3	0	0	11	4	1
AFTER HOUR CALL-OUTS	0	0	1	0	0	1	1	5	4	1	3	0
LUMBING	2	1	2	6	2	3	7	1	0	0	9	3
FIRE HYDRANT REPAIR	0	0	0	0	0	0	0	0	0	0	0	0
FIX MISC WATER LINE ITEMS	0	2	1	1	3	1	3	0	0	2	1	2
TOTALS	86	99	90	138	134	150	126	103	115	113	161	85



Water & Light Water Pumpage Report - 2019

MONTH	PUMPAGE	X 1,000,000	1000'S GALS	GOAL	\$ BILLED FOR	GALS BILLED	% OF GOAL	BILLED FOR REU'S	LOST REVENUE
JAN'19	4,878.2	4878200	4878.2	\$ 79,400.00	\$ 77,749.00	4878.2	97.9%	1,036.65	\$ 1,651.00
FEB'19	6,186.3	6186300	6186.3	\$ 79,400.00	\$ 77,275.29	6186.3	97.3%	1,030.34	\$ 2,124.71
MAR'19	6,315.4	6315400	6315.4	\$ 79,400.00	\$ 77,524.70	6315.4	97.6%	1,033.66	\$ 1,875.30
APR'19	6,399.1	6399100	6399.1	\$ 79,400.00	\$ 77,475.07	6399.1	97.6%	1,033.00	\$ 1,924.93
MAY'19	7,268	7268000	7268	\$ 79,400.00	\$ 77,190.16	7268	97.2%	1,029.20	\$ 2,209.84
JUNE'19	7,144	7144000	7144	\$ 79,400.00	\$ 77,890.90	7144	98.1%	1,038.55	\$ 1,509.10
JULY'19	8,661.4	8661400	8661.4	\$ 79,400.00	\$ 78,788.79	8661.4	99.2%	1,050.52	\$ 611.21
AUG'19	7,225.7	7225700	7225.7	\$ 79,400.00	\$ 78,273.47	7225.7	98.6%	1,043.65	\$ 1,126.53
SEPT'19	5,548.9	5548900	5548.9	\$ 79,400.00	\$ 81,901.21	5548.9	103.2%	1,092.02	\$ (2,501.21)
OCT'19	6,452	6452000	6452	\$ 79,400.00	\$ 82,089.84	6452	103.4%	1,094.53	\$ (2,689.84)
NOV'19	4,97	4974300	4974.3	\$ 79,400.00	\$ 77,220.70	4974.3	97.3%	1,029.61	\$ 2,179.30
DEC'19	5,012.5	5012500	5012.5	\$ 79,400.00	\$ 76,488.42	5012.5	96.3%	1,019.85	\$ 2,911.58
				GOAL	\$ 952,800.00	\$ 939,867.55			
				BILLED TO DATE	\$ 939,867.55				
				REMAINING NEEDED FOR BUDGET	\$ 12,932.45	6607.9	99.0%	99%	\$ 6,201.40



VILLAGE OF NEWBERRY, Michigan

Water System Asset Management Program

Executive Summary

Original created December 2017

Revised and updated December 2019

This report contains the asset management program for the Village of Newberry water system.

CONCLUSION

The results of the asset management program user fee rate analysis indicated that a water rate increase was necessary to meet the adopted budget. At the July 2017 Village Council meeting the village council adopted a flat \$75.00 per REU water rate structure. The results of the rate analysis can be found in Appendix 1.

CONFIRMATION OF INCOME

Based on a billing of 13,200 REU per year at \$75.00 per REU that gives an annual income of \$990,000 per year.

Table 1. Village of Newberry Rate Changes

Village of Newberry			
CONCLUSION OF ANALYSIS			
	BASE RATE / READY TO SERVE CHARGE PER MONTH		
METER SIZE - INCHES	CURRENT RATES	CALCULATED RATES	DIFFERENCE
RES	\$7.50	\$75.00	\$67.50
COM	\$7.50	\$75.00	\$67.50

The above rates are based on an input budget of	\$890,009
The above rates are based on invoicing the following gallons of water / sewer	38,412,000
The above rates are based on the following number of customers	1,100
The above rates are based on the following number of Residential Equivalent Units (REU's)	13,200

One of the reasons for the increase with the establishment of the equipment replacement fund and the updated capital improvement plan. The equipment replacement and rehabilitation annual funding levels are based on anticipated expenses for the equipment listed in the program. These anticipated expenses are based on the past maintenance history of this equipment. The better and more accurate the maintenance records are the more accurate and realistic the future anticipated replacement and rehabilitation cost will be. It is therefore recommended that the Village continue to track the maintenance of the water system equipment and strive to improve the record keeping procedures. Better records equal a better asset management program as well as increased reliability of the water

system. The current rate budget has these budget figures included and is currently supported 100% by the current water rates.

ASSET INVENTORY

The asset inventory will be tracked in a Microsoft excel spreadsheet by the Director of Public Works. The Director of Public works will maintain the file and make changes to the inventory as needed. The following assets will be tracked in the Village's water system inventory: 3 wells, one 100,000-gallon water tower, valves, fire hydrants, water mains, water meters, curb stops, and service lines. Water mains, valves and hydrants have been digitized in a GIS geodatabase. The remaining assets including the Village's vertical water infrastructure (source wells and storage tank), meters, curb stops, and service lines will be added to the GIS geodatabase in future revisions to the Village's Water AMP.

The Village's water system contains the following major source, storage, and distribution assets:

- 3 groundwater wells:
 - Well #4 (1938) – 1200 GPM
 - Well #6 (2006) – 350 GPM
 - Well #7 (2008/2009) – 700 GPM
- 100,000-gallon elevated storage tank (1937)
- 333 valves
- 78 hydrants
- 73,355 feet of watermain
- Unknown meters
- Unknown curb stops
- Unknown service lines

The Village is continuing the asset inventory effort for the Lead and Copper Rule deliverables and will update the AMP totals for meters, curb stops, and service lines as more information is gathered. The Asset Inventory contains the following information:

- a) Brief description of the asset, its required capacity (e.g. pump: 120 gpm), level of redundancy for the asset.
- b) Location of the asset;
- c) Year the asset was installed;
- d) Present condition of the asset (e.g. excellent, good, fair, poor);

Condition		Assessment	
Condition Rating		Description	
5		Asset Unserviceable - Over 50% of asset requires replacement	
4		Significant deterioration - significant renewal/upgrade required (20 -40%)	
3		Moderate deterioration - Significant maintenance required (10 -20%)	
2		Minor Deterioration - Minor maintenance required (5%)	
1		New of Excellent Condition - Only normal maintenance required	

- e) Current asset (replacement) costs;

f) Criticality - **Consequence of Failure**

At the current time this is the rating system being used for "Criticality, Consequence of Failure" which comes from the MDEQ NPDES Wastewater Permit Asset Management Requirements.

Rating	Description	% Affected	Level
1	Minor Component Failure	0-25%	Asset
2	Major Component Failure	25-50%	Asset
3	Major Asset	0-25%	Asset
4	Multiple Asset Failure	25-50%	Facility / Sub-System
5	Major Facility Failure	50-100%	Facility

EXAMPLE:

If a "well pump" were to fail, the entire well is out of service, leaving the remaining wells to supply water. This could be listed as a # 3-5 depending on how many wells are needed for system demands.

If a single pump is a two-pump lift station were to fail this would most likely be a 2-3 as there is still one pump left and working.

