

Inspection Entry Date/Time:	January 30, 2024, 1:00 PM CST	Announced: Yes				
Inspection Exit Date/Time:	January 31, 2024, 12:00 PM CST	Access: Granted				
Weather:	37 degrees, cloudy, wind 7mph NNW					
Media:	Water					
Statute(s)/Program(s):	Safe Drinking Water Act and Wisconsin Administrative Code					
Type of Inspection:	CEI – Compliance Evaluation					
In-Person Inspection:	Yes					
System Name:	Lodi Waterworks					
Facility/Site Identifier:	110013093311					
County/Borough/Parish:	Columbia County					
Facility GPS Coordinates:	43.3213, -89.5633					
Mailing address: (if different)	130 South Main Street Lodi, Wisconsin 53555					
Environmental Justice Area:	No					
PWS ID:	WI1110110					
Persons Participating in Inspection:						
Name	Title/Organization	Phone	Email	Present in Opening Conf.	Present in Closing Conf.	Present during Site Walkthrough
Amanda Cross	Lead Inspector/EPA	312-353-1149	Cross.amanda@epa.gov	Yes	Yes	Yes
Taylor Jerger	Inspector/EPA	312-353-1395	Jerger.taylor.m@epa.gov	Yes	Yes	Yes
Kevin Hogan	Inspector/EPA	312-353-9564	Hogan.kevin@epa.gov	Yes	Yes	Yes
Chad Wolter	Lodi Utilities	608-573-1702	cwolter@cityoflodi.us	Yes	Yes	Yes
Dan Markart	Lodi Utilities	608-573-0182	dmarkart@cityoflodi.us	Yes	Yes	Yes
James Lincoln	Lodi Utilities	608-592-0709	jlincoln@cityoflodi.us	Yes	Yes	No
Dan Wundrow	WRWA	715-563-0188	dwundrow@wrwa.org	Yes	No	No
Lead Inspector:						
Amanda Cross		Region 5	Cross.amanda@epa.gov	312-353-1149		
Supervisor Review:						
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SECTION I – INTRODUCTION

This Section describes the site entry, authority and purpose of the inspection, and the water system.

Site Entry and Inspection Objectives

Lead Inspector, Amanda Cross, arrived at Lodi City Hall, headquarters for Lodi Waterworks (the “System”), located at 130 South Main Street, Lodi Wisconsin 53555, at 1:00 PM on January 30, 2024, for an announced inspection. Amanda Cross presented credentials to System personnel and informed them that this was a Region 5 inspection to determine compliance with the Primacy Agency requirements and the Safe Drinking Water Act (SDWA). The inspection was conducted under the authority of the SDWA Section 1445. This report is based on information supplied by System representatives, observations made by the Region 5 inspectors, and records and reports maintained by the System and Region 5 including: direct observations made by the Region 5 inspectors, photographs taken by Region 5 inspectors, physical evidence collected by the Region 5 inspectors, measurements taken by Region 5 inspectors, verbal or written statements made by System representatives during or subsequent to the on-site Inspection, and materials, processes, data, photographs, or documents shown, demonstrated, or submitted to the Region 5 inspectors, by System representatives during or subsequent to the on-site Inspection. In addition, information gathered prior to or subsequent to the Inspection from a review of EPA, State, and public records may be included in this report.

The scope of the inspection was an onsite review of the water source, facilities, equipment, operation, maintenance, and monitoring compliance of a public water system (PWS) to evaluate the adequacy of the PWS, its sources and operations, and the distribution of safe drinking water. Prior to the inspection, EPA provided notice of the inspection via email on January 19, 2024, to the System. In the inspection notice, EPA requested records and the list of records received and the date they were received can be found in Appendix B.

System Description

According to the Wisconsin Department of Natural Resources (WDNR) Drinking Water System Portal, the System is owned by the City of Lodi, serves a population of approximately 3,146 people and has 1,356 service connections. It is a community water system as defined by 40 C.F.R., Part 141 Subpart A. The WDNR maintains the state of Wisconsin’s drinking water database of record which provides a record of the System’s owner, operator, and size.

System Information

The System’s representatives supplied additional information during a staff interview and throughout the inspection. This information is organized into discussion topics and the topics are designated with a reference number. Each entry then indicates whether the discussion topic is an Area of Concern (AOC). AOCs are further discussed in Section VI.

Reference #:	Topic:	AOC:
IN-001	System Summary	No
The age of the System dates to the early 1900s. The oldest water mains currently in use were installed between the 1920s – 1940s. Well #2 and the associated reservoir (Columbus St) was put into operation in the 1950s.		
The System’s source water is ground water from underground aquifers located within the Spring Creek watershed. The System does not purchase water from another System and has no alternative sources of water available.		
IN-002	Staffing	Yes
The System currently has six employees, three dedicated to operations and three for administrative duties. System staff are present weekdays and then rotate on call duties to cover issues that arise during non-working hours. The System utilizes the City’s Public Works and Electric Divisions to assist with digging and repairing any lines breaks.		

Currently there are no open positions, but staff expressed that additional staff for operational day to day needs would be beneficial.

Mr. Dan Markart is the operator of record for the System and carries a Grade 1, Distribution and Groundwater License. All three of the System’s employees are fully licensed for water and wastewater and serve as backup operators.

Reference #: IN-003	Topic: Assets	AOC: No
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The System has three active wells: Well 2, Well 3, and Well 4. Each well is located within a wellhouse which contains the chemical treatment feed systems. Each well has a dedicated reservoir; Columbus St. Reservoir (Well 2), Strangeway Reservoir (Well 3), and Reynolds Rd Reservoir (Well 4). Well 2 and Well 3 are in one pressure zone and the treated water blends in the system. Well 4 is in a second pressure zone. There are two booster stations, one is currently being used as a booster station, and one is being used as a transfer station between pressure zones.

Reference #: IN-004	Topic: Treatment Process	AOC: No
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All wells at the System use the same treatment process. The System injects chlorine for disinfection and fluoride for dental health. The wells have their own flow control switch which turn the wells on and off automatically. System personnel noted that chemicals will not be injected unless water is being pumped into the system. Each wellhouse has a barrel of each chemical.

Reference #: IN-005	Topic: Operations	AOC: Yes
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The Supervisory Control and Data Acquisition (SCADA) system allows System personnel to remotely monitor assets and operate its well pumps. System staff monitor the assets daily through the SCADA system dashboard, which is located at the city’s wastewater treatment plant. Pumps can be turned on and off, but chemical feeds cannot be changed through the SCADA. The SCADA system is monitored 24/7 and can issue alarms. Alarms are programmed for entry into wellhouses and reservoir hatches, low temperatures in control boxes and wellhouses, flood switches, call to run fails, high chemical dosages, and reservoir highs and lows. An audible alarm will sound at the wastewater treatment plant and a dialer system will place a call to the operator on-call. System personnel noted that staff do not have unique usernames or passwords for the SCADA system and one login is used.

System personnel make daily rounds to visually inspect wellhouses and manually record chemical weights from scales on clipboards located in the chemical feed rooms. Weekly, staff visually inspect the reservoirs. The wells are programmed to run based on flow levels in the reservoirs, which is programmed and controlled through the SCADA system. The reservoirs gravity drain into the distribution system.

Reference #: IN-006	Topic: Distribution System	AOC: Yes
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The System’s distribution system is approximately 116,067 feet (21.98 miles) long.

System representatives stated the System is in the process of compiling an inventory of the service lines currently present in the distribution system. In conjunction with the water meter replacement program, the System is identifying the service line material focusing on the customer side. For the service lines owned by the water system, the System is using a combination of information such as age of homes, partial historical records, working knowledge of the system construction, and past experience to predict materials throughout the distribution system. The System is not physically confirming materials unless work is being done on the service line in coordination with other maintenance activity.

System personnel estimate that average water age throughout the distribution system is no more than 24-hours. The System has a flushing program that aims to flush every hydrant yearly and time permitting, complete a second round of flushing. The flushing is completed as a condensed project during the summer which was last completed in 2023. The System tracks which hydrants are flushed through geographic information system (GIS) software. Water used during flushing is tracked. System personnel stated that flushing is not typically done unidirectionally, however unidirectional flushing (UDF) is planned for 2024.

The System averages three main line breaks a year. In 2023, the System experienced two service line leaks; one was controlled through a valve shutoff, and one was ongoing at the time of the inspection with plans to be addressed the following week. System personnel stated that none of these events resulted in a boil water advisory.

The System has two pressure zones in the distribution system and maintains an average pressure of 70 pounds per square inch (PSI). Average water loss the previous two years was 21%.

Reference #: IN-007	Topic: Sampling	AOC: Yes
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System staff collect all analytical samples, and the System utilizes an offsite laboratory for most of its analytical sampling.

Daily free chlorine and fluoride samples are taken by System staff from the wastewater treatment plant and a local school, on weekdays only, as the school is not open on weekends. Free chlorine samples are analyzed on site or at the lab, located at the wastewater treatment plant, depending on which staff member is taking the sample. Sampling sites were chosen at locations in two different pressure zones and at locations in the distribution system farthest from the wellhouses without being a private residence. Raw samples are collected from the wellhouses, quarterly. Chemical dosing process control samples are also collected from the wellhouses, as needed.

