VILLAGE OF MCFARLAND *NOTICE OF PUBLIC MEETING*

Public Utilities Committee

Tuesday, June 15, 2021 **6:00 PM** **McFarland Municipal Center**
Community Room

AGENDA

You are invited to this meeting through a Zoom webinar. The Public is strongly encouraged to watch and participate in these meetings remotely through either the webinar or telephone options listed below.

PLEASE CLICK THE LINK BELOW TO JOIN THE ZOOM WEBINAR:
https://us02web.zoom.us/j/88698520691

Or by Telephone: +1 (312) 626-6799
Webinar ID: 886 9852 0691

1. CALL TO ORDER, ROLL CALL.

2. PUBLIC APPEARANCES.
   a. This is an opportunity for members of the public to address the Village Board. Please remember this is a virtual meeting conducted through the Zoom online meeting platform. Zoom meeting attendees wishing to address the board may do so using the Question and Answer feature within the Zoom online meeting platform. You may state your name, address, and provide your comments to the board for their consideration. Members of the public who are present in person and wish to address the board should fill out a public comment form and turn into the meeting chairperson. Members of the public may speak during public appearances or during their selected agenda item as they designate on the public comment form. Please adhere to the 3-minute time limit. Additionally, you may send your public comments to aimee.irwin@mcfarland.wi.usto be included as part of the meeting.

3. APPROVAL OF MINUTES.
   a. Discussion and action regarding the minutes from the Public Utilities meeting held on May 18, 2021.

4. BUSINESS.
   a. Discussion regarding meter reading and future options

   b. Update on sewer cleaning and televising.

   c. Discussion and action to make a recommendation regarding the Village of McFarland Risk and Resilience Assessment and Community Water System Emergency Response Plan for EPA.

   d. Presentation of the Public Works monthly report

5. SCHEDULE NEXT MEETING DATE.
   a. Tuesday, July 20, 2021 at 6:00 p.m.

6. ADJOURNMENT.

This meeting notice constitutes an official meeting of the above referenced group and was posted in accordance with all applicable laws related to Open Meetings Law. It is possible that members of and possibly a quorum of members of other governmental bodies of the municipality may be in attendance at the above stated meeting to gather information. No action will be taken by any governmental body at the above stated meeting other than the governmental body specifically referred to above in this notice. Upon reasonable notice, efforts will be made to accommodate the needs of disabled individuals. For additional information or to request this service, contact the McFarland Municipal Center at (608) 838-3153 or cassandra.suettinger@mcfarland.wi.us.

Public Utilities Committee
Meeting Minutes (DRAFT)
May 18, 2021

1. CALL TO ORDER, ROLL CALL. Meeting was called to order at 6:00 p.m. via Zoom by Village Trustee Carrie Nelson. Roll call: Nelson, Paula Boness, Chris Fredrick, Mark Nielsen, Christopher Reynolds.

Staff present: Jim Hessling, Public Works Director; Lee Igl, Streets and Utilities Superintendent; and Phil McDade, public works staff. Also, Brian Berquist of Town & Country Engineering; Steve Dauster of Midwest Meter; Jody Dobson of Baker Tilly.

2. **PUBLIC APPEARANCES**. None.

3. **APPROVAL OF MINUTES.**

a. Discussion and action regarding the minutes from the Public Utilities meeting held on March 16, 2021. Nelson moved, Reynolds seconded, to approve the minutes of the March 16, 2021 Public Utilities meeting. Motion passed 4-0-1 with Nelson abstaining.

b. Discussion and action regarding the minutes from the joint Public Works and Public Utilities meeting held on April 13, 2021. Nelson moved, Boness seconded, to approve the minutes of the April 13, 2021 joint meeting of the Public Works and Public Utilities meeting. Motion passed 3-0-2 with Nelson and Reynolds abstaining.

4. BUSINESS.

a. Discussion and action to make a recommendation to the Village Board regarding the 2020 Audit and Financial Statements for McFarland Utilities. Dobson discussed the utility audit and financial statements with the committee. The sewer utility experienced an operating loss of $251,000 in 2020, compared to a loss of $133,000 in 2019, due to increased maintenance costs, as well as treatment cost increases passed on to the village from Madison Metropolitan Sewerage District. The water utility experienced an operating surplus of $278,271, compared to $236,831 in 2019. A water rate increase is anticipated sometime in 2021 pending Wisconsin Public Service Commission review. Stormwater utility costs also increased in 2020 due to increased maintenance and equipment costs related to stormwater services now being charged to the utility, Hessling said. Fredrick motioned, Boness seconded, to make a recommendation to the Village Board to accept the 2020 Audit and Financial Statements for McFarland Utilities. Motion passed 5-0-0.

b. Discussion regarding meter reading process and future options. The committee discussed with Dauster options for meter reading and replacing meters. The village has 1,737 meters with 50W ERTS, or endpoints, that provide electronic readings of meters for more than half of the village's water meters and will soon need to be replaced. The committee discussed three options for replacing meter reading systems, with several committee members expressing support for the third option outlined in the meeting packet – which would incorporate a fixed network and possible reduction or elimination of the current practice of drive-by meter reading. The committee took no action on the agenda item.

c. Discussion and action regarding Request for Proposal for Forcemain locating services. Bids for the project were limited, with only one company bidding on it, and it came in well over the estimated $25,000 expense allocated for the service. Berquist said the service involves unique locating work, and

thus has limited companies offering to bid on it. Fredrick motioned, Reynolds seconded, to recommend to the Village Board rejection of the Request for Proposal (RFP) for the locating services. Motion approved 5-0-0.

d. Discussion and action to make a recommendation to the Village Board regarding the annual CMAR application for 2020. The Compliance Maintenance Annual Report is required each year by the state Department of Natural Resources to measure the health of the sewer utility in the area of maintenance and its equipment replacement fund. The utility received a grade of A – the highest possible grade – in both the financial and collection system sections. Nelson motioned, Fredrick seconded, to recommend to the village board acceptance of the 2020 CMAR report. Motion passed 5-0-0.

e. Presentation of the Public Works monthly report. The monthly report was made available in the meeting packet.

5. SCHEDULE NEXT MEETING DATE.

a. Thursday, June 15, 2021 at 6:30 p.m.

6. ADJOURNMENT. Fredrick motioned, Boness seconded, to adjourn the meeting. Motion carried 5-0-0. Meeting adjourned at 7:23 p.m.

VILLAGE OF
McFarland

SUMMARY SHEET

MEETING DATE: **Tuesday, June 15, 2021**

SECTION: **Business**

DEPARTMENT: **Public Works**

CONTACT: **Aimee Irwin, Assistant to the Public Works Director**

AGENDA ITEM: **Discussion regarding meter reading and future options**

PREVIOUS ACTION:
None.

ISSUE SUMMARY:
At the previous Public Utilities meeting on May 18, 2021, the committee was presented with information related to the various meter reading options for the future. During the discussion, the committee requested for an estimate related to the third option which would allow for a fixed network and customer access to their usage. Included within the packet is an estimate of costs provided by Midwest Meter. The estimate is built on a phased approach to focus on replacement of the meters with the 50W endpoints first. The committee also requested the amount spent on mobile drive by reading during the year which is estimated at $6,476.40. Enclosed with the packet is a chart detailing the estimate.

Staff also emailed the Public Service Commission (PSC) regarding the change that may occur with our meter reading. Based on the response from the PSC, the utility may be required to complete a construction authorization for this type of change due to the total cost of the project. The email from the PSC has been included in the packet.

FINANCIAL/BUDGET IMPACT:

VILLAGE PLAN REFERENCE:
None.

ORDINANCE REFERENCE:
None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:
None.

ATTACHMENTS:
1. Copy of McFarland Itron to BEACON AMI Upgrade 061121
2. PW Cost for mobile driveby reading
3. Email from PSC

6/11/2021

McFarland Metering System Upgrade

Itron to BEACON/ORION Cellular

2021		Quantity	Price	Extension
Q3, Q4	**Continued System Maintenance and Product Replacement**			
	Badger M25 meters w/HRE Registers and Integral Itron (100W) transmitters	90		Current Budget
2022				
Q1	**BEACON System Implementation: Itron to BEACON (per 3/2/21 quote)**			
	BEACON interface, implementation, reading equipment, training	1	$ 12,500.00	$ 12,500.00
	Phase 1 "50W Replacement": complete replacement of meter/encoders/transmitters			
	50W Meters			
	M25B meters with HR-LCD, ORION Cellular	1,665	$ 265.00	$ 441,225.00
	M55B meters with HR-LCD, ORION Cellular	34	$ 370.00	$ 12,580.00
	M120 meters with HR-LCD, ORION Cellular (1-1/2" meters)	28	$ 745.00	$ 20,860.00
	M170 meters with HR0LCD, ORION Cellular (2" meters)	9	$ 1,010.00	$ 9,090.00
	E-3 meters with ORION Cellular (3" meters)	1	$ 2,782.00	$ 2,782.00
	Equipment Subtotal			$ 486,537.00
	Installation: 3/4"-1" Meters	1,737	$ 130.00	*$ 225,810.00*
	Total BEACON Implementation and Phase 1 Field Hardware	1,737		**$ 499,037.00**
	Total BEACON Implementation and Phase 1 Field Hardware with Installation	1,737		**$ 712,347.00**
	BEACON Service Units (completed Phase 1)			
	Mobile Service Units (Itron 60W, 100W meters; 20,208 purchased annually)	20,208	$ 0.07	$ 1,414.56
	Mobile Read Annual License & User Login	1,200		$ 1,200.00
	Annual ORION Cellular Service Unit Fee (increments of 24,000 purchased annually) *	20,844	$ 0.49	$ 10,213.56
Future	**Phase 2 Updating Meters with 60W & 100W (Encoder and ORION Cellular Transmitter)**			
	Phase 2A - 60W Meters			
	60W Meters			
	M25B meters with HR-LCD, ORION Cellular	933	$ 265.00	$ 247,245.00
	M35B, 3/4" meters with HR-LCD, ORION Cellular	1	$ 310.00	$ 310.00
	M55B meters with HR-LCD, ORION Cellular	13	$ 370.00	$ 4,810.00
	M120 meters with HR-LCD, ORION Cellular (1-1/2" meters)	8	$ 745.00	$ 5,960.00
	M170 meters with HR0LCD, ORION Cellular (2" meters)	3	$ 1,010.00	$ 3,030.00
	E-3 meters with ORION Cellular (3" meters)	8	$ 2,782.00	$ 22,256.00
	E-4 meters with ORION Cellular (4" meters)	2	$ 3,380.00	$ 6,760.00
	Installation: 3/4"-1" Meters w/60W	968	$ 130.00	$ 125,840.00
	Total Phase 2A Field Hardware	968		**$ 416,211.00**
	Total Phase 2A Field Hardware with Installation	968		**$ 542,051.00**
	BEACON Service Units (Completed Phase 2A)			
	Mobile Service Units (Itron 100W meters, purchased annually)	8,592	$ 0.08	$ 687.36
	Mobile Read Annual License & User Login	1,200		$ 1,200.00
	Annual ORION Cellular Service Unit Fee (24,000 purchased annually) *	32,844	$ 0.49	$ 16,093.56
	Phase 2B - 100W Meters			
	100W Meters			
	M25B meters with HR-LCD, ORION Cellular	698	$ 265.00	$ 184,970.00
	M25B meters with HR-LCD, ORION Cellular	2	$ 265.00	$ 530.00
	M55B meters with HR-LCD, ORION Cellular	5	$ 370.00	$ 1,850.00
	M120 meters with HR-LCD, ORION Cellular (1-1/2" meters)	3	$ 745.00	$ 2,235.00
	(blank) M120 meter with HR-LCD, ORION Cellular (1-1/2" meters)	1	$ 745.00	$ 745.00
	M170 meters with HR0LCD, ORION Cellular (2" meters)	5	$ 1,010.00	$ 5,050.00
	E-3 meters with ORION Cellular (3" meters)	2	$ 2,782.00	$ 5,564.00
	Installation: 3/4"-1" Meters w/100W	716	$ 130.00	$ 93,080.00
	Total Phase 2B Field Hardware	716		**$ 294,024.00**
	Total Phase 2B Field Hardware with Installation	716		**$ 387,104.00**
	Completed Project Costs: Software Implementation and all Field Hardware			$ 1,209,272.00
	Completed Project Costs: Field Installation			$ 444,730.00
	Total Project, Installed			**$ 1,654,002.00**
	Ongoing Annual Expenses			
	BEACON Service Units (completed Phase 2 - Project Completion)			
	Total Services	3,421		
	Annual ORION Cellular HES Service Unit Fee (41,040 purchased annually) *	41,052	$ 0.49	**$ 20,115.48**
	Annual ORION Cellular Full-Featured Service Unit Fee (41,040 purchased annually)	41,052	$ 0.79	**$ 32,431.08**