If the control panel in a two-pump lift station failed and the entire pump station were down this would be a 4-5 rating

g) Probability of Failure (POF): FOR WATER MAINS AND VALVES

Per MDEQ Guidelines - Probability of failure is rated as follows.

Probability of Failure	
Performance Rating	Description
5	Imminent - Likely to occur in the life of the item
4	Probable - Will occur several times in the life of an item
3	Occasional - Likely to occur some- time in the life of an item
2	Remote - Unlikely but possible to occur in the life of an item
1	Improbable - So unlikely, it can be assumed occurrence may not be experienced

The following is a quote from the MDEQ Asset Management Guide.

To determine the probability of failure a utility needs to look at a number of factors: asset age, condition of asset, failure history, historical knowledge, experiences with that type of asset in general, maintenance records, and knowledge regarding how that type of asset is likely to fail. Below is an example of a ranking system for probability of failure

For this report Probability of Failure for water mains, and water valves is calculated by taking the average of:

Percent of life consumed (on a 1-5 scale)

Condition of item (on a 1-5 scale)

For items in the equipment replacement pages the Probability of Failure is calculated by taking the average of the

Percent of life consumed (on a 1-5 scale)

Percent of life until next rehab (on a 1-5 scale)

Condition of item (on a 1-5 scale)

h) A Criticality Rating = (Probability of Failure X the Consequence of Failure)

CONDITION ASSESSMENT

The likelihood of failure (condition score) was determined based on a review of available records. The Village's elevated storage tank was inspected in 2016 by Utility Service Group. The 100,000-gallon elevated water storage tower was constructed in 1937 and is well maintained but showing signs of aging. The Village is planning to replace the tower in 2031. The Water Well and Pump Record reports show that Well #6 and Well #7 were constructed in 2006 and 2008, respectively, but Well #4 is part of the original water system constructed in 1937/1938. A backup generator is needed at Well #7 and the Village plans to rehabilitate Wells #4 and #6.

The determination of the likelihood of failure in the horizontal infrastructure is based on available records. A major water main replacement project was completed in 2015 in which approximately 65% of the Village's water mains were replaced. Construction records are incomplete, but it was assumed that the majority of pipes not replaced in the 2015 project are original, circa 1937/1938. A design life of 100 years was used to estimate the remaining useful life of the Village's water mains. The estimated remaining useful life is empirically translated to a probability of failure rating on a 1 through 5 scale, and then adjusted for break history or other operational concerns. The Likelihood of Failure for the Village's water mains is summarized in Figure 1. Much of the remaining original water main is located on East Limits Rd.

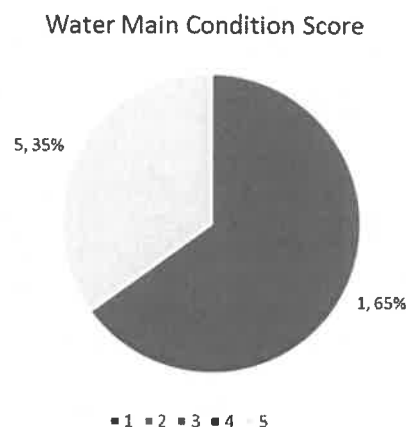


Figure 1. Water Main Probability of Failure Ratings by Total Length

CRITICAL ASSETS AND RECOMMENDATIONS

The investigation leading to the identification of critical water distribution infrastructure involved the determination of risk, which is identified as the combination of the likelihood of the infrastructure failing as well as the consequence of its failure.

While the likelihood of failure (condition) is related to the physical condition of an asset, the consequence of failure focuses on the economic losses and impacts to society due to an asset's failure. The asset diameter was considered for determination of the consequence of failure rating as well as the location of critical users. Critical users are defined as customers who would be severely impacted by the loss of water. The Village identified 36 critical water user locations that include public utilities, places of worship, care facilities, schools and government offices. The list of critical water users is provided in Appendix 3.

The consequence of failure for the Newberry water distribution assets is based on a ranking system which uses a scale of one (1) to five (5), with one (1) meaning the asset would have insignificant disruption if it were to fail and five (5) meaning the asset would have catastrophic disruption if it were to fail. See Tables 2 through 5 for the Village's consequence of failure ranking system.

Table 2. Consequence of Failure Ranking System - Water Main Diameter

COF	Diameter (in)	Description
1	4" or less	Insignificant Disruption
2	6"	Minor Disruption
3	8"	Moderate Disruption
4	10"	Major Disruption
5	12"	Catastrophic Disruption

Table 3. Consequence of Failure Ranking System - Water Main Location

COF	Description
1	Pervious surface (vegetation, small segments of impervious surface)
2	Impervious
3	Minor Roads
4	Major Roads
5	Interstate/Highway/Other Major Roads

Table 4. Consequence of Failure Ranking System - Water Main Proximity to Environmentally Sensitive Features (surface waters, etc.)

COF	Description
1	150 LF or more
2	100 – 150 LF
3	75 – 100 LF
4	50 – 75 LF
5	Less than 50 LF

Table 5. Consequence of Failure Ranking System - Water Main Proximity to Critical Users

COF	Description
1	2,000 LF or more
2	1,500 – 2,000 LF
3	1,000 – 1,500 LF
4	500 – 1,000 LF
5	Less than 500 LF

Utilizing the diameters listed in the Village's Asset Inventory, as well as the location of the pipes and their proximity to environmentally sensitive features and critical water users, the system has an average consequence of failure rating of approximately 3 out of 5. See Figure 2 for an illustration of overall watermain consequence of failure ratings. Consequence ratings for valves and hydrants have not been individually assigned. Ratings for these assets can be assigned in future AMP revisions based on the rating of the adjacent water mains.

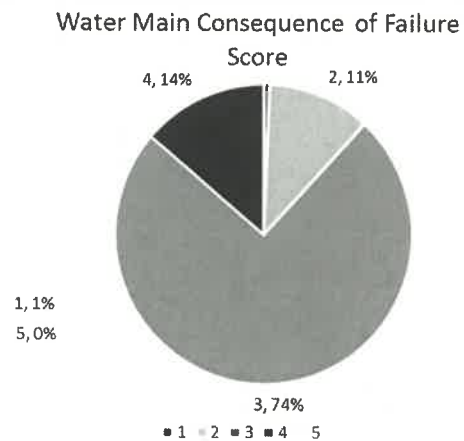


Figure 2. Water Main Consequence of Failure Ratings by Total Length

Risk, which is reported on a one to twenty-five (1 – 25) rating scale, is the result of the asset's likelihood of failure (condition) multiplied by the asset's consequence of failure. Figure 3 details the information used to calculate the risk, also referred to as Business Risk Exposure (BRE), for each of the Village's water main assets.