The System uses a HACH DR900 Multiparameter Colorimeter, handheld in the field to collect free chlorine and fluoride readings. The lab has a HACH DR3900 Laboratory VIS Spectrophotometer with RFID Technology mainly used to analyze fluoride samples. System personnel stated the equipment is sent in for routine servicing but could not recall the last time this was done. Fluoride readings obtained in the field with the HACH DR900 are spot checked against the HACH DR3900 using fluoride standards. During the inspection, the System did not have standards for chlorine on site to spot check the accuracy of chlorine residual readings. The System is looking at replacing both machines within the next year.

System personnel stated they collect one sample during the third quarter for Disinfectant Byproducts (DBP) Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5) from one location in the distribution system.

System personnel stated they are required to collect three samples per month for coliform for the revised total coliform rule (RTCR). The System also collects one coliform from each well, quarterly. Taps are torched before samples are collected. There have been no coliform positive samples in the past 10 years.

System personnel stated they take one nitrate sample at Well 4 quarterly. One nitrate sample is taken from Wells 2 and 3 during January through September. Sampling for nitrate at Well 4 is done at a higher frequency due to elevated levels compared to the other two wells in the system.

Reference #: IN-008	Topic: Lead and Copper Rule	AOC: Yes
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Lodi Waterworks

Inspection Dates: January 30 and 31, 2024

System personnel stated they were on reduced monitoring for the lead and copper rule (LCR) in 2022, prior to a lead action level exceedance (ALE). Prior to the ALE the System was required to collect 10 samples annually. System personnel stated they drop off LCR sample kits to residents for them to collect the samples. Instructions on sampling are given verbally to the residents as well as included in the sampling packets along with sample bottles and chain of custody forms for residents to complete. System personnel pick up the sample kits and bring them to the lab for analysis.

The System exceeded the ALE in 2022 due to two high sample results. System personnel believe the high results were due to scale removal from recent maintenance work. System personnel stated they are currently in the middle of a CCT study and also plan to UDF the distribution system to better understand the best options moving forward to reduce lead levels in the system.

As a result of the ALE, System personnel stated they were triggered to complete public education requirements. System personnel stated the materials were posted on two posting boards, one at town hall and one at the library and a mailer was sent to every customer and posted on the website. Copies were hand delivered to schools, daycares, doctors, and nursing homes. Information about the exceedance is included on every bill. System personnel stated they completed this in 2022 but not in 2023.

Reference #: IN-009	Topic: Meter Replacement	AOC: No
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The System has approximately 1,300 meters and it is currently in the middle of a water meter replacement program. The System has replaced approximately 60% of the old meters. System personnel stated that the meter replacement installation was delayed due to radio production and shipment being backed up. All meters will eventually be mapped into the existing GIS the System uses for hydrant mapping. System personnel stated that the new meters are tested before they are installed, and records of testing are kept by the System.

Reference #: IN-010	Topic: Maintenance	AOC: No
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The System does not have a formal maintenance program. System personnel grease the wellheads and pumps monthly or every other month, as needed. Wellheads are removed every 10 years for more substantial maintenance. Painting is completed as needed. System personnel stated they complete regular maintenance internally and larger maintenance projects are contracted out.

System representatives stated the water storage reservoirs are on a 5-year inspection schedule. It alternates every five years between an inspection which involves a drain down of the reservoirs and an inspection with a robot filming the interior of the reservoir.

System personnel stated they do not maintain records of minor maintenance activities like the greasing of wellheads and pumps. Major wellhead workovers and large maintenance project records and reservoir inspection records are maintained by the System. System personnel stated they do not have a formal asset management plan but is working to formalize a five-year management plan for each utility.

Reference #: IN-011	Topic: Emergency Power	AOC: No
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The System has two permanent generators; one in each pressure zone. Both generators have an automatic transfer switch and are programmed to run automatically weekly. Each are manually run under load by System personnel, quarterly. Both generators are large enough to power each wellhouse and maintain water to that portion of the System in the event of an outage. The System stated it contracts with a 3rd party to complete oil changes every other year. Larger generator maintenance is completed by the manufacturer. System personnel stated they maintain records of load runtimes in binders in the wellhouses.

Reference #: IN-012	Topic: Citizen Complaints	AOC: No
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System personnel stated they do not receive many citizen complaints. Complaints are received by the System via email, phone, mail, and online though mainly they are received through calls. Complaints are usually about high usage rates, cloudy water, chlorine odors, and low pressure. When a complaint is received, System personnel will respond on site, complete a jar test if applicable, and attempt to locate the source of the complaint. Complaint

response is typically the same day during the week. The complainant will leave a voicemail on the weekend. The System maintains records of complaints.

SECTION II – OBSERVATIONS

This section describes the various areas of the water system toured by EPA and the observations made by visually inspecting sites and assets.

Areas

EPA conducted a tour of the system and visually inspecting the following areas:

Area	Description
Wellhouse #2	Wellhouse #2 contains groundwater source well #2, one centrifugal pump unit, and fluorosilicic acid and Azone 15 (disinfectant - EPA No 7870-5) chemical storage and feed systems inside a locked building.
Wellhouse #3	Wellhouse #3 contains groundwater source well #3, one vertical turbine pump unit, same chemical storage and feed systems as Wellhouse #2, and one emergency generator inside a locked building.
Wellhouse #4	Wellhouse #4 contains groundwater source well #4, one vertical turbine pump unit, same chemical storage and feed systems as Wellhouse #2, two surge tanks, and five booster pump units inside a locked building. One emergency generator is located on site in a separate, locked structure.
Columbus Street (Pleasant St) Reservoir	130,000-gallon finished water underground reservoir out in the distribution system.
Strangeway (Prospect St) Reservoir	146,000-gallon finished water underground reservoir out in the distribution system.
Reynolds Road Reservoir	200,000-gallon finished water underground reservoir out in the distribution system.
Transfer Station West of Prospect St. and Strangeway St.	Buried booster/transfer station contains two pumps and one pressure reducing valve.
Laboratory	Located in the Wastewater Treatment Plant and contains the lab and main SCADA controls.

Observations

The EPA inspection team made observations by visually inspecting the areas identified above. All observations are grouped by the areas inspected and designated with a reference number. Each entry then indicates whether the observation is an AOC. AOCs are further discussed in Section VI. A photograph log can be found in Appendix A. Observations may not be in sequential order in which they were observed.

Area: Wellhouse #2	
Reference #: OB-001	AOC: Yes
In the chemical feed room, EPA observed the fluoride and chlorine chemical feed systems. Tanks were stored in the same room. Labels on the chemical tanks were clearly visible. The chemicals were stored in tanks on working scales	

inside secondary containment. The secondary containment around the tanks were insufficient to contain a spill of the full amount of the two tanks. The floor drain located in this room drains to the sanitary sewer.

Photo(s): Appendix A Photo 1, 2

Reference #: OB-002

AOC: Yes

EPA observed minor rust and corrosion on nuts and bolts on the well isolation valve. Water was observed on the floor due to ongoing repair work to replace piping and repair the desander which was actively leaking.

Photo(s): Appendix A Photo 3, 4, and 5

Area: Wellhouse #3

Reference #: OB-003

AOC: Yes

In the chemical feed room, EPA observed the same chemicals as noted in Wellhouse #2 being stored together. Labels on the chemical tanks were clearly visible and the disinfectant had an NSF/ASNI-60 certification visible. The Azone 15 label gave direction on its use as a disinfectant for drinking water. The label identifies a minimum of 0.2 parts per million (ppm) to a maximum of 0.6 ppm free chlorine in the distribution system.

The chemicals were stored in tanks on working scales inside secondary containment. Secondary containment around the tanks were insufficient to contain a spill of the full amount of the two tanks. The floor drain located in this room drains to the sanitary sewer.

Photo(s): Appendix A Photo 9, 10, and 11

Reference #: OB-004

AOC: Yes

EPA observed minor rust on the gate valve. The associated air release had a mesh covering that was larger than 24-mesh size. The discharge pressure out into the distribution system was 45 PSI.

Photo(s): Appendix A Photo 8

Area: Wellhouse #4

Reference #: OB-005

AOC: Yes

In the chemical feed room, EPA observed the same chemicals as noted in Wellhouse #2 being stored together. Labels on the chemical tanks were clearly visible and the Hydrofluorosilicic acid had an NSF/ASNI-60 certification visible. The chemicals were stored in tanks on working scales. No secondary containment was observed. The floor drain located in this room drains to the sanitary sewer.

Photo(s): Appendix A Photo 15

Reference #: OB-006

AOC: Yes

All sample taps were smooth. The suction pressure was 62 PSI and discharge pressure into the distribution system was 110 PSI.

EPA observed an unsealed gravel feed chute on the well vent that the System used to refill the media surrounding the well casing.

Photo(s): Appendix A Photo 13

Reference #: OB-007

AOC: No

The System designed the booster station inside Wellhouse #4 to alternate startups between the small and large pumps. The purpose is to prolong the lifespan of the pumps in the booster station.