* Option Upon BMI Approval: Limited features/hourly meter reads. EyeOnWater, system pressure, system/meter temperature not available

Monthly Cycle Reading	4	*hours per month*
Final Reads	10	*hours per month (.5 per day)*
	14	Total hours per month
Average PW staff cost	$ 6,476.40	*per year*

Aimee Irwin

From: Galvin, Andy - PSC <Andy.Galvin@wisconsin.gov>
Sent: Monday, June 7, 2021 9:24 AM
To: Aimee Irwin
Subject: RE: Village of McFarland--meter reading question

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Aimee,

Thanks for your email regarding your meter reading question. It's always good to have utilities reach out to us in advance to talk through projects, so I appreciate you being so proactive.

Right now, the Commission requires authorization for non-routine meter projects. Those are considered to be meter projects that either

1. Upgrade in meter technology – this would include moving from manual read to Automated Meter Reading (AMR) or Advanced Metering Infrastructure (AMI), or AMR upgraded to AMI)
2. Accelerated replacement of meters that, on average, are less than 18 years old.

From your email, it sounds like you're planning to move from AMR to AMI. If that is the case, you would need to apply for authorization for the entire project, even if it is spread out over many years. Ideally, you'd present the entire project, get approval, and then move forward.

Application materials are located on our website (https://psc.wi.gov/Pages/ForUtilities/Water/Construction.aspx). You would need to complete the General Application Checklist and the Supplemental checklist for Non-routine Meter Replacement.

Please note: there is current legislation that may remove these types of projects from Commission authorization. It's my understanding that it may be acted on rather soon. More information on that can be found at Assembly Bill 302. Depending on your schedule, it's possible you may no longer need authorization in the months ahead.

Please let me know if you have any follow up questions.

Thanks.

Andy

Andy Galvin
Bureau Director
Division of Water Utility Regulation and Analysis
WI Public Service Commission
(608) 267-0510 *office*
(608) 279-6195 *cell*
andy.galvin@wisconsin.gov

VILLAGE OF
McFarland

SUMMARY SHEET

MEETING DATE: **Tuesday, June 15, 2021**

SECTION: **Business**

DEPARTMENT: **Public Works**

CONTACT: **Jim Hessling, Public Works Director**

AGENDA ITEM: **Update on sewer cleaning and televising.**

PREVIOUS ACTION:
The contract to clean and televise the sanitary sewer system was approved by the Utility Committee and the Village Board on 7/21/20 and 7/27/20 respectively.

ISSUE SUMMARY:
The second year of a three year contract to clean and televise the sanitary sewers has recently been completed. In the process, several unexpected leaks were discovered and this clear water added a substantial burden to our sanitary sewer system. Those leaks were authorized to be repaired and the repairs took place. The expenditures of our pumping costs and the associated MMSD costs will be recuperated as defined in the attachment.

FINANCIAL/BUDGET IMPACT:

VILLAGE PLAN REFERENCE:
None.

ORDINANCE REFERENCE:
None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:
None.

ATTACHMENTS:
1. Sewer Repair Cost Payback 2021

Sewer Repair Cost Payback versus MMSD Rates

Volume Leak Example		
Gallon Leak	5	*per minute*
Minutes per day	1440	
Leak per day	7200	
Cost per day	$ 6.62	
Cost per year	$ 2,415.92	
Cost for repair	$ 2,000.00	
Breakeven	302.16	*days*

MMSD Volume Charges		
	Per million gallons	Per Gallon
2018	$ 648.61	$ 0.000649
2019	$ 655.36	$ 0.000655
2020	$ 781.45	$ 0.000781
2021	$ 919.30	$ 0.000919

Based on $500 repair cost with 2021 volume rate		
Gallon Leak (minute)	Gallons per Day	Breakeven (days)
5	7200	75.54
10	14400	37.77
15	21600	25.18
25	36000	15.11
30	43200	12.59
50	72000	7.55
75	108000	5.04
100	144000	3.78

Based on $1000 repair cost with 2021 volume rate		
Gallon Leak (minute)	Gallons per Day	Breakeven (days)
5	7200	151.08
10	14400	75.54
15	21600	50.36
25	36000	30.22
30	43200	25.18
50	72000	15.11
75	108000	10.07
100	144000	7.55

Based on $1500 repair cost wth 2021 volume rate		
Gallon Leak (minute)	Gallons per Day	Breakeven (days)
5	7200	226.62
10	14400	113.31
15	21600	75.54
25	36000	45.32
30	43200	37.77
50	72000	22.66
75	108000	15.11
100	144000	11.33

Based on $2000 repair cost with 2021 volume rate		
Gallon Leak (minute)	Gallons per Day	Breakeven (days)
5	7200	302.16
10	14400	151.08
15	21600	100.72
25	36000	60.43
30	43200	50.36
50	72000	30.22
75	108000	20.14
100	144000	15.11

VILLAGE OF
McFarland

SUMMARY SHEET

MEETING DATE: **Tuesday, June 15, 2021**

SECTION: **Business**

DEPARTMENT: **Public Works**

CONTACT: **Jim Hessling, Public Works Director**

AGENDA ITEM: **Discussion and action to make a recommendation regarding the Village of McFarland Risk and Resilience Assessment and Community Water System Emergency Response Plan for EPA.**

PREVIOUS ACTION:
None.

ISSUE SUMMARY:
On October 23, 2018, America's Water Infrastructure Act (AWIA) was signed into law. AWIA Section 2013 requires community (drinking) water systems serving more than 3,300 people to develop or update risk assessments and emergency response plans (ERPs). The law specifies the components that the risk assessments and ERPs must address, and establishes deadlines by which water systems must certify to EPA completion of the risk assessment and ERP. The deadline for certifying a water systems Risk and Resilience Assessment to the EPA is June 30, 2021 with the Emergency Response Plan deadline six months later (December 31, 2021). Submission of the certification is monitored by the WI DNR.

Included in this packet are two separate Risk Assessment Summary Reports and an Emergency Response Plan. All documents are generated through the EPA and are a general guideline.

FINANCIAL/BUDGET IMPACT:
None

VILLAGE PLAN REFERENCE:
None.

ORDINANCE REFERENCE:
None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:
Staff recommends approval of the documents as submitted.

ATTACHMENTS:
1. AWIA Section 2013 RA and ERP Fact Sheet
2. Risk and Resilience Assessments for EPA FINAL 6 2 2021
3. AWIA ERP Template 5.27.2021

4. Risk Assessment Summary Report

RISK AND RESILIENCE ASSESSMENTS AND EMERGENCY RESPONSE PLANS:

NEW REQUIREMENTS FOR DRINKING WATER UTILITIES

Section 2013 of America's Water Infrastructure Act of 2018 (AWIA) requires community water systems[1] that serve more than 3,300 people to complete a risk and resilience assessment and develop an emergency response plan.

RISK AND RESILIENCE ASSESSMENT

Your utility must conduct a risk and resilience assessment and submit certification of its completion to the U.S. EPA by the following dates:

EMERGENCY RESPONSE PLAN

Your utility must develop or update an emergency response plan and certify completion to the U.S. EPA **no later than six months** after risk and resilience assessment certification. Each utility deadline is unique; however, the dates below are the due dates for utilities who submit a risk and resilience assessment certification by the final due date according to the population served.

Important Dates

- March 31, 2020 if serving ≥100,000 people.
- December 31, 2020 if serving 50,000 to 99,999 people.
- June 30, 2021 if serving 3,301 to 49,999 people.

- September 30, 2020 if serving ≥100,000 people.
- June 30, 2021 if serving 50,000 to 99,999 people.
- December 30, 2021 if serving 3,301 to 49,999 people.

Recertification

Every five years, your utility must review the risk and resilience assessment and submit a recertification to the U.S. EPA that the assessment has been reviewed and, if necessary, revised.

Within six months of submitting the recertification for the risk and resilience assessment, your utility must certify it has reviewed and, if necessary, revised, its emergency response plan.

Visit the U.S. EPA website to find more information on guidance for developing a risk and resilience assessment at https://www.epa.gov/waterriskassessment/conduct-drinking-water-or-wastewater-utility-risk-assessment.

Visit the U.S. EPA website for guidance on developing an Emergency Response Plan at https://www.epa.gov/waterutilityresponse/develop-or-update-drinking-water-or-wastewater-utility-emergency-response-plan.

TOOLS OR METHODS

AWIA does not require the use of any standards, methods or tools for the risk and resilience assessment or emergency response plan. Your utility is responsible for ensuring that the risk and resilience assessment and emergency response plan address all the criteria in AWIA Section 2013(a) and (b), respectively. The U.S. EPA recommends the use of standards, including AWWA J100-10 Risk and Resilience Management of Water and Wastewater Systems, along with tools from the U.S. EPA and other organizations, to facilitate sound risk and resilience assessments and emergency response plans.

[1] Section 2013 of AWIA applies to community water systems. Community water systems are drinking water utilities that consistently serve at least 25 people or 15 service connections year-round.

Still have questions about the new AWIA requirements?
Contact the U.S. Environmental Protection Agency (U.S. EPA) at dwresilience@epa.gov.

Office of Water (4608T)
EPA-817-F-19-004
May 2019

FREQUENTLY ASKED QUESTIONS

I need more information about risk and resilience assessments and emergency response plans:

Risk and resilience assessments evaluate the vulnerabilities, threats and consequences from potential hazards.

What does a risk and resilience assessment include?

- Natural hazards and malevolent acts (i.e., all hazards).
- Resilience of water facility infrastructure (including pipes, physical barriers, water sources and collection, treatment, storage and distribution, and electronic, computer and other automated systems).
- Monitoring practices.
- Financial systems (e.g., billing systems).
- Chemical storage and handling.
- Operation and maintenance.