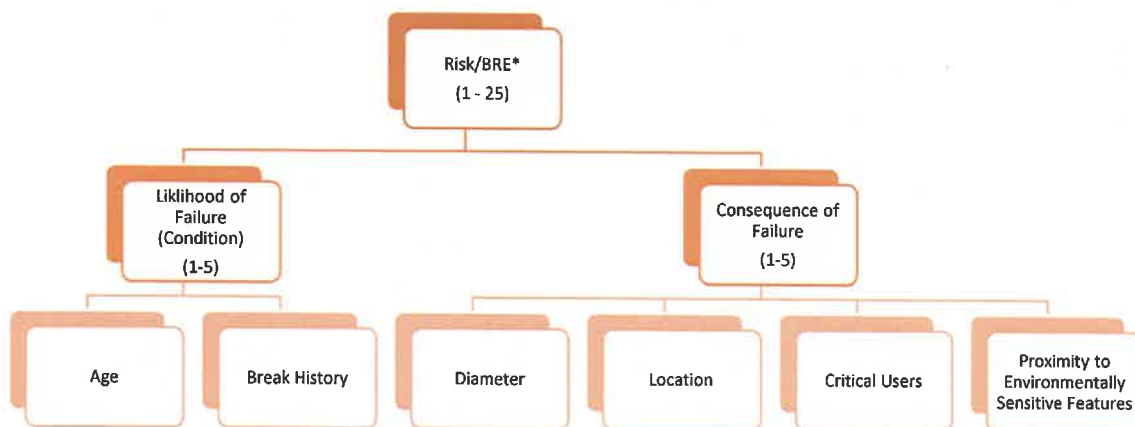


Figure 3. Business Risk Exposure Factor Tree

***Figure 4 Note:** The BRE Priority Matrix depicts how the priority categories (low, medium, or high) were determined based on the consequence of failure and probability of failure.

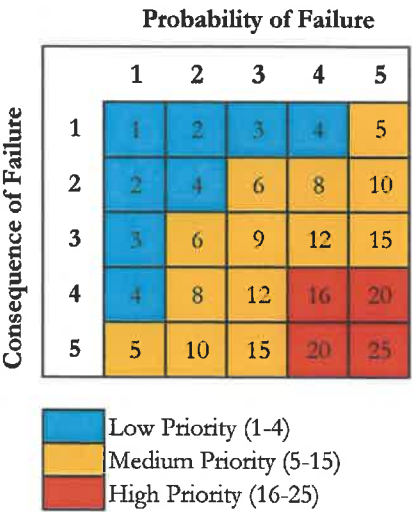


Figure 4. Business Risk Exposure - Priority Matrix

Based on the risk analysis, the Village’s water main assets are predominately low or medium risk assets with a moderate percentage (29%) being high risk, as shown in Figure 5. The high-risk assets are predominately associated with older, larger diameter water main, because of the higher consequence of failure associated with larger diameter and increased probability of failure associated with lower remaining useful life.

While a high percentage of the Village’s assets are categorized as low or medium risk assets, these assets will continue to degrade overtime and their condition will worsen, if no preservation measures are taken, which in turn will shift the distribution of the risk categories.

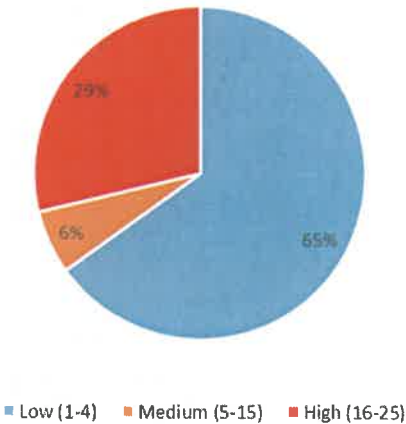


Figure 5. Water Main Business Risk Distribution

LEVEL OF SERVICE

Level of Service (LOS) defines the way in which the utility stakeholders want the utility to perform over the long term. The LOS plan was completed for the Village of Newberry and should become a fundamental part of how the utility is operated, through the setting of practical goals for the Village’s water system. The complete LOS can be found in Appendix 2.

CAPITAL IMPROVEMENT PLAN

A capital improvement plan was completed as part of the asset management program. The Village is currently setting aside \$188,243 dollars per year for capital improvement projects. See notes above and enclosed capital improvement plan enclosed for details. The capital improvement program was developed based on a recent reliability study / general plan completed by the Village's Engineer, as well as system deficiencies noted by Village employees with the goal of saving a 50% down payment for most projects.

CAPITAL PROJECT	DESCRIPTION OF PROJECT	1-5 ⁺ PRIORITY	ESTIMATED PROJECT COST	AMOUNT FUNDED BY RATES	COMPLETE IN YEAR	IS THIS YEAR FLEXIBLE?	MONEY RESERVED ANNUALLY
New Tower	Replacement 1937 tower		\$750,000	\$375,000	2031	Yes	\$ 26,786
Water Main Final Replacement	CP-1 E. Limits Street		\$1,202,715	\$601,358	2021	Yes	\$ 150,339
Well Rehab #4	CP-2 Newberry & B Street		\$631,260	\$315,630	2025	Yes	\$ 39,454
Well rehab #6	CP-3 John Street		\$325,125	\$162,563	2025	Yes	\$ 20,320
Well Rehab #7	W-1 Well Back-Up Gen.		\$100,000	\$100,000	2028	Yes	\$ 9,091
	MP-7 Water Meter Truck		\$40,000	\$40,000	2025	Yes	\$ 5,000

Additionally, the Village is currently setting aside \$21,000 for equipment replacement and \$60,000 funding depreciation. The Village also currently has multiple loans from the USDA – Rural Development office and is required to set aside \$88,300 in a repair, replacement and improvement fund.

5) Revenue Structure (See results of rate study at beginning of this report)

The Revenue Structure of this report contains the following items;

- OM&R Budget and Rate Evaluation for the entire water system.
- Amount in the replacement fund for current year and anticipated amount for upcoming years.
- Replacement fund of all assets with a useful life of 25 years or less;
- Expenditures for maintenance, corrective action and capital improvements
- Rate calculation demonstrating sufficient revenues to cover OM&R expenses,

Replacement money reserved annually is calculated using the replacement cost divided by the life of the equipment. The rehab money reserved annually is calculated using the rehab cost divided by the years between rehabilitations. The current reserve funds are sufficient to make up the difference between life of the equipment and years remaining. The anticipated annual replacement and rehabilitation expenditures have a two percent cost of living added in for each year.

Appendix 1.

Village of Newberry							2017
FINAL RATE ANALYSIS		ANNUAL BUDGET	PERCENT BASE RATE	BASE FIXED	COST PER 3/4" METER	CONSUMPTION PORTION	COST / UNIT OF WATER
LABOR & BENEFITS		\$182,167	100%	\$182,167	\$13.80	\$0	\$0.00
OPERATIONAL EXPENSES		\$88,300	100%	\$88,300	\$6.69	\$0	\$0.00
LOANS, BONDS, INTEREST, ANNUAL PAYMENT		\$362,000	100%	\$362,000	\$27.42	\$0	\$0.00
EQUIPMENT REPLACEMENT, GENERAL		\$21,000	100%	\$21,000	\$1.59	\$0	\$0.00
CAPITAL IMPROVEMENT PROJECTS		\$188,243	100%	\$188,243	\$14.26	\$0	\$0.00
DEPRECIATION FUND		\$60,000	100%	\$60,000	\$4.55	\$0	\$0.00
USDA RURAL DEVELOPMENT RESERVE REQUIREMENTS		\$88,300	100%	\$88,300	\$6.69	\$0	\$0.00
TOTALS		\$990,009		\$990,009	\$75.00	\$0	\$0.00
NON OPERATING INCOME REDUCTION							
PERCENT OF REVENUE				100%		0%	
					\$ -		\$ -
CALCULATED RATE - FOR 3/4" METER / REU PER MONTH							
					\$ 75.00	1,000 GAL.	\$ -
TOTAL ANNUAL REUS 13,200							
ANTICIPATED WATER / SEWER SOLD 38,412,000					CURRENT RATES \$7.50		\$9.25
RESERVE PORTION OF BUDGET 36%					INCREASE OF \$67.50		(\$9.25)
THE COST PER "UNIT / WATER" DOES INCLUDE INCLINING OR DECLINING RATES					RATE ADJUSTMENT GENERATES ADDITIONAL	\$535,698	
ARE ANY GALLONS INCLUDED WITH THIS CALCULATED BASE RATE ?							
IS BASE RATE PER REU, - OR PER METER SIZE?					\$100 INCREASE GENERATES	\$13,200	\$38,412

Appendix 2.

