CAMBRIDGE WATER, SEWER AND STORMWATER COMMITTEE AGENDA

June 1, 2021 6:30 p.m.

This meeting will be a virtual meeting. Please use the following to either phone in or join by computer:

Telephone: **Dial-in number (US):** (727) 731-3716
Online: **Join the online meeting:** https://join.freeconferencecall.com/bgoeckner
Online meeting ID: bgoeckner

1. **Call to Order/Roll Call**
2. **Proof of Posting**
3. **Approval of Consent Agenda**
4. **Approval of Bills**
   a. Meeting minutes from April 20, 2021
5. **Reports**
   a. Utility Clerk
   b. Director of Public Works
6. **Old Business/ Discussion and Possible Action Regarding:**
   a. Water System Maintenance
   b. Pilot Study – Media replacement
   c. Update on test result
7. **New Business/ Discussion and Possible Action Regarding:**
   a. Street Sweeper – Jeff Wright
   b. Automatic Hydrant Flushers – Jeff Wright
   c. MSA Capacity Analysis – Preliminary Report
   d. 2020 Consumer Confidence Report
8. **Public Comment**
9. **Questions, Referrals to Staff or Future Agenda Items:**
10. **Adjournment**

CAMBRIDGE WATER, SEWER AND STORMWATER COMMITTEE MINUTES
Amundson Community Center
6:30pm.
APRIL 20, 2021

Telephone: **Dial-in number (US):** (727) 731-3716
Access code: 6866292#
Online: **Join the online meeting:** https://join.freeconferencecall.com/bgoeckner
Online meeting ID: bgoeckner

1. **Call to Order/Roll Call:** Ted Kumbier called the meeting to order at 6:33pm. Members present: Steve Johnson, Larry Gunseor, Wyatt Rose, and Ted Kumbier. Others present: Joe DeYoung from MSA, Mike Reiber and Fred Swanson from Dancing Goat Distillery, Sean Dotson, Shariff Syed from Milton Rentals. Village Staff: Lisa Moen, Jeff Wright, and Vicki Redford.

2. **Proof of Posting:** Agendas were posted in the upper and lower levels of the Amundson Community Center, Hometown Bank, Cambridge Post Office, and the Village website.

3. **Approval of Consent Agenda:**
   a. Meeting Minutes from March 16, 2021

Gunseor made a motion to accept the consent agenda as presented. Johnson seconded the motion. Motion carried on a 4-0 vote.

4. **Approval of Bills:**

Johnson made a motion to accept the bills in the amount of $105,893.61. Subtracting the check for the Village payment $17,343.14. Making the W&S bill's $88,550.47 Gunseor seconded the motion. Motion carried on a 4-0 roll call vote.

5. **Reports**
   a. Utility Clerk: Paul Buday has accepted a new job and will be relocating. Therefore, we have an opening on the Water & Sewer Committee. If anyone knows of someone that may be interested have them call the office. I have been working on regular daily and monthly duties. Next week I begin sending out disconnect notices again for the first time since March 2020. I also helped the auditors when they were in the office for the audit.

   b. Director of Public Works: Wright told the committee that they continue with the monthly testing. WQI were also here doing water testing in March. The lift station was inspected by L.W. Allen, they said it looked good, but the bottom will need to be cleaned out. Public works will also be working on hydrant flushing. Director Wright told the committee that Derek Schroedl has finished his

classes on ground water and distribution, now Wright & Schroedl will take the exam. Dave Magnussen is working with the water department and focusing on the capacity of well 2&3.

6. **Old Business/ Discussion and Possible Action Regarding:**
   a. Water System Maintenance: DeYoung from MSA said the testing at well #2 shows great removal of iron and manganese. They are focusing on perchlorinating to optimize treatment. Unidirectional flushing will begin in early May. They are also working on finalizing the water system maintenance plan. Water has been used by the Dancing Goat that has shown positive outcome. DeYoung said SEH is a company working with the Dancing Goat evaluating filters for them.

   b. Update on test results: The Village may be able to use SEH for requirements to the DNR. The Village is in compliance with the DNR for drinking water. The media filter in well #2 is performing well but time is limited. Removal of Iron and manganese is working well. Mike Reiber from Dancing Goat told the committee they have cooked with Village water. Reiber said the filter is working well at the Dancing Goat but needs to work for the entire community. Committee member Gunseor reiterated the importance of working with the Dancing Goat, and keeping a good working partnership and sharing references.

7. **New Business/ Discussion and Possible Action Regarding:**
   a. Milton Rentals – water leak behind Motel: I told the committee that Shariff had called the Village office on April 12, 2021. He told me water that water had run outside the back of the motel. He knew the water had not gone through the sewer system and asked to be on the agenda to receive a sewer credit. Director Wright said that he had spoken with Shariff. Shariff told him that he had a broken pipe that had been fixed but an outside spicket had been left on and water ran in the back of the motel for quite some time. The committee discussed how important it is to keep an eye on the property. The committee decided to give a sewer credit using the sewer credit policy.

   Rose made a motion to credit Milton Rentals sewer charges using the Sewer Credit Policy. Gunseor seconded the motion. Motion carried on a 3-1 role call vote with Johnson voting negative.

   b. Recommendation for Media Replacement for Well #2: DeYoung said water testing has improved since the cleaning of the media. However, it will still need to be replaced. DeYoung said we need to work with Wisconsin DNR on a Pilot Study first. This determines how to best replace the media through testing. There was discussion about how the media change will impact the water system. DeYoung said if you mix different media, it can cause issues and that is why a Pilot Study is needed.

   Johnson made a motion to recommend to the Village Board to work with the Wisconsin DNR on a Pilot Study for media replacement. Gunseor seconded the motion. Motion passed on a 4-0 vote.

8. **Public Comment:** Mike Reiber of the Dancing Goat thanked the Village for the progress made on the water quality.

9. **Questions, Referrals to Staff or Future Agenda Items:**

1. Update on test results
2. Pilot Study – Media replacement

10. Adjournment:

Johnson made a motion to adjourn the meeting. Gunseor seconded the motion. Kumbier adjourned the meeting at 7:27pm.

