



AGENDA

VILLAGE OF LITTLE CHUTE UTILITY COMMISSION MEETING

PLACE: Village Hall Board Room

DATE: Tuesday, June 19, 2018

TIME: 6:00 p.m.

- A. Call to Order
 - B. Roll Call
 - C. Public Appearance for Items Not on the Agenda
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1. Approval of Minutes
Utility Commission Minutes of April 17, 2018
2. Progress Reports
 - a. MCO Operations Update
 - b. Director of Public Works
 - c. Finance Director
3. Approval of Vouchers
4. Unfinished Business
5. Items for Future Agenda
6. Adjournment

Requests from persons with disabilities who need assistance to participate in this meeting should be made with as much advance notice as possible to the Clerk's Office at 108 West Main Street, (920) 423-3852
Prepared: June 14, 2018

MINUTES OF THE UTILITY COMMISSION MEETING APRIL 17, 2018

Call to Order

The Utility Commission meeting was called to order at 6:00 P.M. by Kevin Coffey, Chair

Roll Call

PRESENT: Kevin Coffey, Chair
Mark Gloudemans
Tim Bevers
Jessica Schultz
Michael Vanden Berg
Tim Wegand

ALSO PRESENT: Village Administrator James Fenlon, Jerry Verstegen, MCO

Public Appearance for Items Not on the Agenda

None

Approve Minutes from the Utility Commission Meeting of February 20, 2018

Moved by M. Gloudemans, seconded by T. Bevers to Approve Minutes from the Utility Commission of February 20, 2018

All Ayes – Motion Carried

Progress Reports

MCO Operations Update

J. Verstegen, MCO advised that the final inspection was complete for Well #1 by the DNR. Currently working on softeners and reports and concentrating on Well #4 and will need to purchase resin. Spring Flush needed to be postponed until middle of May due to weather. Commissioner Wegand questioned the ranges for the water testing, Mr. Verstegen stated the number is done through the DNR and they take the highest number from samples collected not the average.

Director of Public Works

Administrator Fenlon went over the monthly report and advised Public Works is catching up with Sanitary and Storm sewers. The Commission was also advised that the Board will take action on various reconstruction projects with bids due early May. Administrator Fenlon also advised that the Village will be revisiting the defective and lead laterals this summer. Commissioner Bevers questioned the resurfacing of Park Avenue; Administrator Fenlon advised that it is in the 2019 CIP.

Finance Director

The PFC report will be delayed and the Village has received a 30 day extension.

Approval of Vouchers

Moved by T. Bevers, seconded by K. Coffey to Approve and Authorize payment of the vouchers and draw from the respective funds

All Ayes – Motion Carried

Unfinished Business

None

Items for Future Agenda

None

Adjournment

Moved by J. Schultz, seconded by T. Wegand to Adjourn the Meeting at 6:19 p.m.

All Ayes – Motion Carried

VILLAGE OF LITTLE CHUTE

Attest: Laurie Decker, Village Clerk

By: Kevin Coffey, Chair



MIDWEST CONTRACT OPERATIONS, INC.
P.O. BOX 418 MENASHA, WI 54952-0418

Monthly Superintendent Report/Update

To: Village of Little Chute Water Commission

From: Jerry Verstegen, Water Utility Supt. (MCO)

Month of: May 2018

Updates for current, past and ongoing Water Department projects and areas of concern:

1. Plants/Treatment

- Well pump Air Relief maintenance and replacement.
- Softener discharge and break point reports completed at Well # 4

2. Distribution

- (4) Main Breaks on Orchard during hydrant flushing.
- Replaced Hydrant @ Bittersweet Ct (cause of breaks)
- 2018 CIP Water Relay work on Hayes and Wilson
- Water Main Break on Buchanan, large hole, crew had to shut down Trilliant.
- Water Main Break on Homestead Court, East leg of Homestead has had a high number of breaks on it.

3. Meters

- Residential meter changes, cross-connection and sump pump inspections.

4. General Water

- Working on Budgets, both CIP and Operations.
- Putting Purchase Order together for Salt saving Resin.
- Lead Service audit. Update at meeting.
- GIS data audit and updates. Update at meeting.

Jerry Verstegen (920-858-7477)

2018 Pumpage Totals

6/14/2018

	Pumpage x 1000								Waste Discahrge x 1000								Blend and Pumpage %					
	Well Pumps			Booster Pumps			Well	Booster	Storm			Sanitary			Storm	Sanitary	Blend %			% Pumped by Plant		
	# 1	# 3	# 4	# 1	# 3	# 4	Totals	Totals	# 1	# 3	# 4	# 1	#3	# 4	Totals	Totals	# 1	# 3	# 4	# 1	# 3	# 4
1-May	74	701	429	80	636	467	1,204	1,183	0	11		0	43	43	11	86	10.81%	14.96%	12.08%	6.1%	58.2%	35.6%
2-May	670	55	487	603	72	530	1,212	1,205	24	0		29	1	29	24	59	11.94%	15.82%	11.53%	55.3%	4.5%	40.2%
3-May	27	698	379	0	629	464	1,104	1,093	0	15		0	54	28	15	82	0.00%	16.20%	11.40%	2.4%	63.2%	34.3%
4-May	693	0	473	691	0	506	1,166	1,197	15	0		17	0	38	15	55	12.27%		12.19%	59.4%	0.0%	40.6%
5-May	707	0	467	680	0	472	1,174	1,152	19	0		22	0	34	19	56	11.88%		11.40%	60.2%	0.0%	39.8%
6-May	83	737	389	120	691	425	1,209	1,236	5	17		6	49	29	22	84	10.84%	16.21%	11.64%	6.9%	61.0%	32.2%
7-May	822	117	394	756	131	430	1,333	1,317	21	0		23	0	28	21	51	11.92%	15.38%	11.90%	61.7%	8.8%	29.6%
8-May	158	659	400	191	600	437	1,217	1,228	5	16		5	49	29	21	83	11.39%	16.36%	11.10%	13.0%	54.1%	32.9%
9-May	755	0	450	724	0	487	1,205	1,211	22	0		29	0	43	22	72	11.79%		11.77%	62.7%	0.0%	37.3%
10-May	893	292	449	820	300	489	1,634	1,609	25	0		28	0	14	25	42	11.87%	15.05%	10.86%	54.7%	17.9%	27.5%
11-May	0	682	365	0	616	442	1,047	1,058	0	17		0	49	29	17	78		16.49%	12.01%	0.0%	65.1%	34.9%
12-May	826	0	434	839	0	426	1,260	1,265	24	0		22	0	43	24	65	11.74%		12.29%	65.6%	0.0%	34.4%
13-May	57	589	429	52	561	468	1,075	1,081	0	16		6	49	29	16	84	10.53%	14.98%	10.78%	5.3%	54.8%	39.9%
14-May	825	358	471	784	344	516	1,654	1,644	24	0		28	0	28	24	56	12.00%	14.46%	11.57%	49.9%	21.6%	28.5%
15-May	252	738	399	251	680	437	1,389	1,368	5	17		6	49	29	22	84	11.51%	16.24%	11.51%	18.1%	53.1%	28.7%
16-May	850	261	440	812	262	480	1,551	1,554	24	11		28	32	43	35	103	11.88%	16.56%	12.45%	54.8%	16.8%	28.4%
17-May	257	750	434	259	689	476	1,441	1,424	10	17		6	49	29	27	84	11.28%	16.69%	11.19%	17.8%	52.0%	30.1%
18-May	788	48	360	723	45	447	1,196	1,215	19	0		28	0	28	19	56	11.80%	13.11%	11.16%	65.9%	4.0%	30.1%
19-May	840	0	425	850	0	448	1,265	1,298	24	0		29	0	29	24	58	11.90%		6.61%	66.4%	0.0%	33.6%
20-May	714	77	398	655	105	404	1,189	1,164	19	0		22	0	43	19	65	11.76%	16.76%	0.40%	60.1%	6.5%	33.5%
21-May	154	737	391	183	668	428	1,282	1,279	0	17		0	49	14	17	63	11.04%	16.49%	0.16%	12.0%	57.5%	30.5%
22-May	748	171	375	710	154	409	1,294	1,273	24	5		29	17	29	29	75	11.90%	15.37%	3.41%	57.8%	13.2%	29.0%
23-May	849	0	361	786	0	431	1,210	1,217	24	0		28	0	43	24	71	11.90%		15.32%	70.2%	0.0%	29.8%
24-May	113	822	411	109	795	419	1,346	1,323	5	16		6	49	27	21	82	11.50%	16.51%	13.13%	8.4%	61.1%	30.5%
25-May	697	0	397	712	0	435	1,094	1,147	19	0		23	0	16	19	39	11.76%		13.63%	63.7%	0.0%	36.3%
26-May	933	0	363	905	0	402	1,296	1,307	24	0		27	0	43	24	70	11.90%		15.52%	72.0%	0.0%	28.0%
27-May	737	0	368	670	0	405	1,105	1,075	20	0		24	0	29	20	53	11.80%		13.36%	66.7%	0.0%	33.3%
28-May	25	712	480	63	646	522	1,217	1,231	0	11		0	33	14	11	47	12.00%	14.96%	13.40%	2.1%	58.5%	39.4%
29-May	756	191	501	688	201	548	1,448	1,437	24	6		28	16	43	30	87	11.90%	14.99%	13.67%	52.2%	13.2%	34.6%
30-May	47	694	522	72	632	566	1,263	1,270	0	17		0	48	43	17	91	10.64%	16.54%	14.68%	3.7%	54.9%	41.3%
31-May	831	0	498	816	0	540	1,329	1,356	19	0		23	0	43	19	66	11.79%		14.25%	62.5%	0.0%	37.5%
Avg	522	325	424	503	305	463	1,271	1,272	14		#DIV/0!	17		32	21	69	11.2%	15.7%	11.2%	40.6%	25.8%	33.6%
Total	16,181	10,089	13,139	15,604	9,457	14,356	39,409	39,417	444		0	522		985	653	2,143						

2018 Treatment Totals

6/14/2018

	Chemical Pounds									Doseage					
	Chlorine			Silicate			Salt			Chlorine			Silicate		
	# 1	# 3	# 4	# 1	# 3	# 4	# 1	# 3	# 4	# 1	# 3	# 4	# 1	# 3	# 4
1-May	6.2	62	34.8	24	258	194	0	3,900	5,720	1.26	1.33	1.22	11.47	13.02	16.00
2-May	51.2	3.8	38.4	192	14	220	4,680	0	3,900	1.15	1.04	1.18	10.14	9.00	15.98
3-May	0	58	31	0	258	183	0	5,720	3,900		1.25	1.23		13.07	17.08
4-May	55.6	0	37.2	208	0	207	2,600	0	5,720	1.20		1.18	10.62		15.48
5-May	54.8	0	36.4	194	0	220	3,900	0	3,900	1.16		1.17	9.71		16.66
6-May	6.6	63.2	31.2	30	268	182	780	5,720	3,900	1.19	1.29	1.20	12.78	12.86	16.55
7-May	63.8	10.8	30.4	228	34	182	3,640	0	3,900	1.16	1.38	1.16	9.81	10.28	16.34
8-May	12.8	54	32.4	44	244	167	1,040	5,720	3,900	1.21	1.23	1.21	9.85	13.10	14.77
9-May	58.2	0	34	136	0	210	4,420	0	5,980	1.16		1.13	6.37		16.51
10-May	69.4	21.6	35.4	238	104	208	4,680	0	1,820	1.16	1.11	1.18	9.43	12.60	16.39
11-May	0	57	29.2	0	238	169	0	5,980	3,900		1.25	1.20		12.34	16.38
12-May	64.8	0	34.2	240	0	206	3,900	0	5,980	1.18		1.18	10.28		16.79
13-May	4.6	53.2	34.2	20	218	208	520	5,720	3,640	1.21	1.35	1.19	12.41	13.09	17.15
14-May	64.6	30.4	37.4	228	130	208	4,680	0	3,900	1.17	1.27	1.19	9.78	12.84	15.62
15-May	19.6	62.4	32	70	266	194	780	5,720	3,900	1.17	1.27	1.20	9.83	12.75	17.20
16-May	66.8	21	35	230	86	194	4,680	3,900	5,980	1.18	1.21	1.19	9.57	11.66	15.60
17-May	19.8	65.2	34.6	66	276	208	1,820	5,980	3,900	1.15	1.30	1.19	9.08	13.02	16.95
18-May	62.2	4.6	29.4	212	20	155	3,640	0	3,900	1.18	1.44	1.22	9.52	14.74	15.23
19-May	65.8	0	33.8	218	0	195	4,420	0	3,900	1.17		1.19	9.18		16.23
20-May	56.2	5.6	32	186	26	182	3,640	0	5,720	1.18	1.09	1.21	9.21	11.94	16.17
21-May	12.4	61.4	31.4	44	262	181	0	5,720	2,080	1.21	1.25	1.20	10.11	12.57	16.37
22-May	59.2	16.2	30	204	64	169	4,680	2,080	3,900	1.19	1.42	1.20	9.65	13.24	15.94
23-May	67.4	0	29	228	0	142	4,680	0	5,720	1.19		1.20	9.50		13.91
24-May	8.8	66.2	33	32	290	182	780	5,720	4,160	1.17	1.21	1.20	10.02	12.48	15.66
25-May	50	0	33	188	0	150	3,640	0	1,820	1.08		1.25	9.54		13.36
26-May	73.4	0	29	246	0	170	4,680	0	5,980	1.18		1.20	9.33		16.57
27-May	57.6	0	28.6	202	0	180	3,640	0	3,900	1.17		1.16	9.69		17.30
28-May	2.2	64.4	38.4	8	240	208	0	3,900	1,820	1.32	1.36	1.20	11.32	11.92	15.33
29-May	59	14.8	39.4	208	52	233	4,420	1,820	5,980	1.17	1.16	1.18	9.73	9.63	16.45
30-May	3.2	60.2	40.6	16	262	234	0	5,980	5,720	1.02	1.30	1.17	12.04	13.35	15.86
31-May	64.6	0	39	226	0	221	3,640	0	5,980	1.17		1.17	9.62		15.70
Avg	40.7	27.6	33.7	140.8	116.5	192.3	2,709	2,374	4,336	1.2	1.3	1.2	10.0	12.4	16.0
Total	1,260.8	856.0	1,044.4	4,366.0	3,610.0	5,962.0	83,980	73,580	134,420	34.1	26.5	37.0	289.6	259.5	497.5

2018 System Samples

6/14/2018

Date	North West						North East						South West						South East					
Week	Total	Free	Ph	Hard	Silc	Iron	Total	Free	Ph	Hard	Silc	Iron	Total	Free	Ph	Hard	Silc	Iron	Total	Free	Ph	Hard	Silc	Iron
01/01/18	0.40	0.33	7.4	7.0	10.0	0.33	0.40	0.34	7.5	5.0	12.0	0.09	0.50	0.42	7.5	5.0	14.0	0.42	0.52	0.46	7.4	6.0	10.0	0.07
01/08/18	0.41	0.32	7.3	24.0	19.0	0.19	0.42	0.33	7.4	16.0	23.0	0.04	0.52	0.41	7.4	4.0	18.0	0.01	0.72	0.56	7.3	15.0	11.0	0.28
01/15/18	0.44	0.37	7.4	9.0	10.0	0.07	0.58	0.49	7.4	7.0	13.0	0.14	0.70	0.61	7.3	4.0	13.0	0.05	0.50	0.42	7.4	7.0	15.0	0.08
01/22/18	0.49	0.41	7.5	8.0	12.0	0.07	0.51	0.39	7.5	13.0	13.0	0.03	0.47	0.36	7.3	14.0	14.0	0.03	0.54	0.50	7.4	9.0	17.0	0.01
01/29/18	0.58	0.51	7.5	8.0	15.0	0.01	0.58	0.47	7.4	7.0	19.0	0.10	0.77	0.63	7.3	5.0	15.0	0.18	0.71	0.61	7.5	5.0	17.0	0.12
02/05/18	0.62	0.55	7.4	7.0	17.0	0.03	0.68	0.59	7.5	4.0	17.0	0.03	0.79	0.67	7.3	4.0	14.0	0.02	0.77	0.67	7.6	4.0	12.0	0.10
02/12/18	0.50	0.39	7.7	9.0	12.0	0.01	0.41	0.35	7.7	9.0	11.0	0.02	0.87	0.75	7.4	5.0	16.0	0.02	0.76	0.65	7.4	4.0	11.0	0.01
02/19/18	0.42	0.32	7.5	9.0	18.0	0.04	0.30	0.59	7.5	7.0	13.0	0.01	0.72	0.60	7.4	4.0	15.0	0.01	0.54	0.42	7.3	8.0	19.0	0.01
02/26/18	0.52	0.48	7.4	8.0	14.0	0.10	0.44	0.39	7.5	7.0	15.0	0.04	0.62	0.50	7.3	5.0	18.0	0.06	0.48	0.40	7.5	6.0	12.0	0.06
03/05/18	0.50	0.40	7.3	8.0	14.0	0.20	0.50	0.42	7.4	4.0	10.0	0.14	0.57	0.47	7.4	5.0	10.0	0.15	0.65	0.52	7.4	4.0	10.0	0.22
03/12/18	0.44	0.35	7.5	17.0	14.0	0.15	0.40	0.31	7.7	10.0	15.0	0.10	0.53	0.41	7.6	8.0	15.0	0.12	0.70	0.58	7.6	4.0	14.0	0.18
03/19/18	0.48	0.38	7.3	8.0	15.0	0.19	0.58	0.42	7.2	9.0	16.0	0.13	0.93	0.84	7.4	4.0	17.0	0.02	0.54	0.45	7.4	7.0	17.0	0.15
03/26/18	0.42	0.38	7.3	8.0	21.0	0.19	0.19	0.10	7.4	5.0	23.0	0.05	0.38	0.32	7.4	5.0	21.0	0.19	0.45	0.35	7.4	7.0	18.0	0.12
04/02/18	0.51	0.47	7.4	7.0	18.0	0.12	0.21	0.19	7.4	7.0	20.0	0.11	0.25	0.21	7.5	6.0	16.0	0.13	0.47	0.44	7.5	7.0	15.0	0.15
04/09/18	0.42	0.37	7.6	10.0	17.0	0.13	0.57	0.45	7.4	10.0	14.0	0.13	0.50	0.40	7.2	15.0	16.0	0.23	0.52	0.43	7.4	9.0	17.0	0.24
04/16/18	0.72	0.61	7.5	8.0	11.0	0.11	0.72	0.60	7.5	9.0	12.0	0.19	0.69	0.59	7.3	6.0	14.0	0.17	0.68	0.58	7.5	8.0	19.0	0.17
04/23/18	0.52	0.37	7.3	7.0	8.0	0.06	0.61	0.55	7.2	4.0	7.0	0.01	0.83	0.67	7.3	4.0	8.0	0.04	0.65	0.53	7.3	4.0	16.0	0.02
04/30/18	0.42	0.31	7.4	13.0	15.0	0.01	0.49	0.40	7.4	8.0	17.0	0.18	0.79	0.73	7.4	7.0	18.0	0.03	0.49	0.39	7.4	8.0	17.0	0.09
05/07/18	0.49	0.41	7.5	8.0	12.0	0.07	0.51	0.39	7.5	13.0	13.0	0.03	0.47	0.36	7.3	14.0	14.0	0.03	0.54	0.50	7.4	9.0	17.0	0.01
05/14/18	0.50	0.41	7.3	8.0	15.0	0.07	0.48	0.40	7.2	5.0	15.0	0.12	0.60	0.51	7.3	7.0	13.0	0.08	0.45	0.32	7.6	7.0	15.0	0.12
05/21/18	0.42	0.35	7.6	7.0	19.0	0.14	0.66	0.53	7.4	4.0	16.0	0.14	0.51	0.45	7.3	4.0	16.0	0.12	0.59	0.47	7.4	4.0	19.0	0.11
05/28/18	0.54	0.43	7.4	4.0	20.0	0.22	0.56	0.42	7.5	7.0	15.0	0.07	0.62	0.50	7.3	4.0	17.0	0.13	0.53	0.46	7.5	5.0	17.0	0.10

