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WATER SUPPLY

2025 ADDENDUM TO FACILITIES PLAN

Drinking Water System
Improvements Revolving Loan
Fund (DWSIRLF)
for

City of Jackson, MS
(DBA JXN Water)

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WATER SUPPLY

September 2025



ADDENDUM TO FACILITIES PLAN
for
City of Jackson, MS

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ADDENDUM TO 2021 AND 2024 FACILITY PLAN

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WATER SUPPLY

I. INTRODUCTION

The following sections are provided to supplement the current approved 2024 JXN Water Facilities Plan and provide the necessary chronology of events to support approval of the Groundwater System Rehabilitation Project.

II. SUMMARY, CONCLUSION & RECOMMENDATIONS

Jacobs prepared an amended 2021 Facility Plan Update in February 2024 to support the approval of the first round of Loan Applications related to areas of JXN Water's system in need of rehabilitation and/or replacement. In late 2024, Stantec and Jacobs were retained by JXN Water to prepare the 2024 Facility Plan Update (2024 Plan). This plan outlined improvements needed to maintain safe, reliable, and sustainable drinking water emphasizing reliability and resiliency. During the joint preparation, review, and approval of the 2024 Plan, Jacobs noted several additional needs to contribute to the reliability and resiliency of the JXN Water treatment and distribution system. Below is a summary of these needs and a chronology of events that form the basis of the evaluations and scope of work for these projects:

A. **Process and Capital Improvement Evaluations**

In 2023, Jacobs assisted JXN Water with an overall assessment of the resiliency and reliability of the water treatment plant processes and the development of a capital improvement and long-term maintenance plan (CIP Plan). These assessments concluded that 1) the condition of several areas of the system required immediate rehabilitation/replacement and 2) the reliability and resiliency of several other systems needed to be further evaluated and addressed. Several of the immediate rehabilitation/replacement items have been initiated by JXN Water in 2023 and 2024. Below is a summary needs statement of the higher priority reliability and replacement project needs stated in the CIP Plan:

- 1) **Groundwater System Rehabilitation:** The CIP Plan found that much of the equipment at the well sites is in poor condition and requires rehabilitation to reduce the risk of operational failure and ensure reliable water supply and fire protection for areas of Jackson, Mississippi not served by the O.B. Curtis Water Treatment Plant in Ridgeland or the J.H. Fewell Plant in Jackson. Additionally, the well system has capacity limitations which will be addressed by construction of an additional well. A complete evaluation of systemwide well system capacity and the need for new wells and individual well deepening is needed followed by initiation of the well rehabilitation and new well installation. This project will improve the physical condition of the well sites and reduce systemwide risks associated with the reliability of the groundwater system supply for customers and firefighting in portions of Jackson, Mississippi, not served by the OBC and JHF water treatment plants.

B. Updated IUP and JXN Water Financial Plan

In September 2024, JXN Water submitted the updated IUP Amendment which aligns to the JXN Water Financial Plan. The priority list of projects includes the above referenced project.

C. Evaluations and Scoping of Projects (2024)

The following is a summary of the individual project evaluations and scope refinements conducted to supplement the initial CIP Plan recommended improvements. These refined scopes of work and costs will serve as the basis for the SRF ranking forms and SRF loan application process. Copies of the ranking forms and individual loan applications will be provided under separate cover.

- 1) **Groundwater System Rehabilitation:** Jacobs was retained by JXN Water in 2024 to oversee groundwater system testing and further evaluate individual well site performance, condition, and reliability. This study concluded that the groundwater system's reliability would be improved by adding one (1) new well, deepening up to two (2) existing wells, and rehabilitating equipment at multiple sites. Jacobs is currently finalizing the 30% level design concepts and will be working with JXN Water to refine these details for design documents and contacting property owners to support well permitting and siting.

In summary, the above projects will improve the reliability and resiliency of the JXN Water supply and treatment systems. These projects along with the high priority distribution system improvements will also improve the safety, efficiency, and effectiveness of JXN Water to deliver water to their customers.

III. GROUNDWATER SYSTEM

A. General Information

The purpose of this section is to provide an evaluation of the JXN Water groundwater system and outline the framework for capital improvements. The evaluation is provided to support the DWSIRLF Loan Application and is based on the best-available physical and operating information as of March 2025.

1) Groundwater System Overview

The JXN Water potable water distribution system serves the corporate limits of Jackson, all the City of Byram, the Nissan Plant near Canton, and rural areas of Hinds County generally west and south of Byram. Currently approximately 62,000 customers are served.

The system consists of a surface water zone and a groundwater zone. The surface water zone is served by two surface water treatment plants: O.B. Curtis, in Ridgeland, and J.H. Fewell, in Jackson. The groundwater zone is served by six (6) groundwater wells spread throughout the groundwater zone. The total service area is approximately 154 square miles. The surface water system is about 97 square miles, and the groundwater system is about 57 square miles.

2) Groundwater System Production and Demands

From January to August 2024, monthly groundwater production data was analyzed (Figure 1). Daily production was estimated by dividing the monthly total by the number of days in each month. March 2024 showed a spike due to system leaks and was excluded from typical production calculations. The average daily production is 4.2 MGD (Table 1). With only four (4) out of six (6) well flow meters working since June 2024, there was not enough data to estimate maximum daily and peak hourly production. Therefore, surface water system multipliers were used, resulting in a maximum daily demand of 5.0 MGD and a peak hourly demand of 7.1 MGD (Table 2).

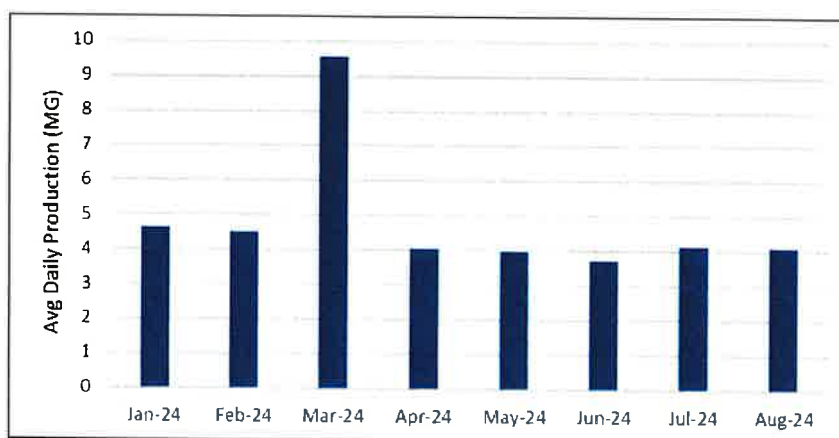


Figure 1. Monthly Groundwater System Production

System	Total Demand / Production (MGD)	Individual Demands (MGD)		
		REAdy ¹	Nissan	NRW ²
Surface Water	39	18.5	0.6	19.9
Groundwater	4.2	2.8	0.0	1.4

1. Kamstrup's REAdy software is a remote reading system used to collect data from smart meters and devices
2. NRW = Non-Revenue Water

Table 1. Existing Water Production and Demands

System	Average Day (ADD)	Maximum Day (MDD)	Peak Hour (PHD)
Surface Water	39	47	66
Groundwater	4.2	5.0	7.1

Table 2. System Demand Conditions

B. Existing Groundwater System

The groundwater wells that supply the City of Jackson withdraw groundwater from the Sparta Aquifer, which lies within the Mississippi Embayment Aquifer system and extends from south Texas, north into Louisiana, Arkansas, and Tennessee, and eastward into Mississippi and Alabama. The Sparta aquifer is a principal source of water supply for much of the State due to its excellent water quality and production potential. The Cook Mountain Formation overlies the Sparta aquifer and acts as a regional confining unit that separates the Sparta aquifer from the overlying Cockfield aquifer. In the Jackson area, the Jackson Dome is a structural geologic feature that influences the depth and configuration of the Sparta aquifer.

- 1) **Wells** - JXN Water currently operates six (6) Sparta aquifer groundwater wells located west and southwest of Jackson which serve the City of Jackson and the neighboring community of Byram. Construction of the production wells consists of 16-inch diameter final steel casings with 60- to 120-ft-long lapped screened intervals completed to depths ranging between 1,026 and 1,436 ft below land surface (bls). Raw water produced from the wells is treated with gaseous chlorine in 150-pound cylinders for disinfection and subsequently pumped into the distribution system. Table 3 summarizes the construction details, operating conditions, and capacities of the wells. Expanded testing for pump and well capacity is planned for 2025.

Well Site	Year	Total Depth, ft bls	Screen Interval, ft bls	HP	Original Pump Capacity		2025 Operating Flow & Pressure	
					Discharge Pressure, psi	Flow, gpm	Discharge Pressure, psi	Flow, gpm
Siwell Road	1980	1,410	Top: 1,278	200	80	1281	72	900
Willowood	1972	1,440	Top: 1,351 Base: 1,411	125	80	500	70	750
Hwy 18	1984	1,436	Top: 1,345 Base: 1,426	200	65	1200	55	832
TV Road	1968	1,126	Top: 1,055 Base: 1,120	150	60	680	60	697
Maddox Road	2002	1,290	N/A	200	80	1100	24	730
Wiggins Road	1967	1,026	Top: 930 Base: 1,020	150	60	703	42	580

Table 3. Groundwater Well Characteristics

- (a) **Storage** - The groundwater system is served by two prestressed ground storage tanks and one steel single pedestal elevated tank. The tank parameters are summarized in Table 4.

Tank Location / Name	System	Year Constructed	Status	Capacity, MG
Cedar Hills	Groundwater	1972	Active	0.25
Spring Ridge	Groundwater	1981	Active	2.5
Hwy 18/Maddox Road	Groundwater	1981	Offline	3.0
Total:				5.75

Table 4. Groundwater Storage Tanks

- 2) **Pressure Zones** - There are two main pressure zones that represent the two separate water sources, groundwater, and surface water systems. The zones are physically connected but remain separated by a series of closed valves to create two separate systems.

C. Evaluation of Groundwater System

- 1) **Groundwater Aquifer** - An ongoing evaluation is assessing various alternatives to enhance wellfield capacity, improve efficiency, and extend the lifespan of existing JXN Water wells. The evaluation includes wellfield inspection and conducting well and pump testing to assess performance changes and identify improvement projects aimed at boosting production, redundancy, and reliability both in the short and long term. Early recommendations indicate the need for up to two (2) new wells and the deepening and replacement of aging pumping equipment at the Hwy 18 and Maddox Road wells to restore system capacity and increase overall reliability. Due to regional aquifer water level decline and the remaining life span of these pumps, they are at high risk of short-term failure and require deepened wells with new pumps. These projects, along with others identified during the evaluation, will enhance the system's reliability and functionality.
- 2) **Operations and Maintenance** - As with the WTPs, preventative and corrective maintenance is tracked through a computerized maintenance management system (CMMS). Each well site is inspected three (3) times a week, including checking the oil level in pumps, flow meter operation, chlorine system operation, general cleaning of the work site, and, if needed, changing of the chlorine cylinders.
- 3) **System Assessment** - In May 2023, a Condition Assessment study was performed for system assets, from which a capital improvement plan was developed. A subsequent Condition Assessment was performed in December 2023 on surface water storage tank sites. Each asset was given a condition using the following scale:
 - Category 1 – Like New
 - Category 2 – Good Condition
 - Category 3 – Fair Condition

- Category 4 – Poor Condition
- Category 5 – Very Poor Condition

(a) Well Sites – Figure 2 presents the number of assets across the well sites associated with each condition category.

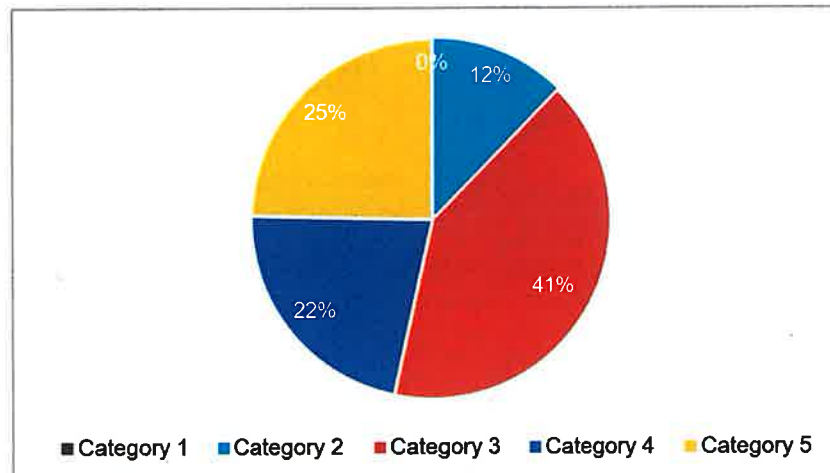


Figure 2. Well Site Condition Profile

Pump testing performed in November 2024 indicates that the total wellfield pumping capacity has degraded by 28% since the installation of the wells. Additional testing is underway to further evaluate this decline. However, over the past six (6) years, the capacity has trended upwards, as shown in Figure 3.

Most well site assets are in either Category 3 or Category 5, with no assets in Category 1. Across all well sites, 25% of the assets are in Category 5 (very poor condition). The Maddox Road and Siwell Road well sites are in fair condition (Category 3), indicating some issues that may need immediate attention or adjustments in maintenance procedures to prevent recurrence and premature failure.

Highway 18, TV Road, Wiggins Road, and Willowood well sites are in poor condition (Category 4), indicating the need to plan for asset rehabilitation or replacement.

Pump testing in November 2024 showed a 28% decline in total wellfield pumping capacity since installation. Additional testing is ongoing to further evaluate this decline.

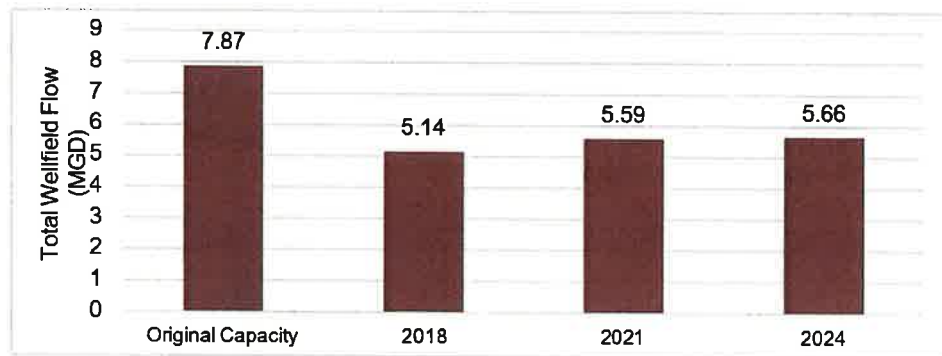


Figure 3. Total Wellfield Pumping Capacity

- (b) Groundwater Storage Tank Sites – Figure 4 presents the number of items across well sites associated with each condition category.

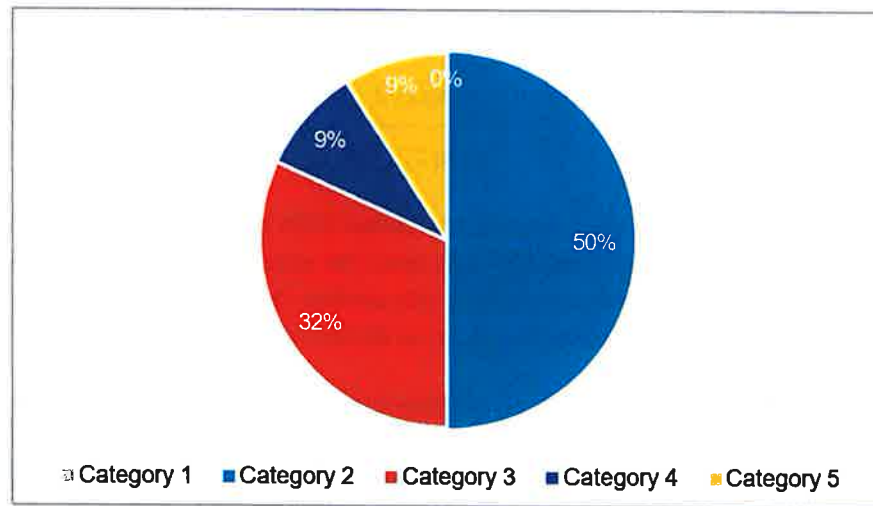


Figure 4. Groundwater Storage Tanks Condition Profile

Most groundwater storage site assets are in either Category 2 or Category 3, with none in Category 1. The Maddox and Spring Ridge Road sites are in good condition (Category 2), requiring minor additional maintenance but otherwise maintaining current procedures. The Cedar Hills tank site is in poor condition (Category 4), indicating the need to plan for asset rehabilitation or replacement.

- (c) Groundwater System Pressures - Groundwater system pressures have been assessed to identify low-pressure areas under peak demand hour (PDH) conditions that require action. The evaluation identified three (3) low-pressure areas (20 to 26 psi) under PDH conditions: 1- north of Shaw Road and west of Norman Street, 2- near the intersection of Montgomery Drive and Norman Street, and 3- modeled junctions along Springridge

Road. These areas are being reviewed for recommended improvements. For the Springridge Road area, a site is currently being evaluated for new well construction to address the low-pressure issues in this region.

- (d) Available Fire Flow under Maximum Day Demand (MDD) - In the ground water system, seven percent of the total hydrants failed to meet the fire flow requirements. Of those seven percent, two percent are in residential areas and five percent are in commercial areas. The majority of hydrants that fail to meet the fire flow requirements are in the northern portion of the ground water system where pipe looping is not provided. Other potential reasons for low fire flow include dead-end mains, hydrants located on small diameter mains and inadequate pipe sizing in commercial areas.

The map provided in Figure 5 displays the available fire flow throughout the groundwater distribution system, overlaid with water main diameters, well, and tank locations within the system.

In the subsequent master plan task, alternatives will be evaluated to improve fire flow at these locations.

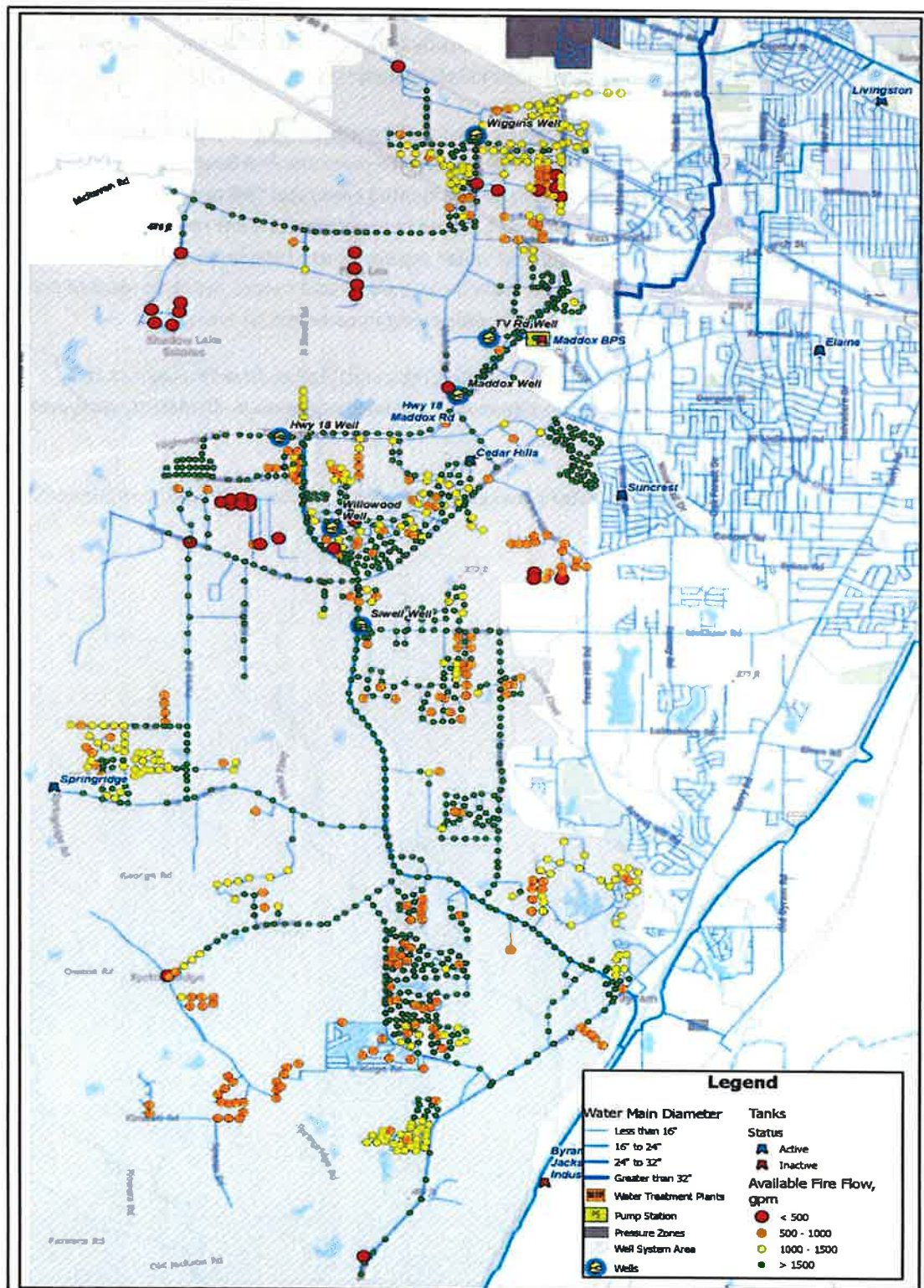


Figure 5. Available Fire Flow in GW System under MDD

- (e) **Storage Capacity** - Storage capacity was evaluated for both surface water and ground water networks using the criteria described in Section 5.3. The required storage was calculated as the sum of equalization storage, fire storage and emergency storage. Fire flow storage was determined based on the highest fire flow requirement in the network, which is 1,500 gpm for two (2) hours (180,000 gallons or 0.2 MG).

The required storage was compared to existing storage for each system and is summarized in Table 5.

System	MDD (MGD)	Required Storage Components (MG)				Existing Storage ¹ (MG)	Surplus / Deficiency (MG)
		Fire	Equalization	Emergency	Total		
Surface Water	47	0.2	11.8	7.0	19.0	8.75	(10.2)
Ground Water	5.0	0.2	1.2	0.8	2.2	5.8	3.6

¹ Existing volume does not include inactive tanks: Suncrest, Byram and TV Road / Maddox.

Table 5. Storage Capacity Evaluation

The surface water network has a deficiency of 10.2 MG under existing conditions. However, this could be mitigated by utilizing available pumping capacity and added transmission capacity. The groundwater network has a surplus of 3.6 MG storage.

- (f) **Pumping Capacity Evaluation** - Each network should have a minimum pumping capacity which, with storage, must discharge the peak hour flow and average daily flow with the largest pump out of service. The required pumping capacity is determined as the greater of MDD+FF or PHD. This is compared to the total firm capacity (largest pump out of service in each pump station) for each system. Table 6 presents the pumping capacity requirements for each system.

There is a pumping deficiency of 1 MGD in the groundwater network. JXN Water is aware of this deficiency and is planning to add a new well to the system.

System	MDD+FF (MGD)	PHD (MGD)	Required Pumping Capacity (MGD)	Existing Firm Capacity (MGD)		Surplus / Deficiency (MGD)	
				With Fewell	Without Fewell	With Fewell	Without Fewell
Surface Water	47.2	66	66	105	80	39	14
Ground Water	5.2	7	7	6	N/A	(1)	N/A

Table 6. Pumping Capacity Evaluation

D. Summary and Next Steps

This section provides a summary of the evaluation detailed in the previous sections. A discussion on the next steps and recommended actions are also provided.

- 1) **Evaluation Summary** - An assessment of the assets at the treatment plants and wells was completed and provided an overall condition score for each, as summarized in Table 7. Several projects have been identified to address systems reliability and condition.

Condition Category	% of Assets in Each Condition Category		
	O.B. Curtis WTP	J.H. Fewell WTP	Groundwater Wells
1	1	11	0
2	57	7	12
3	30	30	41
4	6	33	22
5	6	20	25

Table 7. Asset Condition Summary for Water Treatment Plants and Wells

- 2) **Recommended Plan for Well System** - The recommended improvement plan for the well system is as follows:
 - (a) Phase I – Immediate Well System Improvement Project: Results from early evaluations have resulted in a critical need to replace and deepen two (2) existing well pumps at the Hwy 18 and TV Road well sites.
 - (b) Phase II – Long Term Well System Improvements Project: These improvements will include the need for various mechanical, electrical, and process piping upgrades at all sites and the construction of one (1) new well and associated supporting equipment.
- 3) **Proposed Plan** - The estimated costs for the recommended improvement plan are shown in Table 8 below. These costs include construction costs, contingency, planning/design efforts, and construction management efforts to align with the DWSIRLF application as basis for review, approval, and reimbursement.

Item	Requested Loan Amount
Construction Cost	\$9,100,000
Construction Contingency (25%)	\$2,275,000
Engineering Planning/Design	\$1,365,000
Construction Management	\$910,000
TOTAL	\$13,650,000

Table 8. Estimated Costs for Well System Improvements as Basis for DWSIRLF Loan

IV. PHASE II SMALL DIAMETER REPLACEMENT PROJECTS

A. Small Diameter Waterline Replacements

In regards to the small diameter pipe replacement work, several projects have been identified to replace multiple small diameter and aging water distribution pipelines, fire hydrants, service lines, and valves in residential neighborhoods. These projects as outlined below will assist in providing fire protection increasing pressure and reduce the amount of repairs continually needed in these areas as these lines have reached the end of their design life.

2411 - Westgate Park Waterline Replacement Project

- Woodburn St – Woody Dr to Oak Forest Dr (4" Water, 2,215')
- Cliffwood Dr – Wooddell Dr to McDowell Road (4" Water, 1,025')
- Woodside Dr – McDowell Rd to Maria Dr (4" Water, 1,500')
- Dianne Dr – Woodside Dr to Maria Dr (4" Water, 2,000')
- Maria Dr – Dorgan St to Barbara Ann Dr (4" Water, 2,175')
- Haynes St – Oak Forest Dr to Corey Dr (2" Water, 500')
- Oak Forest Dr – McDowell Rd to Smallwood St (3" Water, 2,000')
- Corey Dr – Oak Forest Dr to Wood Rd (2" Water, 1,250')

2412 - Hidden Valley Waterline Replacement Project

- Hidden Valley Lane – Raymond Rd to Dead End (4" Water, 1,300')

2413 - Southwood Estates Waterline Replacement Project

- Scottsdale Dr – Terry Rd to Old Bryam Rd (4" Water, 2,160')

2414 - Brookwood Estates Waterline Replacement Project

- Velma Dr – Henderson Rd to Dead End (2" Water, 2,000')
- Tuesday Lane – Henderson Rd to Dead End (2" Water, 600')

2415 - Wildwood Terrace Waterline Replacement Project

- Middle Rd – Dees St to McCluer Rd (2" Water, 2,200')
- Wildwood Cir – Meadow Lane (2" Water, 1,150')

2416 - Shadowlawn Heights Waterline Replacement Project

- Sweet Briar Dr – Sunny Lane Dr to Shadow Lawn (2" Water, 600')
- Sage Crest Ave - Sunny Lane Dr to Shadow Lawn (2" Water, 500')
- Will O Wisp Way – Altra Woods Blvd. to Oriole Dr (2" Water, 2,000')
- Barberry Ave – Wisteria Dr to Camellia Lane (2" Water, 460')
- Sumac Ave - Wisteria Dr to Camellia Lane (2" Water, 460')
- Lotus Ave - Wisteria Dr to Camellia Lane (2" Water, 460')
- Oleander Ave - Wisteria Dr to Camellia Lane (2" Water, 430')

2417 - Terry Rd Waterline Replacement Project

- Evans Dr – Terry Rd to I-55 (2" Water, 940')
- Bounds Rd – Terry Rd to I-55 (2" Water, 480')

2418 - Lake Ridgelea Waterline Replacement Project

- Reel St – W Ridge Rd to Hook St (2" Water, 1,230')
- W Ridge Rd – Hook St to Rod Rd (2" Water, 1,324')
- Meadow Lane – Lake Shore Dr to S Ridge Rd (2" Water, 1,780')
- Lure Ave – Lake Shore Dr to Turtle Rd (2" Water, 1,250')
- Lake Shore Dr – S Ridge Rd to Pike Ave/Mary Lane (4" Water, 1,950')
- Pike Ave – Mary Lane to Turtle Rd (2" Water, 725')
- Park Ave – Mary Lane to Gary Rd (2" Water, 800')
- Mary Lane – Lakeshore Dr to Oak Ave (4" Water, 750')
- Oak Ave – Mary Lake Lane to Gary Rd (4" Water, 500')
- Lake Shore Dr – Gary Rd to Mary Lane/Park Ave (2" Water, 1,500')

2419 - Richwood Estates Waterline Replacement Project

- Northwood Cir – Hamilton Blvd to Dead End (2" Water, 1,800')
- Richwood Dr – W County Line to Dead End (2" & 4" Water, 1,175')
- Hamilton Blvd – Livingston Rd to W County Line (4" Water, 2,300')
- Homewood Cir – Hamilton Blvd to Dead End (2" Water, 270')
- Oak Tree Dr – Hamilton Blvd to Countrywood (2" Water, 650')

2420 - Rollingwood Waterline Replacement Project

- Banyan Dr – Rollingwood Dr to Rollingwood (4" Water, 550')
- Rollingwood Dr – Yucca Dr to Yucca Dr (4" Water, 5,200')
- Amour Dr - Rollingwood Dr to Rollingwood (4" Water, 750')
- Calvo Dr - Rollingwood Dr to Rollingwood (4" Water, 530')
- Poinciana Dr - Rollingwood Dr to Rollingwood (4" Water, 750')
- Dendron Dr - Rollingwood Dr to Rollingwood (4" Water, 920')

2421 - Colonial Country Club Waterline Replacement Project

- Colonial Cir – Adkins Blvd to Stanton Dr (4" Water, 1,800')
- Colonial Cir – Fairway St to Clubview Dr (4" Water, 1,600')
- Clubview Dr – S Parkway Dr to Colonial Cir (4" Water, 500')

2422 - Woodhaven Waterline Replacement Project

- Westmore Dr – Woodlake Dr to Waycross Ct (4" Water, 1,270')
- Waycross Ct – Watermore Dr to Dead End (4" Water, 370')
- Westmore Ct - Watermore Dr to Dead End (4" Water, 300')
- Westwind Rd – Woodhaven Rd to Woodson Dr (4" Water, 465')
- Winnsboro Ct – Woodhaven Rd to Dead End (2" Water, 180')
- Woodhaven Ct - Woodhaven Rd to Dead End (2" Water, 175')
- Dabney Dr – Beasley Rd to Devonshire Dr (4" Water, 570')
- Devonshire Dr – Dabney Dr to Beasley Rd (4" Water, 1,350')
- Huntview Dr – Hallmark Dr to Avon Way (4" Water, 350')
- Avon Way – Huntview Dr to Paddock Pl (2" Water, 600')
- Canterbury Rd – Hallmark Dr to Dead End (4" Water, 420')

2423 - Belhaven Park Waterline Replacement Project

- Parkhurst Dr – Laurel St to River Park Dr (2" Water, 630')
- Gaddis St – Bailey Ave to Dead End (2" Water, 450')
- Tunica St – J.R. Lynch to Utica Ave (4" Water, 700')
- Washington Ave – Hill Ave to Shirley Ave (2" Water, 850')

2424 - Reedbridge/Dearborn Waterline Replacement Project

- Patch Ave – Nimitz St to McCain Ave (2" Water, 950')
- McCain Ave – Nimitz St to Lindsey Dr (2" Water, 900')
- Road of Remembrance – Rosslyn to Mount Vernon (4" Water, 2,000')
- Road of Remembrance – W Capitol Rd to Summer St (4" Water, 900')
- Mount Vernon Ave – Summer St to Sewanee Dr (4" Water, 1,600')
- Summer St – Mt Vernon Ave to Galvez St (4" Water, 650')

2425 - McLeod Garner Waterline Replacement Project

- Atwood St – Atwood St N/S to McLeod St (4" Water, 450')
- Garner St – Gallatin St to Dead End (4" Water, 170')
- S.L. Bowman Lane – Gallatin St to Dead End (4" Water, 180')
- Union St – W Silas Brown and Winter St (4" Water, 620')
- Boyd St – State St to Madison (4" Water, 1,650')

2426 - East Manor Estates Waterline Replacement Project

- Canterbury Ct – E Manor Dr to Dead End (2" Water, 400')
- Regency Ct - E Manor Dr to Dead End (2" Water, 250')

- St. Regis Ct - E Manor Dr to Dead End (2" Water, 170')
- Kings Ct - E Manor Dr to Dead End (2" Water, 250')
- Chateau Ct - E Manor Dr to Dead End (2" Water, 175')

V. SELECTED PLAN AND UPDATE

A. General Information

JXN Water has developed a comprehensive Capital Improvement Plan (CIP) to address the current and future needs of the water treatment and distribution system. Portions of this CIP are proposed to be funded using DWSIRLF and are summarized in the latest JXN Water Financial Plan and September 2024 IUP Update approved by MSDH. Several of the higher priority rehabilitation/replacement need projects have already received DWSIRLF loan approvals in 2024/early 2025 and are underway. This Facility Plan addendum is provided to now summarize the high priority water supply and treatment resiliency, and reliability needs that have since been evaluated and scope refined.