Vicki Redford
Utility Clerk

ALL Checks ACCT

HOMETOWN BANK GENERAL OPERATING

Dated From: 5/18/2021 From Account:
Thru: 5/18/2021 Thru Account:

Check Nbr	Check Date	Payee	Amount
20338	5/18/2021	ABT Mailcom MAY BILLS	475.41
20339	5/18/2021	CAMBRIDGE ACE HARDWARE A195985	221.25
20340	5/18/2021	Cambridge Gas GAS	250.87
20341	5/18/2021	CAMBRIDGE/OAKLAND WASTEWATER COMMISSION MAY 2021	56,440.76
20342	5/18/2021	CARGILL INC KD CRSE SO BULK/100011143	2,121.12
20343	5/18/2021	DIGGERS HOTLINE INC APRIL 2021	85.26
20344	5/18/2021	FARRAR, LEE STATE LABS/ MILAGE	44.80
20345	5/18/2021	LEIN PLUMBING RP BACKFLOW VALVE TEST FOR WI DE OF SAF	105.40
20346	5/18/2021	MARTELLE WATER TREATMENT SODIUM HYPOCHLORITE BULK	177.78
20347	5/18/2021	MENARDS - JOHNSON CREEK SHADE SEED FOR HYDRANT REPAIR	226.97
20348	5/18/2021	MSA PROFESSIONAL SERVICES JOE DEYOUNG SERVICES	1,878.75
20349	5/18/2021	MSA PROFESSIONAL SERVICES DAVE MAGNUSSEN	4,318.48
20350	5/18/2021	OAKLAND SANITARY DISTRICT MAY	453.50
20351	5/18/2021	USA BLUE BOOK BOTTLES,HDPE WIDE MOUTH 500ML 16OZ PK	89.18
20352	5/18/2021	WATER QUALITY INVESTIGATIONS ENGINEER 11 / WORK WITH WELL 2	470.00
20353	5/18/2021	WILLIAM/REID LTD LLC PROMINENT P/N MULTI FUNCTION VALVE	1,005.13
20354	5/18/2021	WISCONSIN RURAL WATER ASSOCIATION SYSTEM MEMBERSHIP RENEWAL 2021	390.00
20355	5/18/2021	WISCONSIN STATE LABORATORY OF HYGIENE FLUORIDE,FLDFLUOR	350.00
		Grand Total	69,104.66

Dated From: 5/18/2021 From Account:
Thru: 5/18/2021 Thru Account:

	Amount
Total Expenditure from Fund # 500 - WATER UTILITY	11,751.05
Total Expenditure from Fund # 600 - SEWER UTILITY	57,195.14
Total Expenditure from Fund # 800 - STORMWATER UTILITY	158.47
Total Expenditure from all Funds	69,104.66

Dated From: 5/24/2021 From Account:
Thru: 5/24/2021 Thru Account:

Voucher Nbr	Check Date	Payee			Amount
	5/24/2021	ALLIANT ENERGY/WP&L			
	12&18 LIFT STATION				
600-00-53700-821-000		POWER PURCHASED FOR PUMPING			76.70
	12&18 LIFT STATION		1442		
500-00-53700-620-000		POWER PURCHASED FOR PUMPING			1,055.56
	W. MADISON ST WELL #2		396761		
500-00-53700-620-000		POWER PURCHASED FOR PUMPING			60.44
	SKOGEN RD. WELL #3		17628		
500-00-53700-620-000		POWER PURCHASED FOR PUMPING			59.35
	STATE RD. 134 WATER TOWER		371292		
				Total	1,252.05
	5/24/2021	NORTHERN LAKES SERVICE, INC			
	COLOR APHA/MANGANESE/SULFATE/ZINK				
500-00-53700-682-000		OUTSIDE SERVICES EMPLOYED			138.20
	COLOR APHA/MANGANESE/SULFATE/ZINK				
				Total	138.20
	5/24/2021	USA BLUE BOOK			
	EDTA CARTRIDGE FOR DIGITAL TITRATOR				
500-00-53700-630-000		CHEMICALS			61.28
	EDTA CARTRIDGE FOR DIGITAL TITRATOR		591482		
				Total	61.28
	5/24/2021	VISA			
	DAN'S VISA				
500-00-53700-681-000		OFFICE SUPPLIES & EXPENSES			8.70
	DAN'S VISA		6527		
600-00-53700-827-000		OPERATING SUPPLIES & EXPENSES			8.70
	DAN'S VISA		6527		
				Total	17.40
	5/24/2021	WISCONSIN STATE LABORATORY OF HYGIENE			
	LABS FLUORIDE				
500-00-53700-682-000		OUTSIDE SERVICES EMPLOYED			26.00
	LABS FLUORIDE		656931		
				Total	26.00
				Grand Total	1,494.93

Dated From: 5/24/2021 From Account:
Thru: 5/24/2021 Thru Account:

	Amount
Total Expenditure from Fund # 500 - WATER UTILITY	1,409.53
Total Expenditure from Fund # 600 - SEWER UTILITY	85.40
Total Expenditure from all Funds	1,494.93

Dated From: 5/24/2021 From Account:
Thru: 5/24/2021 Thru Account:

Voucher Nbr	Check Date	Payee			Amount
	5/24/2021	BROOKS TRACTOR INC.			
	REPAIR SWEEPER LABOR/PARTS				
800-00-58100-630-000	STORMWATER EQUIP REP/MAINT				3,383.33
	REPAIR SWEEPER LABOR/PARTS		604891		
				Total	3,383.33
	5/24/2021	Core & Main			
	510M S/POINT CONNECTS METERS				
500-00-18000-348-000	HYDRANTS				1,915.39
	510M S/POINT CONNECTS METERS		O215875		
500-00-53700-650-420	METER REPLACEMENTS- STOCK				3,065.00
	METERS, TOUCHPAD, 3/4S IPERL		O205805		
				Total	4,980.39
	5/24/2021	HONEY WAGON SERVICES, INC.			
	PUMPING OF LIFT STATION				
600-00-53700-831-000	MAINTENANCE OF SEWER PLANT				350.00
	PUMPING OF LIFT STATION		85999		
				Total	350.00
	5/24/2021	MARTELLE WATER TREATMENT			
	SODIUM HYPOCHLORITE BLK/HYDDROF ACID BKJ				
500-00-53700-630-000	CHEMICALS				300.20
	SODIUM HYPOCHLORITE BLK/HYDDROF ACID BKJ		21557		
				Total	300.20
	5/24/2021	WISCONSIN DEPT OF NATURAL RESOURCES			
	DUDLEY CERT #33702/FARRAR CERT #34736				
500-00-53700-681-500	STAFF TRAINING				50.00
	MUN WATER OPER CERT - D. SCHROEDL				
				Total	50.00
	5/24/2021	WISCONSIN DEPT OF NATURAL RESOURCES			
	MUN WATER OPER CERT - J. WRIGHT				
500-00-53700-681-500	STAFF TRAINING				50.00
	MUN WATER OPER CERT - J. WRIGHT				
				Total	50.00
				Grand Total	9,113.92

Dated From: 5/24/2021 From Account:
Thru: 5/24/2021 Thru Account:

	Amount
Total Expenditure from Fund # 500 - WATER UTILITY	5,380.59
Total Expenditure from Fund # 600 - SEWER UTILITY	350.00
Total Expenditure from Fund # 800 - STORMWATER UTILITY	3,383.33
Total Expenditure from all Funds	9,113.92

VILLAGE OF CAMBRIDGE WATER AND SEWER UTILITY

P.O. BOX 99
CAMBRIDGE, WISCONSIN 53523

Items of Discussion

1. Operator's Report –

a. **Work completed from April 17th to May 14th**
   i. Monthly standard testing of water system
   ii. Dancing Goat Distillery Developer's Agreement testing – April 26th
   iii. Uni-directional flushing completed for the community – May 3rd – May 10th
   iv. Building repairs at Well House #2- Gutters and erosion control
   v. Completed the cleaning of the liftstation – Buildup was excessive but cleaned up nice.
   vi. Assisted SEH with source testing at well #2. Results were good as well. DG is anticipating a report from their research of the filters that can assist with the media replacement.

b. Action list
   i. Previous month
      1. Capacity evaluation with MSA – COMPLETED
      2. Spring unidirectional flushing – COMPLETED
      3. Clean sanitary liftstation - COMPLETED
      4. Testing at the Goat – April 26th - Completed
      5. Work on finalizing the maintenance plan for the water system.
   ii. Next month
      1. Work on finalizing the maintenance plan for the water system.
      2. Testing at the Goat – May 31st (June 1st)

2. MSA Assistance – Dave Magnussen

a. Dave's time is being reduced and has visited once in the last three weeks.
b. Support has been available as necessary but will be close to monthly or on-call when needed.

3. Water System Maintenance / Water Quality

a. WQI – Email provided by Andy Jacque

It appears that additional treatment is not needed at Well 2 to eliminate the green water issue at Dancing Goat. The issue appears to be managed with optimization of the treatment process at the well. This optimization includes the following:

1. Chemically cleaning the filter.
2. Routine maintenance and cleaning of the filter.
3. Maintaining a 0.3 to 0.5 mg/L chlorine residual through the filter.
4. Chemically cleaning the softener.
5. Routine maintenance and cleaning of the softeners.
6. Routine maintenance and cleaning of the well.
7. UDF of the system.

The Village could pilot test the same media we used at Dancing Goat, adding the media to their existing softeners. We're currently seeing if a formal pilot study needs to be approved by the DNR. Regardless of formal requirement, a pilot should be performed to assess whether any issues would arise using a dual media softener. Issues that could arise include the following:

1. Calcification within the dual to cause plugging.
2. Excessive biofilm growth caused by protein removal.
3. Shortened softener run time because of dual media operation.

Assessing the above with an extended pilot, operating the pilot for up to ten regeneration cycles, would allow us to design in features to minimize issues. Design features could include an acid-step during filter regeneration and/or regeneration with a caustic brine.

b. Follow up with the WisDNR on the requirements is needed. Once we hear back, the recommendation to the utility commission can be considered.

c. Optimizing Well #2
    i. As mentioned previously, the spring unidirectional flushing was completed in early May.
    ii. As mentioned on the agenda, Village staff is considering automatic hydrant flushing for deadend hydrants that would benefit from this.
d. Village of Cambridge Water System
    i. Maintenance procedures – Although the Village has gained a lot of insight from the past year, it is recommended to establish a work plan for ongoing maintenance. This is not completed at this time.
e. Dancing Goat Distillery Developer's Agreement
    i. November 29, 2020 – No violation of secondary standards
    ii. December 27, 2020 – No violations of secondary standards
    iii. February 1, 2021 – No violations of secondary standards.
    iv. February 22, 2021 – No violations of secondary standards.
    v. March 29, 2021 – No violations of secondary standards.
    vi. April 26, 2021 – No violations of the secondary standards.

Summary – The Village of Cambridge will need to provide direction to staff and MSA to address issues related to the media at Well #2. We have an opportunity to modify the existing filter that can assist with the issues observed over the past several years.

4. Well #2 & #3 – Capacity Evaluation

a. To be provided is separate memo.
b. Start of design for Well #3 will be submitted next month.

5. Dancing Goat *(no change) – DG is waiting for the report and still evaluating*

a. MSA is recommending that we consider looking into a filter to be placed at the Dancing Goat as well. This is not a commitment of funds but a partnership in exploring options to manage water quality from the largest user in the community for water.
b. Recommendation to request the Dancing Goat to evaluate options for cost and type of filter necessary and meet with the Village for options on how to proceed.

NO DUMPING
DRAINS TO WATERWAY

QUOTATION

HDSFM

D/B/A USABLUEBOOK

PO Box 9004

Gurnee, IL 60031-9004

Toll free: 1-800-548-1234

Fax: (847) 689-3030

NO. 285253

Page 1

04/21/21

Ship-to: 1
CAMBRIDGE WATER & SEWER

200 SPRING ST
CAMBRIDGE, WI 53523
USA

Bill-to: 16057
CAMBRIDGE WATER AND SEWER

PO BOX 99
CAMBRIDGE WI 53523
USA

REFERENCE #	EXPIRES	SLSP	TERMS	WH	FREIGHT	SHIP VIA
QUOTE	05/21/21	CCL	NET 30	01	FXD/PPD	FEDEXGRND

QUOTED BY: CCL | QUOTED TO: JEFF WRIGHT

ITEM	DESCRIPTION	QUANTITY	UM	PRICE	UM	EXTENSION
63223	Eclipse 9700 2'', Red Portable Auto Flushing Hydrant	1	EA	2049.95	EA	2049.95
63231	1'' Multi-Directional Diffuser Red	1	EA	250.00	EA	250.00
22608	Hydrant Meter Lock (Large) 5-1/4" ID, 2-1/4" WIDE	1	EA	118.73	EA	118.73

Please note that your order may be subject to applicable taxes based on current rates at the time your order is completed.

TO ORDER --
For your convenience, you may simply sign below and return via fax to 847-689-3030. We will process your order promptly and fax a confirmation so you know we have it. If you prefer to call your order in or have additional questions or concerns, you may contact our Customer Service Department @ 800-548-1234. Please note any changes to the quantities or shipping address. Thanks for choosing USABlueBook.

Authorization Signature

PO Number (if required)

MERCHANDISE	MISC	TAX	FREIGHT	TOTAL
2418.68	.00	.00	17.50	2436.18

USE THIS QUOTE # ON PO's!