2018 PUMPING AND WASTE REPORT

	Pump age x 1000								Waste Discharge x 1000										
	Well Pumps			Booster Pumps			Well	Booster	Storm			Sanitary			Pounds of Chloride			Storm	Sanitary
	Well # 1	Well # 3	Well # 4	Well # 1	Well # 3	Well # 4	Totals	Totals	Well # 1	Well # 3	Well # 4	Well # 1	Well # 3	Well # 4	Well # 1	Well # 3	Well # 4	Totals	Totals
Jan-18	11,778	9,568	14,211	11,409	8,977	15,531	35,557	35,917	331	199	0	604	607	1,004	37,694	42,110	87,532	530	2,215
Feb-18	9,185	10,290	10,807	8,800	9,708	11,768	30,282	30,276	248	203	0	332	630	766	28,231	44,634	67,976	451	1,728
Mar-18	11,593	9,828	11,738	11,179	9,202	12,798	33,159	33,179	325	172	0	379	597	855	37,063	42,110	74,442	497	1,831
Apr-18	13,089	8,743	11,623	12,583	8,224	12,701	33,455	33,508	363	193	0	424	575	842	41,479	41,164	71,603	556	1,841
May-18	16,181	10,089	13,139	15,604	9,457	14,356	39,409	39,417	444	209	0	522	636	985	50,942	44,634	81,539	653	2,143
Jun-18																			
Jul-18																			
Aug-18																			
Sep-18																			
Oct-18																			
Nov-18																			
Dec-18																			
Average	12,365	9,704	12,304	11,915	9,114	13,431	34,372	34,459	342	195	0	452	609	890	39,082	42,930	76,618	537	1,951
Total	61,826	48,518	61,518	59,575	45,568	67,154	171,862	172,297	1,711	976	0	2,261	3,045	4,451	195,410	214,651	383,092	2,687	9,757

2018 Commission Summary

6/14/2018

Month	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Meter Change: 3/4" Model 25		1	12	22	24								59
Meter Change: 1" Model 40													0
Meter Change: 1 1/2" Model 120													0
Meter Change: 2" Model 170													0
Meter Tested: 3/4" Model 25					28								28
Meter Tested: 1" Model 40													0
Meter Tested: 1 1/2" Model 120			25										25
Meter Tested: 2" Model 170		18											18
Meter Tested: 3"	9												9
Meter Tested: 4"	5	1			2								8
Meter Tested: 6"					1								1
Plant Meter Tested													0
New Install: 3/4" Model 25	3	8	2	9									22
New Install 1" Model 40													0
New Install 1 1/2" Model 120	1	1											2
New Install 2" Model 170													0
New Install 3" or 4" CMPD													0
Final Reads	60	26	62	65	54								267
High/Low Work Orders	23	32	16	9	14								94
Customer Concerns (Water Quality)			1										1
Water Main Break	2			1	4								7
Service Repair (Leaks,break,etc)	1	1		1									3
Valve Repair (Repair, replace)													0
Hydrant Repair (Repair,service,replace)	1				1								2
Valves Exercised	8			5	6								19
Hydrants Flushed	2			1	572								575
Residential Cross Connection Inspections			12	22	24								58
Commercial Cross Connection Inspections			80										80
Plant PM Work Orders													0
DNR Water Samples	13	10	10	10	13								56
In-House Water Samples	28	28	28	35	28								147
GIS Lead Service Audit Public Side			157	381	3622								100.0%
GIS Lead Service Audit Private Side			53	171	3622								100.0%
GIS Lead Service Audit, Found, Needs Attention			62	20	153								235

Engineering Report

Water System Evaluation & Plan

Prepared For The



VILLAGE OF LITTLE CHUTE
OUTAGAMIE COUNTY | WISCONSIN

DECEMBER 14, 2017
McM. No. L0001-9-17-00157.00

Prepared By:
AMY J. VACLAVIK, P.E., BCEE

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Engineering Report

Water System Evaluation & Plan

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VILLAGE OF LITTLE CHUTE
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McMAHON ASSOCIATES, INC.
NEENAH, WISCONSIN

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OUTAGAMIE COUNTY | WISCONSIN

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I. INTRODUCTION

The Village of Little Chute is located in the Heart of the Valley area of the Fox Cities in northeastern Wisconsin. The community of approximately 11,000 residents is experiencing steady growth and a Water System Plan is needed to respond to and support future development.

For many years, the Village was predominately a residential community consisting of single-family homes. Recent development has included industrial development both south and north of I-41 and multi-family development north of I-41.

II. WATER SYSTEM DESCRIPTION

A. General

The Village of Little Chute water system consists of the following components:

- Three (3) Wells – Well #1, Well #3 & Well #4
- Three (3) Softening Treatment Plants
- Three (3) Ground Level Water Storage Reservoirs – 250,000, 300,000 & 500,000-gallon
- Two (2) Elevated Water Towers – 250,000 & 300,000-gallon
- Water Distribution System

A schematic of the operation of water system is provided on Figure #1. A description of each of these facilities is provided in the following sections. A map of the distribution system and the system components is presented on Figure #2.

B. Water System Facilities

1. Well House #1 – Doyle Park:

The Well #1 Pumphouse is located in Doyle Park at the southern area of the Village. The Pumphouse houses Well #1, the ion exchange softening system, a 300,000-gallon ground level water storage reservoir and two (2) booster pumps. The Well construction information is summarized in Table #1 and the Construction Log for Well #1 is provided in Appendix #1. Well #1 is a 12-inch diameter well, originally constructed in 1923 and later deepened to 724-feet in 1950. The capacity of the booster pumping equipment is presented in Table #2. Softener facility data is provided in Table #3.

An extensive improvement project was completed at the Well #1 Pumphouse in 2017. In general, the project included:

- a. Replacement of the softeners to increase the efficiencies and decrease salt use/chloride discharges. Salt saving resin has been utilized instead of conventional resin.
- b. Discharging the softener brine cycle, slow rinse and fast rinse wastewaters to the sanitary sewers.
- c. Increase the reliability of the Pumphouse water supply capabilities. A new 300 kW diesel generator with an automatic transfer switch has been installed.
- d. Rehabilitation of the well pumping equipment and replacement of the booster pump motors.

2. Pumphouse #2 (Jefferson Street) & Well #3 (Washington Street):

Pumphouse #2 is located at the north end of Jefferson Street at the railroad tracks. Well #2 was abandoned, but the softener and booster pumping equipment is still housed in the Pumphouse. Well #3 is located approximately 2,000-feet west of Pumphouse #2. This 12-inch well was originally constructed in 1973. Raw water from Well #3 is pumped to Pumphouse #2 for treatment and distribution to the system. Treated water is stored in the 250,000-gallon ground reservoir prior to distribution by the two (2) booster pumps.

3. Well House #4 – Evergreen Drive:

Located on the north side of I-41, Well House #4 was constructed in 2000. The Pumphouse houses Well #4, three (3) softener shells and two (2) booster pumps. There is also a 500,000-gallon ground storage tank at this location.

4. System Storage:

The storage facilities in the Little Chute system include both elevated storage and ground storage reservoirs. A summary table of the storage facilities is provided in Table #4. Elevated storage services two (2) purposes in a water system: 1) Maintains system pressure; and 2) Provides reserve capacity for fire protection supply and for peak demands. There are two (2) elevated water towers in the system:

- | | | |
|----|---|----------------|
| a. | Stephen Street - Elevated Tower #1 | 300,000-gallon |
| b. | Pumphouse #2 - Jefferson Street - Elevated Tower #2 | 250,000-gallon |

The ground storage reservoirs are located at each Pump Station, as previously mentioned. Treated water is discharged to each reservoir and then pumped into the system via the booster pumps.

C. Water Distribution System

The Village of Little Chute water distribution system consists of approximately 58-miles of water main, ranging in size from 4-inch to 16-inch. A summary of the pipe diameters and lengths is summarized in Table #5. A map of the distribution system is provided on Figure #2. The transmission system consists of the larger diameter water mains that convey the majority of water through the distribution system, and should connect the supply and storage components of the system. The Little Chute transmission system consists of 10, 12 and 16-inch diameter water mains and is highlighted on Figure #2.

The Village of Little Chute and the City of Appleton water distribution systems are connected for emergency purposes at the intersection of Evergreen Drive and French Road. Currently, the connection consists of two (2) gate valves, which are operated manually in the event of an emergency. There are no metering facilities on the connection. The hydraulic grade line of the Appleton system is 914 and the grade line of the Little Chute system is 884. Therefore, the Appleton system can provide water to the Little Chute system without pumping.

There is also an emergency connection to the Kaukauna Utilities water system at East Main Street at Hayes Street. The connection is the same as the connection to the Appleton system, in that valves are operated manually to open the connection and there are no metering facilities. The hydraulic grade line of the Kaukauna system is 865, which is 19-feet

lower than the Little Chute system. Therefore, the Kaukauna system cannot provide water to Little Chute without pumping.

D. System Operation

The main controls for the water system are housed at the Well #4 Pumphouse. Booster pumps are called to operate based on the water level in the Stevens Street tank. The system can be controlled by the water level in the Jefferson Street tank, but that is not done normally because the tank operation is influenced by the close proximity to Pumphouse #2. The controls are set so that only one (1) booster pump at each Station runs at a time. If demand cannot be met with one (1) pump, then a second pump at a different Station is automatically started. If additional demand was needed, a third pump at still another Station would be started. All boosters are operated alternately, so each booster is used regularly. All of the booster pumps are operated at the same rate, so the supply is consistent. In the high demand summer period, there is often at least one (1) pump running 24-hours, 7-days a week.

The operation of the well pumps is regulated by the water level in the respective reservoir. The regeneration of the softeners does not cause a bottleneck at any of the plants.

III. FUTURE NEEDS

A. Water System Service Area

The Village of Little Chute is in a desirable location with easy access to I-41. The community has experienced both residential and non-residential growth recently, and it is anticipated that the growth will continue. The distribution system is already well developed in the southeastern portion of the service area. The future water service area for the system is highlighted on Figure #3 and is located as follows:

- South Boundary – Fox River
- West Boundary – French Road & HWY 441
- North Boundary – CTH JJ & Gardenia Drive
- East Boundary – CTH CC, Rosehill Road & Hayes Street

A Comprehensive Plan 2016 - 2036 was completed for the Village by Martenson & Eisele in July 2016. The Plan presents anticipated growth and land use projected for the community. A copy of the Future Land Use Map is presented on Figure #4. As stated in the Comprehensive Plan, the strongest opportunities for commercial development are on both sides of I-41. Industrial development should be promoted in the Little Chute Industrial Park and on the south side of North Avenue (CTH OO), across from the Outagamie Recycling & Solid Waste Facility. There are relatively few limitations on development in the planning area caused by natural resources, such as steep slopes, soil conditions or large bodies of surface water. The following land needs projection is presented in the Comprehensive Plan:

“Based on historical ratios of the number of residents per acre of a specific land use, by 2025 the Village will need an additional 120-acres for residential development, 7-acres for commercial development and 7 acres for industrial development. However, due to the Village’s location along I-41, demand is far exceeding the ratios.”

Population projections are developed for the State of Wisconsin by the Department of Administration (DOA). These same projections, developed in 2013, were reported in the Comprehensive Plan and are summarized below:

■ 2000 Census	10,476
■ 2010 Census	10,449
■ 2020	10,740
■ 2025	10,950
■ 2030	11,100

An updated population estimate dated January 1, 2017 by the DOA is 10,987, which is greater than the 2020 projection developed in 2013. This confirms that the Village is experiencing significant growth.

The potential water distribution system pressures were calculated throughout the Service Area outlined on Figure #3. System pressures are maintained by the height of the water in the elevated water towers and the ground elevation. The height of the water in the towers is the hydraulic grade line of the system. Wisconsin Administrative Code NR 811.70(4) establishes the following requirements for a municipal water system:

Static Pressure at Ground Level

■ Minimum	35 psi
■ Maximum	100 psi

Experience indicates that if pressures fall below 45 psi, customer complaints result because of the low pressure.

The hydraulic grade line of the Little Chute system is 884. A value of 874 was used for this analysis to account for operational changes in the water levels and friction losses in the distribution system. The results provided give general information regarding the water system pressures that could be provided. A network of water mains of sufficient size would need to be extended in the future service area to provide service. The calculated system pressures for the future development area are identified on Figure #3. The existing system can provide pressures greater than 60 psi throughout the planning area.

1. Water System Demands:

a. Water Demand History

Historical water system demand is presented in Table #6 and presented graphically on Figure #5. Average Day Demand has remained fairly

constant over the last 5-years, even though the number of customers has increased. The Maximum Day Demand fluctuates depending on system conditions and the weather, but generally, the Maximum Day Demand has decreased in recent years. Nationally and locally, here in Wisconsin, customers are using less water. Residential customers are installing water saving plumbing fixtures and industrial customers are evaluating water efficiency methods. This trend will likely continue. The following values are of note with regard to the Little Chute system demands:

- Total Water Usage Per Person 119 gpcd
- Residential Water Usage Per Person 39 gpcd
- Average Day Demand (2012 – 2016) 1,265,000 gpd
- Maximum Day Demand (2012 – 2016) 1,958,600 gpd

The System Operators monitor the total volume of water that is delivered into the distribution system and accounts for the water that is sold (Revenue Water) and water that is not sold (Non-Revenue Water). Non-Revenue Water includes water used to flush water mains, water used for fire protection, and water lost due to identified system leaks or breaks. During the year, an effort is made to track non-revenue water and to estimate the quantity of non-revenue water. The amount that cannot be accounted for is reviewed and monitored on an annual basis because this represents lost revenue for the system. Prior to 2010, this amount was reported as the percentage of Unaccounted For Water on the Annual Report to the Public Service Commission (PSC). The current term used by the PSC is Real and Apparent Losses.

The historical percentage of system losses is listed in Table #6. The PSC recommends system losses be maintained below 15%. If the losses exceed 15%, the PSC may require that actions be taken to reduce water loss. Actions that may be taken include:

- Verify the accuracy of master and customer meters.
- Reviewing and improving, as appropriate, the system used to document the unmetered usage.
- Identify unmetered usage.
- Implement a leak detection program for the distribution system.

b. Projected Future Demand

Water demand parameters are proposed based on the historical averages presented in Table #6 and common engineering standards. The following demand parameters will be used to project future demands, and to analyze the capacity of the water supply and storage facilities.

- Total Pumpage Gallon per Capita Per Day (gpcd) 120 gpcd
- Maximum Day Demand to Average Day Demand Ratio 1.55

Future water demands based on projected population growth are summarized in Table #6. The System Operators also requested future demands with 500,000 gpd added be evaluated. This additional demand was developed to evaluate conditions if a large customer wanted to locate in the Village or if one of the existing customers expanded. The future demands are as follows:

	<u>Average Day Demand (gpd)</u>	<u>Maximum Day Demand (gpd)</u>
▪ Population Growth (11,100 people)	1,332,000	2,065,000
▪ Population Growth + 0.5 mgd	1,832,000	2,840,000

B. Water System Analysis

1. System Standards:

The Village of Little Chute water supply, storage and distribution systems must be designed and operated to meet Wisconsin Administrative Code requirements. There are also a number of standard engineering designing recommendations that should be used when evaluating and designing a water system. The State requirements and industry standard design criteria are summarized in Table #7. These standards will be referred to in the following sections of this Engineering Report.

2. Supply System Capacity Analysis:

The adequacy of a water system is evaluated on the basis of the Maximum Day Demand requirements. As a minimum, the supply required to maintain the Maximum Day Demand or Peak Day Demand will need to be supplied from the entire water supply over a 24-hour period. It is important to analyze the supply system capacity before looking at the storage system capacity, because sufficient supply is needed to maintain the storage capacity. If all sources of supply are available, the supply system can produce 4,536,000 gpd of water.

The reliability of the supply system can be analyzed under a variety of conditions. The following conditions have been analyzed and are listed in Table #8.

- ▶ **Condition A:** This condition assumes all systems are operational. This condition would provide a supply of 3,150 gpm or 4,536,000 gpd.
- ▶ **Condition B:** This condition assumes that the largest source of supply, Well #1, is out of service. The available supply would be 2,100 gpm or 3,024,000 gpd.
- ▶ **Condition C:** This condition evaluates the system capacity operating under standby power. There is no standby power at Well #3 / Pumphouse #2, so those facilities would not be available. The

available supply would be 2,100 gpm or 3,024,000 gpd; the same as Condition B.