Photo(s): Appendix A Photo 14

Area: Columbus Street (Pleasant St) Reservoir

Reference #: OB-008

AOC: Yes

The entry gate to the reservoir was locked. The surrounding fence had trees beginning to grow through it and vines were growing into the barbed wire around the top of the fence.

Photo(s): N/A	
Reference #: OB-009	AOC: Yes
<p>EPA observed cracking on the exterior coating of the reservoir, some of which had been repaired in the past. Cracking was severe enough in some places to have caused the concrete exterior to shift.</p> <p>The reservoir access hatch was alarmed and called out to personnel during the inspection to alert them that the alarm had been tripped. Hatch had an overhang and gasket was intact. The overflow screen was intact, and the overflow had positive drainage away from the structure. The reservoir’s overflow did not discharge onto a pad or riprap.</p>	
Photo(s): Appendix A Photo 6, 7	

Area: Strangeway (Prospect St) Reservoir	
Reference #: OB-010	AOC: Yes
<p>The entry gate to the reservoir hatch was locked. The fence surrounding had some vegetation beginning to grow into it.</p> <p>EPA observed a mushroom cap style vent with a screen and under screen. The mesh size of the under screen could not be visually verified and the outer screen was larger than 24-mesh. Reservoir access hatch was alarmed. Hatch had an overhang and gasket was intact. The overflow screen was mostly intact but had gaps at the sides and edges. The reservoir discharged onto small pads and had positive drainage away from the structure.</p>	
Photo(s): Appendix A Photo 12	

Area: Reynolds Road Reservoir	
Reference #: OB-011	AOC: No
<p>The entry gate to the reservoir was locked. Reservoir access hatches were alarmed.</p> <p>EPA observed the reservoir hatches both had an overhang and gaskets that were intact. The overflow screen was intact. The reservoir discharged onto riprap and had positive drainage away from the structure.</p>	
Photo(s): N/A	

Area: Transfer Station West of Prospect St. and Strangeway St.	
Reference #: OB-012	AOC: No
<p>The entry hatch to the transfer station was locked. EPA did not enter or make additional observations as the transfer station is considered a confined space.</p>	
Photo(s): N/A	

Area: Laboratory	
Reference #: OB-013	AOC: Yes
<p>The SCADA system was logged in and open during the inspection. The System is able to control the pumps and reservoirs from this computer system, except the booster station at Well #4, which is only controllable from the wellhouse.</p>	
Photo(s): N/A	
Reference #: OB-014	AOC: Yes
<p>The System had printed standard operating procedures (SOPs) for the benchtop HACH DR3900. No SOP was provided for the handheld HACH DR900. EPA observed System personnel perform a free chlorine analysis on the handheld HACH DR900 and a flouride analysis on the benchtop HACH DR3900. The expiration date on the free chlorine pillow packets used by the System was January 2028.</p>	
Photo(s): N/A	

Reference #: OB-015	AOC: Yes
The safety data sheets (SDS) were requested for Azone 15 and the Hydrofluorosilicic acid. System personnel were unable to locate these in the binder labeled MSDS in the lab. They were also unavailable in the binder in the chemical room in Wellhouse #4.	
Photo(s): N/A	

SECTION III – RECORDS

The section identifies the records EPA reviewed during the inspection. Copies of records were either requested and provided to EPA prior to the onsite visit, provided to EPA during the onsite visit or just reviewed while on site. See Appendix B for full list of records that were requested or received. All records are designated with a reference number. Each entry then indicates whether the record reviewed is an AOC. AOCs are further discussed in Section VI. Records may not be in sequential order in which they were reviewed.

Record: Revised Total Coliform Rule Sample Siting Plan	AOC: Yes
Reference #: RR-001	
The System provided a written sample siting plan that identified ten routine sampling locations in the distribution system. The plan also identified three raw water sampling locations. The plan does not identify upstream and downstream repeat sample locations for each sample site in the distribution system identified on the plan. The System did not provide an SOP for selecting repeat sampling sites on a situational basis in the event of a positive sampling event.	
Copy of Document Obtained Prior, During or After the Inspection: Yes, see Appendix B.	
Record: Monthly Coliform Monitoring and Analysis Records for January 2023 to December 2023	AOC: No
Reference #: RR-002	
The System collected three coliform samples during each month reviewed, and all were from sites on the sample siting plan. The System consistently maintains a detectable chlorine residual on all samples collected. All samples from the System were total coliform absent and E. coli absent. The System collected one raw water sample which was from a site on the sample siting plan.	
Copy of Document Obtained Prior, During or After the Inspection: Yes, see Appendix B.	
Record: Most Recent Reservoir/Tank Inspections and Findings for all Storage Structures	AOC: Yes
Reference #: RR-003	
The System provided reservoir inspection reports for the Columbus Street Reservoir, Reynolds Road Reservoir, and Strangeway Reservoir and the accompanying Wisconsin DNR Water Storage Facility Inspection Reports for the listed reservoirs. All reservoirs were inspected by a certified engineer in October 2023.	
The Columbus Street Reservoir inspection report identified the following findings: cracking cement veneer on the exposed sidewalls which require continuous maintenance but notes the interior of the tank shows no signs of infiltration, concrete failures, spalling, or leaks. The report recommends the reservoir vent be replaced with a modern stainless-steel vent with correct screening and over/under pressure pallets as required by WDNR, the exterior cracks be re-caulked and sealed, another layer of rubber added to the existing layer of the reservoir, and replacing rip rap beneath the overflow outlet.	
The Reynolds Road Reservoir inspection report identified the following findings: unsafe ladders and water infiltration to the interior of the reservoir on the southeast corner and south wall along the seam between roof and wall. The report recommends the ladders be removed and re-caulking the roof and wall joint as well as the interior wall and ceiling joint to prevent contamination of the finished water. The report also recommends overflowing the tank to allow floating constituents in the water to flow out of the overflow pipe.	

The Strangeway Reservoir inspection report identified the following findings: an unsafe ladder but notes the tank shows no signs of infiltration, cracking, or spalling. The report recommends the System not use the ladder without proper safety equipment and replace the mushroom style vent with a stainless-steel vent.

Copy of Document Obtained Prior, During or After the Inspection: Yes, see Appendix B.

Record: Monthly Operating Reports (MORs) from January 2023 to December 2023

AOC: Yes

Reference #: RR-004

The MORs contain the following information: daily free chlorine residual and daily fluoride residual, as well as raw water pumped, amount of chlorine and fluoride used, and calculated dose of chlorine and fluoride per well.

In January, the System had fifteen days when the fluoride residual was below 0.6 milligrams per liter (mg/L) and eighteen days when the free chlorine residual was below 0.2 mg/L. The monthly average free chlorine residual was 0.19 mg/L.

In February, the System had ten days when the fluoride residual was below 0.6 mg/L and nineteen days when the free chlorine residual was below 0.2 mg/L. The monthly average free chlorine residual was 0.17 mg/L.

In March, the System had twelve days when the fluoride residual was below 0.6 mg/L and ten days when the free chlorine residual was below 0.2 mg/L.

In April, the System had one day when the fluoride residual was above 0.8 mg/L and nine days when the fluoride residual was below 0.6 mg/L. The System had 16 days when the free chlorine residual was below 0.2 mg/L.

In May, the System had thirteen days when the fluoride residual was below 0.6 mg/L and eighteen days when the free chlorine residual was below 0.2 mg/L. The monthly average free chlorine residual was 0.19 mg/L.

In June, the System had nineteen days when the fluoride residual was below 0.6 mg/L, and the monthly average fluoride residual was 0.59 mg/L. The System had twenty-three days when the free chlorine residual was below 0.2 mg/L. The monthly average free chlorine residual was 0.16 mg/L.

In July, the System had fifteen days when the fluoride residual was below 0.6 mg/L and thirty-one days when the free chlorine residual was below 0.2 mg/L. The monthly average free chlorine residual was 0.08 mg/L.

In August, the System had fourteen days when the fluoride residual was below 0.6 mg/L and thirty-one days when the free chlorine residual was below 0.2 mg/L. The monthly average free chlorine residual was 0.06 mg/L.

In September, the System had twelve days when the fluoride residual was below 0.6 mg/L and twenty-six days when the free chlorine residual was below 0.2 mg/L. The monthly average free chlorine residual was 0.08 mg/L. There was one missed reading for free chlorine residual on September 22.

In October, the System had sixteen days when the fluoride residual was below 0.6 mg/L. The monthly average fluoride residual was 0.59 mg/L. The System had twenty-four days when the free chlorine residual was below 0.2 mg/L. The monthly average free chlorine residual was 0.14 mg/L.

In November, the System had two days when the fluoride residual was above 0.8 mg/L. It had nine days when the fluoride residual was below 0.6 mg/L. The System had twenty-four days when the free chlorine residual was below 0.2 mg/L and the monthly average free chlorine residual was 0.16 mg/L.