Bid Proposal for Cambridge 9700 Kupferle

CUSTOMER

VILLAGE OF CAMBRIDGE
200 W NORTH ST
CAMBRIDGE, WI 53523

Job
Cambridge 9700 Kupferle
Cambridge, WI
Bid Date: 04/23/2021
Bid #: 1785277

CONTACT

Sales Representative
Michael Adams
(T) 815-544-3458
(F) 815-544-3474
Michael.Adams@coreandmain.com

Core & Main
6829 Irene Rd
Belvidere, IL 61008
(T) 815-544-3458

NOTES

Bid Proposal for Cambridge 9700 Kupferle

VILLAGE OF CAMBRIDGE
Job Location: Cambridge, WI
Bid Date: 04/23/2021
Core & Main 1785277

Core & Main
6829 Irene Rd
Belvidere, IL 61008
Phone: 815-544-3458
Fax: 815-544-3474

Seq#	Qty	Description	Units	Price	Ext Price
10	1	2" ECLIPSE 9700 AUTOMATIC HYD- RANT FLUSHER	EA	2,230.00	2,230.00
20	1	DIRECTIONALDIVERTER PART#X9713	EA	235.00	235.00
30		**NOTE: 2 WEEK LEAD TIME**			
40		**NOTE: LOCKING COLLAR IS NOW**			
50		**STANDARD AND IS INCLUDED**			
60		**IN THE OVERALL PRICE**			

Branch Terms:

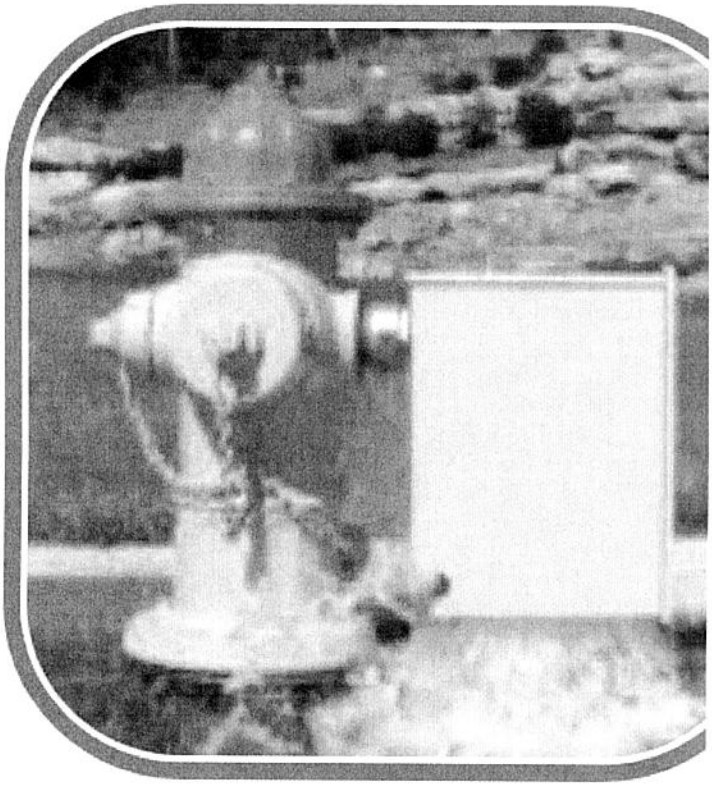
UNLESS OTHERWISE SPECIFIED HEREIN, PRICES QUOTED ARE VALID IF ACCEPTED BY CUSTOMER AND PRODUCTS ARE RELEASED BY CUSTOMER FOR MANUFACTURE WITHIN THIRTY (30) CALENDAR DAYS FROM THE DATE OF THIS QUOTATION. CORE & MAIN LP RESERVES THE RIGHT TO INCREASE PRICES UPON THIRTY (30) CALENDAR DAYS' NOTICE TO ADDRESS FACTORS, INCLUDING BUT NOT LIMITED TO, GOVERNMENT REGULATIONS, TARIFFS, TRANSPORTATION, FUEL AND RAW MATERIAL COSTS. DELIVERY WILL COMMENCE BASED UPON MANUFACTURER LEAD TIMES. ANY MATERIAL DELIVERIES DELAYED BEYOND MANUFACTURER LEAD TIMES MAY BE SUBJECT TO PRICE INCREASES AND/OR APPLICABLE STORAGE FEES. THIS BID PROPOSAL IS CONTINGENT UPON BUYER'S ACCEPTANCE OF SELLER'S TERMS AND CONDITIONS OF SALE, AS MODIFIED FROM TIME TO TIME, WHICH CAN BE FOUND AT: https://coreandmain.com/TandC/

Lisa Moen

From: Cooper, Steve <Steve.Cooper@coreandmain.com>
Sent: Tuesday, April 20, 2021 5:01 PM
To: Jeffrey Wright
Subject: Automatic Flushing Hydrants The Kupferle Foundry Company

$2,230 each. Programmable

Eclipse #9700



MSA Memo

To:	Joe De Young, MSA
From:	Dan Greve, MSA
Subject:	Water System Source Capacity Evaluation
	Village of Cambridge
Date:	May 17, 2021

This memo is intended to summarize our evaluation of the capacity of water sources for the Village of Cambridge Water Utility. The primary goals of the capacity evaluation are to determine 1) the recommended capacity of Well #3 after upgrades for water treatment, and 2) the need for and feasibility of improvements at Well #2 after the improvements at Well #3 are complete.

Well #2 and Treatment Facilities

The Village of Cambridge **Well #2** was constructed in 1973 with 10-inch diameter casing grouted to a depth of 200 feet and a 10-inch diameter open hole in the sandstone aquifer from 200 feet to a depth of 350 feet. The well was reportedly test pumped at 300 gallons per minute (gpm), and the static water level was 25 feet and the pumping water level was 103 feet, resulting in a specific capacity was 3.85 gpm per foot of drawdown.

Water treatment at Well #2 include a horizontal pressure filter for iron removal and two cation exchange (zeolite) softening vessels. In 2010 the iron removal filter was refurbished with new media, and softener vessels with zeolite resin were completely replaced. The sand media in the iron removal filter was recently provided with an aggressive chemical cleaning with acid and chlorine. In early 2020 Well #2 was chemically cleaned with acid and chlorine, with the well pump left in place.

According to the operation and maintenance manuals for the water treatment facilities, Well #2 was originally designed for a pumping rate of **350 gpm**. The current pumping rate is **275 gpm**. Well #2 is capable of producing more than its original 350 gpm pumping capacity. Assuming the pumping water level is maintained at no deeper than 20 feet above the bottom of the well casing and assuming a static water level of 35 feet (the lowest of recent reported values), there would be 180' – 35' = 145 feet of drawdown available. Assuming a specific capacity of 3.85 gpm per foot of drawdown, the well would be capable of producing approximately 145 x 3.85 = **560 gpm**. The ability to produce this pumping rate would need to be verified by test pumping, along with sampling/testing to

confirm no adverse changes in water quality, including sand production, occur at the higher pumping rate.