B. Rehabilitation of ground water wells

The plan includes the rehabilitation of existing water supply wells located at the following sites:

- 1) Siwell Road Well Site
- 2) Willowood Well Site
- 3) Hwy 18 Well Site
- 4) TV Road Well Site
- 5) Maddox Road Well Site
- 6) Wiggins Road Well Site

C. Small Diameter Waterline Replacements

- 1) The projects proposed for small diameter water line replacements have been identified based on existing condition issues, system leaks, and existing small diameter line sizes (2" & 4") that would not be sufficient to provide service demand and fire protection. These projects will replace existing small diameter pipelines located in residential areas with the minimum requirement of 8" diameter pipelines and will also replace inoperable valves and fire hydrants in these areas. Until the hydraulic model is completed to include all distribution pipelines, a hydraulic analysis cannot be performed to further prioritize these projects.

The proposed items listed below are intended to increase system pressures and reduce water loss, thereby supporting the City of Jackson's ongoing efforts to provide a safe and reliable water supply to its customers.

2411 - Westgate Park Waterline Replacement Project	12,665 LF
2412 - Hidden Valley Waterline Replacement Project	1,300 LF
2413 - Southwood Estates Waterline Replacement Project	2,160 LF
2414 - Brookwood Estates Waterline Replacement Project	2,600 LF
2415 - Wildwood Terrace Waterline Replacement Project	3,350 LF
2416 - Shadowlawn Heights Waterline Replacement Project	4,910 LF
2417 - Terry Rd Waterline Replacement Project	1,420 LF
2418 - Lake Ridgelea Waterline Replacement Project	11,809 LF
2419 - Richwood Estates Waterline Replacement Project	6,195 LF
2420 - Rollingwood Waterline Replacement Project	8,700 LF
2421 - Colonial Country Club Waterline Replacement Project	3,900 LF
2422 - Woodhaven Waterline Replacement Project	6,050 LF
2423 - Belhaven Park Waterline Replacement Project	2,630 LF
2424 - Reedbridge/Dearborn Waterline Replacement Project	7,000 LF
2425 - McLeod Garner Waterline Replacement Project	3,070 LF
2426 - East Manor Estates Waterline Replacement Project	1,245 LF

2) Planning Area Map

Maps contained in Appendix A depict the location of the proposed improvements, as follows:

- Map 1 – Proposed Distribution Plan
- Map 2 – Proposed Distribution Plan
 1. Area 1 – Westgate Park
- Map 3 – Proposed Distribution Plan
 1. Area 2 – Hidden Valley
 2. Area 3 – Southwood Estates
 3. Area 4 – Brookwood Estates
 4. Area 5 – Wildwood Terrace
- Map 4 – Proposed Distribution Plan
 1. Area 6 – Shadowlawn Heights

- Map 5 – Proposed Distribution Plan
 1. Area 7 – Terry Road
 2. Area 8 – Lake Ridgelea
 - Map 6 – Proposed Distribution Plan
 1. Area 9 – Richwood Estates
 2. Area 10 – Rollingwood
 3. Area 11 – Colonial Country Club
 - Map 7 – Proposed Distribution Plan
 1. Area 12 – Woodhaven
 - Map 8 – Proposed Distribution Plan
 1. Area 13 – Belhaven Park
 - Map 9 – Proposed Distribution Plan
 1. Area 14 – Reedbridge / Dearborn
 - Map 10 – Proposed Distribution Plan
 1. Area 15 – McCleod Garner
 - Map 11 – Proposed Distribution Plan
 1. Area 16 – East Manor Estates
 - Map 12 – Proposed Distribution Plan – Flood Zone (500 Year)
 - Map 13 – Proposed Distribution Plan – Flood Zone (500 Year)
 - Map 14 – Proposed Distribution Plan – Flood Zone (500 Year)
 - Map 15 – Proposed Distribution Plan – Flood Zone (500 Year)
 - Map 16 – Proposed Distribution Plan – Flood Zone (500 Year)
- 3) **Groundwater/Surface Water Source Impacts**
- No adverse effects to groundwater and surface water are anticipated as a result of the project.
- 4) **Mitigation Measures**
- Some noise, dust, and vegetative removal will occur as a result of construction; however, this will only be temporary. The contractors will be required to utilize best management practices (BMPs) that will be outlined in the plans and specifications to mitigate these minor impacts.

5) Cost of Selected Plan

The detailed costs of the selected plan are shown in Appendix C. Additionally, increased costs related to *Project 2324/West/Rankin Transmission* and *Project 2326/Maddox/TV Road Transmission* have been included in the selected plan costs estimated at \$78,475,403, which includes Engineering and Construction costs.

D. Special Environmental Considerations

1) Archeological / Cultural

The following are the intergovernmental review agencies that were contacted and a summary of the comments received (See Appendix D):

(a) MS Department of Archives and History

The Mississippi Department of Archives & History reported the following on the submitted projects, "We have reviewed the request for cultural resources assessment, in accordance with our responsibilities under Section 106 of the National Historic Preservation Act and 36 CFR Part 800. After reviewing the information provided, all ground disturbance should remain in the existing right-of-way. It is our determination that if any cultural materials such as pottery, nails, glass, stone tools such as arrowheads, or animal bones are encountered, all work should cease, and the Chief Archaeologist shall be notified within 24 hours so that the appropriate descendant communities can be consulted for a path forward in accordance with federal law. With this condition, we have no objection with the proposed undertaking."

(b) MS Department of Wildlife, Fisheries, and Parks (Natural Heritage Program)

The Mississippi Department of Wildlife, Fisheries, and Parks stated the following on the submitted projects, "We have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats."

(c) Department of the Army, Corps of Engineers

The Department of the Army generally responded with the following on the submitted projects, "Based upon the information furnished, it appears that Department of the Army permit requirements, pursuant to Section 10 of the Rivers and Harbors Act of 1899 and/or Section 404 of the Clean Water Act, will not be required for the proposed work, since no regulated activities will occur in any potentially jurisdictional wetlands

and/or other waters of the United States. In addition, we are not addressing geographic jurisdiction for this non-regulated activity.”

The environmental impacts of the proposed projects on potentially effecting of natural resources were evaluated and compared with no action alternative. Since all improvements will be performed within existing road rights-of-way or existing easements, there should be no adverse impacts to surface or groundwater; archaeological, historical, or cultural resources; vegetation or wildlife; wetlands or navigable waterways; floodplains; or air quality. The water distribution system improvement projects proposed by the City should have no significant adverse effect on any of the natural resources of the area.

2) Floodplains

The Federal Flood Risk Management Standard 500-year floodplain approach shall be recognized by this plan. The proposed transmission and distribution pipeline projects will all be constructed within or adjacent to the existing street rights-of-way, or currently cleared areas, and will have no impact on the 500-year floodplain. However, should a project segment encroach upon the 500-year flood hazard boundary of the Pearl River, and temporarily disturb the floodplain during installation of the buried facilities, the project will restore all disturbed areas to pre-construction condition, including grassing, mulch, and related mitigation measures. There will be no long-term impact to the 500-year floodplain.

- (a) Map 12 – Distribution Plan – 500 Year
- (b) Map 13 – Distribution Flood Zone – 500 Year
- (c) Map 14 – Distribution Flood Zone – 500 Year
- (d) Map 15 – Distribution Flood Zone – 500 Year
- (e) Map 16 – Distribution Flood Zone – 500 Year

VI. FINANCIAL CAPABILITY SUMMARY

The Financial Capability Summary (HDWILF 14), included in Appendix B of this packet, was prepared using the most current supporting data from the JXN Water Financial Plan.

- A. Letter of Intent - No letters of intent from any interlocal agencies or major users are required for these projects to be implemented.
- B. Non-DWSIRLF Funds - Non-eligible project costs will be paid for by JXN water.

- C. User Charges - Current revenues are not sufficient to pay for the project in its entirety. However, the newly implemented rate structure (February 2024) and delinquent payment policy will start to close the gap.
- D. Project Cost Ratio - In accordance with the Financial Capability Summary, the proposed projects are not considered high cost as calculated in the ratio shown in section 9 of the Financial Capability Summary (HDWILF 14).

VII. PUBLIC PARTICIPATION

As part of the development of this Amended Facility Plan, we are also planning a public hearing for each of these projects to be held at the JXN Water office. A Public Notice for the hearing will be published in the Mississippi Link and the Clarion Ledger at least 30 days prior. A copy of the advertisement will be provided to MSDH. The public hearing will describe the projects and will discuss project purpose and need, project location, estimated costs, effect on current user charges, environmental assessment results, and intergovernmental reviews/approvals.

APPENDICES

APPENDIX A

MAPS

APPENDIX A – MAPS

Map 1 – Proposed Distribution Plan

Map 2 – Proposed Distribution Plan

- Area 1 – Westgate Park

Map 3 – Proposed Distribution Plan

- Area 2 – Hidden Valley
- Area 3 – Southwood Estates
- Area 4 – Brookwood Estates
- Area 5 – Wildwood Terrace

Map 4 – Proposed Distribution Plan

- Area 6 – Shadowlawn Heights

Map 5 – Proposed Distribution Plan

- Area 7 – Terry Road
- Area 8 – Lake Ridgelea

Map 6 – Proposed Distribution Plan

- Area 9 – Richwood Estates
- Area 10 – Rollingwood
- Area 11 – Colonial Country Club

Map 7 – Proposed Distribution Plan

- Area 12 – Woodhaven

Map 8 – Proposed Distribution Plan

- Area 13 – Belhaven Park

Map 9 – Proposed Distribution Plan

- Area 14 – Reedbridge / Dearborn

Map 10 – Proposed Distribution Plan

- Area 15 – McCleod Garner

Map 11 – Proposed Distribution Plan

- Area 16 – East Manor Estates

Map 12 – Proposed Distribution Plan – Flood Zone (500 Year)

Map 13 – Proposed Distribution Plan – Flood Zone (500 Year)

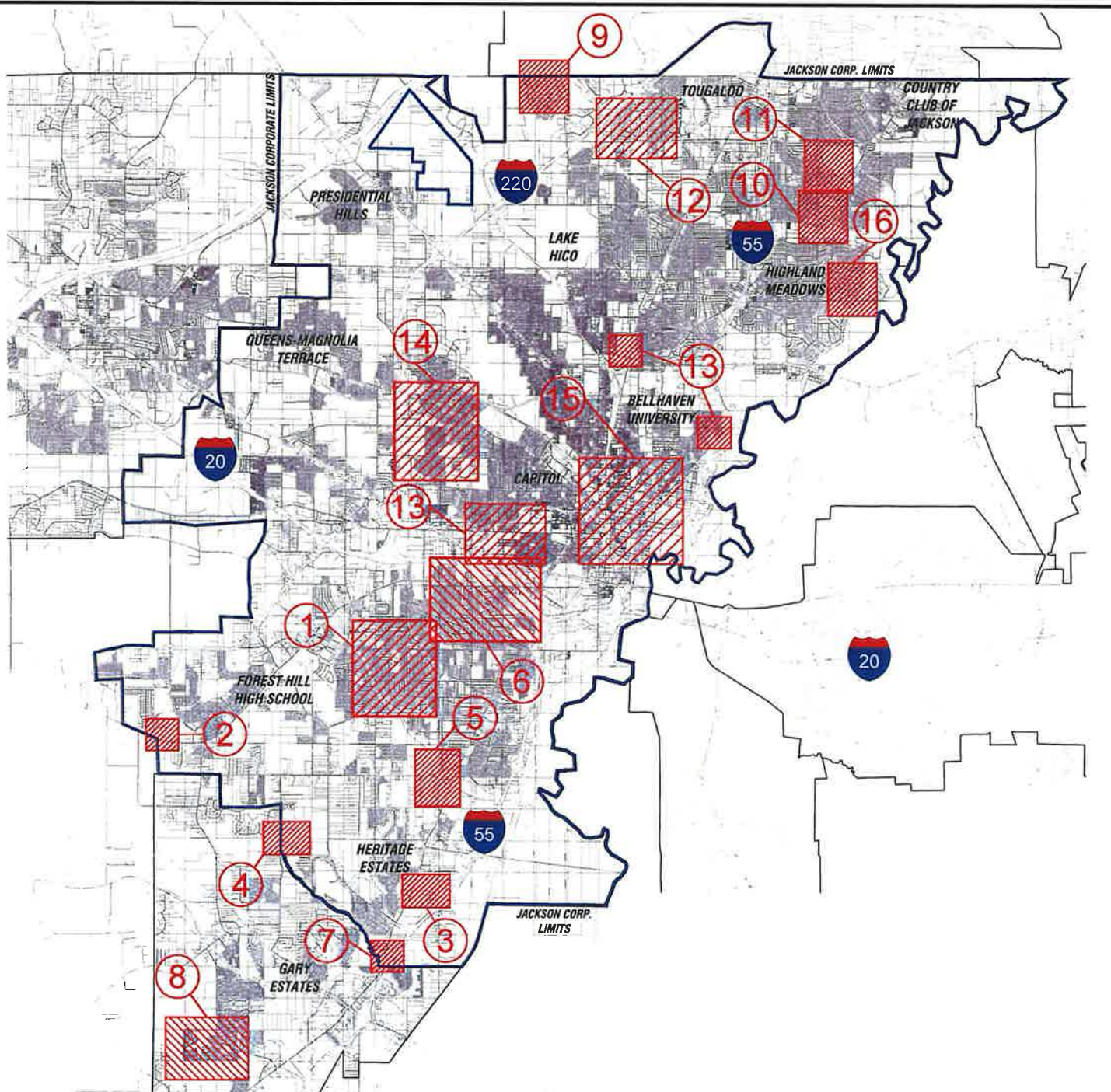
CITY OF JACKSON WATER SYSTEM
2025 ADDENDUM - SRF LOAN FACILITY PLAN

Map 14 – Proposed Distribution Plan – Flood Zone (500 Year)

Map 15 – Proposed Distribution Plan – Flood Zone (500 Year)

Map 16 – Proposed Distribution Plan – Flood Zone (500 Year)

WATER WELL LOCATIONS – MAP 1



LEGEND

- | | |
|----------------------|-------------------------|
| ① WESTGATE PARK | ⑨ RICHWOOD ESTATES |
| ② HIDDEN VALLEY | ⑩ ROLLINGWOOD |
| ③ SOUTHWOOD ESTATES | ⑪ COLONIAL COUNTRY CLUB |
| ④ BROOKWOOD ESTATES | ⑫ WOODHAVEN |
| ⑤ WILDWOOD TERRACE | ⑬ BELHAVEN PARK |
| ⑥ SHADOWLAWN HEIGHTS | ⑭ REEDBRIDGE / DEARBORN |
| ⑦ TERRY ROAD | ⑮ MCLEOD GARNER |
| ⑧ LAKE RIDGELEA | ⑯ EAST MANOR ESTATES |



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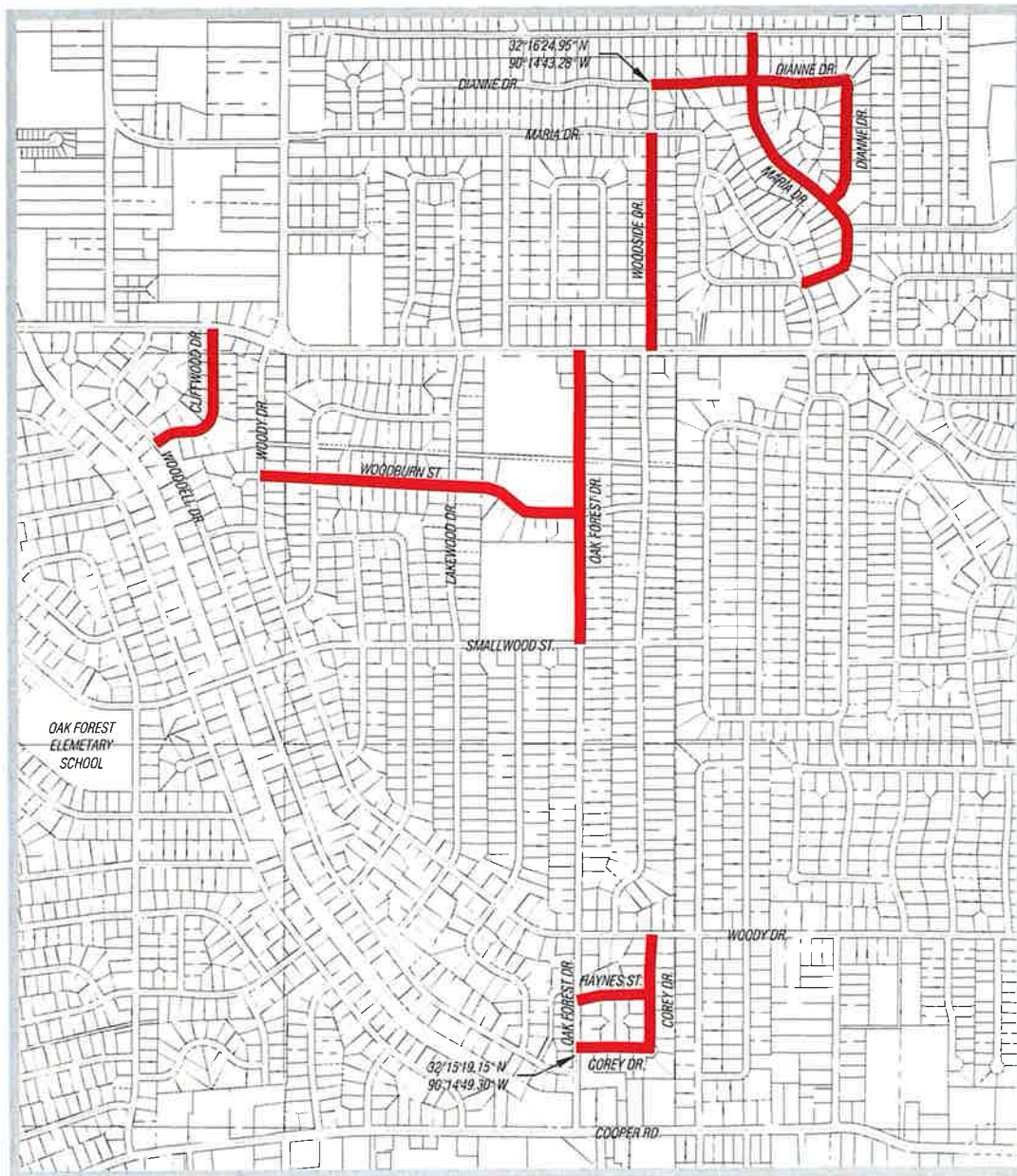
CLIENT:
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 1054 GREYMONT AVE. JACKSON, MS

PROJECT:
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SHEET CONTENTS:
 PROPOSED DISTRIBUTION PLAN

MAP
 NUMBER
 1

PROJECT
 NUMBER
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① WESTGATE PARK



SCALE: 1"=1200'

NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

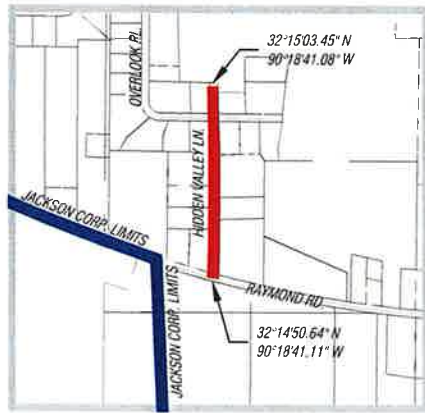
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AREA I

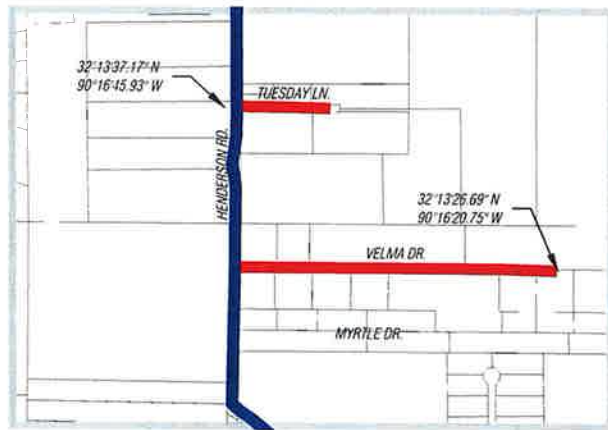
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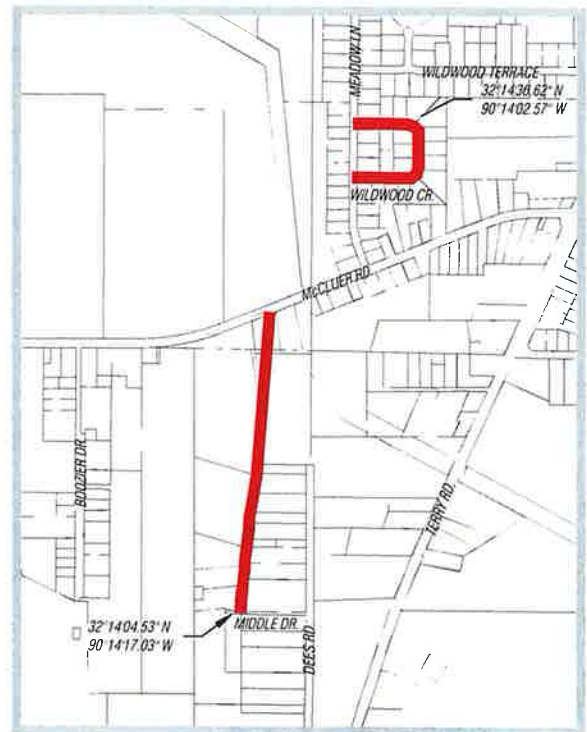
② HIDDEN VALLEY



③ SOUTHWOOD ESTATES



④ BROOKWOOD ESTATES



⑤ WILDWOOD TERRACE



SCALE: 1"=1200'

NOTES:
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EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

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PROPOSED DISTRIBUTION PLAN
AREA 2, AREA 3, AREA 4, AREA 5

MAP
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3

PROJECT
NUMBER
B-10742



⑥ SHADOWLAWN HEIGHTS

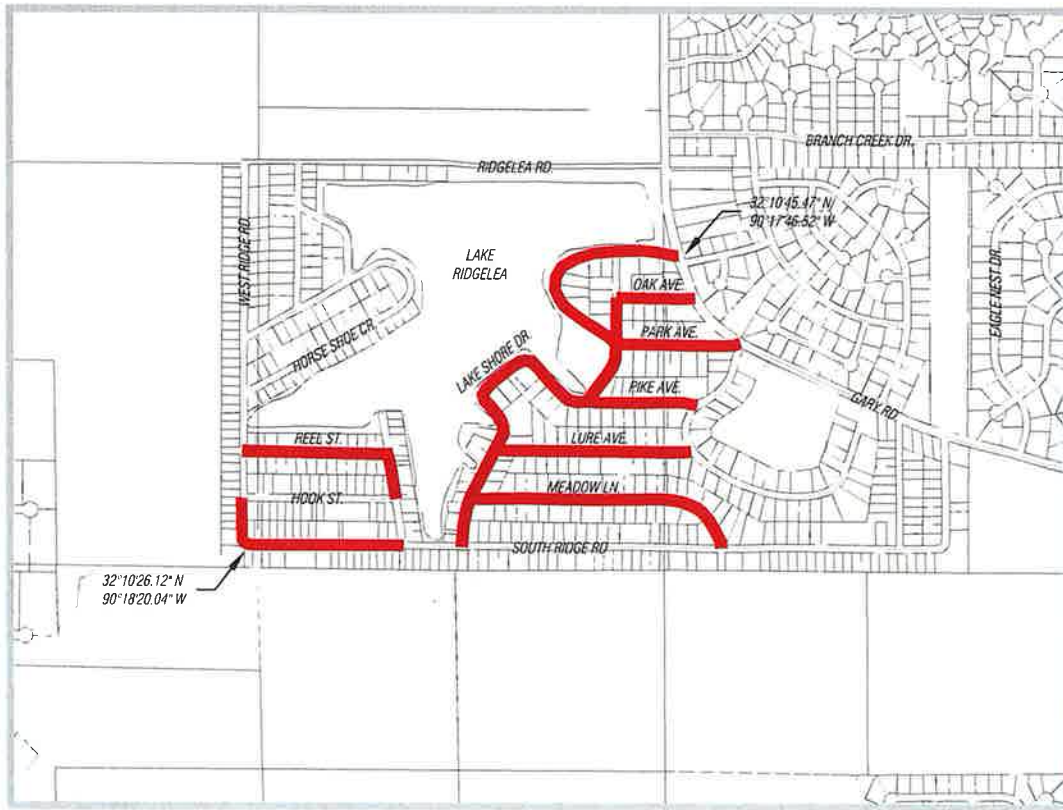


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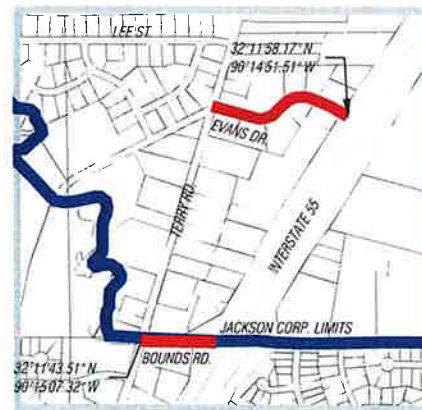
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⑧ LAKE RIDGELEA



⑦ TERRY ROAD



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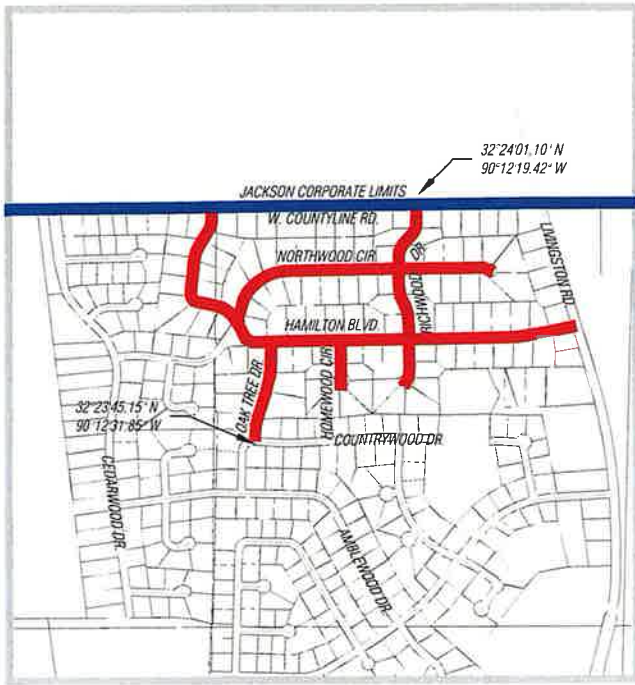


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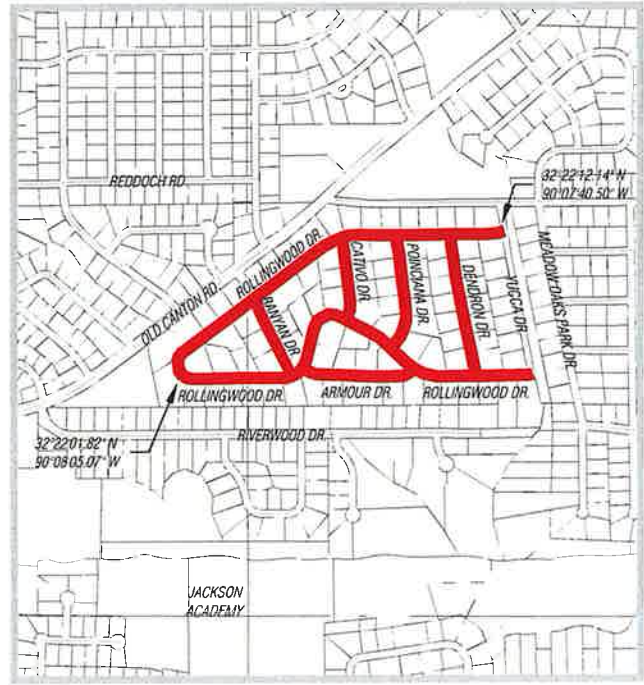
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⑨ RICHWOOD ESTATES



⑩ ROLLINGWOOD



⑪ COLONIAL COUNTRY CLUB

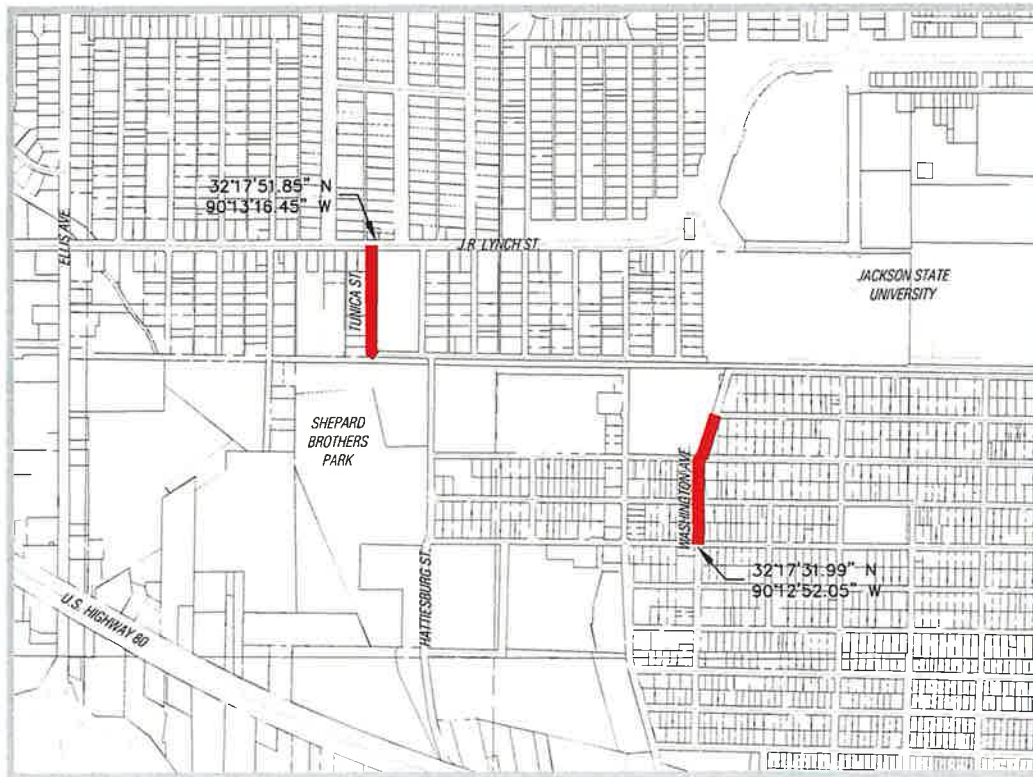


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⑬ BELHAVEN PARK



⑬ BELHAVEN PARK



⑬ BELHAVEN PARK



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SCALE: 1"=1200'

NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

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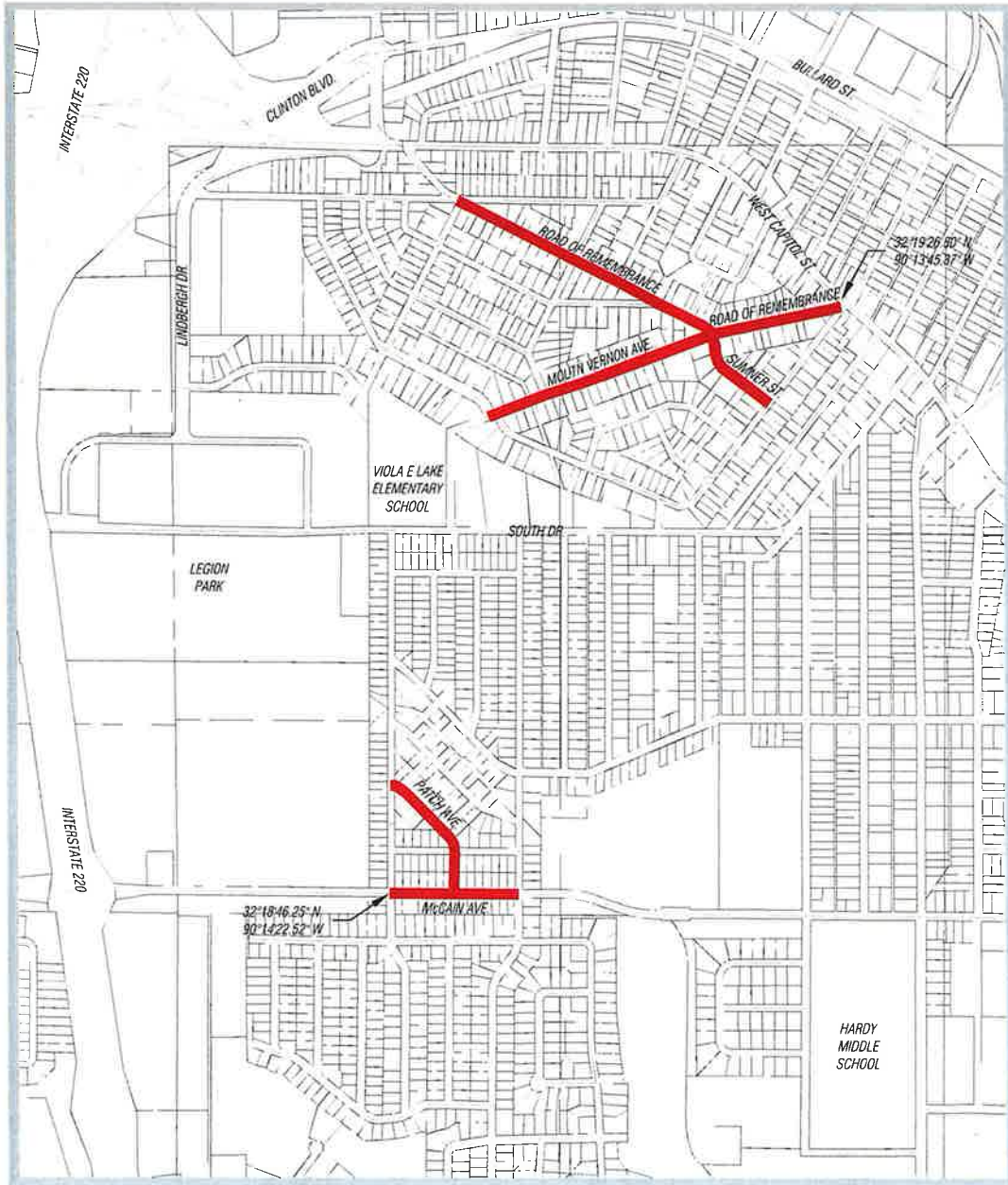
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AREA 13

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PROJECT
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B-10742



⑭ REEDBRIDGE / DEARBORN



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SCALE: 1"=1200'

NOTES:
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EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

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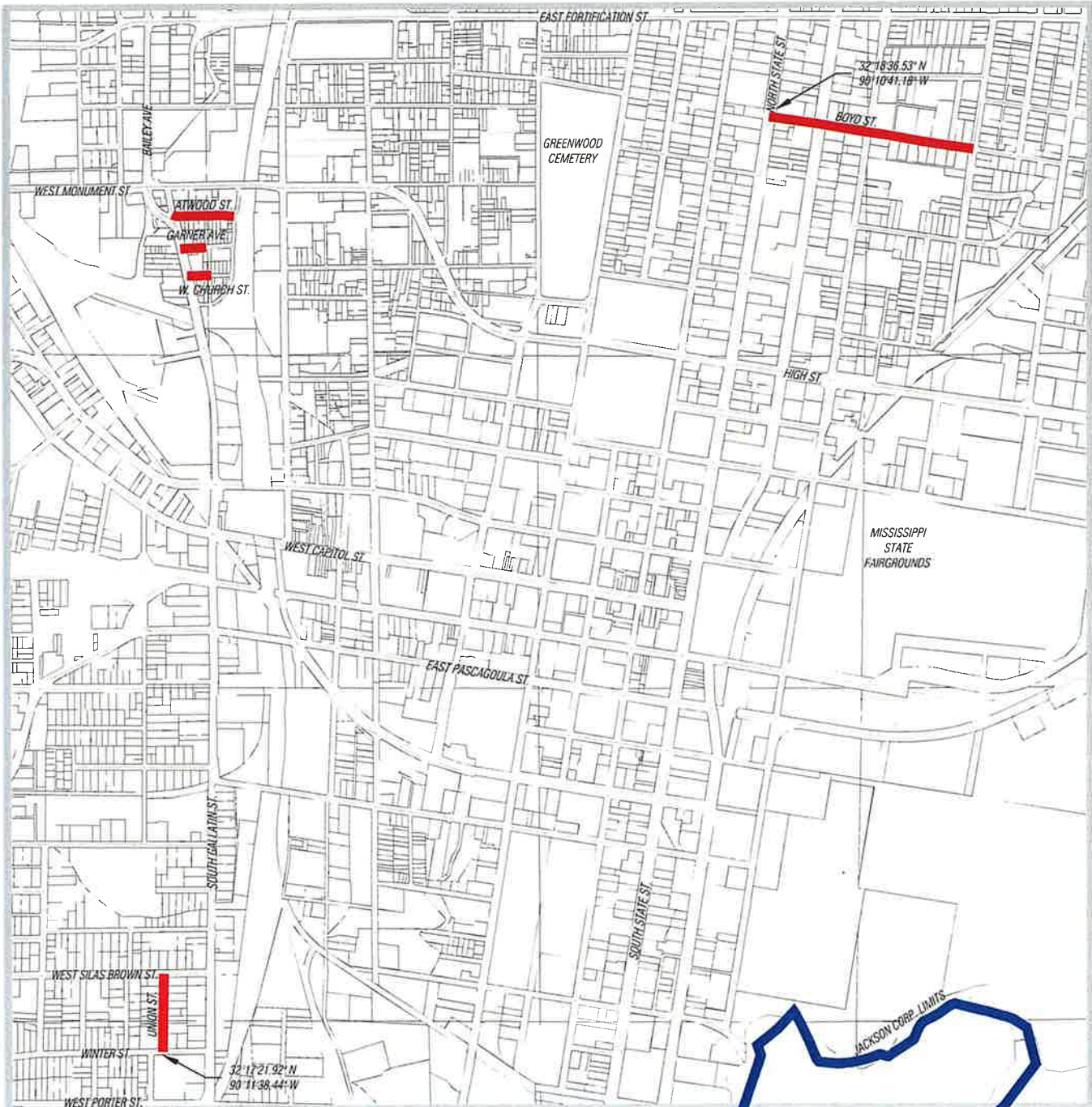
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AREA 14

MAP
NUMBER
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PROJECT
NUMBER
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⑮ McCLEOD GARNER



NOTES:
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— PROPOSED WATER LINE (TYP.)