3. Supply System Capacity Analysis Results:

The results of the supply system capacity analysis are presented in Table #8. Three (3) different projections of Maximum Day Demand were used for the analysis, including: 1) Existing Maximum Day Demand (5-year average); 2) Projected Maximum Day Demand, based on population projections; and 3) Projected Maximum Day Demand based on growth plus an additional 0.5 mgd.

Wisconsin Administrative Code requires the supply system should meet the Maximum Day Demand. The analysis summarized in Table #8 indicates the existing supply facilities have sufficient reliable capacity to meet the various operational conditions and Maximum Day Demands. The safe, reliable supply is what the system can provide with the largest source of supply out of service. This quantity is 3,024,000 gpd, as illustrated in Table #8. Therefore, as the Maximum Day Demand approaches 3,000,000 gpd, additional supply capacity should be considered for the Village. This would be an increase of approximately 1,000,000 gpd.

4. Storage System Capacity Analysis:

The Insurance Service Office (ISO) recommends the combined capacity of the water supply and system storage should equal the Maximum Day Demand, plus fire protection supply requirements. The storage system Capacity Analysis will be conducted using a fire flow requirement of 3,500 gpm for 3-hours. The same available supply conditions used to analyze the supply system capacity will be utilized to analyze the storage system capacity. It was assumed that only 75% of the elevated storage capacity would be available. The volume of ground storage available is equal to the amount that the booster pumps can provide.

The results of the Storage Capacity Analysis are presented in Tables #9 and #10. The recommended storage capacity for the various conditions is less than the current storage system capacity; therefore, the system has sufficient storage capacity to meet existing and future needs of the community.

5. Water Distribution System Layout:

A map of the Water Distribution System with recommended improvements is provided on Figure #6. The larger diameter transmission mains are also highlighted on the map. Generally, the system has developed in a well-connected grid. The three (3) Pumphouses and two (2) elevated water towers are located throughout the system and not in close proximity to each other. This helps distribute the strength of the system across the service area.

The system is bisected by railroad tracks in the southern one-third of the system and I-41 in the northern part of the system. Often, these types of features are barriers to adequate water system development. There are seven (7) water mains crossing the railroad tracks, and five (5) of those mains are 10-inch or larger. Therefore, there is sufficient transmission across the tracks. Currently, there are three (3) water mains that cross I-41. The 10-inch main crossing south of Randolph Drive is scheduled to be abandoned due to frequent water main breaks, leaving only two (2) crossings. It is recommended that a new I-41 crossing be constructed to replace the abandoned main. With only two (2) crossings, if one (1) of those mains is out of service, that leaves only one (1) main to convey water to and from the northern section of the system. A third water main crossing provides system redundancy, which will be more important as development occurs north of I-41.

The capacity, reliability and water quality of a distribution system is maximized when the system develops in a grid. Dead-end water mains should be avoided and/or eliminated, when possible. There are a number of cul-du-sacs that are served by dead-end mains, but in most cases, these are not exceptionally long dead-end water mains.

There are several areas in the system where longer dead-end water mains exist and areas are only served by a single main. In most cases, the reliability of these areas will be improved as development occurs adjacent to these areas. The water quality of dead-end mains will need to be monitored to maintain good water quality. The areas of note are listed below:

- ▶ West Main Street (HWY 96), west of Washington Street to French Road
- ▶ Cherryvale Avenue, north of Gardenia Drive
- ▶ North Freedom Road (CTH N), north of Maple Drive
- ▶ Rosehill Road, north of East North Avenue (HWY 96)

The System Operators conducted fire flow tests in the field throughout the distribution system. The data collected from these tests is used by Engineers, Fire Departments and Insurance Agencies in evaluating the strength of a distribution system. Typical fire flow requirements are listed on Table #11. The available fire flow is dependent on the size and the interior condition of the mains and the system layout. The fire flow data indicates that the minimum 500 gpm at 20 psi DNR requirement is met throughout the system. The available fire flow exceeds 1,000 psi throughout the community, with the exception of two (2) locations that are served with a dead-end main.

6. Future Elevated Water Tower Site:

The Storage Capacity Analysis indicates that additional storage capacity is not needed at this time. Additional storage could be added at Pumphouse #2 to improve the operation and flexibility of this facility. In the future, an elevated

water tower should be considered on the north side of I-41. This future water tower would improve the system reliability, as service is extended north of I-41. The Village may want to consider purchasing property for a future tower before the area is fully developed. Table #12 provides a summary of issues to consider when siting a new elevated tower.

7. Conclusions:

The Little Chute water system is well operated and maintained. In general, the system provides good service for its customers. Planning is needed to continue to provide that service for many years. A summary of the conclusions of the Water System Evaluation are as follows:

- a. Future water system demands were developed to evaluate the capacity of the existing supply and storage facilities. Water demands were projected based on population growth and an additional 0.5 mgd was added to account for a potential large water user customer.
- b. Capacity of the water supply facilities is sufficient to meet current and future demands. The existing water supply wells have adequate safe, reliable capacity to meet the projected future demands, even with one (1) well out of service. Currently, the Maximum Day Demand is approximately 2.0 mgd. As the Maximum Day Demand approaches 3.0 mgd, additional supply capacity should be considered. The water system capacity analysis is presented in Table #8.
- c. The capacity of the existing storage facilities is sufficient to meet the existing and future needs of the community. As demands increase, ground storage capacity could be added at Pumphouse #2 to improve operational flexibility. The Village should start planning to locate an elevated water tower on the north side of I-41. A potential location for a new tower could be along Holland Road, north of Evergreen Drive. The results of the supply System Capacity Analysis are presented in Tables #9 and #10.
- d. The water distribution system is generally a well-developed grid network and adequate fire flow capacities are provided throughout the system. There are several areas that are served by single, rather long, dead-end mains. As development occurs, additional mains will be developed and the system should be developed with connecting water mains.
- e. Various water system improvements are identified on Figure #6 and in Table #13. The improvements include eliminating gaps in the transmission system and replacing mains that have a history of frequent main breaks. An Opinion of Probable Cost for the improvements is also summarized in Table #13. Probable cost information is provided in Appendix #2.

Disclaimer: The Opinion Of Probable Cost was prepared for use by the Owner in planning for future costs of the project. In providing Opinions Of Probable Cost, the Owner understands the Design Professional has no control over costs or the price of labor, equipment or materials, or over Construction Professionals' method of pricing, and that the Opinions Of Probable Cost provided herewith are made on the basis of the Design Professional's qualifications and experience. It is not intended to reflect actual costs, and is subject to change with the normal rise and fall of the local area's economy. This Opinion must be revised after every change made to the project or after every 30-day lapse in time from the original submittal by the Design Professional.

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Table #1

WELL CONSTRUCTION & WELL PUMP DATA

Water System Evaluation & Plan

VILLAGE OF LITTLE CHUTE

Outagamie County, Wisconsin

December 2017

McM No. L0001-9-17-00157.00

	Well Depth	Casing Data	Type Of Pump Install Data / Motor	Design Capacity	Pump Setting	Motor	Auxiliary Power
Well #1	734-feet	12-inch: 0 - 102-feet	Aurora	1,240 gpm	280-feet	200-HP	Diesel Generator
BG 582			Pump - 2017 / Goulds 12 CHC 6-Stage	Typical Operating Capacity: 1,050 gpm			
Constructed	1950		Motor - 2009 / Aurora				
Static Water Level	130						
Well #3	805-feet	18-inch: 0 - 48-feet	Pump - 2010 / Goulds 12 CHC 7-Stage	1,200 gpm	430-feet	200-HP	None
BG 584		12-inch: 2 - 320-feet		Typical Operating Capacity: 1,050 gpm			
Constructed	1974						
Well #4	750-feet	20-inch: 0 - 47-feet	Pump - 2009 / Goulds 12 CHC 6-Stage	1,240 gpm	430-feet	200-HP	Diesel Generator
NG 591		16-inch: 0 - 449-feet	Motor - 2009 / GE Electric	Typical Operating Capacity: 1,050 gpm			
Constructed	1999						

Table #2

BOOSTER PUMPING EQUIPMENT
Water System Evaluation & Plan
VILLAGE OF LITTLE CHUTE
Outagamie County, Wisconsin

December 2017
McM No. L0001-9-17-00157.00

	Location	Motor	Motor Mfg.	VFD/Soft	Installed/Built	Design Capacity	Typical Capacity	TDH	Auxiliary Power
Booster # 1	Well House # 1 - 100 VanBuren Street	100-HP	US Motor	VFD	2017	1,100 gpm	1,000 gpm	196	Diesel Generator
Booster # 2	Well House # 1 - 100 VanBuren Street	100-HP	US Motor	VFD	2017	1,100 gpm	1,000 gpm	196	Diesel Generator
Booster # 3	Pump House # 2 - 1118 Jefferson Street	75-HP	US Motor	VFD	1992	1,100 gpm	1,000 gpm	154	None
Booster # 4	Pump House # 2 - 1118 Jefferson Street	75-HP	US Motor	VFD	2013	1,100 gpm	1,000 gpm	154	None
Booster # 5	Well House # 4 - 625 E Evergreen	100-HP	US Motor	Soft	2001	1,200 gpm	950 gpm	174	Diesel Generator
Booster # 6	Well House # 4 - 625 E Evergreen	100-HP	US Motor	Soft	2001	1,200 gpm	1,100 gpm	174	Diesel Generator

Table #3

SOFTENER FACILITIES
Water System Evaluation & Plan
VILLAGE OF LITTLE CHUTE
Outagamie County, Wisconsin

December 2017
McM No. L0001-9-17-00157.00

ID Tag	Location	Year Installed / Built	Design Resin (cu.ft.)	Actual Resin (cu.ft.)	Resin Removal	Hardness	Design Regeneration Setpoint	Actual Regeneration Setpoint
Well #1 - Shell #1	Well House # 1	2017	230	230	19,000	24	182,083	154,000
Well #1 - Shell #2	Well House # 1	2017	230	230	19,000	24	182,083	154,000
Well #1 - Shell #3	Well House # 1	2017	230	230	19,000	24	182,083	154,000
Pump #2 - Shell #1	Pumphouse # 2	1992	260	260	20,000	22	236,364	180,000
Pump #2 - Shell #2	Pumphouse # 2	1992	260	260	20,000	22	236,364	180,000
Pump #2 - Shell #3	Pumphouse #2	1950 / Rehab 2002	260	260	20,000	22	236,364	180,000
Well #4 - Shell #1	Well House #4	2001	320	320	20,000	34	188,235	150,000
Well #4 - Shell #2	Well House #4	2001	320	320	20,000	34	188,235	150,000
Well #4 - Shell #3	Well House #4	2001	320	320	20,000	34	188,235	150,000

Table #4

SUMMARY OF WATER STORAGE FACILITIES

Water System Evaluation & Plan

VILLAGE OF LITTLE CHUTE

Outagamie County, Wisconsin

December 2017

McM No. L0001-9-17-00157.00

Location	Capacity	Year Constructed
ELEVATED TANKS		
Tank #1 - Stephen Street	300,000-gal	2002
Tank #2 - Jefferson Street	250,000-gal	1967
GROUND RESERVOIRS		
Reservoir #1 - Well #1	300,000-gal	1979
Reservoir #2 - Pumphouse #2	250,000-gal	1952
Reservoir #3 - Well #4	500,000-gal	2001

Table #5

WATER MAIN DATA
Feet Of Main / Age Of Main
Water System Evaluation & Plan
VILLAGE OF LITTLE CHUTE
Outagamie County, Wisconsin

December 2017
McM No. L0001-9-17-00157.00

Pipe Size	1920-1940	1941-1960	1961-1970	1971-1980	1981-1990	1991-2000	2001-2010	2011-2020	Total
	feet	feet	feet	feet	feet	feet	feet	feet	feet
4-inch	290	306				68			664
6-inch	3,071	5,752	7,247	13,462	1,287	2,136	1,222	1,678	35,855
8-inch	3,447	9,972	10,543	35,406	16,731	18,010	42,003	21,973	158,085
10-inch	1,621	4,522		4,890	3,079	1,832	7,474	336	23,754
12-inch	70		3,283	11,884	13,276	15,140	24,468	12,580	80,701
16-inch				4,534	677	1,663	331		7,205
TOTAL	8,499	20,552	21,073	70,176	35,050	38,849	75,498	36,567	306,264 58-miles

Table #6

HISTORICAL & PROJECTED WATER USAGE
Water System Evaluation & Plan
 VILLAGE OF LITTLE CHUTE
 Outagamie County, Wisconsin

December 2017
 McM No. L0001-9-17-00157.00

Customer Classification	2012		2013		2014		2015		2016		Average		Projection Parameters
	No. of Customers	Annual Water Sales	No. of Customers	Annual Water Sales	No. of Customers	Annual Water Sales	No. of Customers	Annual Water Sales	No. of Customers	Annual Water Sales	No. of Customers	Annual Water Sales	
		Gallons		Gallons		Gallons		Gallons		Gallons		Gallons	
Residential	3,672	154,892,000	3,688	146,281,000	3,816	144,558,000	3,947	147,804,000	3,982	150,235,000			
Commercial	301	45,480,000	304	45,617,000	289	29,001,000	309	32,882,000	341	31,092,000			
Industrial	29	144,987,000	29	142,215,000	29	140,685,000	29	146,672,000	33	152,197,000			
Public Authority	24	11,193,000	24	7,222,000	24	7,049,000	24	8,428,000	24	9,298,000			
Multifamily Residential *					33	18,644,000	26	20,333,000	27	20,008,000			
Totals	4,026	356,552,000	4,045	341,335,000	4,191	339,937,000	4,335	356,119,000	4,407	362,830,000			
Population		10,432		10,462		10,539		10,778		10,976		10,637	11,100
Annual Pumpage, gallons		465,057,000		483,710,000		464,432,000		445,275,000		450,187,000		461,732,200	
Average Day, gpd		1,274,000		1,325,000		1,272,000		1,220,000		1,233,000		1,265,000	
Total GPCD		122		127		121		113		112		119	120
Residential GPCD		41		38		38		38		38		38	
Maximum Day, gpd		2,221,000		2,125,000		1,789,000		1,845,000		1,813,000		1,958,600	
Cause Of Max		Water Main Break		Peak Summer Usage plus Main Break		2 Water Main Breaks on Same Day		Summer Peak		Summer Peak			
Max Day Ratio		1.74		1.60		1.41		1.51		1.47		1.55	1.55
Minimum Day, gpd		890,000		964,000		727,000		773,000		819,000		834,600	
Real & Apparent Losses:		12%		19%		12%		16%		9%			

* Multifamily Residential is a new Classification in 2014. Previously Multifamily Residential was classified as Commercial Customer.

Population Data Obtained from Demographic Services Center, Wisconsin Department of Administration

Projected Water Use	Avg Day Demand	Max Day Demand
Parameter	gpd	gpd
2030 Population = 11,100	1,332,000	2,065,000
	(11,100 x 120 gpd)	(1.332 mgd x 1.55)
Add 0.5 mgd (Avg. Day Demand)	500,000	775,000
Projected Water Demand With Population Growth + 0.5 mgd	1,832,000	2,840,000

Table #7

SYSTEM STANDARDS
Water System Evaluation & Plan
VILLAGE OF LITTLE CHUTE
Outagamie County, Wisconsin

December 2017
McM No. L0001-9-17-00157.00

Supply System Should Meet Maximum Day Demand

Wisconsin Administrative Code NR 811

Storage Capacity Recommendations - Insurance Underwriting / Grading Service

Supply + Storage = Maximum Day Demand + Basic Fire Flow

Design Facilities For Maximum Day Demand

Wisconsin Administrative Code NR 811

Minimum Requirements:

35 psi System Pressure	Wisconsin Administrative Code NR 810.10
30 psi Static Pressure at Corporation Stop	Wisconsin Public Service (PSC) Code 185.82
20 psi Residual Pressure at Meter Outlet	Wisconsin PSC Code 185.82

Maximum Pressure At Meter Outlet:

125 psi For Existing Systems	Wisconsin Administrative Code PSC 185.82
100 psi Maximum Pressure at Meter Outlet For New Systems & Major Additions To Existing Systems	

Table #8

SUPPLY CAPACITY ANALYSIS
Water System Evaluation & Plan
VILLAGE OF LITTLE CHUTE
Outagamie County, Wisconsin

December 2017
McM No. L0001-9-17-00157.00

Supply Capacity = Maximum Day Demand

Reliability Analysis: Evaluate system with the largest source of supply out of service

Supply Source	Well Capacity	Condition A	Condition B	Condition C
	gpm	gpm	gpm	gpm
Well #1	1,050	1,050	N/A	1,050
Well #3	1,050	1,050	1,050	N/A
Well #4	1,050	1,050	1,050	1,050
Available Supply	3,150	3,150	2,100	2,100
Available Supply, gpd	4,536,000	4,536,000	3,024,000	3,024,000

Existing Max Day, gpd (5-year average) = 1,928,000

Existing Max Day, gpm (5-year average) = 1,340

Projected Max Day, gpd = 2,065,000

Projected Max Day, gpm = 1,430

Population Growth + 0.5 mgd Demand

Projected Max Day, gpd = 2,840,000

Projected Max Day, gpm = 1,970

The existing supply system has sufficient capacity to meet both the existing and projected Maximum Day Demand for the operating conditions that were considered.

If Maximum day demand approaches 3 MGD additional supply capacity should be considered.