Level of Service

Village of Newberry

Level of Service Statement

Level of Service (LOS) defines the way in which the utility stakeholders want the utility to perform over the long term. The LOS plan below was completed and should become a fundamental part of how the utility is operated, through the setting of practical goals for the City's water system.

Areas	GOALS / OBJECTIVES	LEVEL OF SERVICE
Safe Drinking Water	All federal and state water quality regulations will be met	Perform all required monitoring
Health, Safety	To provide a safe and injury free work place	Conduct regular safety meetings No MIOSHA safety violations
Security	Secure all water installations from break ins / intrusions'	Make sure all water installations have at least one barrier of security
Operator certification	Must have operator in charge & backup operator on staff	The Village will maintain 4 certified operator at a minimum of S-3 and D-3 levels.
Customer complaints	To provide excellent customer service	All customer complaints will be investigated within 2 business days of reporting the complaint.

		Results of complaint will be reported to customer verbally, via the phone, in person, or in writing
Upcoming regulatory changes	Be aware of regulatory changes and comply with changes as they occur	Attend industry conferences and training sessions to stay abreast of changes and requirements Request annual meeting with local MDEQ representative to insure compliance
Response time	To provide excellent customer service	Customer emergency response time within 2 hours Customers will receive written notice 24 hours in advance of any planned interruption in service.
Wells -Supply water	Maintain all well related equipment. Focusing on preventative maintenance to prevent unscheduled breakdown	Wells will be inspected every two (2) Years by Well Specialist Documentation of all maintenance performed
Alternative Power Source	Goals - all wells have a permanent generator or back up power? - or portable generator - generator service contract Maintain all well buildings	Annual inspections of generators by outside professionals? Keep building painted, and clean
Quality Drinking Water	To provide high quality good tasting drinking water	Comply with MDEQ testing requirements

Distribution System	Distribution System Valves	Exercise ALL water distribution valves on an annual program.
		Provide adequate manpower to perform valve exercise program
		Have written documentation of valve exercising
		Insure that 99% of valves function properly
	Fire Hydrants	Insure that 99% Of fire hydrants are in good working order
	Water Main Flushing	Water mains will be flushed every three (3) Months
		Provide adequate manpower to perform water main flushing
		Have written documentation of water main / hydrant flushing
		Under normal conditions, pressures will be maintained between 30 and 70 psi.

	<p>General System Maintenance</p> <p>The Village will strive to reduce water loss to below 17% (Currently at 28%)</p>	<p>Insure water rates and budget are adequate to provide manpower to perform valve exercising, hydrant maintenance, water main flushing and replacement if necessary</p>
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<p>Water Storage</p>	<p>Maintain water tower for longer life span</p>	<p>Professionally Inspect every five years for integrity Complete all maintenance as suggested in inspection reports</p> <p>Insure Rates and Budget are adequate to support major maintenance actives (painting) as recommended through inspection process</p> <p>All storage requirements will be met as indicated under MDEQ Reliability Study Guidelines</p>
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<p>Administrative</p>	<p>Provide excellent customer service Insure customers bills are accurate</p>	<p>Follow up on all complaints to insure a finite outcome Review any discrepancy</p>
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<p>Financial</p>	<p>Be financially solvent & operate water system in the black including reserve funding</p>	<p>Review Water Rates every year.</p> <p>Adopt sufficient rates to meet adopted budget</p> <p>Insure adopted annual budget includes results of asset management program</p> <p>Maintain 188,000 dollars in reserve accounts at all times</p>
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Rules and Regulations	Monitor & enforce	Update & review rules annually - Cross connections, Site sampling plan, Required Lab analysis, Consumer confidence report, Safety program,
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Cross Connections	Annually review cross connection program and update as needed Comply with adopted ordinance	Perform inspections as required with in house staff Attend seminars to keep staff up-to-date with any changes in rule.
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Appendix 3. Village of Newberry Critical Water Users

Village of Newberry Critical Water Users List as of 12.17.19

Critical Users	Address
All St. Episcopal Church	314 W Truman
Christian Fellow SBC	314 E Truman
CLM Community Action	207 Newberry Ave
First Baptist Church	116 E McMillan
First Presbyterian Church	113 W John
Helen Newberry Joy Hospital	502 W Harrie Street
Luce County Ambulance Service	910 Washington Blvd
Luce County District Court	407 W Harrie St
Luce County Historical Society	411 W Harrie St
Luce County Housing Commission	113 W Helen
Luce County Parks & Rec	500 W Ave C
Luce County Road Commission Office	423 W McMillan
Luce County Sheriff Office	411 W Harrie St
McMillan Twp Board	405 Newberry Ave
Michigan State Police	7942 M 123
Newberry Assisted Living	7966 Pamela Lane
Newberry Fire Department	108 E Truman Blvd
Northwoods Home Nursing	500 W McMillan
Our Redeemer Church	802 Tahquamenon
Our Redeemer Church	321 W John
Rainbow's End	103 W John
River of Life Worship Ctr	1020 E Limits
St. Gregory Catholic Church	212 W Harrie
St. Gregory Rectory	111 W Harrie
Tahqua Senior Citizen Ctr	113 W Helen
Tahquamenon Area Schools	700 Newberry Ave
Teaching Family Home	7820 Co Rd 403
Trinity Luthern Church	711 Newberry Ave
Trinity Luthern Parsonage	111 E Ave B
United Methodist Church	110 W Harrie
US Post Office	216 E John
Village of Newberry	302 E McMillan
Village of Newberry- Electric Plant	307 E McMillan
Village of Newberry- Wastewater Treatment Plant	9698 M-123
Wisconsin Central (CN Rail)	100 E Railroad St
Elevated Water Tank	302 E McMillan
100,000 gallon elevated tank	

Dated: 9/30/2005 Yearly Debt Service 1
 Delivered: 9/30/2005 Village of Newberry
 2005 Water Supply System Revenue Bond No Calls