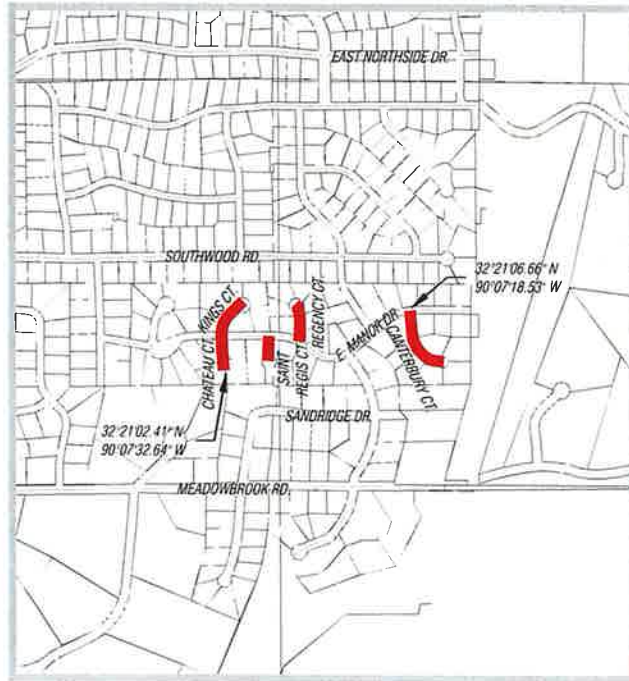
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AREA 15

MAP NUMBER
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PROJECT NUMBER
B-10742



(16) EAST MANOR ESTATES



NOTES:
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EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

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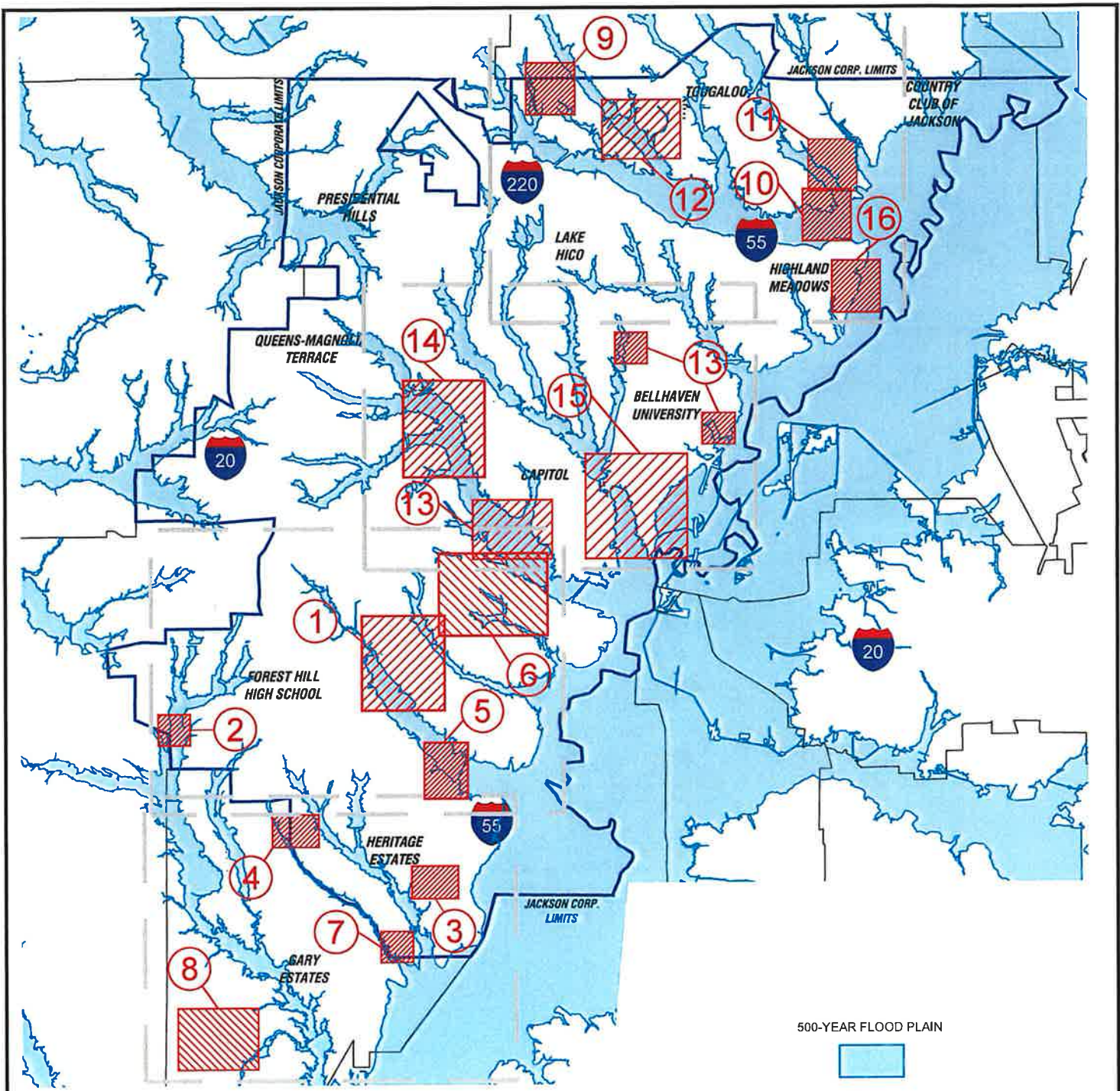
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MAP NUMBER 11
PROJECT NUMBER B-10742



LEGEND

- | | |
|----------------------|-------------------------|
| ① WESTGATE PARK | ⑨ RICHWOOD ESTATES |
| ② HIDDEN VALLEY | ⑩ ROLLINGWOOD |
| ③ SOUTHWOOD ESTATES | ⑪ COLONIAL COUNTRY CLUB |
| ④ BROOKWOOD ESTATES | ⑫ WOODHAVEN |
| ⑤ WILDWOOD TERRACE | ⑬ BELHAVEN PARK |
| ⑥ SHADOWLAWN HEIGHTS | ⑭ REEDBRIDGE / DEARBORN |
| ⑦ TERRY ROAD | ⑮ MCLEOD GARNER |
| ⑧ LAKE RIDGELEA | ⑯ EAST MANOR ESTATES |

500-YEAR FLOOD PLAIN



INSET



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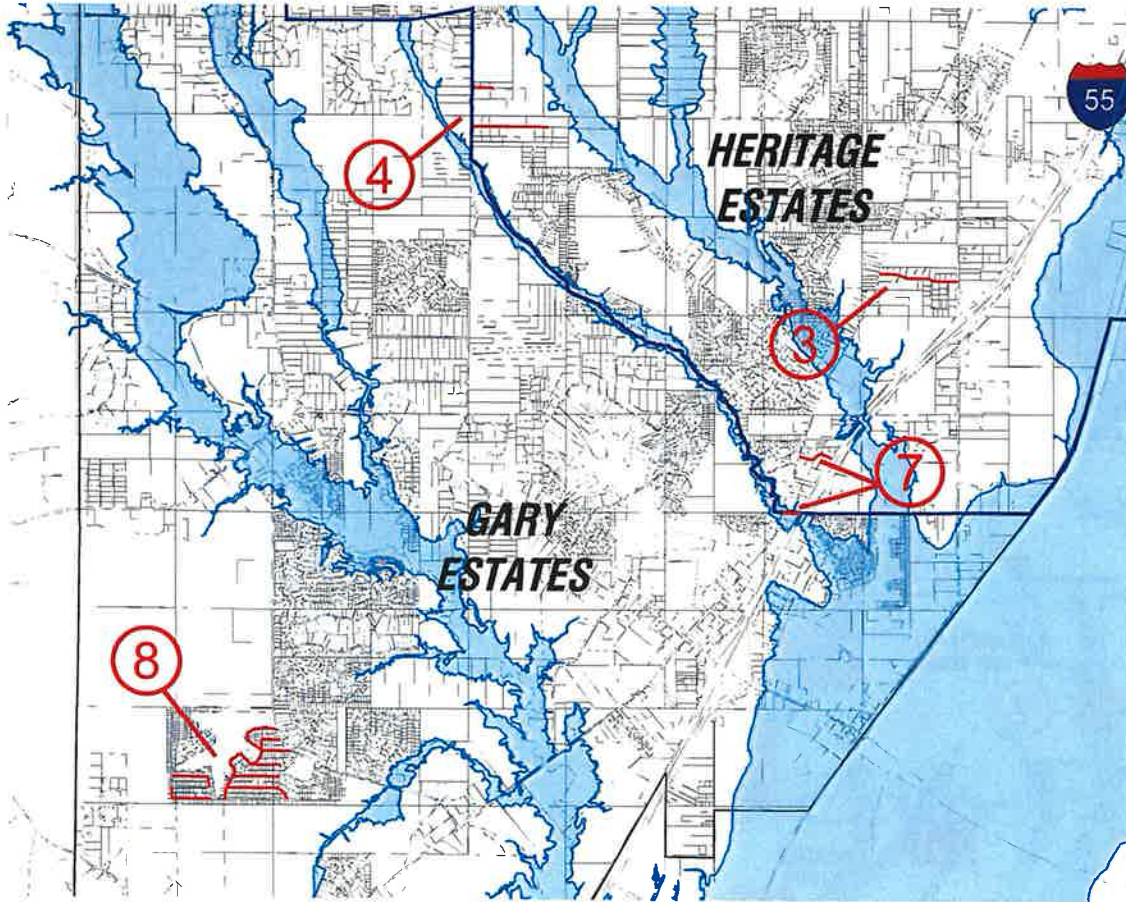
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PROPOSED DISTRIBUTION PLAN - FLOOD ZONE

MAP
NUMBER
12
PROJECT
NUMBER
B-10742



LEGEND

- ③ SOUTHWOOD ESTATES
- ④ BROOKWOOD ESTATES
- ⑦ TERRY ROAD
- ⑧ LAKE RIDGELEA

500-YEAR FLOOD PLAIN



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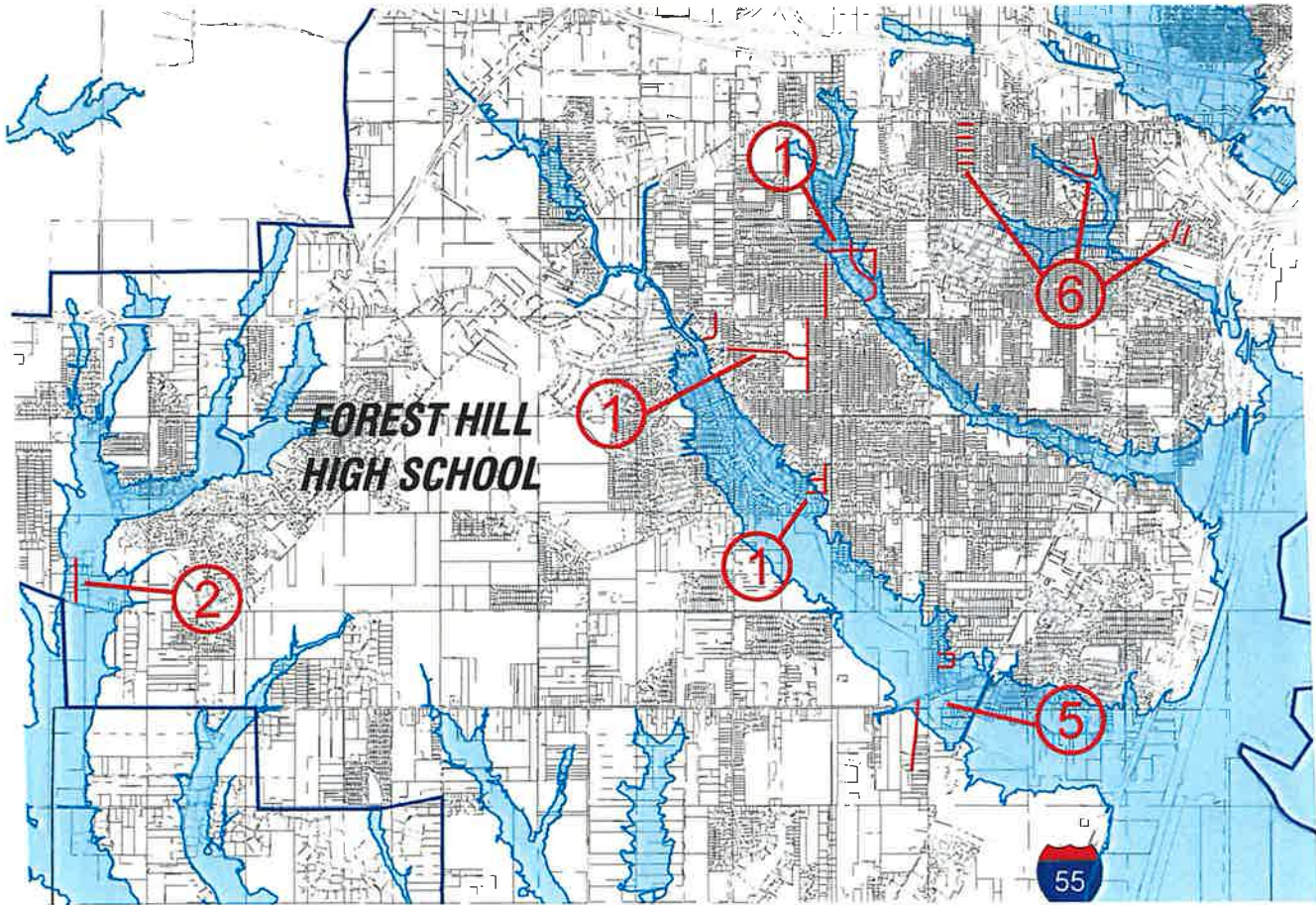
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PROPOSED DISTRIBUTION PLAN - FLOOD ZONE

MAP
NUMBER
13
PROJECT
NUMBER
B-10742



LEGEND

- ① WESTGATE PARK
- ② HIDDEN VALLEY
- ③ WILDWOOD TERRACE
- ④ SHADOWLAWN HEIGHTS

500-YEAR FLOOD PLAIN



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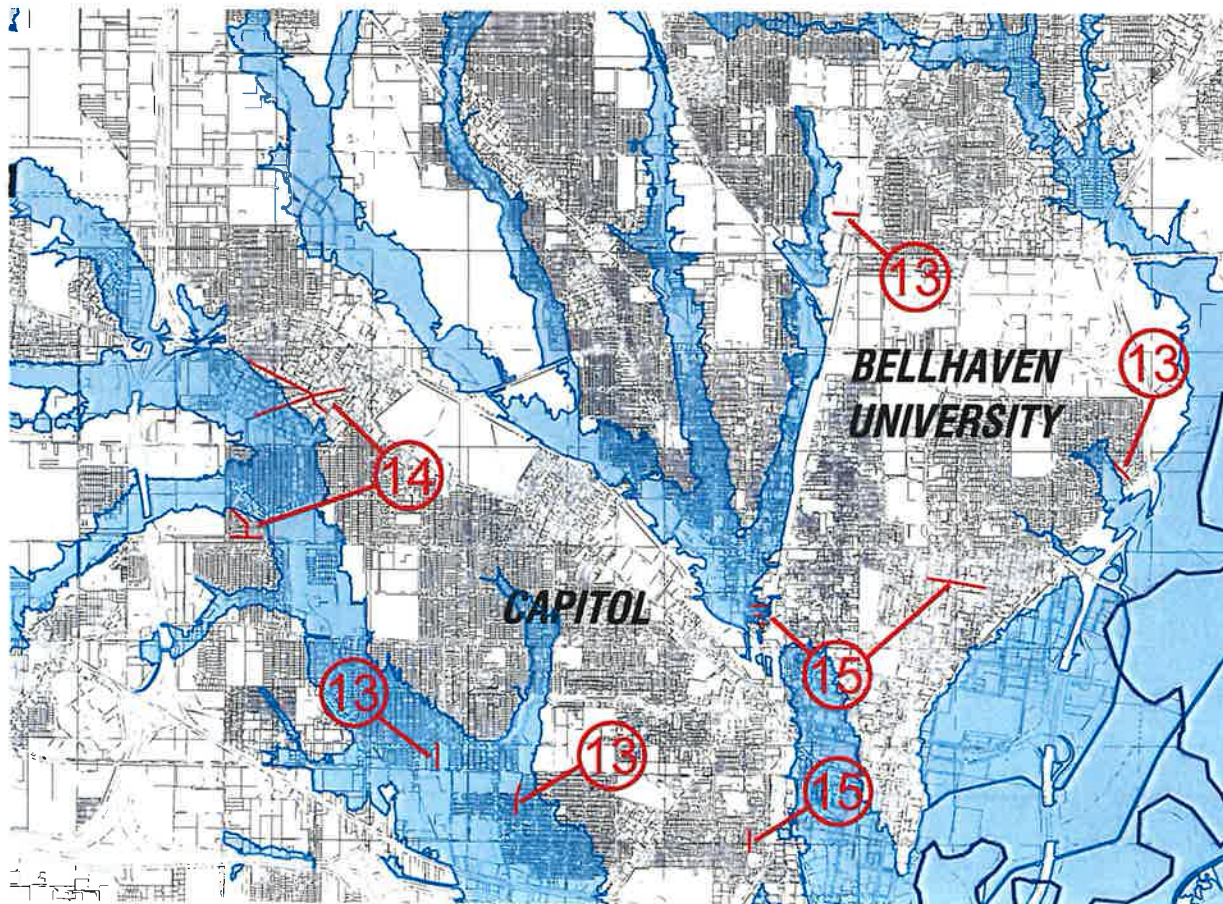
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MAP
NUMBER
14
PROJECT
NUMBER
B-10742



LEGEND

- ⑬ BELHAVEN PARK
- ⑭ REEDBRIDGE / DEARBORN
- ⑮ MCLEOD GARNER

500-YEAR FLOOD PLAIN



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SCALE: 1"=5000'

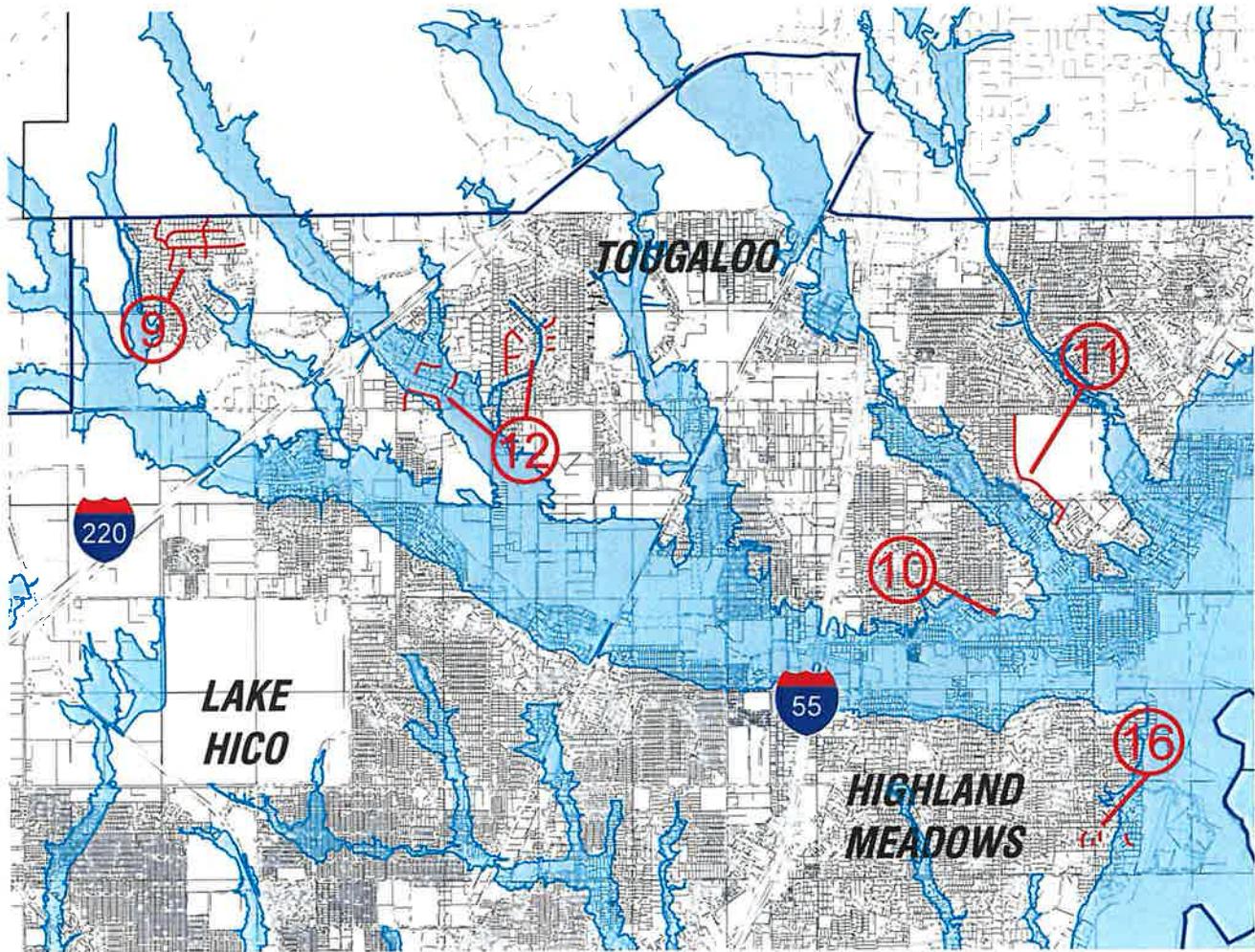
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MAP
NUMBER
15
PROJECT
NUMBER
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LEGEND

- ⑨ RICHWOOD ESTATES
- ⑩ ROLLINGWOOD
- ⑪ COLONIAL COUNTRY CLUB
- ⑫ WOODHAVEN
- ⑯ EAST MANOR ESTATES

500-YEAR FLOOD PLAIN



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SCALE: 1"=5000'

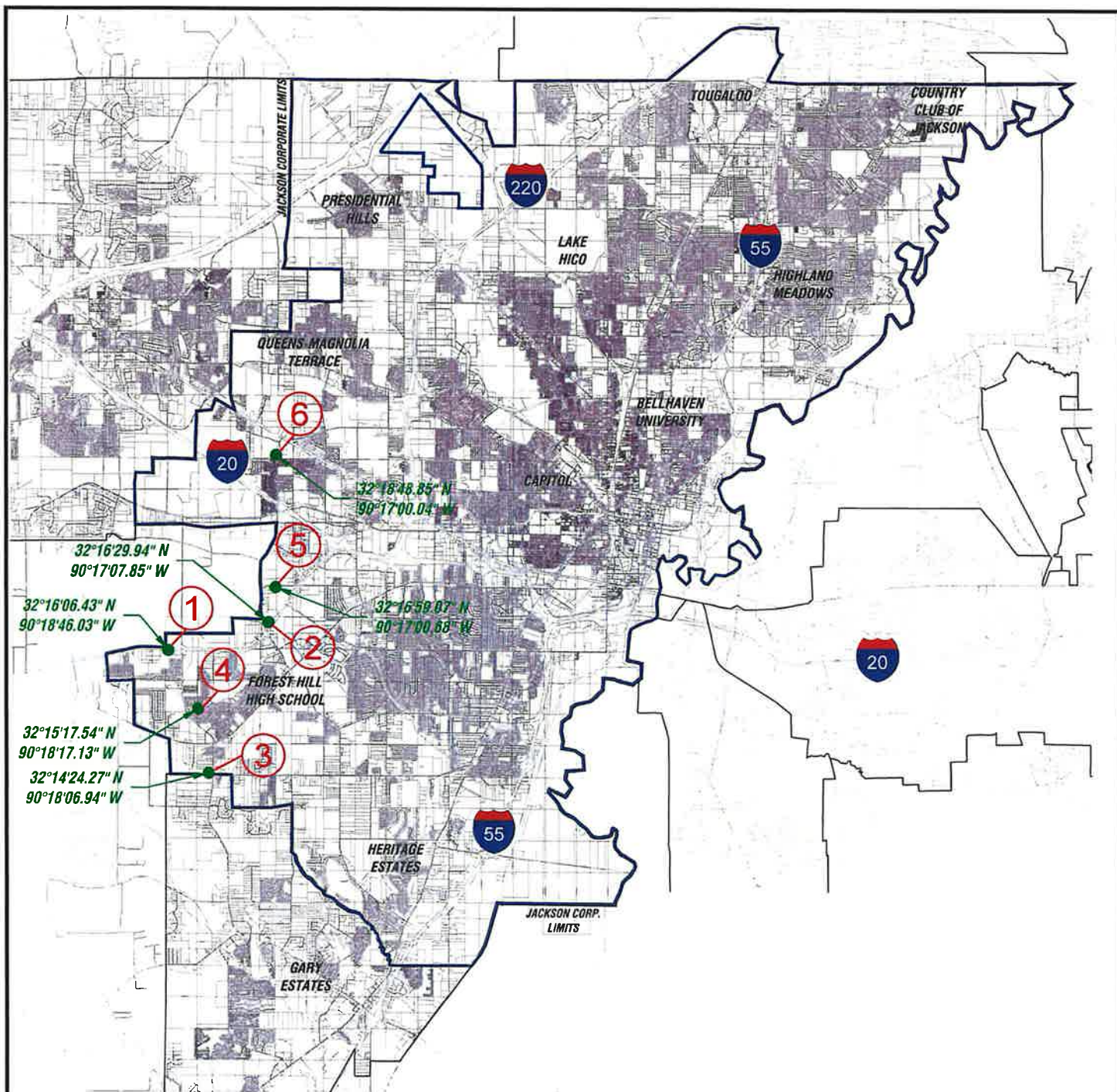
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MAP
 NUMBER
 16
 PROJECT
 NUMBER
 B-10742



LEGEND

- ① HIGHWAY NO. 18 WELL
- ② MADDOX RD. WELL
- ③ SIWELL RD. WELL
- ④ WILLOWOOD WELL
- ⑤ TV RD. WELL
- ⑥ WIGGINS RD. WELL

● WELL LOCATIONS



12000 6000 0 12000 24000



SCALE: 1"=12000'

DATE: 07/22	DRAWN: RTS
CHECKED: MM	SCALE: 12000
REF C/L:	
EQ SURFACE:	
FG SURFACE:	

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PROJECT LOCATION:
CITY OF JACKSON
JACKSON, MS 39286

CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
2024 FACILITIES PLAN ADDENDUM

SHEET CONTENTS:
EXISTING WELL LOCATIONS

MAP
NUMBER
1

PROJECT
NUMBER
B-10742

APPENDIX B
FINANCIAL CAPABILITY
SUMMARY
AND
CURRENT WATER RATE
SCHEDULE

FINANCIAL CAPABILITY SUMMARY

Loan Recipient City of Jackson, DBA JXN Water Date September 2025

Project Description _____

1. Estimated Construction Costs (See DWSIRLF Regs. Appendices A and B for allowable cost information.)

	<u>Total</u>	<u>Eligible</u>
Consolidation	\$ _____	\$ _____
Supply	\$ _____	\$ _____
Treatment	\$ _____	\$ _____
Storage	\$ _____	\$ _____
Distribution	\$ 53,316,935	\$ 53,316,935
Land Acquisitions	\$ _____	\$ _____
Planning & Design Phase Services	\$ 7,847,540	\$ 7,847,540
Construction Phase Services	\$ 5,231,694	\$ 5,231,694
Construction Contingency	\$ 13,079,234	\$ 13,079,234
Other(_____)	\$ _____	\$ _____
Subtotal	\$ 78,475,403	\$ 78,475,403
DWSIRLF Administrative Fee	\$ _____	\$ _____
a. Total	\$ 78,475,403	\$ 78,475,403

2. Estimated Annual Operation, Maintenance and Replacement (OM&R) Costs

Labor	\$ _____	Miscellaneous	\$ _____
Utilities	\$ _____	a. Annual OM&R (new facilities)	\$ _____
Materials	\$ _____	b. Existing OM&R(carried over)	\$ 9,298,975
Outside Services	\$ _____	c. Total OM&R	\$ 9,298,975
Equipment Replacement	\$ _____		

3. Funding Sources

Total Construction Costs (from 1.a)	\$ 78,475,403
(-)DWSIRLF funding	\$ 78,475,403
(-) Grants	\$ _____
(-) Other Loans	\$ _____
(-) Bonds	\$ _____
(-) Other	\$ _____

4. Long-term Financing

Financing Method	Amount	Interest Rate	Term of Maturity	Annual Payment
DWSIRLF Loan	\$78,475,403	%	yrs (up to 20)	\$
Other Loan	\$	%	yrs	\$
Bonds	\$	%	yrs	\$
Other	\$	%	yrs	\$

a. Total \$0

5. Total Estimated Annual Costs

Existing Debt Service	
RUS (formerly FmHA)	\$ 23,400,000
Other	\$
New Facilities Debt Service (from 4.a)	\$ 0
Total Annual O.M.&R (from 2.c)	\$ 9,298,975
a. Total Annual Costs	\$ 32,698,975