Sampling and laboratory testing after the recent chemical cleaning of the filter media indicated that the iron concentration in the water was reduced from approximately 0.55-0.59 mg/L to less than 0.15 mg/L by the filter system, and the manganese concentration was reduced from approximately 0.030 mg/L to below the limits of laboratory detection. Any traces of iron or manganese in the effluent from the filter are removed by adsorption on the downstream zeolite softener resin. The secondary (aesthetic) drinking water standard for iron and manganese are 0.3 mg/L and 0.050 mg/L, respectively.

The iron removal filter at Well #2 is a 4-cell pressure filter with common underdrain and has dimensions of 8-foot diameter by 16-foot length. Based on the current 275 gpm pumping rate, the loading rate to the iron removal filter is approximately 2.2 gpm per square foot. Wisconsin Administrative Code allows a loading rate of 3 gpm per square foot, unless pilot testing supports a higher loading rate. The iron removal filter is therefore limited to a flow rate of approximately **350 gpm**. Pilot testing might show that the iron removal filter is capable of treating a somewhat higher flow rate, however an increase in pumping capacity at Well #2 to significantly higher than 350 gpm would require the installation of a second iron removal filter. Also, an increase in gallons of water treated each day can be expected to result in a need to backwash the filter at a proportionately greater frequency. The iron removal filter is currently backwashed twice per week (on Tuesday and Friday). The installation of a second pressure filter would require an addition to the well/treatment building, which would be a significant expense given the design of the existing building and roof system.

The two (2) cation exchange softening vessels at Well #2 are 6-foot diameter and are operated in parallel. The softeners were reportedly designed to treat 240 gpm (120 gpm to each vessel) with 110 gpm (31.4%) bypass, for a total treatment capacity of 350 gpm. At the design flow rate, the loading to the softener vessels would be 4.25 gpm per square foot. The current rate of treatment is approximately 225 gpm (112.5 gpm to each vessel) with 50 gpm (18.2%) bypass. The water from Well #2 reportedly has a hardness of approximately 310 mg/L as $CaCO_3$. The softeners reportedly remove hardness to 25 to 35 mg/L as $CaCO_3$. After blending in the bypassed water, the finished water entering the distribution system reportedly has a hardness of 80 to 90 mg/L as $CaCO_3$. Water with a hardness of 75 mg/L or less is generally considered soft, and water with a hardness of 76 to 150 mg/L is generally considered moderately hard.

Based on the current operation of the softeners, the loading rate is at or very near the original design loading while the bypass rate has been reduced by about half. The softener performance is currently acceptable but appears to have deteriorated over time. A recent inspection and testing of the softener resin found an excessive amount of fracturing and buildup of iron. Both factors result in deterioration of treatment performance. As the zeolite resin continues to fracture over time, more small particles will be lost during backwashing. Iron occupies the exchange sites on the zeolite resin

and is exceedingly difficult to remove during the standard regeneration procedure. Currently, the softeners are reported to be regenerated after 90,000 gallons of water is treated which, when factoring in the bypass, represents 110,000 gallons of production from Well #2. The current annual average day water use in Cambridge is approximately 140,000 gallons, but in past years the annual average use was as high as 205,000 gpd. Therefore, based on current water demand the softeners are regenerated approximately every 19 hours on average, however in the past regeneration was required approximately every 13 hours on average due to the significantly higher average day water demand.

Wisconsin Administrative Code NR811 allows softeners to be loaded at up to 7 gpm per square foot. The existing softeners could, in theory, be loaded at a significantly higher rate than the current 4.25 gpm per square foot. However, the throughput is limited by the volume of zeolite available. NR811 requires softeners to be designed for a maximum of 20,000 grains of hardness removal per cubic foot of zeolite resin. The existing softeners are provided with a NR811 minimum zeolite media depth of 36 inches. The softeners should therefore have capacity for 3.393 million grains of hardness removal between regeneration cycles. Based on a raw water hardness of 350 mg/L as $CaCO_3$ (18.13 grains per gallon) the softeners have a capacity would have a capacity of 187,000 gallons between regeneration cycles. The softeners are currently generated after 90,000 gallons are treated, or about twice as suggested by NR811 design requirements. The more frequent regeneration might be necessary due to the deteriorated condition/capacity of the existing zeolite resin, and/or because the current procedure for regeneration with sodium chloride brine is not providing a sufficiently complete regeneration of the resin. A capacity of 187,000 gallons between regeneration cycles, based on the current percentage of water bypassing the softeners, would allow for Well #2 to produce approximately 228,000 gallons between regeneration cycles. Based on the current average day water demand of 140,000 gpd, regeneration would be required approximately every 39 hours, or approximately twice the current amount of time between regeneration cycles.

As indicated above, the allowable softener loading rate under Wisconsin Administrative Code NR811 suggests that the existing softener vessels could treat a significantly higher rate of flow than the current rate of 225 gpm, especially if the zeolite resin were replaced to restore the capacity. The softener throughput (gallons treated between regeneration cycles) would still be limited by the volume of zeolite resin available, but the throughput would be increased by replacement of the resin. The figures presented above suggest that, based on the specific capacity of Well #2 and the available drawdown, the well is capable of producing up to 560 gpm. Assuming the zeolite media is replaced so that the original 31.4% bypass provides acceptable softener performance, the softeners would treat 385 gpm, resulting in a softener loading rate of 6.81 gpm per square foot, which is within the Wisconsin Administrative Code maximum of 7 gpm per square foot. As indicated above, assuming an exchange capacity of 20,000 grains per cubic foot of resin, the volume of zeolite resin available would potentially provide capacity for 187,000 gallons of treatment between regeneration cycles. With the bypass rate increased from 18.2% to 31.4% as the result of resin replacement, Well #2 could produce approximately 272,000

gallons between backwash cycles. Based on the current average day water demand of 140,000 gpd, regeneration would be required approximately every 47 hours, or approximately two and one-half times the current amount of time between regeneration cycles.

In summary, it appears that the softeners have capacity for a significant higher flow rate (hydraulic loading rate), to allow for acceptable levels of softening at the full 560 gpm that appears to be available from Well #2. Replacement of the zeolite resin would presumably allow the bypass rate to be increased due to better performance, and the length of time between regeneration cycles would be increased as a result of both the higher bypass rate and the increase of the resin's exchange capacity to the maximum 20,000 grains per cubic foot between regeneration cycles as allowed by Wisconsin Administrative Code NR811. It should be noted that the softener performance predicted above would need to be confirmed by the softener equipment manufacturer and zeolite resin supplier.