Calendar Year	September 1 Principal	Coupon Rate	March 1 Interest	September 1 Interest	Yearly Debt Service	Outstanding Debt	Cusip #
2006	20,000.00	4.125	39,794.81	47,437.50	107,232.31	2,280,000.00	
2007	21,000.00	4.125	47,025.00	47,025.00	115,050.00	2,259,000.00	
2008	22,000.00	4.125	46,591.88	46,591.88	115,183.76	2,237,000.00	
2009	23,000.00	4.125	46,138.13	46,138.13	115,276.26	2,214,000.00	
2010	24,000.00	4.125	45,663.75	45,663.75	115,327.50	2,190,000.00	
2011	25,000.00	4.125	45,168.75	45,168.75	115,337.50	2,165,000.00	
2012	27,000.00	4.125	44,653.13	44,653.13	116,306.26	2,138,000.00	
2013	28,000.00	4.125	44,096.25	44,096.25	116,192.50	2,110,000.00	
2014	29,000.00	4.125	43,518.75	43,518.75	116,037.50	2,081,000.00	
2015	31,000.00	4.125	42,920.63	42,920.63	116,841.26	2,050,000.00	
2016	32,000.00	4.125	42,281.25	42,281.25	116,562.50	2,018,000.00	
2017	34,000.00	4.125	41,621.25	41,621.25	117,242.50	1,984,000.00	
2018	35,000.00	4.125	40,920.00	40,920.00	116,840.00	1,949,000.00	
2019	37,000.00	4.125	40,198.12	40,198.12	117,396.24	1,912,000.00	
2020	39,000.00	4.125	39,435.00	39,435.00	117,870.00	1,873,000.00	
2021	41,000.00	4.125	38,630.62	38,630.62	118,261.24	1,832,000.00	
2022	42,000.00	4.125	37,785.00	37,785.00	117,570.00	1,790,000.00	
2023	44,000.00	4.125	36,918.75	36,918.75	117,837.50	1,746,000.00	
2024	47,000.00	4.125	36,011.25	36,011.25	119,022.50	1,699,000.00	
2025	49,000.00	4.125	35,041.87	35,041.87	119,083.74	1,650,000.00	
2026	51,000.00	4.125	34,031.25	34,031.25	119,062.50	1,599,000.00	
2027	54,000.00	4.125	32,979.37	32,979.37	119,958.74	1,545,000.00	
2028	56,000.00	4.125	31,865.62	31,865.62	119,731.24	1,489,000.00	
2029	59,000.00	4.125	30,710.62	30,710.62	120,421.24	1,430,000.00	
2030	62,000.00	4.125	29,493.74	29,493.74	120,987.48	1,368,000.00	
2031	65,000.00	4.125	28,214.99	28,214.99	121,429.98	1,303,000.00	
2032	68,000.00	4.125	26,874.37	26,874.37	121,748.74	1,235,000.00	
2033	71,000.00	4.125	25,471.87	25,471.87	121,943.74	1,164,000.00	
2034	74,000.00	4.125	24,007.49	24,007.49	122,014.98	1,090,000.00	
2035	78,000.00	4.125	22,481.24	22,481.24	122,962.48	1,012,000.00	
2036	81,000.00	4.125	20,872.49	20,872.49	122,744.98	931,000.00	
2037	85,000.00	4.125	19,201.87	19,201.87	123,403.74	846,000.00	
2038	89,000.00	4.125	17,448.75	17,448.75	123,897.50	757,000.00	
2039	94,000.00	4.125	15,613.13	15,613.13	125,226.26	663,000.00	
2040	98,000.00	4.125	13,674.38	13,674.38	125,348.76	565,000.00	
2041	103,000.00	4.125	11,653.13	11,653.13	126,306.26	462,000.00	
2042	108,000.00	4.125	9,528.75	9,528.75	127,057.50	354,000.00	
2043	113,000.00	4.125	7,301.25	7,301.25	127,602.50	241,000.00	
2044	118,000.00	4.125	4,970.63	4,970.63	127,941.26	123,000.00	
2045	123,000.00	4.125	2,536.88	2,536.88	128,073.76	-	
2,300,000.00			1,243,346.01	1,250,988.70	4,794,334.71		

True Interest Cost (TIC)	4.1251860	Arbitrage Yield Limit (AYL)	4.1251860
Net Interest Cost (NIC)	4.1249999	Arbitrage Net Interest Cost (ANIC)	4.1250000

Dated: 3/20/2009

Yearly Debt Service

1

Delivered: 3/20/2009

Village of Newberry

2009 Water Supply System Revenue Bond

No Calls

Calendar Year	September 1 Principal	Coupon Rate	March 1 Interest	September 1 Interest	Yearly Debt Service	Outstanding Debt	Cusip #
2009	3,000.00	4.125	-	5,534.38	8,534.38	297,000.00	
2010	3,000.00	4.125	6,125.62	6,125.62	15,251.24	294,000.00	
2011	3,000.00	4.125	6,063.74	6,063.74	15,127.48	291,000.00	
2012	3,000.00	4.125	6,001.86	6,001.86	15,003.72	288,000.00	
2013	4,000.00	4.125	5,939.98	5,939.98	15,879.96	284,000.00	
2014	4,000.00	4.125	5,857.48	5,857.48	15,714.96	280,000.00	
2015	4,000.00	4.125	5,774.98	5,774.98	15,549.96	276,000.00	
2016	4,000.00	4.125	5,692.48	5,692.48	15,384.96	272,000.00	
2017	4,000.00	4.125	5,609.98	5,609.98	15,219.96	268,000.00	
2018	4,000.00	4.125	5,527.48	5,527.48	15,054.96	264,000.00	
2019	5,000.00	4.125	5,444.98	5,444.98	15,889.96	259,000.00	
2020	5,000.00	4.125	5,341.86	5,341.86	15,683.72	254,000.00	
2021	5,000.00	4.125	5,238.74	5,238.74	15,477.48	249,000.00	
2022	5,000.00	4.125	5,135.62	5,135.62	15,271.24	244,000.00	
2023	5,000.00	4.125	5,032.50	5,032.50	15,065.00	239,000.00	
2024	6,000.00	4.125	4,929.38	4,929.38	15,858.76	233,000.00	
2025	6,000.00	4.125	4,805.63	4,805.63	15,611.26	227,000.00	
2026	6,000.00	4.125	4,681.88	4,681.88	15,363.76	221,000.00	
2027	6,000.00	4.125	4,558.13	4,558.13	15,116.26	215,000.00	
2028	7,000.00	4.125	4,434.38	4,434.38	15,868.76	208,000.00	
2029	7,000.00	4.125	4,290.00	4,290.00	15,580.00	201,000.00	
2030	7,000.00	4.125	4,145.62	4,145.62	15,291.24	194,000.00	
2031	7,000.00	4.125	4,001.24	4,001.24	15,002.48	187,000.00	
2032	8,000.00	4.125	3,856.86	3,856.86	15,713.72	179,000.00	
2033	8,000.00	4.125	3,691.86	3,691.86	15,383.72	171,000.00	
2034	8,000.00	4.125	3,526.86	3,526.86	15,053.72	163,000.00	
2035	9,000.00	4.125	3,361.86	3,361.86	15,723.72	154,000.00	
2036	9,000.00	4.125	3,176.24	3,176.24	15,352.48	145,000.00	
2037	9,000.00	4.125	2,990.62	2,990.62	14,981.24	136,000.00	
2038	10,000.00	4.125	2,805.00	2,805.00	15,610.00	126,000.00	
2039	10,000.00	4.125	2,598.75	2,598.75	15,197.50	116,000.00	
2040	11,000.00	4.125	2,392.50	2,392.50	15,785.00	105,000.00	
2041	11,000.00	4.125	2,165.62	2,165.62	15,331.24	94,000.00	
2042	12,000.00	4.125	1,938.74	1,938.74	15,877.48	82,000.00	
2043	12,000.00	4.125	1,691.24	1,691.24	15,382.48	70,000.00	
2044	13,000.00	4.125	1,443.74	1,443.74	15,887.48	57,000.00	
2045	13,000.00	4.125	1,175.62	1,175.62	15,351.24	44,000.00	
2046	14,000.00	4.125	907.50	907.50	15,815.00	30,000.00	
2047	14,000.00	4.125	618.75	618.75	15,237.50	16,000.00	
2048	16,000.00	4.125	330.00	330.00	16,660.00	-	
300,000.00			153,305.32	158,839.70	612,145.02		

True Interest Cost (TIC)	4.1251259	Arbitrage Yield Limit (AYL)	4.1251335
Net Interest Cost (NIC)	4.1249920	Arbitrage Net Interest Cost (ANIC)	4.1250000