6. User Charges

a. Existing Monthly Rates

Usage (1CCF)	Class 1	Class 2	Class 3
First ³⁰ CCF (or flat fee)	\$ 40/Month	\$ 10/Month	\$ 60/Month
0 to 30	6.00 \$/1 CCF	6.00 \$/1 CCF	6.00 \$/1 CCF
30 to 100	12.00 \$/1 CCF	12.00 \$/1 CCF	12.00 \$/1 CCF
Over 100	14.00 \$/1 CCF	14.00 \$/1 CCF	14.00 \$/1 CCF

b. Proposed Monthly Rates (if increase is proposed)

Usage (1000 gal)	Class 1	Class 2	Class 3
First (or flat fee)	\$	\$	\$
to	\$/1000 gal	\$/1000 gal	\$/1000 gal
to	\$/1000 gal	\$/1000 gal	\$/1000 gal
Over	\$/1000 gal	\$/1000 gal	\$/1000 gal

c. Proposed Revenue

<u>Avg. Use (1 CCF/mo)</u>	<u>Avg. Bill (\$/mo)</u>	<u>No. of Users</u>	<u>Revenue (\$/mo)</u>
Class 1 7.36	82.72	39,199	3,242,443
Class 2 7.36	52.72	13,066	688,827
Class 3 10.26	119.69	1,853	221,821
Subtotal			

ANNUAL TOTAL (Revenue Subtotal x 12) See Attachment No.1 98,793,431

7. Source of Funding for Annual Drinking Water Facilities Costs

User Charges (6.c TOTAL)	\$ 98,793,431
Property Taxes	\$
Other ()	\$
Connection Fees	\$
Surcharges	\$
Total (must exceed 5 TOTAL)	\$ 98,793,431

8. Annual Cost Per Household

Total Annual Costs (from 5.a)	\$ 32,698,975
Non-residential Share of Total	
Residential Share of Total	\$32,698,975
Existing Households to be Served	57,735
a. Average Annual Systemwide Cost Per Household	\$566.36

9. High Cost Comparison

a. Annual cost per household (from 8.a)	\$566.36
b. Median household income	\$42,193
c. Percentage (a / b x 100)	1.3%
d. High cost threshold	1.5%
e. Is this a high cost project (Is 9.c greater than 9.d)?	No

APPENDIX C
PROJECT COST ESTIMATE

**JXN WATER - FACILITIES PLAN / ADDENDUM
SUMMARY - OPINION OF PROBABLE COSTS**

**SMALL DIAMETER DISTRIBUTION
PROJECT #**

	CONST. COSTS	CONTINGENCY (25%)	TOTAL CONST. COST	DESIGN PHASE (15%)	CONST. PHASE (10%)	TOTAL EST. COST
2411 / WESTGATE PARK	\$7,829,435	\$1,957,359	\$9,786,794	\$1,174,415	\$782,944	\$11,744,153
2412 / HIDDEN VALLEY	\$425,200	\$106,300	\$531,500	\$63,780	\$42,520	\$637,800
2413 / SOUTHWOOD ESTATES	\$842,375	\$210,594	\$1,052,969	\$126,356	\$84,238	\$1,263,563
2414 / BROOKWOOD ESTATES	\$842,075	\$210,519	\$1,052,594	\$126,311	\$84,208	\$1,263,113
2415 / WILDWOOD TERRACE	\$1,408,750	\$352,188	\$1,760,938	\$211,313	\$140,875	\$2,113,125
2416 / SHADOWLAWN HEIGHTS	\$2,686,300	\$671,575	\$3,357,875	\$402,945	\$268,630	\$4,029,450
2417 / TERRY ROAD	\$536,075	\$134,019	\$670,094	\$80,411	\$53,608	\$804,113
2418 / LAKE RIDGELEA	\$3,639,425	\$909,856	\$4,549,281	\$545,914	\$363,943	\$5,459,138
2419 / RICHWOOD ESTATES	\$2,722,850	\$680,713	\$3,403,563	\$408,428	\$272,285	\$4,084,275
2420 / ROLLINGWOOD	\$4,065,675	\$1,016,419	\$5,082,094	\$609,851	\$406,568	\$6,098,513
2421 / COLONIAL COUNTRY CLUB	\$1,843,100	\$460,775	\$2,303,875	\$276,465	\$184,310	\$2,764,650
2422 / WOODHAVEN	\$3,380,250	\$845,063	\$4,225,313	\$507,038	\$338,025	\$5,070,375
2423 / BELLHAVEN PARK	\$1,615,250	\$403,813	\$2,019,063	\$242,288	\$161,525	\$2,422,875
2424 / REEDBRIDGE/DEERBORN	\$4,004,250	\$1,001,063	\$5,005,313	\$600,638	\$400,425	\$6,006,375
2425 / MCLEOD GARNER	\$2,241,950	\$560,488	\$2,802,438	\$336,293	\$224,195	\$3,362,925
2426 / EAST MANOR ESTATES	\$830,075	\$207,519	\$1,037,594	\$124,511	\$83,008	\$1,245,113
SUB-TOTAL (DISTRIBUTION)	\$38,913,035	\$9,728,259	\$48,641,294	\$5,836,955	\$3,891,304	\$58,369,553

**LARGE DIAMETER TRANSMISSION
PROJECT #**

2324 / WEST/RANKIN (ADJUSTMENT)	\$500,000	\$125,000	\$625,000	\$75,000	\$50,000	\$750,000
2326 / MADDOX/TV ROAD (ADJUSTMENT)	\$3,803,900	\$950,975	\$4,754,875	\$570,585	\$380,390	\$5,705,850
SUB-TOTAL (TRANSMISSION)	\$4,303,900	\$1,075,975	\$5,379,875	\$645,585	\$430,390	\$6,455,850
WATER WELLS REHAB	\$9,100,000	\$2,275,000	\$11,375,000	\$1,365,000	\$910,000	\$13,650,000
GRAND TOTAL ALL PROJECTS	\$52,316,935	\$13,079,234	\$65,396,169	\$7,847,540	\$5,231,694	\$78,475,403



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2411 / WESTGATE PARK / SUMMARY

DATE: 5/28/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MOBILIZATION	1	LS	\$ 360,000.00	\$ 360,000.00
2	MAINTENANCE OF TRAFFIC	1	LS	\$ 180,000.00	\$ 180,000.00
3	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 72,000.00	\$ 72,000.00
4	REMOVAL OF ASPHALT (ALL DEPTHS)	10,080	SY	\$ 50.00	\$ 504,000.00
5	REMOVAL & REPLACEMENT OF CONCRETE CURB & GUTTER	3,580	LF	\$ 100.00	\$ 358,000.00
6	REMOVAL & REPLACEMENT OF CONCRETE DRIVEWAY	900	SY	\$ 200.00	\$ 180,000.00
7	REMOVE & SALVAGE FIRE HYDRANT	16	EA	\$ 1,500.00	\$ 24,000.00
8	4" C-900 WATER MAIN (OPEN CUT)	100	LF	\$ 120.00	\$ 12,000.00
9	6" C-900 WATER MAIN (OPEN CUT)	120	LF	\$ 135.00	\$ 16,200.00
10	8" C-900 WATER MAIN (OPEN CUT)	12,960	LF	\$ 150.00	\$ 1,944,000.00
11	3/4" POLY SERVICE LINE (OPEN CUT)	5,525	LF	\$ 85.00	\$ 469,625.00
12	3/4" POLY SERVICE LINE W 1-1/2" POLY CASING (DIR. BORE)	450	LF	\$ 100.00	\$ 45,000.00
13	WATER METER CONNECTIONS	234	EA	\$ 900.00	\$ 210,600.00
14	4" GATE VALVE ASSEMBLY	7	EA	\$ 2,500.00	\$ 17,500.00
15	6" GATE VALVE ASSEMBLY	3	EA	\$ 3,000.00	\$ 9,000.00
16	8" GATE VALVE ASSEMBLY	19	EA	\$ 4,000.00	\$ 76,000.00
17	FIRE HYDRANT ASSEMBLY	31	EA	\$ 8,000.00	\$ 248,000.00
18	CONNECTION TO EXISTING 8" WATER LINE (COLD TAP)	3	EA	\$ 10,000.00	\$ 30,000.00
19	CONNECTION TO EXISTING 6" WATER LINE (COLD TAP)	4	EA	\$ 9,000.00	\$ 36,000.00
20	CONNECTION TO EXISTING 4" WATER LINE (COLD TAP)	7	EA	\$ 8,000.00	\$ 56,000.00
21	12" X 8" TAPPING SLEEVE & 8" VALVE	4	EA	\$ 12,000.00	\$ 48,000.00
22	10" X 8" TAPPING SLEEVE & 8" VALVE	1	EA	\$ 10,000.00	\$ 10,000.00
23	8" X 8" TAPPING SLEEVE & 8" VALVE	4	EA	\$ 8,000.00	\$ 32,000.00
24	6" X 6" TAPPING SLEEVE & 6" VALVE	5	EA	\$ 6,000.00	\$ 30,000.00
25	CAP EXISTING 6" WATER MAIN	8	EA	\$ 3,000.00	\$ 24,000.00
26	CAP EXISTING 4" WATER MAIN	8	EA	\$ 2,500.00	\$ 20,000.00
27	CAP EXISTING 2" WATER MAIN	6	EA	\$ 1,500.00	\$ 9,000.00
28	CUT, PLUG, & ABANDON EXIST. WATER MAIN	26	EA	\$ 2,000.00	\$ 52,000.00
29	SAW CUT	27,311	LF	\$ 10.00	\$ 273,110.00
30	PAVEMENT TRENCH REPAIR	10,080	SY	\$ 150.00	\$ 1,512,000.00
31	COLD MILLING OF BITUMINOUS PAVEMENT (ALL DEPTHS)	34,980	SY	\$ 5.00	\$ 174,900.00
32	9.5MM, HOT MIX ASPHALT (HMA)	3,895	TON	\$ 200.00	\$ 779,000.00
33	PERMANENT GRASSING (SEEDING)	7	AC	\$ 2,500.00	\$ 17,500.00
CONSTRUCTION COST					\$ 7,829,435.00
CONTINGENCIES (25%)					\$ 1,957,358.75
TOTAL					\$ 9,786,793.75



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2412 / HIDDEN VALLEY

DATE: 4/4/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MOBILIZATION	1	LS	\$ 30,000.00	\$ 30,000.00
2	MAINTENANCE OF TRAFFIC	1	LS	\$ 15,000.00	\$ 15,000.00
3	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 6,000.00	\$ 6,000.00
4	REMOVAL OF ASPHALT (ALL DEPTHS)	50	SY	\$ 50.00	\$ 2,500.00
5	2" C-900 WATER MAIN (OPEN CUT)	20	LF	\$ 75.00	\$ 1,500.00
6	8" C-900 WATER MAIN (OPEN CUT)	1,040	LF	\$ 150.00	\$ 156,000.00
7	3/4" POLY SERVICE LINE (OPEN CUT)	150	LF	\$ 85.00	\$ 12,750.00
8	3/4" POLY SERVICE LINE W/1-1/2" POLY CASING (DIR. BORE)	250	LF	\$ 100.00	\$ 25,000.00
9	8" I.D. HDPE DR-11 WATER MAIN (DIRECTIONAL BORE)	160	LF	\$ 165.00	\$ 26,400.00
10	WATER METER CONNECTIONS	11	EA	\$ 900.00	\$ 9,900.00
11	2" GATE VALVE ASSEMBLY	1	EA	\$ 2,000.00	\$ 2,000.00
12	8" GATE VALVE ASSEMBLY	1	EA	\$ 4,000.00	\$ 4,000.00
13	FIRE HYDRANT ASSEMBLY	2	EA	\$ 8,000.00	\$ 16,000.00
14	8" END OF LINE ASSEMBLY	1	EA	\$ 3,500.00	\$ 3,500.00
15	CONNECTION TO EXISTING 2" WATER LINE (COLD TAP)	1	EA	\$ 2,500.00	\$ 2,500.00
16	16"X 8" TAPPING SLEEVE & 8" VALVE	1	EA	\$ 10,000.00	\$ 10,000.00
17	CAP EXISTING 2" WATER MAIN	1	EA	\$ 1,500.00	\$ 1,500.00
18	CUT, PLUG, & ABANDON EXIST. WATER MAIN	2	EA	\$ 1,200.00	\$ 2,400.00
19	PAVEMENT TRENCH REPAIR	50	SY	\$ 150.00	\$ 7,500.00
20	COLD MILLING OF BITUMINOUS PAVEMENT (ALL DEPTHS)	3,250	SY	\$ 5.00	\$ 16,250.00
21	9.5MM, HOT MIX ASPHALT (HMA)	360	TON	\$ 200.00	\$ 72,000.00
22	PERMANENT GRASSING (SEEDING)	1	AC	\$ 2,500.00	\$ 2,500.00
CONSTRUCTION COST					\$ 425,200.00
CONTINGENCIES (25%)					\$ 106,300.00
TOTAL					\$ 531,500.00



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2413 / SOUTHWOOD ESTATES

DATE: 4/4/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MOBILIZATION	1	LS	\$ 60,000.00	\$ 60,000.00
2	MAINTENANCE OF TRAFFIC	1	LS	\$ 30,000.00	\$ 30,000.00
3	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 12,000.00	\$ 12,000.00
4	REMOVAL OF ASPHALT (ALL DEPTHS)	100	SY	\$ 50.00	\$ 5,000.00
5	REMOVE & SALVAGE FIRE HYDRANT	2	EA	\$ 1,500.00	\$ 3,000.00
6	6" C-900 WATER MAIN (OPEN CUT)	40	LF	\$ 135.00	\$ 5,400.00
7	8" C-900 WATER MAIN (OPEN CUT)	2,000	LF	\$ 150.00	\$ 300,000.00
8	3/4" POLY SERVICE LINE (OPEN CUT)	275	LF	\$ 85.00	\$ 23,375.00
9	3/4" POLY SERVICE LINE W/1-1/2" POLY CASING (DIR. BORE)	600	LF	\$ 100.00	\$ 60,000.00
10	8" I.D. HDPE DR-11 WATER MAIN (DIRECTIONAL BORE)	260	LF	\$ 165.00	\$ 42,900.00
11	WATER METER CONNECTIONS	23	EA	\$ 900.00	\$ 20,700.00
12	6" GATE VALVE ASSEMBLY	2	EA	\$ 3,000.00	\$ 6,000.00
13	8" GATE VALVE ASSEMBLY	1	EA	\$ 4,000.00	\$ 4,000.00
14	FIRE HYDRANT ASSEMBLY	4	EA	\$ 8,000.00	\$ 32,000.00
15	CONNECTION TO EXISTING 6" WATER LINE (COLD TAP)	2	EA	\$ 10,000.00	\$ 20,000.00
16	8" X 8" TAPPING SLEEVE & 8" VALVE	1	EA	\$ 8,000.00	\$ 8,000.00
17	12" X 8" TAPPING SLEEVE & 8" VALVE	1	EA	\$ 10,000.00	\$ 10,000.00
18	CAP EXISTING 4" WATER MAIN	2	EA	\$ 2,500.00	\$ 5,000.00
19	CUT, PLUG, & ABANDON EXIST. WATER MAIN	4	EA	\$ 2,000.00	\$ 8,000.00
20	PAVEMENT TRENCH REPAIR	100	SY	\$ 150.00	\$ 15,000.00
21	COLD MILLING OF BITUMINOUS PAVEMENT (ALL DEPTHS)	6,200	SY	\$ 5.00	\$ 31,000.00
22	9.5MM, HOT MIX ASPHALT (HMA)	680	TON	\$ 200.00	\$ 136,000.00
23	PERMANENT GRASSING (SEEDING)	2	AC	\$ 2,500.00	\$ 5,000.00
CONSTRUCTION COST					\$ 842,375.00
CONTINGENCIES (25%)					\$ 210,593.75
TOTAL					\$ 1,052,968.75



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2415 / WILDWOOD TERRACE / SUMMARY

DATE: 5/28/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MOBILIZATION	1	LS	\$ 60,000.00	\$ 60,000.00
2	MAINTENANCE OF TRAFFIC	1	LS	\$ 10,000.00	\$ 10,000.00
3	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 10,000.00	\$ 10,000.00
4	REMOVAL OF ASPHALT (ALL DEPTHS)	1,900	SY	\$ 50.00	\$ 95,000.00
5	8" C-900 WATER MAIN (OPEN CUT)	3,530	LF	\$ 150.00	\$ 529,500.00
6	3/4" POLY SERVICE LINE (OPEN CUT)	700	LF	\$ 85.00	\$ 59,500.00
7	WATER METER CONNECTIONS	28	EA	\$ 900.00	\$ 25,200.00
8	8" GATE VALVE ASSEMBLY	4	EA	\$ 4,000.00	\$ 16,000.00
9	FIRE HYDRANT ASSEMBLY	5	EA	\$ 8,000.00	\$ 40,000.00
10	12" X 8" TAPPING SLEEVE & 8" VALVE	3	EA	\$ 12,000.00	\$ 36,000.00
11	8" X 8" TAPPING SLEEVE & 8" VALVE	1	EA	\$ 8,000.00	\$ 8,000.00
12	SAW CUT	5,530	LF	\$ 10.00	\$ 55,300.00
13	PAVEMENT TRENCH REPAIR	1,900	SY	\$ 150.00	\$ 285,000.00
14	COLD MILLING OF BITUMINOUS PAVEMENT (ALL DEPTHS)	6,450	SY	\$ 5.00	\$ 32,250.00
15	9.5MM, HOT MIX ASPHALT (HMA)	710	TON	\$ 200.00	\$ 142,000.00
16	PERMANENT GRASSING (SEEDING)	2	AC	\$ 2,500.00	\$ 5,000.00
CONSTRUCTION COST					\$ 1,408,750.00
CONTINGENCIES (25%)					\$ 352,187.50
TOTAL					\$ 1,760,937.50



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2414 / BROOKWOOD ESTATES

DATE: 4/8/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MOBILIZATION	1	LS	\$ 60,000.00	\$ 60,000.00
2	MAINTENANCE OF TRAFFIC	1	LS	\$ 30,000.00	\$ 30,000.00
3	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 12,000.00	\$ 12,000.00
4	REMOVAL OF ASPHALT (ALL DEPTHS)	100	SY	\$ 50.00	\$ 5,000.00
5	8" C-900 WATER MAIN (OPEN CUT)	2,440	LF	\$ 150.00	\$ 366,000.00
6	3/4" POLY SERVICE LINE (OPEN CUT)	225	LF	\$ 85.00	\$ 19,125.00
7	3/4" POLY SERVICE LINE W/1-1/2" POLY CASING (DIR. BORE)	150	LF	\$ 100.00	\$ 15,000.00
8	8" I.D. HDPE DR-11 WATER MAIN (DIRECTIONAL BORE)	160	LF	\$ 165.00	\$ 26,400.00
9	8" C-900 WATER MAIN (IN CASING)	60	LF	\$ 100.00	\$ 6,000.00
10	16" STEEL CASING (BORED)	60	LF	\$ 550.00	\$ 33,000.00
11	WATER METER CONNECTIONS	12	EA	\$ 900.00	\$ 10,800.00
12	FIRE HYDRANT ASSEMBLY	2	EA	\$ 8,000.00	\$ 16,000.00
13	8" END OF LINE ASSEMBLY	1	EA	\$ 3,500.00	\$ 3,500.00
14	12"X 8" TAPPING SLEEVE & 8" VALVE	2	EA	\$ 10,000.00	\$ 20,000.00
15	CAP EXISTING 2" WATER MAIN	2	EA	\$ 1,500.00	\$ 3,000.00
16	CUT, PLUG, & ABANDON EXIST. WATER MAIN	4	EA	\$ 1,200.00	\$ 4,800.00
17	PAVEMENT TRENCH REPAIR	100	SY	\$ 150.00	\$ 15,000.00
18	COLD MILLING OF BITUMINOUS PAVEMENT (ALL DEPTHS)	7,090	SY	\$ 5.00	\$ 35,450.00
19	9.5MM, HOT MIX ASPHALT (HMA)	780	TON	\$ 200.00	\$ 156,000.00
20	PERMANENT GRASSING (SEEDING)	2	AC	\$ 2,500.00	\$ 5,000.00
CONSTRUCTION COST					\$ 842,075.00
CONTINGENCIES (25%)					\$ 210,518.75
TOTAL					\$ 1,052,593.75



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2416 / SHADOWLAWN HEIGHTS / SUMMARY

DATE: 5/28/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MOBILIZATION	1	LS	\$ 90,000.00	\$ 90,000.00
2	MAINTENANCE OF TRAFFIC	1	LS	\$ 35,000.00	\$ 35,000.00
3	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 17,000.00	\$ 17,000.00
4	REMOVAL OF ASPHALT (ALL DEPTHS)	3,940	SY	\$ 50.00	\$ 197,000.00
5	REMOVAL & REPLACEMENT OF CONCRETE CURB & GUTTER	1,140	LF	\$ 100.00	\$ 114,000.00
6	8" C-900 WATER MAIN (OPEN CUT)	4,960	LF	\$ 150.00	\$ 744,000.00
7	3/4" POLY SERVICE LINE (OPEN CUT)	1,850	LF	\$ 85.00	\$ 157,250.00
8	WATER METER CONNECTIONS	74	EA	\$ 900.00	\$ 66,600.00
9	8" GATE VALVE ASSEMBLY	1	EA	\$ 4,000.00	\$ 4,000.00
10	FIRE HYDRANT ASSEMBLY	7	EA	\$ 8,000.00	\$ 56,000.00
11	8" X 8" TAPPING SLEEVE & 8" VALVE	1	EA	\$ 8,000.00	\$ 8,000.00
12	6" X 6" TAPPING SLEEVE & 6" VALVE	14	EA	\$ 6,000.00	\$ 84,000.00
13	CAP EXISTING 2" WATER MAIN	7	EA	\$ 1,500.00	\$ 10,500.00
14	CAP EXISTING 6" WATER MAIN	1	EA	\$ 3,000.00	\$ 3,000.00
15	CUT, PLUG, & ABANDON EXIST. WATER MAIN	12	EA	\$ 2,000.00	\$ 24,000.00
16	SAW CUT	11,720	LF	\$ 10.00	\$ 117,200.00
17	PAVEMENT TRENCH REPAIR	3,940	SY	\$ 150.00	\$ 591,000.00
18	COLD MILLING OF BITUMINOUS PAVEMENT (ALL DEPTHS)	13,250	SY	\$ 5.00	\$ 66,250.00
19	9.5MM, HOT MIX ASPHALT (HMA)	1,470	TON	\$ 200.00	\$ 294,000.00
20	PERMANENT GRASSING (SEEDING)	3	AC	\$ 2,500.00	\$ 7,500.00
CONSTRUCTION COST					\$ 2,686,300.00
CONTINGENCIES (25%)					\$ 671,575.00
TOTAL					\$ 3,357,875.00



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2417 / TERRY ROAD

DATE: 4/8/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MOBILIZATION	1	LS	\$ 30,000.00	\$ 30,000.00
2	MAINTENANCE OF TRAFFIC	1	LS	\$ 15,000.00	\$ 15,000.00
3	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 6,000.00	\$ 6,000.00
4	REMOVAL OF ASPHALT (ALL DEPTHS)	50	SY	\$ 50.00	\$ 2,500.00
5	8" C-900 WATER MAIN (OPEN CUT)	1,220	LF	\$ 150.00	\$ 183,000.00
6	3/4" POLY SERVICE LINE (OPEN CUT)	175	LF	\$ 85.00	\$ 14,875.00
7	3/4" POLY SERVICE LINE W/1-1/2" POLY CASING (DIR. BORE)	350	LF	\$ 100.00	\$ 35,000.00
8	8" I.D. HDPE DR-11 WATER MAIN (DIRECTIONAL BORE)	140	LF	\$ 165.00	\$ 23,100.00
9	WATER METER CONNECTIONS	12	EA	\$ 900.00	\$ 10,800.00
10	8" GATE VALVE ASSEMBLY	6	EA	\$ 4,000.00	\$ 24,000.00
11	FIRE HYDRANT ASSEMBLY	4	EA	\$ 8,000.00	\$ 32,000.00
12	8" END OF LINE ASSEMBLY	4	EA	\$ 3,500.00	\$ 14,000.00
13	12" X 8" TAPPING SLEEVE & 8" VALVE	2	EA	\$ 10,000.00	\$ 20,000.00
14	CAP EXISTING 2" WATER MAIN	2	EA	\$ 1,500.00	\$ 3,000.00
15	CUT, PLUG, & ABANDON EXIST. WATER MAIN	4	EA	\$ 1,200.00	\$ 4,800.00
16	PAVEMENT TRENCH REPAIR	50	SY	\$ 150.00	\$ 7,500.00
17	COLD MILLING OF BITUMINOUS PAVEMENT (ALL DEPTHS)	4,000	SY	\$ 5.00	\$ 20,000.00
18	9.5MM, HOT MIX ASPHALT (HMA)	440	TON	\$ 200.00	\$ 88,000.00
19	PERMANENT GRASSING (SEEDING)	1	AC	\$ 2,500.00	\$ 2,500.00
CONSTRUCTION COST					\$ 536,075.00
CONTINGENCIES (25%)					\$ 134,018.75
TOTAL					\$ 670,093.75



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2418 / LAKE RIDGELEA

DATE: 4/9/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MOBILIZATION	1	LS	\$ 200,000.00	\$ 200,000.00
2	MAINTENANCE OF TRAFFIC	1	LS	\$ 50,000.00	\$ 50,000.00
3	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 25,000.00	\$ 25,000.00
4	REMOVAL OF ASPHALT (ALL DEPTHS)	500	SY	\$ 50.00	\$ 25,000.00
5	2" C-900 WATER MAIN (OPEN CUT)	30	LF	\$ 75.00	\$ 2,250.00
6	4" C-900 WATER MAIN (OPEN CUT)	60	LF	\$ 120.00	\$ 7,200.00
7	8" C-900 WATER MAIN (OPEN CUT)	9,230	LF	\$ 150.00	\$ 1,384,500.00
8	3/4" POLY SERVICE LINE (OPEN CUT)	1,575	LF	\$ 85.00	\$ 133,875.00
9	3/4" POLY SERVICE LINE W/1-1/2" POLY CASING (DIR. BORE)	2,800	LF	\$ 100.00	\$ 280,000.00
10	8" I.D. HDPE DR-11 WATER MAIN (DIRECTIONAL BORE)	1,000	LF	\$ 165.00	\$ 165,000.00
11	8" C-900 WATER MAIN (IN CASING)	100	LF	\$ 100.00	\$ 10,000.00
12	16" STEEL CASING	100	LF	\$ 550.00	\$ 55,000.00
13	WATER METER CONNECTIONS	119	EA	\$ 900.00	\$ 107,100.00
14	2" GATE VALVE ASSEMBLY	1	EA	\$ 2,000.00	\$ 2,000.00
15	4" GATE VALVE	1	EA	\$ 2,500.00	\$ 2,500.00
16	8" GATE VALVE ASSEMBLY	10	EA	\$ 4,000.00	\$ 40,000.00
17	FIRE HYDRANT ASSEMBLY	18	EA	\$ 8,000.00	\$ 144,000.00
18	CONNECTION TO EXISTING 2" WATER LINE (COLD TAP)	2	EA	\$ 2,500.00	\$ 5,000.00
19	CONNECTION TO EXISTING 4" WATER LINE (COLD TAP)	5	EA	\$ 4,500.00	\$ 22,500.00
20	12" X 8" TAPPING SLEEVE & 8" VALVE	3	EA	\$ 10,000.00	\$ 30,000.00
21	8" X 8" TAPPING SLEEVE & 8" VALVE	2	EA	\$ 8,000.00	\$ 16,000.00
22	6" X 6" TAPPING SLEEVE & 6" VALVE	6	EA	\$ 6,000.00	\$ 36,000.00
23	CAP EXISTING 2" WATER MAIN	9	EA	\$ 1,500.00	\$ 13,500.00
24	CAP EXISTING 4" WATER MAIN	1	EA	\$ 2,500.00	\$ 2,500.00
25	CUT, PLUG, & ABANDON EXIST. WATER MAIN	15	EA	\$ 1,200.00	\$ 18,000.00
26	SAW CUT	1,500	LF	\$ 10.00	\$ 15,000.00
27	PAVEMENT TRENCH REPAIR	500	SY	\$ 150.00	\$ 75,000.00
28	COLD MILLING OF BITUMINOUS PAVEMENT (ALL DEPTHS)	28,000	SY	\$ 5.00	\$ 140,000.00
29	9.5MM, HOT MIX ASPHALT (HMA)	3,100	TON	\$ 200.00	\$ 620,000.00
30	PERMANENT GRASSING (SEEDING)	5	AC	\$ 2,500.00	\$ 12,500.00
CONSTRUCTION COST					\$ 3,639,425.00
CONTINGENCIES (25%)					\$ 909,856.25
TOTAL					\$ 4,549,281.25



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2419 / RICHWOOD ESTATES

DATE: 4/9/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MOBILIZATION	1	LS	\$ 200,000.00	\$ 200,000.00
2	MAINTENANCE OF TRAFFIC	1	LS	\$ 50,000.00	\$ 50,000.00
3	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 25,000.00	\$ 25,000.00
4	REMOVAL OF ASPHALT (ALL DEPTHS)	500	SY	\$ 50.00	\$ 25,000.00
5	REMOVE & SALVAGE FIRE HYDRANT	16	EA	\$ 1,500.00	\$ 24,000.00
6	8" C-900 WATER MAIN (OPEN CUT)	4,875	LF	\$ 150.00	\$ 731,250.00
7	3/4" POLY SERVICE LINE (OPEN CUT)	1,300	LF	\$ 85.00	\$ 110,500.00
8	3/4" POLY SERVICE LINE W/1-1/2" POLY CASING (DIR. BORE)	2,300	LF	\$ 100.00	\$ 230,000.00
9	8" I.D. HDPE DR-11 WATER MAIN (DIRECTIONAL BORE)	2,340	LF	\$ 165.00	\$ 386,100.00
10	8" C-900 WATER MAIN (IN CASING)	30	LF	\$ 100.00	\$ 3,000.00
11	16" STEEL CASING	30	LF	\$ 550.00	\$ 16,500.00
12	WATER METER CONNECTIONS	98	EA	\$ 900.00	\$ 88,200.00
13	8" GATE VALVE ASSEMBLY	10	EA	\$ 4,000.00	\$ 40,000.00
14	FIRE HYDRANT ASSEMBLY	12	EA	\$ 8,000.00	\$ 96,000.00
15	CONNECTION TO EXISTING 4" WATER LINE (COLD TAP)	1	EA	\$ 4,500.00	\$ 4,500.00
16	16" X 8" TAPPING SLEEVE & 8" VALVE	1	EA	\$ 12,000.00	\$ 12,000.00
17	12" X 8" TAPPING SLEEVE & 8" VALVE	2	EA	\$ 10,000.00	\$ 20,000.00
18	6" X 6" TAPPING SLEEVE & 6" VALVE	1	EA	\$ 6,000.00	\$ 6,000.00
19	CAP EXISTING 4" WATER MAIN	3	EA	\$ 2,500.00	\$ 7,500.00
20	CUT, PLUG, & ABANDON EXIST. WATER MAIN	4	EA	\$ 1,200.00	\$ 4,800.00
21	SAW CUT	1,500	LF	\$ 10.00	\$ 15,000.00
22	PAVEMENT TRENCH REPAIR	500	SY	\$ 150.00	\$ 75,000.00
23	COLD MILLING OF BITUMINOUS PAVEMENT (ALL DEPTHS)	20,000	SY	\$ 5.00	\$ 100,000.00
24	9.5MM, HOT MIX ASPHALT (HMA)	2,200	TON	\$ 200.00	\$ 440,000.00
25	PERMANENT GRASSING (SEEDING)	5	AC	\$ 2,500.00	\$ 12,500.00
CONSTRUCTION COST					\$ 2,722,850.00
CONTINGENCIES (25%)					\$ 680,712.50
TOTAL					\$ 3,403,562.50



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2421 - COLONIAL COUNTRY CLUB

DATE: 4/28/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MOBILIZATION	1	LS	\$ 125,000.00	\$ 125,000.00
2	MAINTENANCE OF TRAFFIC	1	LS	\$ 25,000.00	\$ 25,000.00
3	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 15,000.00	\$ 15,000.00
4	REMOVAL OF ASPHALT (ALL DEPTHS)	2,520	SY	\$ 50.00	\$ 126,000.00
5	REMOVE & SALVAGE FIRE HYDRANT	2	EA	\$ 1,500.00	\$ 3,000.00
6	8" C-900 WATER MAIN (OPEN CUT)	3,780	LF	\$ 150.00	\$ 567,000.00
7	3/4" POLY SERVICE LINE (OPEN CUT)	900	LF	\$ 85.00	\$ 76,500.00
8	WATER METER CONNECTIONS	30	EA	\$ 900.00	\$ 27,000.00
9	8" GATE VALVE ASSEMBLY	7	EA	\$ 4,000.00	\$ 28,000.00
10	FIRE HYDRANT ASSEMBLY	6	EA	\$ 8,000.00	\$ 48,000.00
11	CONNECTION TO EXISTING 8" WATER LINE (COLD TAP)	1	EA	\$ 10,000.00	\$ 10,000.00
12	12" X 8" TAPPING SLEEVE & 8" VALVE	1	EA	\$ 10,000.00	\$ 10,000.00
13	8" X 8" TAPPING SLEEVE & 8" VALVE	1	EA	\$ 8,000.00	\$ 8,000.00
14	6" X 6" TAPPING SLEEVE & 6" VALVE	1	EA	\$ 6,000.00	\$ 6,000.00
15	CAP EXISTING 4" WATER MAIN	4	EA	\$ 2,500.00	\$ 10,000.00
16	CAP EXISTING 2" WATER MAIN	1	EA	\$ 500.00	\$ 500.00
17	CUT, PLUG, & ABANDON EXIST. WATER MAIN	5	EA	\$ 1,200.00	\$ 6,000.00
18	SAW CUT	9,360	LF	\$ 10.00	\$ 93,600.00
19	PAVEMENT TRENCH REPAIR	2,520	SY	\$ 150.00	\$ 378,000.00
20	COLD MILLING OF BITUMINOUS PAVEMENT (ALL DEPTHS)	10,100	SY	\$ 5.00	\$ 50,500.00
21	9.5MM, HOT MIX ASPHALT (HMA)	1,125	TON	\$ 200.00	\$ 225,000.00
22	PERMANENT GRASSING (SEEDING)	2	AC	\$ 2,500.00	\$ 5,000.00
CONSTRUCTION COST					\$ 1,843,100.00
CONTINGENCIES (25%)					\$ 460,775.00
TOTAL					\$ 2,303,875.00



