NOVEMBER 20, 2023

The Consolidated Report of Activities

for the Quarter Ended September 30, 2023

for The Interim Stipulated Order as Entered on November 29, 2022
By United States District Judge Henry T. Wingate
In Case Number 3:22-cv-00686-HTW-LGI
The United States v. The City of Jackson, Mississippi
and EPA Grant Numbers 84054501, 84060101 SDWA Section 1442 (b)

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The Interim Third-Party Manager
Of the City of Jackson's Drinking Water System

JXN water

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Executive Summary

This quarterly report is submitted for the Court's review and approval in accordance with Section 16.a of the Interim Stipulated Order and in accordance with EPA's Section 1442(b) Grant to JXN Water.

This report summarizes activities affecting the operation of the entire water system serving the City of Jackson, Mississippi. The scope and magnitude of this effort is unprecedented. As detailed below, significant progress has been made across the board. With the foundational systems and improvements described below, progress will accelerate even faster.

While significant challenges remain, the team of local and national professionals who are working with the ITPM to implement the Court's Interim Special Order deserve special recognition for their exceptional dedication and public service.

FIGURE 1 PRIORITY PROJECT STATUS

Project No.	Description	Original Comp	Current Comp	Comments
1	O & M Contract Phase 1	Mar-23	Feb-23	In place - COMPLETE
1	O & M Contract Phase 2	Jul-23	Dec-23	Negotiations continue
2	Winterization	Dec-23	Dec-23	Close out underway
3	Corrosion Control JHF	Sep-23	Dec-23	Close out underway
3	Corrosion Control OBC	Sep-23	Mar-24	Awaiting Equipment
4	Emergency Water Supply	Sep-23	Sep-27	Available throughout ISO term
5	Distribution System Improvement Plan	Jul-23	Dec-23	Underway since 1/2023
6	System Stabilization and Sustainability Plan	Mar-23	Mar-24	Needs to build off of PP 5
7	SCADA	Sep-23	Mar-24	Design started 9/2023
8	Chemical Systems	Oct-23	Dec-24	Design at 30% - expanded scope to include chlorine system
9	Chlorine System at OBC - Temporary Improvements	Feb-23	Feb-23	Complete
9	Chlorine System at OBC - Replacement	Dec-23	Dec-24	Included in design for PP 8
10	Intake Structure Repairs	Dec-23		
11	Treatment Facilities		Dec-25	Assessment report draft complete 9/2023
12	Sludge Assessment and Removal	Jun-23	On-Hold	Plants cannot be shut down long enough for assessment at this time.
13	Resilient Power Plan	Sep-23	Dec-23	Assessment complete and technical memo to be submitted 12/2023

** Scope changed submitted on September 19, 2023 without comment during 20-day comment period.*

FIGURE 2 GRANT 84054501-0 ITPM PROFESSIONAL BUDGET

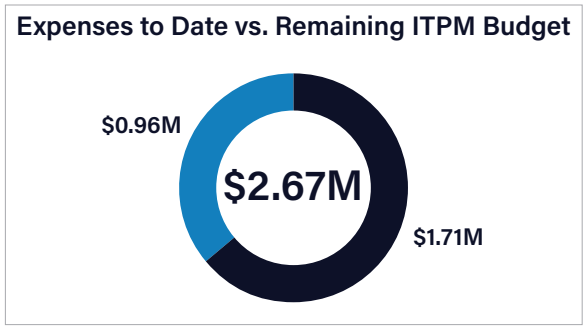


FIGURE 3 GRANT 84060101-0 1442(B) PROJECTS

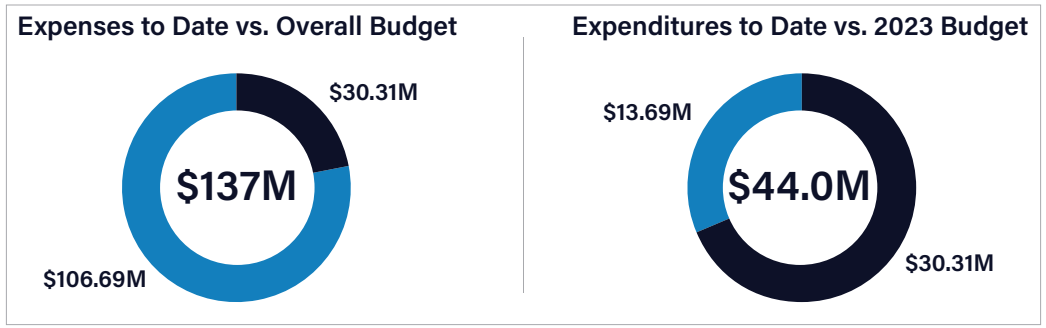


FIGURE 4 MINORITY PARTICIPATION

DBE/SWAM Spend to Date	**$**	**7,459,095.03**
Total JXN Water Spend to Date	$	48,366,952.12
Jacobs Contract	$	18,828,277.03
Total JXN Water Spend to Date without Jacobs	$	29,538,675.09
MBE Percentage Total Spend		15%
MBE Percentage without Jacobs		25%

Precautionary Boil Water Notices

No city-wide notices have been necessary since December 2022.

With intensive leak repair on-going, precautionary notices are required related to leak repairs where pressure must be reduced or lines isolated. Over the course of the reporting period nearly 200 small diameter pipe leaks were repaired and dozens of larger pipe leaks with only a portion requiring precautionary notices.

- Total Issued – 55
- Average Number of Customers Impacted – 40
- Average Duration – 3 days

A. Purpose

The Interim Stipulated Order, Section 16.a. requires quarterly reporting to include the following components:

i. A description of the projects and activities conducted during the reporting period to comply with the requirements of this Stipulated Order.

ii. A summary of any delays encountered or anticipated that may affect the ITPM's performance or implementation of this Stipulated Order, including the Priority Project List, and any actions taken to address such delays.

iii. Any modification to the Priority Project List or Implementation Schedule consistent with Paragraphs 15 (Priority Project List) and 18 (EPA Review);

iv. An accounting of the expenditures from, additions to, and remaining balance of the ITPM Professional Budget.

v. A projection of work to be performed pursuant to this Stipulated Order during the next or succeeding Quarter; and

vi. In each Status Report filed in the month of January, except in the Status Report due January 31, 2023, an audited financial statement of the ITPM Professional Account, O&M Account, and Capital Improvements Account for the City's previous fiscal year. Any information revealing bank account numbers or constituting personally identifiable information shall be redacted.

The EPA Grant that funded the Interim Third-Party Manager also has quarterly reporting requirements that include the following:

- A comparison of actual accomplishments to the outputs/outcomes (these are deliverables, reports, milestones) established in the assistance agreement work plan for the period;
- The reasons why established outputs/outcomes were not met; and
- Additional pertinent information, including, when appropriate, analysis and explanation of cost overruns or high-unit costs.

As these reports have similar requirements, this consolidated report is intended to meet the purposes and requirements of both the ISO and the EPA Safe Drinking Water Act (SDWA) Section 1442 (b) Grant.

B. Introduction

On December 20, 2022, the US EPA awarded Grant number 84054501 under the authority of the Safe Drinking Water Act, Section 1442 (b). The stated purpose of the Grant is as follows:

> *This agreement will provide support to the City of Jackson, MS, which is currently experiencing a drinking water emergency. The City entered into an Interim Stipulated Order with the Environmental Protection Agency and Department of Justice approved in Federal District Court on November 29, 2022, and this funding will be used to fulfill commitments established in the Order. The activities include establishing an Interim Third-Party Manager who will then hire support staff, enter into and maintain contracts to accomplish tasks required in the Order and deemed necessary to address violations of the Safe Drinking Water Act. Anticipated deliverables include hiring staff, entering into and maintaining contracts allowing for proper operations and maintenance of the system. Expected outcomes include supporting the System in complying with the Safe Drinking Water Act, fulfilling commitments established through the Order, and ensuring residents of Jackson have clean and safe drinking water. Intended beneficiaries include approximately 160,000 persons served by the City of Jackson Public Water System. No subawards are included in this assistance agreement. City of Jackson Public Water System Emergency Drinking Water Grant.*

This report is the third quarterly report as required by the Grant agreement and covers eligible activities that began July 1, 2023, through September 30, 2023. These reports are aligned with the reporting requirements of the Interim Stipulated Order that appointed the Interim Third-Party Manager funded by and managing this Grant. This report is submitted for the Court's review and approval.

C. Projects and Activities Conducted During the Reporting Period

The ISO includes thirteen priority projects for the ITPM to accomplish under the terms of the ISO. The activities conducted related to the priority projects (PP) are included in **Section J** of this report, beginning on **page 48**.

Beyond the priority project work, many activities have been conducted to comply with the requirements of the ISO during this reporting period. These include:

Billing and Collections: JXN Water continues to work to resolve billing issues that hamper collection of water-related revenues. During the reporting period many changes have been made to reduce issues with bills, but much more remains to be done. With over 80 percent of the new meters installed, the majority of customers are getting accurate bills based on meter readings from the new meters. Those without new meters are receiving estimated bills, based on actual averages from the accounts with new meters installed. This represented a significant increase in many bills that had been underestimated for years. The new estimates will be in place until new meters are installed at these premises. As JXN Water can see usage through more new meters, there is clear evidence of leaks on the customer's side of the meter in many instances. The on-going drought has caused soils to contract and in many cases break pipes on private property (as well as JXN Water lines).

During this reporting period, JXN Water has made progress scrubbing and cleaning customer data. A request was made to Entergy for customer data to assist locating premises receiving water service without an account in the JXN Water system. This work will continue through 2024.

Billing data, which includes deposits for new services, miscellaneous charges (primarily connection fees) and actual water and sewer charges, is shown in **Figure 5** and payment data in **Figure 6** for the ten months, December 2022 through September 2023. The collection rate for this period was 61.6 percent, up from the previous quarter results of 56.2 percent.

FIGURE 5 C2M FINANCIAL OVERVIEW: QUARTERLY BILLING DATA

Month	Bills Generated	Deposit	Misc Service	Water	Wastewater	Monthly TOTAL	Sanitation
COMMERCIAL - Billing Data							
JULY '23	4,965	$ 9,995.00	$ 20,185.78	$ 1,489,259.36	$ 1,683,283.12	**$ 3,202,723.26**	$ 1,140.20
AUG '23	5,197	$ 5,870.00	$ 2,232.55	$ 1,704,184.97	$ 1,777,288.77	**$ 3,489,576.29**	$ 1,853.70
SEPT '23	5,210	$ 5,695.00	$ 4,716.70	$ 1,891,525.41	$ 1,859,109.88	**$ 3,761,046.99**	$ 1,924.00
	15,372	**$ 21,560.00**	**$ 27,135.03**	**$ 5,084,969.74**	**$ 5,319,681.77**		$ 4,917.90
TOTAL:		**$**			**10,453,346.54**		
RESIDENTIAL - Billing Data							
JULY '23	44,456	$ 29,780.00	$ 31,170.57	$ 1,603,007.51	$ 1,297,996.40	**$ 2,961,954.48**	$ 1,778,360.10
AUG '23	45,734	$ 40,650.00	$ 40,843.59	$ 1,318,381.55	$ 1,050,498.36	**$ 2,450,373.50**	$ 1,863,304.29
SEPT '23	45,964	$ 30,180.00	$ 34,691.41	$ 1,970,980.59	$ 1,572,646.07	**$ 3,608,498.07**	$ 1,521,411.62
	136,154	**$ 100,610.00**	**$ 106,705.57**	**$ 4,892,369.65**	**$ 3,921,140.82**		**$ 5,163,076.01**
TOTAL:		**$**			**9,020,826.05**		

JXN Water Billed Customers **$19,474,172.59** *for water-related services over the past quarter.*

Obtaining Funding: The ITPM worked with EPA to apply for the portion of the funding provided by the US Congress in the CAA (Consolidated Appropriations Act), 2023 flowing through the authority of the SDWA, Section 1442 (b). The first phase Grant was awarded on May 11, 2023, in the amount of $115.1 million (of the appropriated $150 million) as listed in **Figure 7**. The first $44 million of this approved Grant was made available on May 18, 2023. The accounting for dollars drawn down and spent during this reporting period is shown in **Figure 30**.

FIGURE 6 C2M FINANCIAL OVERVIEW: QUARTERLY PAYMENT DATA

Month	Bills Generated	Deposit	Misc Service	Water	Wastewater	Monthly TOTAL	Sanitation
COMMERCIAL - Payment Data							
JULY '23	4,965	$ 2,172.87	$ 127,631.39	$ 953,713.28	$ 1,167,699.31	**$ 2,251,216.85**	$ 334.40
AUG '23	5,197	$ 2,519.36	$ 129,544.52	$ 1,019,054.02	$ 1,267,803.32	**$ 2,418,921.22**	$ 730.91
SEPT '23	5,210	$ 1,665.43	$ 67,963.17	$ 715,978.64	$ 871,905.23	**$ 1,657,512.47**	$ 533.90
	15,372	**$ 6,357.66**	**$ 325,139.08**	**$ 2,688,745.94**	**$ 3,307,407.86**		**$ 1,599.21**
TOTAL:		**$**			**6,327,650.54**		
RESIDENTIAL - Payment Data							
JULY '23	44,456	$ 10,125.55	$ 78,062.73	$ 786,310.59	$ 707,831.41	**$ 1,582,330.28**	$ 826,190.44
AUG '23	45,734	$ 15,632.24	$ 108,684.74	$ 1,058,873.59	$ 880,919.03	**$ 2,064,109.60**	$ 1,154,218.53
SEPT '23	45,964	$ 18,317.29	$ 93,715.15	$ 1,052,864.82	$ 855,708.59	**$2,020,605.85**	$ 866,496.54
	136,154	**$ 44,075.08**	**$ 280,462.62**	**$ 2,898,049.00**	**$ 2,444,459.03**		**$ 2,846,905.51**
TOTAL:		**$**			**5,667,045.73**		

JXN Water Customers Paid **$11,994,696.27** *for water-related services for the past quarter. Revenue Collection Rate at 61.6%.*

FIGURE 7 PROJECTS APPROVED IN FIRST PHASE APPLICATION FOR SDWA 1442 (B) GRANT 84060101-0

Priority Project No.	Description	Total (Millions)	2023	2024	2025
5.a.ii	Valve and Hydrant Assessment	$ 7.4	$ 4.9	$ 2.5	
5.a.vii	Service Line Inventory	$ 0.1	$ 0.1		
5.a.iv	Distribution System Leaks – Find and Fix	$ 22.5	$ 10.0	$ 7.5	$ 5.0
1	Phase 2 O&M Contract - Open Book Actual Cost	$ 12.0	$ 12.0		
1	Phase 3 O&M Contract - Long Term Fixed Price	$ 63.0	$ 13.0	$ 25.0	$ 25.0
6	System Stabilization and Sustainability Plan	$ 2.0	$ 2.0		
	ITPM Professional Budget	$ 8.5	$ 0.9	$ 3.8	$ 3.8
	Grant 84060101-0	**$ 115.5**	**$ 42.9**	**$ 38.8**	**$ 33.8**

D. Detailed Accounting of Grant 84060101-0 Funding

Eligible expenses for the projects approved in the first phase of the Grant have been charged to the Grant and the ITPM has drawn down Federal funding to pay these costs during the reporting period.

Costs incurred after February 2, 2023 are eligible. The accounting is shown in **Figure 8**.

FIGURE 8 GRANT 84060101-0 FUNDED PROJECTS DASHBOARD

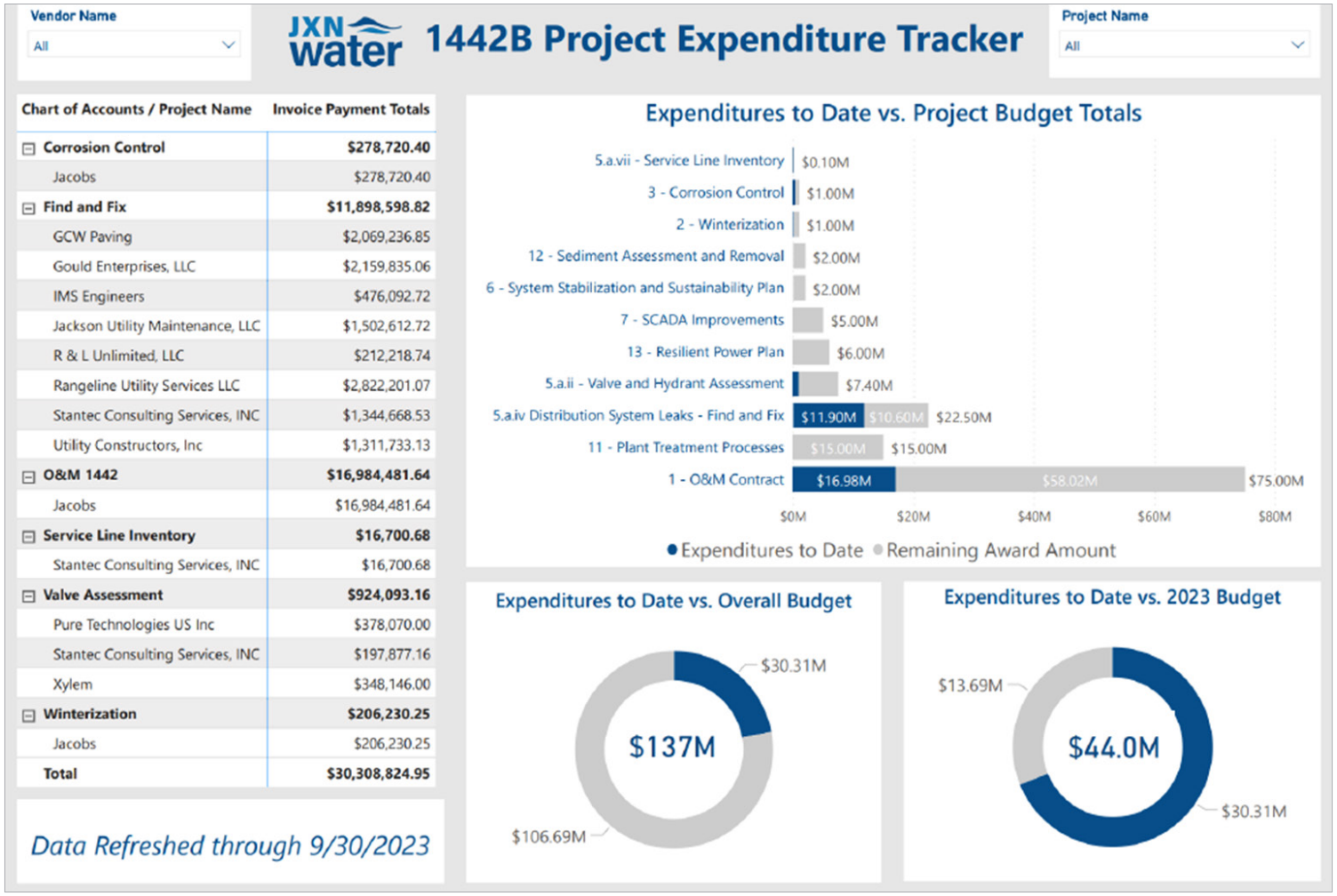


FIGURE 9 GRANT 840601-0 FUNDED PROJECTS PROFIT AND LOSS

Profit and Loss by Customer January - September 2023				
	ITPM 2979	ITPM Professional (EPA)	Total ITPM 2979	TOTAL
Income				
Grants		$ 30,712,942.07	$ 30,712,942.07	$ 30,712,942.07
Total Income	**0**	**$ 30,712,942.07**	**$ 30,712,942.07**	**$ 30,712,942.07**
GROSS PROFIT	**0**	**$ 30,712,942.07**	**$ 30,712,942.07**	**$ 30,712,942.07**
Expenses				
Corrosion Control		$ 278,720.40	$ 278,720.40	$ 278,720.40
Find and Fix		$ 11,898,598.82	$ 11,898,598.82	$ 11,898,598.82
O&M 1442		$ 16,984,481.64	$ 16,984,481.64	$ 16,984,481.64
Service Line Inventory		$ 16,700.68	$ 16,700.68	$ 16,700.68
Valve Assessment		$ 924,093.16	$ 924,093.16	$ 924,093.16
Winterization		$ 206,230.25	$ 206,230.25	$ 206,230.25
Total Expenses	**0**	**$ 30,308,824.95**	**$ 30,308,824.95**	**$ 30,308,824.95**
NET OPERATING INCOME	0	$ 404,117.12	$ 404,117.12	$ 404,117.12
NET INCOME	**0**	**$ 404,117.12**	**$ 404,117.12**	**$ 404,117.12**

SRF Funding: : The balance of the funding from the CAA 2023 will be provided through the existing State Revolving Loan Fund (SRF). The ITPM developed a work plan for these funds for inclusion in the state's intended use plan. The Mississippi Local Governments and Rural Water Systems Improvements Board approved the Intended Use Plan (IUP) for the DISASTER RELIEF SUPPLEMENTAL APPROPRIATION (a portion of the $450 million appropriation – **Figure 10**) on June 30, 2023. Discussions continue with the MSDH on access to these funds in accordance with the work plan in the approved IUP.

The ITPM responded to a solicitation by the Mississippi Local Governments and Rural Water Systems Improvements Board for two new programs funded as part of the Bi-partisan Infrastructure Law (BIL) on June 19, 2023, requesting funding for Lead Service Line Replacements (LSLR) and for addressing Emerging Contaminants. Both were included in the approved IUPs, but at a fraction of the total project cost. The LSLR project is estimated at $88 million across a 10-year construction period. The Emerging Contaminant project, scoped to add Granular Activated Carbon (GAC) filtration to the OB Curtis Water Treatment Plant, is estimated at $119 million.

FIGURE 10 SRF DISASTER RELIEF SUPPLEMENTARY APPROPRIATIONS

V.III PRIORITY LIST					
Project	**Project Description**	**Priority Points**	**Service Area Population**	**Loan Amount Requested**	**Statewide Cum. $**
Supplemental Appropriation Priority List					
Category III: Primary Drinking Water Standards Projects					
City of Jackson	Intake Structure Repair	27746	155,000	$ 5,000,000	$ 5,000,000
Category IX: Existing Facilities Upgrade (Meeting Primary Standards)					
City of Jackson	Distribution System Analysis	13873	155,000	$ 6,000,000	$ 11,000,000
City of Jackson	Distribution System Optimization	12332	155,000	$ 32,500,000	$ 43,500,000
City of Jackson	Small Diameter Pipe Replacement	5549	155,000	$ 50,000,000	$ 93,500,000
Category XIII: Other					
City of Jackson	Debt Retirement - SRF Loans*	215	155,000	$ 24,653,146	$ 118,153,146
City of Jackson	Debt Retirement - Meter Project		155,000	TBD	
City of Jackson	Debt Retirement - Private		155,000	TBD	

** This includes the remaining principal balance ($14,881,923) of refinanced loan 2, which consolidated debt with loan 1, and the balance drawn ($9,771,223) from loan 3. An undrawn balance of $18,182,077 currently remains on loan 3's active project.*

NOTE: All notes appearing on the IUP are associated with this public drinking water system. Projects listed above are based in good faith from representation provided by the borrower. The program is a reimbursement program. Request for reimbursement will be reviewed to ensure conformity with eligibility requirements and compliance with applicable state and federal laws and regulations before funds are reimbursed.

Disputed Debt: The ITPM inherited nearly $56 million in billing arrearages. Many accounts had arrearages dating back years due to the many metering and billing challenges over the past decade in Jackson. Almost all account arrearages could be attributed, in whole or in part, to those challenges or to billing for inadequate or non-existent services. Hundreds of these bills had been disputed prior to the appointment of the ITPM, and the disputes remained unresolved. Lacking adequate information to defend prior billing or resolve disputed bills, the ITPM instituted a program to compromise debt that pre-dated the ITPM appointment for all disputed accounts. To accomplish this, the ITPM retained Promise Pay to gather attestations from customers that had aging arrearages (prior to December 1, 2022) and that had disputed these charges.

On August 31, 2023, the program was closed because the number of people accessing the program had dropped to less than one per week. That made the cost of operating the program unsustainable. A total of 8,251 accounts attested their dispute through Promise Pay and $19,513,774 in disputed charges were compromised (removed from individual accounts).

The disputed debt program demonstrated the overwhelming majority of the aging arrearages were the result of disputed bills. As a result, all arrearages prior to November 29, 2022, have been moved in the billing system to a separate Service Agreement (SA) and are no longer visible on customer bills. At some future point JXN Water may choose to pursue these arrearages but at the current time, staff is focused on getting all customers using water into the system and current on their bills.

It is highly likely that JXN Water would spend more on collection efforts for the aged arrearages (prior to November 29, 2022) than would be recovered.

Low Income Household Water Assistance Program (LIHWAP): For debt that accrued post the appointment of the ITPM, the ITPM retained Promise Pay to identify qualified applicants and apply for the LIHWAP Grant funding on behalf of JXN Water.

The program expired on September 30, 2023 with no extension or replacement program currently moving in Congress. As of the end of the program, 413 accounts received Federal LIHWAP Grant assistance through the state for a total amount of $756,263.76.

Community Engagement: The ITPM participated in numerous meetings to discuss the ISO and the ITPM role in stabilizing and restoring the Jackson water system. The ITPM made presentations to 7 groups, and participated in one town hall during the reporting period as listed **Figure 13**.

FIGURE 11 SRF FFY-2024 BIL EC PRIORITY LIST

Project	Project Description	Zip Code	Priority Points	Service Area Population	Eligible PF Amount	Loan Amount Request	Statewide Cum. $
Category IX: Existing Facilities Upgrade (Meeting Primary Standards)							
City of Jackson	Study, Design & Construction, Emerging Contaminants	39216	11099	155,000	$ 5,000,000	$ 5,000,000	$ 5,000,000

FIGURE 12 SRF FFY-2024 BIL LSLR PRIORITY LIST

Project	Project Description	Zip Code	Priority Points	Service Area Population	Eligible PF Amount	Loan Amount Request	Statewide Cum. $
CategoryXII: Other							
City of Jackson	Replacement of Lead Service Lines	39216	110	150,000	$ 500,000	$ 5,000,000	$ 26,427,135
Town of Mount Olive	Surveying and Inventorying Lead Service Lines	39119	102	982	$ 450,000	$ 1,000,000	$ 27,427,135
City of Fayette	Surveying and Inventory of Lead Service Lines	39069	0	0	$ 56,250	$ 125,000	$ 27,552,135
City of Collins	Surveying and Inventorying Lead Service Lines	39428	0	4000	$ 175,000	$ 500,000	$ 28,052,135

FIGURE 13 JXN WATER COMMUNITY ENGAGEMENT Q3

Date	Event
July 18	Ward 5 Town Hall
July 25	Downtown Jackson Partnership Luncheon
August 3	Meeting with Hope Credit Union CEO – Bill Bynum
August 3	Jacksonians 4 Jackson Meeting
August 21	Rotary Club of Jackson
August 22	Society of American Military Engineers
September 9	McLeod Neighborhood Association
September 20	Sherwood Forest Garden Club
September 26	Rotary Club of South Jackson

Minority Business Enterprise Engagement: JXN Water continues to focus on MBE for direct contracts. Eliminating bonding challenges and paying invoices within days has made JXN Water friendly to MBEs. The spend to date has been significant, nearly $7.5 million, 15 percent of the total spend to date. The Jacobs Operations and Maintenance contract is by far the largest contract with JXN Water. There were no MBE firms available to meet that need. When that contract value (paid to date) is removed from the total spend, MBE spend accounts for 25 percent of the total JXN Water spend. See **Figure 14** for details.