What does an emergency response plan include?

- Strategies and resources to improve resilience, including physical security and cybersecurity.
- Plans and procedures for responding to a natural hazard or malevolent act that threatens safe drinking water.
- Actions and equipment to lessen the impact of a malevolent act or natural hazard, including alternative water sources, relocating intakes and flood protection barriers.
- Strategies to detect malevolent acts or natural hazards that threaten the system.

Who should I work with when creating my emergency response plan?

- Utilities must coordinate the risk and resilience assessments, as well as the emergency response plans with local emergency planning committees.

For more information, see www.congress.gov/bill/115th-congress/senate-bill.

I need more information on the certification process:

What do I need to submit to the U.S. EPA?

- Each utility must submit a certification of your risk and resilience assessment and emergency response plan. Each submission must include: utility name, date and a statement that the utility has completed, reviewed or revised the assessment. The U.S. EPA has developed an optional certification template that can be used for email or mail certification. The optional certification form will be available in August 2019.

Who can certify my risk and resilience assessment and emergency response plan?

- Risk and resilience assessments and emergency response plans can be self-certified by the utility.

How do I submit my certification?

- Three options will be provided for submittal: regular mail, email and a user-friendly secure online portal. The online submission portal will provide drinking water systems with a receipt of submittal. The U.S. EPA recommends using this method. The certification system will be available in August 2019.

When can I submit the initial certification?

- Utilities should wait to submit the initial certification to the U.S. EPA until the U.S. EPA publishes *Baseline Information on Malevolent Acts Relevant to Community Water Systems,* which is required under AWIA by August 2019.

Do I need to submit my certification to my state or local government?

- No. Section 2013 of AWIA does not require utilities to submit the certification to state or local governments.

How long do I need to keep a copy of my risk and resilience assessment and emergency response plan?

- Utilities need to keep a copy of both documents for five years after certification.

What if I do not have a copy of my most recent risk and resilience assessment?

- The U.S. EPA intends to destroy vulnerability assessments (VAs) submitted in response to the Bioterrorism Act of 2002, but if utilities would like to have their VA and certification documents mailed to them, contact WSD-Outreach@epa.gov, and on utility letterhead, include the utility name, PWSID, address and point of contact as an attachment to the email.

RESOURCES & TOOLS

Conducting a Risk and Resilience Assessment

- The U.S. EPA's Risk and Resilience Baseline Threat Document (available August 2019).
- The U.S. EPA's Vulnerability Self-Assessment.

Developing an Emergency Response Plan

- Emergency Response Plan Guidance.
- The U.S. EPA's Emergency Response Webpage.
- Local Emergency Planning Committees.

The U.S. EPA Website

- https://www.epa.gov/waterresilience/americas-water-infrastructure-act-2018-risk-assessments-and-emergency-response-plans.

Still have questions about the new AWIA requirements?
Contact the U.S. Environmental Protection Agency (U.S. EPA) at dwresilience@epa.gov.

Office of Water (4608T)
EPA-817-F-19-004
May 2019

Guidance for Small Community Water Systems on Risk and Resilience Assessments under America's Water Infrastructure Act

Who Should Use this Guidance?

- This guidance is intended for small community water systems (CWSs) serving greater than 3,300 but less than 50,000 people to comply with the requirements for **risk and resilience assessments** under *America's Water Infrastructure Act of 2018 (AWIA)*.
- For larger CWSs, EPA recommends the Vulnerability Self-Assessment Tool (VSAT) Web 2.0 or an alternate risk assessment method.
- CWSs serving 3,300 or fewer people are not required to conduct risk and resilience assessments under AWIA. EPA recommends, however, that very small CWSs use this or other guidance to learn how to conduct risk and resilience assessments and address threats from malevolent acts and natural hazards that threaten safe drinking water.

What is the Purpose of this Guidance?

- This guidance will help small CWSs meet the requirements for risk and resilience assessments in AWIA.
- This guidance does not address emergency response plans (ERPs), which are also required under AWIA for CWSs serving more than 3,300 people.
  - EPA has developed an Emergency Response Plan Template and Instructions for CWSs to comply with AWIA.
- Further, this guidance does not cover all aspects of water system security and resilience, such as asset management, climate change, and emergency preparedness and response. Visit EPA's Drinking Water and Wastewater Resilience page to find more information.

What are the Risk and Resilience Assessments Requirements in AWIA?

AWIA requires CWSs serving more than 3,300 people to assess the risks to and resilience of the system to malevolent acts and natural hazards. The law specifies water system assets (e.g., infrastructure) that the assessment must address. These assets are listed in Tables 1a – 10b in the *Risk and Resilience Assessment Checklist* (see fillable checklist below on page 4).

Water systems **must certify to EPA** that the system conducted the assessment not later than the following dates:

- March 31, 2020 for systems serving 100,000 or more
- December 31, 2020 for systems serving 50,000 or more but less than 100,000

- June 30, 2021 for systems serving more than 3,300 but less than 50,000

NOTE: Water systems do not submit the actual assessment to EPA. Visit EPA's informational page on How to Certify Your Risk and Resilience Assessment or ERP for instructions. Every five years, CWSs must review the risk and resilience assessment, revise it as needed, and provide` a new certification to EPA.

What are Risk and Resilience in a Water System?

- **Risk** to critical infrastructure, including water systems, is a function of **threat likelihood**, **vulnerability**, and **consequence**.
  - **Threat** can be a malevolent act, like a cyberattack or process sabotage, or a natural hazard, such as a flood or hurricane.
    - **Threat likelihood** is the probability that a malevolent act will be carried out against the water system or that a natural hazard will occur.
  - **Vulnerability** is a weakness that can be exploited by an adversary or impacted by a natural hazard. It is the probability that if a malevolent act or a natural hazard occurred, then the water system would suffer significant adverse impacts.
  - **Consequences** are the magnitude of loss that would ensue if a threat had an adverse impact against a water system. Consequences may include:
    - Economic loss to the water system from damage to utility assets;
    - Economic loss to the utility service area from a service disruption, and
    - Severe illness or deaths that could result from water system contamination, a hazardous gas release, or other hazard involving the water system.
- **Resilience** is the capability of a water system to maintain operations or recover when a malevolent act or a natural hazard occurs.
- **Countermeasures** are steps that a water system implements to reduce risk and increase resilience. They may include plans, equipment, procedures, and other measures.

How does a Community Water System Assess Risk and Resilience Under AWIA?

Tables 1a – 10b in the *Risk and Resilience Assessment Checklist* (see fillable checklist below on page 4) list the categories of water system assets that you must assess under AWIA. In all tables (i.e., for all asset categories), do the following:

1. Select only the **malevolent acts** from those listed in the table that pose a significant risk to the asset category at the CWS. You may write-in malevolent acts not listed in the table.
   a. Focus the selection of malevolent acts on those that are prevalent in the United States (e.g., cyber-attacks), can exploit vulnerabilities at the CWS (e.g., known security gaps), and have the potential for significant economic or public health consequences (e.g., contamination).

   NOTE: EPA's *Baseline Information on Malevolent Acts Relevant to Community Water Systems* assists water systems with estimating the likelihood of these malevolent acts and provides resources for additional information.

2. For each malevolent act that you identify as a significant risk, briefly describe how the malevolent act could impact the asset category at the CWS. Include major assets that might be damaged or disabled, water service restrictions or loss, and public health impacts as applicable.

3. Select only the **natural hazards** from those listed in the table that may pose a significant risk to the asset category at the CWS. You may write-in natural hazards not listed in the table.
   a. Focus the selection of natural hazards on those that are prevalent in the area where the water system is located, may affect vulnerable water system infrastructure, and have the potential for significant economic or public health consequences related to the CWS.

4. For each natural hazard that you identify as a significant risk, briefly describe or provide examples of how the hazard could impact the asset category at the CWS. Include major assets that might be damaged or disabled, water service restrictions or loss, and public health impacts as applicable.

5. **OPTIONAL Table 11 (*Risk and Resilience Assessment Checklist*, see below):** Identify **countermeasures** that the CWS could potentially implement to reduce risk from the malevolent acts and natural hazards that you selected in in this assessment.
   a. For malevolent acts, countermeasures are intended to deter, delay, detect, and respond to an attack.
   b. For natural hazards, countermeasures are intended to prepare, respond, and recover from an event.

   NOTE: A single countermeasure, such as emergency response planning or power resilience, may reduce risk across multiple malevolent acts, natural hazards and asset categories.

Complete the *Risk and Resilience Assessment Checklist* here

EPA offers the *Risk and Resilience Assessment Checklist* in two formats. A fillable PDF format is provided on the pages that follow. This format has fixed fields and may not be changed by the user. Alternatively, a Word version may be accessed by clicking on the icon below. The Word version may be changed by the user. **The content of the PDF and Word versions is the same.** To access the Word version, the file must be downloaded to your computer.

Risk and Resilience Assessment Checklist

Community Water System
Risk and Resilience Assessment

McFarland Waterworks
Risk and Resilience Assessment

Please fill in the information below.

Facility Name (if applicable):	McFarland Waterworks
PWSID:	11302412
Analyst Name(s):	Jim Hessling
Date of Analysis:	06/02/2021
Analysis Notes:	

Table 1a: Physical Barriers (Malevolent Acts)[1]

Asset Category: *Physical Barriers* **Examples of Assets in this Category:** Encompasses physical security in place at the CWS. Possible examples include fencing, bollards, and perimeter walls; gates and facility entrances; intrusion detection sensors and alarms; access control systems (e.g., locks, card reader systems); and hardened doors, security grilles, and equipment cages.	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *Physical Barriers* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☑ Assault on Utility – Physical	Unwarranted entry of personnel could possibly have detrimental effects on operations at wells and towers.
☐ Contamination of Finished Water – Intentional	
☐ Contamination of Finished Water – Accidental[2]	
☐ Theft or Diversion – Physical	
☐ Cyberattack on Business Enterprise Systems	

[1] In a risk assessment, physical barriers are usually treated as countermeasures, which reduce the risk of a threat to an asset, rather than being treated as assets. However, under AWIA, a CWS must assess the risks to and resilience of physical barriers.

[2] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Asset Category: *Physical Barriers* **Examples of Assets in this Category:** Encompasses physical security in place at the CWS. Possible examples include fencing, bollards, and perimeter walls; gates and facility entrances; intrusion detection sensors and alarms; access control systems (e.g., locks, card reader systems); and hardened doors, security grilles, and equipment cages.	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *Physical Barriers* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☑ Cyberattack on Process Control Systems	Unwarranted entry of our system via hackers could possibly have detrimental effects on waterworks operations..
☐ Sabotage – Physical	
☐ Contamination of Source Water – Intentional	
☐ Contamination of Source Water – Accidental[3]	
☐ Other(s), enter below:	

[3] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Table 1b: Physical Barriers (Natural Hazards)[4]

Asset Category: *Physical Barriers* **Examples of Assets in this Category:** Encompasses physical security in place at the CWS. Possible examples include fencing, bollards, and perimeter walls; gates and facility entrances; intrusion detection sensors and alarms; access control systems (e.g., locks, card reader systems); and hardened doors, security grilles, and equipment cages.	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *Physical Barriers* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Hurricane	
☐ Flood	
☐ Earthquake	
☑ Tornado	A tornado event could possible cause disruptions in the pumping and storage of water within our system.
☑ Ice storm	An ice storm event could possibly cause disruptions in the pumping and storage of water within our system.
☐ Fire	

[4] In a risk assessment, physical barriers are usually treated as countermeasures, which reduce the risk of a threat to an asset, rather than analyzed as assets themselves. However, under AWIA, a CWS must assess the risks to and resilience of physical barriers.