Condition B evaluates the safe, reliable supply with the largest source of supply out of service

Condition C evaluates the system operating under standby power. (There is no Standby power at Well #3/Pumphouse #2)

Table #9

STORAGE CAPACITY ANALYSIS - EXISTING DEMAND
Water System Evaluation & Plan
 VILLAGE OF LITTLE CHUTE
 Outagamie County, Wisconsin

December 2017
 McM No. L0001-9-17-00157.00

Fire Flow + Maximum Day = Supply + Storage

Maximum Day Demand = 1,928,000 gpd

Fire Flow 3,500 gpm x 3 Hours = 630,000 gallons
 Existing Maximum Day Demand (3 hour period) = 241,000 gallons

ELEVATED STORAGE

Jefferson Street Tank - Tank #2 250,000 gallons
 Stephen Street Tank - Tank #3 300,000 gallons

Supply Available	Booster Pump			
	Capacity	Condition A	Condition B	Condition C
	gpm	gpm	gpm	gpm
Well #1	1,000	1,000	1,000	1,000
Gallons, 3-hour period	180,000	180,000	180,000	180,000
Pumphouse #2 (Supplied by Well #3)	1,000	1,000	1,000	N/A
Gallons, 3-hour period	180,000	180,000	180,000	
Well #4	1,100	1,100	N/A	1,100
Gallons, 3-hour period	198,000	198,000		198,000
Total Supply Available (gallons, 3-hour period)	558,000	558,000	360,000	378,000

GROUND STORAGE AVAILABLE / 3-Hour Period

Supply Available From Ground Storage	Booster Pump			
	Capacity	Condition A	Condition B	Condition C
	gpm	gpm	gpm	gpm
Well #1	1,000	1,000	1,000	1,000
Gallons, 3-hour period	180,000	180,000	180,000	180,000
Pumphouse #2 (Supplied by Well #3)	1,000	1,000	1,000	N/A
Gallons, 3-hour period	180,000	180,000	180,000	
Well #4	1,100	1,100	N/A	1,100
Gallons, 3-hour period	198,000	198,000		198,000
Total Supply Available (gallons, 3-hour period)	558,000	558,000	360,000	378,000

EXISTING SYSTEM ANALYSIS / Gallons

	Condition A	Condition B	Condition C
	gpm	gpm	gpm
Fire Flow (3-Hours)	630,000	630,000	630,000
Maximum Day (3-Hours)	241,000	241,000	241,000
Less Available Supply (3-Hours)	-558,000	-360,000	-378,000
Recommended Storage Capacity	313,000	511,000	493,000
Elevated Storage Available (75% Full)	412,500	412,500	412,500
Ground Storage	558,000	360,000	378,000
Total Storage Available	970,500	772,500	790,500

Available Storage exceeds the recommended storage capacity. Therefore, there is sufficient storage capacity in the system to meet the existing demands.

Condition B evaluates the safe, reliable supply with the largest source of supply out of service.

Condition C evaluates the system operating under standby power. (There is no Standby power at Well #3/Pumphouse #2)

Table #10

STORAGE CAPACITY ANALYSIS - POPULATION GROWTH + 0.5 mgd DEMAND

Water System Evaluation & Plan

VILLAGE OF LITTLE CHUTE

Outagamie County, Wisconsin

December 2017

McM No. L0001-9-17-00157.00

Fire Flow + Maximum Day = Supply + Storage

Maximum Day Demand = 2,840,000 gpd

Fire Flow

3,500 gpm x

3

Hours =

630,000 gallons

Existing Maximum Day Demand (3 hour period) =

258,000 gallons

ELEVATED STORAGE

Jefferson Street Tank - Tank #2

250,000 gallons

Stephen Street Tank - Tank #3

300,000 gallons

Supply Available	Booster Pump			
	Capacity	Condition A	Condition B	Condition C
	gpm	gpm	gpm	gpm
Well #1	1,000	1,000	1,000	1,000
Gallons, 3-hour period	180,000	180,000	180,000	180,000
Pumphouse #2 (Supplied by Well #3)	1,000	1,000	1,000	N/A
Gallons, 3-hour period	180,000	180,000	180,000	
Well #4	1,100	1,100	N/A	1,100
Gallons, 3-hour period	198,000	198,000		198,000
Total Supply Available (gallons, 3-hour period)	558,000	558,000	360,000	378,000

GROUND STORAGE AVAILABLE / 3-Hour Period

Supply Available From Ground Storage	Booster Pump			
	Capacity	Condition A	Condition B	Condition C
	gpm	gpm	gpm	gpm
Well #1	1,000	1,000	1,000	1,000
Gallons, 3-hour period	180,000	180,000	180,000	180,000
Pumphouse #2 (Supplied by Well #3)	1,000	1,000	1,000	N/A
Gallons, 3-hour period	180,000	180,000	180,000	
Well #4	1,100	1,100	N/A	1,100
Gallons, 3-hour period	198,000	198,000		198,000
Total Supply Available (gallons, 3-hour period)	558,000	558,000	360,000	378,000

FUTURE SYSTEM ANALYSIS, gallons

	Condition A	Condition B	Condition C
	gpm	gpm	gpm
Fire Flow (3-Hours)	630,000	630,000	630,000
Maximum Day (3-Hours)	258,000	258,000	258,000
Less Available Supply (3-Hours)	-558,000	-360,000	-378,000
Recommended Storage Capacity	330,000	528,000	510,000
Elevated Storage Available (75% Full)	412,500	412,500	412,500
Ground Storage	558,000	360,000	378,000
Total Storage Available	970,500	772,500	790,500

Available Storage exceeds the recommended storage capacity. Therefore, there is sufficient storage capacity in the system to meet the existing demands.

Condition B evaluates the save, reliable supply with the largest source of supply out of service.

Condition C evaluates the system operating under standby power. (There is no Standby power at Well #3/Pumphouse #2)

Table #11

FIRE FLOW INFORMATION
Water System Evaluation & Plan
VILLAGE OF LITTLE CHUTE
Outagamie County, Wisconsin

December 2017
McM No. L0001-9-17-00157.00

TYPICAL FIRE FLOW REQUIREMENTS

Land Use	Range Of Needed Fire Flow @ 20 psi Residual Pressure
Single & Two-Family	
Over 100-feet Building Separation	50 gpm
31 to 100-feet Building Separation	750 gpm
11 to 30-feet Building Separation	1,000 gpm
10-feet or Less Building Separation	1,500 gpm
Multiple Family Residential Complexes	2,000 to 3,000+ gpm
Average Density Commercial	1,500 to 2,500+ gpm
High Value Commercial	2,500 to 3,500+ gpm
Light Industrial	2,000 to 3,500+ gpm
Heavy Industrial	2,500 to 3,400+ gpm
Other Commercial, Industrial & Public Buildings	Up to 12,000 gpm

Wisconsin Administrative Code NR 811.70(6):
500 gpm @ 20 psi Residual Pressure
Flow Requirement For Water Mains Serving Fire Hydrants

Table #12

ELEVATED TOWER SITE CONSIDERATIONS
Water System Evaluation & Plan
VILLAGE OF LITTLE CHUTE
Outagamie County, Wisconsin

December 2017
McM No. L0001-9-17-00157.00

Site Conditions

Availability
Size
Ground Elevation
Soil Conditions
Topography
Current & Future Surrounding Land Use
Clearance From Other Utilities
Access

Hydraulic Considerations

Proximity To Water Transmission System
Proximity To Other Storage & Supply Facilities
Proximity To Major Consumers / Fire Protection
Need For System Improvements

Tower Maintenance Considerations

Provide 30-feet on Both Sides Of Bowl
(500,000-gal tower bowl diameter = 55-feet)

Costs

Table #13

CAPITAL IMPROVEMENT PLAN
Water System Evaluation & Plan
VILLAGE OF LITTLE CHUTE
Outagamie County, Wisconsin

December 2017

McM No. L0001-9-17-00157.00

Opinion Of
Probable Cost ⁽¹⁾

Main Street:	Section of 8-inch water main, east of Washington Street. Replace section of 8-inch main with 12-inch main.	\$141,000
Moasis Drive:	Between Freedom Road and Kelly Street Replace with 12-inch water main.	\$59,000
Randolph Drive:	To be replaced with 12-ich water main. Bad main.	\$546,000
Bohm Drive:	To be replaced with 12-inch water main. Bad main.	\$215,450
Well #3:	Transmission main. To be replaced with 12-inch water main.	\$273,000
Other:	Maintain water system maps.	
Additional Storage:	The Storage Capacity Analysis indicates that additional storage capacity is not needed at this time. Additional storage could be added at Pumphouse #2 to improve the operation and flexibility of this facility. In the future, an elevated tower should be considered on the north side of I-41. The Village may want to consider purchasing property at this time. The probable cost includes Engineering and Contingencies	
I-41 Crossing:	Maintain three (3) highway crossing mains, specially as development expands and a new elevated water tower is constructed north of I-41.	

⁽¹⁾ The Opinion Of Probable Cost was prepared for use by the Owner in planning for future costs of the project. In providing Opinions Of Probable Cost, the Owner understands that the Design Professional has no control over costs or the price of labor, equipment or materials, or over Construction Professionals' method of pricing, and that the Opinions Of Probable Cost provided herewith are made on the basis of the Design Professional's qualifications and experience. It is not intended to reflect actual costs, and is subject to change with the normal rise and fall of the local area's economy. This Opinion must be revised after every change made to the project or after every 30-day lapse in time from the original submittal by the Design Professional.

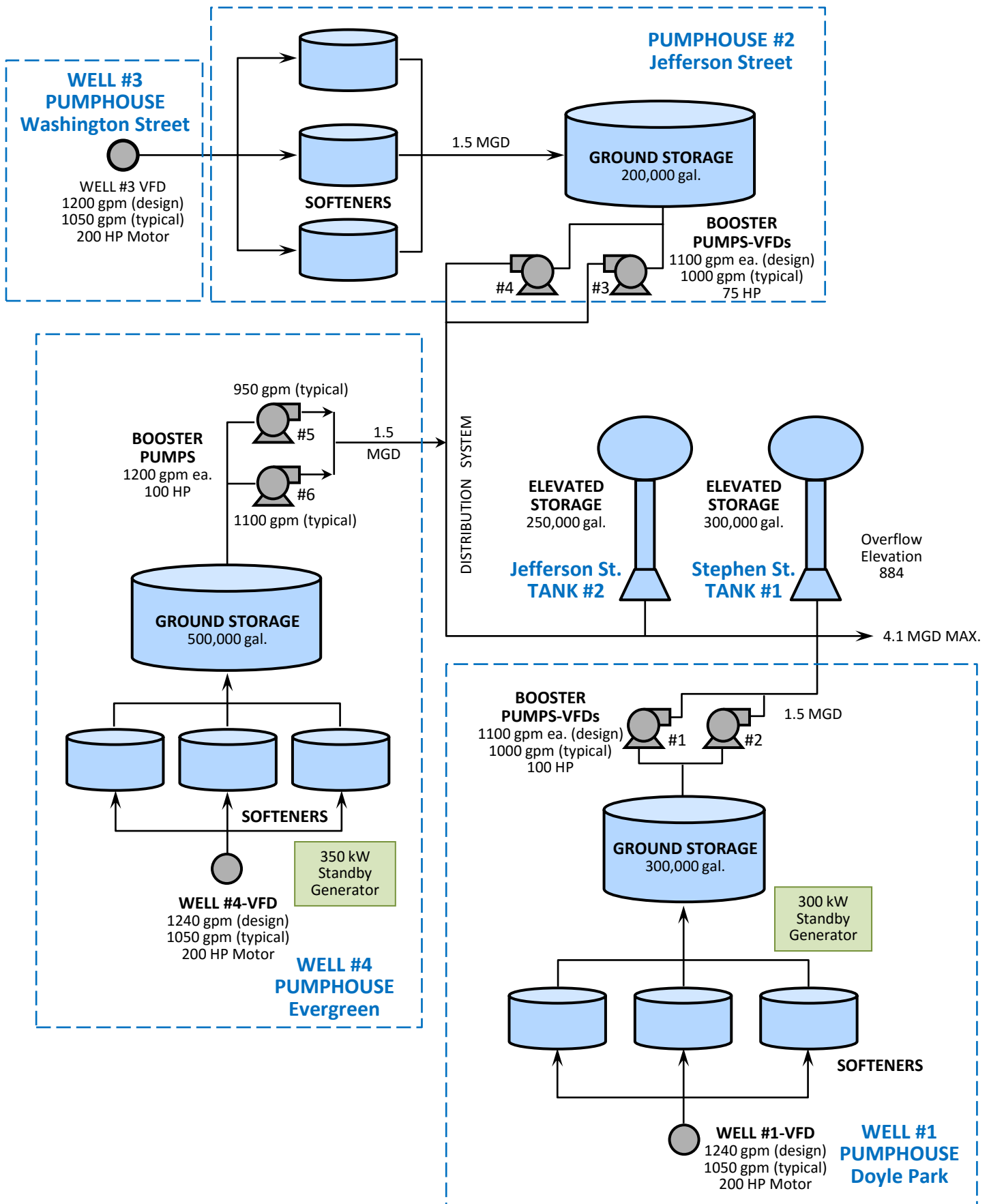


FIGURE #1

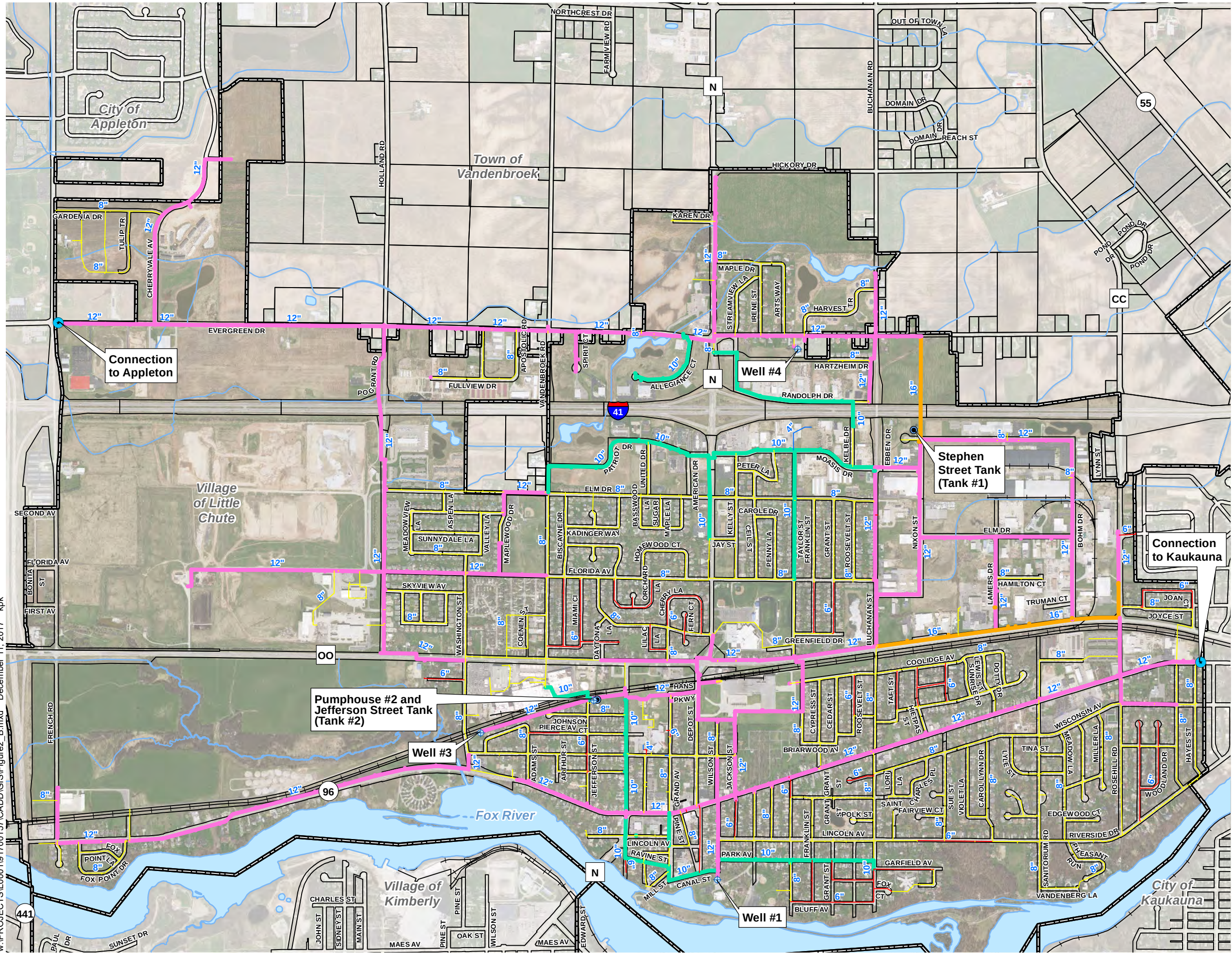
WATER SYSTEM SCHEMATIC

VILLAGE OF LITTLE CHUTE, WISCONSIN

MCM #L0001-91700157.00 9/13/2017

ID:PPT\2017\MCM WIS\LITTLE CHUTE WATER SYSTEM SCHEMATIC.PPTX AJV:

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**Water Distribution System
(By Diameter)**

- 4 inch
- 6 inch
- 8 inch
- 10 inch
- 12 inch
- 16 inch

Other Mapped Features

- Connection Point
- Elevated Tank
- Well
- Municipal Boundary
- Parcel or Right-of-Way Line
- Railroad Centerline
- Stream
- Surface Water

Source: Outagamie County, 2014-17.

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMAHON ASSOCIATES, INC. does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



0 1,500 3,000 Feet

McMAHON
ENGINEERS ARCHITECTS
McMAHON ASSOCIATES, INC.

**FIGURE 2
WATER DISTRIBUTION SYSTEM
BY DIAMETER**
WATER SYSTEM EVALUATION
VILLAGE OF LITTLE CHUTE
OUTAGAMIE COUNTY, WISCONSIN



- Water System Service Area
- Other Mapped Features**
- Projected Static Pressure
- Municipal Boundary
- Parcel or Right-of-Way Line
- Railroad Centerline
- Stream
- Surface Water

Note: System Hydraulic Grade Line - 884

Source: Outagamie County, 2014-17.