JXN Water has entered into a contract with the Jones Group to assist with developing and executing a Small Minority Business Initiative (SMBI). An early focus has been working with Jacobs, Stantec, and HDR to help DBEs navigate the process to qualify as subcontractors with their firms. Another goal is to create and/or develop small Black-owned firms to provide some of the specialized skills that are not currently available in the Jackson area. Examples include valve and hydrant maintenance and piping contractors. These needs will go on perpetually in Jackson, long after the Interim Stipulated Order is finished.

Water and Sewer Billing Administration (WSBA): JXN Water has stepped up customer communication efforts in advance of resuming severance (shut off for non-payment). As billing and account establishment processes continue to improve, the focus has turned towards getting all customers paying and current. Shut offs are the only tool available to get some customers to pay their bills. While JXN Water never wants to shut off service to anyone, everyone needs to pay their share for the system to become financially stable and sustainable.

The billing system conversion to a fully cloud-based solution that will be supported with a single contractor, BOSS continues to move forward. Go-Live for the update/conversion has slipped from the end of Q4 to the end of 2024 Q1. This delay should be transparent to customers but will delay some cost savings anticipated from the conversion. This meter-to-cash solution will resolve many issues that have plagued Jackson's billing issues for years.

FIGURE 14 MBE SPEND

Firm	Total Paid to Date
Bless Hands Cleaning	$ 14,725.00
BOSS Utility Solutions	$ 1,852,643.38
Farenheit Creative Group	$ 271,607.56
GCW Paving	$ 2,069,236.85
Hardaway Realty	$ 39,000.00
Hydroflow Solutions	$ 199,350.00
IMS	$ 476,092.72
Iron Horse Grill	$ 1,308.00
Kelly Factory	$ 1,800.00
Love Trucking	$ 719,430.00
Phoenix Security	$ 280,604.78
Promise Pay	$ 1,334,722.24
R&L Unlimited	$ 107,734.50
SD Systems	$ 42,000.00
Southern Infrastructure Solutions	$ 48,840.00
DBE/SWAM Spend to Date	**$ 7,459,095.03**
Total JXN Water Spend to date	$ 48,366,952.12
Jacobs Contract	$ 18,828,277.03
Total JXN Water Spend w/o Jacobs	$ 29,538,675.09
MBE Percentage Total Spend	15%
MBE Percentage Without Jacobs	25%

Call Center: ProTel has been in business supporting clients throughout Mississippi for more than 30 years. A contract for 24/7 call center operations was developed and the JXN Water customer service number (601-500-5200) went live on June 5, 2023.

The call center can address many billing questions (majority of calls), dispatches the metering contractor for meter issues, dispatches appropriate resources for leaks, low pressure, discolored water, etc. Call center key performance indicators for the quarter are shown in **Figure 15.**

FIGURE 15 CALL CENTER KPIS FOR Q3

Total Calls	Average Talk Time	Average Wait Time
25,741	3:22 minutes	0:56 minutes

Mississippi Municipality & County Water Infrastructure Grant Program Act (MCWI): The first reimbursements requests have been submitted for one of the two approved projects. The ITPM continues to work with the MCWI staff to receive that initial reimbursement.

The two projects approved and underway are:

- **OB Curtis Filter Improvements –** This project was designed and bid prior to the effective date. The ITPM made award after the effective date to the low bidder, Hemphill Construction. The work includes full rehabilitation of conventional filter 5 to place that filter back into service after years of dis-repair. This will increase the capacity of the conventional side of OB Curtis by 16 percent. Construction has begun. Other details can be found in the priority project status updates at the end of this report.

- **OBC and JHF Chemical Feed System Improvements –** This project will replace all the chemical feed systems to include pumps, pipes, tanks (as required) and other associated controls and equipment. The first phase of this is focused on OB Curtis. Additionally, this contract will replace the gaseous chlorine system with an on-site hypochlorite generation system, significantly improving safety. This project is nearing 30 percent design completion and is being designed by HDR. More details can be found in the PPL status update at the end of this report.

Hinds County Board of Supervisors had approved a MCWI project for pressure improvements in South Jackson. JXN Water had worked closely with Hinds County to develop the scope and assist with the application in December 2022. The project was approved at $12 million.

During this reporting period the Hinds County Board abandoned this project. As a result, the $12 million for South Jackson will be removed from the Financial Management Plan at the next update.

System Pressure Improvements: Work to address system pressure challenges continued throughout the reporting period. Wachs Water has been working with JXN Water staff to continue to find valves, make repairs, and change positions (typically from fully closed to fully open). To date:

- 698 valves fully exercised (1692 cumulative)
- 33 op nut repairs completed (37 cumulative)
- 40 valves uncovered (97 cumulative)
- 5 frozen valves repaired (7 cumulative)
- 95 valve positions changed (219 cumulative)
- 302 hydrant assessments (302 cumulative)

The system remains vulnerable but stable with pressure improvements noted throughout the system. A few outlying areas continue to have pressure issues including Merit Health Hospital, the Shannon Dale Road area off Forest Hill Road, and the Henley Young Juvenile Detention Center. The Shannon Dale area off Forest Hill Road was converted to the groundwater system on October 17, 2023. As this is outside of the reporting period, more details will be provided in the Q4 report.

Leak Find and Fix: During the reporting period the Find and Fix program stood up and made significant progress. Larger leaks are included in the Priority Project reporting at the end of this report. Small diameter leaks (6-Inch and less) are reported and mapped here. Using a combination of local contractors, JXN Water completed 384 repairs with an additional 383 under construction at the end of the quarter as noted in **Figure 16**.

FIGURE 16 FIND AND FIX (6-INCH DIAMETER AND LESS)

Item No.	Repair Type	July 2023 In Construction	July 2023 Complete*	August 2023 In Construction	August 2023 Complete*	Sept. 2023 In Construction	Sept. 2023 Complete*
1	Cut Repair	8	102	44	105	102	107
2	Hydrant-Leak	23	0	23	1	23	11
3	Meter-Leak	215	31	217	31	216	38
4	Tap & Meter Install	4	23	3	24	1	33
5	Valve Leaking & Repairs	8	0	8	0	8	0
6	Water-Leak	48	69	31	75	33	195
	Total	**306**	**225**	**326**	**236**	**383**	**384**

FIGURE 17 FIND AND FIX (6-INCH AND LESS) COMPLETED MAP

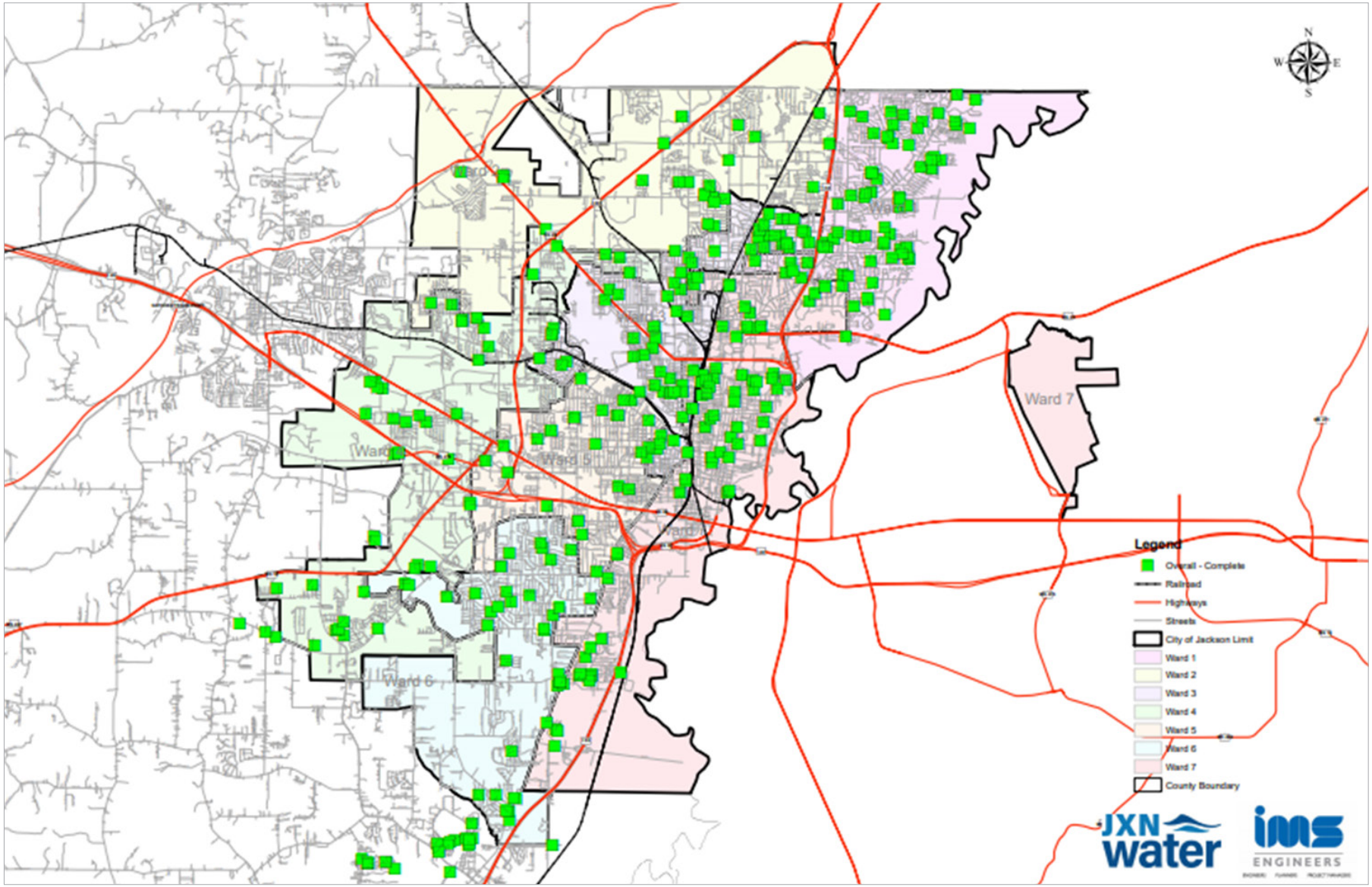
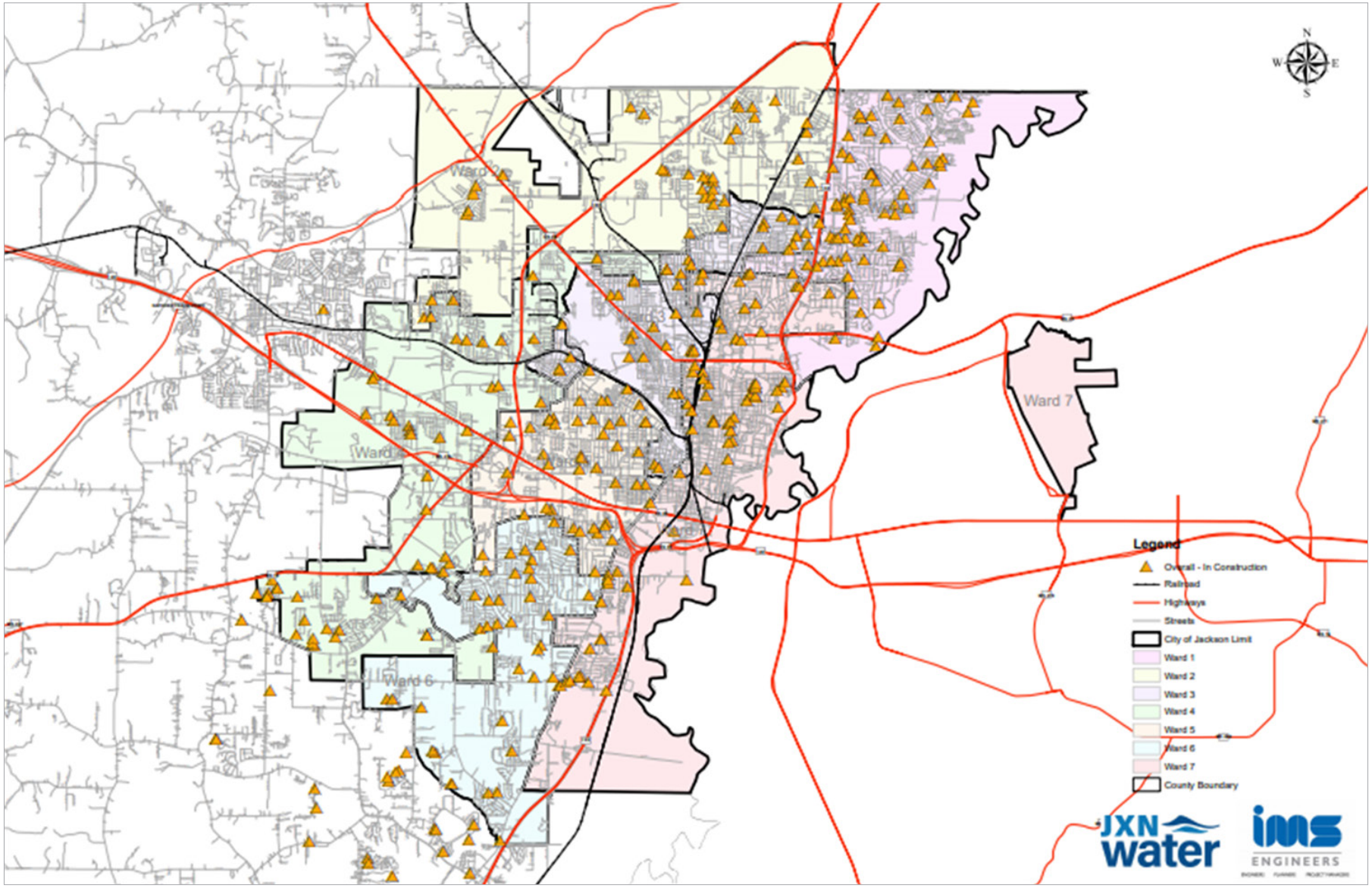


FIGURE 18 FIND AND FIX (6-INCH AND LESS) IN CONSTRUCTION 9/30/2023



Metering: The contract to install Automated Metering Infrastructure (AMI) continued in the quarter. The project is now approximately 87 percent complete with nearly 53,000 meters installed. One of the biggest challenges continues to be data cleansing of the billing system.

The ITPM retained Horne, LLP, to assist with data cleanup in the reporting period. To date, the installed meters are reporting nearly 97 percent successfully. Issues still exist around power to three collectors and the ITPM and metering contractor are working together to resolve those. Once resolved, the percentage of successful reads will increase significantly. The project status is summarized in **Figure 19**.

All meter operations were successfully outsourced to UMS. The contract consolidates all meter maintenance, repairs, reading, installs, etc., with a single source, eliminating hand-offs, inefficiencies and finger-pointing.

Judicial Activities: The ITPM participated in five status conferences, and three meetings with Judge Wingate and his clerk during the reporting period.

FIGURE 19 METER PROJECT STATUS

Category	Item	Period Ending (9/6/23	Period Ending Date (9/20/23)	Period Ending Date (10/4/23)
Installations	Total Period	988	1126	1044
	Total to Date	50625	51751	52795
Removed From Scope	This Period	243	259	328
	Total to Date	6399	6658	6986
Assists Pending	This Period	19	228	650
Quick Stats: Installations: 87%				

Communications: Additional communications resources have been added to the ITPM staff and consulting team.

All communication efforts are coordinated by Ameerah Palacios with HDR. Jacobs hired an on-site communications specialist, Tepricka Morgan, who while focused on Jacobs' specific needs will be supporting the ITPM needs as well.

A communications strategy was developed during Q3, with the Executive Summary shown in **Figure 20**. Articles of interest can be found on the JXN Water website.

FIGURE 20 JXN WATER COMMUNICATION STRATEGY SUMMARY

Communications Strategy **Summary**

JXN Water is changing for the better and is working hard to repair its water system by making system repairs, rebuilding trust and proactively engaging the public through strategic communications.

Goal #1
Improve the Reputation of JXN Water

Strategies

- Show progress on system improvements and efforts to provide safe, clean reliable water and resolve sewer issues through easy-to-understand videos, photos and infographics
- Establish consistency between the Department of Health and City of JXN Water to improve community outreach
- Build a JXN Water newsroom on their website containing the latest news and related media channels with curated content from JXN Water.

Tactics

- Create communication materials and easy-to-understand monthly community update videos to distribute through the website, newsroom page or through other paid/owned media channels, including paid news articles about system repairs and other topics.
- Create media advisories and press releases about JXN Water's latest efforts on repairing water infrastructure and community updates.

Outcomes

- See an increase in Jackson residents who trust JXN Water and overcome deeply held suspicions of corruption, incompetence with regular communication and receipts of implementation, measured by Thrive Center trust survey
- Improve engagement by 100 percent within the first six months after improvements are made
- Paid media amplifies the visibility of JXN Water milestones with 1 million monthly impressions
- Stakeholders engage with relevant, updated content with increased users, views and comments

Goal #2
Amplify the function of JXN Water operations

Strategies

- Convey the value of water through messaging focused on bill payment
- Increase visibility in the community by attending community events/programs
- Maintain a calendar for public appearances, speaker's bureau and regular plant tours with a request protocol for the ITPM, COO, billing executives and plant operators

Tactics

- Create a scenario-based key messages document that also focuses on bill payment scenarios and the value of water
- Create a public events calendar that tracks opportunities for public appearances

Outcomes

- Bill payments increase
- General public sees JXN Water as part of the community and connects with the value of water, joy and fun
- JXN Water representatives receive professional support to address community requests

Goal #3
Launch a public education campaign

Strategies

- Establish a water academy to educate interested residents
- Grow awareness of JXN Water's Small and Minority Business Initiative that increases contractor capacity
- Share weekly community updates

Tactics

- Establish scenario-based key messaging about JXN Water's Small and Minority Business initiative and include in communication materials such as video and press releases
- Create public education materials, including a paid media article, geared toward water education and helping residents understand their water system.
- Create a newsletter to share weekly community updates through MailChimp to distribute through email

Outcomes

- JXN residents are knowledgeable stewards of the local water system.
- Contractors find it easy to do business with JXN Water
- The community has a sustainable number of local contractors who can maintain the system long term

FIGURE 21 MEDIA REACH

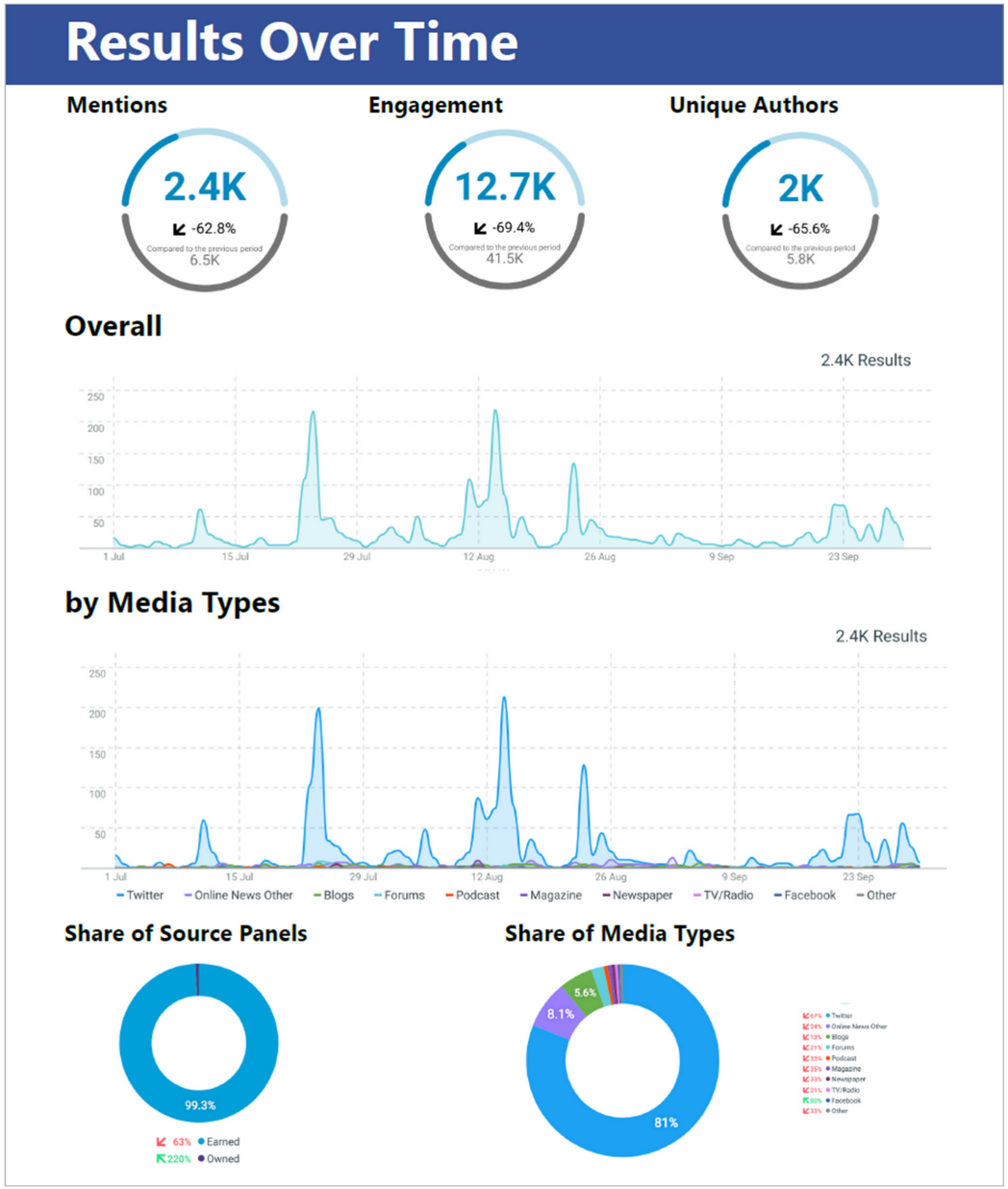


FIGURE 22 MEDIA SENTIMENT AND THEME

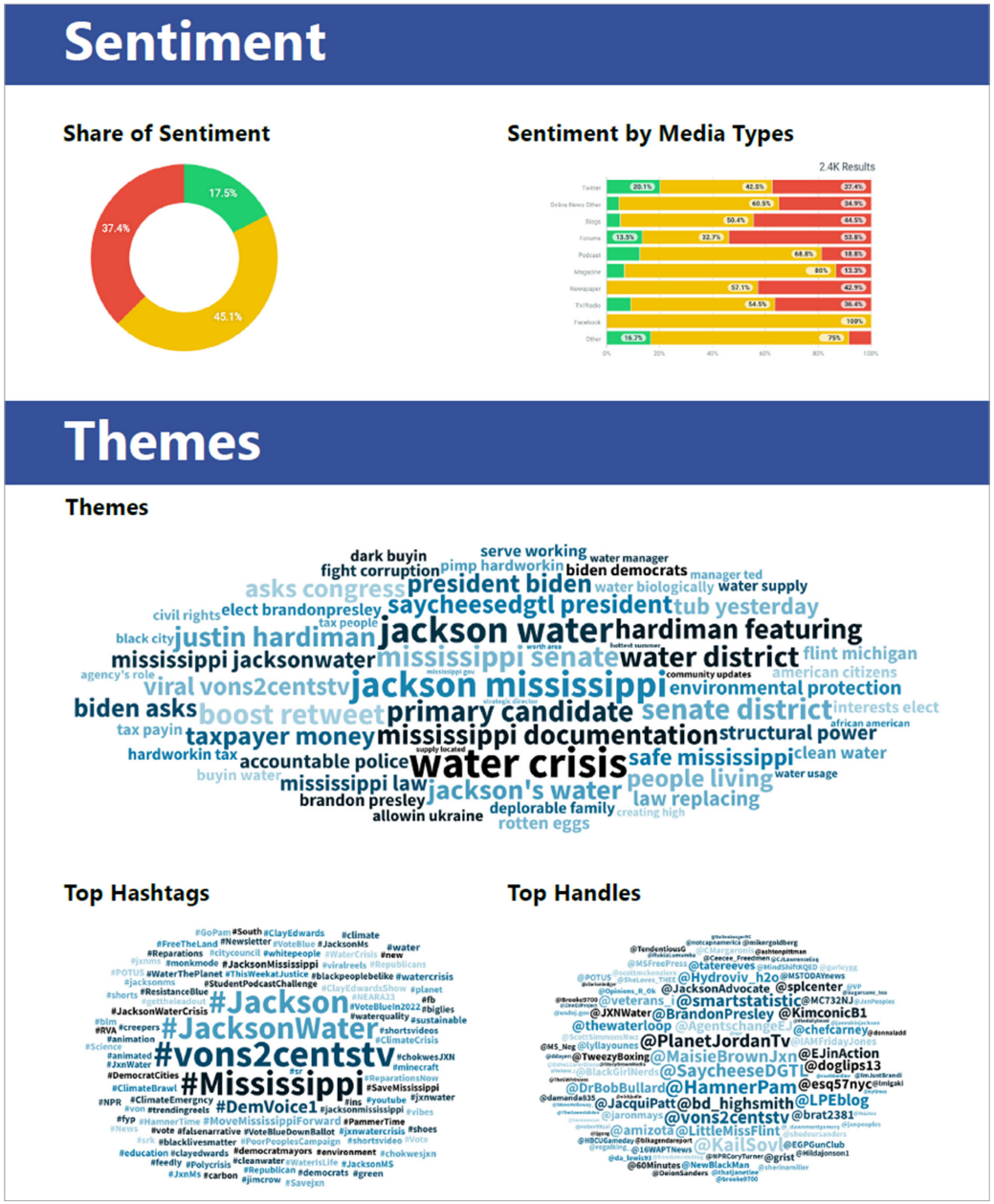


FIGURE 23 MEDIA INFLUENCERS AND DEMOGRAPHICS

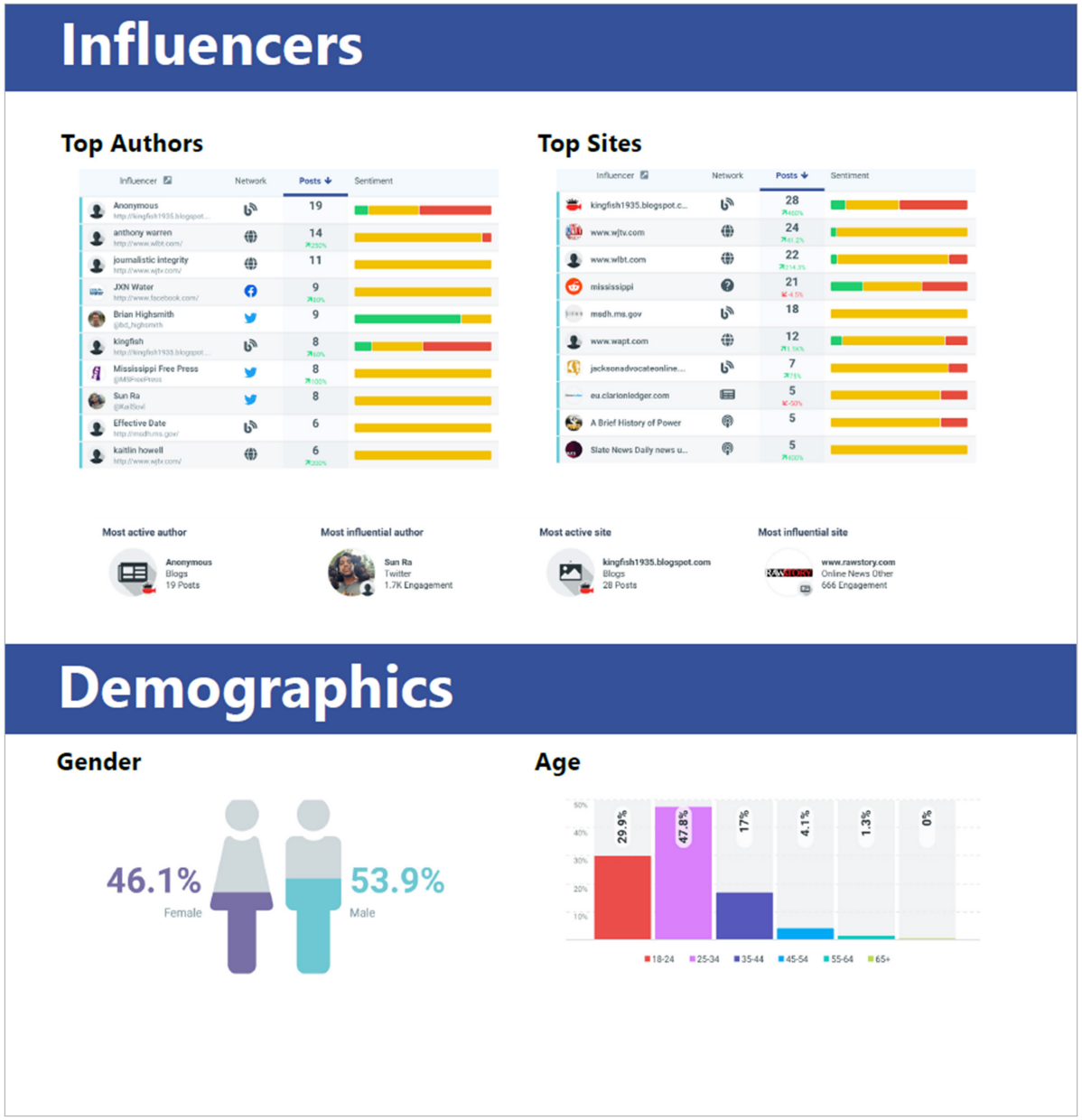


FIGURE 24 WLBT PAID MEDIA RESULTS - OVERALL

Paid Media Campaign: In August 2023, JXN Water entered into a six-month paid media campaign with WLBT, the number one ranked news station in the Jackson market.