Asset Category: *Physical Barriers* **Examples of Assets in this Category:** Encompasses physical security in place at the CWS. Possible examples include fencing, bollards, and perimeter walls; gates and facility entrances; intrusion detection sensors and alarms; access control systems (e.g., locks, card reader systems); and hardened doors, security grilles, and equipment cages.	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *Physical Barriers* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Other(s), enter below:	

Table 2a: Source Water (Malevolent Acts)

Asset Category: *Source Water* **Examples of Assets in this Category:** Encompasses all sources that supply water to a water system. Possible examples include rivers, streams, lakes, source water reservoirs, groundwater, and purchased water.	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *Source Water* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Assault on Utility – Physical	
☐ Contamination of Finished Water – Intentional	
☐ Contamination of Finished Water – Accidental[5]	
☐ Theft or Diversion – Physical	
☐ Cyberattack on Business Enterprise Systems	

[5] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Asset Category: *Source Water* **Examples of Assets in this Category:** Encompasses all sources that supply water to a water system. Possible examples include rivers, streams, lakes, source water reservoirs, groundwater, and purchased water.	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *Source Water* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Cyberattack on Process Control Systems	
☐ Sabotage – Physical	
☐ Contamination of Source Water – Intentional	
☑ Contamination of Source Water – Accidental[6]	This could be the result of a material spill in the area that may affect the groundwater.
☐ Other(s), enter below:	

[6] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Table 2b: Source Water (Natural Hazards)

Asset Category: *Source Water* **Examples of Assets in this Category:** Encompasses all sources that supply water to a water system. Possible examples include rivers, streams, lakes, source water reservoirs, groundwater, and purchased water.	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *Source Water* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Hurricane	
☑ Flood	Extensive flooding in areas may result in contaminated groundwater.
☐ Earthquake	
☐ Tornado	
☐ Ice storm	
☐ Fire	

Asset Category: *Source Water* **Examples of Assets in this Category:** Encompasses all sources that supply water to a water system. Possible examples include rivers, streams, lakes, source water reservoirs, groundwater, and purchased water.	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *Source Water* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Other(s), enter below:	

Table 3a: Pipes and Constructed Conveyances, Water Collection, and Intake (Malevolent Acts)

Asset Category: *Pipes and Constructed Conveyances, Water Collection, and Intake* **Examples of Assets in this Category:** Encompasses the infrastructure that collects and transports water from a source water to treatment or distribution facilities. Possible examples include holding facilities, intake structures and associated pumps and pipes, aqueducts, and other conveyances.	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *Pipes and Constructed Conveyances, Water Collection, and Intake* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Assault on Utility – Physical	
☐ Contamination of Finished Water – Intentional	
☐ Contamination of Finished Water – Accidental[7]	
☐ Theft or Diversion – Physical	
☐ Cyberattack on Business Enterprise Systems	

[7] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Asset Category: *Pipes and Constructed Conveyances, Water Collection, and Intake* **Examples of Assets in this Category:** Encompasses the infrastructure that collects and transports water from a source water to treatment or distribution facilities. Possible examples include holding facilities, intake structures and associated pumps and pipes, aqueducts, and other conveyances.	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *Pipes and Constructed Conveyances, Water Collection, and Intake* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☑ Cyberattack on Process Control Systems	A breach in our monitoring system may have an effect on waterworks operations.
☐ Sabotage – Physical	
☐ Contamination of Source Water – Intentional	
☐ Contamination of Source Water – Accidental[8]	
☐ Other(s), enter below:	

[8] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Table 3b: Pipes and Constructed Conveyances, Water Collection, and Intake (Natural Hazards)

Asset Category: *Pipes and Constructed Conveyances, Water Collection, and Intake* **Examples of Assets in this Category:** Encompasses the infrastructure that collects and transports water from a source water to treatment or distribution facilities. Possible examples include holding facilities, intake structures and associated pumps and pipes, aqueducts, and other conveyances.	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *Pipes and Constructed Conveyances, Water Collection, and Intake* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Hurricane	
☐ Flood	
☐ Earthquake	
☐ Tornado	
☑ Ice storm	An ice storm event could possibly cause disruptions in the pumping and storage of water within our system.
☐ Fire	

Asset Category: *Pipes and Constructed Conveyances, Water Collection, and Intake* **Examples of Assets in this Category:** Encompasses the infrastructure that collects and transports water from a source water to treatment or distribution facilities. Possible examples include holding facilities, intake structures and associated pumps and pipes, aqueducts, and other conveyances.	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *Pipes and Constructed Conveyances, Water Collection, and Intake* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Other(s), enter below:	

Table 4a: Pretreatment and Treatment (Malevolent Acts)

Asset Category: *Pretreatment and Treatment* **Examples of Assets in this Category:** Encompasses all unit processes that a water system uses to ensure water meets regulatory public health and aesthetic standards prior to distribution to customers. Possible examples include sedimentation, filtration, disinfection, and chemical treatment. For the risk assessment, individual treatment processes at a facility may be grouped together and analyzed as a single asset if they have a similar risk profile.	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *Pretreatment and Treatment* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☑ Assault on Utility – Physical	Unwarranted entry of personnel could possibly have detrimental effects on operations at wells and towers.
☐ Contamination of Finished Water – Intentional	
☐ Contamination of Finished Water – Accidental[9]	
☐ Theft or Diversion – Physical	
☐ Cyberattack on Business Enterprise Systems	

[9] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Asset Category: *Pretreatment and Treatment* **Examples of Assets in this Category:** Encompasses all unit processes that a water system uses to ensure water meets regulatory public health and aesthetic standards prior to distribution to customers. Possible examples include sedimentation, filtration, disinfection, and chemical treatment. For the risk assessment, individual treatment processes at a facility may be grouped together and analyzed as a single asset if they have a similar risk profile.	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *Pretreatment and Treatment* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Cyberattack on Process Control Systems	
☐ Sabotage – Physical	
☐ Contamination of Source Water – Intentional	
☐ Contamination of Source Water – Accidental[10]	
☐ Other(s), enter below:	

[10] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Table 4b: Pretreatment and Treatment (Natural Hazards)

Asset Category: *Pretreatment and Treatment*

Examples of Assets in this Category: Encompasses all unit processes that a water system uses to ensure water meets regulatory public health and aesthetic standards prior to distribution to customers. Possible examples include sedimentation, filtration, disinfection, and chemical treatment. For the risk assessment, individual treatment processes at a facility may be grouped together and analyzed as a single asset if they have a similar risk profile.

Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *Pretreatment and Treatment* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Hurricane	
☐ Flood	
☐ Earthquake	
☐ Tornado	
☐ Ice storm	
☐ Fire	

Asset Category: *Pretreatment and Treatment* **Examples of Assets in this Category:** Encompasses all unit processes that a water system uses to ensure water meets regulatory public health and aesthetic standards prior to distribution to customers. Possible examples include sedimentation, filtration, disinfection, and chemical treatment. For the risk assessment, individual treatment processes at a facility may be grouped together and analyzed as a single asset if they have a similar risk profile.	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *Pretreatment and Treatment* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Other(s), enter below:	

Table 5a: Storage and Distribution Facilities (Malevolent Acts)

Asset Category: *Storage and Distribution Facilities* **Examples of Assets in this Category:** Encompasses all infrastructure used to store water after treatment, maintain water quality, and distribute water to customers. Possible examples include residual disinfection, pumps, tanks, reservoirs, valves, pipes, and meters.	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *Storage and Distribution Facilities* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☑ Assault on Utility – Physical	Unwarranted entry of personnel could possibly have detrimental effects on operations at wells and towers.
☐ Contamination of Finished Water – Intentional	
☐ Contamination of Finished Water – Accidental[11]	
☐ Theft or Diversion – Physical	
☐ Cyberattack on Business Enterprise Systems	

[11] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Asset Category: *Storage and Distribution Facilities* **Examples of Assets in this Category:** Encompasses all infrastructure used to store water after treatment, maintain water quality, and distribute water to customers. Possible examples include residual disinfection, pumps, tanks, reservoirs, valves, pipes, and meters.	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *Storage and Distribution Facilities* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Cyberattack on Process Control Systems	
☐ Sabotage – Physical	
☐ Contamination of Source Water – Intentional	
☐ Contamination of Source Water – Accidental[12]	
☐ Other(s), enter below:	

[12] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Table 5b: Storage and Distribution Facilities (Natural Hazards)

Asset Category: *Storage and Distribution Facilities* **Examples of Assets in this Category:** Encompasses all infrastructure used to store water after treatment, maintain water quality, and distribute water to customers. Possible examples include residual disinfection, pumps, tanks, reservoirs, valves, pipes, and meters.	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *Storage and Distribution Facilities* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Hurricane	
☐ Flood	
☐ Earthquake	
☑ Tornado	A tornado event could possible cause disruptions in the pumping and storage of water within our system.
☑ Ice storm	An ice storm event could possibly cause disruptions in the pumping and storage of water within our system.
☐ Fire	

Asset Category: *Storage and Distribution Facilities* **Examples of Assets in this Category:** Encompasses all infrastructure used to store water after treatment, maintain water quality, and distribute water to customers. Possible examples include residual disinfection, pumps, tanks, reservoirs, valves, pipes, and meters.	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *Storage and Distribution Facilities* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Other(s), enter below:	

Table 6a: Electronic, Computer, or Other Automated Systems (including the security of such systems) (Malevolent Acts)

Asset Category: *Electronic, Computer, or Other Automated Systems (including the security of such systems)*

Examples of Assets in this Category: Encompasses all treatment and distribution process control systems, business enterprise information technology (IT) and communications systems (other than financial), and the processes used to secure such systems. Possible examples include the sensors, controls, monitors and other interfaces, plus related IT hardware and software and communications, used to control water collection, treatment, and distribution. Also includes IT hardware, software, and communications used in business enterprise operations. The assessment must account for the security of these systems (e.g., cybersecurity, information security).

Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *Electronic, Computer, or Other Automated Systems (including the security of such systems)* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☑ Assault on Utility – Physical	Unwarranted entry of our system via hackers could possibly have detrimental effects on waterworks operations.
☐ Contamination of Finished Water – Intentional	
☐ Contamination of Finished Water – Accidental[13]	
☐ Theft or Diversion – Physical	
☑ Cyberattack on Business Enterprise Systems	Unwarranted entry of our system via hackers could possibly have detrimental effects on waterworks operations.