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2420 / ROLLINGWOOD

DATE: 4/25/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MOBILIZATION	1	LS	\$ 200,000.00	\$ 200,000.00
2	MAINTENANCE OF TRAFFIC	1	LS	\$ 50,000.00	\$ 50,000.00
3	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 25,000.00	\$ 25,000.00
4	REMOVAL OF ASPHALT (ALL DEPTHS)	300	SY	\$ 50.00	\$ 15,000.00
5	REMOVAL AND REPLACEMENT OF CONCRETE SIDEWALK	500	SY	\$ 250.00	\$ 125,000.00
6	REMOVAL AND REPLACEMENT OF CONCRETE DRIVEWAY	3,100	SY	\$ 200.00	\$ 620,000.00
7	REMOVE & SALVAGE FIRE HYDRANT	14	EA	\$ 1,500.00	\$ 21,000.00
8	8" C-900 WATER MAIN (OPEN CUT)	9,360	LF	\$ 150.00	\$ 1,404,000.00
9	3/4" POLY SERVICE LINE (OPEN CUT)	1,725	LF	\$ 85.00	\$ 146,625.00
10	3/4" POLY SERVICE LINE W/1-1/2" POLY CASING (DIR. BORE)	1,550	LF	\$ 100.00	\$ 155,000.00
11	8" I.D. HDPE DR-11 WATER MAIN (DIRECTIONAL BORE)	350	LF	\$ 165.00	\$ 57,750.00
12	WATER METER CONNECTIONS	93	EA	\$ 900.00	\$ 83,700.00
13	8" GATE VALVE ASSEMBLY	24	EA	\$ 4,000.00	\$ 96,000.00
14	FIRE HYDRANT ASSEMBLY	12	EA	\$ 8,000.00	\$ 96,000.00
15	CONNECTION TO EXISTING 4" WATER LINE (COLD TAP)	2	EA	\$ 4,500.00	\$ 9,000.00
16	16" X 8" TAPPING SLEEVE & 8" VALVE	1	EA	\$ 12,000.00	\$ 12,000.00
17	12" X 8" TAPPING SLEEVE & 8" VALVE	2	EA	\$ 10,000.00	\$ 20,000.00
18	CAP EXISTING 6" WATER MAIN	6	EA	\$ 3,000.00	\$ 18,000.00
19	CAP EXISTING 4" WATER MAIN	6	EA	\$ 2,500.00	\$ 15,000.00
20	CUT, PLUG, & ABANDON EXIST. WATER MAIN	12	EA	\$ 1,200.00	\$ 14,400.00
21	SAW CUT	900	LF	\$ 10.00	\$ 9,000.00
22	PAVEMENT TRENCH REPAIR	300	SY	\$ 150.00	\$ 45,000.00
23	COLD MILLING OF BITUMINOUS PAVEMENT (ALL DEPTHS)	23,300	SY	\$ 5.00	\$ 116,500.00
24	9.5MM, HOT MIX ASPHALT (HMA)	2,560	TON	\$ 200.00	\$ 512,000.00
25	SOLID SODDING	12,480	SY	\$ 15.00	\$ 187,200.00
26	PERMANENT GRASSING (SEEDING)	5	AC	\$ 2,500.00	\$ 12,500.00
CONSTRUCTION COST					\$ 4,065,675.00
CONTINGENCIES (25%)					\$ 1,016,418.75
TOTAL					\$ 5,082,093.75



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2422 / WOODHAVEN

DATE: 5/1/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MOBILIZATION	1	LS	\$ 200,000.00	\$ 200,000.00
2	MAINTENANCE OF TRAFFIC	1	LS	\$ 50,000.00	\$ 50,000.00
3	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 25,000.00	\$ 25,000.00
4	REMOVAL OF ASPHALT (ALL DEPTHS)	4,700	SY	\$ 50.00	\$ 235,000.00
5	REMOVAL & REPLACEMENT OF CONCRETE CURB & GUTTER	1,240	LF	\$ 100.00	\$ 124,000.00
6	8" C-900 WATER MAIN (OPEN CUT)	6,065	LF	\$ 150.00	\$ 909,750.00
7	3/4" POLY SERVICE LINE (OPEN CUT)	2,000	LF	\$ 85.00	\$ 170,000.00
8	WATER METER CONNECTIONS	80	EA	\$ 900.00	\$ 72,000.00
9	8" GATE VALVE ASSEMBLY	8	EA	\$ 4,000.00	\$ 32,000.00
10	FIRE HYDRANT ASSEMBLY	19	EA	\$ 8,000.00	\$ 152,000.00
11	8" END OF LINE ASSEMBLY	6	EA	\$ 3,500.00	\$ 21,000.00
12	CONNECTION TO EXISTING 4" WATER LINE (COLD TAP)	3	EA	\$ 8,000.00	\$ 24,000.00
13	6" X 6" TAPPING SLEEVE & 6" VALVE	10	EA	\$ 6,000.00	\$ 60,000.00
14	CAP EXISTING 4" WATER MAIN	9	EA	\$ 2,500.00	\$ 22,500.00
15	CAP EXISTING 3" WATER MAIN	2	EA	\$ 2,000.00	\$ 4,000.00
16	CAP EXISTING 2" WATER MAIN	1	EA	\$ 1,500.00	\$ 1,500.00
17	CUT, PLUG, & ABANDON EXIST. WATER MAIN	12	EA	\$ 2,000.00	\$ 24,000.00
18	SAW CUT	10,000	LF	\$ 10.00	\$ 100,000.00
19	PAVEMENT TRENCH REPAIR	4,700	SY	\$ 150.00	\$ 705,000.00
20	COLD MILLING OF BITUMINOUS PAVEMENT (ALL DEPTHS)	16,200	SY	\$ 5.00	\$ 81,000.00
21	9.5MM, HOT MIX ASPHALT (HMA)	1,800	TON	\$ 200.00	\$ 360,000.00
22	PERMANENT GRASSING (SEEDING)	3	AC	\$ 2,500.00	\$ 7,500.00
CONSTRUCTION COST					\$ 3,380,250.00
CONTINGENCIES (25%)					\$ 845,062.50
TOTAL					\$ 4,225,312.50



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2423 / BELLHAVEN PARK

DATE: 5/16/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MOBILIZATION	1	LS	\$ 75,000.00	\$ 75,000.00
2	MAINTENANCE OF TRAFFIC	1	LS	\$ 25,000.00	\$ 25,000.00
3	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 15,000.00	\$ 15,000.00
4	REMOVAL OF ASPHALT (ALL DEPTHS)	2,225	SY	\$ 50.00	\$ 111,250.00
5	REMOVAL & REPLACEMENT OF CONCRETE CURB & GUTTER	400	LF	\$ 100.00	\$ 40,000.00
6	8" C-900 WATER MAIN (OPEN CUT)	2,825	LF	\$ 150.00	\$ 423,750.00
7	3/4" POLY SERVICE LINE (OPEN CUT)	1,000	LF	\$ 85.00	\$ 85,000.00
8	WATER METER CONNECTIONS	40	EA	\$ 900.00	\$ 36,000.00
9	FIRE HYDRANT ASSEMBLY	8	EA	\$ 8,000.00	\$ 64,000.00
10	24" X 8" TAPPING SLEEVE & 8" VALVE	1	EA	\$ 36,000.00	\$ 36,000.00
11	12" X 8" TAPPING SLEEVE & 8" VALVE	2	EA	\$ 12,000.00	\$ 24,000.00
12	10" X 8" TAPPING SLEEVE & 8" VALVE	2	EA	\$ 10,000.00	\$ 20,000.00
13	6" X 6" TAPPING SLEEVE & 6" VALVE	4	EA	\$ 6,000.00	\$ 24,000.00
14	CAP EXISTING 4" WATER MAIN	2	EA	\$ 2,500.00	\$ 5,000.00
15	CAP EXISTING 2" WATER MAIN	4	EA	\$ 1,500.00	\$ 6,000.00
16	CUT, PLUG, & ABANDON EXIST. WATER MAIN	6	EA	\$ 2,000.00	\$ 12,000.00
17	SAW CUT	6,650	LF	\$ 10.00	\$ 66,500.00
18	PAVEMENT TRENCH REPAIR	2,225	SY	\$ 150.00	\$ 333,750.00
19	COLD MILLING OF BITUMINOUS PAVEMENT (ALL DEPTHS)	7,600	SY	\$ 5.00	\$ 38,000.00
20	9.5MM, HOT MIX ASPHALT (HMA)	850	TON	\$ 200.00	\$ 170,000.00
21	PERMANENT GRASSING (SEEDING)	2	AC	\$ 2,500.00	\$ 5,000.00
CONSTRUCTION COST					\$ 1,615,250.00
CONTINGENCIES (25%)					\$ 403,812.50
TOTAL					\$ 2,019,062.50



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2424 / REEDBRIDGE/DEERBORN

DATE: 5/27/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MOBILIZATION	1	LS	\$ 200,000.00	\$ 200,000.00
2	MAINTENANCE OF TRAFFIC	1	LS	\$ 50,000.00	\$ 50,000.00
3	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 25,000.00	\$ 25,000.00
4	REMOVAL OF ASPHALT (ALL DEPTHS)	5,500	SY	\$ 50.00	\$ 275,000.00
5	REMOVAL & REPLACEMENT OF CONCRETE CURB & GUTTER	2,200	LF	\$ 100.00	\$ 220,000.00
6	8" C-900 WATER MAIN (OPEN CUT)	6,930	LF	\$ 150.00	\$ 1,039,500.00
7	6" C-900 WATER MAIN (OPEN CUT)	100	LF	\$ 135.00	\$ 13,500.00
8	3/4" POLY SERVICE LINE (OPEN CUT)	2,750	LF	\$ 85.00	\$ 233,750.00
9	WATER METER CONNECTIONS	110	EA	\$ 900.00	\$ 99,000.00
10	6" GATE VALVE ASSEMBLY	7	EA	\$ 3,000.00	\$ 21,000.00
11	8" GATE VALVE ASSEMBLY	10	EA	\$ 4,000.00	\$ 40,000.00
12	FIRE HYDRANT ASSEMBLY	14	EA	\$ 8,000.00	\$ 112,000.00
13	CONNECTION TO EXISTING 6" WATER LINE (COLD TAP)	7	EA	\$ 10,000.00	\$ 70,000.00
14	12" X 8" TAPPING SLEEVE & 8" VALVE	2	EA	\$ 12,000.00	\$ 24,000.00
15	8" X 8" TAPPING SLEEVE & 8" VALVE	1	EA	\$ 10,000.00	\$ 10,000.00
16	6" X 6" TAPPING SLEEVE & 6" VALVE	4	EA	\$ 6,000.00	\$ 24,000.00
17	CAP EXISTING 6" WATER MAIN	2	EA	\$ 3,000.00	\$ 6,000.00
18	CAP EXISTING 4" WATER MAIN	6	EA	\$ 2,500.00	\$ 15,000.00
19	CAP EXISTING 2" WATER MAIN	3	EA	\$ 1,500.00	\$ 4,500.00
20	CUT, PLUG, & ABANDON EXIST. WATER MAIN	11	EA	\$ 2,000.00	\$ 22,000.00
21	SAW CUT	16,500	LF	\$ 10.00	\$ 165,000.00
22	PAVEMENT TRENCH REPAIR	5,500	SY	\$ 150.00	\$ 825,000.00
23	COLD MILLING OF BITUMINOUS PAVEMENT (ALL DEPTHS)	18,500	SY	\$ 5.00	\$ 92,500.00
24	9.5MM, HOT MIX ASPHALT (HMA)	2,050	TON	\$ 200.00	\$ 410,000.00
25	PERMANENT GRASSING (SEEDING)	3	AC	\$ 2,500.00	\$ 7,500.00
CONSTRUCTION COST					\$ 4,004,250.00
CONTINGENCIES (25%)					\$ 1,001,062.50
TOTAL					\$ 5,005,312.50



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2425 / MCLEOD GARNER

DATE: 5/27/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MOBILIZATION	1	LS	\$ 125,000.00	\$ 125,000.00
2	MAINTENANCE OF TRAFFIC	1	LS	\$ 25,000.00	\$ 25,000.00
3	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 15,000.00	\$ 15,000.00
4	REMOVAL OF ASPHALT (ALL DEPTHS)	3,050	SY	\$ 50.00	\$ 152,500.00
5	REMOVAL & REPLACEMENT OF CONCRETE CURB & GUTTER	840	LF	\$ 100.00	\$ 84,000.00
6	8" C-900 WATER MAIN (OPEN CUT)	3,500	LF	\$ 150.00	\$ 525,000.00
7	6" C-900 WATER MAIN (OPEN CUT)	40	LF	\$ 135.00	\$ 5,400.00
8	3/4" POLY SERVICE LINE (OPEN CUT)	1,050	LF	\$ 85.00	\$ 89,250.00
9	WATER METER CONNECTIONS	42	EA	\$ 900.00	\$ 37,800.00
10	8" GATE VALVE ASSEMBLY	7	EA	\$ 4,000.00	\$ 28,000.00
11	FIRE HYDRANT ASSEMBLY	8	EA	\$ 8,000.00	\$ 64,000.00
12	CONNECTION TO EXISTING 4" WATER LINE (COLD TAP)	3	EA	\$ 8,000.00	\$ 24,000.00
13	10" X 8" TAPPING SLEEVE & 8" VALVE	4	EA	\$ 10,000.00	\$ 40,000.00
14	8" X 8" TAPPING SLEEVE & 8" VALVE	1	EA	\$ 8,000.00	\$ 8,000.00
15	6" X 6" TAPPING SLEEVE & 6" VALVE	4	EA	\$ 6,000.00	\$ 24,000.00
16	CAP EXISTING 6" WATER MAIN	6	EA	\$ 3,000.00	\$ 18,000.00
17	CAP EXISTING 4" WATER MAIN	8	EA	\$ 2,500.00	\$ 20,000.00
18	CUT, PLUG, & ABANDON EXIST. WATER MAIN	14	EA	\$ 2,000.00	\$ 28,000.00
19	SAW CUT	9,100	LF	\$ 10.00	\$ 91,000.00
20	PAVEMENT TRENCH REPAIR	3,050	SY	\$ 150.00	\$ 457,500.00
21	COLD MILLING OF BITUMINOUS PAVEMENT (ALL DEPTHS)	14,000	SY	\$ 5.00	\$ 70,000.00
22	9.5MM, HOT MIX ASPHALT (HMA)	1,540	TON	\$ 200.00	\$ 308,000.00
23	PERMANENT GRASSING (SEEDING)	1	AC	\$ 2,500.00	\$ 2,500.00
CONSTRUCTION COST					\$ 2,241,950.00
CONTINGENCIES (25%)					\$ 560,487.50
TOTAL					\$ 2,802,437.50



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2426 / EAST MANOR ESTATES

DATE: 5/28/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MOBILIZATION	1	LS	\$ 30,000.00	\$ 30,000.00
2	MAINTENANCE OF TRAFFIC	1	LS	\$ 15,000.00	\$ 15,000.00
3	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 6,000.00	\$ 6,000.00
4	REMOVAL OF ASPHALT (ALL DEPTHS)	1,200	SY	\$ 50.00	\$ 60,000.00
5	8" C-900 WATER MAIN (OPEN CUT)	1,450	LF	\$ 150.00	\$ 217,500.00
6	3/4" POLY SERVICE LINE (OPEN CUT)	700	LF	\$ 85.00	\$ 59,500.00
7	WATER METER CONNECTIONS	28	EA	\$ 900.00	\$ 25,200.00
8	FIRE HYDRANT ASSEMBLY	4	EA	\$ 8,000.00	\$ 32,000.00
9	8" END OF LINE ASSEMBLY	5	EA	\$ 3,500.00	\$ 17,500.00
10	6" X 6" TAPPING SLEEVE & 6" VALVE	5	EA	\$ 6,000.00	\$ 30,000.00
11	CAP EXISTING 2" WATER MAIN	5	EA	\$ 1,500.00	\$ 7,500.00
12	CUT, PLUG, & ABANDON EXIST. WATER MAIN	5	EA	\$ 1,200.00	\$ 6,000.00
13	SAW CUT	3,600	LF	\$ 10.00	\$ 36,000.00
14	PAVEMENT TRENCH REPAIR	1,200	SY	\$ 150.00	\$ 180,000.00
15	COLD MILLING OF BITUMINOUS PAVEMENT (ALL DEPTHS)	3,875	SY	\$ 5.00	\$ 19,375.00
16	9.5MM, HOT MIX ASPHALT (HMA)	430	TON	\$ 200.00	\$ 86,000.00
17	PERMANENT GRASSING (SEEDING)	1	AC	\$ 2,500.00	\$ 2,500.00
CONSTRUCTION COST					\$ 830,075.00
CONTINGENCIES (25%)					\$ 207,518.75
TOTAL					\$ 1,037,593.75



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2324 / REVISION #1 FOR ADDENDUM

DATE: 10/1/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MOBILIZATION	1	LS	\$ 300,000.00	\$ 300,000.00
2	MAINTENANCE OF TRAFFIC	1	LS	\$ 300,000.00	\$ 300,000.00
3	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 100,000.00	\$ 100,000.00
4	REMOVAL OF ASPHALT ROAD SECTION	7,500	SY	\$ 50.00	\$ 375,000.00
5	REMOVAL OF CONCRETE ROAD SECTION	1,200	SY	\$ 75.00	\$ 90,000.00
6	REMOVAL OF CURB & GUTTER, ALL TYPES	2,480	LF	\$ 25.00	\$ 62,000.00
7	REMOVE & REPLACE FIRE HYDRANT	8	EA	\$ 8,000.00	\$ 64,000.00
8	10" C-900 WATER MAIN (OPEN CUT)	20	LF	\$ 175.00	\$ 3,500.00
9	16" C-900 WATER MAIN (OPEN CUT)	20	LF	\$ 300.00	\$ 6,000.00
10	24" C-900 WATER MAIN (OPEN CUT)	20	LF	\$ 425.00	\$ 8,500.00
11	30" C-900 WATER MAIN (OPEN CUT)	4,860	LF	\$ 475.00	\$ 2,308,500.00
12	3/4" POLY SERVICE LINE (OPEN CUT)	350	LF	\$ 85.00	\$ 29,750.00
13	30" I.D. HDPE DR-11 WATER MAIN (DIRECTIONAL BORE)	500	LF	\$ 1,000.00	\$ 500,000.00
14	6" GATE VALVE ASSEMBLY	11	EA	\$ 3,000.00	\$ 33,000.00
15	30" BUTTERFLY VALVE	8	EA	\$ 38,500.00	\$ 308,000.00
16	30" PRESSURE REDUCING VALVE	1	EA	\$ 500,000.00	\$ 500,000.00
17	FIRE HYDRANT ASSEMBLY	8	EA	\$ 6,500.00	\$ 52,000.00
18	10" X 10" TAPPING SLEEVE & VALVE	1	EA	\$ 12,000.00	\$ 12,000.00
19	16" X 16" TAPPING SLEEVE & VALVE	1	EA	\$ 24,000.00	\$ 24,000.00
20	24" X 24" TAPPING SLEEVE & VALVE	1	EA	\$ 40,000.00	\$ 40,000.00
21	48" X 30" TAPPING SLEEVE & VALVE	1	EA	\$ 50,000.00	\$ 50,000.00
22	4" AIR RELEASE VALVE	4	EA	\$ 12,000.00	\$ 48,000.00
23	WATER SAMPLE STATION	2	EA	\$ 2,500.00	\$ 5,000.00
24	CONNECTION TO EXISTING 30" WATER MAIN	1	EA	\$ 30,000.00	\$ 30,000.00
25	CONCRETE CURB & GUTTER	2,480	LF	\$ 75.00	\$ 186,000.00
26	CONCRETE PAVEMENT TRENCH REPAIR	1,200	SY	\$ 150.00	\$ 180,000.00
27	ASPHALT PAVEMENT TRENCH REPAIR	7,500	SY	\$ 150.00	\$ 1,125,000.00
28	9.5MM, HOT MIX ASPHALT (HMA)	1,500	TON	\$ 350.00	\$ 525,000.00
29	PERMANENT GRASSING (SEEDING)	1	AC	\$ 2,500.00	\$ 2,500.00
CONSTRUCTION COST					\$ 7,267,750.00
CONTINGENCIES (25%)					\$ 1,816,937.50
TOTAL					\$ 9,084,687.50



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PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2326 / REVISION #1 FOR ADDENDUM
DATE: 10/1/2025

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	LINE TOTAL
1	MADDOX/TV ROAD BOOSTER STATION UPGRADES	1	LS	\$ 1,000,000.00	\$ 1,000,000.00
2	48" CHECK VALVE & VAULT	1	EA	\$ 500,000.00	\$ 500,000.00
3	20" CHECK VALVE & VAULT	1	EA	\$ 150,000.00	\$ 150,000.00
4	16" CHECK VALVE & VAULT	1	EA	\$ 100,000.00	\$ 100,000.00
5	12" CHECK VALVE & VAULT	2	EA	\$ 50,000.00	\$ 100,000.00
6	6" CHECK VALVE & VAULT	1	EA	\$ 10,000.00	\$ 10,000.00
7	COMBINATION AIR RELEASE VALVE	4	EA	\$ 5,000.00	\$ 20,000.00
8	DEMOLITION 200,000 GALLON ELEVATED TANK (SUNCREST)	1	EA	\$ 200,000.00	\$ 200,000.00
9	DEMOLITION 200,000 GALLON ELEVATED TANK (ELAINE)	1	EA	\$ 200,000.00	\$ 200,000.00
10	MOBILIZATION (TRANSMISSION/DISTRIBUTION LINES)	1	LS	\$ 500,000.00	\$ 500,000.00
11	MAINTENANCE OF TRAFFIC	1	LS	\$ 250,000.00	\$ 250,000.00
12	TEMP. EROSION CONTROL INSTALLATION AND MAINTENANCE	1	LS	\$ 100,000.00	\$ 100,000.00
13	REMOVAL OF ASPHALT ROAD SECTION	150	SY	\$ 50.00	\$ 7,500.00
14	REMOVAL OF CONCRETE DRIVEWAY	2,610	SY	\$ 50.00	\$ 130,500.00
15	4" C-900 WATER MAIN (OPEN CUT)	20	LF	\$ 65.00	\$ 1,300.00
16	6" C-900 WATER MAIN (OPEN CUT)	80	LF	\$ 100.00	\$ 8,000.00
17	8" C-900 WATER MAIN (OPEN CUT)	80	LF	\$ 150.00	\$ 12,000.00
18	12" C-900 WATER MAIN (OPEN CUT)	30	LF	\$ 200.00	\$ 6,000.00
19	16" C-900 WATER MAIN (OPEN CUT)	7,850	LF	\$ 300.00	\$ 2,355,000.00
20	20" C-900 WATER MAIN (OPEN CUT)	5,700	LF	\$ 400.00	\$ 2,280,000.00
21	24" C-900 WATER MAIN (OPEN CUT)	1,260	LF	\$ 425.00	\$ 535,500.00
22	8" C-900 WATER MAIN (IN CASING)	40	LF	\$ 160.00	\$ 6,400.00
23	16" C-900 WATER MAIN (IN CASING)	460	LF	\$ 325.00	\$ 149,500.00
24	20" C-900 WATER MAIN (IN CASING)	440	LF	\$ 475.00	\$ 209,000.00
25	16" STEEL CASING (BORED)	40	LF	\$ 500.00	\$ 20,000.00
26	24" STEEL CASING (BORED)	460	LF	\$ 575.00	\$ 264,500.00
27	30" STEEL CASING (BORED)	440	LF	\$ 650.00	\$ 286,000.00
28	4" GATE VALVE ASSEMBLY	1	EA	\$ 2,500.00	\$ 2,500.00
29	6" GATE VALVE ASSEMBLY	6	EA	\$ 3,000.00	\$ 18,000.00
30	8" GATE VALVE ASSEMBLY	6	EA	\$ 4,000.00	\$ 24,000.00
31	12" BUTTERFLY VALVE	1	EA	\$ 6,000.00	\$ 6,000.00
32	16" BUTTERFLY VALVE	10	EA	\$ 18,000.00	\$ 180,000.00
33	20" BUTTERFLY VALVE	5	EA	\$ 20,000.00	\$ 100,000.00
34	CAP EXISTING 4" WATER MAIN	1	EA	\$ 1,200.00	\$ 1,200.00
35	CAP EXISTING 6" WATER MAIN	4	EA	\$ 1,500.00	\$ 6,000.00
36	CAP EXISTING 8" WATER MAIN	4	EA	\$ 1,750.00	\$ 7,000.00
37	FIRE HYDRANT ASSEMBLY	12	EA	\$ 6,500.00	\$ 78,000.00
38	CONNECTION TO EXISTING SERVICE LINES	50	EA	\$ 1,000.00	\$ 50,000.00
39	3/4" POLY SERVICE LINE W/1-1/2" POLY CASING (DIR. BORE)	240	LF	\$ 100.00	\$ 24,000.00
40	4" COLD TAP	1	EA	\$ 3,000.00	\$ 3,000.00
41	6" COLD TAP	4	EA	\$ 4,500.00	\$ 18,000.00
42	8" COLD TAP	5	EA	\$ 6,000.00	\$ 30,000.00
43	12" COLD TAP	1	EA	\$ 9,000.00	\$ 9,000.00
44	16" COLD TAP	1	EA	\$ 12,000.00	\$ 12,000.00
45	16" X 8" TAPPING SLEEVE & VALVE	1	EA	\$ 16,000.00	\$ 16,000.00
46	16" X 16" TAPPING SLEEVE & VALVE	1	EA	\$ 24,000.00	\$ 24,000.00
47	20" X 16" TAPPING SLEEVE & VALVE	2	EA	\$ 32,000.00	\$ 64,000.00
48	24" X 20" TAPPING SLEEVE & VALVE	1	EA	\$ 36,000.00	\$ 36,000.00
49	24" X 24" TAPPING SLEEVE & VALVE	2	EA	\$ 38,000.00	\$ 76,000.00
50	WATER SAMPLE STATION	4	EA	\$ 2,500.00	\$ 10,000.00
51	CONCRETE DRIVEWAY	2,610	SY	\$ 150.00	\$ 391,500.00
52	ASPHALT PAVEMENT TRENCH REPAIR	150	SY	\$ 150.00	\$ 22,500.00
53	9.5MM, HOT MIX ASPHALT (HMA)	50	TON	\$ 350.00	\$ 17,500.00
54	PERMANENT GRASSING (SEEDING)	5	AC	\$ 2,500.00	\$ 12,500.00
CONSTRUCTION COST					\$ 10,639,900.00
CONTINGENCIES (25%)					\$ 2,659,975.00
TOTAL					\$ 13,299,875.00

PRELIMINARY QUANTITIES AND OPINION OF PROBABLE COSTS

PROJECT JXN WATER / 2427 / WATER WELL REHABILITATION

DATE: 9/8/2025

[illegible]

APPENDIX D
INTERGOVERNMENTAL
REVIEWS

APPENDIX D

PREFACE

APPENDIX D CONTAINS COPIES OF THE INTERGOVERNMENTAL REVIEW SUBMITTALS TO THE UNITED STATES ARMY CORPS OF ENGINEERS, THE MISSISSIPPI DEPARTMENT OF ARCHIVES AND HISTORY, AND THE MISSISSIPPI NATURAL HERITAGE PROGRAM. EACH AGENCY RECEIVED THE SAME COVER LETTER OF SUBMISSION, AN INDIVIDUAL LETTER DESCRIBING EACH PROJECT, AND SUPPORTING LOCATION AND SCOPE OF WORK MAPS. FOR PURPOSES OF REPRODUCTION, THE INDIVIDUAL LETTERS TO EACH AGENCY HAVE BEEN INCLUDED, BUT ONLY THE ATTACHMENTS TO THE USACE HAVE BEEN INCLUDED IN THIS 2025 WPCRLF FACILITIES PLAN.

APPROVALS ON ALL PROJECTS WERE OBTAINED FROM EACH AGENCY AND ARE LISTED IN THE ATTACHED IGR REVIEW STATUS SUMMARY SPREADSHEET. EACH PROJECT IS IDENTIFIED BY THE AGENCY IDENTIFICATION NUMBER ASSIGNED TO THE PROJECT. COPIES OF ALL APPROVALS ARE INCLUDED IN ATTACHMENT D.

JXN PROJECT # / NAME	USACE ID# / (VICKSBURG DISTRICT / REGULATORY DIVISION)	MDAH ID# / (ARCHIVES & HISTORY)	MMNS ID# / (MUSEUM OF NATURAL SCIENCE)
SMALL DIAMETER WATERLINE REPLACEMENTS			
#2411 / WESTGATE PARK	MVK-2025-00580	07-139-25	27553
#2412 / HIDDEN VALLEY	MVK-2025-00581	07-139-25	27554
#2413 / SOUTHWOOD ESTATES	MVK-2025-00582	07-139-25	27555
#2414 / BROOKWOOD ESTATES	MVK-2025-00583	07-139-25	27556
#2415 / WILDWOOD TERRACE	MVK-2025-00584	07-139-25	27557
#2416 / SHADOWLAWN HEIGHTS	MVK-2025-00585	07-139-25	27558
#2417 / TERRY RD	MVK-2025-00586	07-139-25	27559
#2418 / LAKE RIDGELEA	MVK-2025-00587	07-140-25	27560
#2419 / RICHWOOD ESTATES	MVK-2025-00588	07-140-25	27561
#2420 / ROLLINGWOOD	MVK-2025-00589	07-140-25	27562
#2421 / COLONIAL COUNTRY CLUB	MVK-2025-00590	07-140-25	27563
#2422 / WOODHAVEN	MVK-2025-00591	07-140-25	27564
#2423 / BELHAVEN PARK	MVK-2025-00592	07-140-25	27565
#2424 / REEDBRIDGE/DEARBORN	MVK-2025-00593	07-140-25	27566
#2425 / MCLEOD GARNER	MVK-2025-00594	07-141-25	27567
#2426 / EAST MANOR ESTATES	MVK-2025-00595	07-141-25	27568
HIGHWAY NO. 18 WELL	MVK-2025-00596	07-141-25	27569
MADDOX ROAD WELL	MVK-2025-00597	07-141-25	27569
SIWELL ROAD WELL	MVK-2025-00598	07-141-25	27569
WILLOWOOD WELL	MVK-2025-00599	07-141-25	27569
TV ROAD WELL	MVK-2025-00600	07-141-25	27569
WIGGINS ROAD WELL	MVK-2025-00601	07-141-25	27569

Department of the Army,
Corps of Engineers

From: Baham, Paul W TV CIV (USA)
To: ted@jxnwater.com
Cc: James Wolf
Subject: MVK-2025-580 through MVK-2025-601 (JXN Water/Proposed Improvements, Hinds County, Mississippi)
Date: Tuesday, August 12, 2025 10:30:13 AM

Dear Mr. Ted Henifin:

This email is in response to your request for review of possible Department of the Army regulatory requirements for the Request Permit for Proposed JXN Water/Rehabilitation and Replacement of wells and waterlines located in Hinds County, Mississippi.

Based upon the information furnished, we have determined that a Department of the Army Section 10/404 permit will not be required for the proposed work, since all potentially jurisdictional wetlands and/or other waters of the United States will be avoided. In the event project plans are changed, or if you anticipate any additional construction, please contact this office for a reevaluation of permit requirements and refer to Identification No. MVK-2025-580, MVK-2025-581, MVK-2025-582, MVK-2025-583, MVK-2025-584, MVK-2025-585, MVK-2025-586, MVK-2025-587, MVK-2025-588, MVK-2025-589, MVK-2025-590, MVK-2025-591, MVK-2025-592, MVK-2025-593, MVK-2025-594, MVK-2025-595, MVK-2025-596, MVK-2025-597, MVK-2025-598, MVK-2025-599, MVK-2025-600, MVK-2025-601 when submitting the information. In addition, we are not addressing geographic jurisdiction.

This determination of Department of the Army regulatory requirements does not convey any property rights, either in real estate or material or any exclusive privileges and does not authorize any injury to property or invasion of rights or local laws or regulations or obviate the requirement to obtain state or local assent required by law for the activity discussed herein.

If we may be of any further assistance in this matter, please contact Mr. Paul Baham, of this office, telephone (601) 631-5588, or e-mail address: paul.w.baham@usace.army.mil.

Thanks,

Paul W. Baham
Environmental Specialist
USACE Vicksburg District
Regulatory Division
601-631-5588
Paul.w.baham@usace.army.mil
Associate Wildlife Biologist

July 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
Distribution Water Line Projects / Well System Rehabilitation Project
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for water system improvements for the City of Jackson water system. The proposed improvements form the basis of an addendum to the 2024 Facility Plan Update (2024 plan) and consist of sixteen (16) distribution water line projects located within existing road rights-of-way or utility easements that will supplement or replace existing water lines. Additionally, the well system rehabilitation project is included in this addendum.