The campaign includes sponsored articles place prominently on the WLBT home page, short community video ads, display ads on WLBT social media and website, as well as sponsorship of a new afternoon lifestyle show – Studio 3. Performance of the various tactics are shown in **Figure 24** – **Figure 28**.

FIGURE 25 WLBT PAID MEDIA RESULTS – DISPLAY ADS

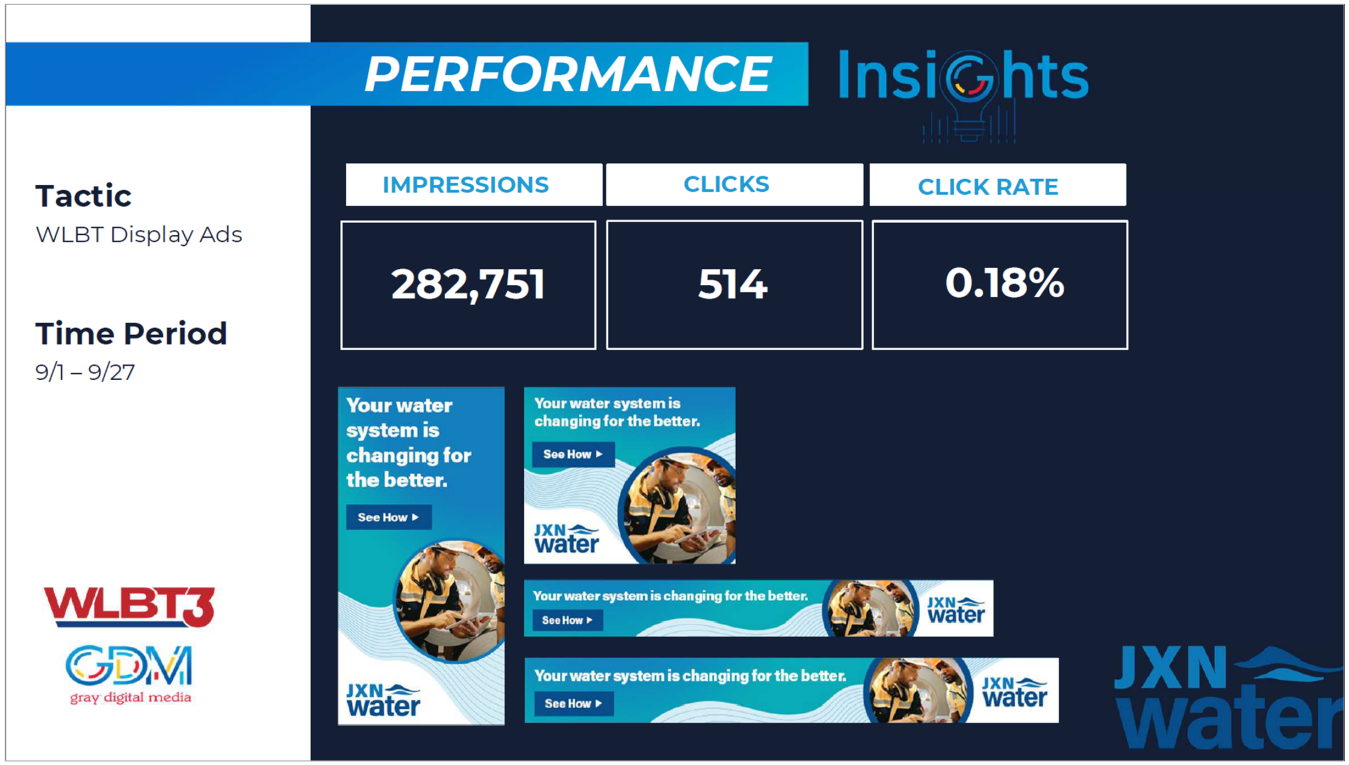


FIGURE 26 WLBT PAID MEDIA RESULTS - VIDEO

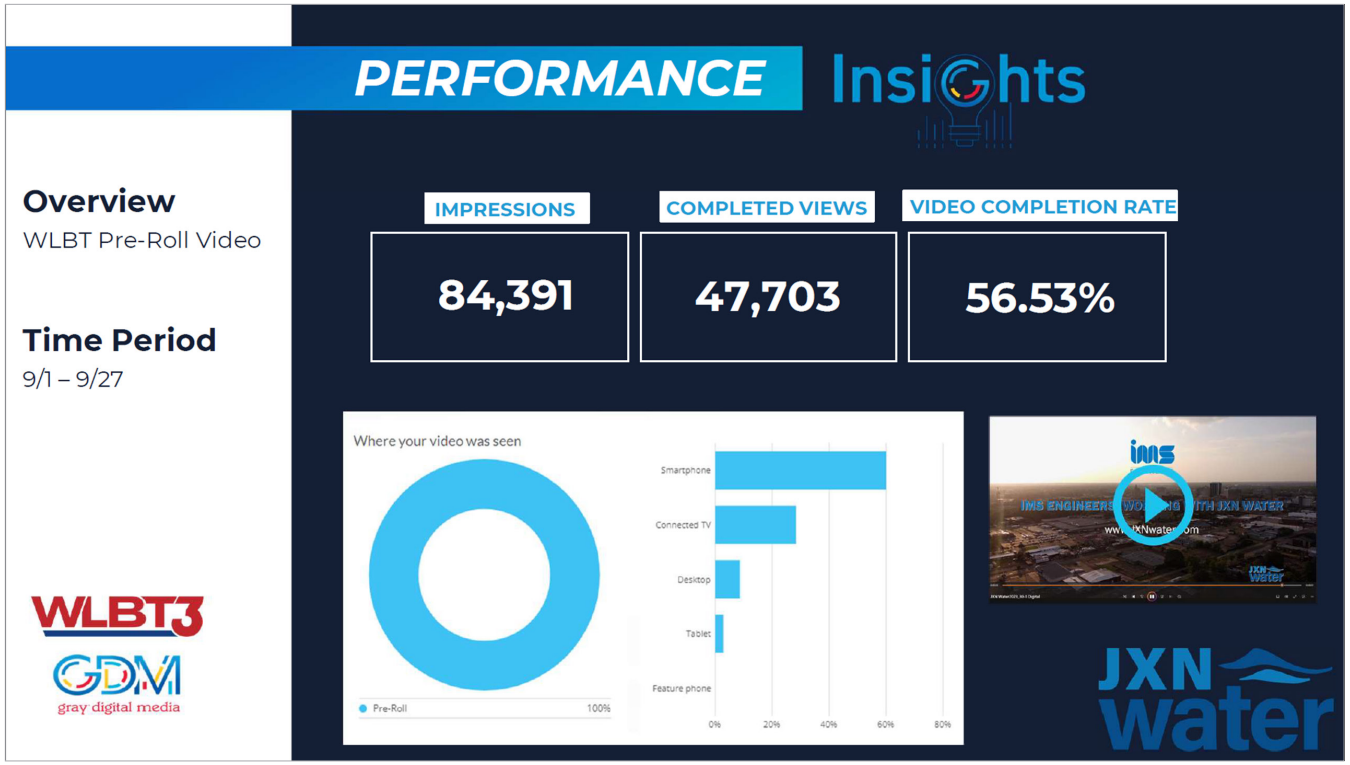


FIGURE 27 WLBT PAID MEDIA RESULTS – NATIVE ARTICLES

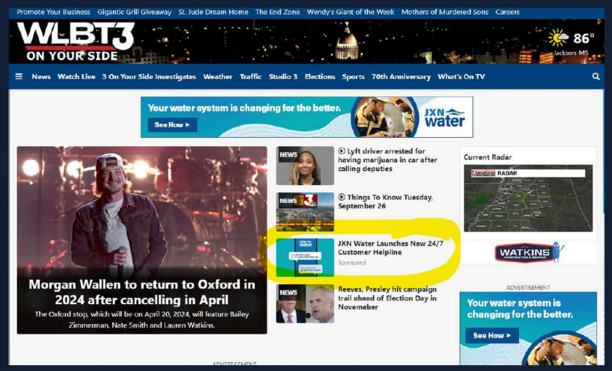
PERFORMANCE Insights

Overview
Native Articles

Time Period
9/13 – 9/27

WLBT3
GDM gray digital media

VIEWS	CLICKS	CTR
3,117,366	42,356	3.55%



JXN Water Launches New 24/7 Customer Helpline (wlbt.com)

JXN water

FIGURE 28 WLBT PAID MEDIA RESULTS - STUDIO 3 SPONSORSHIP

Overview

MS Weekend Franchise Sponsorship on *Studio 3* Lifestyle show

Time Period

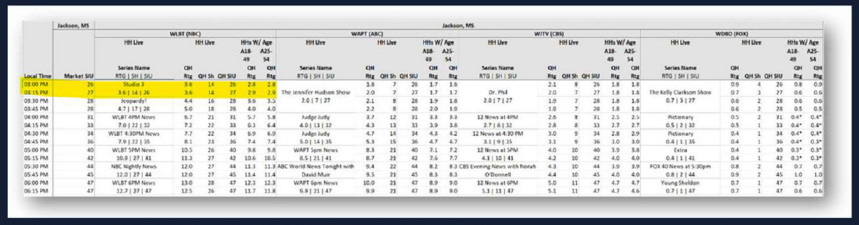
9/13 – 9/27

WLBT3

GDM gray digital media

PERFORMANCE Insights

Studio 3 launches on 9/12/23 and captures the #1 position for Households, Persons 18-49 and Persons 25-54



JXN water

FIGURE 29 PRECAUTIONARY BOIL WATER NOTICES

Boil Water Notice Date	BWN Lift Date	Surface	Well	Area Impacted	#
7/4/2023	7/13/2023		X	1200-1299 Springridge Rd 6100-8199 McRaven Rd	50
7/5/2023	7/13/2023	X		300-999 W. Woodrow Wilson Blvd	25
7/13/2023	8/10/2023	X		4400-4498 W. Northside Dr	25
7/15/2023	8/10/2023	X		2400-2599 Prosperity St 2400-2599 Williamson Ave John Street Luke Street Denson Street	50
7/15/2023	8/10/2023	X		▪ Kimwood Dr, Cr ▪ Belle Glade St ▪ Northcliff Dr ▪ Highland Meadows Dr ▪ Pond Side Dr ▪ Highland Place Dr	100
7/18/2023	8/10/2023	X		Carter St	50
7/27/2023	8/7/2023	X		601-646 Seneca Ave	12
8/3/2023	8/10/2023	X		440-555 E. Woodrow Wilson 421 S. Stadium Dr 2395-2407 N. State St	29
8/7/2023	8/11/2023	X		3505-3552 Edwards Ave	15
8/7/2023	8/11/2023	X		3505-3552 Edwards Avenue	15
8/15/2023	8/18/2023	X		9-17 Windy Ridge Cove	9
8/15/2023	8/18/2023	X		9-17 Windy Ridge Cv	9
8/17/2023	8/23/2023	X		4604-4698 Londonberry Dr 505-573 Avalon Rd 510-572 Robinhood Rd 506-573 Wellington Rd 505-563 Belvedere Rd	97
8/17/2023	8/23/2023	X		4604-4698 Londonberry Drive 505-573 Avalon Road 510-572 Robinhood Road 506-573 Wellington Road 505-563 Belvedere Road	97

Precautionary Boil Water Notices: There have been no city-wide precautionary boil-water notices since December 2022. The extensive drought impacting central Mississippi created a number of breaks from mid-August through mid-September as the clay soil dried out and contracted breaking pipes in the process. A listing of the BWNs issued during the reporting period can be found in **Figure 29**.

At the request of EPA quarterly reports, this report will include lift dates. JXN Water did not begin tracking lift dates until the reporting period was partially completed and went back to add lift dates where we had data. The data is incomplete this reporting period as a result. Our system will track lift dates going forward. As noted in the Executive Summary, most of the BWNs were in responsed to pipe repairs made by JXN Water during the reporting period. While we don't ever like BWNs, these numbers actually reflect significant progress in addressing system defects. Moreover, the brevity of these outages is even more encouraging.

Boil Water Notice Date	BWN Lift Date	Surface	Well	Area Impacted	#
8/18/2023	8/23/2023	X		202-391 Sheppard Rd 5039 Ames Avenue 5080-5094 Woodmont Dr	32
8/18/2023	8/23/2023	X		202-391 Shepphard Road	32
8/20/2023	8/23/2023	X		2800-3000 Oxford Ave	24
8/20/2023	8/23/2023	X		2800-3000 Oxford Avenue	24
8/21/2023	9/1/2023	X		1544 - 1552 Riverwood Dr 5000 - 5100 Romany Dr	26
8/21/2023	9/1/2023	X		5000-5100 Romany Drive 1544-1552 Riverwood Drive	26
8/22/2023	9/1/2023	X		5010-5156 Romany Dr 1544-1552 Riverwood Dr	28
8/25/2023	8/30/23	X		3280 -3545 Forest Hill Rd 3300-4000 Shannon Dale Dr 1300-1500 Canterbury Ln 1400-1500 Gloucester Dr 1500-1600 Sleepy Hollow Dr 100-200 Brenda Dr 100-200 Hampton Ct 3400-3500 Warren St 3400-3500 Dundee Ln	162
8/25/2023	8/30/2023	X		1600-1799 Winchester St	40
8/25/2023	8/30/2023	X		3280 -3545 Forest Hill Road 3300-4000 Shannon Dale Drive 1300-1500 Canterbury Lane 1400-1500 Gloucester Drive 1500-1600 Sleepy Hollow Drive 100-200 Brenda Drive 100-200 Hampton Court 3400-3500 Warren Street 3400-3500 Dundee Lane	162
8/25/2023	8/30/2023	X		1600-1799 Winchester Street	40
8/26/2023	8/30/2023	X		4600 -4683 HIllside St 600-700 Heather Ln	20

Boil Water Notice Date	BWN Lift Date	Surface	Well	Area Impacted	#
8/26/2023	8/30/2023	X		4600-4683 Hillside Street 600-700 Heather Lane	20
8/27/2023	8/30/2023	X		1413-1476 Glouchester Drive 124-134 Brenda Street 1402-1462 Sleepy Hollow Drive	47
8/27/2023	8/30/2023	X		1413-1476 Glouchester Drive 124-134 Brenda Street 1402-1462 Sleepy Hollow Drive	47
8/29/2023	9/1/2023	X		3460-5590 I-55 South Frontage Road	30
8/29/2023	9/1/2023	X		3460-5590 I-55 South Frontage Road	30
8/30/2023		X		4163-4667 Casablanca Dr	20
8/30/2023		X		2010-2248 Sheffield Dr	23
8/30/2023		X		4163-4667 Casablanca Drive	20
8/30/2023		X		4163-4667 Casablanca Drive 2010-2248 Sheffield Drive	53
9/1/2023		X		850 Lindbergh Dr (The Residences at Glen Oaks)	31
9/1/2023		X		850 Lindbergh Drive (The Residences at Glen Oaks)	31
9/2/2023		X		600-695 Tifton Dr 600-645 Spryfield Rd	49
9/3/2023		X		5400 - 5551 Mimosa Dr	18
9/4/2023			X	400-457 N. Siwell Dr 1400-1500 South McRaven Rd	15
9/6/2023		X		5305-5376 Farnsworth Dr	16
9/7/2023		X		5400 - 5498 River Thames St	50
9/13/2023	9/29/2023		X	Siwell Road - All places of business/homes between Henderson Road & Gary Road	40
9/15/2023	9/20/2023	X		809-1334 Adkins Blvd 811-1006 Fairfax Cr	60
9/15/2023	9/20/2023	X		Adkins Boulevard Fairfax Circle Henderson Road Gary Road	100

Boil Water Notice Date	BWN Lift Date	Surface	Well	Area Impacted	#
9/16/2023	9/20/2023		X	100-200 Country Bend Pl 100-200 Hollow Pines St	61
9/16/2023	9/20/2023	X		1100 - 1200 St. Ann St	23
9/17/2023	9/20/2023	X		100-300 Cedarhurst Dr 4800 - 4900 Maplewood Dr	41
9/17/2023	9/20/2023	X		100-300 Cedarhurst Drive 4800 – 4900 Maplewood Drive	41
9/26/2023	9/29/2023	X		105-145 Sumner Street	7
9/26/2023	9/29/2023		X	Siwell Road-All Places of business/homes between Henderson Rd & Gary Rd	40
9/26/2023	9/29/2023	X		105-145 Sumner Street	7
9/26/2023	9/29/2023	X		Siwell Road-All places of business/homes between Henderson Road and Gary Road	40
9/30/2023	10/6/2023	X		4315-4482 Old Canton Rd (Meadowbrook Rd to Eastpark Dr)	15
9/30/2023	10/6/2023	X		4315-4482 Old Canton Road (Meadowbrook Road to Eastpark Drive	15

E. Summary of Delays Encountered or Anticipated

No delays that should impact the achievement of the objectives of the ISO were encountered during the reporting period.

F. Accounting Of Grant 84054501-0 ITPM Professional Budget

The summary financial report through the end of the third quarter is shown in **Figure 30**. All budget categories are at or below the annual percentage (ten months cumulative) 83.3 percent of the year. The ITPM staff wages and fringes are below budget as the City has not invoiced for the share of salary and benefits they are providing.

It should be noted that the ITPM Budget as included in the ISO totaled $2,976,500. EPA approved Grant 84054501-0 for the ITPM Budget at only $2,676,500, a full 10 percent less than required. Further, the funding made available under Grant 8405501-0 was only $2,170,000, 27 percent below the budget in the ISO. The ITPM has made a request for the balance of the approved Grant funding, which will still be $300,000 below the budget included in the ISO and agreed to by all parties.

Details of the ITPM Professional Budget spending can be found in **Figure 31** – **Figure 33**.

FIGURE 30 FINANCIAL REPORT FROM 12/01/22 THROUGH 9/30/23 (83.3% OF BUDGET YEAR)

	BUDGET	EXPENSE THRU 3/31	BALANCE	PERCENT OF BUDGET
ITPM Compensation - $33,333.33/month				
• Salary • Living expenses • Travel expenses	$ 400,000			
ITPM Compensation Sub-total	**$ 400,000**	**$ 333,333.30**	**$ 66,666.69**	**83.3%**
ITPM Staff Compensation and Expenses				
• Local deputy administrator/senior project manager • Project managers/contract inspectors • Contract administrator/invoice processor • Environmental compliance manager • Other staff as needed	$ 725,000	$ 451,820.83		
• Payroll taxes, fringe benefits, and human resources administration	$ 385,500	$ 49,241.41		
ITPM Staff Compensation and Expenses Sub-total	**$ 1,110,500**	**$ 501,062.24**	**$ 609,437.76**	**45.1%**
ITPM Contractor and Consultant Support and Services				
• General and regulatory legal support	$ 200,000	$ 189,201.15		
• Accounting • Financial advisor	$ 300,000	$ 191,907.21		
• Engineering • Information technology and website	$ 450,000	$ 168,841.25		
• Community engagement/governance development • Pricing/rates • Other contractors and consultants as needed	$ 450,000	$ 591,327.90		
ITPM Contractor and Consultant Support and Services Sub-total	**$ 1,400,000**	**$ 1,141,277.51**	**$ 258,722.49**	**81.5%**
Other Direct Expenses				
• Phones and computers for ITPM and staff • Professional liability insurance • Office supplies/miscellaneous consumables • Other direct expenses as needed				
Other Direct Expenses Sub-total	**$ 66,000**	**$ 0**	**$ 66,000**	**0%**
OVERALL ITPM PROFESSIONAL BUDGET TOTAL	$ 2,976,500	$ 1,707,717.07	$ 1,268,782.93	57.4%
ACTUAL Grant AUTHORIZATION	$ 2,676,500	$ 1,707,717.07	$ 968,782.93	63.8%
ACTUAL Grant FUNDING LEVEL	$ 2,170,000	$ 1,707,717.07	$ 462,282.93	78.7%

FIGURE 31 GRANT 84054501-0 - ITPM PROFESSIONAL BUDGET DASHBOARD

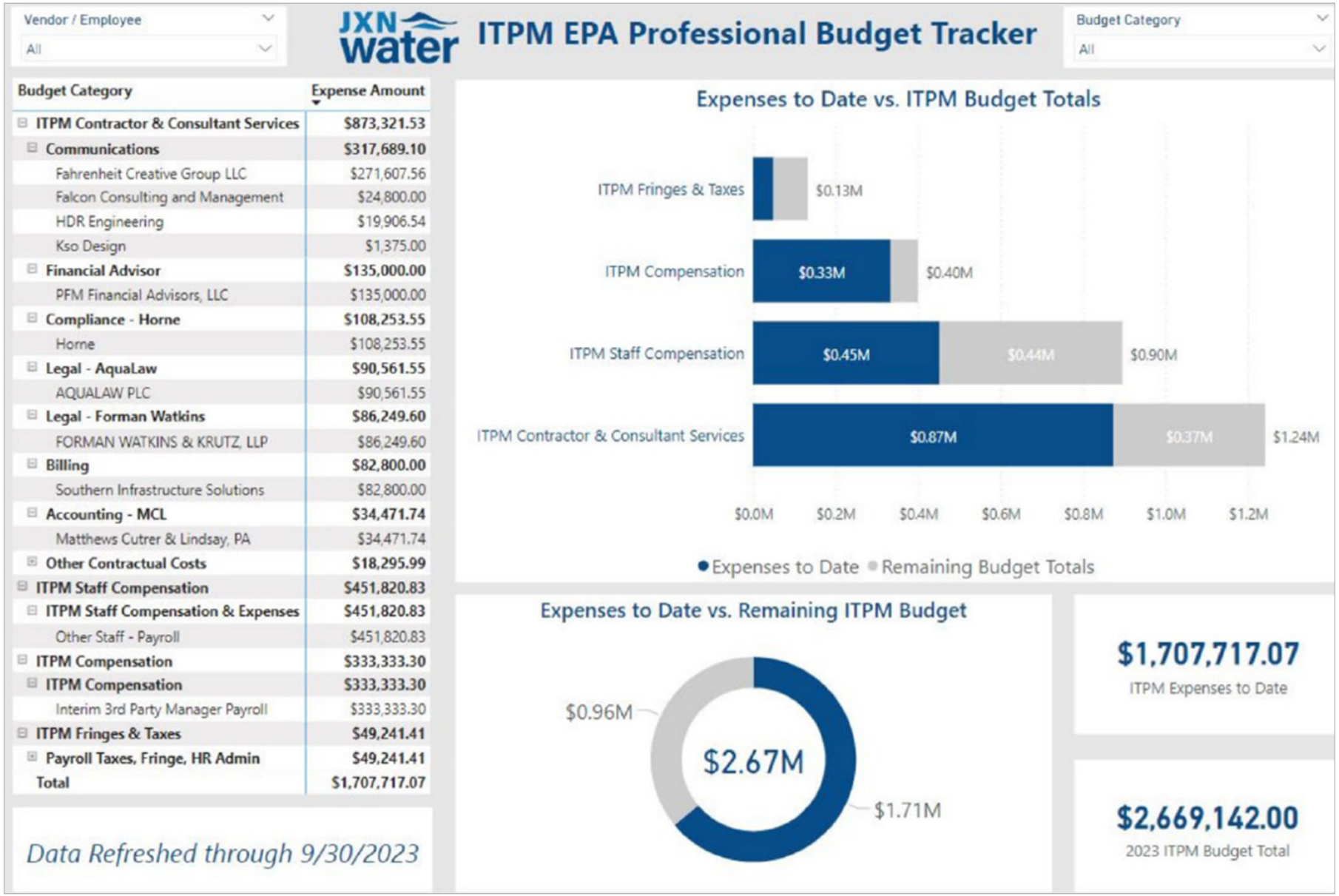


FIGURE 32 GRANT 84054501-0 - ITPM PROFESSIONAL BUDGET PROFIT AND LOSS

Profit and Loss by Customer January - September 2023				
	ITPM 2979	ITPM Professional (EPA)	Total ITPM 2979	TOTAL
Income				
Grants		$1,656,112.30	$1,656,112.30	$1,656,112.30
Total Income	**0.00**	**$1,656,112.30**	**$1,656,112.30**	**$1,656,112.30**
GROSS PROFIT	**0.00**	**$1,656,112.30**	**$1,656,112.30**	
Expenses				
Contractual				$-
Accounting		$56,907.21	$56,907.21	$56,907.21
Billing		$168,841.25	$168,841.25	$168,841.25
Communications/PR		$323,371.92	$323,371.92	$323,371.92
Financial Management		$135,000.00	$135,000.00	$135,000.00
Legal		$189,201.15	$189,201.15	$189,201.15
Total Contractual		**$873,321.53**	**$873,321.53**	**$873,321.53**
Payroll Expenses				$-
ITPM Compensation		$333,333.30	$333,333.30	$333,333.30
ITPM Employee Wages		$451,820.83	$451,820.83	$451,820.83
Taxes		$49,241.41	$49,241.41	$49,241.41
Total Payroll Expenses		**$834,395.54**	**$834,395.54**	**$834,395.54**
Total Expenses	**$0.00**	**$1,707,717.07**	**$1,707,717.07**	**$1,707,717.07**
NET OPERATING INCOME	$0.00	-$51,604.77	-$51,604.77	-$51,604.77
NET INCOME	**$0.00**	**-$51,604.77**	**-$51,604.77**	**-$51,604.77**

A detail of payroll data is included in **Figure 33**. The spending shown for payroll does not include reimbursement to the City of Jackson for salaries and benefits for these employees. The employment of these key people is critical to the success of the ISO. As an interim order, pension and benefits are not practical to establish and asking people to give up those to join JXN Water would discourage many candidates.

As a result, the ITPM negotiated an arrangement with the City of Jackson to allow these employees to continue to receive their City salaries and all benefits to be fully reimbursed by the ITPM. No reimbursement request (invoice) has been submitted to date.