Well #3

The Village of Cambridge **Well #3** was constructed in 1991 with 18-inch diameter casing grouted to a depth of 272 feet and a 17-inch diameter open hole in the sandstone aquifer from 272 feet to a depth of 377 feet. The well was reportedly test pumped at 610 gallons per minute (gpm), and the static water level was 43 feet and the pumping water level was 112 feet after 24 hours, resulting in a specific capacity was 8.8 gpm per foot of drawdown.

The iron concentration in the water from Well #3 is approximately 1.0 mg/L and the manganese concentration is approximately 0.04 mg/L. The secondary (aesthetic) drinking water standards for iron and manganese are 0.03 mg/L and 0.050 mg/L, respectively. The hardness of the water is in the range of 300 to 350 mg/L as $CaCO_3$. There is no water treatment provided at Well #3. The well is located within a wood-framed building and is equipped with a vertical turbine pump and motor, and the well discharge pipe extends underground to the distribution system. There are no water treatment facilities at Well #3. The well is pumped to waste on a regular basis, so that it is available for standby (emergency) service, it is not used due to the high iron concentration and high hardness. The well pump currently provides a capacity of approximately **350 gpm** when pumping to the distribution system. In early 2020 Well #2 was chemically cleaned with acid and chlorine. The well pump was removed during the cleaning and then reinstalled.

In 2009 plans and specifications for softening and iron removal facilities at Well #3, and a new building to house the treatment facilities, were submitted to the Wisconsin Department of Natural Resources (WDNR), however the project did not proceed due to affordability issues. In September 2020 the same plans and specifications were submitted to the WDNR but were subsequently withdrawn from the review process due to questions regarding the appropriate design capacity for the new facilities and other potential revisions. One of the goals of this Capacity Evaluation is to establish the recommended design capacity for treatment facilities at Well #3, based on both the capacity of Well #3 and the projected future water demands in the Village.

In January 2021 Well #3 was test pumped for a period of four hours, with the existing well pump to evaluate the potential for increasing the capacity of the well above the current pumping rate of 350 gpm. The well pump produced 530 gpm at the start of the test pumping, with the flow reduced to 510 gpm after four hours. The static water level was reported to be 37 feet and the pumping water level 98 feet, resulting in a specific capacity of 8.36 gpm per foot of drawdown. The specific capacity was similar to that reported when the well was constructed in 1991, although the specific capacity was declining very slowly at the end of the four-hour test.

There was no appreciable amount of sand in the water at the 510 to 530 gpm pumping rate. Water samples taken during the test pumping indicated no significant change in iron, manganese, or hardness at the higher pumping rate.

From the test pumping conducted when the well was constructed, and the four-hour test pumping event in January 2021, it appears that Well #3 is capable of being pumped at 600 gpm without appreciable sand production or change in water quality. The total organic carbon concentration was found to be 0.72 mg/L. This is higher than expected for a sandstone well with the depth of grouted casing present, and might reflect the presence of iron bacteria and other biofilm that developed due to the infrequent use of the well in the year since it was chemically cleaned. Past testing of water from Well #3 indicates the water quality, other than iron concentration and the high hardness, is very good. For example, the nitrate levels have been below the laboratory detection limits, radionucleide levels have been very low, and the arsenic concentrations have been less than one-half the allowable level. However, if water treatment facilities are developed for a pumping rate significantly higher than the current pumping rate of 350 gpm, it is recommended that the well be test pumped at the higher rate for approximately 24 hours and water samples tested for the full range of regulated drinking water parameters including radionucleides.

Current and Projected Water Demands

Historical water demands were evaluated to assist in the development of projections for future water use. The data for historical average day and peak day water demands shows considerable variability, which makes it more difficult to project future water demands. **Figure 1** shows the total volume of water demand in the Village for 2015 through 2020. Water demand was significantly reduced in 2019 and 2020 as compared to previous years. Part of this reduction in demand appears to be the result of lower water losses from water main leaks and breaks. Water loss due to hydrant flushing, leaks and main breaks was reported to be only 5% of the total water demand in 2018, however, when the total demand was high. It is possible that the water demand for 2020 was skewed due to the COVID-19 pandemic. As shown in **Figure 2**, water sales to residential and multi-family water utility customers was significantly higher in 2018 and 2019, and the reason for this is not clear. In 2017 and 2018, total water sales were reported to be approximately 40% higher than in 2015, 2016, and 2019. In 2017 and 2018, residential and multi-family

water sales accounted for approximately 74%. As shown in **Figure 3**, in 2019 residential and multi-family water sales accounted for 60% of the total. Water sales data for 2020 is not available, but as indicated above that data might be skewed by COVID-19.

Standard design practice for well and water treatment facilities is to size these facilities so that they operate for a maximum of 12 hours per day to meet the average day demand, with the largest well out of service. Because of the variation and uncertainty of the data, and to provide conservativism, for design purposes it is assumed that the historical average day water demand was 205,000 gallons per day, which is the highest value over the last six years.

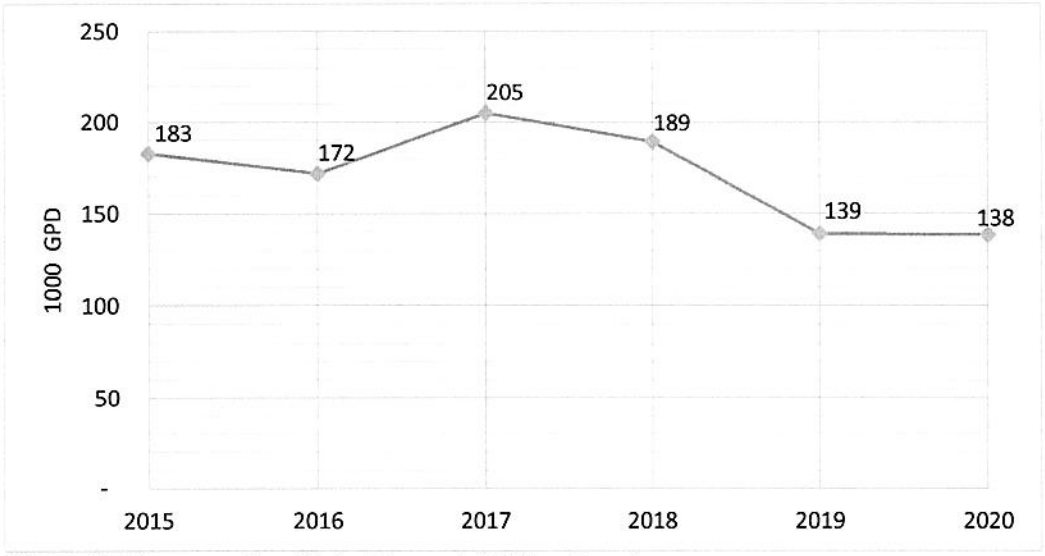


Figure 1 – Average Day Water Demand (1000 gallons)