Transmitted with this submission are the following projects:

Small Diameter Distribution Pipelines

Project # 2411 – Westgate Park Waterline Replacement Project

Project # 2412 – Hidden Valley Waterline Replacement Project

Project # 2413 – Southwood Estates Waterline Replacement Project

Project # 2414 – Brookwood Estates Waterline Replacement Project

Project # 2415 – Wildwood Terrace Waterline Replacement Project

Project # 2416 – Shadowlawn Heights Waterline Replacement Project

Project # 2417 – Terry Rd Waterline Replacement Project

Project # 2418 – Lake Ridgelea Waterline Replacement Project

Project # 2419 – Richwood Estates Waterline Replacement Project

Brandon | 601.591.1077

Flowood | 601.627.7780

Madison | 769.289.0031

Est. 2004

Project # 2420 – Rollingwood Waterline Replacement Project

Project # 2421 – Colonial Country Club Waterline Replacement Project

Project # 2422 – Woodhaven Waterline Replacement Project

Project # 2423 – Belhaven Park Waterline Replacement Project

Project # 2424 – Reedbridge/Dearborn Waterline Replacement Project

Project # 2425 – McLeod Garner Waterline Replacement Project

Project # 2426 – East Manor Estates Waterline Replacement Project

Well System Rehabilitation Project:

The proposed well system rehabilitation project consists of adding one (1) new well, deepening up to two (2) existing wells, and rehabilitating equipment at multiple sites.

This submission includes the description of each project, the vicinity map, and the site map showing the proposed improvements. Although the projects are being submitted under one cover, we respectfully request that each project be reviewed separately for comments and/or approval in order to expedite the review/approval process.

Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

Sincerely,

James B. Wolf, P.E., P.L.S.
Benchmark Engineering & Surveying, LLC

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742

July 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
JXN Water Project 2411 – Westgate Park Waterline Replacement Project
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for funds for the Westgate Park Waterline Replacement Project. The neighborhood has encountered multiple water and sewer leaks due to system condition. The proposed project consists of eight (8) separate locations totaling 12,665 linear feet of existing water lines ranging in size from 2" to 8". The new water lines will be a minimum size of 8" in diameter to support fire protection.

Below is a description of the street location of existing water lines anticipated for replacement as part of this project.

- Woodburn St – Woody Dr to Oak Forest Dr (4" Water, 2,215')
- Cliffwood Dr – Wooddell Dr to McDowell Road (4" Water, 1,025')
- Woodside Dr – McDowell Rd to Maria Dr (4" Water, 1,500')
- Dianne Dr – Woodside Dr to Maria Dr (4" Water, 2,000')
- Maria Dr – Dorgan St to Barbara Ann Dr (4" Water, 2,175')
- Haynes St – Oak Forest Dr to Corey Dr (2" Water, 500')
- Oak Forest Dr – McDowell Rd to Smallwood St (3" Water, 2,000')
- Corey Dr – Oak Forest Dr to Wood Rd (2" Water, 1,250')

The proposed project totaling 12,665 linear feet of new water distribution lines, fire hydrants, service lines, and valves will follow along existing road rights-of-way as shown on the attached exhibits.



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Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

Sincerely,

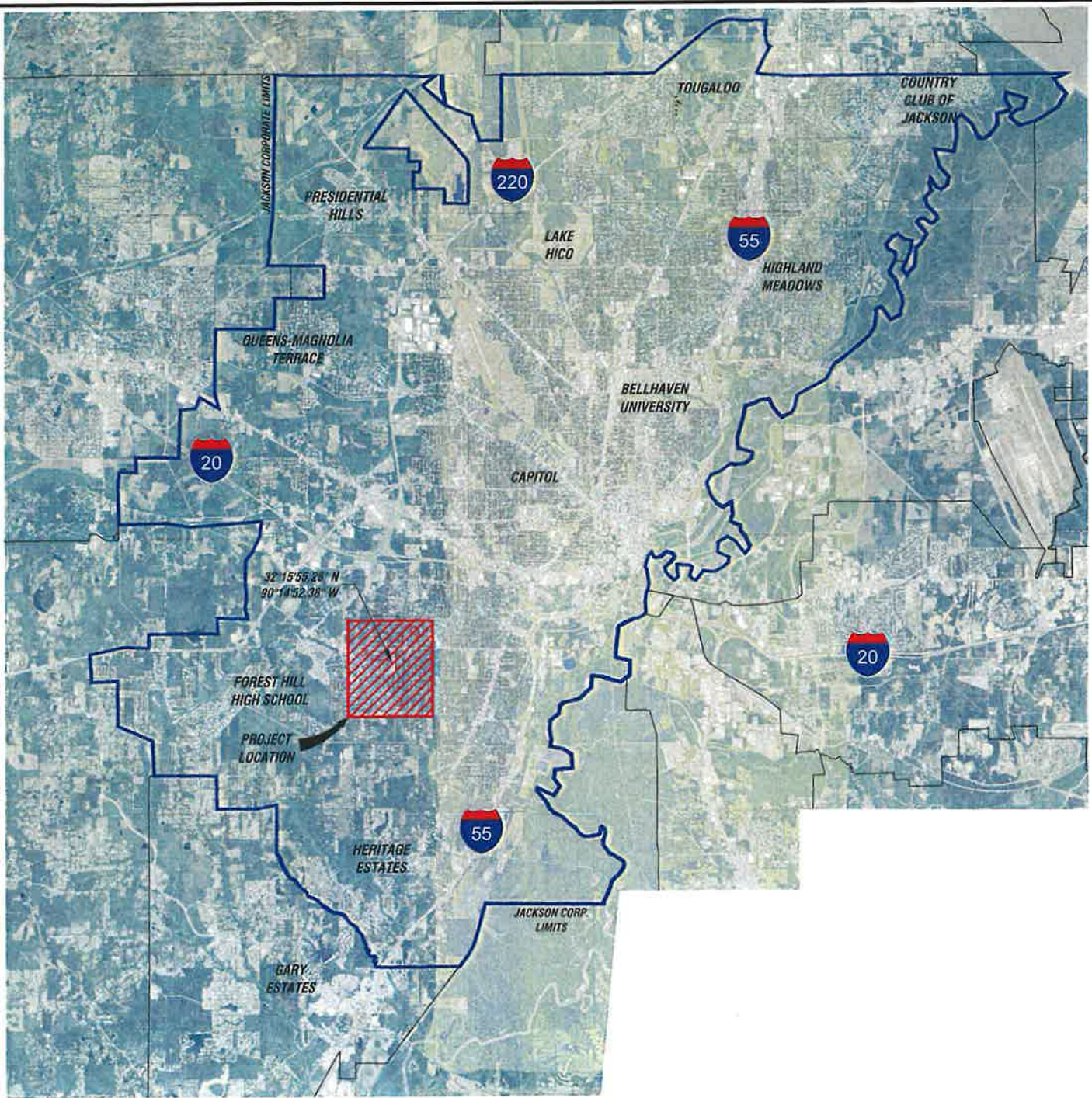
A handwritten signature in black ink, appearing to read "James B. Wolf". The signature is fluid and cursive, with the first name "James" being more prominent.

James B. Wolf, P.E., P.L.S.

Benchmark Engineering & Surveying, LLC

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742



12000 6000 0 12000 24000



SCALE: 1"=12000'

DATE: 07/10 DRAWN: RTS
CHECKED: MM SCALE: 12000
REF C/L:
EG SURFACE:
FG SURFACE:

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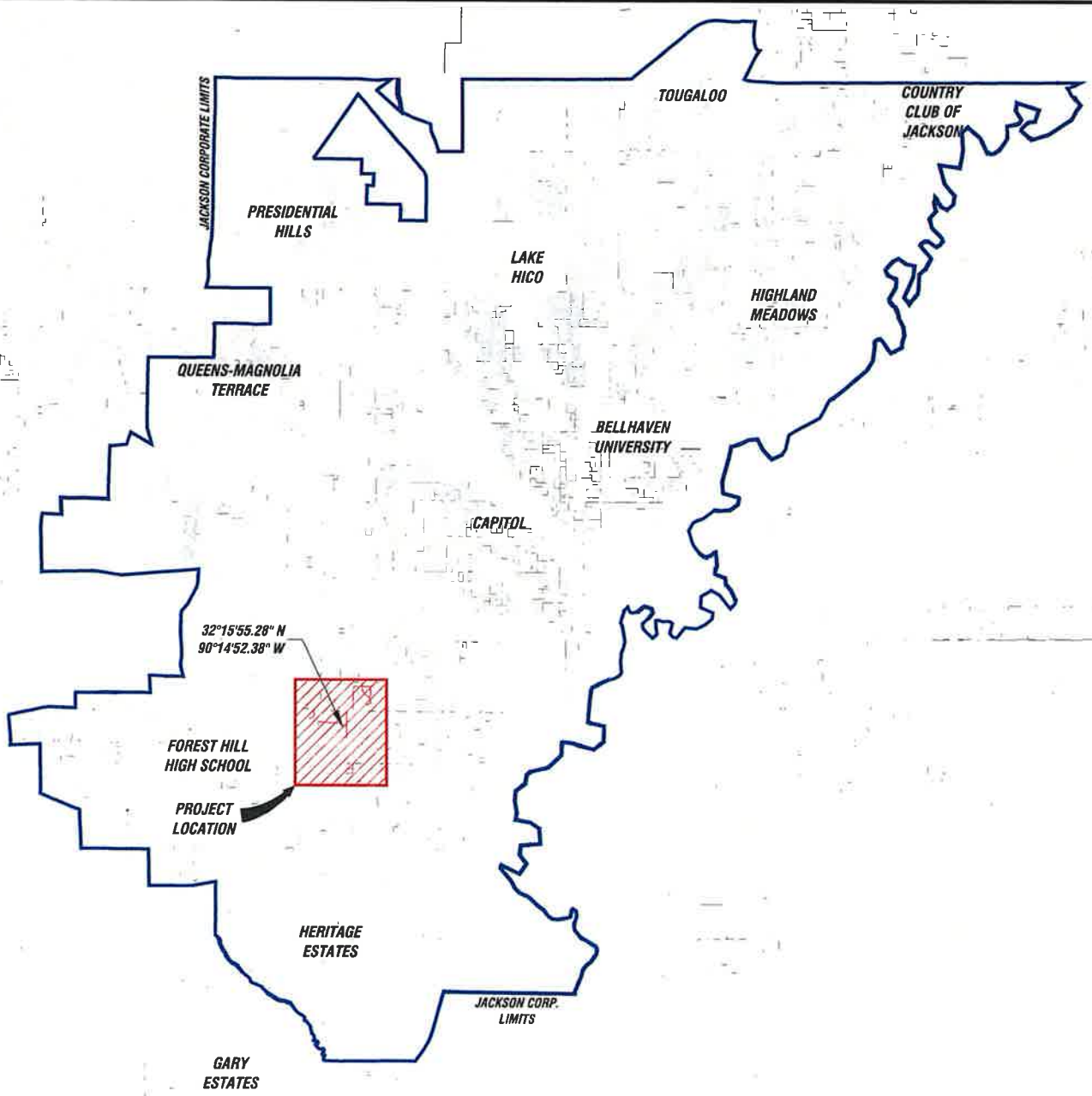
PROJECT LOCATION:
JACKSON, MS 39212

CLIENT:
JXN WATER
1054 GREYMONT AVE JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2411 - WESTGATE PARK

SHEET CONTENTS:
CITY OF JACKSON MAP / PROJECT LOCATION

MAP
NUMBER
1 of 4
PROJECT
NUMBER
B-10742



SCALE: 1"=12000'

DATE: 07/10	DRAWN: RTS		PROJECT LOCATION: JACKSON, MS 39212	PROJECT: SMALL DIAMETER DISTRIBUTION 2411 - WESTGATE PARK	MAP NUMBER 2 of 4
CHECKED: MM	SCALE: 12000		CLIENT: JXN WATER 1054 GREYMONT AVE. JACKSON, MS	SHEET CONTENTS: CITY OF JACKSON MAP / PROJECT LOCATION	PROJECT NUMBER B-10742
REF C/L:					
EG SURFACE:					
FG SURFACE:					

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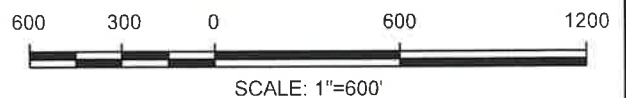
WOODBURN STREET



DIANNE DRIVE



HAYNES STREET



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10 DRAWN: RTS
CHECKED: MM SCALE: 600
REF C/L:
EG SURFACE:
FG SURFACE:

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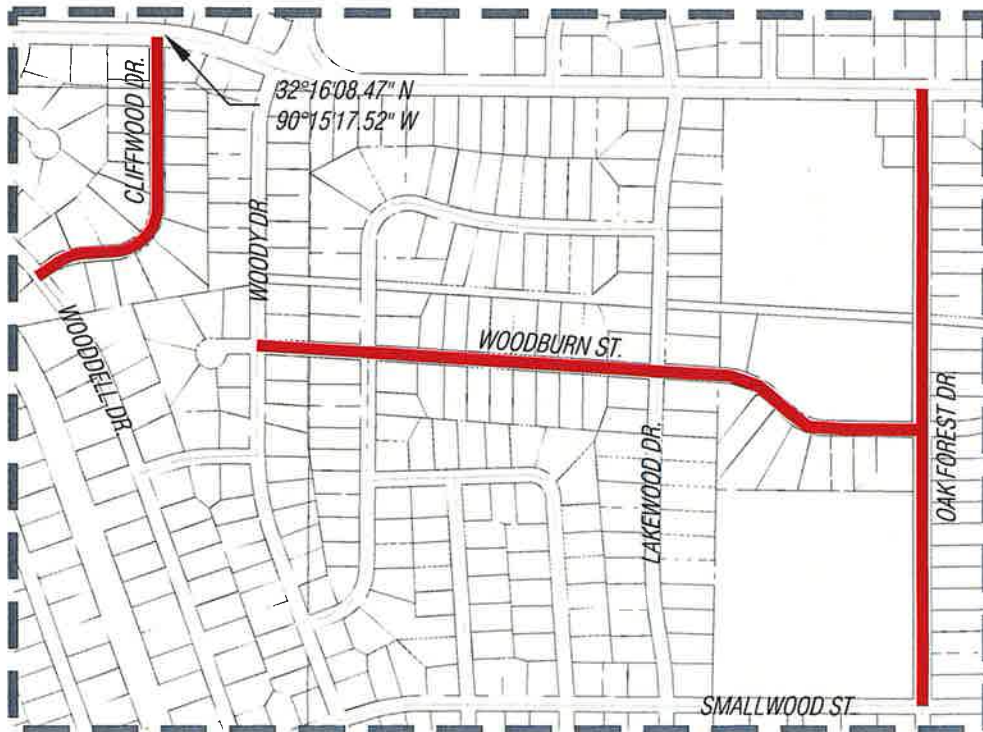
PROJECT LOCATION:
JACKSON, MS 39212

CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

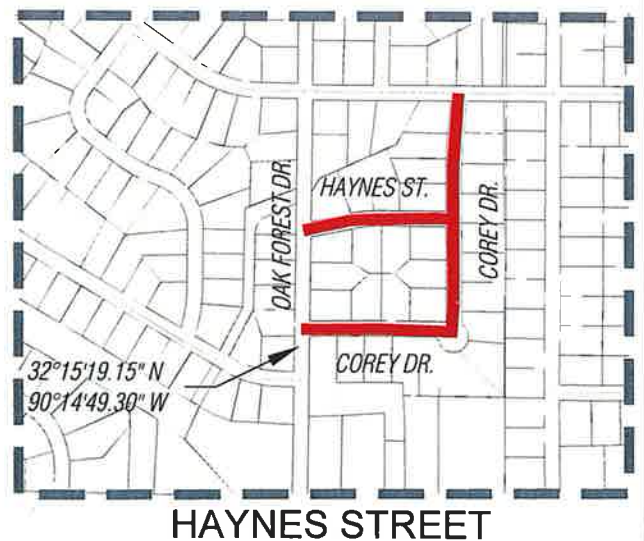
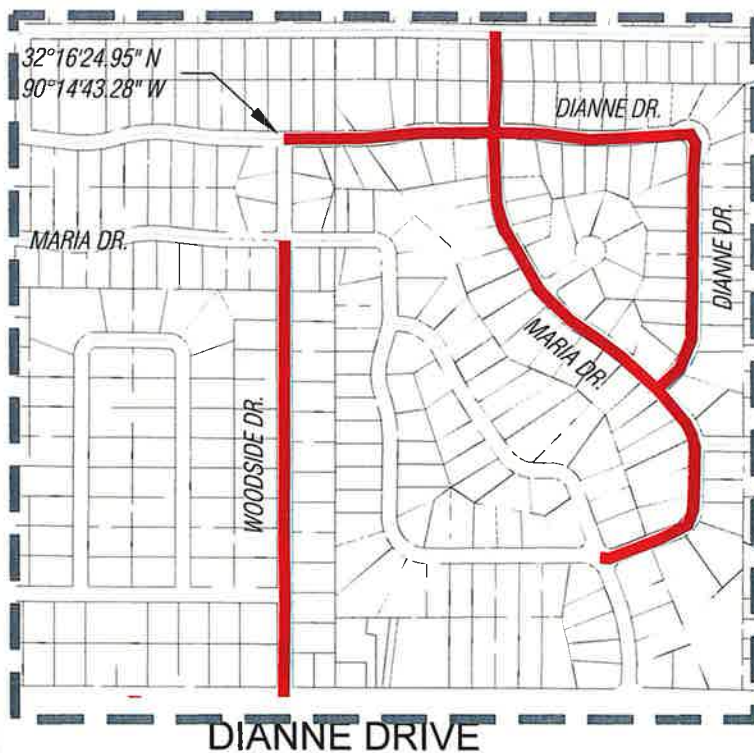
PROJECT:
SMALL DIAMETER DISTRIBUTION
2411 - WESTGATE PARK

SHEET CONTENTS:
SCOPE OF WORK

MAP
NUMBER
3 of 4
PROJECT
NUMBER
B-10742



WOODBURN STREET



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10	DRAWN: RTS
CHECKED: MM	SCALE: 600
REF C/L:	
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FG SURFACE:	

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PROJECT LOCATION:
JACKSON, MS 39212
CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2411 - WESTGATE PARK
SHEET CONTENTS:
SCOPE OF WORK

MAP
NUMBER
4 of 4
PROJECT
NUMBER
B-10742

July 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
JXN Water Project 2412 – Hidden Valley Waterline Replacement Project
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for funds for the Hidden Valley Waterline Replacement Project. The neighborhood has encountered multiple water and sewer leaks due to system condition. The proposed project consists of one (1) location totaling 1,300 linear feet of existing water lines ranging in size from 2" to 8". The new water lines will be a minimum size of 8" in diameter to support fire protection.

Below is a description of the street location of existing water lines anticipated for replacement as part of this project.

- Hidden Valley Lane – Raymond Rd to Dead End (4" Water, 1,300')

The proposed project totaling 1,300 linear feet of new water distribution lines, fire hydrants, service lines, and valves will follow along existing road rights-of-way as shown on the attached exhibits.



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Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

Sincerely,

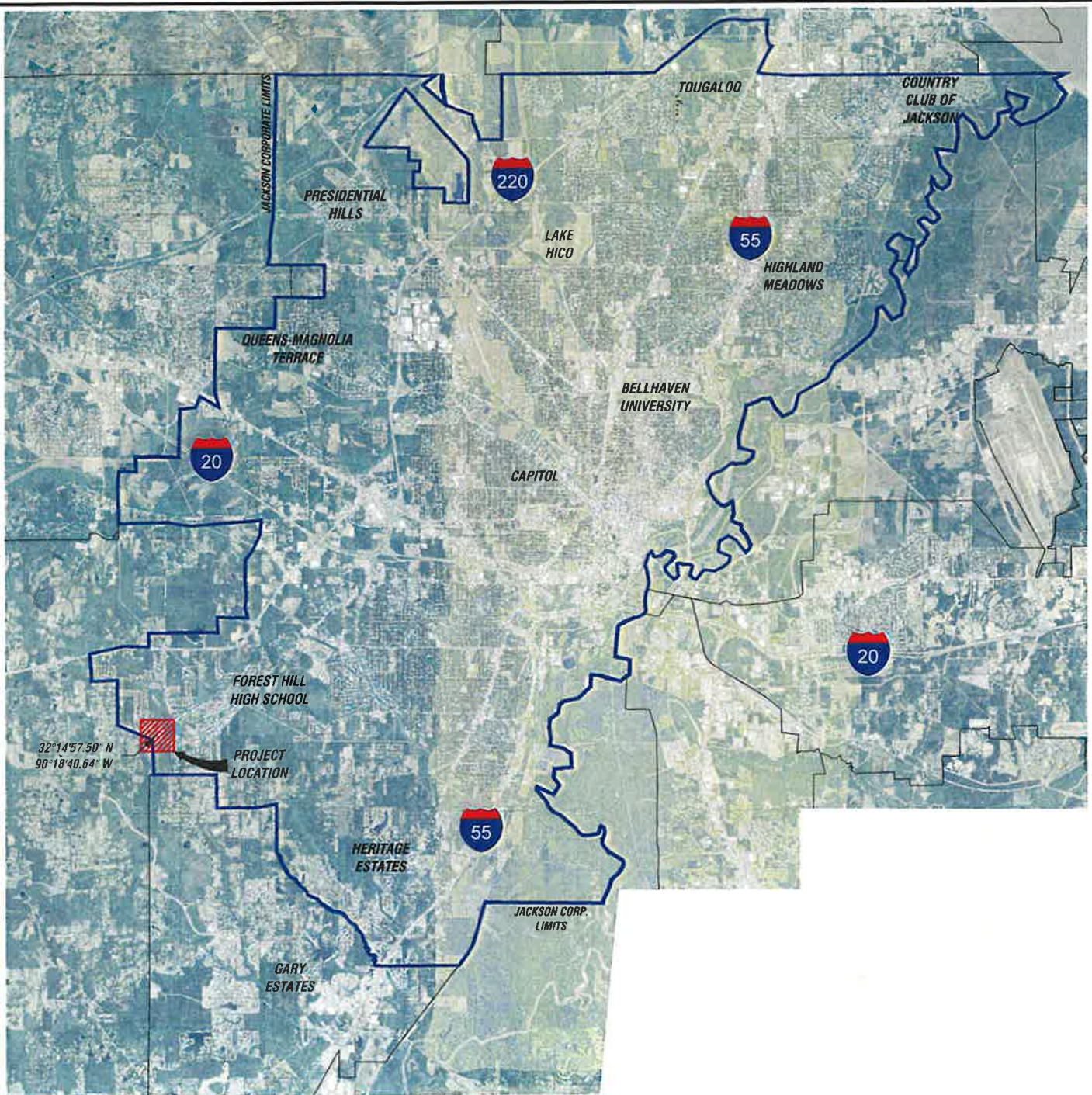
A handwritten signature in black ink, appearing to read "James B. Wolf". The signature is fluid and cursive, with the first name "James" being more prominent.

James B. Wolf, P.E., P.L.S.

Benchmark Engineering & Surveying, LLC

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742



12000 6000 0 12000 24000



SCALE: 1"=12000'

DATE: 07/10 DRAWN: RTS
 CHECKED: MM SCALE: 12000
 REF C/L:
 EG SURFACE:
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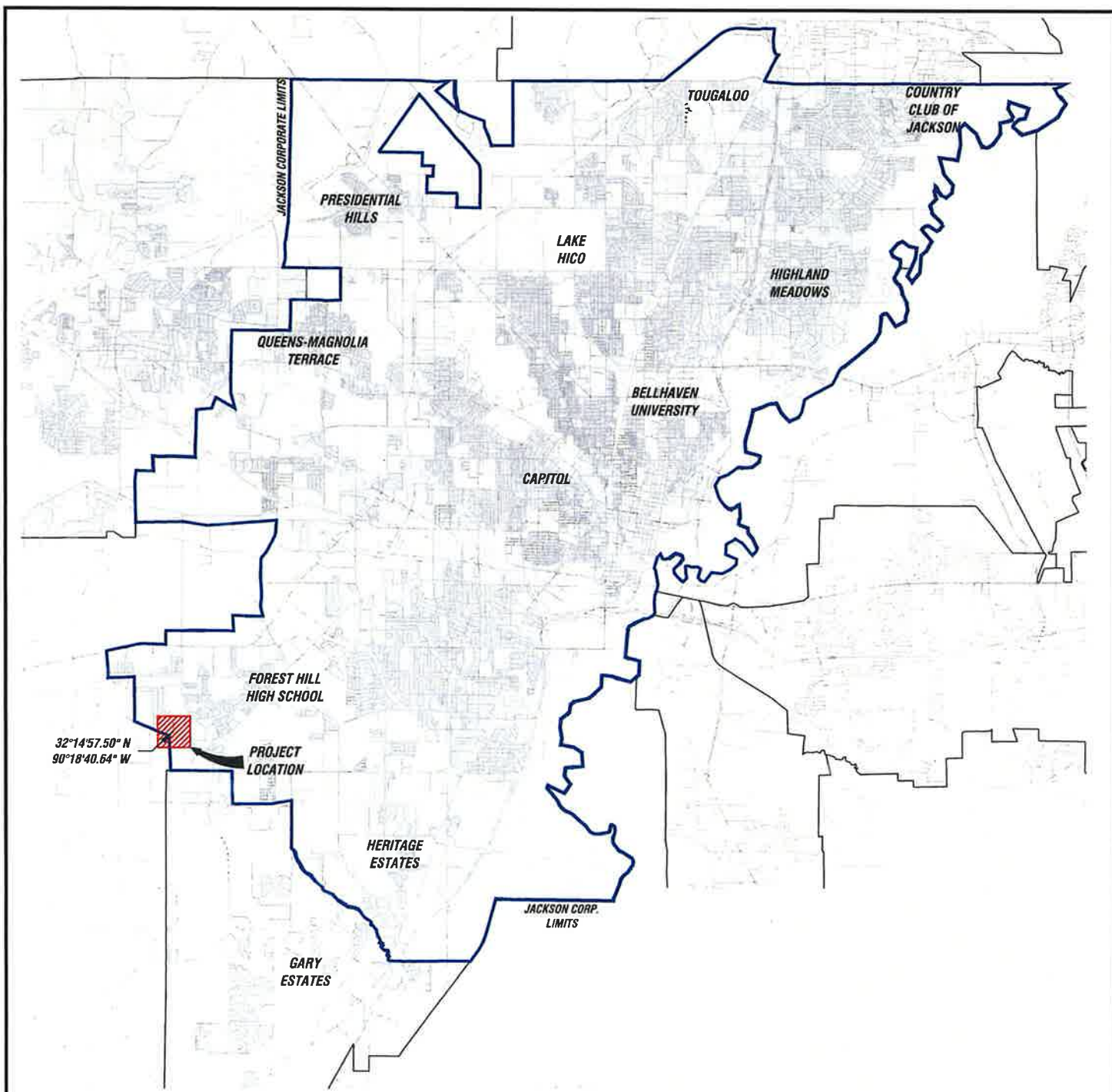
PROJECT LOCATION:
 JACKSON, MS 39212

CLIENT:
 JXN WATER
 1054 GREYHANT AVE. JACKSON, MS

PROJECT:
 SMALL DIAMETER DISTRIBUTION
 2412 - HIDDEN VALLEY

SHEET CONTENTS:
 CITY OF JACKSON MAP / PROJECT LOCATION

MAP NUMBER
 1 of 4
 PROJECT NUMBER
 B-10742



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SCALE: 1"=12000'

DATE: 07/10 CHECKED: MM REF C/L: EG SURFACE: FG SURFACE:	DRAWN: RTS SCALE: 12000 BENCHMARK ENGINEERING & SURVEYING, LLC CIVIL • STRUCTURAL • PLANNING • SURVEYING • UAV MAPPING BRANDON FLOWOOD MADISON www.benchmarkms.com 601-527-7736	PROJECT LOCATION: JACKSON, MS 39212 CLIENT: JXN WATER 1054 GREYMONT AVE. JACKSON, MS	PROJECT: SMALL DIAMETER DISTRIBUTION 2412 - HIDDEN VALLEY SHEET CONTENTS: CITY OF JACKSON MAP / PROJECT LOCATION	MAP NUMBER 2 of 4 PROJECT NUMBER B-10742
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SCALE: 1"=600'

NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

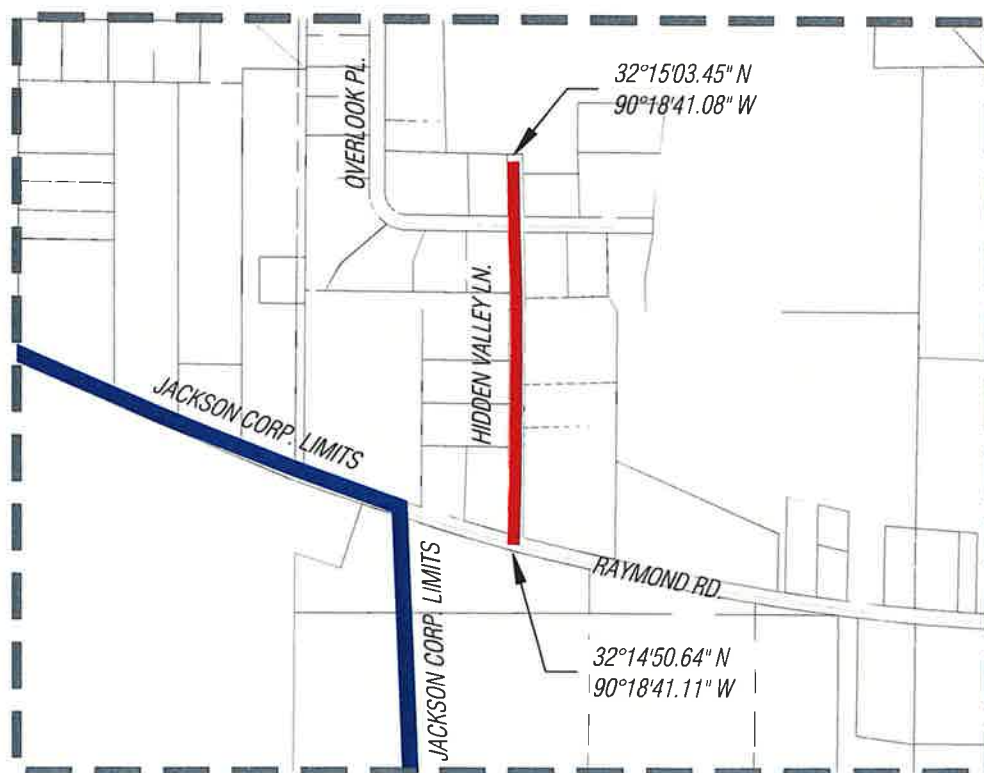
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EG SURFACE:
FG SURFACE:

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PROJECT LOCATION:
JACKSON, MS 39212
CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2412 - HIDDEN VALLEY
SHEET CONTENTS:
SCOPE OF WORK

MAP
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3 of 4
PROJECT
NUMBER
B-10742



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE:	07/10	DRAWN:	RTS
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REF C/L:			
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PROJECT LOCATION: JACKSON, MS 39212
CLIENT: JXN WATER 1054 GREYMONTE AVE JACKSON, MS

PROJECT: SMALL DIAMETER DISTRIBUTION 2412 - HIDDEN VALLEY
SHEET CONTENTS: SCOPE OF WORK

MAP NUMBER 4 of 4
PROJECT NUMBER B-10742

July 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
JXN Water Project 2413 – Southwood Estates Waterline Replacement Project
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for funds for the Southwood Estates Waterline Replacement Project. The neighborhood has encountered multiple water and sewer leaks due to system condition. The proposed project consists of one (1) location totaling 2,160 linear feet of existing water lines ranging in size from 2" to 8".

The new water lines will be a minimum size of 8" in diameter to support fire protection. Below is a description of the street location of existing water lines anticipated for replacement as part of this project.

- Scottsdale Dr – Terry Rd to Old Bryam Rd (4" Water, 2,160')

The proposed project totaling 2,160 linear feet of new water distribution lines, fire hydrants, service lines, and valves will follow along existing road rights-of-way as shown on the attached exhibits.