Lodi Waterworks

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<p>In December, the System had three days when the fluoride residual was above 0.8 mg/L and eight days when the fluoride residual was below 0.6 mg/L. The System had twenty-two days when the free chlorine residual was below 0.2 mg/L. The monthly average free chlorine residual was 0.17 mg/L.</p>	
<p>Copy of Document Obtained Prior, During or After the Inspection: Yes, see Appendix B.</p>	
<p>Record: Lead and Copper Sample Pool</p>	<p>AOC: Yes</p>
<p>Reference #: RR-005</p>	
<p>The sample pool contains 11 sites which were denoted as tier 1 sampling sites. The plan was updated in 2022 when sampling site D-30 was added to the plan. Based on the material information provided, sites D-7, D-9, and D-27 do not meet the definition of a tier 1 site.</p>	
<p>Copy of Document Obtained Prior, During or After the Inspection: Yes, see Appendix B.</p>	
<p>Record: Lead and Copper Sampling Results and Collection Forms from January 1, 2021, to December 31, 2021</p>	<p>AOC: Yes</p>
<p>Reference #: RR-006</p>	
<p>In August and September 2021, the System sampled the ten sites listed on the LCR sampling plan at the time. All sites are denoted as tier 1 sites on the plan. Laboratory analytical results match results reported to WDNR. The resident sampling slip does not indicate the date and time the tap sampled from was last used before sampling.</p>	
<p>Copy of Document Obtained Prior, During or After the Inspection: Yes, see Appendix B.</p>	
<p>Record: Lead and Copper Sampling Results 2022 and Collection Forms from January 1, 2022, to December 31, 2022</p>	<p>AOC: Yes</p>
<p>Reference #: RR-007</p>	
<p>In August 2022, the System sampled the eleven sites listed on the LCR sampling plan at the time. All sites are denoted as tier 1 sites on the plan. Laboratory analytical results match results reported to WDNR. The resident sampling slip does not indicate the date and time the tap sampled from was last used before sampling.</p>	
<p>Copy of Document Obtained Prior, During or After the Inspection: Yes, see Appendix B.</p>	
<p>Record: Lead and Copper Sequential Sampling Results</p>	<p>AOC: No</p>
<p>Reference #: RR-008</p>	
<p>While on site, the System provided EPA with analytical results for sequential lead and copper sampling. This sampling was not done for compliance purposes. Sampling was completed on 9/16/22 and 9/19/22 at sites D-25, D-26, and D-30 from the System's lead and copper site sampling plan. Results show that lead was sampled above 15ug/L for samples 6 through 9 at site D-25, samples 11 through 13 at site D-26, and samples 13 through 16 at site D-30.</p>	
<p>Copy of Document Obtained Prior, During or After the Inspection: Yes, see Appendix B.</p>	
<p>Record: Consumer Notices of Lead and Copper Sampling Results 2021 and 2022</p>	<p>AOC: Yes</p>
<p>Reference #: RR-009</p>	
<p>The System mailed a notice of individual tap results from lead tap water monitoring to the persons served by the water system at the specific sampling site from which the sample was taken. The consumer notices did not contain an explanation of the health effects of lead, a list of steps consumers can take to reduce exposure to lead in drinking water, or definitions of maximum contaminant level goals or action level.</p>	
<p>Copy of Document Obtained Prior, During or After the Inspection: Yes, see Appendix B.</p>	
<p>Record: Public Education (PE) Materials and Certifications 2022 and 2024</p>	<p>AOC: Yes</p>
<p>Reference #: RR-010</p>	
<p>The System included the written content required regarding lead in drinking water, health effects of lead, reducing exposure to lead in drinking water, information on water testing, and contact information for the utility and the EPA as well as testing services.</p>	
<p>System personnel did not include end dates indicating the required activity (e.g., distribute PE information brochure, contact local health agencies, deliver education material to the listed organizations) was completed, however boxes</p>	

are checked that example educational materials and a list of organizations and agencies materials were delivered to are attached to the report.

The System provided a lead exceedance PE notice list. The list states that the PE brochure was mailed with all water bills. PE material was delivered to the local school district, local doctor and dental offices, and daycares. The System also publicly displayed PE at City Hall and the Public Library. The PE at City Hall was visually verified by EPA during the visit.

Copy of Document Obtained Prior, During or After the Inspection: Yes, see Appendix B.

Record: Disinfectant Byproduct Sample Siting Plan and Sampling Results 2022	AOC: Yes
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Reference #: RR-011

The System collects one DBP sample per year. In 2022, sampling was conducted at the point identified on the System’s plan. Based on the location of the wells and reservoirs in the system and the current DBP sampling point, the current sampling point is not representative of the longest water residence time in the distribution system.

Copy of Document Obtained Prior, During or After the Inspection: Yes, see Appendix B.

Record: Safety Data Sheets (SDS)	AOC: Yes
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Reference #: RR-012

The System provided copies of the SDS for Azone 15 and Hydrofluosilicic Acid. Both chemicals are NSF/ANSI 60 certified.

Copy of Document Obtained Prior, During or After the Inspection: After, see Appendix B.

SECTION IV – SAMPLING AND FIELD MONITORING ACTIVITIES

No samples or field measurement were collected during this inspection.

SECTION V – CLOSING CONFERENCE AND FOLLOW UP

This section describes the closing conference, records that were requested to be provided following the inspection and provides a log of communication following the inspection.

Closing Conference

Amanda Cross held a closing conference with System personnel at 11:00am on January 31, 2024, for the inspection. During the closing conference, Amanda Cross discussed the observations and AOCs identified during the inspection. AOCs have not yet been evaluated for a formal compliance determination.

Communication Log

EPA received additional information following the inspection.

Date	Type	Point of Contact	Description (Including Documents Name, if applicable)
February 13, 2024	Email	Chad Wolter	Provided copies of the Azone 15 and Hydrofluosilicic Acid SDS and supplied copies of SDS for each wellhouse. Also provided additional information on updated SCADA logins and the purchase of a chlorine standard.
February 19, 2024	Email	Chad Wolter	Provided laboratory analytical results for 2023 DBP sampling and 2021 LCR resident sampling slips.

SECTION VI – AREAS OF CONCERN

This section provides AOCs identified during the inspection. All AOCs are grouped by the areas inspected, when relevant. The presentation of AOCs does not constitute a formal compliance determination or violation. AOCs may not be in sequential order.

AOC Reference #: IN-002	
Regulation:	N/A
AOC: The System currently has six employees. Currently there are no open positions, but staff expressed that additional staff for operational day to day needs would be beneficial.	
Additional Notes:	
AOC Reference #: IN-007	
Regulation:	N/A
AOC: The System uses a HACH DR900 Multiparameter Colorimeter, handheld in the field and has a HACH DR3900 Laboratory VIS Spectrophotometer with RFID Technology in the lab. Equipment is sent in for routine servicing, but System personnel could not recall the last time this was done.	
Additional Notes:	
AOC Reference #: IN-007	
Regulation:	HACH Chlorine, Free-USEPA DPD Method 10245 MR, Powder Pillows Methods and Procedures
Accuracy check	
Standard additions method (sample spike)	
Use the standard additions method (for applicable instruments) to validate the test procedure, reagents and instrument and to find if there is an interference in the sample.	
Items to collect:	
<ul style="list-style-type: none"> • Chlorine Standard Solution, 2-mL PourRite® Ampule, 25–30 (or 50–75) mg/L • Ampule breaker • Pipet, TenSette®, 0.1–1.0 mL and tips 	
<ol style="list-style-type: none"> 1. Use the test procedure to measure the concentration of the sample, then keep the (unspiked) sample in the instrument. 2. Go to the Standard Additions option in the instrument menu. 3. Select the values for standard concentration, sample volume and spike volumes. 4. Open the standard solution. 5. Prepare three spiked samples: use the TenSette pipet to add 0.1 mL, 0.2 mL and 0.3 mL of the standard solution, respectively, to three 10-mL portions of fresh sample. Mix well. 6. Use the test procedure to measure the concentration of each of the spiked samples. Start with the smallest sample spike. Measure each of the spiked samples in the instrument. 	
AOC: During the inspection, the System did not have standards for chlorine on site or a process to routinely verify the accuracy of the chlorine handheld device.	
Additional Notes: Since the onsite inspection, the System has notified EPA it has purchased chlorine standards for sampling to routinely verify the accuracy of the device.	