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 NEWBERRY-2009-A

Dated: 11/21/2014

Delivered: 11/21/2014

Yearly Debt Service

1

Village of Newberry

2014 Water Supply System Revenue Bond

No Calls

Calendar Year	November 1 Principal	Coupon Rate	May 1 Interest	November 1 Interest	Yearly Debt Service	Outstanding Debt	Cusip #
2015	101,000.00	2.125	59,150.58	66,544.41	226,694.99	6,162,000.00	
2016	103,000.00	2.125	65,471.29	65,471.29	233,942.58	6,059,000.00	
2017	105,000.00	2.125	64,376.91	64,376.91	233,753.82	5,954,000.00	
2018	107,000.00	2.125	63,261.29	63,261.29	233,522.58	5,847,000.00	
2019	110,000.00	2.125	62,124.41	62,124.41	234,248.82	5,737,000.00	
2020	112,000.00	2.125	60,955.66	60,955.66	233,911.32	5,625,000.00	
2021	114,000.00	2.125	59,765.66	59,765.66	233,531.32	5,511,000.00	
2022	117,000.00	2.125	58,554.41	58,554.41	234,108.82	5,394,000.00	
2023	119,000.00	2.125	57,311.29	57,311.29	233,622.58	5,275,000.00	
2024	122,000.00	2.125	56,046.91	56,046.91	234,093.82	5,153,000.00	
2025	124,000.00	2.125	54,750.66	54,750.66	233,501.32	5,029,000.00	
2026	127,000.00	2.125	53,433.16	53,433.16	233,866.32	4,902,000.00	
2027	130,000.00	2.125	52,083.78	52,083.78	234,167.56	4,772,000.00	
2028	133,000.00	2.125	50,702.53	50,702.53	234,405.06	4,639,000.00	
2029	135,000.00	2.125	49,289.41	49,289.41	233,578.82	4,504,000.00	
2030	138,000.00	2.125	47,855.03	47,855.03	233,710.06	4,366,000.00	
2031	141,000.00	2.125	46,388.78	46,388.78	233,777.56	4,225,000.00	
2032	144,000.00	2.125	44,890.66	44,890.66	233,781.32	4,081,000.00	
2033	147,000.00	2.125	43,360.66	43,360.66	233,721.32	3,934,000.00	
2034	150,000.00	2.125	41,798.78	41,798.78	233,597.56	3,784,000.00	
2035	154,000.00	2.125	40,205.03	40,205.03	234,410.06	3,630,000.00	
2036	157,000.00	2.125	38,568.78	38,568.78	234,137.56	3,473,000.00	
2037	160,000.00	2.125	36,900.65	36,900.65	233,801.30	3,313,000.00	
2038	164,000.00	2.125	35,200.65	35,200.65	234,401.30	3,149,000.00	
2039	167,000.00	2.125	33,458.15	33,458.15	233,916.30	2,982,000.00	
2040	171,000.00	2.125	31,683.77	31,683.77	234,367.54	2,811,000.00	
2041	174,000.00	2.125	29,866.89	29,866.89	233,733.78	2,637,000.00	
2042	178,000.00	2.125	28,018.14	28,018.14	234,036.28	2,459,000.00	
2043	182,000.00	2.125	26,126.89	26,126.89	234,253.78	2,277,000.00	
2044	186,000.00	2.125	24,193.14	24,193.14	234,386.28	2,091,000.00	
2045	190,000.00	2.125	22,216.89	22,216.89	234,433.78	1,901,000.00	
2046	194,000.00	2.125	20,198.14	20,198.14	234,396.28	1,707,000.00	
2047	198,000.00	2.125	18,136.89	18,136.89	234,273.78	1,509,000.00	
2048	202,000.00	2.125	16,033.14	16,033.14	234,066.28	1,307,000.00	
2049	206,000.00	2.125	13,886.89	13,886.89	233,773.78	1,101,000.00	
2050	211,000.00	2.125	11,698.14	11,698.14	234,396.28	890,000.00	
2051	215,000.00	2.125	9,456.26	9,456.26	233,912.52	675,000.00	
2052	220,000.00	2.125	7,171.88	7,171.88	234,343.76	455,000.00	
2053	224,000.00	2.125	4,834.38	4,834.38	233,668.76	231,000.00	
2054	231,000.00	2.125	2,454.38	2,454.38	235,908.76	-	
6,263,000.00			1,541,880.94	1,549,274.77	9,354,155.71		

True Interest Cost (TIC)	2.1250330	Arbitrage Yield Limit (AYL)	2.1250316
Net Interest Cost (NIC)	2.1250014	Arbitrage Net Interest Cost (ANIC)	2.1250000

2002 Electric Bond

VILLAGE OF NEWBERRY
Capital Improvement Bonds, Series 2002
\$885,000

DEBT SERVICE SCHEDULE

DELIVERY DATE: 8/29/ 2

DATE	PRINCIPAL	COUPON	INTEREST	PERIOD TOTAL	FISCAL TOTAL
5/ 1/ 3			31,065.00	31,065.00	
11/ 1/ 3	25,000.00	4.350000	20,710.00	45,710.00	76,775.00
5/ 1/ 4			20,166.25	20,166.25	
11/ 1/ 4	30,000.00	4.350000	20,166.25	50,166.25	70,332.50
5/ 1/ 5			19,513.75	19,513.75	
11/ 1/ 5	30,000.00	4.350000	19,513.75	49,513.75	69,027.50
5/ 1/ 6			18,861.25	18,861.25	
11/ 1/ 6	30,000.00	4.350000	18,861.25	48,861.25	67,722.50
5/ 1/ 7			18,208.75	18,208.75	
11/ 1/ 7	35,000.00	4.350000	18,208.75	53,208.75	71,417.50
5/ 1/ 8			17,447.50	17,447.50	
11/ 1/ 8	35,000.00	4.350000	17,447.50	52,447.50	69,895.00
5/ 1/ 9			16,686.25	16,686.25	
11/ 1/ 9	35,000.00	4.350000	16,686.25	51,686.25	68,372.50
5/ 1/10			15,925.00	15,925.00	
11/ 1/10	40,000.00	4.350000	15,925.00	55,925.00	72,850.00
5/ 1/11			15,055.00	15,055.00	
11/ 1/11	40,000.00	4.350000	15,055.00	55,055.00	70,110.00
5/ 1/12			14,185.00	14,185.00	
11/ 1/12	40,000.00	4.350000	14,185.00	54,185.00	68,370.00
5/ 1/13			13,315.00	13,315.00	
11/ 1/13	45,000.00	4.400000	13,315.00	58,315.00	71,630.00
5/ 1/14			12,325.00	12,325.00	
11/ 1/14	45,000.00	4.500000	12,325.00	57,325.00	69,650.00
5/ 1/15			11,312.50	11,312.50	
11/ 1/15	50,000.00	4.600000	11,312.50	61,312.50	72,625.00
5/ 1/16			10,162.50	10,162.50	
11/ 1/16	50,000.00	4.750000	10,162.50	60,162.50	70,325.00
5/ 1/17			8,975.00	8,975.00	
11/ 1/17	50,000.00	4.900000	8,975.00	58,975.00	67,950.00
5/ 1/18			7,750.00	7,750.00	
11/ 1/18	55,000.00	5.000000	7,750.00	62,750.00	70,500.00
5/ 1/19			6,375.00	6,375.00	
11/ 1/19	60,000.00	5.100000	6,375.00	66,375.00	72,750.00
5/ 1/20			4,845.00	4,845.00	
11/ 1/20	60,000.00	5.100000	4,845.00	64,845.00	69,690.00
5/ 1/21			3,315.00	3,315.00	
11/ 1/21	65,000.00	5.100000	3,315.00	68,315.00	71,630.00
5/ 1/22			1,657.50	1,657.50	
11/ 1/22	65,000.00	5.100000	1,657.50	66,657.50	68,315.00
	885,000.00		523,937.50	1,408,937.50	
ACCRUED			3,221.56	3,221.56	
	885,000.00		520,715.94	1,405,715.94	