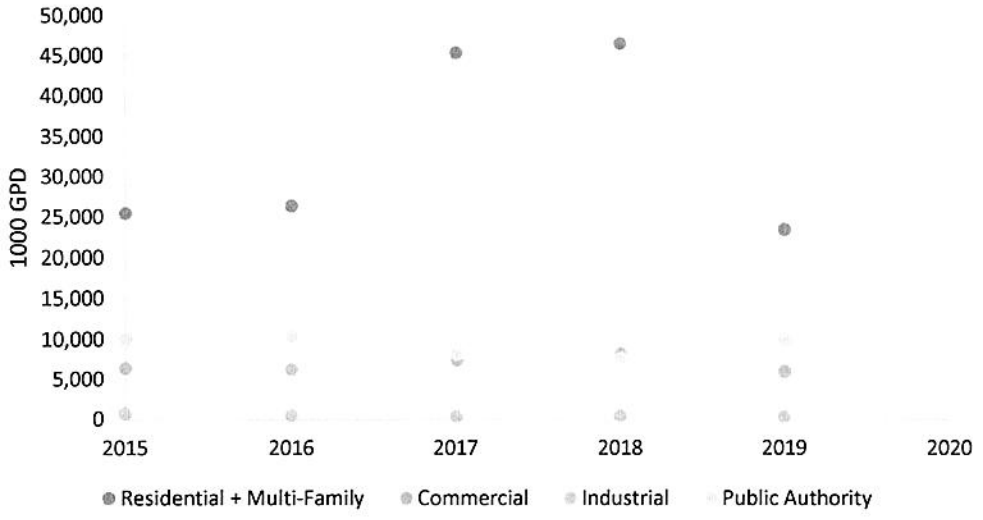


Figure 2 – Annual Water Sales by User Classification

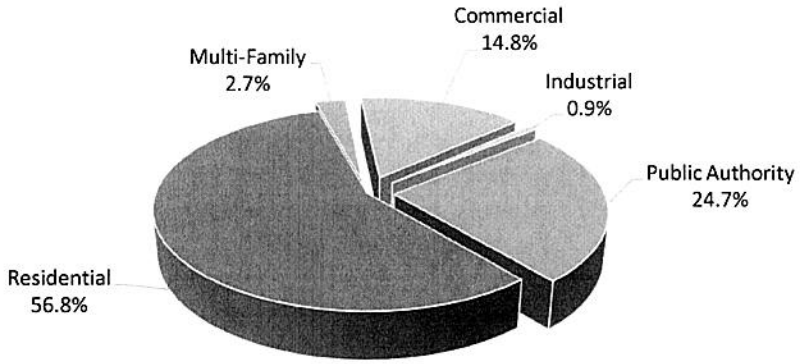


Figure 3 – 2019 Water Sales by User Classification

The historical peak day water demands also show considerable variation. This is not surprising, since in three of the last six years the peak day demand was reported to be due to a water main break, and in one year the peak day demand was reported to be due to a fire. The highest peak day demand in the past six years that was apparently not due to a water main break or fire was 525,000 gpd on May 31, 2016. The cause of that higher demand is not clear but may have been due to hydrant flushing.

Standard design practice for well and water treatment facilities is to size these facilities so that they operate for a maximum of 18 hours per day to meet the peak day demand, with the largest well out of service. It is not feasible to design the well and treatment facilities for a catastrophic water main break or fire, it is assumed that demands greater than the "normal" peak day demand (including hydrant flushing) are met by the available volume in the elevated water storage reservoir. For design purposes, therefore, it is assumed that the historical peak day water demand was **525,000 gpd**.

The projection of future water demands is based on the historical demands and the anticipated population growth. The Wisconsin Department of Administration Demographic Services Center (DSC) has developed population projections for all cities, villages, and townships through 2040. For the Village of Cambridge, the DSC projects the population to increase from the Year 2020 estimated population of 1591 to a Year 2040 population of 1880. This represents an increase of 18.2%, or 0.91% per year. Water treatment facilities, and in particular the associated structures and piping, are expected to have a design life significantly greater than 20 years. However, because the reliability of population projections becomes much less beyond 20 years, and the peak day water demand will not necessarily increase in direct proportion to the population, standard design practice is to assume a 20-year "design life". Assuming the new water

treatment facilities at Well #3 go into service in the Year 2023, the "design year" for these facilities would be the Year 2043. Based on the DSC population projection, the Year 2043 population would be 1591 + (1581 x 23 x 0.0091) = 1922. This represents an increase of 20.8% over the current estimated population.

For design purposes, it is assumed that the population, and both the average and peak day water demands, will increase by **20%** between now and the "design year" 2043. Based on the assumed historic average day water demand of 205,000 gpd, the projected Year 2043 average day water demand is **246,000 gallons per day**. Based on the assumed historic peak day water demand of 525,000 gpd, the projected 2043 peak day water demand is **630,000 gallons per day**.

To provide the future average day water demand while pumping no more than 12 hours per day, each well and treatment facility would need to have a capacity of 246,000 ÷ 1440 x 24 ÷ 12 = **342 gallons per minute**.

To provide the future peak day water demand while pumping no more than 18 hours per day, each well and treatment facility would need to have a capacity of 630,000 ÷ 1440 x 24 ÷ 18 = **583 gallons per minute**. The criteria for meeting the peak day water demand while pumping no more than 18 hours per day is controlling. For design purposes, **it is recommended that Well #3 and its associated water treatment facilities have a capacity of 600 gallons per minute.** Based on the historical water demands, and in particular the decrease in water demand over the past two years, and the infrequency of daily water demands that approach the assumed historical peak day water demand, a design capacity of 600 gpm at Well #3 appears to be sufficiently conservative. It may be difficult to get approval from the Wisconsin Department of Natural Resources or the Wisconsin Public Service Commission for a design capacity that exceeds 600 gpm.

Conclusions and Recommendations – Well #3 and Treatment Facilities

1. **Well #3 is provided with a well pump that produces approximately 350 gallons per minute (gpm).** Well #3 is not provided with water treatment facilities. **Well #3 is available for standby (emergency) service but is not used due to the high iron concentration and hardness.**
2. Based on the original well construction report, and a 4-hour test pumping event in January 2021, **Well #3 appears to be capable of producing greater than 600 gpm** with no adverse impact on water quality and with no appreciable sand production.
3. **If water treatment facilities are to be designed at Well #3 for a pumping rate significantly higher than the current pumping rate of 350 gpm, it is recommended that the well be test pumped at the higher rate for approximately 24 hours and water samples tested** for the full range of regulated drinking water parameters including radionucleides.
4. The historical water use in the Village is quite variable for unknown reasons. However, based on the historical water demands, and projected population

increase in the Village of Cambridge over the next 20 years, **the recommended design capacity for Well #3 and associated water treatment facilities is 600 gpm.** This capacity would allow Well #3 to provide the anticipated future peak day water demand while pumping 18 hours per day, with Well #2 out of service.