AOC Reference #: IN-005, OB-013	
Regulation:	EPA Resources on Cybersecurity
https://www.epa.gov/waterresilience/cybersecurity-sanitary-surveys	
AOC: System personnel noted that staff do not have unique usernames or passwords for the SCADA system and one login is used.	
Additional Notes: Since the onsite inspection, the System has notified EPA it has established separate logins on the SCADA for each operator.	
AOC Reference #: IN-006	
Regulation:	40 C.F.R. § 141.86(a)(1) and (2) (Jan. 1, 2020)
(a) Sample site location.	
(1) By the applicable date for commencement of monitoring under paragraph (d)(1) of this section, each water system shall complete a materials evaluation of its distribution system in order to identify a pool of targeted sampling sites that meets the requirements of this section, and which is sufficiently large to ensure that the water system can collect the number of lead and copper tap samples required in paragraph (c) of this section. All sites from which first draw samples are collected shall be selected from this pool of targeted sampling sites. Sampling sites may not include faucets that have point-of-use or point-of-entry treatment devices designed to remove inorganic contaminants.	
(2) A water system shall use the information on lead, copper, and galvanized steel that it is required to collect under § 141.42(d) of this part [special monitoring for corrosivity characteristics] when conducting a materials evaluation. When an evaluation of the information collected pursuant to § 141.42(d) is insufficient to locate the requisite number of lead and copper sampling sites that meet the targeting criteria in paragraph (a) of this section, the water system shall review the sources of information listed below in order to identify a sufficient number of sampling sites. In addition, the system shall seek to collect such information where possible in the course of its normal operations (e.g., checking service line materials when reading water meters or performing maintenance activities):	
(i) All plumbing codes, permits, and records in the files of the building department(s) which indicate the plumbing materials that are installed within publicly and privately owned structures connected to the distribution system;	
(ii) All inspections and records of the distribution system that indicate the material composition of the service connections that connect a structure to the distribution system; and	
(iii) All existing water quality information, which includes the results of all prior analyses of the system or individual structures connected to the system, indicating locations that may be particularly susceptible to high lead or copper concentrations.	
AOC: For the service lines owned by the water system, the System is using a combination of information such as age of homes, partial historical records, and working knowledge of the system construction and past experience to predict materials throughout the distribution system. The System is not visually or manually confirming materials unless work is being done on the service line in coordination with other maintenance activity. Through the work the System has completed during maintenance activities, it found the predictions for presence of lead lines were not accurate.	
Additional Notes:	
AOC Reference #: IN-008	
Regulation:	40 C.F.R. § 141.86(c) (Jan. 1, 2020)
(c)Number of samples. Water systems shall collect at least one sample during each monitoring period specified in paragraph (d) of this section from the number of sites listed in the first column (“standard monitoring”) of the table in this paragraph. A system conducting reduced monitoring under paragraph (d)(4) of this section shall collect at least one	

sample from the number of sites specified in the second column (“reduced monitoring”) of the table in this paragraph during each monitoring period specified in paragraph (d)(4) of this section. Such reduced monitoring sites shall be representative of the sites required for standard monitoring. A public water system that has fewer than five drinking water taps, that can be used for human consumption meeting the sample site criteria of paragraph (a) of this section to reach the required number of sample sites listed in paragraph (c) of this section, must collect at least one sample from each tap and then must collect additional samples from those taps on different days during the monitoring period to meet the required number of sites. Alternatively the State may allow these public water systems to collect a number of samples less than the number of sites specified in paragraph (c) of this section, provided that 100 percent of all taps that can be used for human consumption are sampled. The State must approve this reduction of the minimum number of samples in writing based on a request from the system or onsite verification by the State. States may specify sampling locations when a system is conducting reduced monitoring. The table is as follows:

System size (number of people served)	Number of sites (standard monitoring)	Number of sites (reduced monitoring)
>100,000	100	50
10,001 to 100,000	60	30
3,301 to 10,000	40	20
501 to 3,300	20	10
101 to 500	10	5
≤100	5	5

AOO: The System has a LCR sample pool that consists of eleven sites denoted as tier 1 sampling sites. For standard monitoring the System is required to have at least twenty sample locations.

Additional Notes:

AOO Reference #: RR-001

Regulation: 40 C.F.R. § 141.853(a)(1) and (5)

(1) Systems must develop a written sample siting plan that identifies sampling sites and a sample collection schedule that are representative of water throughout the distribution system not later than March 31, 2016. These plans are subject to State review and revision. Systems must collect total coliform samples according to the written sample siting plan. Monitoring required by §§ 141.854 through 141.858 may take place at a customer’s premises, dedicated sampling station, or other designated compliance sampling location. Routine and repeat sample sites and any sampling points necessary to meet the requirements of subpart S must be reflected in the sampling plan.

(5) Systems must identify repeat monitoring locations in the sample siting plan. Unless the provisions of paragraphs (a)(5)(i) or (a)(5)(ii) of this section are met, the system must collect at least one repeat sample from the sampling tap where the original total coliform-positive sample was taken, and at least one repeat sample at a tap within five service connections upstream and at least one repeat sample at a tap within five service connections downstream of the original sampling site. Except as provided for in paragraph (a)(5)(ii) of this section, systems required to conduct triggered source water monitoring under § 141.402(a) must take ground water source sample(s) in addition to repeat samples required under this subpart.

(i) Systems may propose repeat monitoring locations to the State that the system believes to be representative of a pathway for contamination of the distribution system. A system may elect to specify either alternative fixed locations or criteria for selecting repeat sampling sites on a situational basis in a standard operating procedure (SOP) in its sample siting plan. The system must design its SOP to focus the repeat samples at locations that best verify and

<p>determine the extent of potential contamination of the distribution system area based on specific situations. The State may modify the SOP or require alternative monitoring locations as needed.</p>	
<p>AOC: The System’s sample siting plan did not have repeat upstream and downstream sampling locations in the event of a total coliform positive sample. No SOP for selecting repeat sampling sites on a situational basis was provided.</p>	
<p>Additional Notes:</p>	
<p>AOC Reference #: IN-008, RR-010</p>	
<p>Regulation:</p>	<p>40 C.F.R. § 141.85(b)(3)</p>
<p>(b)Delivery of public education materials. (3) As long as a community water system exceeds the action level, it must repeat the activities pursuant to paragraph (b)(2) of this section as described in paragraphs (b)(3)(i) through (iv) of this section. (i) A community water system shall repeat the tasks contained in paragraphs (b)(2)(i), (ii) and (vi) of this section every 12 months. (ii) A community water system shall repeat tasks contained in paragraph (b)(2)(iii) of this section with each billing cycle. (iii) A community water system serving a population greater than 100,000 shall post and retain material on a publicly accessible Web site pursuant to paragraph (b)(2)(iv) of this section. (iv) The community water system shall repeat the task in paragraph (b)(2)(v) of this section twice every 12 months on a schedule agreed upon with the State. The State can allow activities in paragraph (b)(2) of this section to extend beyond the 60-day requirement if needed for implementation purposes on a case-by-case basis; however, this extension must be approved in writing by the State in advance of the 60-day deadline.</p>	
<p>AOC: As a result of the ALE, the System was required to complete public education requirements. The System completed this in 2022 but not in 2023. Public education is required every year the ALE continues.</p>	
<p>Additional Notes:</p>	
<p>AOC Reference #: OB-001, OB-003, and OB-005</p>	
<p>Regulation:</p>	<p>NR 811.40(1)(L)2 and NR 811.51(2)(a)</p>
<p>NR 811.40(1)(L) Chemicals shall be stored in accordance with the following requirements: 2. Each of the following chemicals shall be stored in a separate room with no other chemicals: a. Fluoride. b. Ammonia. c. Powders. d. Gases.</p>	
<p>NR 811.51(1) Fluoride chemical storage. Fluoride chemicals shall be stored in accordance with the following requirements: (a) Fluoride chemicals shall be isolated from other chemicals to prevent contamination.</p>	
<p>NR 811.51 (2) Fluoride Acid housing. Equipment for feeding fluoride in the acid form and unsealed acid storage containers shall be housed in accordance with the following requirements: (a) All chemical feed equipment, solution tanks, and acid containers shall be housed in a separate room within the pumphouse away from controls, electrical contacts, and other equipment subject to damage. Fluoride chemical feed installations shall be installed in a room separate from all other chemicals.</p>	
<p>AOC: In Wellhouse #2, Wellhouse #3, and Wellhouse #4 chemical storage rooms, EPA observed the chemicals used for chlorination and fluoridation were stored in the same room.</p>	
<p>Additional Notes:</p>	

AOO Reference #: OB-001, OB-003, OB-005	
Regulation:	NR 811.40(1)(L)1
(L) Chemicals shall be stored in accordance with the following requirements: 1. Each chemical shall be provided with its own secondary leakage containment	
AOO: The secondary containment around the tanks in Wellhouse #2 and Wellhouse #3 were insufficient to contain a spill of the full amount of the two tanks within the containment area. Wellhouse #4 had no secondary containment for the two chemical tanks.	
Additional Notes:	
AOO Reference #: OB-001, OB-003, and OB-005	
Regulation:	NR 811.40(1)(i)
(i) Adequate means of draining tanks shall be provided, but there may be no direct connection between any drain piping and a sanitary sewer. Chemicals shall not be discharged directly to a storm sewer. Drain piping shall terminate at least 2 pipe diameters, but not less than 3 inches, above the overflow rim of a receiving sump, conduit or waste receptacle.	
AOO: Drains located in the Wellhouse #2, Wellhouse #3, and Wellhouse #4 chemical rooms drain to the sanitary sewer.	
Additional Notes:	
AOO Reference #: OB-002, OB-004	
Regulation:	N/A
AOO: EPA observed minor rust and corrosion on nuts and bolts on the well isolation valve in Wellhouse #2 and minor rust on the gate valve in Wellhouse #3.	
Additional Notes:	
AOO Reference #: OB-004	
Regulation:	NR 811.37(5)(a)
(a) Air-vacuum and air relief valves. The connecting and discharge lines for all air-vacuum and air relief valves shall be constructed of copper, ductile iron, steel, or stainless steel and shall face downward and terminate with a 24-mesh corrosion resistant screen, at least 24 inches above the floor. For line-shaft vertical turbine pump discharge pipes, an air-vacuum relief valve shall be installed between the pump and the check valve. For well line-shaft vertical turbine pump discharge pipes that discharge directly to reservoirs, the air relief valve is not required but a vacuum relief valve and a check valve are required. The installation of an air-vacuum relief valve is not required for submersible pump installations when check valves are installed at the pump and above grade, and there are no weep holes in the pump drop pipe unless entrained air in the well water or pressure surges are a concern and the installation of an air relief valve is necessary or required by the department.	
AOO: The associated air release had a mesh covering that was larger than the required 24-mesh size.	
Additional Notes:	
AOO Reference #: OB-006	
Regulation:	NR 811.31(1)(c) and NR 811.36(1)(a)
NR 811.31 (1) PUMP BASES. Line-shaft vertical turbine pump base installations shall meet the requirements of this subsection and as shown in Figure Nos. 2 and 3 in the Appendix:	