FIGURE 33 GRANT 84054501-0 - ITPM PROFESSIONAL BUDGET EMPLOYEE WAGES DETAIL

Name	Bonus	Salary	Allowance	Other Earnings	Total
*Abdul-Tawwab, Tariq	-	$46,153.86	$1,963.64	$118,224.68	$166,342.18
Byrd, Terence	-	$73,076.85	-	-	$73,076.85
Carson, Aisha S	-	$18,461.52	$1,846.16	-	$20,307.68
Chambers, Orlando	-	$20,832.42	-	-	$20,832.42
Hillman, Jordan	-	$105,000.00	$9,978.24	-	$114,978.24
Love, Marcus	$9.82	$11,344.04	-	-	$11,353.86
Whittsett, Tiana	-	$37,544.96	$7,384.64	-	$44,929.60
Total pay	**$9.82**	**$312,413.65**	**$21,172.68**	**$118,224.68**	**$451,820.83**

G. Amended ITPM Professional Budget

The 1442(b) Grant that funded the ITPM Professional Account was based upon a workplan that was developed in November 2022, before anyone had a good idea of what would be required to accomplish the goals of the ISO. The ITPM has requested the following modifications to the ITPM Budget in accordance with the ISO as shown in **Figure 34** and **Figure 35**.

- Change the original listed positions to the ones shown in **Figure 35**
- Change the contracts originally listed to the ones in **Figure 35**
- Eliminate the following categories of expenses:
  - Travel
  - Supplies
  - Other (Professional Liability Insurance)
- Total Grant Value remains unchanged from approved total - $2,670,000
- Based on current spend, the ITPM requested the term extend to March 31, 2024, without a change in value.

The request for the term extension has been approved. The budget changes remain under review.

FIGURE 34 PROPOSED AMENDMENT TO THE ITPM PROFESSIONAL BUDGET - GRANT BUDGET

Grant Budget			
		Original	Amended Budget
Personnel		$ 950,000.00	$ 1,295,342.00
Fringes		$ 220,000.00	$ 132,800.00
Travel	Eliminated from Grant	$ 4,000.00	$ -
Equipment		$ -	
Supplies	Eliminated from Grant	$ 54,000.00	$ -
Contractual		$ 1,430,000.00	$ 1,241,000.00
Construction		$ -	
Other	Eliminated from Grant	$ 12,000.00	
		$ 2,670,000.00	$ 2,669,142.18

FIGURE 35 PROPOSED AMENDMENT TO THE ITPM PROFESSIONAL BUDGET - PERSONNEL AND FRINGE DETAILS

Personnel and Fringe Details									
Name		**Position**	**City Salary**	**JXN Water Salary**	**Total**	**Car Allowance**	**Estimated Fringes**	**Monthly Cost**	**Projected through 12/23**
Jordan Hillman	January	Chief Operating Officer	$ 70,000.00	$ 130,000.00	$ 200,000.00	$ 12,000.00	$ 40,000.00	$20,000.00	$ 240,000.00
Terence Boyd	January	Water Systems Program Manager	$ 50,000.00	$ 100,000.00	$ 150,000.00	JXN Truck	$ 20,000.00	$14,166.67	$ 170,000.00
Tiana Whitsett	February	Administrative Services Manager	$ 36,000.00	$ 84,000.00	$ 120,000.00	$ 12,000.00	$ 26,400.00	$12,200.00	$ 134,000.00
Aisha Carson	August	Social Strategist		$ 120,000.00	$ 120,000.00	$ 12,000.00	$ 12,000.00	$11,000.00	$ 66,000.00
Orlando Chambers	February	Water Distribution Project Manager	$ 38,000.00	$ 42,000.00	$ 80,000.00	JXN Truck	$ 15,200.00	$7,933.33	$ 87,266.67
Marcus :pve	April	Assistant Water Distribution Project Manager	$ 33,000.00	$ 32,000.00	$ 65,000.00	JXN Truck	$ 13,200.00	$6,516.67	$ 58,650.00
Tariq Abdul-Tawwab	Jan-Mar		$ -	$ 160,342.18	$ 160,342.18	$ 6,000.00	$ 6,000.00		$ 166,342.18
					$ 895,342.18	$ 36,000.00	$ 132,800.00		$ 922,458.85
ITPM Compensation					$ 400,000.00				
					$ 1,295,342.18			$ 71,816.67	$ 372,883.33
Contractual			**Est Annual Budget**	**Est Monthly Cost**					
Legal - AquaLaw									
Legal - Forman Watkins			$ 100,000.00						
Accounting - MCL			$ 90,000.00						
Compliance - Horne			$ 80,000.00						
Billing		Southern Infrastructure Solutions	$ 150,000.00						
Communications		Farenheit	$ 300,000.00						
		Falcon	$ 13,000.00						
		HDR	$ 153,000.00						
		KSP	$ 5,000.00						
Financial Advisor		PFM	$ 200,000.00						
			$ 1,241,000.00	$ 103,416.67					

H. Grant 84054501-0 Proposed Budget for 2024

Based on current experience, the ITPM is recommending the 2024 budget remain flat, consistent with the amendment as proposed in Section G herein and ultimately moved to Grant 84060101-0 after the end of the term for Grant 84054501-0 (March 31, 2024).

I. Federal Grant Accomplishments in Relation to Required Outputs and Outcomes

Goal 1 - Establish the Interim Third-Party Manager (ITPM) to operate, maintain, manage, and control the System in compliance with the SDWA. Comply with all requirements of the Order.

Goal 1 was achieved during the quarter ended March 31, 2023. The ITPM established JXN Water, Inc., as the business entity required to achieve the goals and objectives of the Interim Stipulated Order and this Grant.

The approved Grant workplan included five tasks under Goal 1 for the Interim Third-Party Manager. While the stated goal was accomplished with establishment of the ITPM, these five tasks will continue throughout the term of the Grant.

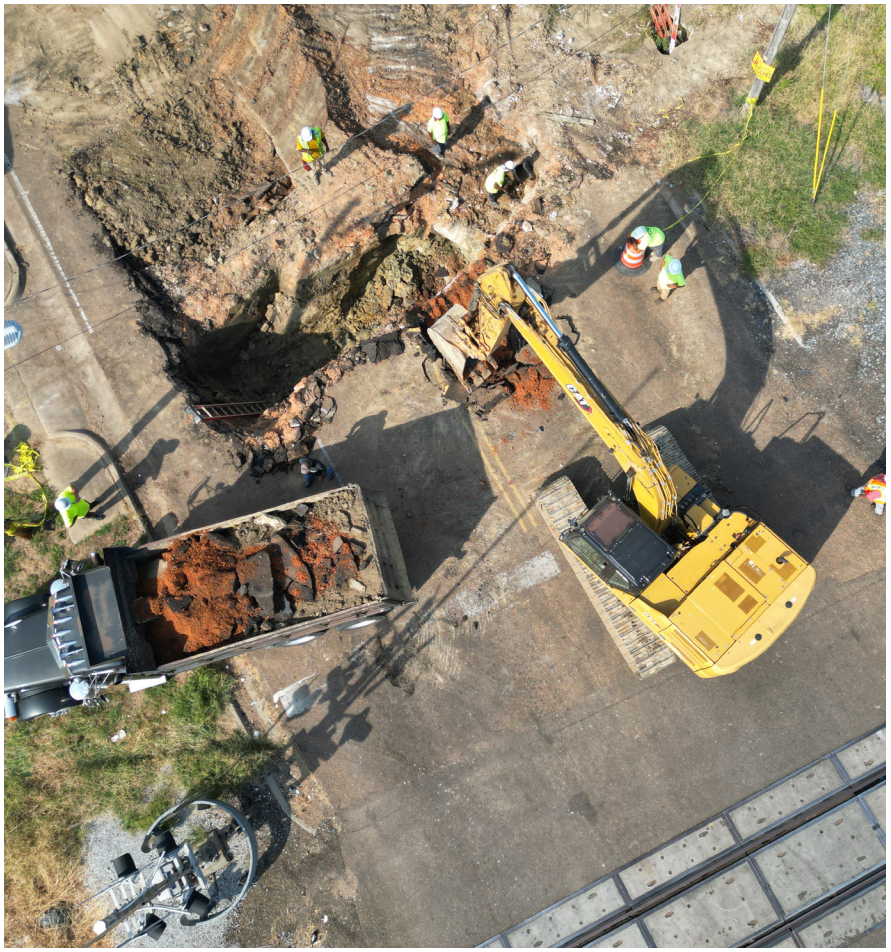
- **Implement the Project Priority List Implementation Schedule.**
  The Priority Project schedule was developed and submitted. Progress on PPL projects is provided within this report. This work will continue throughout the Grant period in accordance with the schedule.

- **Advise, consult, and collaborate with the Director of Public Works.**
  Regular communications and meetings are held with the Director of Public Works and will continue throughout the Grant term.

- **Perform reporting requirements; and respond to requests.**
  All reporting requirements and requests during the quarter have been satisfied.

- **Hire, enter into contracts, alter existing contracts, seek out other funding sources, and make purchases for the benefit of the System.**
  See details herein.

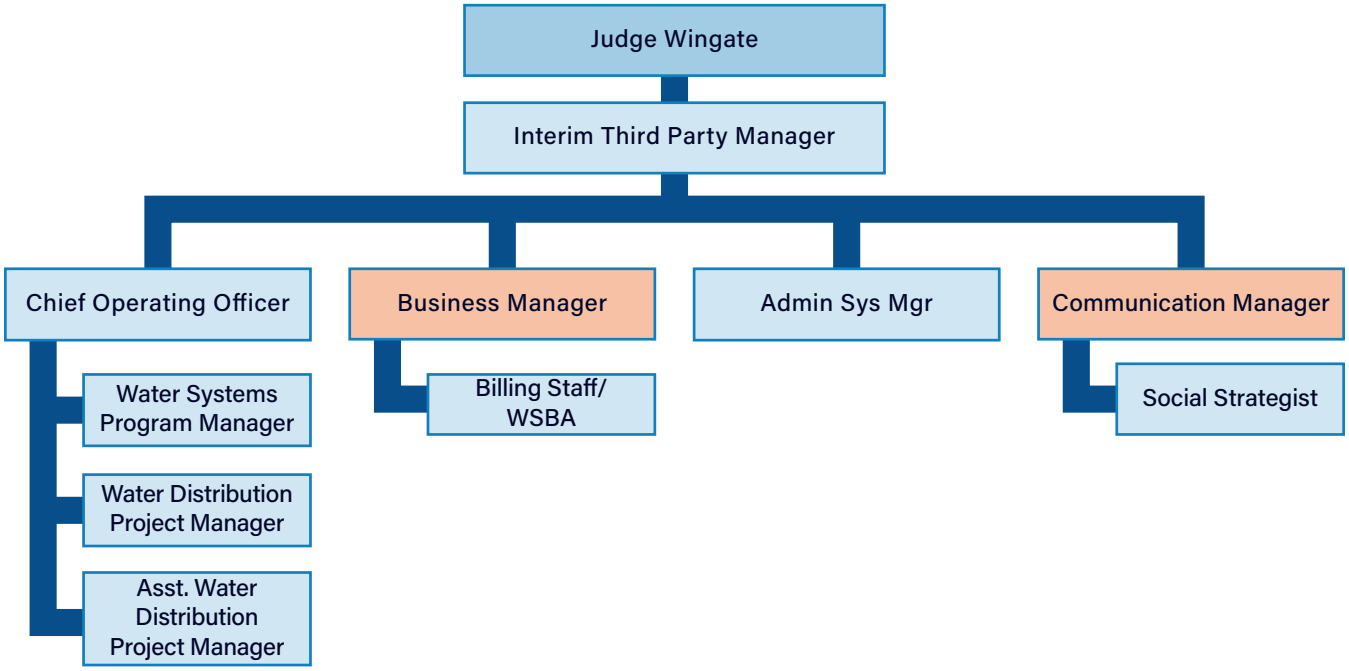
- **Develop and implement a Financial Management Plan for the System.**
  The Financial Management Plan (FMP) was developed and submitted on January 29, 2023, as required. Implementation is on-going.



SUPPORT PERSONNEL:

One additional employee was hired during the reporting period, a Social Impact Strategist, to perform a variety of duties around Grants, advocacy, communications, education and related duties. The organizational chart for the ITPM and JXN Water is shown in **Figure 36**. The two orange blocks represent contract employees performing staff functions.

FIGURE 36 ITPM AND JXN WATER ORGANIZATION CHART



CONTRACTUAL SUPPORT FOR ITPM

With additional experience, the roles of various contractors has been evaluated and modified from the original Grant workplan. At this time these are the contractors supporting the ITPM:

Legal Services – Regulatory and General Counsel – AquaLaw (Paul Calamita) has been engaged with the local support of Forman Watkins (Malissa Wilson). Mr. Calamita has 30 years of experience representing public drinking water and sewer utilities nationwide. Ms. Wilson is a Partner at Forman Watkins and her team is able to provide a wide range of necessary support with extensive experience with Mississippi clients.

Accounting – Kim Hardy, CPA with Matthews, Cutrer, and Lindsay has been retained. Horne has been retained to assist with compliance monitoring.

Financial Advisor – PFM (Ricardo Callender) has been retained to provide financial advisory services. There may be additional support necessary under this item related to the debt retirement.

Billing Support – Southern Infrastructure Solutions is providing a former City of Jackson employee (Carla Dazet) to manage the billing system and support the new billing and rate structure. Horne has been retained to assist with cleaning up the customer account data.

Communications Support – HDR (Ameerah Palacios) has been retained to lead the JXN Water communications effort. This broad tasking includes, client consultation, project management, communications strategy, crisis communications, internal and external communications, copywriting, copy editing, graphic design, social media management, website design and development, and public relations services.

Goal 2 – Establish an Operations and Maintenance Contract for the City of Jackson Water System.

This goal was accomplished when Jacobs entered a contract with JXN Water for Operation and Maintenance of the two water treatment plants, the wells, and the storage tanks throughout the system on February 20, 2023. This contract is an open-book time and materials contract for a six-month term. During this term Jacobs will develop a better understanding of the cost to operate and maintain the plants and will use that data to inform their fixed-price bid on a ten-year contract, with a goal of awarding by December 31, 2023.

The contract requires Jacobs to meet all SDWA standards, MSDH regulations, and any other applicable laws, regulations, and standards. The plant outcomes for this quarter are shown in **Figure 37** and **Figure 38**.

FIGURE 37 WATER PRODUCTION (INTO DISTRIBUTION SYSTEM) IN MILLION GALLONS PER DAY

Plant	July	August	September	Q3 Average	Q2 Average	Q1 Average
OBC Conventional	15.3	15.9	17.1	16.1	13.3	15.1
OBC Membrane	22.8	22.8	19.6	21.7	22.4	21.8
JH Fewell	10.4	15.5	22.1	15.9	11.5	13.4
Total	**48.5**	**54.2**	**58.8**	**53.7**	**47.2**	**50.2**

FIGURE 38 PLANT OPERATIONAL COST – CHEMICAL AND ELECTRICAL

	July 2023	August 2023	September 2023	Q3 Average
Plant Flows MG (Monthly Average MG for All Plants)	1,455	1,623	1,764	1,614
Estimated Chemical and Power Cost Per MG	$ 1,175*	$ 608	$ 375	$ 719/MG $ 0.46/CCF

O&M CONTRACT STAFFING PLAN AND PROGRESS

Jacobs has continued to recruit to fill all positions in their staffing plan.

The plan calls for a long-term total of approximately 54 people with a short-term requirement for an additional 12 maintenance people to expedite corrections and deficiencies related to deferred maintenance.

Eighteen full-time and one part time position have been filled with former City of Jackson employees.

As of September 30, 2023, 45.5 positions of 66.5 are filled (68.4 percent). **Figure 39** shows the current staffing plan.

FIGURE 39 JACOBS STAFFING PLAN WITH CURRENT STATUS

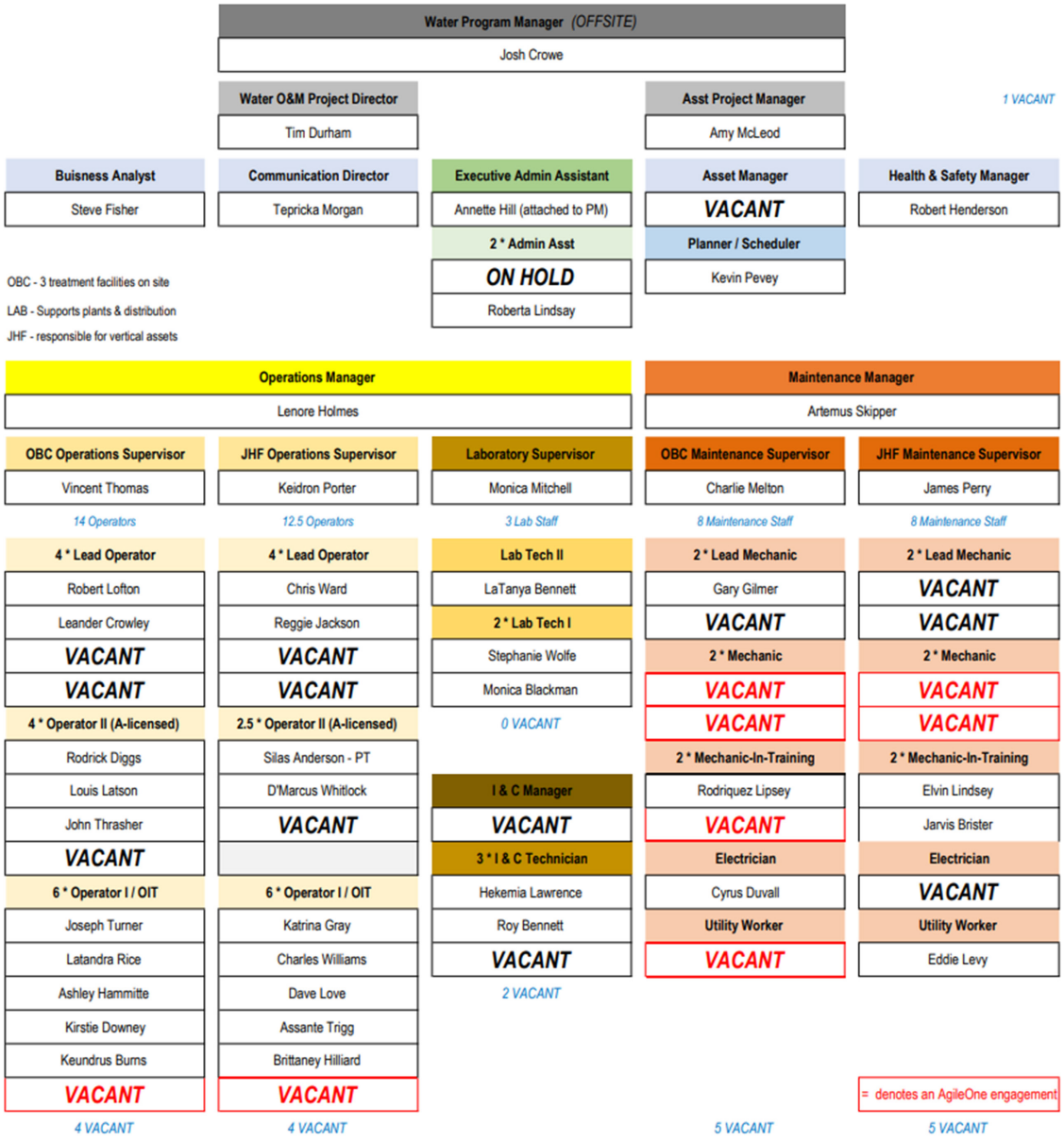


FIGURE 40 SPENDING PLAN WITH SOURCE FUNDING

	Source	Project No.	Description	Total	2023	2024	2025	2026	2027	2028
	1442b	2	Winterization	$ 1.0	$ 1.0					
	1442b	3	Corrosion Control	$ 1.0	$ 1.0					
	1442b	5.a.ii	Valve and Hydrant Assessment	$ 7.4	$ 4.9	$ 2.5				
	1442b	5.a.vii	Service Line Inventory	$ 0.1	$ 0.1					
	1442b	5.a.iv	Distribution System Leaks - Find and Fix	$ 22.5	$ 10.0	$ 7.5	$ 5.0			
	1442b	7	SCADA Improvements	$ 5.0	$ 1.0	$ 4.0				
	1442b	11	Plant Treatment Processes	$ 17.0	$ 7.0	$ 5.0	$ 5.0			
	1442b	12	Sediment Assessment and Removal	$ 2.0	$ 2.0					
	1442b	13	Resilient Power Plan	$ 6.0	$ 3.0	$ 2.0	$ 1.0			
	1442b		EPA Administration	$ 4.5	$ 1.5	$ 1.5	$ 1.5			
	1442b		ITPM Professional Budget	$ 8.5	$ 0.9	$ 3.8	$ 3.8			
				$75.0						
	1442b	1	O&M Contract	$ 75.0	$ 25.0	$ 25.0	$ 25.0			
			TOTAL 1442b	**$ 150.0**						
	ARPA	8 & 9	OBC/JHF Chemical Feed Improvements and Chlorine System	$ 5.9	$ 5.9					
	ARPA	11.g	JHF Filters	$ 9.8		$ 4.0	$ 5.8			
	ARPA	11.a.g	OBC Filters/Conventional and Membrane	$ 9.6		$ 9.6				
	ARPA	11.i.j	JHF Pumps	$ 5.5		$ 5.5				
	ARPA	11.b.	OBC Raw Water Pumps	$ 3.3		$ 3.3				
Active	ARPA		48 Inch Transmission Line	$ 7.8	$ 7.8					
Active	ARPA	11.g	OBC Filter Mods	$ 5.0	$ 5.0					
	ARPA (Hinds Co)	5.a.v	Distribution System Optimization - South Jackson	$ 12.0	$ 3.0	$ 9.0				
			TOTAL ARPA	**$ 58.9**						
	BRIC		New Plant Feasibility Study and Planning	$ 13.8		$ 4.0	$ 4.0	$ 4.0	$ 1.8	
	Comm Grant	4	Alternative Water Response Plan	$ 1.0	$ 1.0					
	Comm Grant	6	System Stabilization and Sustainability Plan	$ 1.2	$ 1.2					
	Comm Grant		WSBA Facility Replacement	$ 1.8	$ 1.8					
			TOTAL COMMUNITY Grant	**$ 4.0**						
	NEW SRF		Implement BRIC Study Findings (New/Rehab)							
	Pay-Go		Distribution System Repairs	$ 65.0						
	Pay-Go		Plant Treatment Processes	$ 65.0						
	Pay-Go		Small Pipe Replacement	$ 65.0						
	Pay-Go		Sewer System Repairs	$ 178.0		$ 20.0	$ 25.0	$ 12.0	$ 16.0	$ 20.0
			TOTAL PAY-GO	**$373.0**						
Active	SRF Loan 3		Membrane Train	$ 0.3	$ 0.3					
Active	SRF Loan 3		Membrane Building	$ 1.5	$ 1.5					
Active	SRF Loan 3		OBC Winterization	$ 4.1	$ 4.1					
Active	SRF Loan 3		JHF Corrosion Control	$ 9.6	$ 5.0					
Active	SRF Loan 3		JHF Filters 24/26	$ 1.8	$ 1.8					
			TOTAL ACTIVE SRF LOAN 3	**$ 17.3**						
	SRF Omni	5.a.v	Distribution System Optimization	$ 32.5	$ 4.5	$ 14.0	$ 10.0	$ 4.0		
	SRF Omni	5.a.i	Distribution System Assessment/Modeling	$ 6.0	$ 4.0	$ 2.0				
	SRF Omni	5.a.vii	Corrosion Control Renewal	$ 4.0		$ 4.0				
	SRF Omni	10	Intake Structure Repair	$ 5.0	$ 2.0	$ 3.0				
	SRF Omni		Implement BRIC Study Fidings (New/Rehab)	$ 60.5					$ 0.5	$ 30.0
	SRF Omni		Small Pipe Replacement	$ 50.0	$ 10.0	$ 20.0	$ 20.0			
	SRF Omni		Retire Private Debt	$ 175.5	$ 175.5					
	SRF Omni		Retire SRF	$ 114.5	$ 114.5					
	SRF Omni		EPA Administration/Technical Assistance	$ 2.0	$ 1.2	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1
			TOTAL SRF OMNIBUS	**$ 450.0**						
	SRF Omni (CD)	11.g	General Filter Repairs at JFH	$ 2.8		$ 2.8				
	USCOE 219/CR		Small Pipe Replacement	$ 20.0	$ 20.0					
	USCOE 219/WRDA		Small Pipe Replacement	$ 30.0		$ 30.0				
	USCOE 219/WRDA		Sewer System Work	$ 70.0	$ 5.0	$ 20.0	$ 20.0	$ 20.0	$ 5.0	
			TOTAL CIP SPEND (All Sources) 2023-2042	**$ 942.0**	**$ 113.9**	**$ 176.8**	**$ 95.8**	**$ 40.0**	**$ 23.3**	**$ 50.0**

TOTAL FEDERAL SPEND CIP	$ 359.6
*Includes US Army Corps of Engineers Section 219 funding	
TOTAL FEDERAL SPEND O&M	$ 75.0
TOTAL FEDERAL SPEND DEBT RETIREMENT	$ 290.0
TOTAL ARPA SPEND	$ 58.9
TOTAL JXN WATER PAY-GO	$ 373.0
TOTAL NEW SRF (2030-2035)	$ 150.0
GRAND TOTAL INVESTMENT 2023-2042	**$ 1,306.5**

PRIORITY PROJECT STATUS

The Financial Management Plan, submitted on January 29, 2023, included a spending plan that extends through the 20-year planning period. The current plan is shown in **Figure 40**.

Each of the 13 Priority Projects included in the ISO have funding sources identified in the Spending Plan. The Spending Plan has a planning goal to have these 13 projects accomplished by the end of 2025. While that is the goal, it was established despite the fact that many of the priority projects are still at a conceptual planning level. Engineering design has not been initiated and once it is, that may increase project completion estimates or identify long-lead time materials that could require adjustment to the goals for completion of one or more of the Priority Projects. The quarterly reports will provide regular updates for each Priority Project.

The ISO also required an Implementation Schedule for the Priority Projects. Anticipated deviations from the dates in the Implementation Schedule will be noted in each update within the quarterly report and formally requested in accordance with the ISO after the submittal of the report. The updated Implementation Schedule is below. Requests to modify the PPL deadlines will follow this report in accordance with the ISO.