[13] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Asset Category: *Electronic, Computer, or Other Automated Systems (including the security of such systems)* **Examples of Assets in this Category:** Encompasses all treatment and distribution process control systems, business enterprise information technology (IT) and communications systems (other than financial), and the processes used to secure such systems. Possible examples include the sensors, controls, monitors and other interfaces, plus related IT hardware and software and communications, used to control water collection, treatment, and distribution. Also includes IT hardware, software, and communications used in business enterprise operations. The assessment must account for the security of these systems (e.g., cybersecurity, information security).	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *Electronic, Computer, or Other Automated Systems (including the security of such systems)* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☑ Cyberattack on Process Control Systems	Unwarranted entry of our system via hackers could possibly have detrimental effects on waterworks operations.
☐ Sabotage – Physical	
☐ Contamination of Source Water – Intentional	
☐ Contamination of Source Water – Accidental[14]	
☐ Other(s), enter below:	

[14] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Table 6b: Electronic, Computer, or Other Automated Systems (including the security of such systems) (Natural Hazards)

Asset Category: *Electronic, Computer, or Other Automated Systems (including the security of such systems)* **Examples of Assets in this Category:** Encompasses all treatment and distribution process control systems, business enterprise information technology (IT) and communications systems (other than financial), and the processes used to secure such systems. Possible examples include the sensors, controls, monitors and other interfaces, plus related IT hardware and software and communications, used to control water collection, treatment, and distribution. Also includes IT hardware, software, and communications used in business enterprise operations. The assessment must account for the security of these systems (e.g., cybersecurity, information security).	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *Electronic, Computer, or Other Automated Systems (including the security of such systems)* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Hurricane	
☐ Flood	
☐ Earthquake	
☐ Tornado	
☐ Ice storm	

Asset Category: *Electronic, Computer, or Other Automated Systems (including the security of such systems)* **Examples of Assets in this Category:** Encompasses all treatment and distribution process control systems, business enterprise information technology (IT) and communications systems (other than financial), and the processes used to secure such systems. Possible examples include the sensors, controls, monitors and other interfaces, plus related IT hardware and software and communications, used to control water collection, treatment, and distribution. Also includes IT hardware, software, and communications used in business enterprise operations. The assessment must account for the security of these systems (e.g., cybersecurity, information security).	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *Electronic, Computer, or Other Automated Systems (including the security of such systems)* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Fire	
☐ Other(s), enter below:	

Table 7a: Monitoring Practices (Malevolent Acts)[15]

Asset Category: *Monitoring Practices* **Examples of Assets in this Category:** Encompasses the processes and practices used to monitor source water and finished water quality, along with any monitoring systems not captured in other asset categories. Possible examples include sensors, laboratory resources, sampling capabilities, and data management equipment and systems. Examples are contamination warning systems for the source water or distribution system.	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *Monitoring Practices* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☑ Assault on Utility – Physical	Unwarranted entry of personnel could possibly have detrimental effects on water testing operations.
☐ Contamination of Finished Water – Intentional	
☐ Contamination of Finished Water – Accidental[16]	
☐ Theft or Diversion – Physical	
☐ Cyberattack on Business Enterprise Systems	

[15] Monitoring associated with physical security should be addressed under *Physical Barriers*; monitoring associated with process controls and cybersecurity should be addressed under *Electronic, Computer or Other Automated Systems*; monitoring associated with financial systems should be addressed under *Financial Infrastructure*.

[16] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Asset Category: *Monitoring Practices* **Examples of Assets in this Category:** Encompasses the processes and practices used to monitor source water and finished water quality, along with any monitoring systems not captured in other asset categories. Possible examples include sensors, laboratory resources, sampling capabilities, and data management equipment and systems. Examples are contamination warning systems for the source water or distribution system.	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *Monitoring Practices* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Cyberattack on Process Control Systems	
☐ Sabotage – Physical	
☐ Contamination of Source Water – Intentional	
☐ Contamination of Source Water – Accidental[17]	
☐ Other(s), enter below:	

[17] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Table 7b: Monitoring Practices (Natural Hazards)[18]

Asset Category: *Monitoring Practices* **Examples of Assets in this Category:** Encompasses the processes and practices used to monitor source water and finished water quality, along with any monitoring systems not captured in other asset categories. Possible examples include sensors, laboratory resources, sampling capabilities, and data management equipment and systems. Examples are contamination warning systems for the source water or distribution system.	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *Monitoring Practices* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Hurricane	
☐ Flood	
☐ Earthquake	
☐ Tornado	
☐ Ice storm	

[18] Monitoring associated with physical security should be addressed under *Physical Barriers*; monitoring associated with process controls and cybersecurity should be addressed under *Electronic, Computer or Other Automated Systems*; monitoring associated with financial systems should be addressed under *Financial Infrastructure*.

Asset Category: *Monitoring Practices* **Examples of Assets in this Category:** Encompasses the processes and practices used to monitor source water and finished water quality, along with any monitoring systems not captured in other asset categories. Possible examples include sensors, laboratory resources, sampling capabilities, and data management equipment and systems. Examples are contamination warning systems for the source water or distribution system.	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *Monitoring Practices* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Fire	
☐ Other(s), enter below:	

Table 8a: Financial Infrastructure (Malevolent Acts)

Asset Category: *Financial Infrastructure* **Examples of Assets in this Category:** Encompasses equipment and systems used to operate and manage utility finances. Possible examples include billing, payment, and accounting systems, along with third parties used for these services. This asset category is not intended to address the financial "health" of the water utility (e.g., credit rating, debt-to-equity ratios).	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *Financial Infrastructure* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☑ Assault on Utility – Physical	Unwarranted entry of our system via hackers could possibly have detrimental effects on waterworks operations.
☐ Contamination of Finished Water – Intentional	
☐ Contamination of Finished Water – Accidental[19]	
☐ Theft or Diversion – Physical	
☑ Cyberattack on Business Enterprise Systems	Unwarranted entry of our system via hackers could possibly have detrimental effects on waterworks operations.

[19] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Asset Category: *Financial Infrastructure* **Examples of Assets in this Category:** Encompasses equipment and systems used to operate and manage utility finances. Possible examples include billing, payment, and accounting systems, along with third parties used for these services. This asset category is not intended to address the financial "health" of the water utility (e.g., credit rating, debt-to-equity ratios).	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *Financial Infrastructure* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Cyberattack on Process Control Systems	
☐ Sabotage – Physical	
☐ Contamination of Source Water – Intentional	
☐ Contamination of Source Water – Accidental[20]	
☐ Other(s), enter below:	

[20] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Table 8b: Financial Infrastructure (Natural Hazards)

Asset Category: *Financial Infrastructure* **Examples of Assets in this Category:** Encompasses equipment and systems used to operate and manage utility finances. Possible examples include billing, payment, and accounting systems, along with third parties used for these services. This asset category is not intended to address the financial "health" of the water utility (e.g., credit rating, debt-to-equity ratios).	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *Financial Infrastructure* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Hurricane	
☐ Flood	
☐ Earthquake	
☑ Tornado	A tornado event could possibly cause disruptions in service.
☐ Ice storm	
☐ Fire	

Asset Category: *Financial Infrastructure* **Examples of Assets in this Category:** Encompasses equipment and systems used to operate and manage utility finances. Possible examples include billing, payment, and accounting systems, along with third parties used for these services. This asset category is not intended to address the financial "health" of the water utility (e.g., credit rating, debt-to-equity ratios).	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *Financial Infrastructure* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Other(s), enter below:	

Table 9a: The Use, Storage, or Handing of Chemicals (Malevolent Acts)

Asset Category: *The Use, Storage, or Handling of Chemicals* **Examples of Assets in this Category:** Encompasses the chemicals and associated storage facilities and handling practices used for chemical disinfection and treatment. Assessments under this asset category should focus on the risk of uncontrolled release of a potentially dangerous chemical like chlorine where applicable.	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *The Use, Storage, or Handling of Chemicals* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☑ Assault on Utility – Physical	Unwarranted entry of personnel could possibly have detrimental effects on operations at wells.
☐ Contamination of Finished Water – Intentional	
☐ Contamination of Finished Water – Accidental[21]	
☐ Theft or Diversion – Physical	
☐ Cyberattack on Business Enterprise Systems	

[21] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Asset Category: *The Use, Storage, or Handling of Chemicals* **Examples of Assets in this Category:** Encompasses the chemicals and associated storage facilities and handling practices used for chemical disinfection and treatment. Assessments under this asset category should focus on the risk of uncontrolled release of a potentially dangerous chemical like chlorine where applicable.	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *The Use, Storage, or Handling of Chemicals* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Cyberattack on Process Control Systems	
☐ Sabotage – Physical	
☐ Contamination of Source Water – Intentional	
☐ Contamination of Source Water – Accidental[22]	
☐ Other(s), enter below:	

[22] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Table 9b: The Use, Storage, or Handing of Chemicals (Natural Hazards)

Asset Category: *The Use, Storage, or Handling of Chemicals* **Examples of Assets in this Category:** Encompasses the chemicals and associated storage facilities and handling practices used for chemical disinfection and treatment. Assessments under this asset category should focus on the risk of uncontrolled release of a potentially dangerous chemical like chlorine where applicable.	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *The Use, Storage, or Handling of Chemicals* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Hurricane	
☐ Flood	
☐ Earthquake	
☑ Tornado	A tornado event could possibly cause disruptions in the storage of chemicals.
☐ Ice storm	
☐ Fire	

Asset Category: *The Use, Storage, or Handling of Chemicals* **Examples of Assets in this Category:** Encompasses the chemicals and associated storage facilities and handling practices used for chemical disinfection and treatment. Assessments under this asset category should focus on the risk of uncontrolled release of a potentially dangerous chemical like chlorine where applicable.	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the *The Use, Storage, or Handling of Chemicals* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Other(s), enter below:	

Table 10a: The Operation and Maintenance of the System (Malevolent Acts)

Asset Category: *The Operation and Maintenance of the System* **Examples of Assets in this Category:** Encompasses critical processes required for operation and maintenance of the water system that are not captured under other asset categories. Possible examples include equipment, supplies, and key personnel. Assessments may focus on the risk to operations associated with dependency threats like loss of utilities (e.g., power outage), loss of suppliers (e.g., interruption in chemical delivery), and loss of key employees (e.g., disease outbreak or employee displacement).	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *The Operation and Maintenance of the System* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Assault on Utility – Physical	
☐ Contamination of Finished Water – Intentional	
☐ Contamination of Finished Water – Accidental[23]	
☐ Theft or Diversion – Physical	
☐ Cyberattack on Business Enterprise Systems	

[23] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Asset Category: *The Operation and Maintenance of the System* **Examples of Assets in this Category:** Encompasses critical processes required for operation and maintenance of the water system that are not captured under other asset categories. Possible examples include equipment, supplies, and key personnel. Assessments may focus on the risk to operations associated with dependency threats like loss of utilities (e.g., power outage), loss of suppliers (e.g., interruption in chemical delivery), and loss of key employees (e.g., disease outbreak or employee displacement).	
Malevolent Acts Select the malevolent acts in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a malevolent act in the left column as a significant risk to the *The Operation and Maintenance of the System* asset category, briefly describe in the right column how the malevolent act could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Cyberattack on Process Control Systems	
☐ Sabotage – Physical	
☐ Contamination of Source Water – Intentional	
☐ Contamination of Source Water – Accidental[24]	
☐ Other(s), enter below:	

[24] Accidental contamination is not a malevolent act. It is included here due to similar potential consequences and because whether a contamination incident is intentional or accidental may not be known during initial response.