2003 Electric Bond

LOAN REPAYMENT SCHEDULE - EXHIBIT A TO PURCHASE CONTRACT
Interest Rates as of Final Pricing on 09/16/03

MICHIGAN MUNICIPAL BOND AUTHORITY Local Government Loan Program Revenue Bonds Series 2003B

Borrower: Village of Newberry
Revenue Sharing Bonds

Transaction Summary

Dated Date: 9/30/2003
Closing Date: 9/30/2003
Structure: Serial 04-23
Call Features: 11/1/13 @ 100
Arbitrage Yield: 4.63554%
Maximum Annual Debt Service: \$77,175
Weighted Avg Maturity of 2003B Bonds: 11.962 years

Purchase Price

Par Amount \$965,000.00
Net Premium/(Discount) (7,737.15)
Gross Proceeds \$957,262.85
Underwriter's Discount (7,147.27)
Authority's Cost of Issuance (9,358.06)
Deposit to Escrow⁽¹⁾ (357,506.25)
Purchase Price * \$583,251.31

Refunding Results of Series 1991B Bonds

Par amount of Refunded Bonds: \$345,000.00
Maturities of Refunded Bonds: 2003-2010
Net PV Savings as % of Refunded Bonds: 14.21892%
Net PV Savings: \$49,855.27

* including:

Project Fund⁽²⁾ \$580,000.00
Local Cost of Issuance⁽²⁾ \$0.00
Additional Proceeds⁽²⁾ \$3,251.31

Debt Service Schedule

Payment Date	Principal	Common	Interest	Debt Service	Annual Debt Service
5/1/2004			23,485.47	23,485.47	
11/1/2004	30,000.00	2.000%	20,035.00	50,035.00	73,520.47
5/1/2005			19,735.00	19,735.00	
11/1/2005	35,000.00	2.000%	19,735.00	54,735.00	74,470.00
5/1/2006			19,385.00	19,385.00	
11/1/2006	35,000.00	2.500%	19,385.00	54,385.00	73,770.00
5/1/2007			18,947.50	18,947.50	
11/1/2007	35,000.00	2.500%	18,947.50	53,947.50	72,895.00
5/1/2008			18,510.00	18,510.00	
11/1/2008	40,000.00	3.000%	18,510.00	58,510.00	77,020.00
5/1/2009			17,910.00	17,910.00	
11/1/2009	40,000.00	3.100%	17,910.00	57,910.00	75,820.00
5/1/2010			17,290.00	17,290.00	
11/1/2010	40,000.00	3.500%	17,290.00	57,290.00	74,580.00
5/1/2011			16,590.00	16,590.00	
11/1/2011	40,000.00	3.750%	16,590.00	56,590.00	73,180.00
5/1/2012			15,840.00	15,840.00	
11/1/2012	45,000.00	4.000%	15,840.00	60,840.00	76,080.00
5/1/2013			14,940.00	14,940.00	
11/1/2013	45,000.00	4.100%	14,940.00	59,940.00	74,880.00
5/1/2014			14,017.50	14,017.50	
11/1/2014	45,000.00	4.300%	14,017.50	59,017.50	73,035.00
5/1/2015			13,050.00	13,050.00	
11/1/2015	50,000.00	4.400%	13,050.00	63,050.00	76,100.00
5/1/2016			11,950.00	11,950.00	
11/1/2016	50,000.00	4.500%	11,950.00	61,950.00	73,900.00
5/1/2017			10,825.00	10,825.00	
11/1/2017	55,000.00	4.700%	10,825.00	65,825.00	76,650.00
5/1/2018			9,532.50	9,532.50	
11/1/2018	55,000.00	4.800%	9,532.50	64,532.50	74,065.00
5/1/2019			8,212.50	8,212.50	
11/1/2019	60,000.00	5.000%	8,212.50	68,212.50	76,425.00
5/1/2020			6,712.50	6,712.50	
11/1/2020	60,000.00	5.000%	6,712.50	66,712.50	73,425.00
5/1/2021			5,212.50	5,212.50	
11/1/2021	65,000.00	5.000%	5,212.50	70,212.50	75,425.00
5/1/2022			3,587.50	3,587.50	
11/1/2022	70,000.00	5.125%	3,587.50	73,587.50	77,175.00
5/1/2023			1,793.75	1,793.75	
11/1/2023	70,000.00	5.125%	1,793.75	71,793.75	73,587.50
	965,000.00		531,602.97	1,496,602.97	1,496,602.97

(1) Gross funding of the escrow to call \$345,000 Newberry's loan issued through MMBA LGLP Series 1991B on 11/1/2003 at par
(2) To be wired to account(s) designated by the Borrower upon closing.

2005 Electric Bond

Oct 13 05 10:16a

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517-23-6252

P.2

Village of Newberry Electric Utility System Revenue Bonds, Series 2005 \$985,000

DEBT SERVICE SCHEDULE

DELIVERY DATE: 10/27/ 5

DATE	PRINCIPAL	COUPON	INTEREST	PERIOD TOTAL	FISCAL TOTAL
5/ 1/ 6			22,825.83	22,825.83	
11/ 1/ 6	50,000.00	3.000000	19,565.00	69,565.00	92,390.83
5/ 1/ 7			18,815.00	18,815.00	
11/ 1/ 7	50,000.00	3.100000	18,815.00	68,815.00	87,630.00
5/ 1/ 8			18,040.00	18,040.00	
11/ 1/ 8	50,000.00	3.250000	18,040.00	68,040.00	86,080.00
5/ 1/ 9			17,227.50	17,227.50	
11/ 1/ 9	55,000.00	3.400000	17,227.50	72,227.50	89,455.00
5/ 1/10			16,292.50	16,292.50	
11/ 1/10	55,000.00	3.600000	16,292.50	71,292.50	87,585.00
5/ 1/11			15,302.50	15,302.50	
11/ 1/11	60,000.00	3.750000	15,302.50	75,302.50	90,605.00
5/ 1/12			14,177.50	14,177.50	
11/ 1/12	60,000.00	3.850000	14,177.50	74,177.50	88,355.00
5/ 1/13			13,022.50	13,022.50	
11/ 1/13	65,000.00	4.000000	13,022.50	78,022.50	91,045.00
5/ 1/14			11,722.50	11,722.50	
11/ 1/14	65,000.00	4.100000	11,722.50	76,722.50	88,445.00
5/ 1/15			10,390.00	10,390.00	
11/ 1/15	70,000.00	4.280000	10,390.00	80,390.00	90,780.00
5/ 1/16			8,920.00	8,920.00	
11/ 1/16	75,000.00	4.300000	8,920.00	83,920.00	92,840.00
5/ 1/17			7,307.50	7,307.50	
11/ 1/17	75,000.00	4.350000	7,307.50	82,307.50	89,615.00
5/ 1/18			5,676.25	5,676.25	
11/ 1/18	80,000.00	4.400000	5,676.25	85,676.25	91,352.50
5/ 1/19			3,916.25	3,916.25	
11/ 1/19	85,000.00	4.450000	3,916.25	88,916.25	92,832.50
5/ 1/20			2,025.00	2,025.00	
11/ 1/20	90,000.00	4.500000	2,025.00	92,025.00	94,050.00
	985,000.00		368,060.83	1,353,060.83	
ACCURED			2,826.06	2,826.06	
	985,000.00		365,234.78	1,350,234.78	

DATED 10/ 1/ 5 WITH DELIVERY ON 10/27/ 5
 BOND YEARS 8,767.083
 AVERAGE COUPON 4.198
 AVERAGE LIFE 8.901
 N I C 4.198213 % USING 100.0000000
 T I C 4.176397 % USING 100.0000000

ACI Finance, Inc.