J. Modifications to the Priority Project List or Schedule

1. **O&M Contract**
   a. Establish, support, and maintain a contract(s) for operation and maintenance of the System. The contract must establish clear level of service goals including minimum appropriate staffing in accordance with Miss. Admin. Code § 15-20- 72.2.2.1(5) and all applicable laws and regulations.
      – Phase 1 – Contract operations for both plants and wells based on open-book cost plus model. This phase allows for continued negotiations to long-term contract while contractor is learning more about costs to operate to start by **March 2023**
      – Phase 2 – Contract operations of complete system – including distribution system with an initial 5-year term with options to renew. **Continuing to address liability concerns with ISO Parties and legal teams. New target date December 31, 2023, subject to resolving liability concerns.**

2. **Winterization of System –** This project completes work in progress as of the effective date. This work was contracted by the City of Jackson. JXN Water is managing these through Jacobs Consulting. This work is almost complete and Jacobs is is reviewing the plants for any gaps and will provide a detailed assessment of any needed further measures.
   a. Develop and implement to the extent funding and schedule permit a comprehensive plan to properly winterize both O.B. Curtis and J.H. Fewell.
      – Short term immediate measures – **March 2023**
      – Plan for longer-term measures – **July 2023**
      – Implement plan for winter 2023/2024 – **December 2023**
   b. Complete membrane winterization project.
      – **Final close out underway. Foundation issues discovered that may delay closeout. Timing for correction of these defects cannot be estimated at this time.**

3. **Corrosion Control –** This project was originally intended to complete the projects that were under construction as of the ISO effective date. A full review has resulted in JXN Water requesting a change from the approved OCCT from the MSDH. Approval is anticipated based on discussions with MSDH and implementation will be complete by the end of Q4.
   a. Address any outstanding issues impeding full implementation of optimized corrosion control treatment ("OCCT") at J.H. Fewell and O.B. Curtis, and complete implementation of such OCCT as required by MSDH and consistent with the MSDH-approved OCCT plans to meet State-approved water quality parameters.
      – Extensive lead times on equipment has slowed completion down at both plants. JH Fewell is further along and anticipated to be complete in early Q4 with OB Curtis a few months behind. **December 31, 2023 for JHF and March 31, 2024 for OBC.**

4. **Alternative Water Source Plan**
   a. Implement an Alternative Water Source Plan ("AWSP") including entering into agreements for the immediate provision of alternative water - at least one gallon per person per day. **A revised plan scope was submitted to EPA on September 19, 2023. EPA and MSDH provided no comments within the 20-day comment period and as a result the new scope is as follows: Implement an Emergency Water Supply Plan to provide pressurized temporary connections and tanker truck supplied potable water to customers impacted by JXN Water work on the distribution system or as a temporary measure until distribution system improvements can be completed.**
      – **The plan was implemented effective September 30, 2023.**

5. **Distribution System Study, Analysis, and Implementation**
   a. Develop a plan for EPA review and approval for distribution system study and analysis to include at a minimum: **Plan submittal December 2023.**
      i. A GIS-based dynamic hydraulic model
      ii. Valve and hydrant location and assessment, including valve size
      iii. An asset management system
      iv. Water loss identification and reduction
      v. System operation optimization and configuration standards
         1. Pressure study – HGL analysis
         2. Implement pressure control/pressure zones/booster pumping as recommended and as funding and schedule permit.
      vi. Corrosion control
      vii. Service line inventory and replacement planning
         1. Prioritize replacement of any lead lines found, with schedule approved by EPA and MSDH.
         2. Update lead service line replacement plan in compliance with Lead and Copper Rule Revisions.
   b. Implement plan as funding and schedule permit. **Implementation of many activities has commenced with all elements to commence no later than plan approval – will continue into 2024 and beyond.**

6. **System Stabilization and Sustainability Plan**
   a. Develop a sustainable plan to stabilize and invest in the water system to ensure safe and reliable drinking water for all of Jackson, all the time.
   b. Key areas to be addressed include sustainable revenue models, appropriate levels of renewal and replacement, asset management plan, service levels, water demand modeling, and other related factors.
      – **March 2024 – requires input from distribution system plan (PPL 5) as well as Jacobs condition assessment (draft submitted in October 2023).**

7. **SCADA System Improvements –** sensors, actuators, sensors, etc. This project is to evaluate and replace the SCADA system at OB Curtis and JH Fewell.

8. **Chemical Systems at Plants and Wells**
   a. Assess and repair, as necessary, all chemical feed pumps and associated equipment at all facilities, including but not limited to; controls, sensors, weight indicators, and feed lines, to return all chemical feeds to fully functional status, ensure operational redundancy, and establish flow paced automated dosing for all chemical feed systems.
      – This project changes from a repair effort to a complete replacement of all chemical feed systems at OB Curtis. PP 9 has been included in the design currently at 30 percent. Schedule for contract completion extends to end of 2024.

9. **Chlorine System Improvements at O.B. Curtis**
   a. Make replacements or immediate interim repairs as necessary for continuous safe operation.
      – **February 2023 –** Complete to operate in accordance with Jacobs' safety protocols.
   b. Develop and implement plan to eliminate use of gaseous chlorine at O.B. Curtis.
      – **Plan has been developed and design started to be accomplished in coordination with PP 8. Design is at 30 percent. Project to be completed by December 2024.**

10. **Intake Structure Repairs**

    a. Assess and repair, as necessary, the intake structures at J.H. Fewell and O.B. Curtis, including, but not limited to, sensors (including related remote SCADA capabilities), chemical feed systems, valves, electrical components, screens, physical structure, and any appurtenances, to return the intake structures and related components to fully operational status.
        - **Assessment complete September 2024**

11. **Treatment Facilities (J.H. Fewell and O.B. Curtis as applicable) Unit Processes and Pumps** – evaluate performance and restore redundancy – **Start Dec 2022 with assessment by JACOBS. Work accomplished throughout year in coordination with JACOBS as contract operator. No completion date can be established until extent of repair/remediation/ replacement work can be determined.**

    a. Membrane system
    b. Raw water pumping and screening
    c. Oxidation basins
    d. Rapid mix
    e. Flocculation and sedimentation
    f. Sludge removal
    g. Filters
    h. UV
    i. Transfer pumping
    j. High service pumping

12. **Sludge Assessment in All Finished Water Storage Facilities**

    a. Assess sludge levels and remove as required. Develop operating procedures to minimize future sludge accumulation in all finished water storage facilities. **Assessment June 2023 – Assessment could not be completed. Divers met with JXN Water staff and Jacobs on-site to plan the assessment and determined the treatment facilities are unable to safely shut down for the time required for the divers to perform the assessment. This project will be re-evaluated at the end of 2024. Accomplishment is dependent on continued progress on distribution system repairs and plant redundancy.**

13. **Resilient Power Plan**

    a. Assess power vulnerability throughout the system and develop and implement a plan to address issues identified in the assessment, as funding and schedule permit. **Assessment September 2023. Technical memo to be submitted in Q4. Implementation schedule will be developed based on TM recommendations.**

FIGURE 41 STATUS UPDATES FROM JXN WATER

Status Change Quarter Ending September 30, 2023	Status Quarter Ending September 30, 2023	Delays	Projection of Work Ending Quarter Ending December 31, 2023
Entire System Stabilization			
Continued stabilization actions	Completed satellite sensor assessment of water loss. Transient testing performed in the distribution system. Collected information was used to inform investigation and calibrate the hydraulic distribution model. Plants consistently produced needed water to support the system. Pressure monitors installed last quarter continue to inform decision making related to the distribution system. Water tank water levels holding more consistently. Continued opening valves on smaller distribution lines (less than 16" diameter). Started construction on 20" transmission main running west across city along Fortification Street. Issues include multiple breaks with one under railroad. Completed design, permitting, bid award and procured materials for 30" transmission main repair running along Woodrow Wilson south to Fortification Street. Issues include multiple breaks in creek and multiple broken/closed valves. Received 20" and larger valves to keep in stock to expedite repairs. Completed altitude valve assessment on tanks and initiated emergency design for repair on the valve at Chastain Tank. Evaluated water tank storage response to plant flows. Continued improving call center service and responsiveness.	None	Continue evaluation of distribution system and implement corrective actions to further stabilize the system. Coordinate with plants to set system pressure requirements and goals. Continue evaluation of high-pressure areas (consistent water line breaks) for valve closures. Perform acoustic leak detection. Complete construction of 20" transmission main repair running west across city along Fortification Street. Begin construction on 30" transmission main repair running along Woodrow Wilson south to Fortification Street. Being addressing repairs on tank altitude valves.

Status Change Quarter Ending September 30, 2023	Status Quarter Ending September 30, 2023	Delays	Projection of Work Ending Quarter Ending December 31, 2023
South Jackson System Stabilization			
Continued stabilization actions	Identified pressure zones for the South Jackson area. Implementation of the pressure zones is being determined. Suncrest Tank taken offline after it was determined it was a demand on the system without providing head back to the system. Planned the conversion of the Forrest Hills area from surface to well system. Improved and continued to address pressure issues at CMMC hospital. Performed focused leak detection activities. Performed pressure checks along known transmission water lines to verify elevation/grade levels historically. Tested water quality from hydrants on known transmission lines to verify which treatment plant water is providing water to the area and the quality of that water. Identified several potential incomplete tie-ins for further investigation and repair if required.	None	Continue evaluation of distribution system and implement corrective actions to further stabilize the system. Pressure checks along known transmission water lines to verify elevation/grade levels historically. Test water quality from hydrants on known transmission lines to verify which treatment plant is providing water to the area and the quality of that water. Search known water line maps to find valves that could be causing pressure build-up or stagnant water based on field findings.

FIGURE 42 STATUS UPDATES TO PRIORITY PROJECT 1

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
1. O&M Contract	O&M contractor engaged and progressing work	Operations Consulting Support and Safety Audit	Jacobs	**General** 1. Continued recruiting and hiring activities according to staffing plan: 45.5 filled positions of 66.5 total planned positions; 18.5 positions currently filled with converted City of Jackson employees. 2. Continued preventative maintenance schedules and routines at both OB Curtis and JH Fewell. Routines include, but are not limited to, regular sediment basin cleanings and membrane train cleanings. 3. Established regular communication protocols with JXN Water to coordinate plant and distribution system actions during the period of high demand related to extreme heat and extended drought.	Extreme heat and extended drought resulted in high water demand during Q3. Continuing to encounter lengthy lead times for some process equipment including valves and actuators.	Install backup chlorinator equipment at OB Curtis. Complete start-up activities for the liquid lime and CO2 systems at JH Fewell. Continue preventive maintenance schedules and routines at OB Curtis and JH Fewell. Continue with pulling, repairing, and returning to service raw water pumps and blowers to further stabilize the plants. Coordinate with JXN Water on the return to service of the Chastain Tank and the Highway 18 Tank. Continue repairs needed to return the Residual Handling Facility to service at OB Curtis. Progress repair of the main entrance road to OB Curtis to maintain access for plant personnel and deliveries.
		Operations Consulting Support and Safety Audit (Amendment 1)	Jacobs			
		O&M Secondment	Jacobs			
		O&M Secondment (Amendment 1)	Jacobs			
		O&M Secondment (Amendment 2)	Jacobs			
		O&M Phase 2	Jacobs			
		O&M Materials Procurement	Jacobs			
		O&M Condition Assessment	Jacobs			
		O&M Evaluation	Jacobs			
		O&M Staff Augmentation (Amendment 1 and 2)	Jacobs			

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
		O&M Phase 2 (Amendment 1)	Jacobs	**OB Curtis Significant Repairs and Maintenance** 4. Completed removal of compacted soda ash from the two soda ash silos 5. Initiated and nearly completed installation of freeze protection on key lines throughout plant. 6. Repaired cyclical valve on Membrane Train #2 and returned train to service. 7. Repaired chlorinator system and ordered spare parts for redundancy. 8. Repaired damaged roof on the intake building on the Barnett Reservoir. 9. Installed bulk soda ash tank to provide more efficient handling and feeding of soda ash. 10. Repaired Membrane Blower B and returned to service. 11. Initiated repairs of the Residual Handling Facility. 12. Evaluated the main plant entrance road for repair.		

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
				JH Fewell Significant Repairs and Maintenance 13. Returned Filters #24 and #26 to service after the completion of construction activities. 14. Received training on the newly installed liquid lime and CO2 systems and initiated process of system startup. 15. Received repaired Raw Water Pump #2 from contractor; installed and returned to service. 16. Repaired raw water screen which will allow Raw Water Pump #5 to be returned to service. 17. Initiated repairs of the chlorine material handling equipment.		
				Wells, Tanks, and Booster Pump Stations Significant Repairs and Maintenance 18. Repaired burned motor leads and returned Siwell Road well to service. 19. Coordinated with JXN Water on repair and testing of Chastain Tank – tank anticipated to return to service in October 2023. 20. Installed additional lighting and cleared vegetation around fence lines at key well sites to improve security. 21. Corrected deficient site grading at Maddox Road tank.		

FIGURE 43 STATUS UPDATES TO PRIORITY PROJECT 2

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
2. Winterization	Contractor engaged and progressing work	OBC Winterization Project – Construction Contract OBC Membrane Building – Construction Contract	Hemphill	**Winterization** 1. Installed soda ash bulk storage tank. 2. Installed CO2 feed system. 3. Started up soda ash pumps and CO2 feed systems. **Membrane Building** 4. Complete and is pending final reconciliation change order and closeout. The State (MSDH) has completed their final walkthrough.	Delays related to the CO2 Tank pad location and decision on soda ash and dehumidification scope of work impacted project completion date.	**Winterization** 5. Achieve substantial completion in October 2023 and final closeout by November 2023 **Membrane Building** 6. Administratively close out project.

FIGURE 44 STATUS UPDATES TO PRIORITY PROJECT 3

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
3. Corrosion Control	Contractor engaged and progressing work	JHF CO2 Chemical Feed Equipment Project Construction Contract JHF CO2 Chemical Feed Equipment Project – Change Order #1 – Water Line Repair and Isolation JHF CO2 Chemical Feed Equipment Project – Change Order #2 - Sump Pumps at Lime Silo Containment Area JHF CO2 Chemical Feed Equipment Project – Change Order #3 - Transformer Deletion and CO2 Tank Orientation Change JHF Corrosion Control -Site Paving and Storm Drainage Improvements – Change Order #4	Hemphill	Completed installation of liquid lime system Completed installation of CO2 feed system Started up liquid lime and CO2 feed systems. Started site paving and storm drainage improvements	Equipment procurement delays have added 27 days per Change Orders 1, 2, and 3.	Complete site paving and storm drainage improvements Progress punch list Achieve final completion and project closeout in November 2023.

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
3. Construction Management Services for OBC and JHF	Consultant engaged and progressing work	Construction Management Services for OBC Winterization and JHF Corrosion Control (Task Order #7) Amendment #1 to Construction Management Services (Task Order#7) General Construction Management Services (Task Order #3)	Jacobs	Continued improving, updating, and using construction project management system (Trimble ProjectSight). Made improvements to the payment process to streamline processing including the use of electronic signatures and electronics transmittals to each party. Continued construction site visits for observation and inspection. Continued contract administration including payment application review, submittal reviews, answering RFI's, coordination with Plant Operations, writing requests for change proposals, developing work change directives and change orders.	Construction on both the JHF Corrosion Control and OBC Winterization projects have experienced delays from original contract dates due to equipment procurement delays.	Negotiate and execute as directed by JXN Water modifications required to construction contracts to address findings from corrosion control and winterization design reviews with contractor. Provide ongoing construction management services throughout the quarter. Advance substantial completion on JHF Corrosion Control and OBC Winterization projects during fourth quarter based on current construction schedules.

FIGURE 45 STATUS UPDATES TO PRIORITY PROJECT 5

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
5.a. Distribution Plan for EPA Review and Approval	Initiated development of plan including the initial work already accomplished	N/A – Plan included in already existing Task Orders for Distribution Work	Stantec/ Jacobs	Continued coordination with JXN Water's lead water distribution engineering consultant regarding the plan. Continued coordination with the Corrosion Control Study Team regarding plan development.	None	Submit plan for review and approval.
5.a.i. Distribution System Assessment and Modeling	Consultant engaged and progressing work TO1 Amendment 1 was approved by JXN which included scope and budget to perform field testing for the hydraulic model, install LEC pressure monitors, analysis/ troubleshooting of LEC pressure data, develop a transmission model for the groundwater system.	Development of data analysis, hydraulic modeling, and alternative analysis.	Stantec	**Data Collection** Continued gathering data for hydraulic model development as data becomes available. Specially, Stantec analyzed the meter consumption data from the READy software and utilized the largest 50 water consumers for model demand development. Stantec continued analyzing data and identified data gaps and technical issues with the LEC/IQ2 platform. Stantec downloaded the data from the platform weekly and imported into a spreadsheet for ease of reviewing. Stantec submitted the field-testing plan on July 20, 2023, to JXN for field testing in August 2023.	Stantec was unable to complete 4 hydrant tests during the field-testing period because of low pressure in the system. Stantec deployed 5 out of 8 transient loggers during field testing due to malfunctioning equipment.	Continue collecting and documenting data and the team will review and analyze data for hydraulic model development as data becomes available. Continue updating the model based on newly acquired data and information discovered in the field. Develop groundwater system transmission model. Draft a Model Calibration and Pressure Boundary Analysis Report. Continue evaluating the conceptual projects (48" Pipeline near Galatin Street and Repurposing of Maddox/TV Rd Pump Station/New Pressure Zone in South Jackson) for the south side of Jackson. Develop an all-pipe model based on the completed GIS and develop an efficient workflow between GIS/ Modeling teams. (Amendment required)

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
				Field Testing Stantec performed field testing between July 31 and August 3, 2023. Stantec performed 20 hydrant tests and installed 5 transient data loggers. Additionally, Stantec observed pump testing at the OB Curtis and JH Fewell WTP with support from JXN and plant operations staff. After field testing was completed, Stantec analyzed field data and used the information for model validation.		

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
				Hydraulic Modeling Stantec finished importing and updating the pipeline transmission network in the hydraulic model. Stantec finished model demand development using census data, land use, and the consumption data from the READy software. Then, Stantec allocated the demand to the model demand nodes. Then, Stantec utilized field testing data and SCADA from JXN to perform model validation and calibration. The model meets typical calibration guidelines in the northern portion of the system, while the model predicts a higher hydraulic grade line (HGL), i.e., higher pressure, in the southern portion of the system. Stantec is working with JXN Operations to determine the cause of the variations in the model and field data and assist JXN in identify locations of problems areas (leak or closed/partially closed valve) that may be causing lower pressure in the field compared to the model. Stantec successfully built a hydraulic model of the surface water system that can be used for preliminary analyses and support JXN Operations in identify immediate solutions to the system. The transmission model development will be on-going, and the model will continue to be updated as latest information is acquired.		

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
				South Jackson Alternative Analysis Stantec received a request from JXN to identify projects to improve pressure in South Jackson that can be used for Grant funding provided by Hinds County. Stantec identified two projects (48" Pipeline near Galatin Street and Repurposing of Maddox/TV Rd Pump Station/New Pressure Zone in South Jackson). Stantec submitted a TM to JXN describing the project components, estimate construction cost and schedule. The Grant funding was selected for other projects at the County's discretion, but Stantec continued to progress the analysis of the two projects.		
5.a.ii Valve and Hydrant Assessment	Consultant engaged and progressing work	Leak Detection and Mapping Services	Xylem (Wachs Water)	Continued assessing valve condition in areas of concern. Completed the following repairs and field activities: • 698 valves fully exercised (1692 cumulative) • 33 op nut repairs completed (37 cumulative) • 40 valves uncovered (97 cumulative) • 5 frozen valves repaired (7 cumulative) • 95 valve positions changed (219 cumulative) • 302 hydrant assessments (302 cumulative)	None	Deploy 500 leak loggers throughout the distribution system. Continue transmission main assessments and repair activities during the next quarter. Continue assessing the entire distribution system valves and hydrants and perform needed hydrant flow tests.

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
5.a.ii Valve and Hydrant Assessment	Consultant engaged and progressing work	Management of Leak Detection Services, GIS Mapping, and Field Support Services	Stantec	Completed the assessment of transmission mains. No major valve repairs completed, frozen valves repaired, and minor repairs completed. Assessed the valves, logged working issues. Started repair plan. Maintained spreadsheet of issues. Emergency responses – pressure issues troubleshoot valve. Hydrant testing program has begun.	None	Assessment in the distribution areas. GIS mapping for the distribution is ongoing. Continuing Hydrant testing program.
5.a.iii GIS Mapping	Addendum 2 under development for additional GIS scope items.	Technical management of GIS system map to support hydraulic modeling, the hydrant, valve and flushing / flow testing program, and operations and maintenance activities.	Stantec	8000+ sheets digitized comprising both transmission and distribution mains. Priority Area 3, Road Resurfacing Ph 1, and Road Resurfacing P2 complete. Priority Area 4 is 95% complete. Addendum 2 completed and approved. Enabled real time sharing of GIS data with the use of a map service. Continued development and maintenance of the Interactive GIS interface. Developed a gridding system to add in priority area identification and work assignment. Began onboarding 10+ Pune staff in increase productivity rate. Trained Pune staff on georeferencing. Priority Areas 5 and 6 are currently being georeferenced.	Quality and consistency of maps to be digitized. Significant number of unmapped / unknown valves; significant time to reconcile with existing data from drawings. Decreased time availability from existing staff due to other projects.	Further digitization and mapping of priority areas. Procedure for capturing completed work beyond maintenance to be developed. GIS Staff to travel to Pune to train staff on Digitization. Develop process to utilize grid and georeferenced drawings to divvy out remaining drawings for digitization.

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
5.a.iii Information & Asset Management	No change.	Development of Asset Management system to support operations activities.	Stantec	Drafted initial set of Level of Service (LOS) standards and metrics to be reviewed and validated. Document workflows for capturing work and asset data for ongoing repairs and replacements in the field. Prototype design for work management application integrating ArcGIS applications including Survey 123 and Workforce. Began initial coordination with Cartegraph to assist with the CMMS implementation. Analysed and evaluated Kamstrup acoustic data as a mechanism for predicting pipe failure. Call Center data entry sheet created, evaluated, and deployed. Designed, built, and evaluated temporary work management application integrating ArcGIS applications including Survey 123 and Field Maps. Design approved by client. Began initial coordination with Cartegraph to assist with the CMMS implementation	Cartegraph implementation is on hold	Support the implementation of Cartegraph Phase 1. Develop a plan for rollout of JXN Enterprise GIS. Prepare plan for integration of hydraulic model and utility network. Prepare a condition assessment strategy. Train field crews and deploy the temporary work management application. Cleanse legacy call center data and integrate it with the new work tracking system. Support the implementation of Cartegraph Phase 1. Develop a plan for rollout of JXN Enterprise GIS. Prepare plan for integration of hydraulic model and utility network. Build dataset and interactive tools for monitoring progress of emergency repair projects. Start of planning of migrating GIS systems currently hosted by Stantec to systems operated by JXN Water.

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
5.a.iv Distribution System Leaks – Find and Fix	Consultant engaged and progressing work	Management of Leak Detection and Repair Program	IMS	Evaluated backlog of known leaks (focus on pipe diameters 6 inches and smaller). Performing Drive-by Windshield Leak Detection Survey of all roads in the JXN Water service area. Performed real time leak detection identification and issued Work Orders to Contractors. Provided Weekly Summary Update of program progress. Provided Quarterly Update of Program progress.	None	Continue to progress project and issue repair work orders. Continue PM Field Related Activities. Continued Drive-by Windshield Leak Detection Survey.
5.a.iv Distribution System Leaks – Find and Fix	Consultant engaged and progressing work Addendum 1 under development for additional projects.	Management of Identification and Repair of Major Water System Leaks	Stantec	**48-inch main break on former Colonial Country Club** Project complete.	**48-inch main break on former Colonial Country Club** Multiple rain events and depth of main break delayed completion of the project. Depth of break on above required additional equipment to be sourced and brought in.	**48-inch main break on former Colonial Country Club** Project complete.

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
				48-inch ARV leak on East Beasley Road Stantec recommends that a new ARV be installed along with the new valve. This was not originally requested at the time of the repair.	**48-inch ARV leak on East Beasley Road** None	**48-inch ARV leak on East Beasley Road** 48-inch ARV to be installed. Anticipate completion in November 2023.
				30-inch main break crossing Town Creek at Fortification and Prentiss Streets Completed design of trenchless crossing plans and specifications.	**30-inch main break crossing Town Creek at Fortification and Prentiss Streets** Mobilization time Easement needs to be obtained for a portion of the pipeline alignment.	**30-inch main break crossing Town Creek at Fortification and Prentiss Streets** Submit design to MS Dept of Heath for review and approval. Anticipate repairs to begin Oct/Nov 2023.
				20-inch break on railroad easement south of Fortification Street Completed design of trenchless crossing plans and specifications. Permit obtained for KCS Railroad.	**20-inch break on railroad easement south of Fortification Street** Mobilization time	**20-inch break on railroad easement south of Fortification Street** Submit design to MS Dept of Heath for review and approval. Anticipate repairs to begin Oct/Nov 2023.

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
				Pipe and Valve Replacement at Intersection of Prentiss and Fortification UCI mobilized on site and completed utility investigation and condition assessments needed to begin pipe and valve replacement. Plan and profile prepared for new trenchless RR crossing based on existing utility locations once uncovered. Submitted to KCS Railroad for permit (under review)	**Pipe and Valve Replacement at Intersection of Prentiss and Fortification** Condition of pipe and casing under railroad was confirmed during site investigation. It cannot be re-used and requires replacement has delayed the project due to railroad permitting requirements. Anticipate work to begin Oct/Nov 2023.	**Pipe and Valve Replacement at Intersection of Prentiss and Fortification** Anticipate work to begin Oct/Nov 2023.
				Northside Dr 24-inch Valve Replacement and Chastain Dr. Valve Replacements Performed site reconnaissance and identified repair options. Stantec prepared scope, cost proposal, and drawing for pipe and valve replacement. Wicker Construction has been selected to perform the work.	**Northside Dr 24-inch Valve Replacement and Chastain Dr. Valve Replacements** None	**Northside Dr 24-inch Valve Replacement and Chastain Dr. Valve Replacements** Wicker Construction is scheduled to mobilize October 16, 2023.

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
				20-inch Pipe Replacement Emergency (Fortification – Palmyra to Prentiss) Performed site reconnaissance and identified repair options. Stantec is preparing scope, cost proposal, and figure for pipe replacement. JXN Water selected UCI to perform the work. Procurement or Owner supplied materials is complete	**20-inch Pipe Replacement Emergency (Fortification – Palmyra to Prentiss)** None	**20-inch Pipe Replacement Emergency (Fortification – Palmyra to Prentiss)** Anticipate replacement to begin October 2023
				20-inch Pipe Replacement Design (Fortification – Prentiss to I-220) Completed site survey and geotechnical investigations. Stantec is working on a preliminary alignment study to replace pipeline.	**20-inch Pipe Replacement Design (Fortification – Prentiss to I-220)** Railroad easement access permissions and permits need to be obtained. Easement needs to be obtained for a portion of the alignment.	**20-inch Pipe Replacement Design (Fortification – Prentiss to I-220)** Railroad easement access permissions and permits need to be obtained. Easement needs to be obtained for a portion of the alignment.

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
				20-inch Pipe Design (Gallatin & McDowell) Completed site survey and geotechnical investigations. Stantec is working on a preliminary alignment study to replace pipeline.	**20-inch Pipe Design (Gallatin & McDowell)** Railroad easement access permissions and permits need to be obtained.	**20-inch Pipe Design (Gallatin & McDowell)** Complete design and specifications for bidding and procure Contractor. Anticipate repairs to begin August 2024.
				20-inch Pipe Design (Siwell Rd - McCluer St to Terry Rd) Stantec preparing design proposal.	**20-inch Pipe Design (Siwell Rd - McCluer St to Terry Rd)** None	**20-inch Pipe Design (Siwell Rd - McCluer St to Terry Rd)** Complete design and specifications for bidding and procure Contractor. Anticipate repairs to begin Nov 2024.
				48-inch Pipe Design (West St and Rankin Rd) Stantec preparing a design proposal.	**48-inch Pipe Design (West St and Rankin Rd)** Railroad easement access permissions and permits need to be obtained.	**48-inch Pipe Design (West St and Rankin Rd)** Complete design and specifications for bidding and procure Contractor. Anticipate repairs to begin Dec 2024.
				Sampling Station Replacements Stantec has prepared three bid packages to replace all sampling sites through the water system	**Sampling Station Replacements** None	**Sampling Station Replacements** JXN Water to bid project and award Contractor(s) Anticipate Repairs to begin Nov 2023.