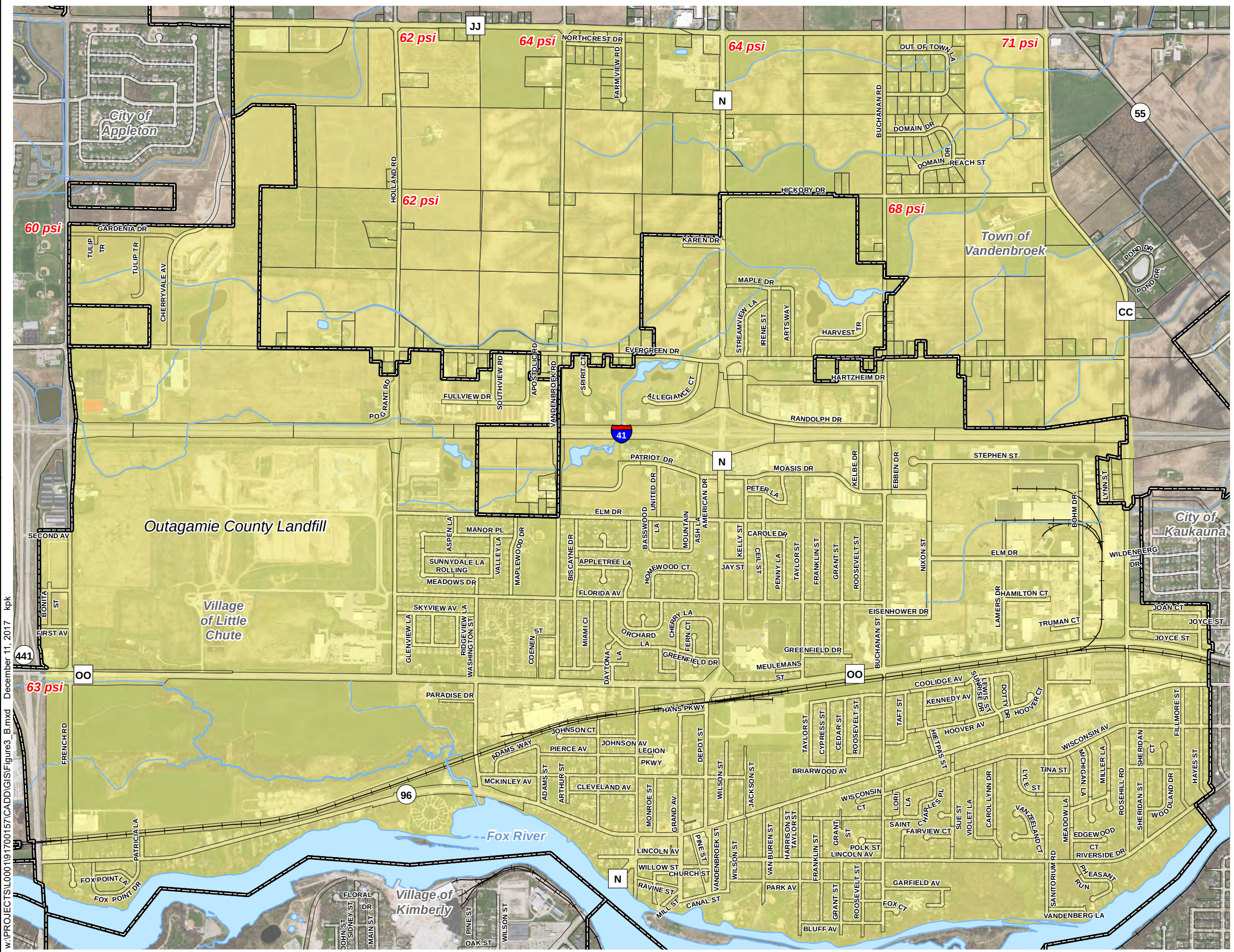
Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMAHON ASSOCIATES, INC. does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



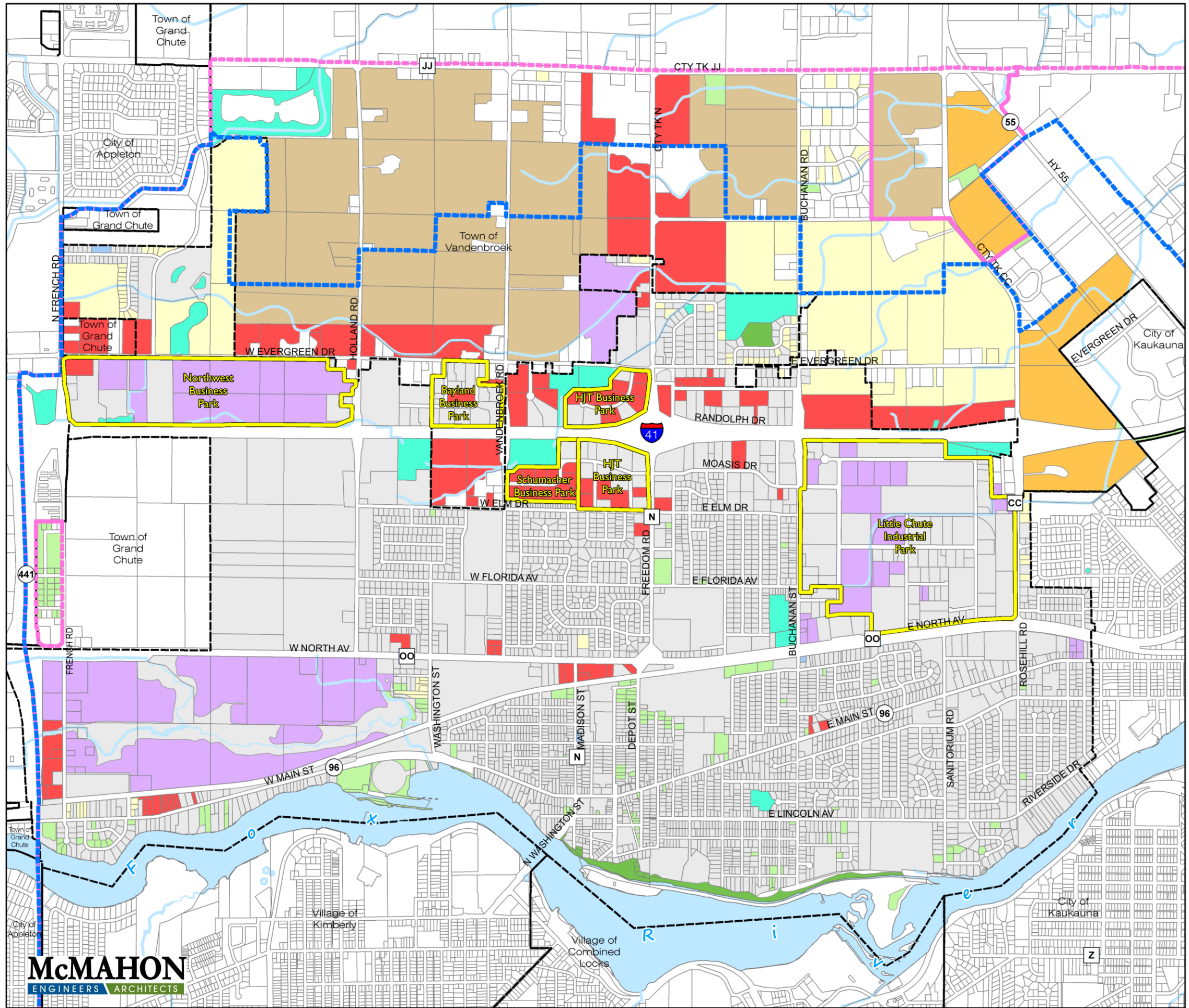
0 1,500 3,000 Feet



FIGURE 3
WATER SYSTEM SERVICE AREA
WATER SYSTEM EVALUATION
VILLAGE OF LITTLE CHUTE
OUTAGAMIE COUNTY, WISCONSIN



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MAP 1

Future Land Use

Village of Little Chute
Comprehensive Plan

- Commercial
- Currently Developed
Redevelopment on these parcels shall follow current zoning.
- Industrial
- Non-irrigated Cropland
- Other Open Land
Development on these parcels shall follow current zoning.
- Public Institution
- Recreation
- Residential
- Rural Preservation
- Stormwater Management Facility
- Industrial & Business Parks
- Sewer Service Area 2030
- Sewer Service Area 2050
- Municipal Boundary

Sources: Outagamie County, Village of Little Chute, East Central Regional Planning Commission, and Wisconsin Department of Natural Resources. April 2016.

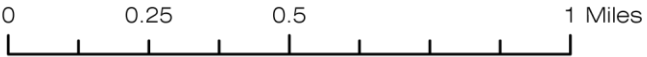
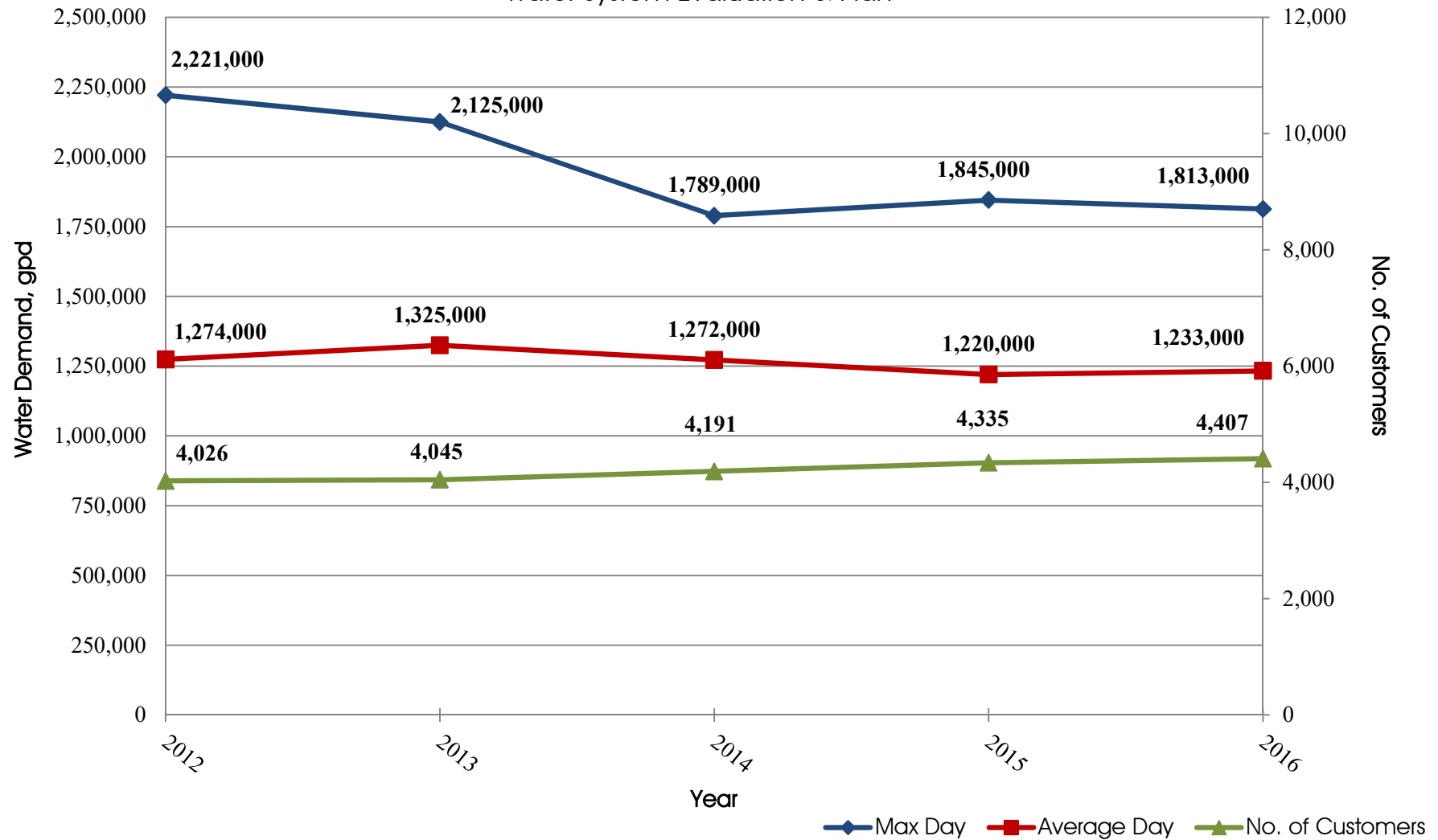


FIGURE #4
FUTURE LAND USE
WATER SYSTEM EVALUATION

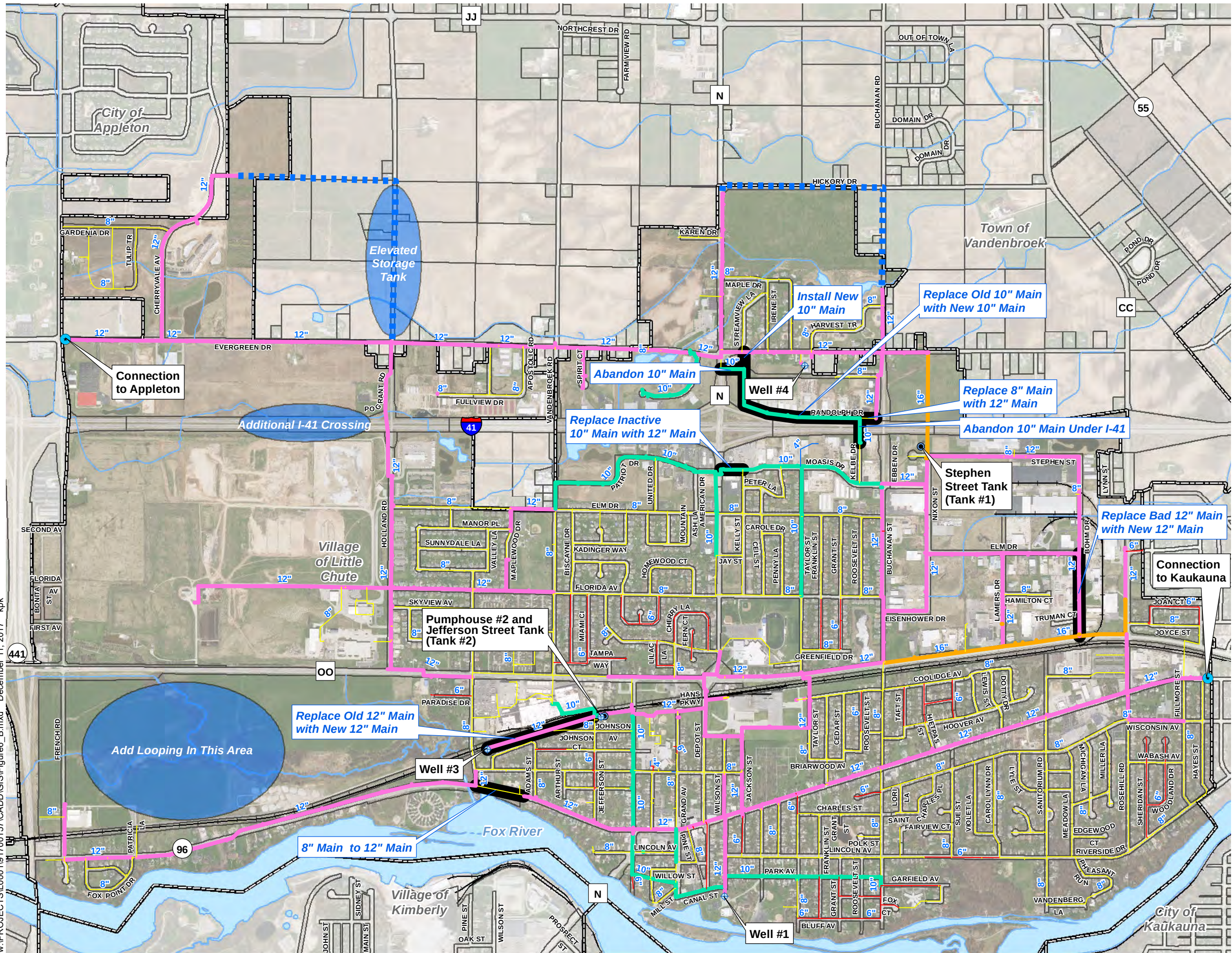
VILLAGE OF LITTLE CHUTE, WISCONSIN
McM #L0001-91700157.00 12/8/2017

ID:PPT[2017]/MCM WIS/LITTLE CHUTE WATER SYSTEM EVALUATION FIGS.PPTX AJV:jmk

Figure #5
Historical Water Demand
 VILLAGE OF LITTLE CHUTE
 Water System Evaluation & Plan



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Water Distribution System (By Diameter)

- 4 inch
- 6 inch
- 8 inch
- 10 inch
- 12 inch
- 16 inch

- Proposed Improvement
- Future 12"

Other Mapped Features

- Connection Point
- Elevated Tank
- Well
- Potential System Improvement Area
- Municipal Boundary
- Parcel or Right-of-Way Line
- Railroad Centerline
- Stream
- Surface Water

Source: Outagamie County, 2014-17.

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMAHON ASSOCIATES, INC. does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



0 1,500 3,000 Feet

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McMAHON ASSOCIATES, INC.