Table 10b: The Operation and Maintenance of the System (Natural Hazards)

Asset Category: *The Operation and Maintenance of the System* **Examples of Assets in this Category:** Encompasses critical processes required for operation and maintenance of the water system that are not captured under other asset categories. Possible examples include equipment, supplies, and key personnel. Assessments may focus on the risk to operations associated with dependency threats like loss of utilities (e.g., power outage), loss of suppliers (e.g., interruption in chemical delivery), and loss of key employees (e.g., disease outbreak or employee displacement).	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the T*he Operation and Maintenance of the System* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Hurricane	
☐ Flood	
☐ Earthquake	
☐ Tornado	
☐ Ice storm	
☐ Fire	

Asset Category: *The Operation and Maintenance of the System* **Examples of Assets in this Category:** Encompasses critical processes required for operation and maintenance of the water system that are not captured under other asset categories. Possible examples include equipment, supplies, and key personnel. Assessments may focus on the risk to operations associated with dependency threats like loss of utilities (e.g., power outage), loss of suppliers (e.g., interruption in chemical delivery), and loss of key employees (e.g., disease outbreak or employee displacement).	
Natural Hazards Select the natural hazards in the left column that pose a significant risk to this asset category at the CWS.	**Brief Description of Impacts** If you select a natural hazard in the left column as a significant risk to the T*he Operation and Maintenance of the System* asset category, briefly describe in the right column how the natural hazard could impact this asset category at the CWS. Include effects on major assets, water service, and public health as applicable.
☐ Other(s), enter below:	

Table 11: Countermeasures (Optional)[25]

Countermeasures (optional) List countermeasures in the left column the CWS could potentially implement to reduce risk from the malevolent acts and natural hazards that were selected.	**Brief Description of Risk Reduction or Increased Resilience** For each countermeasure, in the right column, describe how the countermeasure could reduce risk or increase resilience for CWS assets from malevolent acts or natural hazards that were selected in the analysis. A countermeasure may reduce risk across multiple malevolent acts, natural hazards and asset categories.
1.	
2.	
3.	
4.	
5.	

[25] IMPORTANT NOTE: The assessment does not require a specific number of countermeasures. You may have fewer than five countermeasures or add more countermeasures and describe them in a separate document.

Change History

Please describe the changes made to this risk and resilience assessment since its original development, who made the changes, and on what date the changes were incorporated.

Name/Title:	Date:	Description of Change:
Jim Hessling/Director of Public Works	06/02/2021	Original document

VILLAGE OF
McFarland

Village of McFarland, Wisconsin

Community Water System

Emergency Response Plan

PWSID	11302412
Street Address	5915 Milwaukee Street
City, State Zip Code	McFarland, WI
Phone number	608-838-7287
Population Served	8952
Prepared by	Jim Hessling
Reviewed by	Lee Igl
Date completed	Today

PLAN DISTRIBUTION

Please fill in the recipient's name and title, the person who gave them the plan and on what date.

RECIPIENT/TITLE	DISTRIBUTED BY	DATE
Fire Chief - Chris Dennis		
Police Chief - Aaron Chapin		
Administrator - Matt Schuenke		
Clerk - Casandra Suettinger		
Streets Superintendent - Lee Igl		
Assistant to the Director - Aimee Irwin		
Director of Public Works - Jim Hessling		

CHANGE HISTORY

Please describe the changes made to this plan since its original development, who made the changes and on what date the changes were incorporated into this plan.

DESCRIPTION OF CHANGE	NAME/TITLE	DATE
Redrafted the entire document from May 2004	Jim Hessling	Today

TABLE OF CONTENTS

UTILITY INFORMATION

During an incident, you need to have system information about your water utility readily available for your personnel, first responders, repair contractors/vendors, the media, and other response partner agencies.

i Utility Overview

Provide basic information about your utility.

Utility Information	
PWSID	11302412
Utility name and address	McFarland Waterworks
Owner	Village of McFarland
Directions to utility from major roadway, include lat./long. coordinates	Village of McFarland Public Works Department 5115 Terminal Drive McFarland, WI 53558 43.00233314, -89.3009411
Total population served and total service connections	8,952
Name, title, phone number of primary contact	Jim Hessling Director of Public Works 608-838-7287
Alternate contact	Lee Igl Public Works Superintendent 608-838-7287
Location of treatment, distribution, collection schematics and operation manuals	Village of McFarland Public Works Department 5115 Terminal Drive McFarland, WI 53558 43.00233314, -89.3009411

Use this checklist to ensure the following additional utility information (as applicable) is included as a part of your ERP.

- ☒ Map of distribution systems
  Maps of the water distribution are available in both electronic and paper form
- ☒ Site plans and “as built” drawings for the components of your system (as applicable):
  Maps of the water distribution components are available in both electronic and paper form
- ☒ Distribution system diagrams and instrumentation information
  These are available from our SCADA system and paper documentation located at the public works center
- ☒ Equipment specifications and operation instructions
  This information is located at the public works center
- ☒ Emergency power and light generation operation specifications
  These instructions are available in the well houses and at the public works center
- ☒ Supervisory Control and Data Acquisition (SCADA) system operation instructions
  This information is located at the public works center

ii Personnel Information

Personnel			
Name and Title	**Job Duties and Responsibilities**	**Contact Information**	**Emergency Information**
Jim Hessling Director of Public Works	Oversee Operations	608-838-7287 jim.hessling@mcfarland.wi.us	608-838-7287
Lee Igl, PW Superintendent	Day to Day Operations	608-838-7287 lee.igl@mcfarland.wi.us	608-838-7287
Aimee Irwin Asst. to the PW Director	Day to Day Operations	608-838-7287 aimee.irwin@mcfarland.wi.us	608-838-7287
Brad Warren	Operator	608-838-7287	608-838-7287
Brett Brandt	Operator	608-838-7287	608-838-7287
Mark Weber	Operator	608-838-7287	608-838-7287
Jack Kelln	Operator	608-838-7287	608-838-7287
Dave Pospyhalla	Operator	608-838-7287	608-838-7287
Keean Paltz	Operator	608-838-7287	608-838-7287
Phil McDade	Utility Clerk	608-838-7287	608-838-7287

iii Primary Utility Components

List all the components necessary to maintain effective operation of your utility. Simply add more rows to the tables below if you have additional components. Text in italics represents examples – be sure to delete italicized text as necessary as you fill out the tables below and throughout this template.

Wells

Well Name	Location/Depth	Available Yield	Associated Treatment
Well #1	5412 Long Street 560 feet	395 GPM	Addition of chlorine & fluoride
Well #3	5001 N. Autumn Ln. 700 feet	1,200 GPM	Addition of chlorine & fluoride
Well #4	5703 Bird Song Ct. 800 feet	1,000 GPM	Addition of chlorine & fluoride

Storage and Distribution System – Tanks, Primary Mains and Pumping Stations

Location	Area Served	Comments
Burma Road Tower 4901 Burma road	Entire community	500,000 gallon capacity
Holscher Road Tower 5107 Holscher Road	Entire community	750,000 gallon capacity

Treatment Chemical Storage Facilities

Location	Chemical(s)	Comments
Pump House #1	Chlorine & fluoride	This is in liquid form and there is both an eye wash and shower station in the pump house
Pump House #3	Chlorine & fluoride	This is in liquid form and there is both an eye wash and shower station in the pump house
Pump House #4	Chlorine & fluoride	This is in liquid form and there is both an eye wash and shower station in the pump house

Other Key Facilities

Location	Function	Comments

iv Industry Chemical Handling and Storage Facilities

List surrounding chemical production, handling or storage industries that could impact your utility during incidents such as accidental releases, hurricanes or earthquakes.

Industry Chemical Handling Facilities

Facility Name	Location	Distance	Chemical and Exposure Pathway
Midwest Refrigerated Srvs.	4704 Terminal Drive	1 mile away from well #3	Facility uses large amounts of ammonia for refrigeration. In the event of a release of material, the well house could be compromised.
Flint Hills Resources	4405 Terminal Drive	1,000 feet east of well #3	Underground liquid fuel pipe line could rupture
Tank Farms	Terminal Drive Triangle Street	Between 3,700 & 7,000 feet NW of well #3	Several (~40) above ground petroleum storage tanks

Chemical Storage Tanks

Facility Name	Location	Distance	Chemical and Exposure Pathway
Midwest Refrigerated Services	4704 Terminal Drive	1 mile away from well #3	Facility uses large amounts of ammonia for refrigeration. In the event of a release of material, the well house could be compromised.
Flint Hills Resources	4405 Terminal Drive	1,000 feet east of well #3	Underground liquid fuel pipe line could rupture
Tank Farms	Terminal Drive Triangle Street	Between 3,700 & 7,000 feet NW of well #3	Several (~40) above ground petroleum storage tanks

v Safety

List safety materials and important safety information to help protect utility personnel during an incident. You may also reference your utility Health and Safety Plan, if available.

Safety Materials

Type	Location
PPE - Powder free nitrile gloves, coated aprons, face shields & eye wash stations	All wells and the Public Works Center have these items available
Material Safety Data Sheets (MSDS)/ Safety Data Sheets (SDS) are present at each location)	Safety information sheets for the chemicals used at each well are in each well.
First Aid kits	First-aid kits are located in all trucks and at the Public Works Center
PPE - Hardhats, hearing protection, various gloves, safety glasses, aprons, face shields & eye wash stations	All wells and the Public Works Center have these items available

Safety Information

Topic	Description
Inclement weather	All utility personnel are expected to work in all types of weather environments.

vi Response Resources

Provide an inventory of available resources (e.g., equipment, supplies) either maintained on site or readily available off site (e.g., neighboring water system) in the table below, or insert an existing inventory sheet.

Resources			
Kind	**Type**	**Quantity**	**Location**
Right angle drive stand-by engine	Natural Gas	1	Well #1 5412 Long Street
Right angle drive stand-by engine	Natural Gas	1	Well #3 5001 N. Autumn Lane
Right angle drive stand-by engine	Natural Gas	1	Well #4 5703 Bird Song Court
Towable Generators	Gas/Diesel	3	Various places around the village

vii Key Local Services

Note the closest locations of key logistical and medical services that you or mutual aid and assistance providers may need during an incident. Include a map if available.

Essential Services	
Facility	**Location/Description**
UW Clinics	1050 East Broadway Monona, WI 53716 Phone: (608) 222-8779
Dean Care Clinics	1821 S. Stoughton Road Madison, WI 53716 Phone: (608) 250-1525
UW Hospital	600 Highland Ave. Madison, WI 53792 Phone: (608) 263-6400
St Mary's Hospital	700 S. Park St. Madison, WI 53715 Phone: (608) 251-6100
Meriter Hospital	202 South Park Street Madison, WI 53715 (608) 417-6000
Gas Station - Kwik Trip	4701 Farwell Street McFarland, WI 53558 (608) 838-9011
Gas Station - BP	4701 Burma Road McFarland, WI 53558 (608) 838-4222
Gas Station - BP	4800 Larson Beach Road McFarland, WI 53558 (608) 838-4915
Pharmacy	4880 Larson Beach Road McFarland, WI 53558 (608) 838-7455
ATM	Kwik-Trip 4701 Farwell Street McFarland, WI 53558 (608) 838-9011
Pick 'n Save Grocery Store	5709 Hwy. 51 McFarland, WI 53558 (608) 838-3604
Ace Hardware Store	5210 Farwell Street McFarland, WI 53558 (608) 838-4285

1 RESILIENCE STRATEGIES

This section contains strategies and resources to improve the resilience of the system, including the physical security and cybersecurity of the system.