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
				Valve and Hydrant Replacements Valve and Hydrant Replacements Stantec is working with condition assessment team to identify replacements. Valve and Hydrant Replacements	**Valve and Hydrant Replacements Valve and Hydrant Replacements** Condition Assessment Completion Valve and Hydrant Replacements Stantec to prepare bid packages for valve and hydrant replacements.	**Valve and Hydrant Replacements Valve and Hydrant Replacements** JXN Water to bid project and award Contractor(s) Anticipate Repairs to begin Jan/Feb 2024.
				Management Valve Repair Program Initial assessment of 11 altitude valves completed. Developed scope of work to replace the altitude valve at Chastain Tank. UCI was selected to perform the work. UCI began work to replace the altitude valve and all associated pipe September 2023. Stantec has been directed to develop plans to replace all ineffective altitude valves.	**Management Valve Repair Program** Valves testing is on hold until sufficient system pressures can allow tanks to overflow to evaluate the valve performance. None	**Management Valve Repair Program** Anticipate completion of the Chastain tank altitude valve by October 2023. Anticipate having LOE for additional altitude valve replacement by December 2023

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
				Distribution System Ongoing Construction Support Oversight over two projects: Riverside Drive Improvements, and 48-in transmission line installation. Received railroad bore permit for 48-in transmission main. Railroad bore failed. The designed path is being abandoned and the project route is being reconsidered. 36-in water line completion is delayed due to system issues preventing the temporary shut off on the existing 36" pipe.	**Distribution System Ongoing Construction Support** Railroad permit, resolved during this quarter. Railroad bore failed. The designed route must be revised.	**Distribution System Ongoing Construction Support** 36-in water main tie-in Riverside Drive, to be scheduled when the water system is stable enough to allow for a temporary shut off of the existing 36" pipe. Commissioning of the completed portions of the 48-in transmission main expected November 2023. Design changes to the original 48" water line route being considered by design team.
				Merit Hospital Fire Line Connection Pipeline Design (Project No. 2309) - 5 Percent Performed site reconnaissance and identified repair options. Stantec is preparing a proposed pipeline alignment figure to coordinate alignment with landowner on easement. Stantec is preparing design scope and fee. Not a contracted project yet.	**Merit Hospital Fire Line Connection Pipeline Design (Project No. 2309) - 5 Percent** Pipeline easement on private property will require coordination and acquisition.	**Merit Hospital Fire Line Connection Pipeline Design (Project No. 2309) - 5 Percent** Anticipate resolution of the property easement issues by December 2023.

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
5.a.iv Distribution System Small Main Replacement	Consultant engaged and progressing work	Development of Engineering Standard Details and Specifications for 2-Inch Water Main Replacement Pilot Project Management of Leak Detection and Repair Program.	Stantec	**Pilot Project** Pilot Project plans and specifications completed, and MS Dept of Health approval obtained. Pilot projects bidding has been completed and Contractor negotiations started. In discussion with JXN Water and contractor to award project.	**Pilot Project** Survey and 30% design completed for new water replacement project in Choctaw Village. Choctaw Village - Sewer lines adjacent to waterline replacements have been inspected using CCTV and manhole inspections have been completed.	**Pilot Project** Award Pilot project and begin construction. Anticipate construction to begin Dec 2023 /Jan 2024. Design and specifications will be completed for Choctaw Village, and the project will be competitively bid. Anticipate construction to begin May 2024.
				Broadmoor Area Water & Sewer Replacement Design (Project No. 2311) - 1 percent Stantec is preparing design scope and fee. Not a contracted project yet	**Broadmoor Area Water & Sewer Replacement Design (Project No. 2311) - 1 percent** None	**Broadmoor Area Water & Sewer Replacement Design (Project No. 2311) - 1 percent** Anticipate construction to begin October 2023.

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
				Brown Street Water & Sewer Replacement Design (Project No. 2312) 1 percent Stantec is preparing design scope and fee. Not a contracted project yet.	None	Anticipate construction to begin November 2023.
5.a.v Lead Service Lines Inventory	Consultant contracted to provide support in creating lead service line inventory.	Management and field services in detecting and inventorying of lead service lines.	Stantec	Held preliminary meeting with JXN Water staff and contractors in the area to understand potential locations of lead in the water system. Coordination meetings with Blue Conduit (predictive modeling), ACE Pipe Cleaning (potholing contractor), HDR (public relations), and Jacobs (water quality testing). Finalized proposal and fee, Notice-To-Proceed given on 8/17/2023. GIS team worked with potholing contractor's GIS team to set up contractor's tablets for field data entry. GIS team set up LSL dashboard. Coordination with HDR for production of Community Outreach materials. Held project kick-off call with potholing and restoration contractors	None	Distribution of public outreach materials to residents. Actively investigating service lines through potholing and testing. Analysis of initial service line data collected. Planning of second iteration of potholing and testing locations.

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
5.a.vi Program Support Services	Consultant engaged and progressing work	Technical support in the analysis, development, and implementation of new water rates. Development of a contractor prequalification application and bidding instructions to prospective bidders.	Stantec	**Water Rate Modeling** Finalized pricing model calculations based on current data using base/developed area. And shared with JXN Water Developed billing database/file with billing determinants, rates, and other information for integration into billing system. Worked with Horne & BOSS to map premise-based	None	Following completion of data updating by Assessor updating of registry for parcels. Support in developing draft rate design summary for JXN Water.
				Contract Administration Support Completed documentation for procurement and bidding. Draft documents compiled and submitted to JXN for review. Identified and reviewed online bidding services.	None	Complete standards and integrate process with JXN Water for implementation.

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
				Field GIS verification and location logging of the recently installed water meters. Scope finalized and submitted to client on 10/11/2023. Selected SOL Engineering to support field data collection. Developed field collection tools and workflows. Selected and purchased all needed field equipment. Began developing training materials for field personnel. Completed a draft version of contractor prequalification application and bidding instructions to prospective bidders. Currently in review by JXN Water. Reviewed online bidding support services that would digitize most of the prequalification and bidding process. One service was recommended by Stantec to begin contract negotiations with JXN Water.	Subcontractor pricing and selection required negotiation and additional discussions. GPS equipment delivery was delayed.	Train all field personnel on 10/18/2023 and provide them with field equipment. Soft start of field data collection with Stantec supervision 10/1/2023-10/20/2023 Full start of field data collection on 10/23/2023 Begin monitoring and tracking field progress. Start developing post processing procedures and workflows Finalize contractor prequalification application and bidding instructions per JXN Water comments. Support JXN Water in implementing online bidding support service.

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
5.a.vi Corrosion Control Renewal	Consultant engaged and progressing work	Review of Designs and Related Studies (Task Order #7) Corrosion Control Desktop Study (Task Order #5)	Jacobs	Planned and initiated field sampling activities to provide additional data for the desk-top corrosion control study. Continued gathering historical data and information to support desk-top study. Continued coordination with ongoing process assessment for WTPs and ongoing construction projects at both WTPs pertaining to corrosion control. Performed data analysis to compile comprehensive history of historical lead and copper sample site sample results. Met with MSDH to discuss modifying approved CCT method at the O.B. Curtis WTP Assessed feasibility of implementing liquid lime with carbon dioxide at the O.B. Curtis WTP as modified CCT and began developing conceptual design report for submission to MSDH for consideration of CCT method modification	Lack of available historical data and required efforts for data collection continue to add time and complexity to this task. Sampling activities interrupted due to security issue in field. Sampling activities scheduled to resume October 23rd.	Progress desktop corrosion control study. Complete field sampling activities, currently projected mid-December Conduct data review workshop for all applicable desktop study data findings with JXN Water Coordinate with MSDH on recommended path forward for interim corrosion control and perform design and construction work to advance implementation of approved interim solution. Complete liquid lime system conceptual design report and issue to MSDH for review and consideration Assuming MSDH CCT approval, continue advancing liquid lime system design and pre-procure liquid lime system equipment and tankage for expediting installation of the expanded liquid lime system.
	Initiated work. Issued task order to consultant	Third Party Review of Corrosion Control Desktop Assessment (Task Order #4)	HDR	No work has been completed yet.	None	Complete a third-party review of Jacob's corrosion control desktop assessment.

FIGURE 46 STATUS UPDATES TO PRIORITY PROJECT 6

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
6. System Stabilization/ Sustainability Plan – Water Treatment Plants, Wells, and Tanks Capital Improvement Plan	Consultant engaged and progressing work	None, initial planning work progressing under existing task order.	Jacobs	Developed a draft prioritized capital improvement plan based assessment of process, hydraulics, condition and maintenance related items.	None	Develop and deliver final Water Treatment Plants and Wells Capital Improvement Plant to JXN Water. Update CIP based on additional information and assessments on WTP and wells and assessment of tanks. Prioritize projects and develop a cost-loaded schedule for projected capital outlays.

FIGURE 47 STATUS UPDATES TO PRIORITY PROJECT 7

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
7. SCADA Improvements	Consultant engaged and progressing work	SCADA, Operational Technology and Cybersecurity Schematic Design (PSA Task Order #6).	Jacobs	Initiated Schematic Design Report (30% Design effort).	None	Progress 30% Design effort.

FIGURE 48 STATUS UPDATES TO PRIORITY PROJECTS 8 & 9

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
8,9. OBC and JHF Chemical Feed Improvements (including Chlorine System Replacement at OBC)	Consultant progressing work	Replacement of OB Curtis Chemical Feed Building System – Basis of Design Replacement of OB Curtis Chemical Feed Building System Change Order #2 - Survey and subsurface utility evaluation (SUE) will be required. The additional effort includes the following items: complete topographic, planimetric and Level C SUE of the entire OB Curtis WTP site. Replacement of OB Curtis Chemical Feed Building System Change Order #3 - Incorporation of additional geotechnical borings and geotechnical report to support design of chemical feed systems. Task Order #1 Amendment #1 – Continue design through final design, including CMAR construction document production. Both chlorination system and ammonia system included in the design project.	HDR	Submitted draft BODR and 30% drawings. Conducted BODR review workshop. Submitted draft BODR workshop meeting notes. Addressed 30% BODR comments and incorporated them into final BODR. Submitted final BODR and 30% drawings. Received and incorporated final geotechnical report into BODR. Reviewed plant survey file and provided comments to surveyor. Reconciled plant survey with existing utility record drawings. Reviewed geotechnical reports and provided comments to geotechnical engineer. A meeting was held with geotechnical engineer and HDR's structural engineer. Attended on-site hypochlorite manufacturer site visits to assist JXN Water in selecting an equipment vendor. Developed scope and fee for final design. Continued progressing design, held coordination calls with chlorine system manufacturer, De Nora, to discuss next steps for procuring on-site hypochlorite generation system. Started developing De Nora procurement documents. Continued to meet bi-weekly with Jacobs to coordinate activities. Met weekly with HDR project leadership to report on project status. Reviewed CMAR RFP documents by Jacobs. Updated design and construction schedules.	Additional scope added to include the replacement of the chlorine and ammonia gas systems. These changes have lengthened the design schedule and overall design fee.	Transmit notes and final photographs from on-site hypochlorite generation site visits. Submit 60% design. Finalize procurement documents for De Nora's equipment. Submit draft plant utility water technical memorandum and model.

FIGURE 49 STATUS UPDATES TO PRIORITY PROJECT 11

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
11. Performance Evaluation and Redundancy Plant Treatment Processes Restoration	Subject work completed.	Operations Evaluation at OBC and JHF – Phase 1 (MSA Task Order #3)	Jacobs	Visually assessed major (parent) plant assets. Did not perform predictive testing because of upstream and downstream equipment unknowns and sensitivity to plant upsets.	None	None. Phase 1 complete in Q1 2023.
		Condition Assessment at OBC – Phase 1 (MSA Task Order #2)	Jacobs			
11. Source Water Quality/Treatability Characterization Study (OBC and Barnett Reservoir)	Consultant progressing work	OBC Raw Water Characterization and Treatability Study (Task Order #6) Process Hydraulic Assessments at OBC and JHF and JHF and OBC Raw Water Characterization and Treatability Study (Amendment 1)	Jacobs	Completed raw water characterization and treatability study at both WTPs and prepared draft Report. Completed process assessment at both WTP and prepared draft Report. Progressed hydraulic models of both WTPs.	None	Finalize Raw Water Characterization and Treatability Study Report Finalize Process Assessment Report Complete dynamic simulation model for both WTPs and prepare Technical Memorandum
11.a.g. OBC Filter Conventional and Membrane	Contractor progressing work	Filter Rehabilitation Contact for OBC OBC Filter Rehabilitation – Change Order #1 - Valve and Actuator Manufacturer Change and Sediment Basin Drain Line Scope Reduction	Hemphill	**Filter 5 – Filter cell rehabilitation** Started the construction project, with the removal of existing filter media. **Temporary sludge removal system installation** Developed approach to procure equipment outside of construction contractor to mitigate delays due to long lead times. Continued to progressed design of sludge removal and effluent launder system. Working through key constructability issues related to operational shutdown windows at the WTP.	None	**Filter 5 – Filter cell rehabilitation** • Progress the construction project. **Temporary sludge removal system installation** • Complete design, incorporating constructability comments. • Initiate equipment procurement.

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
11.g JHF Filters	Contractor progressing work	JHF Filters 24 and 26 Contract JHF Filters 24 and 26 Change Order # 1 – Concrete Crack and Leak Repair JHF Filters 24 and 26 Change Order # 2 – Filter to Waste Tie-in to Waste Gullet and 30" Backwash Valve Replacement JHF Filters 24 and 26 Change Order # 3 – Final Reconciliation Change Order	Hemphill	Completed main construction activities in contract and all change order work including concrete leak and crack repair and 30" backwash valve replacement and placed both filters into service. Completed Filter to Waste tie-ins to waste gullet for twelve filters	Change Order 01 and 02 added 89 days to the contract.	Complete punch list items. Closeout project in October 2023
11.j OBC High Service Pump VFD	Consultant engaged and progressing work	Engineering/Design Support and Existing Contract Redesign Services (Task Order #4)	Jacobs	Conducted alternative evaluation to investigate options to provide better control of HSP pumping rate. Prepared draft Technical Memorandum	None	Finalize Technical Memorandum. Progress to design with selected alternative.

FIGURE 50 STATUS UPDATES TO PRIORITY PROJECT 12

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
12. Sludge Assessment at Finished Water Storage Facilities	Consultant engaged	None, initial work progressing under existing task order.	Jacobs	Coordinated review of inspection approach and analysis of operational risk to complete assessment.	Determined that time requirements to complete inspection of facilities exceed available operational window to shut plant down to allow safe inspection	Document assessment approach, risk to operations and long-term recommendations in summary memo.

FIGURE 51 STATUS UPDATES TO PRIORITY PROJECT 13

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
13. OBC Electrical Resiliency and Reliability Evaluation	Initiated work. Issued task order to consultant	OB Curtis WTP Electrical System Reliability & Resiliency Evaluation (Task Order #3)	HDR	Completed electrical equipment evaluation.	None	Submit draft electrical resiliency technical memorandum.

FIGURE 52 STATUS UPDATES TO OTHER PROJECTS

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
Plant Operations Program Management	Consultant progressing work	Jackson Water Program Management Support (Task Order #2)	Jacobs	Prepared procurement approach and documents for a construction manager at risk (CMAR) to construct planned capital projects. Maintained previously implemented governance framework through regular executive meetings with JXN Water. Completed draft workflows and tools for various processes including construction management, quality, engineering project delivery, etc. Provided immediate engineering management services to expedite delivery of ongoing work including SCADA, CIP development, JH Fewell ammonia tank location evaluation, entrance road evaluation to OB Curtis, CT tracer study, and surface to well conversion. Prepared and delivered progress performance reports, updated dashboard, and program schedule. Continued providing communications support and coordination to JXN Water.	None	Select and contract with CMAR. Roll out management plans, including Controls, Procurement, Performance Management, Communications, Engineering Management, Construction Management, Health and Safety, and Quality Assurance. Continue updates of schedules, progress reports and dashboard. Continue communications support and coordination with JXN Water
Forrest Hill Surface to Well Conversion	Consultant progressing work	Engineering/ Design Support and Existing Contract Redesign Services (Task Order #4)	Jacobs	Completed pre-conversion sampling of area to establish a baseline condition and inform water quality modelling. Completed water quality modelling and hydraulic model. Prepared flushing plan. Prepared detailed communication plan. Prepared and submitted request to MSDH for approval to perform conversion.	None	Perform conversion. Conduct post-conversion sampling.

Description	Status Change Quarter Ending September 30, 2023	Task Order(s) Quarter Ending September 30, 2023		Summary of Work Quarter Ending September 30, 2023	Summary of Delays Encountered	Projection of Work Quarter Ending December 31, 2023
Strategic Communications Strategy and Consultation	Consultant progressing work	Issued task order for communications strategy support issued	HDR	Met weekly/daily with JXN Water leadership. Finalized strategic communications plan and social media strategy. Launched WLBT Paid Media Campaign. Supported as-needed direct mail and public notice mailings. Supported potholing and meter verification communication. Created videos for Where Your Water Comes From, Understanding boil water notices and recapping the EMAC Reunion. Manage all media relations and social media. Manage JXNWater.com content updates. Provide as-needed communications support.	None	Update JXNWater.com with new homepage and newsroom development. Coordinate JXN Water content for DOH, City of Jackson and EPA webpages. Prepare visual strategy for priority project dashboard and financial dashboards. Prepare direct mail newsletters for customer updates. Manage earned, owned, shared and paid media campaigns. Prepare community presentations and support quarterly public meeting.

Notes:

ARV = air release valve
BIM = Building Information Modelling
BODR = Basis of Design Report
CIP = Capital Improvement Plan
CMAR = Construction Manager at Risk
CMMS = Computerized Maintenance Management System
CO2 = carbon dioxide
GIS = geographic information system
MSDH = Mississippi State Department of Health
NTP = Notice to Proceed
O&M = operations and maintenance
P&ID = piping and instrumentation diagram
QA/QC – quality assurance/quality control
RR = Railroad
SCADA = supervisory control and data acquisition
SOP = standard operating procedure
SRF = State Revolving Fund
TM = technical memorandum(s)
WCD – Work Change Directive

Appendix A

Winterization Memo

O.B. Curtis and J.H. Fewell Water Treatment Plants: Plant Winterization Assessment

Date:	October 13, 2023
Project Name:	O.B. Curtis Water and J.H. Fewell Water Treatment Plants: Plant Winterization Assessment
Project No:	D3705307
Prepared For:	JXN Water
Prepared By:	Jacobs Engineering
Issued For:	Final
Revision:	Rev 0
Document No:	JXN-JS-OM-RPT-0001 Rev 0

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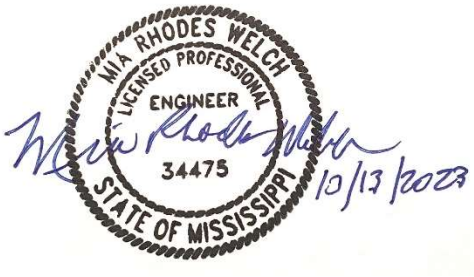


1. Introduction

The City of Jackson, Mississippi's (City) water system has had issues in the past with various assets at the two water treatment plants (WTPs), O.B. Curtis and J.H. Fewell, experiencing operational challenges due to freezing during colder winter months. In particular, the O.B. Curtis WTP membrane system and other plant assets had experienced operational downtime due to freeze damage. As such, the City had undertaken construction efforts at the O.B. Curtis WTP to provide freeze protection. These projects included the O.B. Curtis Membrane Winterization Project, which began construction in March of 2021 and the O.B. Curtis Winterization Project which began construction in August of 2022.

As of December 2022, per a Stipulated Order issued by the Department of Justice (DOJ), the operation, maintenance, management, and control of the City of Jackson's water assets was assigned to an interim third-party manager (ITPM), Edward Henifin, who has established a Mississippi corporation (JXN Water) to conduct the business of the ITPM. One of the priority projects outlined in the Stipulated Order (Priority Project 2) was for the ITPM to address the proper winterization of the water treatment plants and to ensure that the ongoing O.B. Curtis Membrane Winterization project is completed. JXN Water requested Jacobs Engineering Group Inc. (Jacobs) to perform a review of the following projects:

- Proposed O.B. Curtis Water Treatment Plant Winterization Project, SRF #DWI – L250008-03 Contract #1
  - Prime Engineer: Cornerstone Engineering, LLC
    600 Northside Drive, Suite A
    Clinton, MS 39056
  - Engineer of Record: Mauricka Devon McKenzie Sr, Mississippi Licensed Professional Engineer 16157
  - Date of Original Construction Bid Documents; January 2022
  - Date of Final Engineering Seal: June 21, 2022
  - Date of Construction Notice to Proceed: August 8, 2022
- Corrosion Control Chemical Feed System Improvement Project SRF – DWI – L25008-03 Contract No. 2 – J.H. Fewell Water Treatment Plant (WTP)

- Prime Engineer: Cornerstone Engineering, LLC
  600 Northside Drive, Suite A
  Clinton, MS 39056
- Engineer of Record: Mauricka Devon McKenzie Sr, Mississippi Licensed Professional Engineer 16157
- Date of Original Construction Bid Documents; January 2022
- Date of Final Engineering Seal: August 3, 2022
- Date of Construction Notice to Proceed: June 27, 2022

Both projects were ongoing and in various stages of construction completion at the time of the initial drawing review. The reviews covered those elements of the projects specifically tied to winterization (i.e., providing freeze or cold weather protection) of the water treatment plant assets. Jacobs was also asked to generally assess the state of the assets at both the O.B. Curtis WTP (O.B. Curtis) and the J.H. Fewell WTP (J.H. Fewell) for any additional observed winterization needs.

This assessment considers all exposed existing infrastructure at both WTPs that could be impacted by freezing conditions and includes initial evaluations of existing winterization practices at the WTPs. Cold weather typically affects all exposed small-diameter process piping, such as chemical feed piping, water connections to instrumentation and equipment, seal water lines to pumps, and water sample lines. Design drawings for the referenced ongoing construction projects at both WTPs were reviewed, a site visit and walkthrough of each project's required winterization improvements was conducted by Jacobs facility condition assessment personnel, and an evaluation of winterization improvements and needs also performed by Jacobs process engineering staff as part of the ongoing unit process capacity and performance assessment site visits. To perform the reviews, Jacobs assigned individual design discipline reviewers to review each of the respective elements of the winterization-related design portions of the projects. These reviewers requested design documentation from the Engineer of Record as needed to answer questions around design intent. The Engineer of Record was also notified of the reviews taking place and the intent behind the reviews.

Lastly, Jacobs was also engaged by JXN Water to provide third party construction management/owner's advisory services for all ongoing construction projects and in this oversight capacity to facilitate JXN Water's completion of the O.B. Curtis Membrane Winterization Project.

The findings and recommendations outlined in this technical memorandum (TM) are intended to be used for planning purposes to allow JXN Water to completely winterize both WTPs and improve the reliability of WTP processes through all weather conditions. These winterization improvement recommendations have either been implemented through ongoing construction efforts or will be prioritized and implemented into each WTP's maintenance program in the fall of 2023.

2. Winterization Evaluations

2.1 Winterization Needs

The extent to which water treatment facilities are designed, operated, and maintained for cold weather protection is largely driven by the anticipated operating environment and weather extremes. For the Jackson, MS area, the National Weather Service indicates that for the historic period of record from 1896 – 2023, observed pertinent data points for the winter season include:

- Historic recorded daily low: -5°F (1940)
- Lowest average monthly temperature: 31.9°F (1940); all other monthly average lows ranged above 35.3°F
- Seasonal winter average lows: 41 – 44° F

- Multiple years with over 2 weeks of consecutive days with low temperatures below 32°F

Given this historical data, it is prudent to ensure systems are designed for maintaining operation through multiple potential days of temperatures below freezing. As noted above, cold weather typically affects all exposed small-diameter process piping, such as chemical feed piping, water connections to instrumentation and equipment, seal water lines to pumps, and water sample lines. Larger equipment or open basins that could be susceptible to cold weather but that are operated on a frequent or continual basis would typically be protected from freeze for the anticipated range, frequency, and duration of cold weather conditions experienced in Jackson purely through maintaining the frequency of operation and continuous flow. Providing freeze protection to these appurtenances may warrant additional temporary protections by plant operations and maintenance staff (such as temporary heat tracing/ insulation/local heaters and coverings for certain exposed larger diameter piping) during any longer periods of extreme temperature lows that could be experienced (i.e. multiple consecutive days of continuous temperatures well below freezing).

2.2 Operational Considerations

This evaluation focuses primarily on the physical improvements that are typically required to protect WTPs from cold weather conditions. In addition to physical improvements, WTP operations and maintenance staff should be prepared in the event of impending extreme weather events. Precautions and preparations prior to winter weather are standard in well-operated WTPs. Temporary insulating efforts may be required for certain systems. The WTP staff should make sure heating systems and drain mechanisms are operational prior to cold weather and also retain spare parts for critical systems if damage occurs despite winterization efforts. It is recommended that all additional freeze risks and measures be captured in a Freeze Protection Plan that will be included as part of the plant's Emergency Preparedness and Response document.

2.3 O.B. Curtis Water Treatment Plant Winterization Evaluation

Key components of the ongoing O.B. Curtis Winterization Project focus on winterization improvements to the current raw water traveling microscreens, raw water pump station, filter building, and improvements for cold weather operation of the soda ash chemical storage and feed system.

2.3.1 General Winterization

The project properly identifies the need to reinsulate, and heat trace small-diameter water supply pipes at the raw water screening and pump station facility. These water lines include supply lines to both traveling microscreens and seal water supply lines to the raw water pumps. In addition, all small-diameter piping and pipe appurtenances installed as part of the project are also required to be heat traced and insulated.

Winterization improvements at the conventional filter building include the removal and replacement of the 2-inch utility water supply lines located on the exterior of the building above the actual filters. These lines are typically used for spraying down the filter walls and equipment during backwashes as part of general operation procedures. The lines are to be insulated whenever exposed above the typical water level.

2.3.2 Soda Ash System Winterization

The proposed winterization improvements to the soda ash feed system originally included a new insulated slurry storage tank that will retain the previous sheath heater and heat tape, new heat trace and insulation for small-diameter solution tank lines located below each soda ash silo, reinstallation of insulation and heat trace on all relocated pipes during the project, and new insulation with heat trace on all new soda ash slurry pipes that are routed to the relocated slurry transfer pumps from the slurry mixing tanks below the silos. In addition, new water heaters were sized and selected to provide warm water to the soda ash slurry mixing tank for improved mixing and performance of the soda ash slurry during colder weather. It is critical to protect the soda ash slurry because of its tendency to easily crystallize during

freezing temperatures and the potential to crystallize at higher temperatures if the slurry percentages increase to levels greater than the design slurry percentage of 10%. Larger dehumidifiers for the bulk dry soda ash storage silos were also included in this project to minimize moisture issues resulting from condensation created by large temperature swings and humid conditions at the plant.

The new bulk soda ash slurry tank installation has been completed as of August 2023. This tank allows for the use of bulk liquid soda ash which, when needed, can be pumped from totes or bulk delivery trucks directly to the heated slurry tank where it can feed the day tanks and soda ash metering pumps housed in the chemical building. The plant houses the bulk liquid soda ash totes used to feed the slurry tank within the membrane building to prevent crystallization during cold weather. The repair to any damaged heat trace and insulation below the new slurry tank is slated for completion in September when the contractor installs the piping for the carbon dioxide (CO_2) feed system.

The dehumidifiers, water heaters, relocated slurry pumps were slated to be installed in the repurposed Lime/Soda Ash Slurry Building and would be protected from potential hazardous exterior weather conditions. Additionally, all associated slurry pipes required for the piping to transfer slurry from the dry soda ash silo slurry system to the bulk tank area outside the chemical building were slated to be insulated and heat traced. At the present time, these soda ash improvements have been put on hold due to the ongoing evaluation of liquid lime for use as the primary corrosion control and pH adjustment treatment in lieu of soda ash. The final decision on removal of this process is pending review and approval by the Mississippi State Department of Health (MSDH) to proceed with implementation of liquid lime and carbon dioxide for corrosion control treatment and pH/alkalinity adjustment. If JXN Water ultimately elects to retain the soda ash system, based on the review of the soda ash improvements design, the improvements as originally designed are adequate to provide the required freeze protection and would be installed at that time.