<p>(c) The metal surfaces between the pump head and base plate shall be machined or gasketed to provide a watertight seal. A gasket or sealant shall be provided between the base plate and the concrete pump foundation.</p>	
<p>NR 811.36 (1) WELL VENT. Each well shall be vented to the atmosphere in accordance with the following requirements: (a) For wells without pitless units, a metal vent pipe shall be installed that terminates in a 24-mesh corrosion resistant screened "U" bend or mushroom cap at least 24 inches above the floor. The vent pipe diameter shall be a minimum of 2 inches for well casings 10 inches in diameter and larger. The department may, on a case-by-case basis, allow smaller diameter well vents on existing installations if water drawdown has not compromised the sanitary seal or require larger diameter well vents for wells with significant water level drawdown. Vent piping shall be welded watertight to the side of the well casing a minimum of 4 inches above the floor and may extend through a concrete pump base or collar where one is present. Alternatively, vent piping may project through a well seal or pump discharge head if the well seal or discharge head is watertight and will facilitate the installation of the vent pipe.</p>	
<p>AOC: EPA observed a gravel feed chute that the System used to refill the media surrounding the well casing. This feed chute was not sealed.</p>	
<p>Additional Notes:</p>	
<p>AOC Reference #: OB-008</p>	
<p>Regulation:</p>	<p>N/A</p>
<p>AOC: EPA observed the Columbus St reservoir surrounding fence had trees beginning to grow through it and vines were growing into the barbed wire around the top of the fence.</p>	
<p>Additional Notes:</p>	
<p>AOC Reference #: OB-009, RR-003</p>	
<p>Regulation:</p>	<p>NR 810.14</p>
<p>Water storage facility inspections. The interior and exterior of water storage facilities serving public water systems shall be regularly inspected and maintained. Inspections of storage facilities 10,000 gallons or greater shall be by a professional tank inspection firm or by a registered professional engineer. Maintenance shall include removal of sediment and biofilm prior to evaluation of structural, mechanical and coating systems. Repairs shall be provided as necessary to ensure good working condition. Interior and exterior paint coatings for steel elevated water storage tanks or treatment structures shall be inspected by a person trained to evaluate the integrity of the paint system and repainted as necessary to maintain structural integrity. The water supplier may perform the inspection if experienced in paint inspection.</p>	
<p>AOC: EPA observed cracking on the exterior of the Columbus Street (Pleasant St) Reservoir that was severe enough to have caused the concrete exterior to need repair. These cracks were also noted in the most recent reservoir inspection report that was done by a professional engineer of the Columbus Street (Pleasant St) Reservoir.</p>	
<p>Additional Notes:</p>	
<p>AOC Reference #: OB-009</p>	
<p>Regulation:</p>	<p>NR 811.64(3)(a)1</p>
<p>Piping used to drain water from a water storage structure shall discharge to the ground surface. The drain piping shall be brought down to within 12 to 24 inches of the ground surface and discharged with a free air break over a drainage inlet structure, splash pad or riprap.</p>	
<p>AOC: The Columbus Street (Pleasant St) Reservoir did not discharge onto a pad or riprap.</p>	

Additional Notes:	
AOC Reference #: OB-010	
Regulation:	NR 811.64(8)(d)
(8) VENTS. Water storage structures shall be vented to the atmosphere. Vent installations shall meet the following requirements: (d) Ground level structures. Vents installed on ground level structures shall terminate in a U-bend or mushroom cap constructed with the opening 24 to 36 inches above the roof or sod and covered with 24-mesh corrosion resistant screen installed within the pipe or cap at a location least susceptible to vandalism. The skirted sides of mushroom caps shall totally cover any screens when viewing the cap from the side.	
AOC: EPA observed a mushroom cap style vent with a screen and under screen at the Strangeway Reservoir. The mesh size of the under screen could not be visually verified and the outer screen was larger than 24-mesh.	
Additional Notes:	
AOC Reference #: OB-010	
Regulation:	NR 811.64(4)(d)2
(d) Ground level structures. 2. The overflow shall be screened with 24-mesh corrosion resistant screen installed within the pipe at a location least susceptible to damage by vandalism.	
AOC: The overflow screen at the Strangeway Reservoir had gaps at the sides and edges.	
Additional Notes:	
AOC Reference #: OB-014	
Regulation:	N/A
AOC: The System did not have SOPs or guidance manuals for the handheld HACH DR900.	
Additional Notes:	
AOC Reference #: OB-015	
Regulation:	N/A
AOC: The safety data sheets (SDS) were requested for Azone 15 and the Hydrofluorosilicic acid. System personnel were unable to locate these in the binder labeled MSDS in the lab. They were also unavailable in the binder in the chemical room in Wellhouse #4.	
Additional Notes: Since the onsite inspection, the System provided copies of the SDS and placed copies in each wellhouse.	
AOC Reference #: RR-003	
Regulation:	NR 811.64(2)(a)
(2) Protection. Storage facilities shall be constructed and maintained to protect the water supply in accordance with the following requirements: (a) General requirements. All water storage structures shall have watertight roofs or covers which exclude surface water, rain, snow, birds, animals, insects and dust.	

<p>AOC: The Reynolds Road Reservoir inspection report identified the following findings: unsafe ladders and water infiltration to the interior of the reservoir on the southeast corner and south wall along the seam between roof and wall. The report recommends the ladders be removed and re-caulking the roof and wall joint as well as the interior wall and ceiling joint to prevent contamination of the finished water. The report also recommends overflowing the tank to allow floating constituents in the water to flow out of the overflow pipe.</p>	
<p>Additional Notes:</p>	
<p>AOC Reference #: RR-004</p>	
<p>Regulation:</p>	<p>NR 809.74(1)(a)</p>
<p>(1) Public water systems which add fluoride. (a) The water supplier for a community water system artificially fluoridating the water shall establish a monitoring program in order to maintain the fluoride concentration within the range of 0.6 to 0.8 milligrams per liter recommended by the dental health section of the department of health services for optimum dental benefits.</p>	
<p>AOC: In January, the System had 15 days when the fluoride residual was below 0.6 milligrams per liter (mg/L). In February, the System had 10 days when the fluoride residual was below 0.6 mg/L. In March, the System had 12 days when the fluoride residual was below 0.6 mg/L. In April, the System had 1 day when the fluoride residual was above 0.8 mg/L. It had 9 days when the fluoride residual was below 0.6 mg/L. In May, the System had 13 days when the fluoride residual was below 0.6 mg/L. In June, the System had 19 days when the fluoride residual was below 0.6 mg/L. The monthly average fluoride residual was 0.59 mg/L. In July, the System had 15 days when the fluoride residual was below 0.6 mg/L. In August, the System had 14 days when the fluoride residual was below 0.6 mg/L. In September, the System had 12 days when the fluoride residual was below 0.6 mg/L. In October, the System had 16 days when the fluoride residual was below 0.6 mg/L. The monthly average fluoride residual was 0.59 mg/L. In November, the System had 2 days when the fluoride residual was above 0.8 mg/L. It had 9 days when the fluoride residual was below 0.6 mg/L. In December, the System had 3 days when the fluoride residual was above 0.8 mg/L. It had 8 days when the fluoride residual was below 0.6 mg/L.</p>	
<p>Additional Notes:</p>	
<p>AOC Reference #: IN-005, RR-004</p>	
<p>Regulation:</p>	<p>NR 809.74(2) and HACH Laboratory Applications Quick Reference Guide – Version 1.2</p>
<p>(2) CHLORINE. The water suppliers for all waterworks which chlorinate water shall test chlorine residuals at locations and intervals necessary to control the chlorination process. At groundwater supplies, the chlorine residual of a sample from a representative location in the distribution system shall be checked at least twice per week.</p>	

Application				Instrument								
Parameter	EPA	Chemistry	Range: mg/l (unless noted)	AT1000	HQd Meter	DR1300 FL Fluorometer	DR6000 Spectrophotometer	DR3900 Spectrophotometer	DR1900 Spectrophotometer	DR900 Colorimeter	DR300	SL1000
				Chlorine, Free	•	DPD powder pillow	0.02-2.00				•	•
•	DPD AccuVac	0.02-2.00					•	•	•	•	•	
	DPD Rapid Liquid	0.02-2.00					•	•	•	•	•	
•	DPD powder pillow	0.05-4.00					•	•	•	•	•	
•	Indophenol	0.04-4.50					•	•	•	•	•	
•	DPD powder pillow	0.1-10.0					•	•	•	•	•	
•	TNT866	0.05-2.00					•	•	•			

AOC: In July, the System had a free chlorine residual reading of 0.01 mg/L on July 2 and 4. In August, the System had a free chlorine residual of 0.01 mg/L on August 14 and August 16. Based on the specifications listed in the HACH Laboratory Applications Quick Reference Guide – Version 1.2, the laboratory equipment used on site is not able to accurately determine a free chlorine residual below 0.02 mg/L.