FIGURE 6
WATER SYSTEM
IMPROVEMENTS
WATER SYSTEM EVALUATION
VILLAGE OF LITTLE CHUTE
OUTAGAMIE COUNTY, WISCONSIN

WELL CONSTRUCTION LOGS

State of Wi-Private Water Systems-DG/2		Form 3300-77A	
Department Of Natural Resources, Box 7921		(Rev 02/02)bw	
Madison, WI 53707		Depth 734 FT	
1. Well Location			
T=Town C=City V=Village V of LITTLE CHUTE		Fire#	
Street Address or Road Name and Number 100 VAN BUREN ST #1			
Subdivision Name		Lot#	Block #

Govt Lot **or** NE 1/4 of SE 1/4 of Section 21 T 21 N;R 18 E

Latitude	Deg.	44	Min.	16.6222
Longitude	Deg	88	Min.	18.7554

2. Well Type **3** (See item 12 below) Lat/Long Method
1=New 2=Replacement 3=Reconstruction **GPS004**

of previous unique well # _____ constructed in **1923**

Reason for replaced or reconstructed Well?
1 1=Drilled 2=Driven Point 3=Jetted 4=Other

4. Is the well located upslope or sideslope and not downslope from any contamination sources, including those on neighboring properties?		
Well located in floodplain?	9. Downspout/ Yard Hydrant	17. Wastewater Sump
Distance in feet from well to nearest: (including proposed)	10. Privy	18. Paved Animal Barn Pen
1. Landfill	11. Foundation Drain to Clearwater	19. Animal Yard or Shelter
2. Building Overhang	12. Foundation Drain to Sewer	20. Silo
3. 1=Septic 2= Holding Tank	13. Building Drain	21. Barn Gutter
4. Sewage Absorption Unit	1=Cast Iron or Plastic 2=Other	22. Manure Pipe 1=Gravity 2=Pressure
5. Nonconforming Pit	14. Building Sewer 1=Gravity 2=Pressure	1=Cast iron or Plastic 2=Other
6. Buried Home Heating Oil Tank	1=Cast Iron or Plastic 2=Other	23. Other manure Storage
7. Buried Petroleum Tank	15. Collector Sewer: ___ units ___ in . diam.	24. Ditch
8. 1=Shoreline 2= Swimming Pool	16. Clearwater Sump	25. Other NR 812 Waste Source

5. Drillhole Dimensions and Construction Method				8.		
From To		Upper Enlarged Drillhole	Lower Open Bedrock	Geology Codes	Geology Type, Caving/Noncaving, Color, Hardness, etc	From To
Dia.(in.)	(ft)	(ft)				(ft.) (ft.)
			-- 1. Rotary - Mud Circulation -----	__C_	CLAY	0 5
			-- 2. Rotary - Air -----	__L_	DOLOMITE GALENA PLATTEVILLE	5 151
15.0	surface	102	-- 3. Rotary - Air and Foam -----	__NL	SANDSTONE LOWER MAGNESIUM	151 189
			-- 4. Drill-Through Casing Hammer	G_LR	DOLOMITE LOWER MAGNESIUM	189 229
12.0	102	734	-- 5. Reverse Rotary	_NNL	SANDSTONE LOWER MAGNESIUM	229 237
			-- 6. Cable-tool Bit _ in. dia -----	G_L_	DOLOMITE LOWER MAGNESIUM	237 329
			-- 7. Temp. Outer Casing _ in. dia. ____ depth ft.	_NNL	SANDSTONE LOWER MAGNESIUM	329 335
			Removed ?	__LS	DOLOMITE	335 345
			Other	__NL	SANDSTONE TREMPPEALEAU	345 382
6. Casing Liner Screen				Material, Weight, Specification		
Dia. (in.)		Manufacturer & Method of Assembly		From To		
				(ft.) (ft.)		
12.0			surface	102	__NL	SANDSTONE FRANCONIAN
					__N_	SANDSTONE DRESBACH
					P_Q	GRANITE PRECAMBRIAN
						730 734

				9. Static Water Level 38.0 feet B ground surface A=Above B=Below	11. Well Is: 0 in. Grade Developed? A=Above Disinfected? B=Below Capped?
Dia.(in.)	Screen type, material & slot size	From	To	10. Pump Test Pumping level 44.0 ft. below surface Pumping at 339.0 GP M 8.0 Hrs	

7. Grout or Other Sealing Material				12. Did you notify the owner of the need to permanently abandon and fill all unused wells on this property?	
Method		From (ft.)	To (ft.)	# Sacks Cement	If no, explain
Kind of Sealing Material					
GROUT		surface	102.0		13. Initials of Well Constructor or Supervisory Driller
					Date Signed
					Initials of Drill Rig Operator (Mandatory unless same as above)
					Date Signed

WISCONSIN UNIQUE WELL NUMBER
SOURCE: SWAP PROJECT KEYED

BG584

State of Wi-Private Water Systems-DG/2
 Department Of Natural Resources, Box 7921
 Madison, WI 53707

Form 3300-77A
 (Rev 12/00)

Property Owner LITTLE CHUTE, VILLAGE OF		Telephone Number 414 - 788 - 7398
Mailing Address 108 W MAIN ST		
City LITTLE CHUTE	State WI	Zip Code 54140
County of Well Location 45 OUTAGAMIE	Co Well Permit No W	Well Completion Date February 1, 1974

1. Well Location V T=Town C=City V=Village of LITTLE CHUTE		Depth 805 FT
Street Address or Road Name and Number 920 WASHINGTON ST #3		
Subdivision Name	Lot#	Block #

Well Constructor LAYNE CHRISTENSEN	License # 582	Facility ID (Public) 445033820
Address W229 N5005 DUPLAINVI		Public Well Plan Approval# 730121
City PEWAUKEE	State WI	Zip Code 53072
HiCap Permanent Well # 83484	Common Well # 003	Date Of Approval 02/26/1973
		4.2 gpm/ft

Gov't Lot Section 21 T 21 N R 18 E	or SE 1/4 of NW 1/4 of
Latitude Deg. 44 Min. 17.0071	Longitude Deg. 88 Min. 19.6573
2. Well Type 1 1=New 2=Replacement (See item 12 below) 3=Reconstruction of previous unique well # 0 constructed in 0	
Reason for replaced or reconstructed Well?	

3. Well Serves # of homes and or (eg: barn, restaurant, church, school, industry, etc.) M M=Munic O=OTM N=NonCom P=Private Z=Other X=NonPot A=Anode L=Loop H=Drillhole	High Capacity: Well? Property?
--	--------------------------------------

1 1=Drilled 2=Driven Point 3=Jetted 4=Other
--

4. Is the well located upslope or sideslope and not downslope from any contamination sources, including those on neighboring properties? Well located in floodplain? Distance in feet from well to nearest: (including proposed)		
1. Landfill	9. Downspout/ Yard Hydrant	17. Wastewater Sump
2. Building Overhang	10. Privy	18. Paved Animal Barn Pen
3. 1=Septic 2= Holding Tank	11. Foundation Drain to Clearwater	19. Animal Yard or Shelter
4. Sewage Absorption Unit	12. Foundation Drain to Sewer	20. Silo
5. Nonconforming Pit	13. Building Drain	21. Barn Gutter
6. Buried Home Heating Oil Tank	1=Cast Iron or Plastic 2=Other	22. Manure Pipe 1=Gravity 2=Pressure
7. Buried Petroleum Tank	14. Building Sewer 1=Gravity 2=Pressure	1=Cast iron or Plastic 2=Other
8. 1=Shoreline 2= Swimming Pool	1=Cast Iron or Plastic 2=Other	23. Other manure Storage
	15. Collector Sewer: ___ units ___ in. diam.	24. Ditch
	16. Clearwater Sump	25. Other NR 812 Waste Source

5. Drillhole Dimensions and Construction Method			
Dia.(in.)	From (ft)	To (ft)	Upper Enlarged Drillhole Lower Open Bedrock
18.0	surface	48	-- 1. Rotary - Mud Circulation ----- -- 2. Rotary - Air ----- -- 3. Rotary - Air and Foam ----- -- 4. Drill-Through Casing Hammer -- 5. Reverse Rotary -- 6. Cable-tool Bit ___ in. dia ----- -- 7. Temp. Outer Casing ___ in. dia. ___ depth ft. Removed ? Other
17.0	47	795	
12.0	795	805	

Geology Codes	8. Type, Caving/Noncaving, Color, Hardness, etc	From (ft.)	To (ft.)
R_C_	CLAY	0	45
LL_	DOLOMITE SINNIPEE	45	175
NL_	DOLOMITE @ SANDSTONE STP	175	185
E_HS	SHAPE STP	185	195
L_	DOLOMITE PDC	195	250
G_N_	SANDSTONE PDC	250	270
LR	DOLOMITE PDC	270	365
P_L_	DOLOMITE COON VALLEY	365	375
R_NL	SANDSTONE COON VALLEY	375	380
O_N_	SANDSTONE VAN OSER	380	395
P_N_	SANDSTONE NORWALK	395	405
N_	SANDSTONE TUN CITY	405	525

6. Casing Liner Screen Material, Weight, Specification			
Dia. (in.)	Manufacturer & Method of Assembly	From (ft.)	To (ft.)
18.0	A53B WELDED 0375 WALL	surface	48
12.0	A53B 0375 WALL WELDED	2	320
Dia.(in.)	Screen type, material & slot size	From	To

9. Static Water Level 129.0 feet B ground surface ..=Above B=Below	11. Well Is: Grade 0 in. A=Above B=Below
10. Pump Test Pumping level 319.0ft. below surface Pumping at 790.0GPM 9.00hrs	Developed? Disinfected? Capped?

7. Grout or Other Sealing Material			
Method	Kind of Sealing Material	From (ft.)	To (ft.)
			# Sacks Cement
NEAT CEMENT		surface	320.0

12. Did you notify the owner of the need to permanently abandon and fill all unused wells on this property? If no, explain	
13. Initials of Well Constructor or Supervisory Driller	Date Signed
Initials of Drill Rig Operator (Mandatory unless same as above)	Date Signed

BG584

[illegible]

WISCONSIN UNIQUE WELL NUMBER
SOURCE: WELL CONSTRUCTION

NG591

State of Wi-Private Water Systems-DG/2
Department Of Natural Resources, Box 7921
Madison, WI 53707

Form 3300-77A
(Rev 12/00)

Property Owner **LITTLE CHUTE, VILLAGE OF** Telephone Number **920 - 788 - 7380**

Mailing Address **108 W MAIN ST**

City **LITTLE CHUTE** State **WI** Zip Code **54140**

County of Well Location **NE 45 OUTAGAMIE** Co Well Permit No **W** Well Completion Date **January 18, 1999**

Well Constructor **SAMS ROTARY** License # **370** Facility ID (Public) **445033820**

Address **PO BOX 150** Public Well Plan Approval# **98-1023**

City **RANDOLPH** State **WI** Zip Code **53956** Date Of Approval **08/04/1998**

Hicap Well # **004** Common Well # **004** **25.6** gpm/ft

3. Well Serves # of homes and or **MUNICIPALITY WELL #4**
(eg: barn, restaurant, church, school, industry, etc.)
M M=Munic O=OTM N=NonCom P=Private Z=Other
X=NonPot A=Anode L=Loop H=Drillhole

High Capacity:
Well? **Y**
Property? **Y**

1. Well Location **T** T=Town C=City V=Village
of **LITTLE CHUTE** Fire#

Street Address or Road Name and Number
EVER GREEN DR

Subdivision Name Lot# Block #

Gov't Lot or **NW** 1/4 of **NW** 1/4 of
Section **15** T **21** N R **18** E

Latitude Deg. **44** Min. **18.0329**
Longitude Deg. **88** Min. **18.4465**

2. Well Type **1** 1=New Lat/Long Method **GPS004**
2=Replacement (See item 12 below)
3=Reconstruction

of previous unique well # constructed in
Reason for replaced or reconstructed Well? **NQ265**
HICAP # 2877. FILE # 45-9-5.

1 1=Drilled 2=Driven Point 3=Jetted 4=Other

4. Is the well located upslope or sideslope and not downslope from any contamination sources, including those on neighboring properties? **Y**

Well located in floodplain? **N**
Distance in feet from well to nearest: (including proposed)

1. Landfill
2. Building Overhang
3. 1=Septic 2= Holding Tank
4. Sewage Absorption Unit
5. Nonconforming Pit
6. Buried Home Heating Oil Tank
7. Buried Petroleum Tank
8. 1=Shoreline 2= Swimming Pool

9. Downspout/ Yard Hydrant
10. Privy
11. Foundation Drain to Clearwater
12. Foundation Drain to Sewer
13. Building Drain
1=Cast Iron or Plastic 2=Other
14. Building Sewer 1=Gravity 2=Pressure
1=Cast Iron or Plastic 2=Other
15. Collector Sewer: ___ units ___ in. diam.
16. Clearwater Sump

17. Wastewater Sump
18. Paved Animal Barn Pen
19. Animal Yard or Shelter
20. Silo
21. Barn Gutter
22. Manure Pipe 1=Gravity 2=Pressure
1=Cast iron or Plastic 2=Other
23. Other manure Storage
24. Ditch
25. Other NR 812 Waste Source

5. Drillhole Dimensions and Construction Method

From To Upper Enlarged Drillhole Lower Open Bedrock		
Dia.(in.)	(ft)	(ft)
19.0	surface	449
15.0	449	750

1. Rotary - Mud Circulation
- X 2. Rotary - Air
3. Rotary - Air and Foam
4. Drill-Through Casing Hammer
5. Reverse Rotary
6. Cable-tool Bit ___ in. dia
7. Temp. Outer Casing ___ in. dia. ___ depth ft. Removed?
- Other

6. Casing Liner Screen Material, Weight, Specification From To

Dia.(in.)	Manufacturer & Method of Assembly	(ft.)	(ft.)
16.0	STD BLK PIPE .375 WALL WELD JTS GENEVA	surface	449
20.0	STD BLK PIPE .375 WALL WELD JTS A53 SAWHILL - BARBER RIG	0	47

Dia.(in.)	Screen type, material & slot size	From	To
-----------	-----------------------------------	------	----

7. Grout or Other Sealing Material

Geology Codes	8. Type, Caving/Noncaving, Color, Hardness, etc	From (ft.)	To (ft.)
C	CLAY	0	6
Z	CLAY W/GRAVEL	6	45
BL	BROKEN LIMEROCK	45	50
L	LIMEROCK	50	380
LH	SHALEY LIMEROCK	380	395
L	LIMEROCK	395	405
LH	SHALEY LIMEROCK	405	435
L	LIMEROCK	435	490
N	SANDROCK	490	530
N	SANDROCK	490	530
NH	SHALEY SANDROCK	530	540
N	SANDROCK	540	640

9. Static Water Level
155.0 feet B ground surface
..=Above B=Below

11. Well Is: A Grade
24 in. A=Above B=Below

10. Pump Test
Pumping level 205.8ft. below surface
Pumping at 1300.GPM 12.Qhrs

Developed? **Y**
Disinfected? **Y**
Capped? **Y**

12. Did you notify the owner of the need to permanently abandon and fill all

Method	BRADENHEAD/TREMIE Kind of Sealing Material	from (ft.)	To (ft.)	Sacks Cement	unused wells on this property? If no, explain	
	CEMENT (TREMIE)	surface	50.0	75 S	13. Initials of Well Constructor or Supervisory Driller SVJ	Date Signed 8/13/99
	(BRAEDONHEAD)	50.0	449.0	325 S	Initials of Drill Rig Operator (Mandatory unless same as above) RH	Date Signed 8/13/99

Additional Comments? Y Variance Issued?
Owner Sent Label? Y More Geology?

Batch 714

NG591

[illegible]

OPINION OF PROBABLE COST INFORMATION

Appendix #2

CAPITAL IMPROVEMENTS - OPINION OF PROBABLE COST
Water System Evaluation & Plan
VILLAGE OF LITTLE CHUTE
Outagamie County, Wisconsin

December 2017
McM No. L0001-9-17-00157.00

Main Street - Replace 8-inch main east of Washington Street with 12-inch main

Item	Qty	Unit	Description	Unit Price	Total
1	1	L.S.	Mobilization/Administration	\$3,500	\$3,500
2	1	L.S.	Traffic Control	\$3,500	\$3,500
3	1	L.S.	Temporary Water - per block	\$1,000	\$1,000
4	800	L.F.	12 Inch Water Main	\$60	\$48,000
5	3	EA	12 Inch Water Main Valve	\$3,650	\$10,950
6	2	EA	Hydrant, lead, gate valve	\$5,500	\$11,000
7	1	L.S.	Connection to development	\$1,000	\$1,000
8	800	S.Y.	Asphalt patching - 4"	\$30	\$24,000
9	711	S.Y.	Seeding Restoration	\$2	\$1,422
SUB TOTAL					\$104,372
Add 15% Contingencies					\$15,660
Add 20% fiscal, legal, admin., engineering					\$20,870
Total Opinion of Probable Cost					\$140,902
				USE	\$141,000

Moasis Drive - Replace 12-inch main with 12-inch main

Item	Qty	Unit	Description	Unit Price	Total
1	1	L.S.	Mobilization/Administration	\$3,500	\$3,500
2	1	L.S.	Traffic Control	\$3,500	\$3,500
3	400	L.F.	12 Inch Water Main	\$60	\$24,000
4	2	EA	12 Inch Water Main Valve	\$3,650	\$7,300
5	1	EA	Hydrant, lead, gate valve	\$5,500	\$5,500
6	400	S.Y.	Asphalt patching - 4"	\$30	\$12,000
7	356	S.Y.	Seeding Restoration	\$2	\$711
SUB TOTAL					\$43,800
Add 15% Contingencies					\$6,570
Add 20% fiscal, legal, admin., engineering					\$8,760
Total Opinion of Probable Cost					\$59,130
				USE	\$59,000

Randolph Drive - Replace Existing WM Along (Water Main Cost Only - Does not include Roadway reconstruction)

Item	Qty	Unit	Description	Unit Price	Total
1	1	LS	CTH N Traffic Control & Paving	\$7,500	\$7,500
2	490	LF	12 Inch Water Main	\$60	\$29,400
3	3,280	LF	10 Inch Water Main	\$60	\$196,800
4	160	LF	6 Inch Water Main	\$65	\$10,400
5	5	EA	12 Inch Water Main Valve	\$1,800	\$9,000
6	7	EA	10 Inch Water Main Valve	\$1,600	\$11,200
7	2	EA	6 Inch Water Main Valve	\$1,100	\$2,200
8	8	EA	Hydrant	\$2,850	\$22,800
9	462	LF	1 Inch Water Service - Open Cut	\$28	\$12,936
10	14	EA	1 Inch Corporation Stop, Curb Stop and Curb Stop Box	\$375	\$5,250
11	16	EA	Reset Driveway Culverts	\$2,800	\$44,800
12	10,472	SY	Restoration (Topsoil, Seed, Fertilizer, and Mulch)	\$5	\$52,360
SUB TOTAL					\$404,646
Add 15% Contingencies					\$60,700
Add 20% fiscal, legal, admin., engineering					\$80,930
Total Opinion of Probable Cost					\$546,276
				USE	\$546,000

Bohm Drive - Replace 12-Main north of North Avenue with 12-inch main

Item	Qty	Unit	Description	Unit Price	Total
1	1	L.S.	Mobilization/Administration	\$3,500	\$3,500
2	1	L.S.	Traffic Control	\$3,500	\$3,500
3	1	L.S.	Temporary Water - per block	\$1,000	\$1,000
4	1,350	L.F.	12 Inch Water Main	\$60	\$81,000
5	3	EA	12 Inch Water Main Valve	\$3,650	\$10,950
6	2	EA	Hydrant, lead, gate valve	\$5,500	\$11,000
7	1	L.S.	Land of Lakes Water Service - Open Cut Inc. valve	\$2,500	\$2,500
8	6	L.F.	1-1/2 Inch Water Service - Open Cut	\$40	\$240
9	6	EA	1-1/2 Inch Corporation Stop, Curb Stop and Curb Stop Box	\$500	\$3,000
10	1,350	S.Y.	Asphalt patching - 4"	\$30	\$40,500
11	1,200	S.Y.	Seeding Restoration	\$2	\$2,400
SUB TOTAL					\$159,590
Add 15% Contingencies					\$23,940
Add 20% fiscal, legal, admin., engineering					\$31,920
Total Opinion of Probable Cost					\$215,450

Well #3 Transmission Main - Replace with 12-inch Main

Item	Qty	Unit	Description	Unit Price	Total
1	1,760	LF	Directional Drill 12-inch main	\$70	\$123,200
2	1,760	LF	12-inch Certalok Pipe	28	\$49,280
3	1	L.S.	Connections to existing main	30000	\$30,000
SUB TOTAL					\$202,480
Add 15% Contingencies					\$30,370
Add 20% fiscal, legal, admin., engineering					\$40,500
Total Opinion of Probable Cost					\$273,350
				USE	\$273,000

The Opinion of Probable Cost was prepared for use by the Owner in planning for future costs of the project. In providing Opinions of Probable Cost, the Owner understands the Design Professional has no control over costs or the price of labor, equipment or materials, or over Construction Professionals' method of pricing, and that the Opinions of Probable Costs provided herewith are made on the basis of the Design Professional's qualifications and experience. It is not intended to reflect actual costs and is subject to change with the normal rise and fall of the local area's economy. This Opinion must be revised after every change made to the project or after every 30-day lapse in time from the original submittal by the Design Professional.