2.3.3 Current O.B. Curtis Water Treatment Plant Winterization and Membrane Winterization Project Completion Status

The O.B. Curtis Winterization Project is nearing completion except for the dry soda ash system improvements as outlined above. The final winterization insulation and heat trace included in the project will be installed in late September/early October following the placement of the carbon dioxide tanks.

The O.B. Curtis Membrane Winterization project punch list has been completed, all Operations and Maintenance manuals submitted, and final contractor red-lines for the as-built drawing preparation have been submitted. Following receipt of a final change order to remove the ChemScan programming from the project and transfer the effort to the O.B. Curtis Filter Rehabilitation project, the project will be proceeding into close out. The current final State Revolving Fund (SRF) completion walk occurred in September 2023.

2.3.4 Additional O.B. Curtis Water Treatment Plant Winterization Observations and Recommendations

Following the review of the plant processes and current projects, a list of additional winterization and insulation recommendations for O.B. Curtis was generated. A review of all chemical feed lines and feed locations was also performed. The photographic documentation of facilities still requiring winterization improvements is contained in Attachment 1 and the resulting improvement recommendations presented in Table 2-1. These improvements are currently programmed within Jacobs' computerized maintenance management system (CMMS) for resolution and scheduled as shown.

Additional items noted during the winterization review:

- The raw water intake building at the Ross Barnett Reservoir currently houses a sodium permanganate feed system. The system is located entirely within the building structure and is insulated from freeze; WTP O&M staff indicated that heaters may be placed within the building if required during periods of extended code weather.

- The O.B. Curtis WTP Residuals Handling Facility is currently not in operation. As the facility is not planned for near-term return to operation, this facility was not included as part of this evaluation.
- Chemical feed systems noted as abandoned were not noted for further action. At O.B. Curtis, the primary system flagged was the sodium chlorite system, where the chemical lines have several areas of missing insulation. This system is currently abandoned and scheduled to be demolished in the future chemical upgrade project.
- In the past, the upper levels of the Ross Barnett Reservoir have been known to freeze during periods of extended below-freezing temperatures. The O.B. Curtis WTP's raw water intake is located on the Reservoir and was designed to draw water from up to four intake levels depending on Reservoir condition. The intake is typically operated at the highest intake elevation due to less-than-desirable observed water quality conditions when drawing from the lower intake levels. It is suspected that increased sedimentation is occurring in the deeper levels of the reservoir and the conditions subsequently generated by siltation and lower oxygen levels are impacting water quality during lower intake operation. During periods where the top layer of the reservoir may be frozen over, the WTP may need to pull water from the reservoir's lower levels. JXN Water plans to perform a subsurface inspection of the intake structure when conditions within the distribution system allow the O.B. Curtis WTP to safely reduce production capacity and a plan for addressing intake conditions and performance will be generated at that time. In the interim, the WTP will need to address this potential operating condition in its Emergency Preparedness and Response document.

Table 2-1. O.B. Curtis Additional Winterization Recommendations

Item	Description	Reference Photographs[a]	Estimated Completion
1	Chemical lines that feed the exposed raw water piping at the pre-ox basin need new insulation with heat trace.	OBC-1	10/31/2023
2	Compressed air line at the rapid mix needs to be insulated at sections to protect against condensation buildup in the line. The condensation in the line could introduce moisture into the soda ash silos when the dust filters are cleaned.	OBC-2, OBC-3	10/31/2023
3	Small diameter piping below soda ash slurry tank is missing insulation and heat trace that needs to be repaired.	OBC-4, OBC-5, OBC-6	10/31/2023
4	Fill lines at the fluoride fill stations are missing insulation that should be repaired. A new fluoride chemical system is scheduled to be provided in the upcoming chemical upgrade project; however, these repairs should be completed for proper winterization in winter 2024.	OBC-6, OBC-7, OBC-8	10/31/2023
5	ACH tank piping has several areas missing insulation that need to be repaired. A new ACH system is scheduled to be provided in the upcoming chemical upgrade project; however, these repairs should be completed for proper winterization in winter 2024.	OBC-11, OBC-12	10/31/2023
6	Suction and discharge piping or tubing at pre-ox basin raw water sample pumps is missing insulation.	OBC-13, OBC-14	10/31/2023
7	Seal water drains, pressure gauge piping, and air relief valve piping in the raw water pumps are all missing proper insulation and heat trace.	OBC-15, OBC-16, OBC-17	10/31/2023

Item	Description	Reference Photographs[a]	Estimated Completion
8	The current temporary liquid lime chemical system's addition lines are not adequately protected from freezing. Lines have damaged insulation or are missing insulation completely and are laying directly on ground exposed to the elements. Liquid lines should be properly insulated with heat trace and installed in a manner to minimize potential damage. Tubing should not be installed directly across the ground surface and should be installed inside carrier conduits or within piping trench/chase.	OBC-18, OBC-19, OBC-20	10/31/2023
9	Two ACH feed lines at the Rapid Mix 2 feed point on the Conventional Treatment Train are missing insulation and heat trace and require protection.	OBC-21	10/31/2023
10	The Potassium Permanganate feed line at the Conventional Treatment Train requires new insulation and the addition of heat trace.	OBC-22	10/31/2023
11	The Ammonia Line 1 at Clearwell 2 needs repair of missing insulation in feed box/panel.	OBC-23	10/31/2023

[a] Attachment 1 includes the reference photographs as well as a description of the recommendation basis.

Notes:

ACH = aluminum chlorohydrate
pre-ox = pre-oxidation

2.4 J.H. Fewell Water Treatment Plant Winterization Evaluation

The J.H. Fewell Corrosion Control Chemical Feed System Improvement Project does not include winterization improvements to existing infrastructure at the plant. The project's main objective is to provide a new liquid lime system to replace the current bulk hydrated lime feed system along with a new carbon dioxide feed system. These systems combined are designed to improve and manage the corrosion control processes for J.H. Fewell. The project includes insulation requirements for small-diameter chemical feed piping. Pipe insulation is provided for the long runs of exposed carbon dioxide piping and insulation is also provided for the liquid lime carrier conduit and tubing to the multiple chemical feed points at the plant. The contractor has also confirmed that the installed exposed 2-inch supply water line to the liquid lime system will be properly heat traced and insulated prior to end of September 2023.

Following the review of the plant processes and current projects, a list of additional winterization and insulation recommendations for J.H. Fewell was generated. The photographic documentation of facilities still requiring winterization improvements is contained in Attachment 2 and the resulting improvement recommendations presented in Table 2-2. These improvements are currently programmed within Jacobs' computerized maintenance management system (CMMS) for resolution and scheduled for completion as shown.

Table 2-2. J.H. Fewell Additional Winterization Recommendations

Item	Description	Reference Photographs[a]	Estimated Completion
1	Sample lines feeding sedimentation basin and raw water flume instruments (turbidimeter and streaming current monitor) need insulation with heat trace.	JHF-1	10/31/2023

Item	Description	Reference Photographs[a]	Estimated Completion
2	Lime feed piping feeding the raw water flume and high service pump station is missing proper insulation with heat trace. Lines to be disconnected following implementation and acceptance of new Liquid Lime System in Fall 2023; no additional freeze protection recommended at this time.	JHF-2, JHF-3, JHF-4	10/31/2023[b]
3	Polymer feed piping needs proper insulation with heat trace.	JHF-5, JHF-6, JHF-7, JHF-8	10/31/2023
4	Prefilter chlorine feed lines (CP3 and CP4) need proper insulation and heat trace.	JHF-9, JHF-10, JHF-11	10/31/2023
5	The newly installed water supply line near the transfer pump station needs proper insulation with heat trace.	JHF-12, JHF-13	10/31/2023
6	Heat trace should be added to all liquid lime feed tubing. Heat trace should be installed inside of the liquid lime carrier conduit. All exposed feed tubing shall also be heat traced. Insulation of the exposed feed tubing and insulation of the PVC carrier conduit is provided per the Corrosion Control contract.	JHF-14, JHF-15	10/31/2023
7	The fluoride feed piping at Clearwell 1 needs proper insulation with heat tracing. Additionally, the polyphosphate tubing feeding Clearwell 1 needs to be installed in a carrier pipe and insulated.	JHF-16	10/31/2023
8	Existing lime system flush piping is missing insulation. These lines to be disconnected following implementation and acceptance of new Liquid Lime System in Fall 2023; no additional freeze protection recommended at this time. Line should be drained and isolated from pressure as a minimum measure.	JHF-17	10/31/2023
9	Chlorine solution line has missing and damaged insulation that needs to be repaired.	JHF-18	10/31/2023
10	The Chlorine Dioxide System is in a building without operational heat. The system is currently not in operation and all pipes should be drained. A new heater should be supplied prior to putting the system back into operation if the WTP ultimately elects to do so.	JHF-19	10/31/2023
11	The piping for Ammonia Feed Point 1 needs proper insulation with heat trace.	JHF-20	10/31/2023
12	The exposed chlorine and ammonia feed lines at Clearwell 1 need proper insulation with heat trace.	JHF-21	10/31/2023
13	Supply water lines feeding the ammonia system's exterior spray/sprinkler system need insulation with heat trace.	JHF-22	10/31/2023
14	The supply hoses feeding the ammonia system's exterior spray/sprinkler system need new insulation.	JHF-23	10/31/2023
15	Both liquid lime silo water addition/dilution lines need insulation and heat trace. The line will remain full of water unless it is drained after every delivery. Protection recommended in addition to this typical SOP.	JHF-24	10/31/2023
16	All four turbidity meters and associated influent tubing needs insulation and additional freeze protection (box covers replaced or similar) at the sedimentation basins.	JHF-25	10/31/2023

Item	Description	Reference Photographs[a]	Estimated Completion
17	The pressure transducers for level readings and their associated piping needs insulation and additional freeze protection at both clearwells.	JHF-26	10/31/2023
18	The chlorine solution line at post sedimentation feed point needs insulation repaired at application point.	JHF-27	10/31/2023
19	The water supply line below the raw water flume needs new insulation and heat trace.	JHF-28	10/31/2023

[a] Attachment 2 includes the reference photographs.
[b]Lines to be disconnected/not operational by this date; full removal to occur at a future time..

3. Summary and Recommendations

The O.B. Curtis Winterization Project addresses several critical winterization concerns that created challenges for the plant in the past. The project also addresses the winterization of the new equipment that will be installed. The current Corrosion Control project at J.H. Fewell does not include winterization components for existing processes at the site; however, it does provide insulation of new chemical feed piping installed in the project. Following the project reviews and water treatment plant unit process evaluations, lists of winterization recommendations were generated and are presented in Tables 2-1 and 2-2.

Based on the size and relatively simple installation required for the recommended winterization improvements, the majority of the work is recommended to be programmed into each WTP's maintenance improvement schedule rather than through a change order with an existing construction contract. The addition of heat trace to the liquid lime piping at J.H Fewell will be coordinated with the current on-site contractor as a change order. While other improvements at the plants are ongoing (such as the Chemical Building and Chemical Feed Rehabilitation project efforts that is currently in design) that could render some of the noted heat trace/insulation obsolete in the future; providing proper freeze protection ahead of the completion of these projects is important for plant reliability. As such, regardless of long-term insulation or heat trace needs, these projects will be implemented no later than October 31, 2023, as indicated in the recommendation tables.

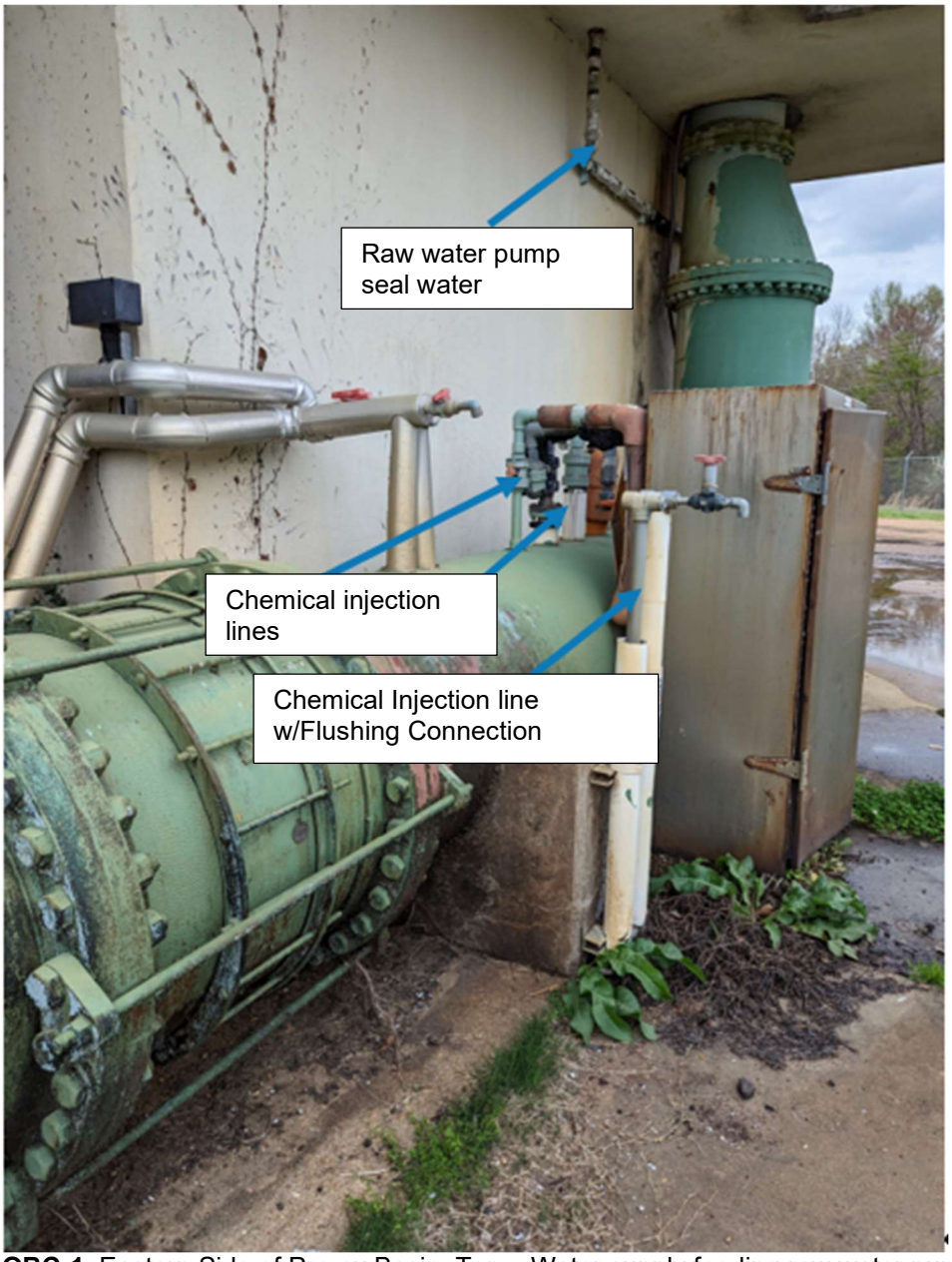
4. Conclusion

The extent to which water treatment facilities are designed, operated, and maintained for cold weather protection is largely driven by the anticipated operating environment and weather extremes. For the Jackson, MS area, historical weather data indicates the potential for multiple consecutive days with temperatures below freezing, with the most extreme of those periods historically averaging 15 consecutive days of daily temperature lows below 32°F.

This evaluation focuses primarily on the physical improvements that are typically required to protect WTPs from cold weather conditions. In addition to physical improvements, WTP operations and maintenance staff should be prepared in the event of impending extreme weather events. Precautions and preparations prior to winter weather are standard in well-operated WTPs. Temporary insulating efforts may be required for certain systems. The WTP staff should make sure heating systems and drain mechanisms are operational prior to cold weather and also retain spare parts for critical systems if damage occurs despite winterization efforts.

With the implementation of the additional recommended physical improvements outside those already completed at the WTPs, along with putting best practices in place for plant operations and maintenance during extreme cold weather events, the WTPs can be considered to be adequately protected from cold weather conditions.

Attachment 1
O.B. Curtis Water Treatment Plant
Reference Photographs

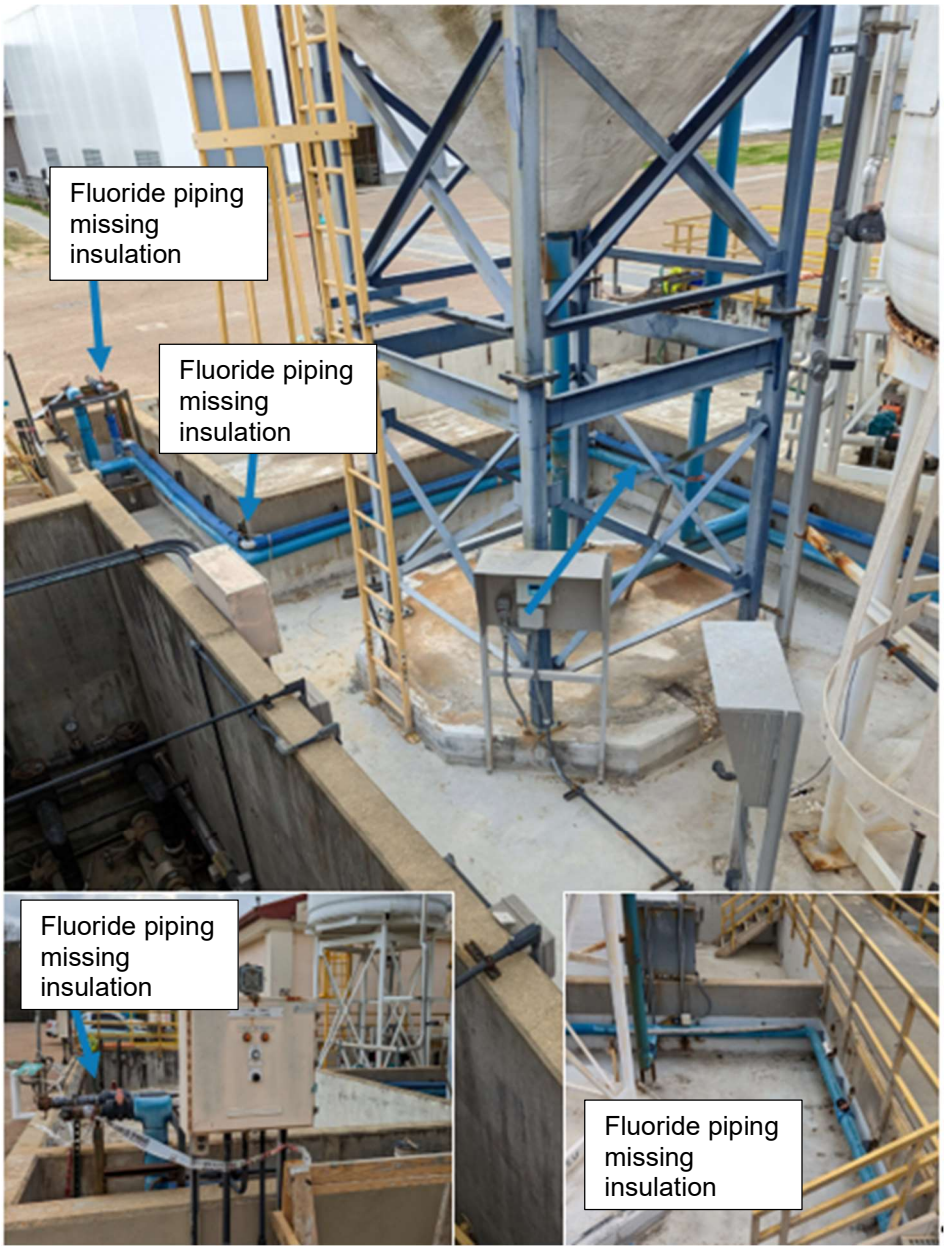


OBC-1. Eastern Side of Pre-ox Basin: Top – Water supply feeding raw water pump seal water (included in current project) Bottom – Chemical injection lines need new insulation and heat trace; due to ongoing design efforts within the plant, some injection lines may or may not remain in service but should be insulated to provide protection until such time as decisions are final and unneeded piping properly abandoned.

OBC-2. Compressed Air Piping on Rapid Mix Wall: Missing insulation could lead to condensation inside line.

OBC-3. Compressed Air Pipe at Rapid Mix Heading to Soda Ash Silos: Used to clean out the silo dust filters; missing insulation could lead to condensation within pipe and introduce water to soda ash.

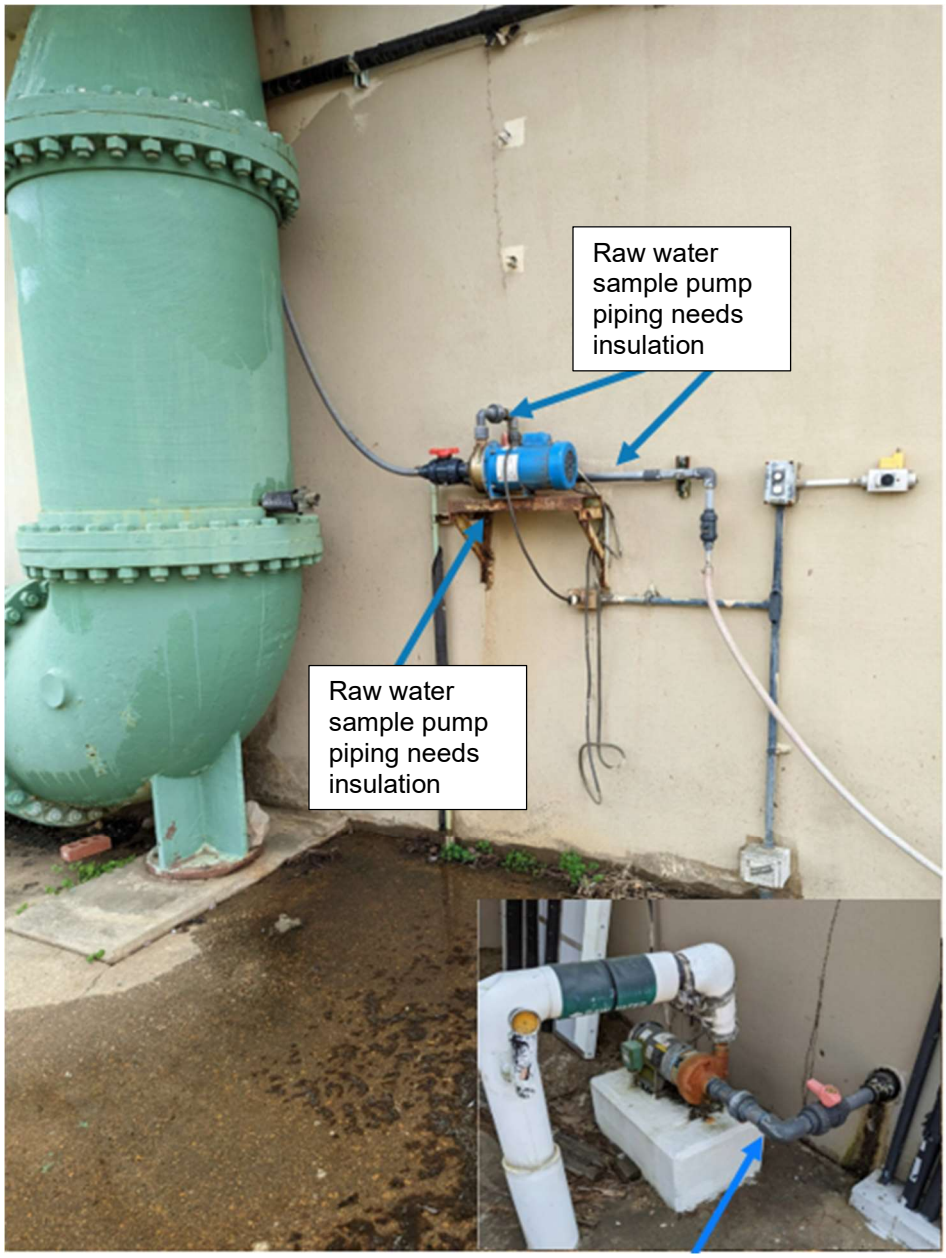
OBC-4, OBC-5. Soda Ash Slurry Bulk Tank Piping: Insulation is missing. The current project calls for reuse of existing chemical piping at the bulk tank but does not call for new insulation or heat trace. This should be repaired.



OBC-6, OBC-7, OBC-8. Fluoride Chemical Fill Piping: Insulation repair is needed where missing in spots. A new bulk fluoride facility is scheduled to be part of upcoming chemical system upgrade project.

OBC-9, OBC-10. Sodium Chlorite: The sodium chlorite system was evaluated and determined to be abandoned. The piping and tanks are scheduled to be removed in the upcoming chemical system upgrade project. Winterization repairs are not required at this time.

OBC-11, OBC-12. ACH Chemical Lines: Locations of ACH piping are missing proper insulation and need to be repaired. A new ACH chemical feed facility is scheduled to be included in the upcoming chemical system upgrade project.



OBC-13, OBC-14. Raw Water Sample Pumps at Pre-ox Basin: Insulation and heat trace are missing.

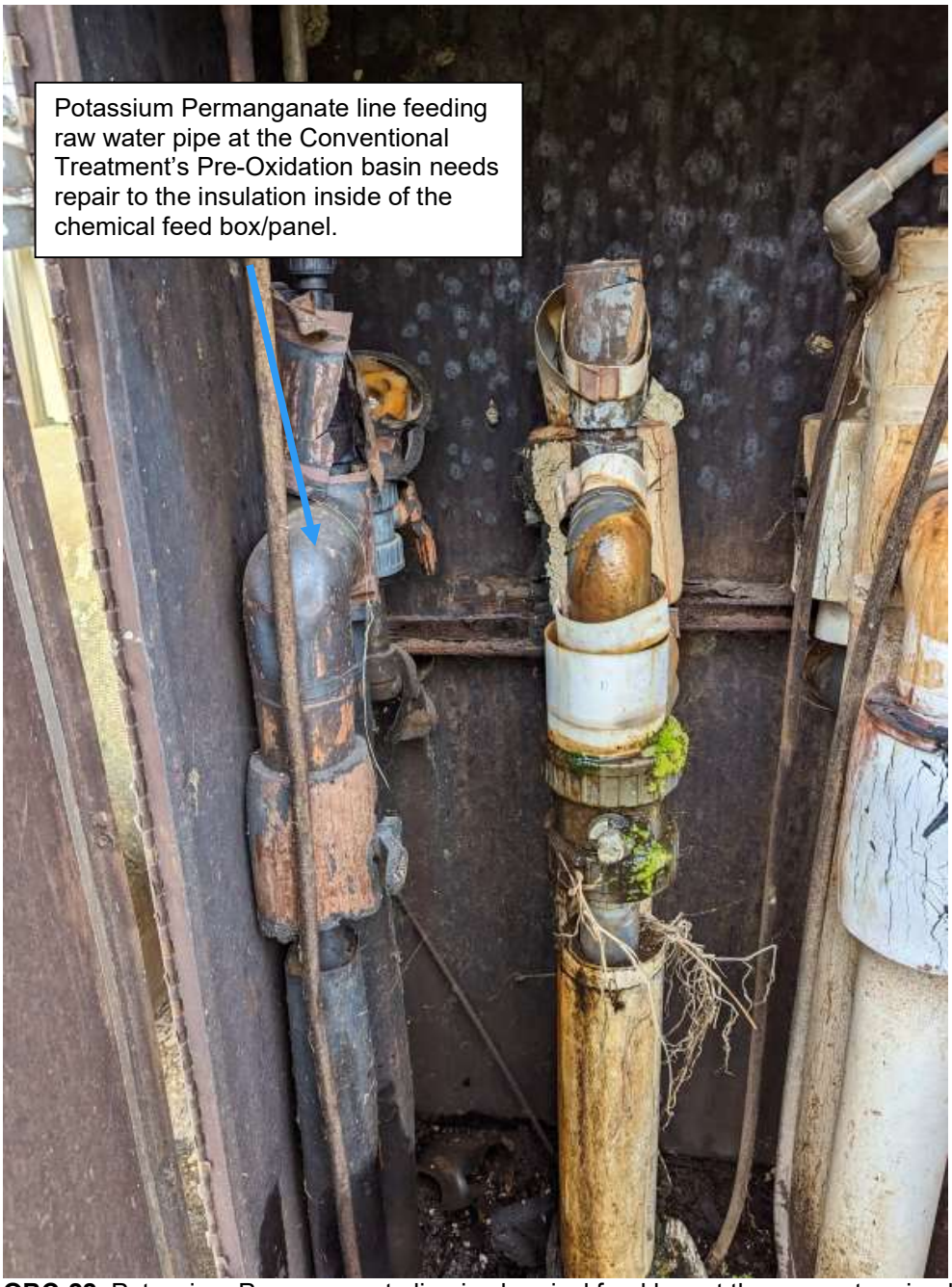
OBC-15, OBC-16, OBC-17. Raw Water Pumps: Seal water drains, pressure gauge piping, and air release valve piping need insulation and heat trace.