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Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

Sincerely,

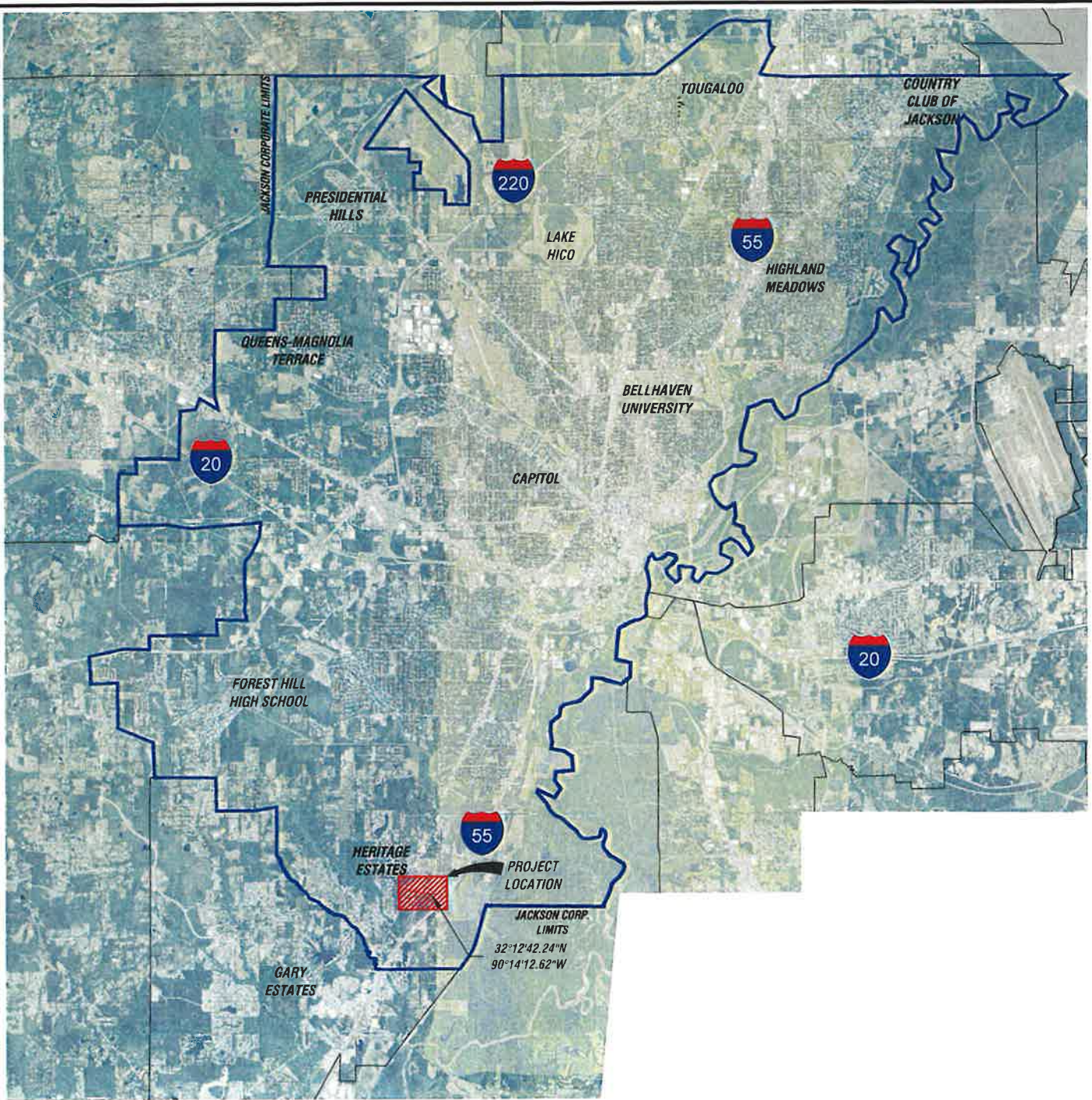
A handwritten signature in black ink, appearing to read "James B. Wolf".

James B. Wolf, P.E., P.L.S.

Benchmark Engineering & Surveying, LLC

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742



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SCALE: 1"=12000'

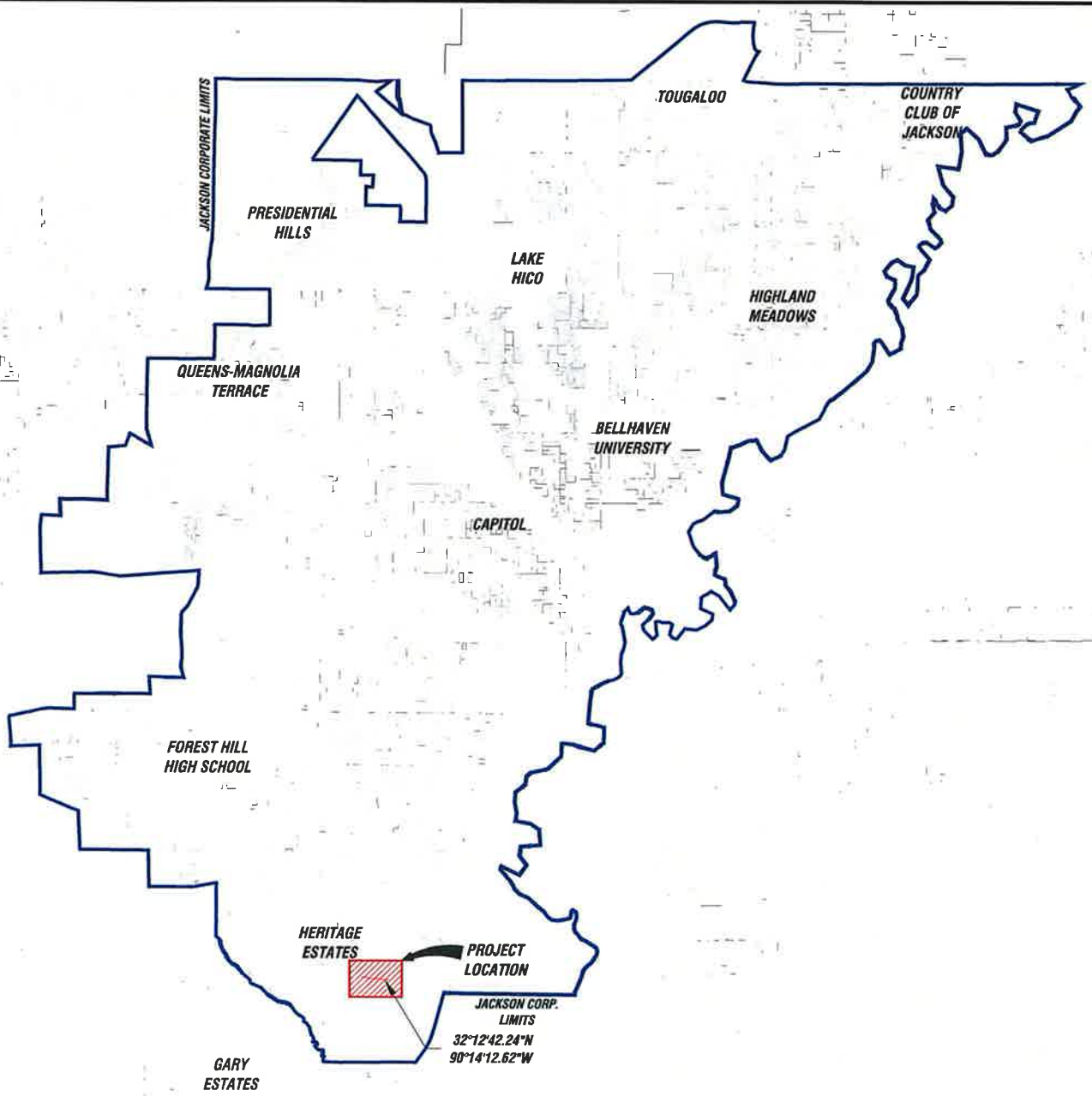
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 EG SURFACE:
 FG SURFACE:

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PROJECT LOCATION:
 JACKSON, MS 39212
 CLIENT:
 JXN WATER
 1054 GREYMONT AVE. JACKSON, MS

PROJECT:
 SMALL DIAMETER DISTRIBUTION
 2413 - SOUTHWOOD ESTATES
 SHEET CONTENTS:
 CITY OF JACKSON MAP / PROJECT LOCATION

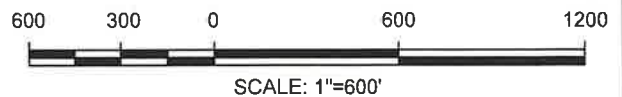
MAP
 NUMBER
 1 of 4
 PROJECT
 NUMBER
 B-10742



SCALE: 1"=12000'

DATE: 07/09	DRAWN: RTS		PROJECT LOCATION: JACKSON, MS 39212	PROJECT: SMALL DIAMETER DISTRIBUTION 2413 - SOUTHWOOD ESTATES	MAP NUMBER 2 of 4
CHECKED: MM	SCALE: 12000		CLIENT: JXN WATER 1054 GREYMONTE AVE. JACKSON, MS	SHEET CONTENTS: CITY OF JACKSON MAP / PROJECT LOCATION	PROJECT NUMBER B-10742
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EG SURFACE:					
FG SURFACE:					

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NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

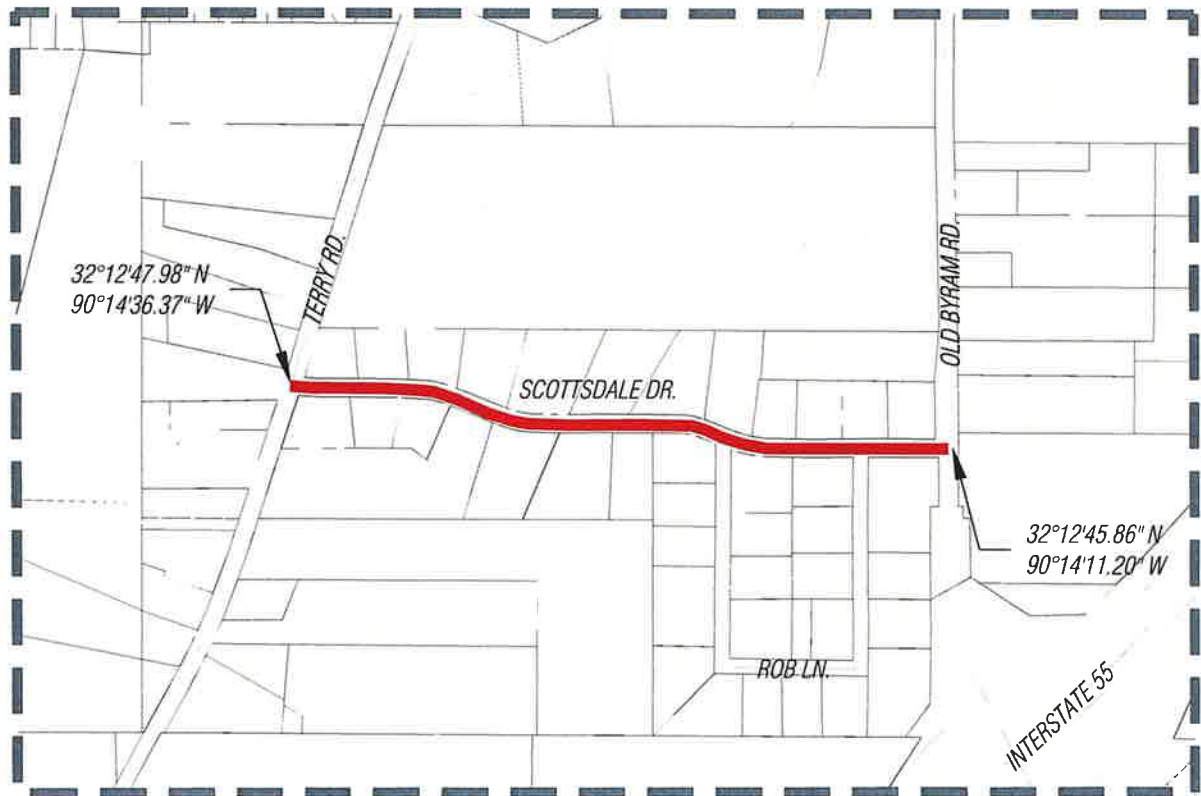
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EG SURFACE:
FG SURFACE:

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PROJECT LOCATION:
JACKSON, MS 39212
CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2413 - SOUTHWOOD ESTATES
SHEET CONTENTS:
SCOPE OF WORK

MAP
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PROJECT
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B-10742



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

PROPOSED WATER LINE (TYP.)

DATE: 07/10 DRAWN: RTS
CHECKED: MM SCALE: 600
REF C/L:
EG SURFACE:
FG SURFACE:

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PROJECT LOCATION:
JACKSON, MS 39212

CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2413 - SOUTHWOOD ESTATES

SHEET CONTENTS:
SCOPE OF WORK

MAP
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4 of 4
PROJECT
NUMBER
B-10742

July 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
JXN Water Project 2414 – Brookwood Estates Waterline Replacement Project
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for funds for the Brookwood Estates Waterline Replacement Project. The neighborhood has encountered multiple water and sewer leaks due to system condition. The proposed project consists of two (2) locations totaling 2,600 linear feet of existing water lines ranging in size from 2" to 8". The new water lines will be a minimum size of 8" in diameter to support fire protection.

Below is a description of the street location of existing water lines anticipated for replacement as part of this project.

- Velma Dr – Henderson Rd to Dead End (2" Water, 2,000')
- Tuesday Lane – Henderson Rd to Dead End (2" Water, 600')

The proposed project totaling 2,600 linear feet of new water distribution lines, fire hydrants, service lines, and valves will follow along existing road rights-of-way as shown on the attached exhibits.



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Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

Sincerely,

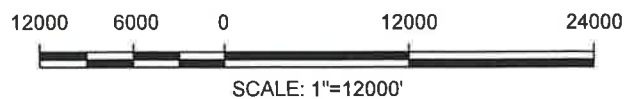
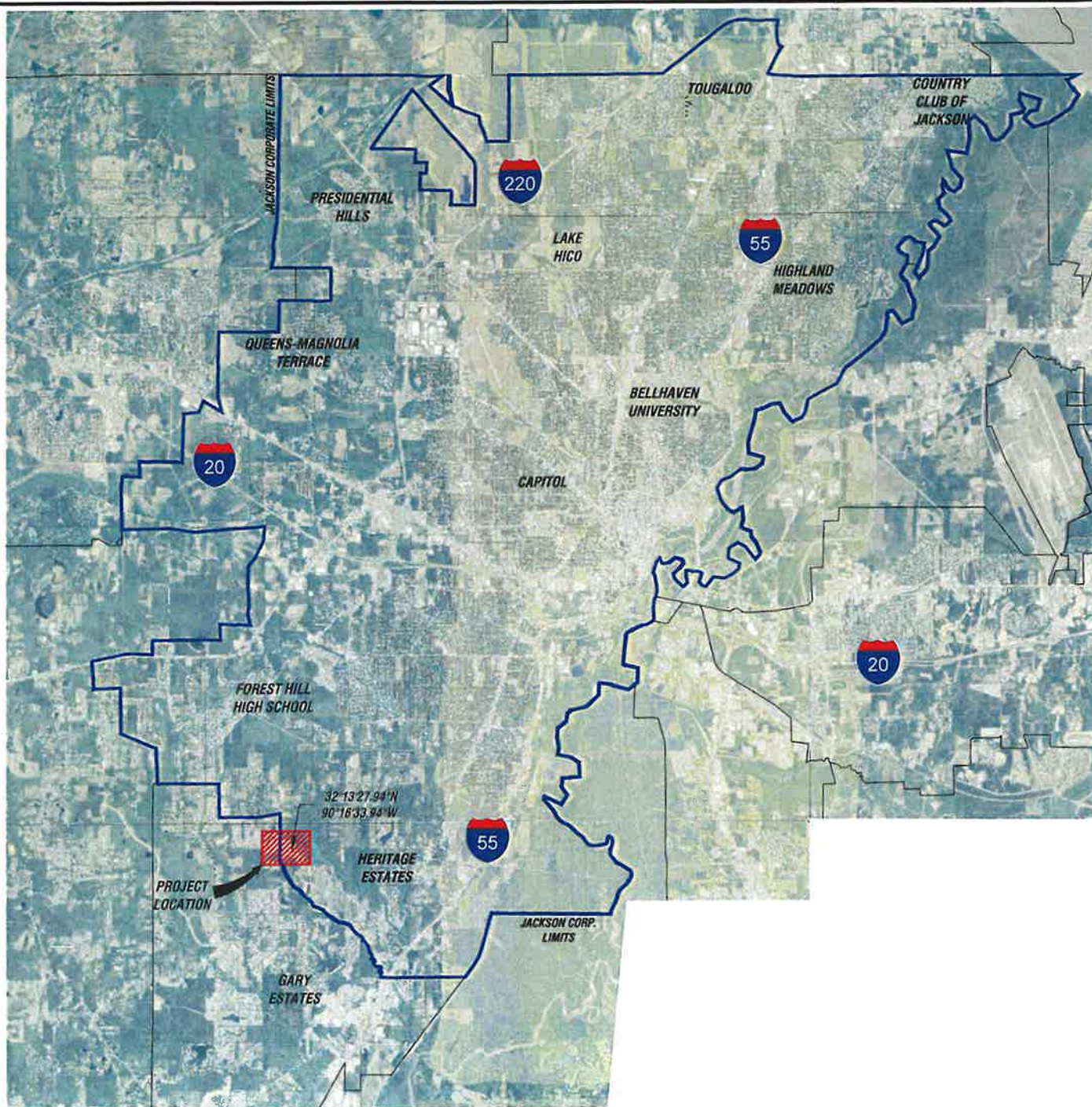
A handwritten signature in black ink, appearing to read "James B. Wolf".

James B. Wolf, P.E., P.L.S.

Benchmark Engineering & Surveying, LLC

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742



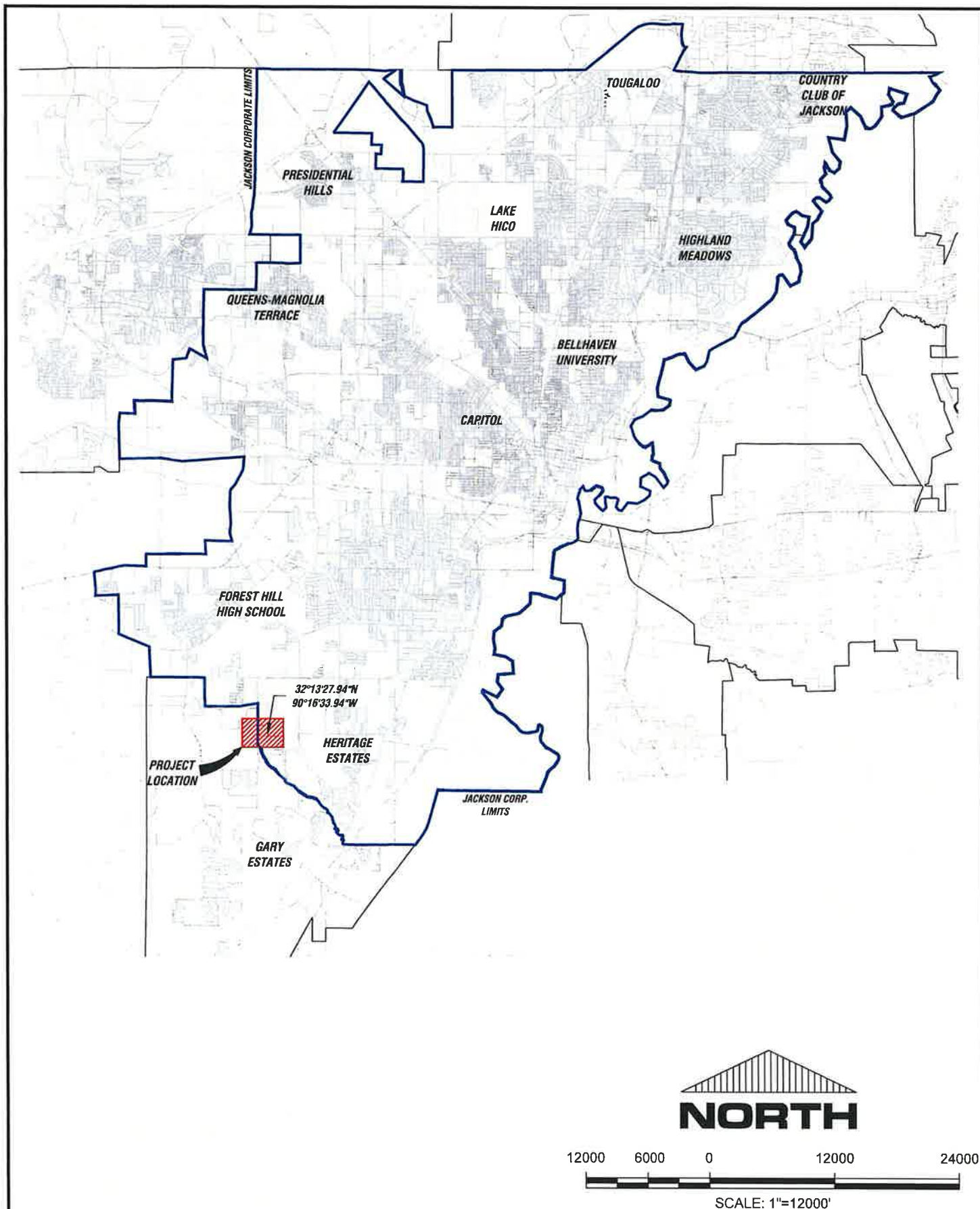
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 EG SURFACE:
 FG SURFACE:

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PROJECT LOCATION:
 JACKSON, MS 39212
 CLIENT:
 JXN WATER
 1054 GREYMONT AVE JACKSON, MS

PROJECT:
 SMALL DIAMETER DISTRIBUTION
 2414 - BROOKWOOD ESTATES
 SHEET CONTENTS:
 CITY OF JACKSON MAP / PROJECT LOCATION

MAP NUMBER
 1 of 4
 PROJECT NUMBER
 B-10742



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SCALE: 1"=12000'

DATE: 07/10	DRAWN: RTS
CHECKED: MM	SCALE: 12000
REF C/L:	
EG SURFACE:	
FG SURFACE:	

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PROJECT LOCATION:
JACKSON, MS 39212

CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2414 - BROOKWOOD ESTATES

SHEET CONTENTS:
CITY OF JACKSON MAP / PROJECT LOCATION

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2 of 4
PROJECT
NUMBER
B-10742



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10 DRAWN: RTS
CHECKED: MM SCALE: 600
REF C/L:
EG SURFACE:
FG SURFACE:

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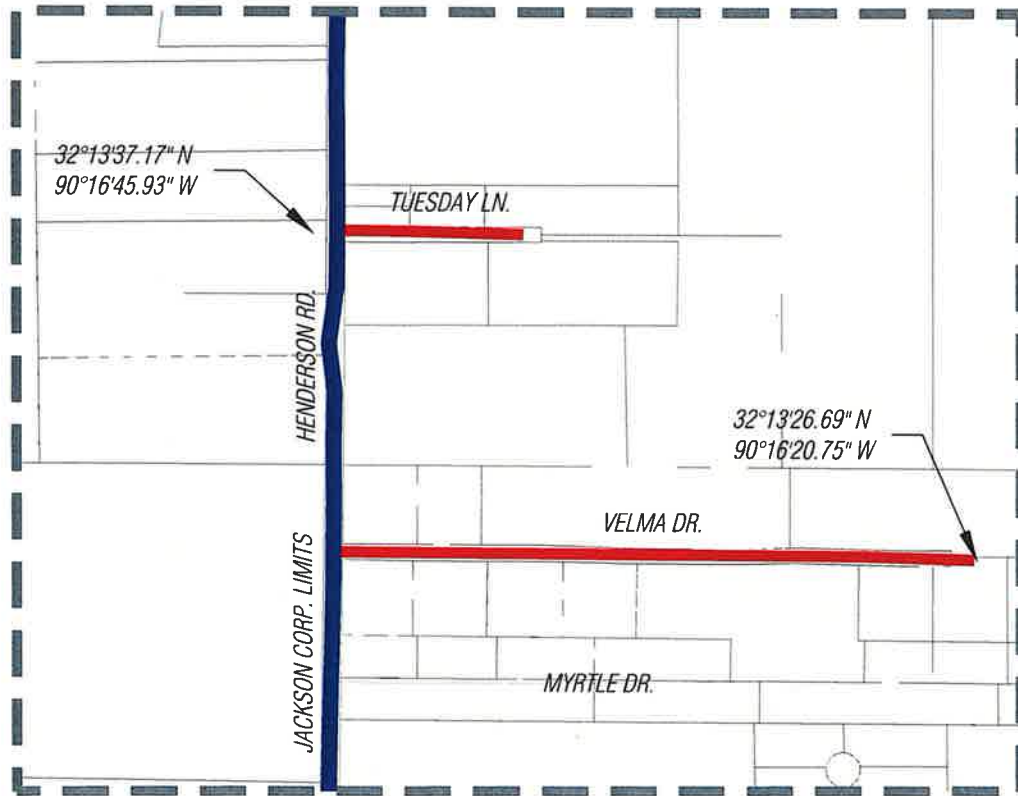
PROJECT LOCATION:
JACKSON, MS 39212

CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2414 - BROOKWOOD ESTATES

SHEET CONTENTS:
SCOPE OF WORK

MAP
NUMBER
3 of 4
PROJECT
NUMBER
B-10742



SCALE: 1"=600'

NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10	DRAWN: RTS
CHECKED: MM	SCALE: 600
REF C/L:	
EG SURFACE:	
FG SURFACE:	

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PROJECT LOCATION:
JACKSON, MS 39212
CLIENT:
JXN WATER
1054 GREYMONT AVE JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2414 - BROOKWOOD ESTATES
SHEET CONTENTS:
SCOPE OF WORK

MAP
NUMBER
4 of 4
PROJECT
NUMBER
B-10742

July 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
JXN Water Project 2415 – Wildwood Terrace Waterline Replacement Project
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for funds for the Wildwood Terrace Waterline Replacement Project. The neighborhood has encountered multiple water and sewer leaks due to system condition. The proposed project consists of two (2) locations totaling 3,350 linear feet of existing water lines ranging in size from 2" to 8". The new water lines will be a minimum size of 8" in diameter to support fire protection.

Below is a description of the street location of existing water lines anticipated for replacement as part of this project.

- Middle Rd – Dees St to McCluer Rd (2" Water, 2,200')
- Wildwood Cir – Meadow Lane (2" Water, 1,150')

The proposed project totaling 3,350 linear feet of new water distribution lines, fire hydrants, service lines, and valves will follow along existing road rights-of-way as shown on the attached exhibits.



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Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

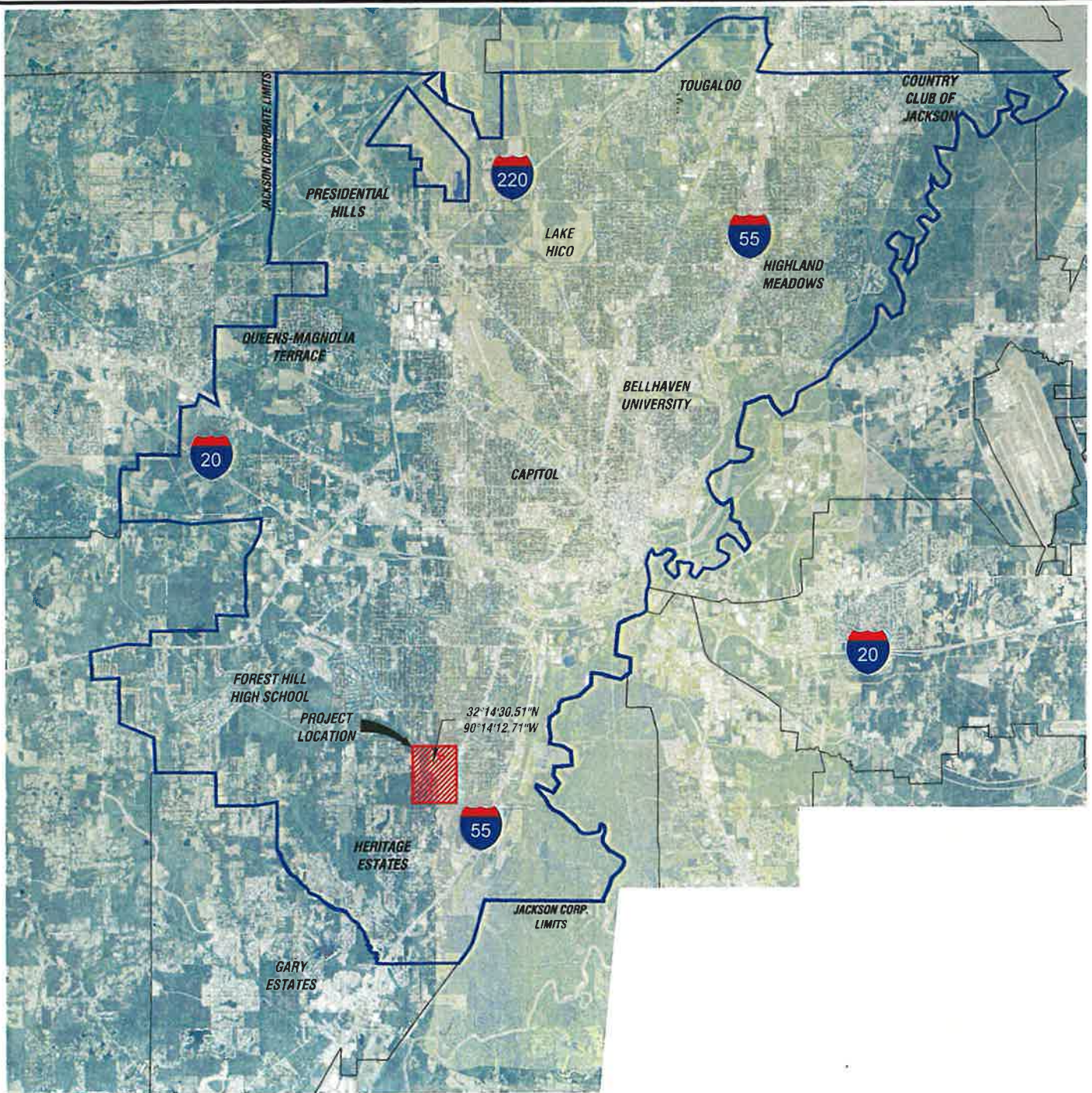
Sincerely,

A handwritten signature in black ink, appearing to read "James B. Wolf".

James B. Wolf, P.E., P.L.S.