Engineering Department &
Department of Public Works
Monthly Utility Commission
Report for April & May 2018

Sanitary Sewer

Engineering Installed information:

Village contractor installed 857 LF of 8 inch of sanitary sewer main and 2 sanitary man holes.

Street Notes:

April

- Continue to make progress on 2017 preventive sanitary sewer maintenance.
- Called out on private sanitary back up on Lilac Lane service times and finally deemed owner's lateral.

May

- Baumgart Plumbing installed new lift pump Doyle Park poolside.
- Checked routine sanitary sewer route.
- Met with duplex owner about non-flushable due to issues of both lateral and mainline restrictions on north Roosevelt St.

Storm Sewer

Street Notes:

April

- Clean inlet grate.
- Inspection of building sites for erosion control.

May

- Ongoing issues with Lyle St. mini-storm. Will hire outside vendor to televise and locate.
- Repaired collapsed storm line at Miami Circle and Biscayne Drive.
- Raised storm inlet at Doyle Park.
- Met with home owner at 1110 Cypress about mini-storm in backyard.
- Two sink holes: one at "00" and Depot Street appears to be a storm line (will televise) and second hole is east of Depot Street on the south side of "00" (was created by a deteriorated inlet vault will do a pour in place fix).
- Erosion control inspects after rain.
- Swept streets weekly due to blossoms.
- Visited both St. John's and Little Chute Elementary school 1st graders with sweepers for a program on clean water and equipment safety.

Storm Ponds

Street Notes:

April

- Check pumps and clean trash racks.
- Spring trapping of muskrats.
- The Buchanan and Polk Street ponds were burnt by fox valley tech fire training (Jon Kellermann) on April 27th.

May

- Scott and Marty met with Stuart Boerst with McMahon and Associates about the storm pond maintenance plan.
- Trash racks inspected and cleaned.
- A second spring trapping took place at the Buchanan detention pond by request of a property owner that had seen muskrats.
- Issues with the fault detection at the French lift station were not able to correct in house. PJ Kortens was brought in to correct the issue.

Water

May

- Restoration of utility breaks.

Engineering Notes:

Wilson Street & Hayes Street Paving and Utility Projects 2018

Utility Construction should be completed for Hayes Street by the end of June (sanitary and storm). Wilson Street Utilities (sanitary, storm, & water) should be underway by the end of June. Updates to the schedule will be provided when received.

GIS Utility Revision

Engineering staff continues to update the utility data base to improve accessibility and reliability of our information for public utilities. This is an ongoing process that will take much of the summer to accomplish. Our summer interns are also assisting in this effort by verifying field information matches our database. Engineering is also working with MCO Water Utility to obtain accurate information so that the Village's GIS data will match MCO's database.

UTILITY COMMISSION

June 19, 2018



Utility Bills List	June 19, 2018	\$	322,855.50
---------------------------	----------------------	-----------	-------------------

The above payments are recommended for approval on June 19, 2018.

Rejected: _____

UTILITY INVOICES PAID WITH VILLAGE BILLS - APRIL 13 - APRIL 30	\$	172,654.48
UTILITY INVOICES PAID WITH VILLAGE BILLS - MAY 1 - MAY 10	\$	2,567.30
UTILITY INVOICES PAID WITH VILLAGE BILLS - MAY 11 - MAY 31	\$	298,114.65
UTILITY INVOICES PAID WITH VILLAGE BILLS - JUNE 1 - JUNE 14	\$	25,924.17
TOTAL	\$	822,116.10

Approved: June 19, 2018

Kevin Coffey, Chairperson

Laurie Decker, Clerk

Invoice	Type	Description	Total Cost	Terms	1099	PO Number	GL Account
BAUMGART PLUMBING (57)							
3111	Invoi	NEW PUMP AT DOYLE PARK	2,870.00	Open	Non		610-53612-204
Total BAUMGART PLUMBING (57):			2,870.00				
DIGGERS HOTLINE INC (1380)							
180659201	PP2 Invoi	2ND PREPAYMENT 2018	377.60	Open	Non		610-53612-209
180659201	PP2 Invoi	2ND PREPAYMENT 2018	377.60	Open	Non		620-53644-209
180659201	PP2 Invoi	2ND PREPAYMENT 2018	377.60	Open	Non		630-53442-209
Total DIGGERS HOTLINE INC (1380):			1,132.80				
DONALD HIETPAS & SONS INC. (209)							
2018001	Invoi	PROGRESS PMNT#1-2018 UTILITIES HAYES SANI	141,788.45	Open	Non		610-51018-263
Total DONALD HIETPAS & SONS INC. (209):			141,788.45				
FOX VALLEY TECHNICAL COLLEGE (1775)							
AR28588	Invoi	PRESCRIBED BURN	1,250.00	Open	Non		630-53441-204
Total FOX VALLEY TECHNICAL COLLEGE (1775):			1,250.00				
HEART OF THE VALLEY (280)							
060718	Invoi	MAY WASTEWATER	142,677.74	Open	Non		610-53611-225
060718	Invoi	FOG CONTROL	78.00	Open	Non		610-53611-204
Total HEART OF THE VALLEY (280):			142,755.74				
MCO (2254)							
22702	Invoi	JUNE METER READING	354.17	Open	Non		620-53904-204
22702	Invoi	JUNE METER READING	354.17	Open	Non		610-53613-204
22703	Invoi	JULY 2018 HEALTH & LIABILITY INS	3,848.59	Open	Non		620-53644-115
22703	Invoi	JULY 2018 OPERATIONS	26,107.25	Open	Non		620-53644-115
22725	Invoi	#318 MILEAGE - MAY 2018	264.33	Open	Non		620-53644-247
Total MCO (2254):			30,928.51				
WI DNR-ENVIRONMENTAL FEES (27)							
445170000-2018-1	Invoi	2018 ENVIRONMENTAL FEE	1,750.00	Open	Non		630-53444-225
Total WI DNR-ENVIRONMENTAL FEES (27):			1,750.00				
WISCONSIN CENTRAL (2798)							
9500186930	Invoi	PIPELINE-SANITARY SEWER	180.00	Open	Non		610-53612-211
9500186980	Invoi	PIPELINE-STORM SEWER	200.00	Open	Non		630-53442-211
Total WISCONSIN CENTRAL (2798):			380.00				
Grand Totals:			322,855.50				

Report GL Period Summary

Vendor number hash: 16086
Vendor number hash - split: 23634
Total number of invoices: 11

Terms Description	Invoice Amount	Net Invoice Amount
Total number of transactions:	16	
Terms Description	Invoice Amount	Net Invoice Amount
Open Terms	322,855.50	322,855.50
Grand Totals:	322,855.50	322,855.50

Report Criteria:

Invoice Detail.GL Account = "6200000000"- "62099999999", "61000000000"- "61099999999", "63000000000"- "63099999999"

Invoice	Type	Description	Total Cost	Terms	1099	PO Number	GL Account
ACC PLANNED SERVICE INC (984)							
21459	Invoi	WELL HOUSES/ANNUAL BILLING/01/18-12/18	520.00	Open	Non		620-53604-257
21459	Invoi	WELL HOUSES/ANNUAL BILLING/01/18-12/18	519.00	Open	Non		620-53634-255
21459	Invoi	WELL HOUSES/ANNUAL BILLING/01/18-12/18	519.00	Open	Non		620-53624-255
Total ACC PLANNED SERVICE INC (984):			1,558.00				
APPLETON OIL CO INC (4236)							
APRIL 2018	Invoi	OFF ROAD DIESEL	5.31	Open	Non		630-53442-247
APRIL 2018	Invoi	OFF ROAD DIESEL	9.02	Open	Non		610-53612-247
APRIL 2018	Invoi	OFF ROAD DIESEL	19.56	Open	Non		620-53644-247
Total APPLETON OIL CO INC (4236):			33.89				
COMPASS MINERALS AMERICA (4500)							
260938	Invoi	BULK COARSE UNTREATED ROCK	2,473.34	Open	Non		620-53634-224
261820	Invoi	BULK COARSE UNTREATED ROCK	2,409.27	Open	Non		620-53634-224
263294	Invoi	BULK COARSE UNTREATED ROCK	2,381.81	Open	Non		620-53634-224
Total COMPASS MINERALS AMERICA (4500):			7,264.42				
DAMAGE PREVENTION SERVICES (4068)							
2475	Invoi	MAY LOCATES	389.50	Open	Non		610-53612-209
2475	Invoi	MAY LOCATES	1,147.00	Open	Non		620-53644-209
2475	Invoi	MAY LOCATES	830.25	Open	Non		630-53442-209
Total DAMAGE PREVENTION SERVICES (4068):			2,366.75				
FERGUSON ENTERPRISES INC #448 #1020 (2046)							
WN156992	Invoi	PVC PIPE AND STAINLESS STEEL CLAMPS	1,363.16	Open	Non		620-53604-257
WN156994	Invoi	STAINLESS STEEL CLAMPS	140.00	Open	Non		620-53604-257
Total FERGUSON ENTERPRISES INC #448 #1020 (2046):			1,503.16				
FERGUSON WATERWORKS #1476 (221)							
245775	Invoi	STAINLESS STEEL CLAMPS	524.66	Open	Non		620-53644-251
Total FERGUSON WATERWORKS #1476 (221):			524.66				
HAWKINS INC (1918)							
4276908	Invoi	AZONE	435.62	Open	Non		620-53634-214
4276908	Invoi	SODIUM SILICATE	2,149.15	Open	Non		620-53634-220
Total HAWKINS INC (1918):			2,584.77				
HEARTLAND BUSINESS SYSTEMS (3449)							
HBS00561332	Invoi	2018 DPW/ENGINEERING NEWSLETTER	136.99	Open	Non		610-53614-227
HBS00561332	Invoi	2018 DPW/ENGINEERING NEWSLETTER	913.28	Open	Non		620-53924-227
HBS00561332	Invoi	2018 DPW/ENGINEERING NEWSLETTER	365.32	Open	Non		630-53444-227
Total HEARTLAND BUSINESS SYSTEMS (3449):			1,415.59				
LINDNER ACE HARDWARE LITTLE CHUTE (4702)							
249798-325003	Invoi	FASTENERS	1.79	Open	Non		620-53634-255

Invoice	Type	Description	Total Cost	Terms	1099	PO Number	GL Account
249923-325001	Invoi	PVC PIPE	11.95	Open	Non		630-53442-218
250059-325001	Invoi	COUPLE 4"	3.29	Open	Non		630-53442-218
250097-325001	Invoi	BATTERIES	7.99	Open	Non		630-53442-218
CM249926-325001	Invoi	RETURNED MERCHANDISE	2.79	Open	Non		630-53442-218
Total LINDNER ACE HARDWARE LITTLE CHUTE (4702):			22.23				
MCC INC (480)							
135467	Invoi	CLEAN STONE 3/4"	140.07	Open	Non		620-53644-216
135467	Invoi	CLEAN STONE 3/4"	140.07	Open	Non		630-53442-216
Total MCC INC (480):			280.14				
P.J. KORTENS AND COMPANY INC (4846)							
10020501	Invoi	PUMP MONITOR	509.50	Open	Non		630-53441-253
Total P.J. KORTENS AND COMPANY INC (4846):			509.50				
PACE ANALYTICAL SERVICES INC (4619)							
1840051324	Invoi	WATER ANALYSIS	47.00	Open	Non		620-53644-204
Total PACE ANALYTICAL SERVICES INC (4619):			47.00				
QUARLES & BRADY (261)							
2325709	Invoi	SAFE DRINKING WATER LOAN - 12/31/17	7,500.00	Open	Non		620-21210
Total QUARLES & BRADY (261):			7,500.00				
REINDERS INC (1006)							
2665102	Invoi	DELUXE LAWN SEED MIX	67.50	Open	Non		620-53644-252
Total REINDERS INC (1006):			67.50				
VAN ASTEN, DONNA (2946)							
2018	Invoi	DRAINAGE EASEMENT & INGRESS/EGRESS	150.00	Open	Non		630-53442-260
Total VAN ASTEN, DONNA (2946):			150.00				
VERIZON WIRELESS (3606)							
9807222959	Invoi	APRIL/MAY SERVICE	43.04	Open	Non		620-53924-203
Total VERIZON WIRELESS (3606):			43.04				
VILLAGE OF LITTLE CHUTE (1404)							
MAY 2018	Invoi	PUMP STATION JEFFERSON ST	29.59	Open	Non		620-53624-249
MAY 2018	Invoi	#3 WELL WASHINGTON ST	15.68	Open	Non		620-53624-249
MAY 2018	Invoi	3609 FREEDOM RD-WATER/SEWER	8.25	Open	Non		630-53441-249
Total VILLAGE OF LITTLE CHUTE (1404):			53.52				
Grand Totals:			25,924.17				

Report GL Period Summary

Vendor number hash:

75146

Terms Description	Invoice Amount	Net Invoice Amount
Vendor number hash - split:	105826	
Total number of Invoices:	24	
Total number of transactions:	36	

Terms Description	Invoice Amount	Net Invoice Amount
Open Terms	25,924.17	25,924.17
Grand Totals:	25,924.17	25,924.17

Report Criteria:

Invoice Detail.GL Account = "6200000000"- "62099999999", "61000000000"- "61099999999", "63000000000"- "63099999999"

Report Criteria:

Invoice Detail.GL Account = "6200000000"- "620999999999","61000000000"- "610999999999","63000000000"- "630999999999"

Invoice	Type	Description	Total Cost	Terms	1099	PO Number	GL Account
AT& T (409)							
92078873810963 0	Invoi	APR/MAY SERVICE	48.10	Open	Non		620-53924-203
Total AT& T (409):			48.10				
AT&T LONG DISTANCE (2751)							
04/18 845626857	Invoi	MAR/APRIL CHARGES	2.71	Open	Non		620-53924-203
Total AT&T LONG DISTANCE (2751):			2.71				
AUGUST WINTER & SONS INC (3168)							
L000191600198-14	Invoi	FINAL PAY ESTIMATE #8	51,265.15	Open	Non		620-21230
Total AUGUST WINTER & SONS INC (3168):			51,265.15				
CARDMEMBER SERVICE (178)							
05/18 11041500068	Invoi	WILSON WATER PERMIT	143.50	Open	Non		620-51017-204
Total CARDMEMBER SERVICE (178):			143.50				
COMPASS MINERALS AMERICA (4500)							
243301	Invoi	BULK COARSE UNTREATED ROCK	2,292.32	Open	Non		620-53634-224
248600	Invoi	BULK COARSE UNTREATED ROCK	2,476.40	Open	Non		620-53634-224
251865	Invoi	BULK COARSE UNTREATED ROCK	2,132.65	Open	Non		620-53634-224
255752	Invoi	BULK COARSE UNTREATED ROCK	2,438.77	Open	Non		620-53634-224
256205	Invoi	BULK COARSE UNTREATED ROCK	2,500.80	Open	Non		620-53634-224
257105	Invoi	BULK COARSE UNTREATED ROCK	2,241.47	Open	Non		620-53634-224
Total COMPASS MINERALS AMERICA (4500):			14,082.41				
DONALD HIETPAS & SONS INC. (209)							
042418	Invoi	CAPPED OFF WATER SERVICE TO NEW KWIK TRI	1,213.57	Open	Non		620-53644-252
042518	Invoi	REPAIRED WATER BREAK @ 1609 FRANKLIN ST	2,744.61	Open	Non		620-53644-251
Total DONALD HIETPAS & SONS INC. (209):			3,958.18				
EHLERS INVESTMENT PARTNERS LLC (1425)							
APRIL 2018	Invoi	APRIL INVESTMENT MANAGEMENT	432.81	Open	Oth		620-53924-229
APRIL 2018	Invoi	APRIL INVESTMENT MANAGEMENT	243.67	Open	Oth		610-53614-229
APRIL 2018	Invoi	APRIL INVESTMENT MANAGEMENT	396.75	Open	Oth		630-53444-229
Total EHLERS INVESTMENT PARTNERS LLC (1425):			1,073.23				
FERGUSON WATERWORKS #1476 (221)							
244291	Invoi	STAINLESS STEEL CLAMPS	316.22	Open	Non		620-53644-251
Total FERGUSON WATERWORKS #1476 (221):			316.22				
GRAINGER (2338)							
9759160220	Invoi	CLEAN WATER AIR VACUUM VALVE	1,077.84	Open	Non		620-53604-257
Total GRAINGER (2338):			1,077.84				