VILLAGE OF NEWBERRY--LUCE COUNTY

NOTES TO FINANCIAL STATEMENTS
For the Fiscal Year Ending December 31, 2017

NOTE H--LONG-TERM DEBT (Continued)

The annual electric, sewer and water fund principal and interest required to maturity for the bonds payable outstanding is as follows:

2002 Electric System Capital Improvement Bonds

Date of Issue: August 1, 2002

582,583,991.000

Amount: \$885,000

Purpose: Electrical System

<u>Annual Interest Rate</u>	<u>Date of Maturity</u>	<u>Maturity November 1</u>	<u>Interest Payments</u>	<u>Total Annual Requirements</u>
5.00%	2018	\$ \ 55,000	\$ 15,500	\$ 70,500
5.10%	2019	\ 60,000	12,750	72,750
	2020	60,000	9,690	69,690
	2021	65,000	6,630	71,630
	2022	65,000	3,315	68,315
		<u>\$ 305,000</u>	<u>\$ 47,885</u>	<u>\$ 352,885</u>

Interest is payable semi-annually at the rate indicated on May 1 and November 1.

2003 Electric System Revenue Bonds

Date of Issue: September 30, 2003

582,583,991.100

Amount: \$965,000

Purpose: Electrical System

<u>Annual Interest Rate</u>	<u>Date of Maturity</u>	<u>Maturity November 1</u>	<u>Interest Payments</u>	<u>Total Annual Requirements</u>
4.80%	2018	\$ \ 55,000	\$ 19,065	\$ 74,065
5.00%	2019	\ 60,000	16,425	76,425
	2020	60,000	13,425	73,425
	2021	65,000	10,425	75,425
5.125%	2022	70,000	7,175	77,175
	2023	70,000	3,588	73,588
		<u>\$ 380,000</u>	<u>\$ 70,103</u>	<u>\$ 450,103</u>

VILLAGE OF NEWBERRY--LUCE COUNTY

NOTES TO FINANCIAL STATEMENTS For the Fiscal Year Ending December 31, 2017

NOTE H--LONG-TERM DEBT (Continued)

2005 Electric System Revenue Bonds

Date of Issue: October 1, 2005

582,583,991.200

Amount: \$985,000

Purpose: Electrical System

<u>Annual Interest Rate</u>	<u>Date of Maturity</u>	<u>Maturity November 1</u>	<u>Interest Payments</u>	<u>Total Annual Requirements</u>
4.40%	2018	\$ \ 80,000	\$ 11,353	\$ 91,353
4.45%	2019	85,000	7,833	92,833
4.50%	2020	90,000	4,050	94,050
		<u>\$ 255,000</u>	<u>\$ 23,236</u>	<u>\$ 278,236</u>

2005 Water Supply System Revenue Bonds

Date of Issue: September 30, 2005

591,536,991.100

Amount: \$2,300,000

Purpose: Water Supply System

<u>Annual Interest Rate</u>	<u>Date of Maturity</u>	<u>Maturity September 1</u>	<u>Interest Payments</u>	<u>Total Annual Requirements</u>
4.125%	2018	\$ \ 35,000	\$ 81,840	\$ 116,840
	2019	37,000	80,396	117,396
	2020	39,000	78,870	117,870
	2021	41,000	77,261	118,261
	2022	42,000	75,570	117,570
	2023-2027	245,000	349,965	594,965
	2028-2032	310,000	294,319	604,319
	2033-2037	389,000	224,070	613,070
	2038-2042	492,000	135,836	627,836
	2043-2047	354,000	29,618	383,618
		<u>\$ 1,984,000</u>	<u>\$ 1,427,745</u>	<u>\$ 3,411,745</u>

VILLAGE OF NEWBERRY--LUCE COUNTY

NOTES TO FINANCIAL STATEMENTS
For the Fiscal Year Ending December 31, 2017

NOTE H--LONG-TERM DEBT (Continued)

2009 Water Supply System Revenue Bonds

\$91,536,991.300

Date of Issue: March 20, 2009

Amount: \$300,000

Purpose: Water Supply System

<u>Annual Interest Rate</u>	<u>Date of Maturity</u>	<u>Maturity September 1</u>	<u>Interest Payments</u>	<u>Total Annual Requirements</u>
4.125%	2018	\$ 4,000	\$ 11,055	\$ 15,055
	2019	5,000	10,890	15,890
	2020	5,000	10,684	15,684
	2021	5,000	10,477	15,477
	2022	5,000	10,271	15,271
	2023-2027	29,000	48,015	77,015
	2028-2032	36,000	41,458	77,458
	2033-2037	43,000	33,495	76,495
	2038-2042	54,000	23,801	77,801
	2043-2047	66,000	11,674	77,674
	2048-2052	16,000	660	16,660
		<u>\$ 268,000</u>	<u>\$ 212,480</u>	<u>\$ 480,480</u>

VILLAGE OF NEWBERRY--LUCE COUNTY

NOTES TO FINANCIAL STATEMENTS For the Fiscal Year Ending December 31, 2017

NOTE H--LONG-TERM DEBT (Continued)

2014 Water Supply System Revenue Bonds

Date of Issue: November 21, 2014

Amount: \$6,263,000

Purpose: Water Supply System

\$91,536,991.400

Annual Interest Rate	Date of Maturity	Maturity November 1	Interest Payments	Total Annual Requirements
2.125%	\ 2018	\$ 107,000	\$ 126,523	\$ 233,523
	\ 2019	110,000	124,249	234,249
	2020	112,000	121,911	233,911
	2021	114,000	119,531	233,531
	2022	117,000	117,109	234,109
	2023-2027	622,000	547,252	1,169,252
	2028-2032	691,000	478,253	1,169,253
	2033-2037	768,000	401,668	1,169,668
	2038-2042	854,000	316,455	1,170,455
	2043-2047	950,000	221,744	1,171,744
	2048-2052	1,054,000	116,493	1,170,493
	2053-2057	455,000	14,578	469,578
		<u>\$ 5,954,000</u>	<u>\$ 2,705,766</u>	<u>\$ 8,659,766</u>

2014 Sewer System Revenue Bonds

Date of Issue: September 17, 2014

Amount: \$4,485,000

Purpose: Sewage Disposal System

\$90,537,991.000

Annual Interest Rate	Date of Maturity	Maturity October 1	Interest Payments	Total Annual Requirements
2.5%	\ 2018	\$ 155,000	\$ 73,168	\$ 228,168
	\ 2019	160,000	69,293	229,293
	2020	165,000	65,293	230,293
	2021	170,000	61,168	231,168
	2022	175,000	56,918	231,918
	2023-2027	935,000	216,839	1,151,839
	2028-2032	1,050,000	94,589	1,144,589
	2033-2037	530,685	2,918	533,603
		<u>\$ 3,340,685</u>	<u>\$ 640,186</u>	<u>\$ 3,980,871</u>