1.1 Emergency Response Roles

Describe the roles and responsibilities for key utility and external response partner personnel in the table below. You can add, edit or delete rows as necessary.

Water Utility and Partner Roles

Name/Title	Emergency Response Role	Responsibilities
Jim Hessling Director of Public Works	Emergency Response Lead (ER Lead)	Assign and direct personnel and take care of the emergency situation.
Lee Igl Public Works Superintendent	Alternate Emergency Response Lead	Perform duties as assigned by ER Lead; assumes duties listed above when ER Lead is not available.
Aimee Irwin Assistant to the Director	Alternate Emergency Response Lead	Perform duties as assigned by ER Lead; assumes duties listed above when ER Lead is not available.
Chief of Police - vacant	Security	Will provide incident security as needed once notified by ER Lead.
Matt Schuenke Public Information Officer	Public Information	Responsible for leading the public information effort based on information supplied by either the ER or Alternate ER Lead.

External Response Partner Roles		
Name/Title	**Organization**	**Responsibilities During an Incident**
Local Partners		
Dane County Emergency Management	County Emergency Management/EOC	Assist as needed
McFarland Police	Police	Assist as needed
McFarland Fire	Fire/EMS	Assist as needed
Elected officials	Village Board members	Assist as needed
Madison Metropolitan Sewerage District	Neighboring Wastewater utility	Assist as needed
Madison Water Utility	Neighboring Water utility	Assist as needed
Alliant Energy/MG&E	Power utility (electric & gas)	Assist as needed
Surrounding Communities	Mutual aid	Assist as needed
Wisconsin Rural Water Association	Industry representative	Assist as needed
State Partners		
WI Dept. of Health Services	Health Department	Assist as needed
WI State Patrol	Police	Assist as needed
WISWARN	Utility Mutual Aid	Assist as needed
WI State Lab of Hygiene	Laboratories	Assist as needed
Federal Partners		
WI EPA Office	EPA regional office	Assist as needed
WI FBI	FBI field office	Assist as needed
Center for Disease Control	CDC in Atlanta	Assist as needed
Health & Human Services	HHS in Washington, D.C.	Assist as needed

1.2 Incident Command System (ICS) Roles

ICS is used to organize both near-term and long-term field-level operations for a broad spectrum of emergencies, from small to complex incidents, both natural and manmade. An ICS Incident Organization Chart (ICS Form 207), available at FEMA's ICS Resource Center, may be completed for your utility and inserted here or attached to your ERP.

Most staff of the Public Works Department have been trained in ICS. Those individuals that haven't been or need a refresher will be attending a class.

1.3 Communication

Communication during an incident is critical to relay information to employees, response partners and critical customers about potential risks to health, infrastructure, and the environment.

1.3.1 Internal Communication

List all utility emergency response team members, their response role, title and contact information.

Contact List

Name	Role/Title	Phone	Alternate Phone	Email
Please see Section ii under Utility Information of this document				

1.3.2 External Response Partner Communication

List all external response partners, their response role or position as well as contact information.

External Response Partner Contact List				
Organization or Department	**Point Person Name or Position**	**Phone**	**Alternate Phone**	**Email or Website**
Local Partners				
Dane County Emergency Management	On Call person	608-266-4330	911	https://em.countyofdane.com
McFarland Police	McFarland Police	911	608-838-3151	https://www.mcfarland.wi.us/212/Police
McFarland Fire & Rescue	McFarland Fire	911	608-838-3278	https://www.mcfarland.wi.us/187/Fire-Rescue
Madison Metropolitan Sewerage District	On Call person	608-222-1201	911	https://www.madsewer.org
Madison Water Utility	On Call person	608-266-4651 608-266-4665	911	https://www.cityofmadison.com/water
Alliant Energy/MG&E	On Call person	A-800-255-4268 M-800-245-1123	911	https://www.alliantenergy.com https://www.mge.com
Surrounding Communities	See Mutual Aid Agreement			
Wisconsin Rural Water Association	On Call person	715-344-7778	911	https://www.wrwa.org
Public Health Madison & Dane County	On Call person	608-266-4821	911	https://www.publichealthmdc.com
Wisconsin State Lab of Hygiene (Bacti, Fluoride & others)	On Call person	(800) 442-4618	911	www.slh.wisc.edu
Eurofins (Synthetics)	On Call person	(800) 332-4345	911	www.EurofinsUS.com/Eaton
State Partners				
WI State Patrol	On Call person	(608) 846-8500	911	https://wsp.wi.gov/Pages/home.aspx
WI Department of Health Services	On Call person	(608) 266-1865	911	https://www.dhs.wisconsin.gov/
WARN	On Call person	414-423-7000		https://www.wiawwa.org/mpage/WIWARN_Homepage

External Response Partner Contact List				
Organization or Department	**Point Person Name or Position**	**Phone**	**Alternate Phone**	**Email or Website**
Federal Partners				
EPA Region V Office	On Call person	312-353-2000		https://www.epa.gov/aboutepa/epa-region-5
FBI Field Office Middleton, WI	On Call person	608-833-4600	911	https://www.fbi.gov/contact-us/field-offices/milwaukee
CDC	On Call person	800-232-4636		https://www.cdc.gov

1.3.3 Critical Customer Communication

List critical customers below who should be given priority notification due to their reliance on the water supply either for medical reasons, based on usage, public health mission or because they may serve customers considered to be sensitive sub-populations.

Critical Customer Contact List					
Organization or Department	**Point Person Name or Position**	**Contact Instructions**	**Phone**	**Alternate Phone**	**Email or Website**
McFarland Fire	Chris Dennis		608-838-3278	911	https://www.mcfarland.wi.us/187/Fire-Rescue
Skaalen Village Senior Living	Main Desk		608-299-4839		https://skaalen.com https://skaalen.com/communities/skaalen-village/
McFarland Villa Assisted Living	Main Desk		608-838-2231		https://mcfarlandvilla.com
Midwest Refrigerated Services	Main Desk		608-838-5550		https://www.midwestrefrigerated.com
McFarland School District	Main Desk		608-838-3169		https://www.mcfarland.k12.wi.us
University					

1.3.4 Communication Equipment Inventory

Communication Equipment			
Type	**Assigned to**	**Location**	**Number/Frequency/Channel**
On Call Phone	On Call Crew person	Portable	608-235-2625
Portable Radios	All staff	Public Works Center	Varies
WISCOM		Statewide	Varies

1.4 Media Outreach

List contact information for all media outlets that your utility may coordinate with during notification efforts. Additionally, include existing risk communication procedures, such as composing and delivering messages (e.g. message mapping), or reference an existing Risk Communication Plan.

Contact List				
Organization or Department	**Point Person Name & Position**	**Phone**	**Alternate phone**	**Email or Website**
Vil of McFarland Communications & Technology	Stephanie Miller	608-838-6717	N/A	https://www.mcfarland.wi.us/167/Communications-Technology
McFarland Thistle – local newspaper	Staff	608-839-1544-	N/A	https://www.hngnews.com/mcfarland_thistle/site/mcfarland_contact.html
WI State Journal regional newspaper	Staff	800-362-8333	N/A	https://madison.com/wsj
iHeart Radio Stations (Madison Market)	Staff	608-274-5450	N/A	https://www.iheartmedia.com/stations?market=MADISON-WI
Mid-West Family Radio Broadcasting (Madison Market)	Staff	608-273-1000	N/A	https://www.midwestfamilymadison.com
WISC-TV Channel 3	Staff	608-271-4321	N/A	https://www.channel3000.com
WMTV Channel 15	Staff	608-274-1515	N/A	https://www.nbc15.com
WKOW Channel 27	Staff	608-273-2727	N/A	https://wkow.com
WMSN Channel 47	Staff	608-271-4321	N/A	http://fox47.com

1.5 Public Notification Templates

Insert your templates for public notifications here, or reference where they may be found. Ensure that your templates are consistent with the regulatory requirements for public notification contained in the Public Notification Rule (see 40 CFR 141, Subpart Q) and all relevant state regulations.

Below is a statement from McFarland Utilities Public Information Officer Matt Schuenke on this incident:

"On _____, McFarland Utilities experienced a _____ at _____. Crews were working on the situation. At this time, we do not have a time when the incident will be cleared.

Description of incident goes here.

When notified of the incident McFarland Utilities crews responded to the incident. More information will be available as we learn more about the incident.

2 EMERGENCY PLANS AND PROCEDURES

This section contains plans and procedures that can be implemented in the event of a malevolent act or natural hazard that threatens your utility's ability to deliver safe drinking water.

2.1 Core Response Procedures

Core procedures are the "building blocks" for incident specific response procedures, as they are typically implemented across a broad variety of incidents (e.g., hurricane, earthquake, flood). List all your core procedures here.

Access	
Item	**Description**
Identification Badges	All village staff including, police, fire and rescue personnel have an official ID for access through police barricades or off limit zones.
Check/Entry Points	All check/entry points into an emergency site will be monitored.

Physical Security	
Item	**Description**
Access control procedures	All buildings are controlled through a lock and key system. An alarm notification mechanism is also present on most buildings.
Security culture	Staff has been advised that if they "See Something, Say Something" so management can address the issue and eliminate occurrences.

Cybersecurity	
Item	**Description**
Disconnect procedure	If possible, compromised computers will be disconnected from the network to isolate breached components and prevent further damage, such as the spreading of malware.
Notification	In the event of a cyber-incident, the village's information technology (IT) person or our contracted IT service provider will be notified and used accordingly. The State of Wisconsin . Also list any external entities that may have remote connections to your network. Personnel at the State of Wisconsin and at the national level (Department of Homeland Security National Cybersecurity and Communications Integration Center) will be contacted as the situation is discovered or escalates.
Assess procedure	The utility department will assess any damage to the utility system and equipment, along with disruptions to utility operations and that information will be provided by our computer technician.
Implementation processes	Depending upon the nature of the event, utility personnel will implement actions to restore operations of critical processes (e.g., switch to manual operation if necessary) and provide public notification (if required).
Documentation	All operations to document key information on the incident, including any suspicious calls, emails, or messages before or during the incident, damage to utility systems, and steps taken in response to the incident will be undertaken. All documentation should include dates and times.

Power Loss	
Item	**Description**
Backup power systems	All wells have auxiliary stand by natural gas powered engines. The public works center is powered by a natural gas generation station, which powers the building.
Power utility	We contact our power utility for expected restoration priorities and timing. Power utility contact information is listed in Section 1.3.2 above.
Fuel plan	All generators are powered by natural gas and at this time, a backup fuel source is not available.
Maintenance plan	Our in house mechanic, along with water utility staff, test and repair our stand-by engines and generators to assure proper operations. Spare parts for some of these generation units are on hand.