Invoice	Type	Description	Total Cost	Terms	1099	PO Number	GL Account
HAWKINS INC (1918)							
4253077	Invoi	AZONE	463.50	Open	Non		620-53634-214
4253077	Invoi	SODIUM SILICATE	2,522.21	Open	Non		620-53634-220
4261615	Invoi	AZONE	367.86	Open	Non		620-53634-214
4261615	Invoi	SODIUM SILICATE	2,135.33	Open	Non		620-53634-220
4270072	Invoi	AZONE	370.94	Open	Non		620-53634-214
4270072	Invoi	SODIUM SILICATE	2,066.25	Open	Non		620-53634-220
Total HAWKINS INC (1918):			7,926.09				
HEART OF THE VALLEY (280)							
050718	Invoi	APRIL WASTEWATER	157,993.50	Open	Non		610-53611-225
050718	Invoi	FOG CONTROL	208.00	Open	Non		610-53611-204
050718MP	Invoi	APRIL HOV METER PAYABLE	11,394.00	Open	Non		610-21110
Total HEART OF THE VALLEY (280):			169,595.50				
HEARTLAND BUSINESS SYSTEMS (3449)							
HBS00561329	Invoi	APRIL BILL PRINT QNTY 4049	141.72	Open	Non		610-53614-206
HBS00561329	Invoi	APRIL BILL PRINT QNTY 4049	141.72	Open	Non		620-53904-206
HBS00561329	Invoi	APRIL BILL PRINT QNTY 4049	141.70	Open	Non		630-53443-206
HBS00561330	Invoi	MARCH BILL PRINT QNTY 4056	141.96	Open	Non		610-53614-206
HBS00561330	Invoi	MARCH BILL PRINT QNTY 4056	141.96	Open	Non		620-53904-206
HBS00561330	Invoi	MARCH BILL PRINT QNTY 4056	141.96	Open	Non		630-53443-206
Total HEARTLAND BUSINESS SYSTEMS (3449):			851.02				
KAUKAUNA UTILITIES (234)							
04/18 9012695	Invoi	DOYLE PARK WELL	2,819.79	Open	Non		620-53624-249
MAY 2018	Invoi	PUMP STATION JEFFERSON ST	877.29	Open	Non		620-53624-249
MAY 2018	Invoi	#4 WELL EVERGREEN DRIVE	3,276.72	Open	Non		620-53624-249
MAY 2018	Invoi	#3 WELL WASHINGTON ST	2,083.69	Open	Non		620-53624-249
MAY 2018	Invoi	STEPHEN ST TOWER/LIGHTING	196.64	Open	Non		620-53624-249
MAY 2018	Invoi	1800 STEPHEN ST	1,100.60	Open	Non		630-53441-249
Total KAUKAUNA UTILITIES (234):			10,354.73				
LEE'S CONTRACTING/FABRICATING (271)							
21038	Invoi	METER TEST BENCH	640.00	Open	Non		620-53644-253
Total LEE'S CONTRACTING/FABRICATING (271):			640.00				
LINDNER ACE HARDWARE LITTLE CHUTE (4702)							
249429-325003	Invoi	PARTS FOR WATER DEPT	24.55	Open	Non		620-53644-247
Total LINDNER ACE HARDWARE LITTLE CHUTE (4702):			24.55				
MCO (2254)							
22605	Invoi	MAY METER READING	354.16	Open	Non		610-53613-204
22605	Invoi	MAY METER READING	354.17	Open	Non		620-53904-204
22606	Invoi	JUNE 2018 HEALTH & LIABILITY INS	3,848.59	Open	Non		620-53644-115
22606	Invoi	JUNE 2018 OPERATIONS	26,107.25	Open	Non		620-53644-115
22630	Invoi	#318 MILEAGE - APRIL 2018	177.68	Open	Non		620-53644-247
Total MCO (2254):			30,841.85				

Invoice	Type	Description	Total Cost	Terms	1099	PO Number	GL Account
MENARDS - APPLETON EAST (319)							
36392	Invoi	GALVANIZED PLUG	3.25	Open	Non		630-53441-218
Total MENARDS - APPLETON EAST (319):			3.25				
MIDWEST METER INC (4407)							
99532	Invoi	MODEL 25 CHAMBER ASSEMBLY	1,209.23	Open	Non		620-53644-253
Total MIDWEST METER INC (4407):			1,209.23				
NOTT COMPANY (4791)							
3125664	Invoi	HOSE KITS	357.06	Open	Non		620-53644-254
Total NOTT COMPANY (4791):			357.06				
OUTAGAMIE COUNTY TREASURER (486)							
1016931	Invoi	APRIL FUEL BILL	719.41	Open	Non		630-53442-247
1016931	Invoi	APRIL FUEL BILL	234.44	Open	Non		610-53612-247
1016931	Invoi	APRIL FUEL BILL	443.71	Open	Non		620-53644-247
2410	Invoi	STREET SWEEPINGS	1,110.37	Open	Non		630-53442-204
Total OUTAGAMIE COUNTY TREASURER (486):			2,507.93				
PACE ANALYTICAL SERVICES INC (4619)							
1840049799	Invoi	WATER ANALYSIS	30.00	Open	Non		620-53644-204
1840050123	Invoi	WATER ANALYSIS	60.00	Open	Non		620-53644-204
Total PACE ANALYTICAL SERVICES INC (4619):			90.00				
PRIMADATA LLC (4671)							
JUNE 2018	Invoi	JUNE POSTCARD POSTAGE	275.00	Open	Non		610-53613-226
JUNE 2018	Invoi	JUNE POSTCARD POSTAGE	275.00	Open	Non		620-53904-226
JUNE 2018	Invoi	JUNE POSTCARD POSTAGE	275.00	Open	Non		630-53443-226
Total PRIMADATA LLC (4671):			825.00				
TIME WARNER CABLE (89)							
04/18 60703290180	Invoi	MAY/JUNE SERVICE	162.32	Open	Non		620-53924-203
Total TIME WARNER CABLE (89):			162.32				
TOTAL TOOL SUPPLY INC (557)							
6115543	Invoi	2 GAL GAS CAN AND FUNNEL	43.88	Open	Non		620-53644-218
TOTAL TOOL SUPPLY INC (557):			43.88				
VERIZON WIRELESS (3606)							
9805372057	Invoi	MARCH/APRIL	57.46	Open	Non		620-53924-203
Total VERIZON WIRELESS (3606):			57.46				
WE ENERGIES (2788)							
4494800612 05/18	Invoi	LC WELL #4 PUMPHOUSE (625 E EVERGREEN)	252.15	Open	Non		620-53624-249
4494800612 05/18	Invoi	PLANT #2 (1118 JEFFERSON ST)	165.36	Open	Non		620-53624-249
4494800612 05/18	Invoi	PLANT #1 (100 WILSON ST)	197.37	Open	Non		620-53624-249
4494800612 05/18	Invoi	920 WASHINGTON ST	42.56	Open	Non		620-53624-249

Invoice	Type	Description	Total Cost	Terms	1099	PO Number	GL Account
Total WE ENERGIES (2788):			657.44				
Grand Totals:			298,114.65				

Report GL Period Summary

Vendor number hash: 94761
Vendor number hash - split: 141563
Total number of invoices: 41
Total number of transactions: 64

Terms Description	Invoice Amount	Net Invoice Amount
Open Terms	298,114.65	298,114.65
Grand Totals:	298,114.65	298,114.65

Report Criteria:

Invoice Detail.GL Account = "6200000000"- "62099999999", "61000000000"- "61099999999", "63000000000"- "63099999999"

Report Criteria:

Invoice Detail.GL Account = "6200000000"- "62099999999", "61000000000"- "61099999999", "63000000000"- "63099999999"

Invoice	Type	Description	Total Cost	Terms	1099	PO Number	GL Account
DAMAGE PREVENTION SERVICES (4068)							
2443	Invoi	APRIL LOCATES	301.00	Open	Non		610-53612-209
2443	Invoi	APRIL LOCATES	768.50	Open	Non		620-53644-209
2443	Invoi	APRIL LOCATES	451.50	Open	Non		630-53442-209
Total DAMAGE PREVENTION SERVICES (4068):			1,521.00				
OUTAGAMIE COUNTY TREASURER (486)							
1016883	Invoi	MARCH FUEL BILL	524.40	Open	Non		630-53442-247
1016883	Invoi	MARCH FUEL BILL	242.51	Open	Non		610-53612-247
1016883	Invoi	MARCH FUEL BILL	279.39	Open	Non		620-53644-247
Total OUTAGAMIE COUNTY TREASURER (486):			1,046.30				
Grand Totals:			2,567.30				

Report GL Period Summary

Vendor number hash: 4554
Vendor number hash - split: 13662
Total number of invoices: 2
Total number of transactions: 6

Terms Description	Invoice Amount	Net Invoice Amount
Open Terms	2,567.30	2,567.30
Grand Totals:	2,567.30	2,567.30

Report Criteria:

Invoice Detail.GL Account = "6200000000"- "62099999999", "61000000000"- "61099999999", "63000000000"- "63099999999"

Invoice	Type	Description	Total Cost	Terms	1099	PO Number	GL Account
APPLETON OIL CO INC (4236)							
250077	Invoi	OFF ROAD DIESEL	4.48	Open	Non		610-53612-247
250077	Invoi	OFF ROAD DIESEL	13.16	Open	Non		620-53644-247
Total APPLETON OIL CO INC (4236):			17.64				
AT& T (409)							
92078873810963 0	Invoi	MARCH/APRIL SERVICE	48.09	Open	Non		620-53924-203
Total AT& T (409):			48.09				
AT&T LONG DISTANCE (2751)							
03/18 845626857	Invoi	FEB/MAR CHARGES	2.19	Open	Non		620-53924-203
Total AT&T LONG DISTANCE (2751):			2.19				
BOND TRUST SERVICES CORP (4071)							
40726	Invoi	PAYING AGENT FEE-REF 40726 PA	350.00	Open	Non		630-53444-229
40727	Invoi	PAYING AGENT FEE-REF 40727 PA	350.00	Open	Non		630-53444-229
40728	Invoi	PAYING AGENT FEE-REF 40728 PA	350.00	Open	Non		620-53924-229
Total BOND TRUST SERVICES CORP (4071):			1,050.00				
CARDMEMBER SERVICE (178)							
04/18 11041500068	Invoi	GARAGE PLANS	36.74	Open	Non		630-50934-261
Total CARDMEMBER SERVICE (178):			36.74				
COMPASS MINERALS AMERICA (4500)							
236723	Invoi	BULK COARSE UNTREATED ROCK	2,356.39	Open	Non		620-53634-224
236724	Invoi	BULK COARSE UNTREATED ROCK	2,514.02	Open	Non		620-53634-224
239180	Invoi	BULK COARSE UNTREATED ROCK	2,451.99	Open	Non		620-53634-224
Total COMPASS MINERALS AMERICA (4500):			7,322.40				
DORNER COMPANY (4840)							
140647	Invoi	2 BUTTERFLY VALVES	860.08	Open	Non		620-53634-255
Total DORNER COMPANY (4840):			860.08				
EHLERS INVESTMENT PARTNERS LLC (1425)							
MARCH 2018	Invoi	MARCH INVESTMENT MANAGEMENT	442.58	Open	Oth		620-53924-229
MARCH 2018	Invoi	MARCH INVESTMENT MANAGEMENT	251.90	Open	Oth		610-53614-229
MARCH 2018	Invoi	MARCH INVESTMENT MANAGEMENT	410.04	Open	Oth		630-53444-229
Total EHLERS INVESTMENT PARTNERS LLC (1425):			1,104.52				
FERGUSON ENTERPRISES INC #448 #1020 (2046)							
WN151059	Invoi	COPPER TEES	20.95	Open	Non		620-53634-255
Total FERGUSON ENTERPRISES INC #448 #1020 (2046):			20.95				
FERGUSON WATERWORKS #1476 (221)							
242014	Invoi	HOSE CONNECTION VACUUM BREAKER	675.00	Open	Non		620-53644-255

Invoice	Type	Description	Total Cost	Terms	1099	PO Number	GL Account
Total FERGUSON WATERWORKS #1476 (221):			675.00				
GRAINGER (2338)							
9733054655	Invoi	BRASS PIPE AND ADAPTERS	1,169.82	Open	Non		620-53634-255
9734861884	Invoi	PVC BALL VALVES	503.28	Open	Non		620-53634-255
9734969877	Invoi	PVC BALL VALVE	251.64	Open	Non		620-53634-255
Total GRAINGER (2338):			1,924.74				
HAWKINS INC (1918)							
4243473	Invoi	AZONE	337.50	Open	Non		620-53634-214
4243473	Invoi	SODIUM SILICATE	2,047.83	Open	Non		620-53634-220
Total HAWKINS INC (1918):			2,385.33				
HEART OF THE VALLEY (280)							
040418	Invoi	MARCH WASTEWATER	111,204.21	Open	Non		610-53611-225
040418	Invoi	FOG CONTROL	91.00	Open	Non		610-53611-204
040418MP	Invoi	MARCH HOV METER PAYABLE	2,532.00	Open	Non		610-21110
Total HEART OF THE VALLEY (280):			113,827.21				
KAUKAUNA UTILITIES (234)							
03/18 9012695	Invoi	DOYLE PARK WELL	2,658.00	Open	Non		620-53624-249
APRIL 2018	Invoi	1800 STEPHEN ST STORM	310.28	Open	Non		630-53441-249
APRIL 2018	Invoi	STEPHEN ST TOWER/LIGHTING	233.12	Open	Non		620-53624-249
APRIL 2018	Invoi	#3 WELL WASHINGTON ST	2,171.00	Open	Non		620-53624-249
APRIL 2018	Invoi	#4 WELL EVERGREEN DRIVE	3,095.30	Open	Non		620-53624-249
APRIL 2018	Invoi	PUMP STATION JEFFERSON ST	905.40	Open	Non		620-53624-249
Total KAUKAUNA UTILITIES (234):			9,373.10				
LAPPEN SECURITY PRODUCTS INC (735)							
LSPQ38271	Invoi	SERVICE CALL TO JEFFERSON & EVERGREEN	124.00	Open	Non		620-53644-250
Total LAPPEN SECURITY PRODUCTS INC (735):			124.00				
LINDNER ACE HARDWARE LITTLE CHUTE (4702)							
248613	Invoi	PARTS FOR WATER DEPT	49.92	Open	Non		620-53624-255
248913	Invoi	PARTS FOR WATER DEPT	9.98	Open	Non		620-53624-255
Total LINDNER ACE HARDWARE LITTLE CHUTE (4702):			59.90				
MCMAHON ASSOCIATES INC (276)							
909546	Invoi	PUMPHOUSE #1 IMPROVEMENTS	840.00	Open	Non		620-19250
Total MCMAHON ASSOCIATES INC (276):			840.00				
MCO (2254)							
22533	Invoi	APRIL METER READING	354.17	Open	Non		620-53904-204
22533	Invoi	APRIL METER READING	354.16	Open	Non		610-53613-204
22534	Invoi	MAY 2018 HEALTH & LIABILITY INS	3,848.59	Open	Non		620-53644-115
22534	Invoi	MAY 2018 OPERATIONS	26,107.25	Open	Non		620-53644-115
22562	Invoi	#318 MILEAGE - MARCH 2018	103.55	Open	Non		620-53644-247

Invoice	Type	Description	Total Cost	Terms	1099	PO Number	GL Account
Total MCO (2254):			30,767.72				
MIDWEST METER INC (4407)							
98863	Invoi	MODEL 25 CHAMBER ASSEMBLY	387.62	Open	Non		620-53644-253
Total MIDWEST METER INC (4407):			387.62				
PACE ANALYTICAL SERVICES INC (4619)							
1840048630	Invoi	WATER ANALYSIS	75.00	Open	Non		620-53644-204
Total PACE ANALYTICAL SERVICES INC (4619):			75.00				
PRIMADATA LLC (4671)							
MAY 2018	Invoi	MAY POSTCARD POSTAGE	275.00	Open	Non		610-53613-226
MAY 2018	Invoi	MAY POSTCARD POSTAGE	275.00	Open	Non		620-53904-226
MAY 2018	Invoi	MAY POSTCARD POSTAGE	275.00	Open	Non		630-53443-226
Total PRIMADATA LLC (4671):			825.00				
VERIZON WIRELESS (3606)							
9803519793	Invoi	FEBRUARY/MARCH SERVICE	36.54	Open	Non		620-53924-203
Total VERIZON WIRELESS (3606):			36.54				
VILLAGE OF LITTLE CHUTE (1404)							
APRIL 2018	Invoi	3609 FREEDOM RD-WATER/SEWER	8.25	Open	Non		630-53441-249
APRIL 2018	Invoi	#3 WELL WASHINGTON ST	15.68	Open	Non		620-53624-249
APRIL 2018	Invoi	PUMP STATION JEFFERSON ST	29.59	Open	Non		620-53624-249
Total VILLAGE OF LITTLE CHUTE (1404):			53.52				
WE ENERGIES (2788)							
4494800612 04/18	Invoi	920 WASHINGTON ST	36.84	Open	Non		620-53624-249
4494800612 04/18	Invoi	PLANT #1 (100 WILSON ST)	208.04	Open	Non		620-53624-249
4494800612 04/18	Invoi	PLANT #2 (1118 JEFFERSON ST)	174.73	Open	Non		620-53624-249
4494800612 04/18	Invoi	LC WELL #4 PUMPHOUSE (625 E EVERGREEN)	280.84	Open	Non		620-53624-249
4494800612 04/18	Invoi	PUMP STATION @ EVERGREEN @ FRENCH	136.94	Open	Non		620-53624-249
Total WE ENERGIES (2788):			837.19				
Grand Totals:			172,654.48				

Report GL Period Summary

Vendor number hash: 90451
Vendor number hash - split: 128481
Total number of invoices: 35
Total number of transactions: 54

Terms Description	Invoice Amount	Net Invoice Amount
Open Terms	172,654.48	172,654.48

Terms Description	Invoice Amount	Net Invoice Amount
Grand Totals:	172,654.48	172,654.48

Report Criteria:
Invoice Detail.GL Account = "6200000000"."62099999999","61000000000"."61099999999","63000000000"."63099999999"