Additional Notes:

AOC Reference #: OB-003, RR-004

Regulation: Azone 15 Chemical Label
EPA Reg. No. 7870-5

DISINFECTION OF DRINKING WATER (EMERGENCY/PUBLIC/INDIVIDUAL SYSTEMS)

PUBLIC SYSTEMS - Mix a ratio of 1 oz. of this product to 100 gallons of water. Begin feeding this solution with a hypochlorinator until a free available chlorine residual of at least 0.2 ppm and no more than 0.6 ppm is attained throughout the distribution system. Check water frequently with a chlorine test kit. Bacteriological sampling must be conducted at a frequency no less than that prescribed by the National Primary Drinking Water Regulations. Contact your local Health Department for further details.

AOC: Azone 15 had an NSF/ASNI-60 certification visible. The chemical that the System used for disinfectant had a label that gave direction on its use as a disinfectant for drinking water. The label identifies a minimum of 0.2 parts per million (ppm) to a maximum of 0.6 ppm free chlorine in the distribution system as the only legal way to apply this product.

In January, the System had 18 days when the free chlorine residual was below 0.2 mg/L.
 In February, the System had 19 days when the free chlorine residual was below 0.2 mg/L.
 In March, the System had 10 days when the free chlorine residual was below 0.2 mg/L.
 In April, the System had 16 days when the free chlorine residual was below 0.2 mg/L.
 In May, the System had 18 days when the free chlorine residual was below 0.2 mg/L. The monthly average free chlorine residual was 0.19 mg/L.
 In June, the System had 23 days when the free chlorine residual was below 0.2 mg/L. The monthly average free chlorine residual was 0.16 mg/L.
 In July, the System had 31 days when the free chlorine residual was below 0.2 mg/L. The monthly average free chlorine residual was 0.08 mg/L.

<p>In August, the System had 31 days when the free chlorine residual was below 0.2 mg/L. The monthly average free chlorine residual was 0.06 mg/L. In September, the System had 26 days when the free chlorine residual was below 0.2 mg/L. The monthly average free chlorine residual was 0.08 mg/L. There was one missed reading for free chlorine residual on September 22. In October, the System had 24 days when the free chlorine residual was below 0.2 mg/L. The monthly average free chlorine residual was 0.14 mg/L. In November, the System had 24 days when the free chlorine residual was below 0.2 mg/L. The monthly average free chlorine residual was 0.16 mg/L. In December, the System had 22 days when the free chlorine residual was below 0.2 mg/L. The monthly average free chlorine residual was 0.17 mg/L.</p>	
Additional Notes:	
AO Reference #: RR-005	
Regulation:	40 CFR § 141.86(a)(3) (Jan. 1, 2020)
<p>(3) The sampling sites selected for a community water system's sampling pool ("tier I sampling sites") shall consist of single-family structures that: (i) Contain copper pipes with lead solder installed after 1982 or contain lead pipes; and/or (ii) Are served by a lead service line. When multiple-family residences comprise at least 20 percent of the structures served by a water system, the system may include these types of structures in its sampling pool.</p>	
<p>AO: Based on a review of the LCR sampling site plan and materials information provided during the inspection, sites, D-7, D-9, and D-27 do not meet the definition of a tier 1 site.</p>	
Additional Notes:	
AO Reference #: RR-006, RR-007	
Regulation:	40 C.F.R. § 141.86(b)(2) (Jan. 1, 2020)
<p>(2) Each first-draw tap sample for lead and copper shall be one liter in volume and have stood motionless in the plumbing system of each sampling site for at least six hours. First-draw samples from residential housing shall be collected from the cold water kitchen tap or bathroom sink tap. First-draw samples from a nonresidential building shall be one liter in volume and shall be collected at an interior tap from which water is typically drawn for consumption. Non-first-draw samples collected in lieu of first-draw samples pursuant to paragraph (b)(5) of this section shall be one liter in volume and shall be collected at an interior tap from which water is typically drawn for consumption. First-draw samples may be collected by the system or the system may allow residents to collect first-draw samples after instructing the residents of the sampling procedures specified in this paragraph. To avoid problems of residents handling nitric acid, acidification of first-draw samples may be done up to 14 days after the sample is collected. After acidification to resolubilize the metals, the sample must stand in the original container for the time specified in the approved EPA method before the sample can be analyzed. If a system allows residents to perform sampling, the system may not challenge, based on alleged errors in sample collection, the accuracy of sampling results.</p>	
<p>AO: The resident sampling slip does not indicate the date and time the tap sampled from was last used before sampling. All of these samples were used for compliance.</p>	
Additional Notes:	
AO Reference #: RR-009	
Regulation:	40 CFR § 141.85(d)(3) (Jan. 1, 2020)
<p>(d) Notification of results – (3) Content. The consumer notice must include the results of lead tap water monitoring for the tap that was tested, an explanation of the health effects of lead, list steps consumers can take to reduce exposure to lead in drinking water and</p>	

contact information for the water utility. The notice must also provide the maximum contaminant level goal and the action level for lead and the definitions for these two terms from § 141.153(c).

AOC: The consumer notices did not contain an explanation of the health effects of lead, a list of steps consumers can take to reduce exposure to lead in drinking water, or definitions of maximum contaminant level goals or action level.

Additional Notes:

AOC Reference #: RR-011

Regulation: NR 809.565(2)(c)2.b.

(c) Reduced monitoring.

b. A water supplier for a public water system serving fewer than 10,000 people may reduce monitoring to one sample per treatment plant per 3 year monitoring cycle during the month of warmest water temperature at a location representing maximum residence time in the public water system. The reduced monitoring will begin on January 1 following the quarter in which the public water system first qualifies for reduced monitoring.

AOC: Based on the location of the wells and reservoirs in the system and the current DBP sampling point, the current sampling point is not representative of the longest water residence time in the distribution system.

Additional Notes:

LIST OF APPENDICES AND ATTACHMENTS

APPENDICES

A. Photo Log

B. Documents Requested and Received

Lodi Waterworks

Inspection Dates: January 30 and 31, 2024

APPENDIX A: PHOTOLOG



Photo 1: RIMG0292.JPG

Location: Lodi Waterworks Public Water System

Photographer: Taylor Jerger

Date/Time: 1/31/2024 9:55 AM

Description: Chemical room for Well #2. The chemical tank shown on the left was for disinfection and the chemical tank shown on the right was for fluoridation.



Photo 2: RIMG0293.JPG

Location: Lodi Waterworks Public Water System

Photographer: Taylor Jerger

Date/Time: 1/31/2024 9:55 AM

Description: Digital scale read outs for the chemical storage tanks for Well #2.

Lodi Waterworks

Inspection Dates: January 30 and 31, 2024



Photo 3: RIMG0294.JPG

Location: Lodi Waterworks Public Water System

Photographer: Taylor Jerger

Date/Time: 1/31/2024 10:03 AM

Description: Rust on isolation valve on Well #2.



Photo 4: RIMG0295.JPG

Location: Lodi Waterworks Public Water System

Photographer: Taylor Jerger

Date/Time: 1/31/2024 10:04 AM

Description: Overview of pump system for Well #2.

Lodi Waterworks

Inspection Dates: January 30 and 31, 2024



Photo 5: RIMG0296.JPG

Location: Lodi Waterworks Public Water System

Photographer: Taylor Jerger

Date/Time: 1/31/2024 10:06 AM

Description: Finished water sample tap on the water line leaving Well #2.



Photo 6: RIMG0297.JPG

Location: Lodi Waterworks Public Water System

Photographer: Taylor Jerger

Date/Time: 1/31/2024 10:21 AM

Description: Cracks on the exterior of the Columbus Street Reservoir.

Lodi Waterworks

Inspection Dates: January 30 and 31, 2024



Photo 7: RIMG0298.JPG

Location: Lodi Waterworks Public Water System

Photographer: Taylor Jerger

Date/Time: 1/31/2024 10:24 AM

Description: Base of the access hatch for the Columbus Street Reservoir.