Conclusions and Recommendations – Well #2 and Treatment Facilities

1. **Well #2 and the associated water treatment facilities for iron removal and softening were designed for a capacity of 350 gpm. The current capacity of Well #2 is 275 gpm.**
2. **It appears that Well #2 may be capable of producing approximately 560 gpm**, The ability to produce this pumping rate would need to be verified by test pumping, along with sampling/testing to confirm no adverse changes in water quality, including sand production, occur at the higher pumping rate.
3. **Increasing the capacity of Well #2 to significantly above 350 gpm would require the addition of another pressure filter for iron removal**, necessitating an addition to the building that houses Well #2 and the treatment equipment.
4. **It may be possible to increase the capacity of the existing cation exchange softeners to a capacity of 560 gpm** by increasing the loading rate and bypass rate and replacing the zeolite resin. The ability to increase the softener capacity to that capacity should first be confirmed by the softener equipment manufacturer and zeolite resin suppliers.
5. **It is recommended that the softener resin be replaced due to its age and condition.** The treatment performance of the softeners has been adversely impacted by the condition of the resin, and performance will continue to decline as resin continues to fracture and be lost in the backwash.
6. **After the new water treatment facilities are in place at Well #3, it is recommended that the capacity of Well #2 be increased to the original 350 gpm.** This will likely require replacement of the well pump, and perhaps the pump motor.
7. **It is recommended that the existing standby engine and right-angle drive that provides for operation of the Well #2 pump be replaced with permanent diesel-fired engine-driven standby electrical generator.** Besides providing for operation of the well pump motor during a power outage, a generator would allow for the operation of the chemical feed systems, telemetry and control system, and building heat and lights.
8. **It is recommended that the backwash from the iron removal filter be routed to the sanitary sewer**, and the existing seepage pond and connection to the storm sewer system, be eliminated.
9. **It does not appear to be necessary to increase the capacity of Well #2 and related water treatment facilities to greater than 350 gpm in the near future.** Increasing the capacity significantly above 350 gpm would require an additional iron removal filter and a building addition to house the filter, which would be a large expense. A capacity of 350 gpm, operated 12 hours per day, would provide 252,000 gallons, which exceeds the projected 20-year average day water demand. A capacity of 350 gpm, operated 18 hours per day, would provide 378,000 gallons.

A capacity of 350 gpm, operated 20 hours per day, would provide 420,000 gallons. These volumes are much less than the projected 20-year peak day water demand of 630,000 gallons, however a capacity of 350 gallons per day would be sufficient for nearly all anticipated water demands except for very unusual demands that might result from a major water main break or a fire. In the last six years it appears that there was only one day in which the water demand exceeded 378,000 gallons, except when there was a water main break or a fire. Water demands in excess of "normal" peak day demands are assumed to be met by the volume available in the elevated water storage reservoir. After the new water treatment improvements are in place at Well #3, the likelihood that a peak day water demand in excess of 378,000 gallons will occur when Well #3 is out of service seems to be very remote. Fire hydrant flushing and other maintenance that requires large volumes of water would presumably not be performed while Well #3 is out of service. If the peak day demand event is isolated, the volume of water in storage can help meet a deficiency in well/treatment capacity, if there aren't several consecutive days when the demand approaches the design peak day demand.

10. **It is recommended that water demand, both average day and peak day, be monitored annually.** This will allow time for planning for the next major increase in capacity based on growth of the Village. The next major increase in capacity (after the improvements at Well #3) would either be an increase of capacity at Well #2 including the addition of another iron removal filter and building expansion, or a new Well #4 and associated treatment facilities.

For best results editing this document in Microsoft Word, remove this paragraph and immediately save this document (File/Save As) in the default Word Document format.

2020 Consumer Confidence Report Data CAMBRIDGE WATER & SEWER UTILITY, PWS ID: 11300740

Water System Information

If you would like to know more about the information contained in this report, please contact Daniel Dudley at (608) 423-3712.

Opportunity for input on decisions affecting your water quality

3rd Tuesday of the month AT VILLAGE HALL

Health Information

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's safe drinking water hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune systems disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Environmental Protection Agency's safe drinking water hotline (800-426-4791).

Source(s) of Water

Source ID	Source	Depth (in feet)	Status
2	Groundwater	350	Active

Source ID	Source	Depth (in feet)	Status
3	Groundwater	377	Active

To obtain a summary of the source water assessment please contact, Daniel Dudley at (608) 423-3712.

Educational Information

The sources of drinking water, both tap water and bottled water, include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally- occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Definitions

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine, if possible, why an E. coli MCL violation has occurred or why total coliform bacteria have been found in our water system, or both, on multiple occasions.

Term	Definition
MCL	Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MCLG	Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MFL	million fibers per liter
MRDL	Maximum residual disinfectant level: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG	Maximum residual disinfectant level goal: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Disinfection Byproducts

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2020)	Violation	Typical Source of Contaminant

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2020)	Violation	Typical Source of Contaminant
HAA5 (ppb)	D8	60	60	1	1	9/21/2016	No	By-product of drinking water chlorination
TTHM (ppb)	D8	80	0	8.4	8.4	9/21/2016	No	By-product of drinking water chlorination

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2020)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.026	0.026		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.1	0.1		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
SODIUM (ppm)		n/a	n/a	3.96	3.96		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2020)	Violation	Typical Source of Contaminant

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2020)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1090	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	1.47	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2020)	Violation	Typical Source of Contaminant
RADIUM, (226 + 228) (pCi/l)		5	0	2.1	1.6 - 2.1	11/30/2017	No	Erosion of natural deposits

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. EPA required us to participate in this monitoring.

NONE

Additional Health Information

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Cambridge Water & Sewer

Utility is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Presence of Other Contaminants

NONE

Other Compliance

Monitoring Violations

Description	Contaminant Group	Sample Location	Compliance Period Beginning	Compliance Period Ending
Chem M/R - Reg - No Regular samples	Inorganic Contaminants	3	2/1/2020	9/30/2020

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During the compliance period noted in the above table, we did not complete all monitoring or testing for the contaminant(s) noted, and therefore cannot be sure of the quality of your drinking water during that time.

Actions Taken

missed a sample at well not used

Uncorrected Significant Deficiencies

Deficiency Description and Progress to Date	Date System Notified	Scheduled Correction Date
The system pumping capacity is not adequate.	5/19/2020	6/1/2023

Actions Taken

make sure reports are in by the 10th of every month