Emergency Alternate Drinking Water Supplies*	
Item	**Description**
Bottled water	Provider name: WP Beverages, 6176 Pepsi Way, Windsor, WI 53598 Phone: 608-846-1200 / 608-846-1275 / 800-652-7232 Contract No. (if applicable):N/A Available supply: Unknown at this time Distribution point (notify public of location): TBD
Bottled water	Provider name: Great Lakes Coca-Cola, 6364 Blanchar's Crossing, Windsor, WI 53598 Phone: 608-846-8866 / 844-861-2653 (COKE) Contract No. (if applicable):N/A

	Available supply: Unknown at this time Distribution point (notify public of location): TBD
Bulk water	Provider name: The Waterman Inc, 11122 W Rogers St. West Allis, WI 53227 Phone: 800-213-4221 or 414-443-0330 Contract No. (if applicable):N/A Available supply: Unknown at this time Distribution point (notify public of location): TBD

* Interconnections are listed and described in Section 3.1

Sampling and Analysis

Item	Description
Sampling procedures	WI DNR personnel will dictate the sampling requirements in the case of an emergency. Water system sampling procedures (after collection) will be handled by the WI State Lab of Hygiene. They in turn will notify the WI DNR as needed/directed.
Pre-identified sampling locations	While some sampling sites will be dictated by the emergency, the utility has pre-approved WI DNR sampling sites for the water system.
Sampling containers and preservatives	Standard Bacti, Raw Water and Fluoride sampling bottles are on site at the Public Works Center. We also have an “Emergency Response Drinking Water Collection Kit” to use if need be.
Sample collection	All public works personnel are approved and qualified to collect water samples as needed.
Sample transportation	All public works personnel are approved and qualified to transport water samples as needed
Laboratory capabilities	The WI DNR or other regulatory agency will decide what requirements will be required for water sampling analysis. A list of laboratories are listed in section 2.1.
Interpreting results	This will be completed by the lab and the WI DNR.

Local Contract/State/Federal Laboratory Contact List

Name	Address	Analyses/Methods	Phone	Email or Website
Wisconsin State Lab of Hygiene	2601 Agriculture Drive Madison, WI	Bacti, Fluoride & others	(800) 442-4618	www.slh.wisc.edu
Eurofins	110 South Hill Street South Bend, IN 46617	Synthetics	(800) 332-4345	www.EurofinsUS.com/Eaton
Madison Metropolitan Sewerage District	1610 Moorland Road	Misc.	(608) 222-1201	www.madsewer.org

Family and Utility Personnel Well Being

Item	Description
Family disaster plan	The Village of McFarland does not have an official plan that addresses an employee's family's needs during an emergency. We are confident that if a situation were to happen where the family or the employee needed assistance, the utility would help that individual and their family out.
Alternate work and shelter locations	Personnel may need to or be required to work from home. Employees will be provided the necessary equipment to complete their assigned tasks.
Extreme temperatures	All utility personnel are expected to work in all types of weather environments. Additional supplies may be provided if necessary.

2.2 Incident-Specific Response Procedures

In the event that any of the below situations were to happen:

- Cybersecurity
- Drought
- Extreme cold and heat
- Winter storms
- Flooding
- Tornado
- Fire
- Source water contamination
- Distribution system contamination

The McFarland Utility along with assistance from the McFarland Police and Fire Departments would develop a plan to combat the incident. While no one can predict the outcome of any one specific event, we hope that this document helps prepare us.

3 MITIGATION ACTIONS

This section contains actions, procedures, and equipment which can obviate or significantly lessen the impact of a malevolent act or natural hazard on the public health and the safety and supply of drinking water provided to your community and individuals, including the development of alternative source water options, relocation of water intakes, and construction of flood protection barriers.

3.1 Alternative Source Water Options and Interconnected Utilities

List information on alternative source water options and interconnected utilities to mitigate impacts during incidents.

Alternative Source Water Options

Type	Location	Comments
Bulk Water	The Waterman Inc, 11122 W Rogers St. West Allis, WI 53227 Phone: 800-213-4221 or 414-443-0330	Provider and transporter of potable bulk water

Interconnected Utilities

Utility Name	Location	Contact Information	Comments
Madison Water Utility	City next door	608-266-4651 or 608-266-4665	If needed, with pressure regulation apparatuses in place, the City of Madison Water Utility could provide water to McFarland.

4 DETECTION STRATEGIES

This section contains strategies that can be used to aid in the detection of malevolent acts or natural hazards that threaten the security or resilience of the system.

List the detection strategies and methods your utility uses to aid in the detection of malevolent acts or natural hazards. Also list the corresponding procedure to be used if the threat is detected.

Detection Strategies

Threat	Detection Method	Procedure
Unauthorized entry	Alarm from intrusion detection system	Check out situation and notify police if needed
Source water contamination	This is detected by quarterly raw water sampling as required by the WI DNR	Take water samples as required
Distribution system contamination	Monthly water sampling along with customer complaint surveillance	Take water samples as required and at other times as needed/required
Cyber intrusion/interruptions	Daily check of the SCADA system along with alarm monitoring	Contact IT department for assistance
Hazardous chemical spill	Manual inspections	Call fire department as needed
Tornado	Weather Service alerts	Respond as needed
Power outage	Notification alarm from line power sensor	Generator start-up checklist in each well

The Risk Assessment Summary Report for McFarland Waterworks document has been removed from the packet. The document requires a formal public records request. The document will be made available through the public records request process due to the confidential nature of the information.

VILLAGE OF
McFarland

SUMMARY SHEET

MEETING DATE: **Tuesday, June 15, 2021**

SECTION: **Staff Reports**

DEPARTMENT: **Public Works**

CONTACT:

AGENDA ITEM: **Presentation of the Public Works monthly report**

PREVIOUS ACTION:

ISSUE SUMMARY:

FINANCIAL/BUDGET IMPACT:

VILLAGE PLAN REFERENCE:

ORDINANCE REFERENCE:

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

ATTACHMENTS:

1. May 2021 Public Works Directors report (002)

PUBLIC WORKS COMMITTEE
June 8, 2021

PUBLIC UTILITIES COMMITTEE
June 15, 2021

Public Works Directors Report for May 2021

The following is information concerning events and activities of the Public Works Department along with the Water and Sewer Utilities for the previous month. This information is provided in brief to provide an overview of the highlights.

GIS Update

The department continues to upgrade the villages GIS opportunities when possible. Personnel have been out in the field collecting data.

Public Works Week Open House

The department held its 5th annual open house on May 22. The turnout for this drive thru event was satisfactory. Over 175 pounds of food were donated to the McFarland Food Pantry.

Consumer Confidence Report (CCR)

The annual Consumer Confidence Report has been filed with the WI DNR. This report, which is delivered to the public, is a synopsis of our waterworks system pertaining to various sampling parameters.

Compliance Maintenance Annual Report (CMAR)

The annual Compliance Maintenance Annual Report has been filed with the WI DNR. This report informs the governing boards the status of the sanitary sewer system within the village. We are graded on maintenance and financial abilities to maintain our system. We are proud to report that we received an "A" in both categories.

Pre-construction Meetings

Pre construction meetings were held for both the CTH MN/Broadhead Phase 4 and the 2021 Storm and Street Improvements projects. Work is anticipated to start on the projects the week of June 7 and an unspecified date in July, respectively.

New Hires

Some of the summer seasonal positions have been filled.

PSC Rate File Update

The Public Service Commission (PSC) has scheduled a Public Hearing for 10 a.m. on June 8, 2021 for the public to ask questions on the proposed water utility rate hike. This will be a virtual meeting.

Watermain Break

The department handled a watermain break on Bremer Road on May 25.

(cont.)

Public Works Directors Report
for May 2021

Meetings/Training/Seminars
All meetings were held by electronic means this month. Those meetings include:

- GIS by ESRI - ESRI Basics; What's Next; Take It From Here - Igl
- GIS in person training by Town & Country - Igl
- Technical Advisory Committee for the Madison Beltline Planning Study - Hessling
- Rebound Training (injury recovery) - S. Brandt, B. Brandt, Irwin, Larson, Pospyhalla, LTE's - Couey, Westbury, Schmidt, Wilson
- Asset Management and Risk Assessment - Irwin, Hessling
- APWA Emergency Management Committee meeting - Hessling
- Salt Savers check in w/ MMSD - Irwin
- APWA Young Professionals meeting - Irwin
- I/I Reduction Program Advisory Committee Meeting - Hessling
- Local Government 101 Webinar - Irwin
- Asset Management Webinar - Irwin

2021 WATER SYSTEM IMPACT FEES

Collected in Month	2021 Fees	2020 Fees	2021 Impact Fee Distribution		
			Tower	Main	Well
January	-	1,950.00	-	-	-
February	5,851.00	4,550.00	3,298.86	936.16	1,615.98
March	3,900.00	4,550.00	2,198.88	624.00	1,077.12
1st Quarter Total	**9,751.00**	**11,050.00**	**5,497.74**	**1,560.16**	**2,693.10**
April	1,950.00	10,402.00	1,099.44	312.00	538.56
May	650.00	1,950.00	366.48	104.00	179.52
June	-	3,250.00	-	-	-
2nd Quarter Total	**2,600.00**	**15,602.00**	**1,465.92**	**416.00**	**718.08**
July	-	3,900.00	-	-	-
August	-	2,600.00	-	-	-
September	-	1,950.00	-	-	-
3rd Quarter Total	**-**	**8,450.00**	**-**	**-**	**-**
October	-	1,950.00	-	-	-
November	-	9,101.00	-	-	-
December	-	18,701.16	-	-	-
4th Quarter Total	**-**	**29,752.16**	**-**	**-**	**-**

HISTORICAL WATER IMPACT FEE TOTALS

2021 Total	12,351.00		6,963.66	1,976.16	3,411.18
2020 Total	64,854.16		38,222.36	10,020.80	16,611.00
2019 Total	57,201.00		32,250.79	9,152.16	15,798.05
2018 Total	71,501.00		40,313.34	11,440.16	19,747.50
2017 Total	60,801.20		34,281.17	9,728.00	16,792.03
2016 Total	38,026.00		23,708.24	5,252.00	9,065.76
2015 Total	5,851.00		3,298.92	936.00	1,616.08
2014 Total	7,150.00		4,031.28	1,144.00	1,974.72
2013 Total	21,125.00		11,910.59	3,380.00	5,834.41
2012 Total	13,650.00		7,696.08	2,184.00	3,769.92
2011 Total	12,350.00		6,963.12	1,976.00	3,410.88
2010 Total	5,200.00		2,931.84	832.00	1,436.16
2009 Total	7,150.00		4,031.26	1,144.00	1,974.74
2008 Total	10,400.00		5,863.62	1,664.00	2,872.38
2007 Total	34,451.00		19,423.88	5,512.16	9,514.96
2006 Total	28,927.00		16,309.33	4,628.32	7,989.35
2005 Total	52,326.00		29,501.92	8,372.16	14,451.92
2004 Total	77,679.00		43,796.20	12,428.64	21,454.16
2003 Total	59,802.00		33,716.97	9,568.32	16,516.71
2002 Total	69,625.00		39,255.27	11,140.00	19,229.73
2001 Total	55,271.50		31,162.62	8,843.44	15,265.44
2000 Total	56,701.00		31,968.59	9,072.16	15,660.25
1999 Total	55,388.00		31,228.31	8,862.08	15,297.61
1998 Total	14,581.73		8,221.33	2,333.08	4,027.32
Grand Total	**$ 815,157.43**	**$ -**	**$ 461,864.67**	**$ 129,592.68**	**$ 223,700.08**

$650=	$366.48	$104.00	$179.52
$1300	$732.96	$208.00	$359.04

Tower= .56381, Main=.16, Well=.27619