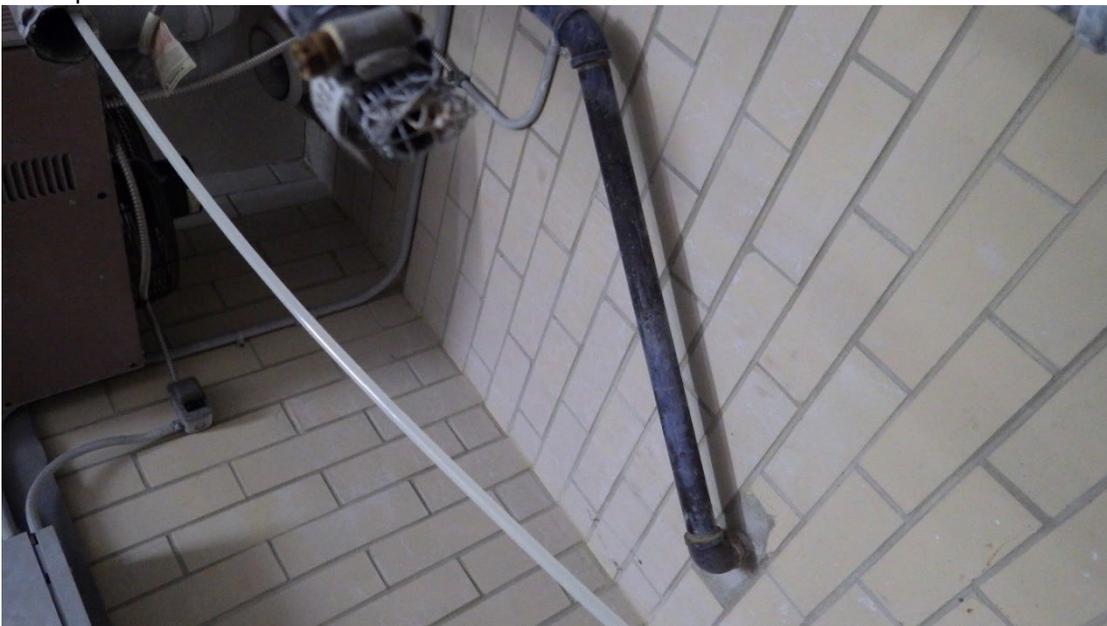


Photo 8: RIMG0299.JPG

Location: Lodi Waterworks Public Water System

Photographer: Taylor Jerger

Date/Time: 1/31/2024 10:44 AM

Description: Air relief screen on Well #3.

Lodi Waterworks

Inspection Dates: January 30 and 31, 2024



Photo 9: RIMG0300.JPG

Location: Lodi Waterworks Public Water System

Photographer: Taylor Jerger

Date/Time: 1/31/2024 10:50 AM

Description: Chemical room for Well #3. The chemical tank shown on the left was for disinfection and the chemical tank shown on the right was for fluoridation.

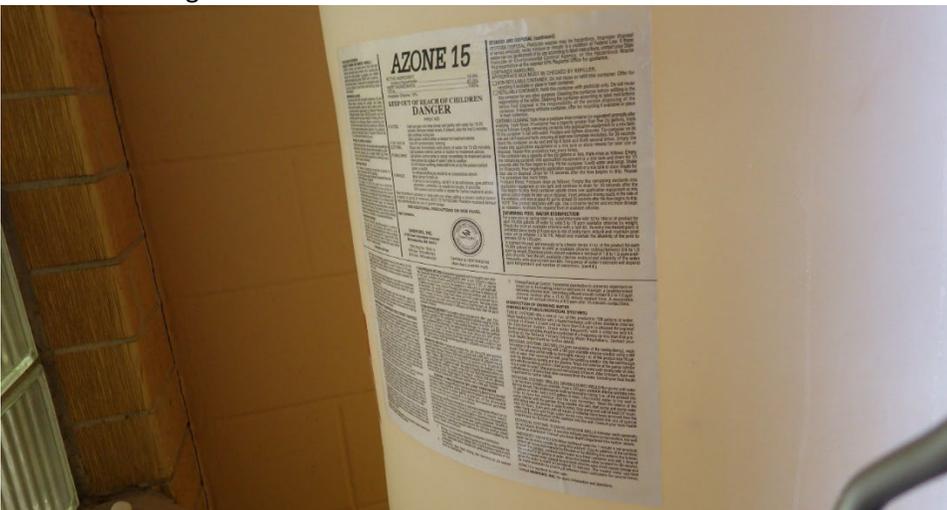


Photo 10: RIMG0301.JPG

Location: Lodi Waterworks Public Water System

Photographer: Taylor Jerger

Date/Time: 1/31/2024 10:50 AM

Description: Chemical label for the disinfectant used by the water system.

Lodi Waterworks

Inspection Dates: January 30 and 31, 2024

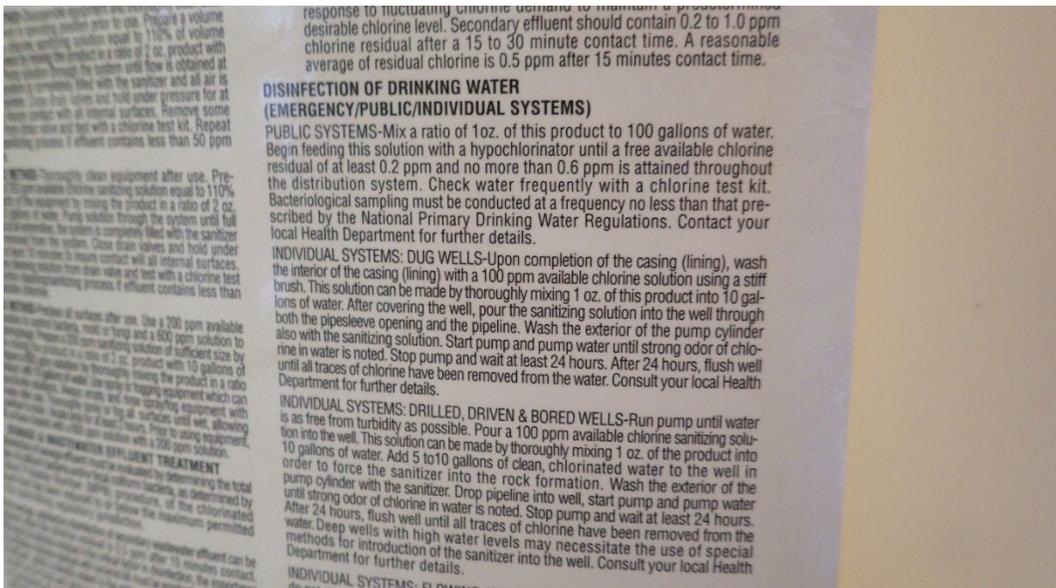


Photo 11: RIMG0302.JPG

Location: Lodi Waterworks Public Water System

Photographer: Taylor Jerger

Date/Time: 1/31/2024 10:50 AM

Description: Close up image of Photo 10. Chemical label instructions for the use of the chemical at drinking water systems.



Photo 12: RIMG0303.JPG

Location: Lodi Waterworks Public Water System

Photographer: Taylor Jerger

Date/Time: 1/31/2024 11:02 AM

Description: Screen over the overflow pipe opening at the Strangeway Reservoir.

Lodi Waterworks

Inspection Dates: January 30 and 31, 2024



Photo 13: RIMG0304.JPG

Location: Lodi Waterworks Public Water System

Photographer: Taylor Jerger

Date/Time: 1/31/2024 11:30 AM

Description: Metal cable leading into the space around the Well #4 casing.



Photo 14: RIMG0305.JPG

Location: Lodi Waterworks Public Water System

Photographer: Taylor Jerger

Date/Time: 1/31/2024 11:34 AM

Description: Overview of the Well #4 booster station.

Lodi Waterworks

Inspection Dates: January 30 and 31, 2024



Photo 15: RIMG0306.JPG

Location: Lodi Waterworks Public Water System

Photographer: Taylor Jerger

Date/Time: 1/31/2024 11:39 AM

Description: Chemical room for Well #4. The chemical tank shown on the right was for disinfection and the chemical tank shown on the left was for fluoridation.

APPENDIX B: DOCUMENTS REQUESTED AND RECEIVED

Name of Document Requested	Document provided?	Date Received	CBI claimed?
Diagram or description of the treatment	No – discussed on site	N/A	No
Most recent storage tank inspections and findings for all storage structures	Yes	1/26/24	No
Cross Connection Control Program - example commercial surveys	Yes	1/30/24	No
Monthly operating reports sent to the state for the previous 12 months	Yes	1/26/24	No
Revised total coliform rule sample siting plan	Yes	1/26/24	No
Monthly coliform monitoring and analyses records for the previous 12 months	Yes	1/26/24	No
Existing distribution system materials evaluation	Yes	1/26/24	No
Lead and copper rule sample pool with tier designations that were used in the 2 most recent sampling periods	Yes	1/26/24	No
Lead and copper rule monitoring and analyses records from the 2 most recent monitoring periods	Yes	1/26/24	No
Consumer notices of lead tap water monitoring results from the 2 most recent monitoring periods	Yes	1/26/24	No
Lead and Copper public education notices and certifications from the 2 most recent monitoring periods	Yes	1/26/24	No
Disinfectant byproduct monitoring plan or sample locations	Yes	1/26/24	No
DBP monitoring and analyses records for the previous 12 months	Yes	2/19/24	No
Lead and Copper Sequential Sampling Results	Yes	1/31/24	No
SDS for Chlorine (Azone 15) and Hydrofluosilicic Acid	Yes	2/13/24	No