OBC-18. Temporary liquid lime feed lines to filtered water feed points need new insulation with heat trace and to be installed to provide additional protection to prevent damage.

OBC-19. Temporary liquid lime feed point at Rapid Mix 2 needs insulation with heat trace. Installation needs to provide additional protection for liquid lime feed tubing.

OBC-20. Temporary liquid lime feed lines to the membrane pH adjustment basin need new insulation with heat trace. Line needs to be re-installed to provide additional protection to prevent damage.

OBC-21. ACH lines need insulation/insulation repair and heat trace.



OBC-22. Potassium Permanganate line in chemical feed box at the raw water pipe headed to the Pre-Oxidation Basin for the Conventional Treatment train needs insulation repaired with heat trace. The other lines are abandoned.

OBC-23. Ammonia Feed Line 1 at the Clearwell 2 needs insulation repair inside of feed box/panel.

Attachment 2
J.H. Fewell Water Treatment Plant
Reference Photographs

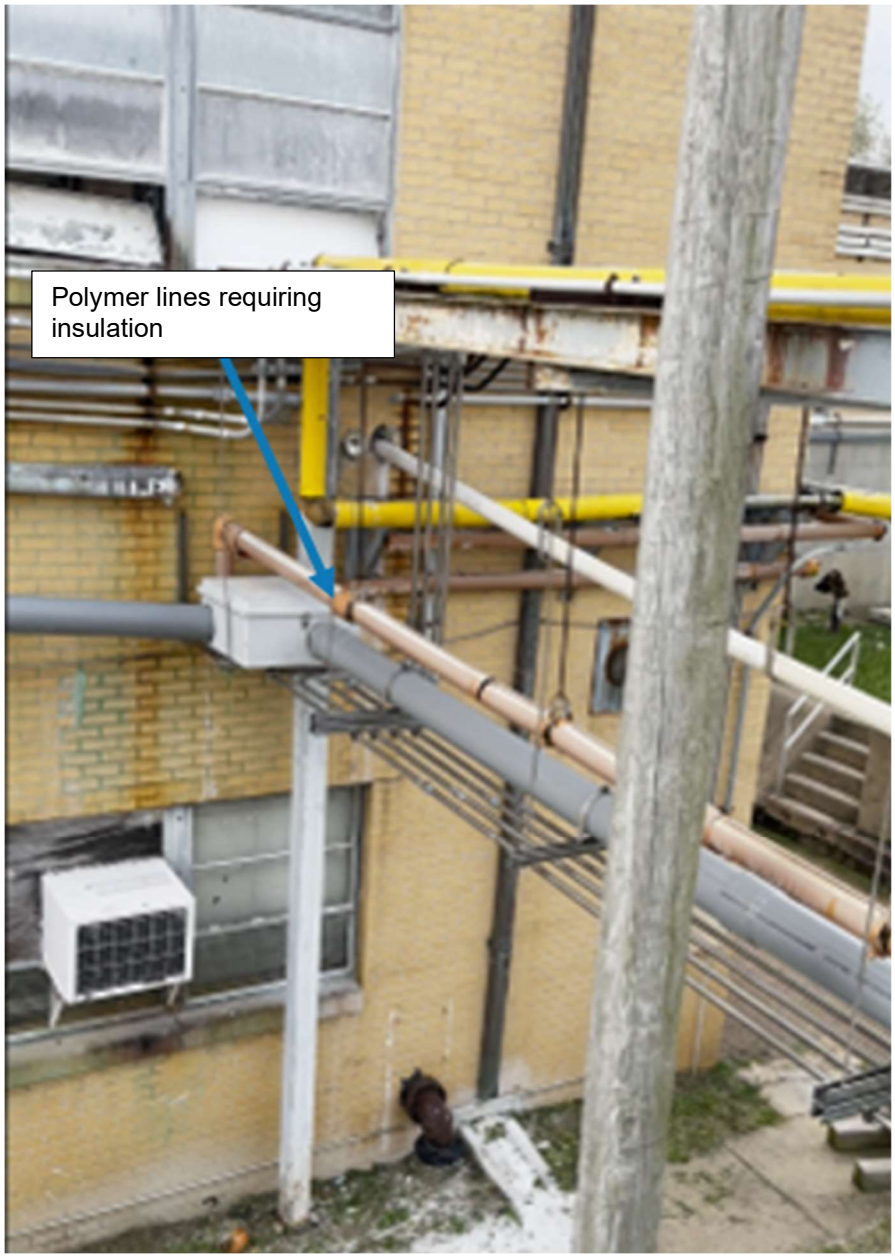
JHF-1. Streaming Current Monitor at the Flume and Turbidimeter for Sediment Basins: Sample lines need proper insulation installed.

JHF-2. Old Lime Feed to Flume and High Service Pump Station: Proper insulation is missing. Lines to be disconnected following implementation and acceptance of new Liquid Lime System in Fall 2023; no additional freeze protection recommended at this time.

JHF-3. Old Lime Feed to High Service Pump Station: Proper insulation and heat trace is missing. Lines to be disconnected following implementation and acceptance of new Liquid Lime System in Fall 2023; no additional freeze protection recommended at this time.

JHF-4. Old Lime Feed to High Service Pump Station: Proper insulation and heat trace is missing. Lines to be disconnected following implementation and acceptance of new Liquid Lime System in Fall 2023; no additional freeze protection recommended at this time.

JHF-5. Polymer Feed Line: Proper insulation is missing and should be installed.

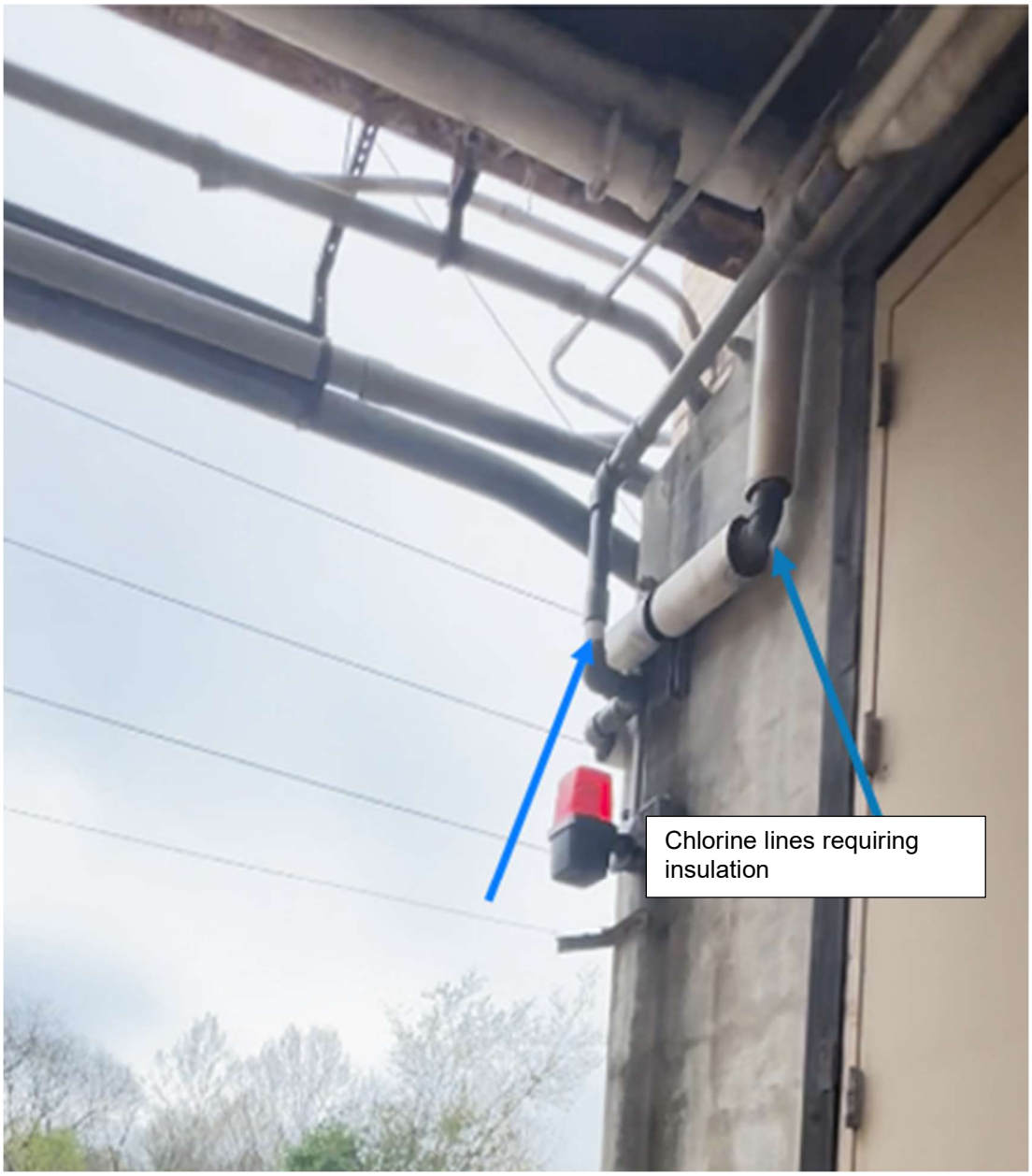


JHF-6. Polymer Feed Line: Proper insulation is missing and should be installed.

JHF-7. Polymer Feed Line: Proper insulation is missing and should be installed.

JHF-8. Polymer Feed Line: Proper insulation is missing and should be installed.

JHF-9. CP3 and CP4 – Prefilter Chlorine Feeds: Proper insulation is missing and should be installed.



JHF-10. CP3 and CP4 – Prefilter Chlorine Feeds: Proper insulation is missing and should be installed.

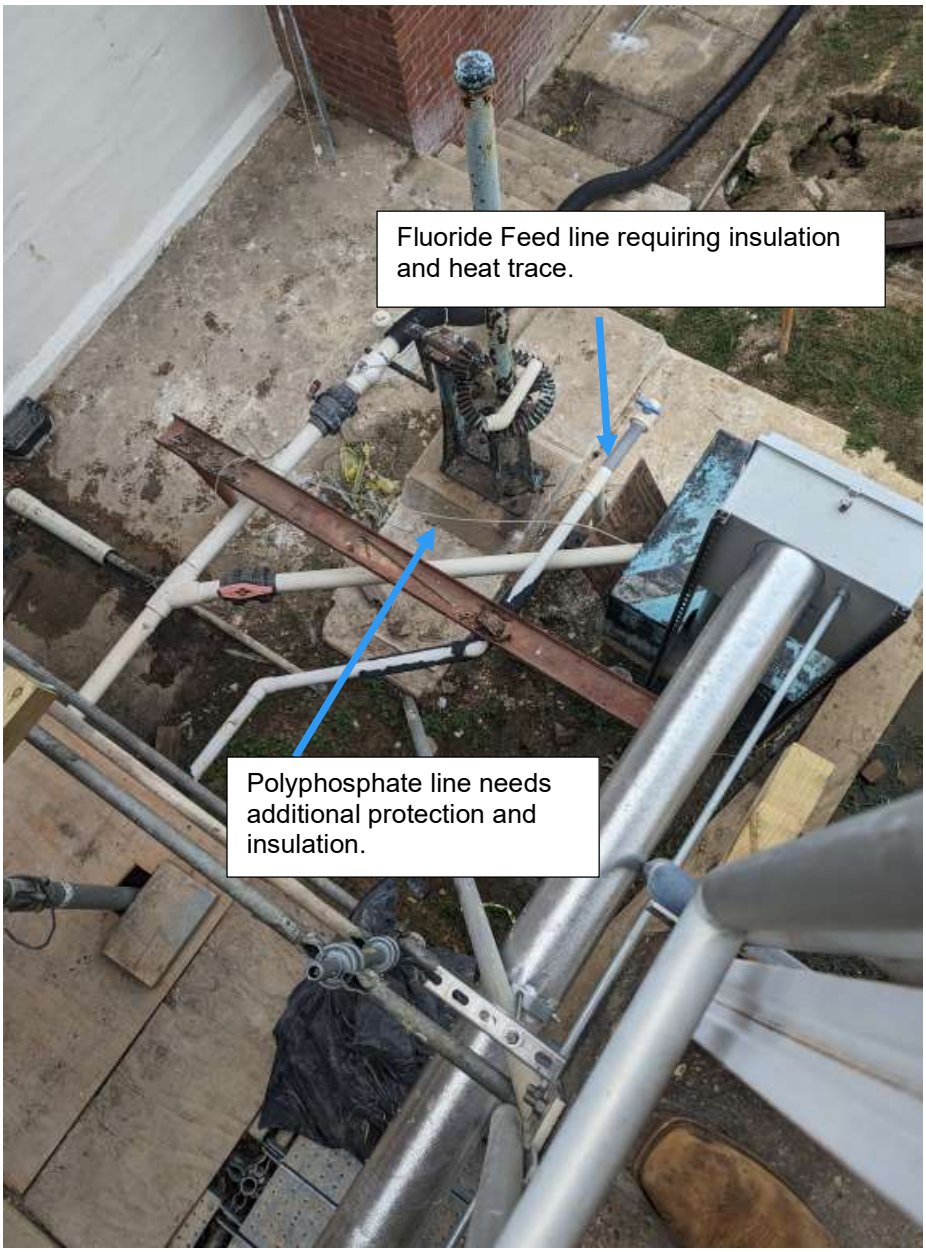
JHF-11. CP3 and CP4 – Prefilter Chlorine Feeds: Proper insulation is missing and should be installed.

JHF-12. Recent Water Line Addition (Near Transfer Pumps): Proper insulation is missing and should be installed.

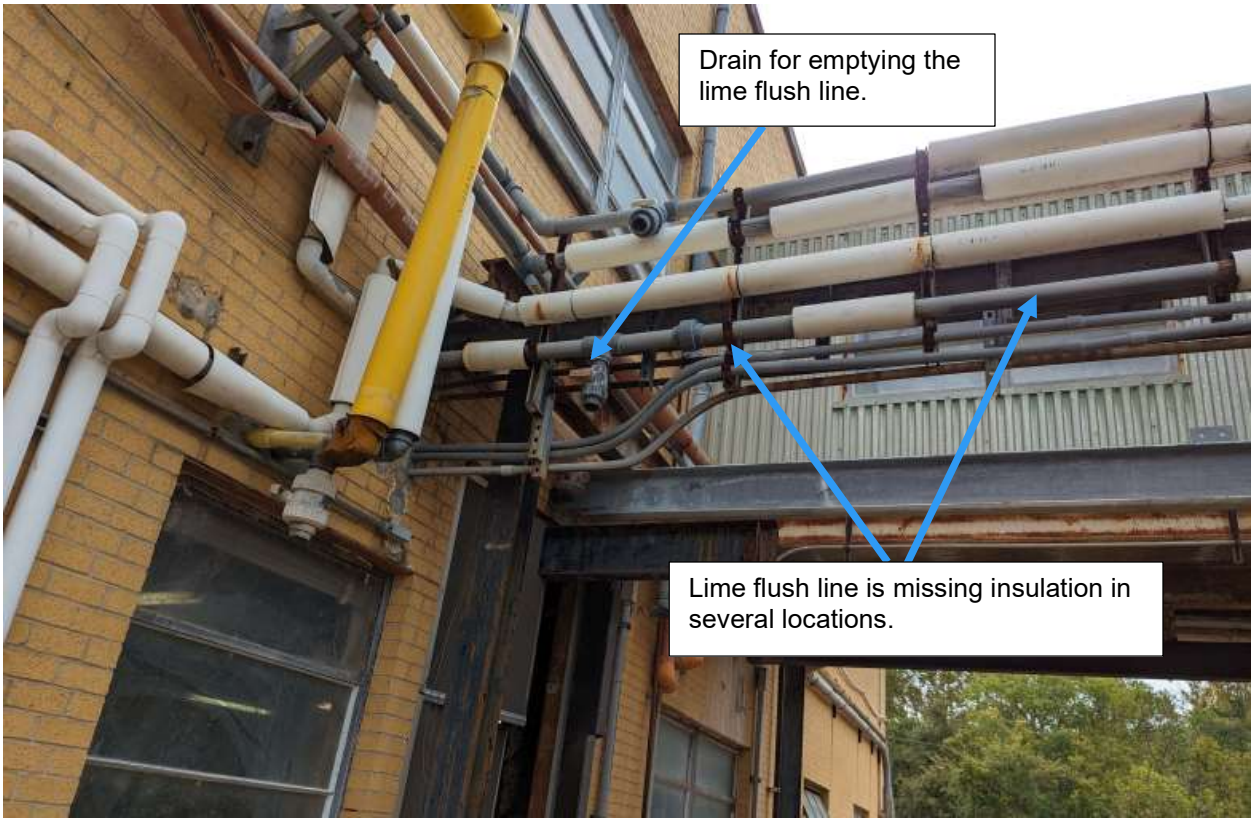
JHF-13. Recent Water Line Addition (Near Transfer Pumps): Proper insulation is missing and should be installed.

JHF-14. New Pre-Feed Liquid Lime Addition Point at Raw Water Flume: Heat trace needs to be added to exposed portion of flexible tubing. Heat trace also needs to be run inside of liquid lime carrier conduit between Liquid Lime System and addition point. The carrier conduit shall be properly sealed at openings. (Note: Insulation for the exposed tubing and carrier conduit is required per Corrosion Control Contract)

JHF-15. New Liquid Lime Addition Point at Clearwell #1: Heat trace needs to be added to exposed portion of flexible tubing. Heat trace needs to be added to exposed portion of flexible tubing. Heat trace also needs to be installed inside of the liquid lime carrier conduit between Liquid Lime System and addition point. The carrier conduit shall be properly sealed at openings.



JHF-16. Fluoride Feed Line at Clearwell 1 application point needs to be insulated with heat trace. In addition, the small diameter polyphosphate tubing should be installed within a carrier conduit for protection and with insulation.

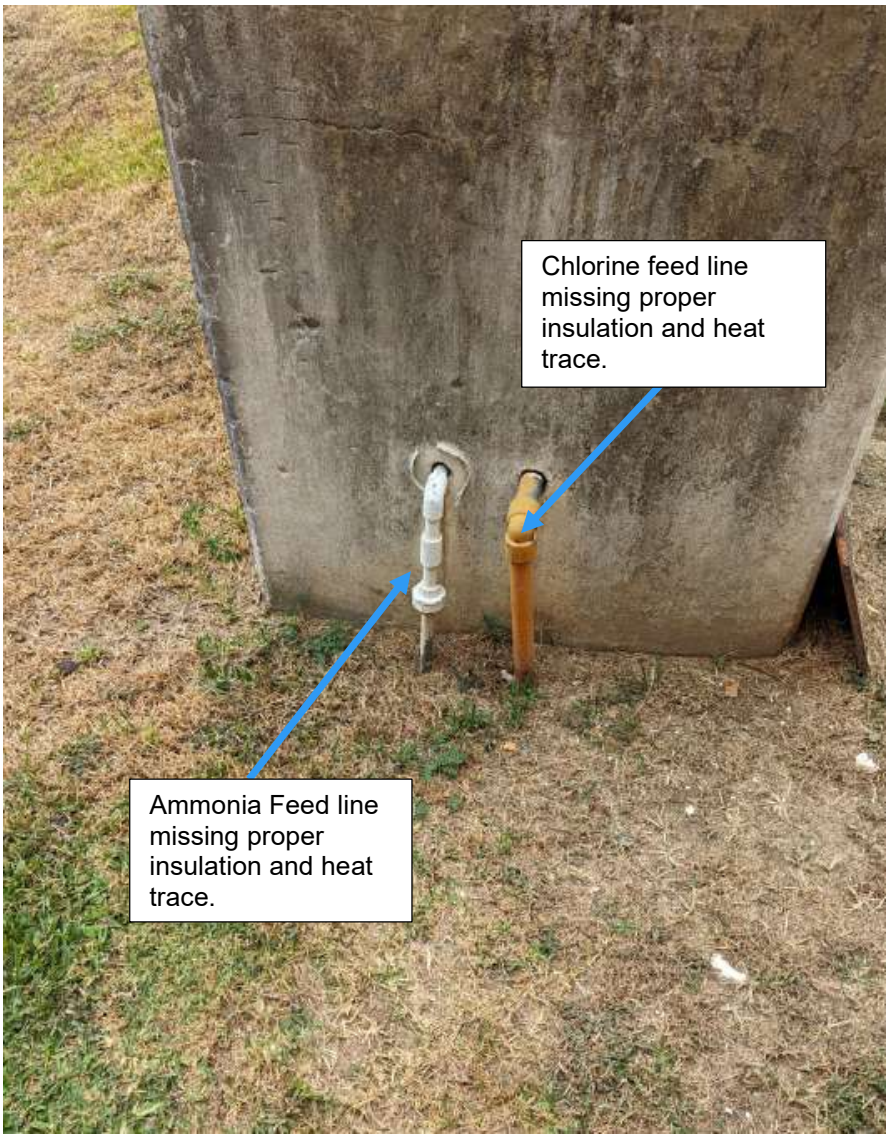


JHF-17. Existing lime system flush piping is missing insulation. These lines to be disconnected following implementation and acceptance of new Liquid Lime System in Fall 2023; no additional freeze protection recommended at this time. Line should be drained and isolated from pressure as a minimum measure.

JHF-18. Chlorine solution line has damaged and missing insulation at several locations that needs to be repaired.

JHF-19 – Chlorine Dioxide Building does not have heat. System is not in operation and all lines are to be drained. A new heater will need to be installed if the Chlorine Dioxide System is brought back online at any point.

JHF-20. Ammonia Addition Point 1 on settled water line feeding Filter Building 2 needs insulation with heat trace.



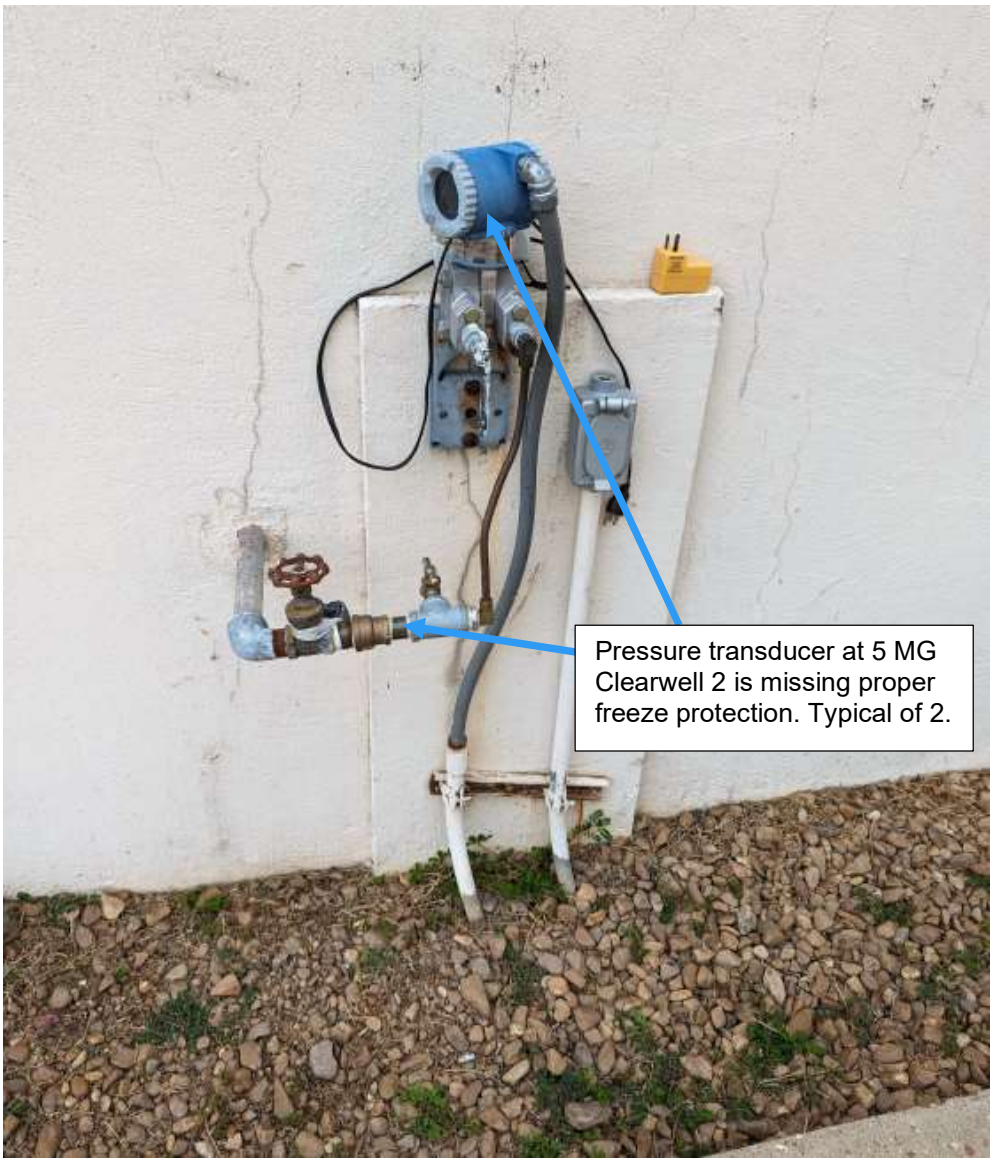
JHF-21. Chlorine Solution and Ammonia Feed line at Clearwell 1 need proper insulation with heat trace.

JHF-22. Water supply lines to the Ammonia Spray system/sprinklers need proper insulation with heat trace.

JHF-23. Water supply hosing to all the Ammonia sprinklers needs new insulation. There are currently 4 sprinklers with feed hoses in similar condition.

JHF-24. New liquid lime water addition/dilution line needs insulation with heat trace. The line will remain full of water unless it is drained after every delivery. While draining is a typical SOP, freeze protection will provide a back-up protection method. Required for both liquid lime systems.

JHF-25. Turbidity meters and influent sample hose needs additional protection and insulation from freezing. This is typical of 4 turbidity meters at the sedimentation basins. There are documented issues with sensors during freezes.



JHF-26. Pressure transducers and piping are missing proper insulation and freeze protection. Enclosures have been installed around these in the past to protect against freezing. There are documented issues with these transducers not reading properly during freezes. This is typical of two installations installed on 5 MG Clearwell 1 and 2.

JHF-27. The chlorine solution line at post-sedimentation feed point needs insulation installed at missing locations and heat trace installed.

JHF-28 – Water supply connection below Raw Water Flume has damaged insulation that should be repaired.