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742



DATE: 07/10	DRAWN: RTS
CHECKED: MM	SCALE: 12000
REF C/L:	
EG SURFACE:	
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ENGINEERING & SURVEYING, LLC

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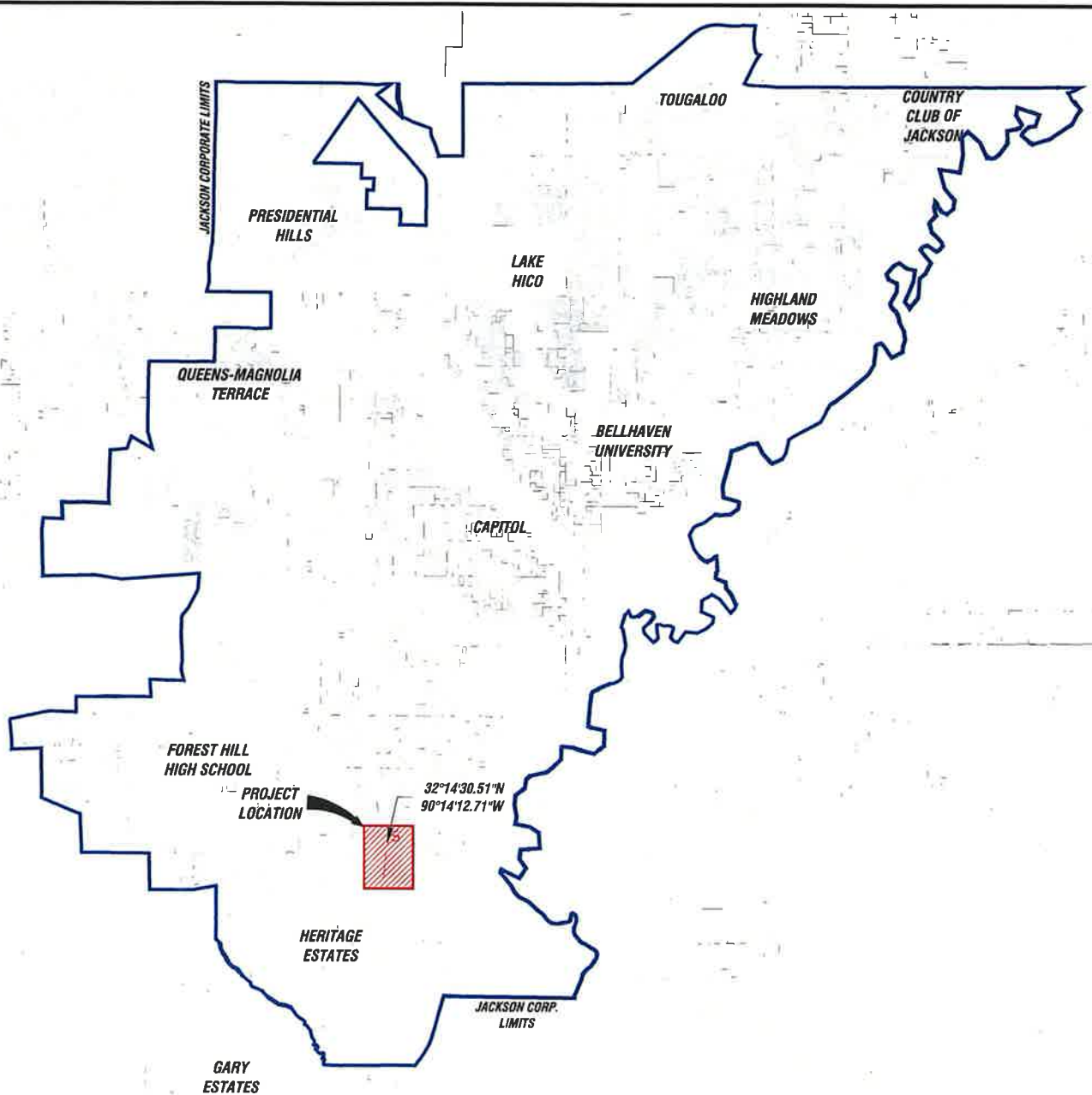
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PROJECT LOCATION: JACKSON, MS 39212
CLIENT: JXN WATER 1054 GREYMONT AVE. JACKSON, MS

PROJECT: SMALL DIAMETER DISTRIBUTION 2415 - WILDWOOD TERRACE
SHEET CONTENTS: CITY OF JACKSON MAP / PROJECT LOCATION

MAP NUMBER: 1 of 4
PROJECT NUMBER: B-10742



DATE: 07/10	DRAWN: RTS		PROJECT LOCATION: JACKSON, MS 39212	PROJECT: SMALL DIAMETER DISTRIBUTION 2415 - WILDWOOD TERRACE	MAP NUMBER 2 of 4
CHECKED: MM	SCALE: 12000		CLIENT: JXN WATER 1054 GREYMONT AVE. JACKSON, MS	SHEET CONTENTS: CITY OF JACKSON MAP / PROJECT LOCATION	PROJECT NUMBER B-10742
REF C/L:					
EG SURFACE:					
FG SURFACE:					

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NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE:	07/10	DRAWN:	RTS
CHECKED:	MM	SCALE:	600
REF C/L:			
EG SURFACE:			
FG SURFACE:			

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EST. 2004
www.benchmarksurvey.net 601-422-7781

PROJECT LOCATION:
JACKSON, MS 39212

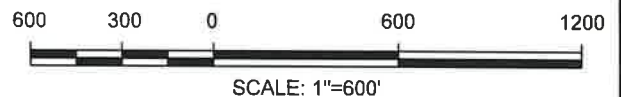
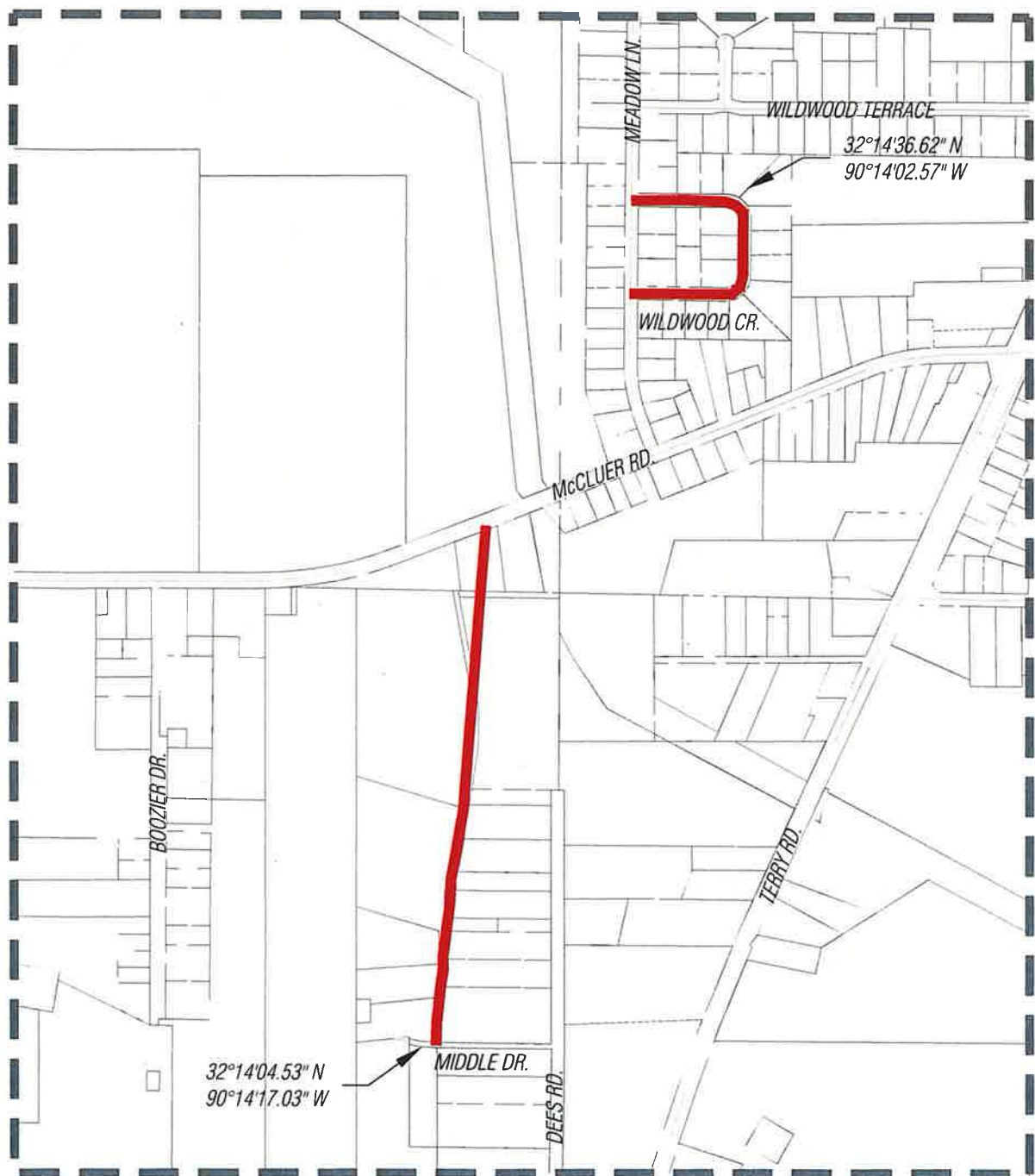
CLIENT:
JXN WATER
1054 GREYNOTT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2415 - WILDWOOD TERRACE

SHEET CONTENTS:
SCOPE OF WORK

MAP
NUMBER
3 of 4

PROJECT
NUMBER
B-10742



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10	DRAWN: RTS
CHECKED: MM	SCALE: 600
REF C/L:	
EG SURFACE:	
FG SURFACE:	

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PROJECT LOCATION:
JACKSON, MS 39212

CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2415 - WILDWOOD TERRACE

SHEET CONTENTS:
SCOPE OF WORK

MAP NUMBER 4 of 4
PROJECT NUMBER B-10742

July 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
JXN Water Project 2416 – Shadowlawn Heights Waterline Replacement Project
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for funds for the Shadowlawn Heights Waterline Replacement Project. The neighborhood has encountered multiple water and sewer leaks due to system condition. The proposed project consists of seven (7) locations totaling 4,910 linear feet of existing water lines ranging in size from 2" to 8". The new water lines will be a minimum size of 8" in diameter to support fire protection.

Below is a description of the street location of existing water lines anticipated for replacement as part of this project.

- Sweet Briar Dr – Sunny Lane Dr to Shadow Lawn (2" Water, 600')
- Sage Crest Ave - Sunny Lane Dr to Shadow Lawn (2" Water, 500')
- Will O Wisp Way – Altra Woods Blvd. to Oriole Dr (2" Water, 2,000')
- Barberry Ave – Wisteria Dr to Camellia Lane (2" Water, 460')
- Sumac Ave - Wisteria Dr to Camellia Lane (2" Water, 460')
- Lotus Ave - Wisteria Dr to Camellia Lane (2" Water, 460')
- Oleander Ave - Wisteria Dr to Camellia Lane (2" Water, 430')

The proposed project totaling 4,910 linear feet of new water distribution lines, fire hydrants, service lines, and valves will follow along existing road rights-of-way as shown on the attached exhibits.



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Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

Sincerely,

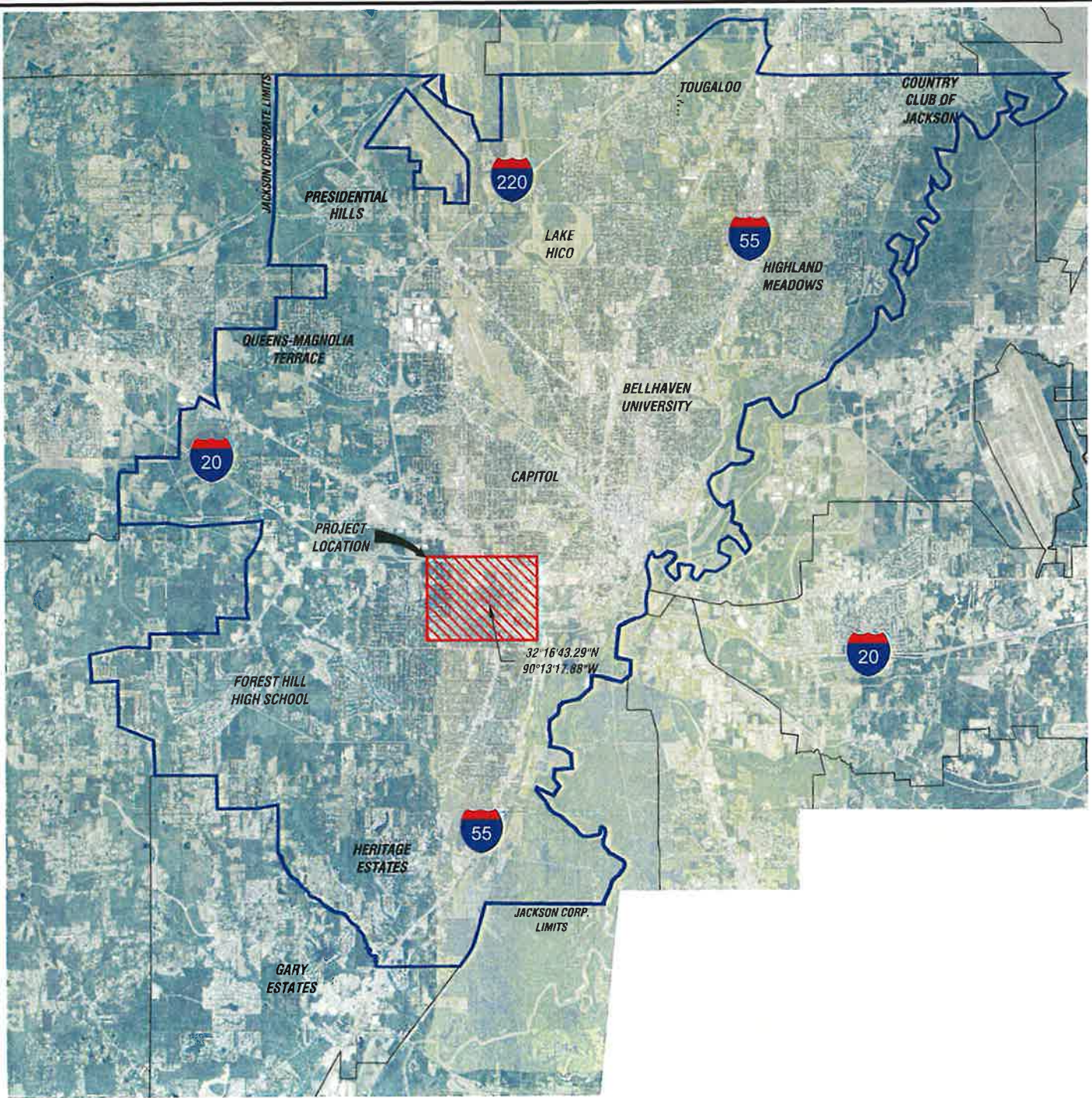
A handwritten signature in black ink, appearing to read "James B. Wolf".

James B. Wolf, P.E., P.L.S.

Benchmark Engineering & Surveying, LLC

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742



12000 6000 0 12000 24000



SCALE: 1"=12000'

DATE: 07/10 DRAWN: RTS
CHECKED: MM SCALE: 12000
REF C/L:
EG SURFACE:
FG SURFACE:

BENCHMARK
ENGINEERING & SURVEYING, LLC

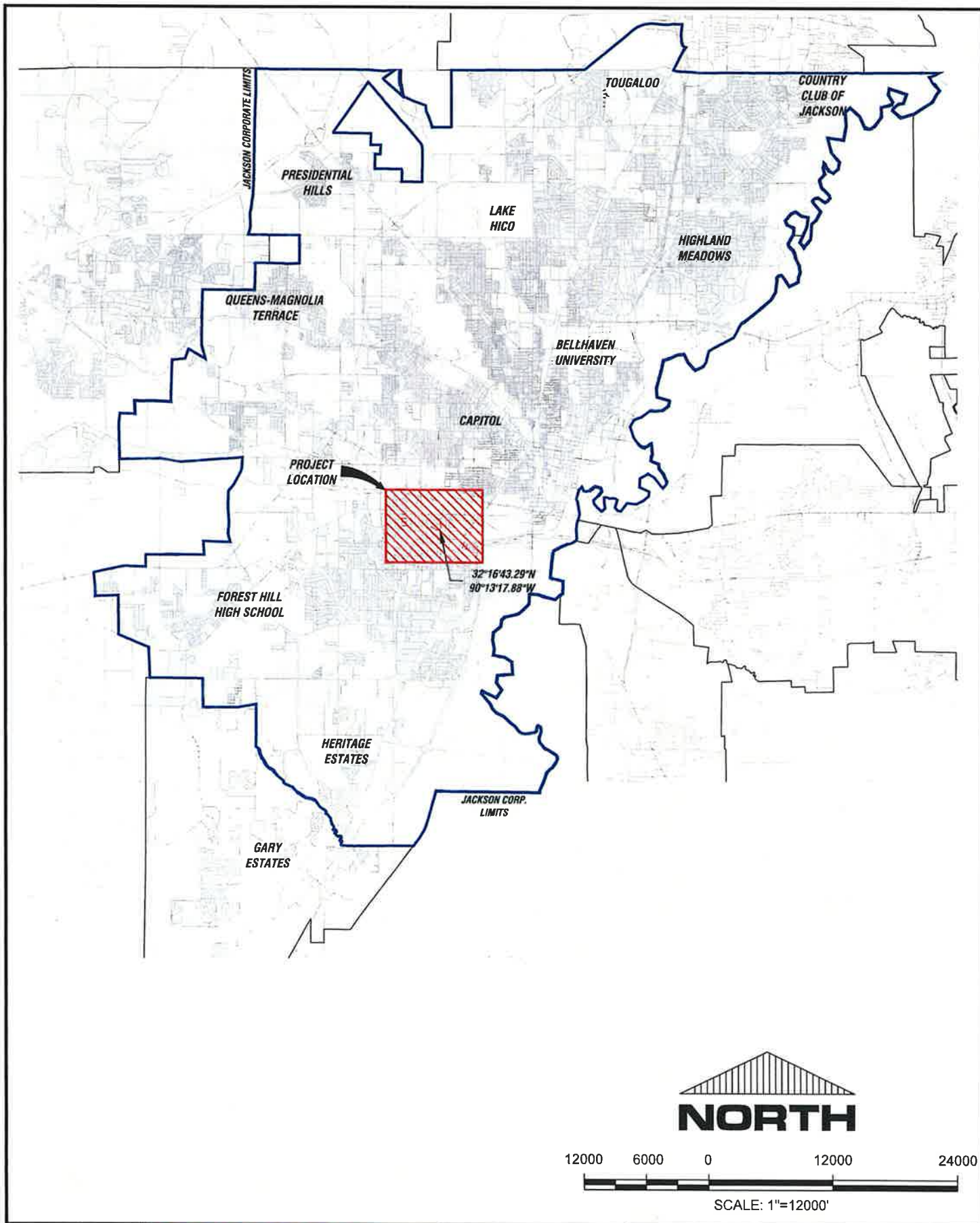
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PROJECT LOCATION:
JACKSON, MS 39212

CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2416 - SHADOWLAWN HEIGHTS
SHEET CONTENTS:
CITY OF JACKSON MAP / PROJECT LOCATION

MAP
NUMBER
1 of 4
PROJECT
NUMBER
B-10742

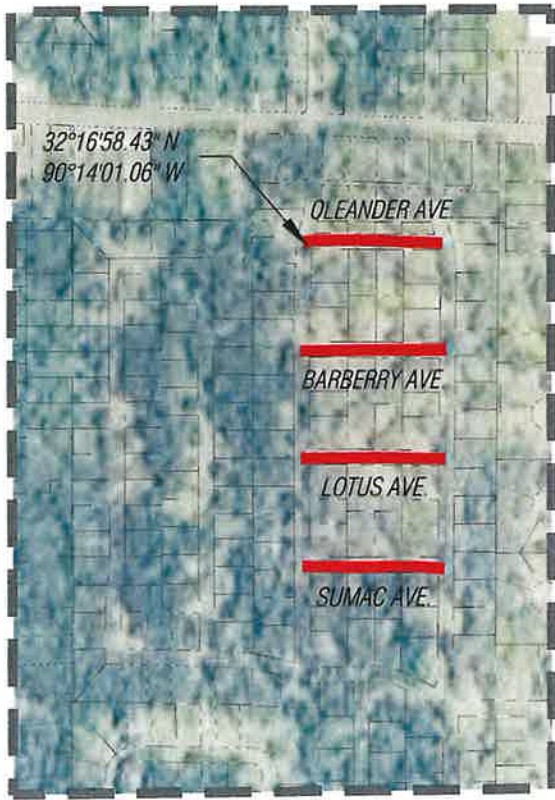


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CHECKED: MM	SCALE: 12000'		CLIENT: JXN WATER 1054 GREYMONT AVE. JACKSON, MS	SHEET CONTENTS: CITY OF JACKSON MAP / PROJECT LOCATION	PROJECT NUMBER B-10742
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FG SURFACE:					

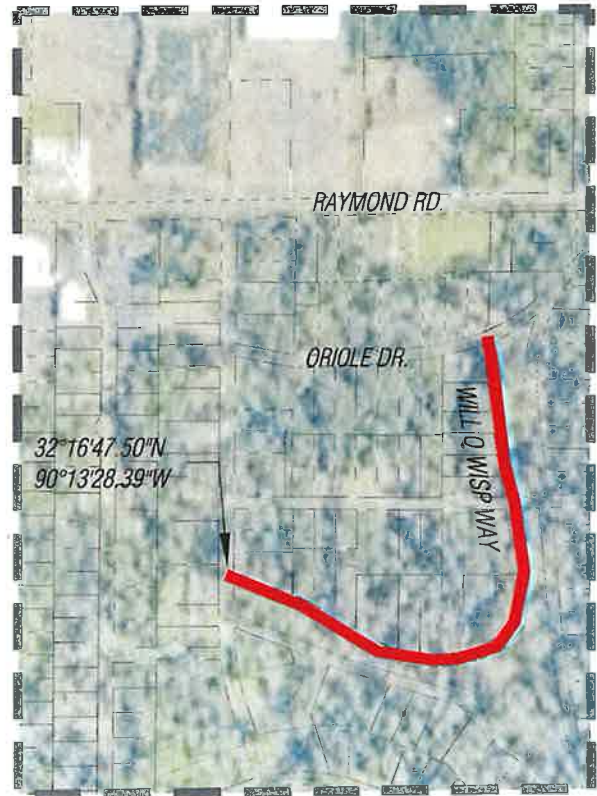
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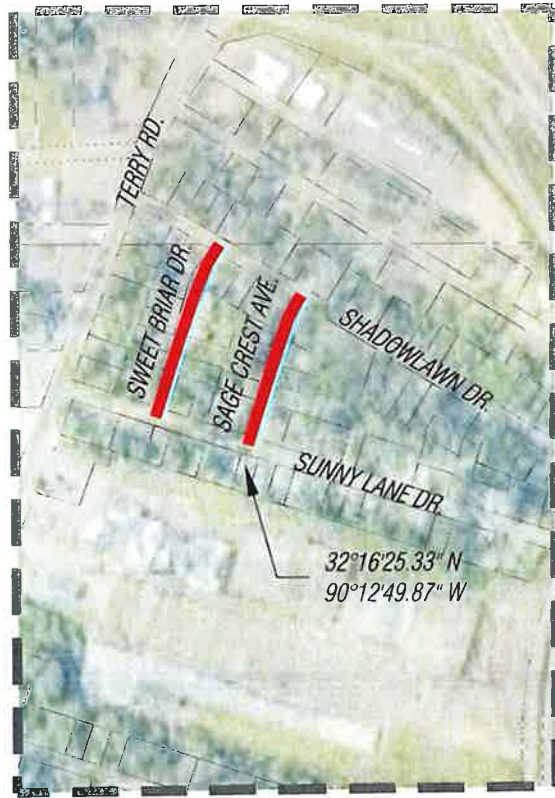
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OLEANDER AVENUE



WILL O WISP WAY



SWEET BRIAR DRIVE



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10 DRAWN: RTS
CHECKED: MM SCALE: 600
REF C/L:
EG SURFACE:
FG SURFACE:

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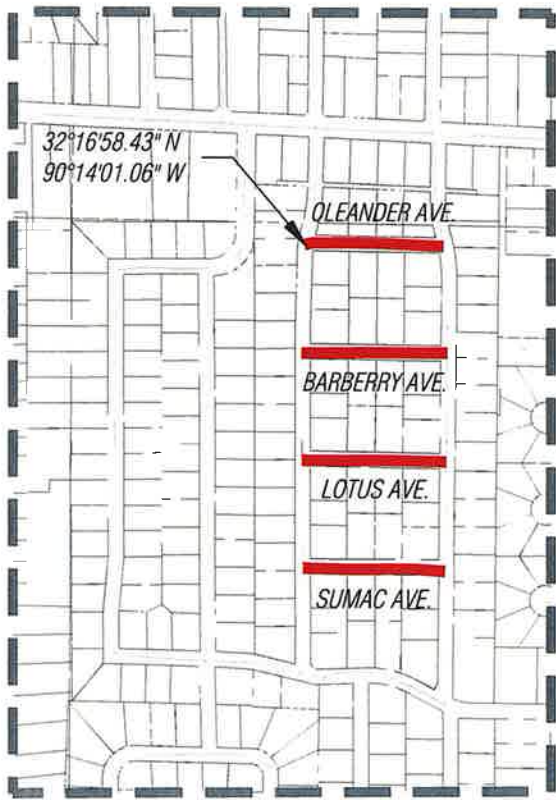
PROJECT LOCATION:
JACKSON, MS 39212

CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

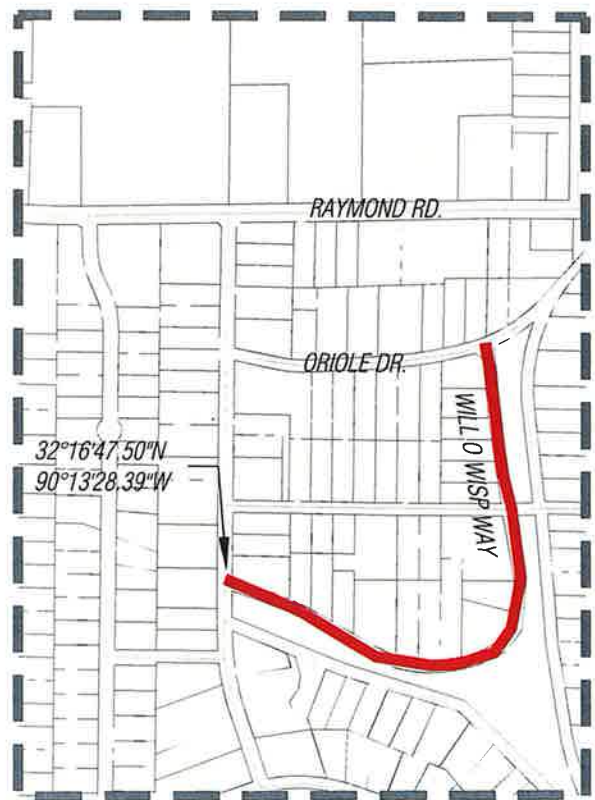
PROJECT:
SMALL DIAMETER DISTRIBUTION
2416 - SHADOWLAWN HEIGHTS

SHEET CONTENTS:
SCOPE OF WORK

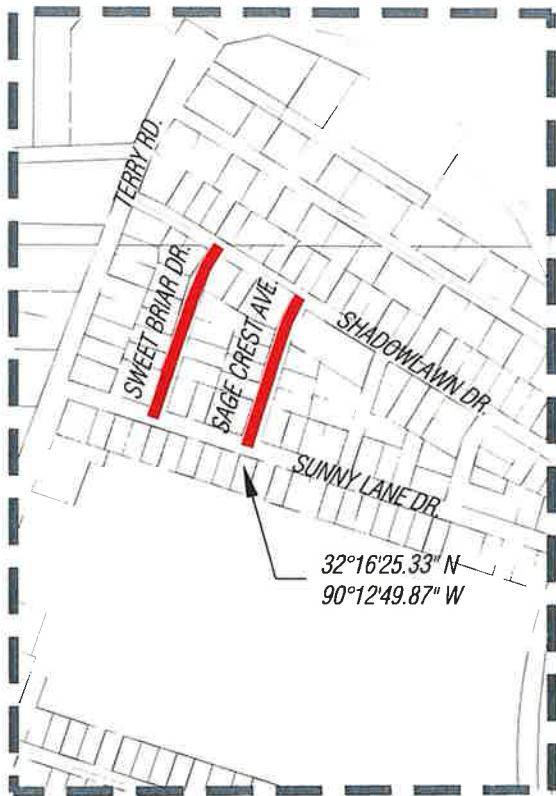
MAP
NUMBER
3 of 4
PROJECT
NUMBER
B-10742



OLEANDER AVENUE



WILL O WISP WAY



SWEET BRIAR DRIVE



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10 DRAWN: RTS
CHECKED: MM SCALE: 600
REF. C/L:
EG SURFACE:
FG SURFACE:

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PROJECT LOCATION:
JACKSON, MS 39212

CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2416 - SHADOWLAWN HEIGHTS

SHEET CONTENTS:
SCOPE OF WORK

MAP
NUMBER
4 of 4
PROJECT
NUMBER
B-10742

July 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
JXN Water Project 2417 – Terry Road Waterline Replacement Project
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for funds for the Terry Road Waterline Replacement Project. The neighborhood has encountered multiple water and sewer leaks due to system condition. The proposed project consists of two (2) locations totaling 1,420 linear feet of existing water lines ranging in size from 2" to 8". The new water lines will be a minimum size of 8" in diameter to support fire protection.

Below is a description of the street location of existing water lines anticipated for replacement as part of this project.

- Evans Dr – Terry Rd to I-55 (2" Water, 940')
- Bounds Rd – Terry Rd to I-55 (2" Water, 480')

The proposed project totaling 1,420 linear feet of new water distribution lines, fire hydrants, service lines, and valves will follow along existing road rights-of-way as shown on the attached exhibits.

Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

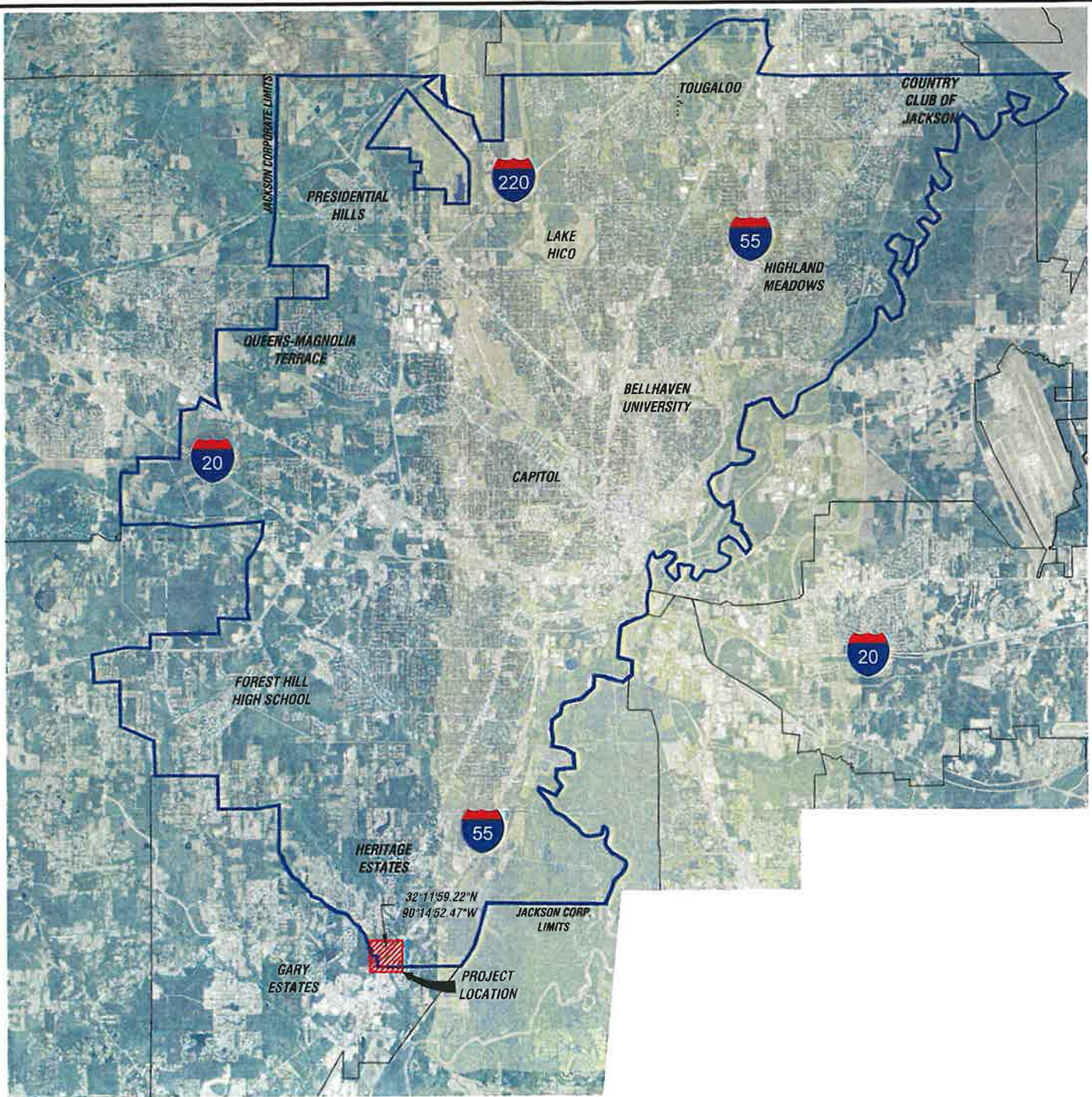
Sincerely,



James B. Wolf, P.E., P.L.S.

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742



12000 6000 0 12000 24000



SCALE: 1"=12000'

DATE: 07/10	DRAWN: RTS
CHECKED: MM	SCALE: 12000
REF C/L:	
EG SURFACE:	
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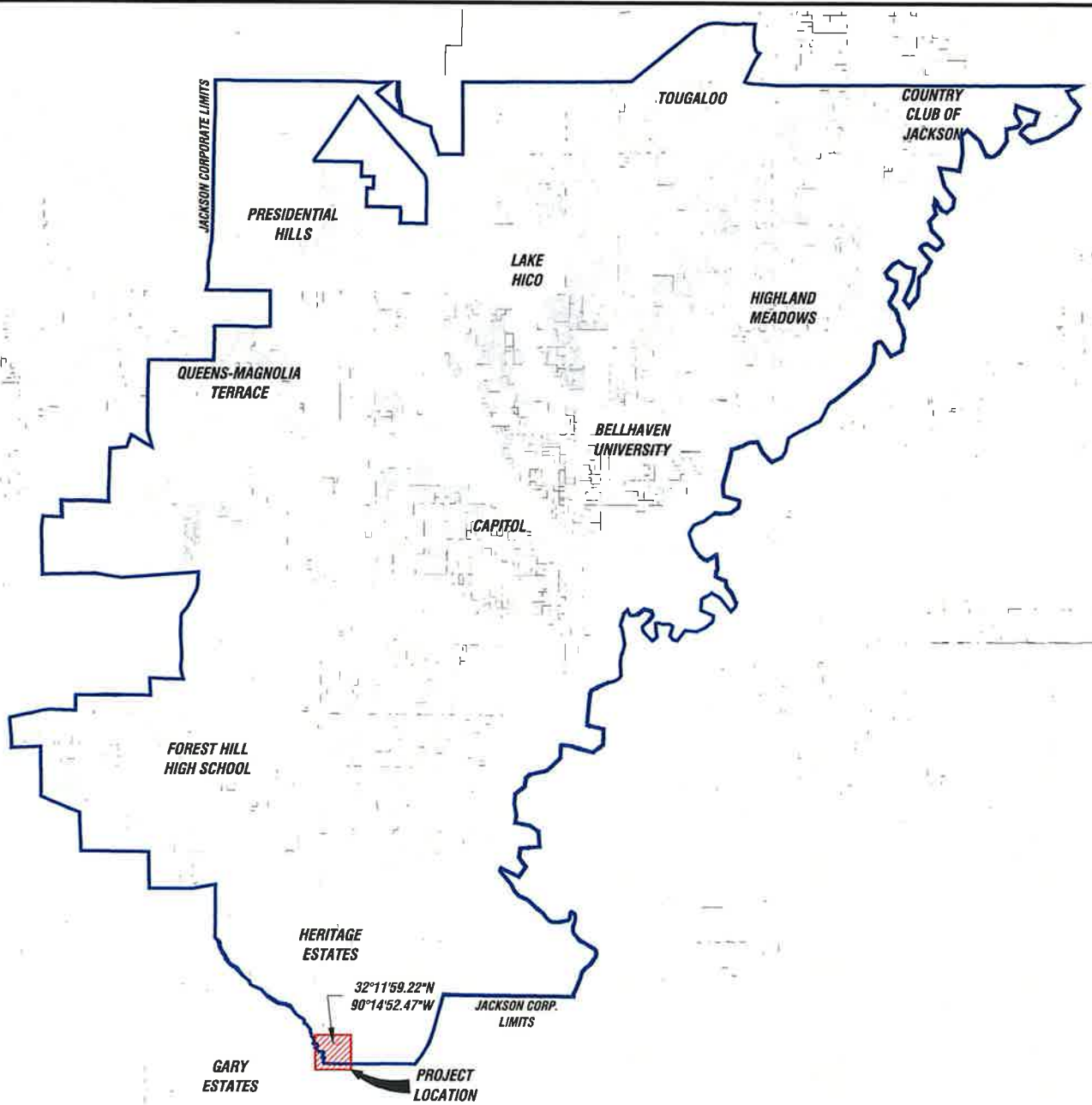
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PROJECT LOCATION:
JACKSON, MS 39272

CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2417 - TERRY ROAD
SHEET CONTENTS:
CITY OF JACKSON MAP / PROJECT LOCATION

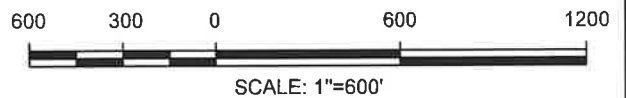
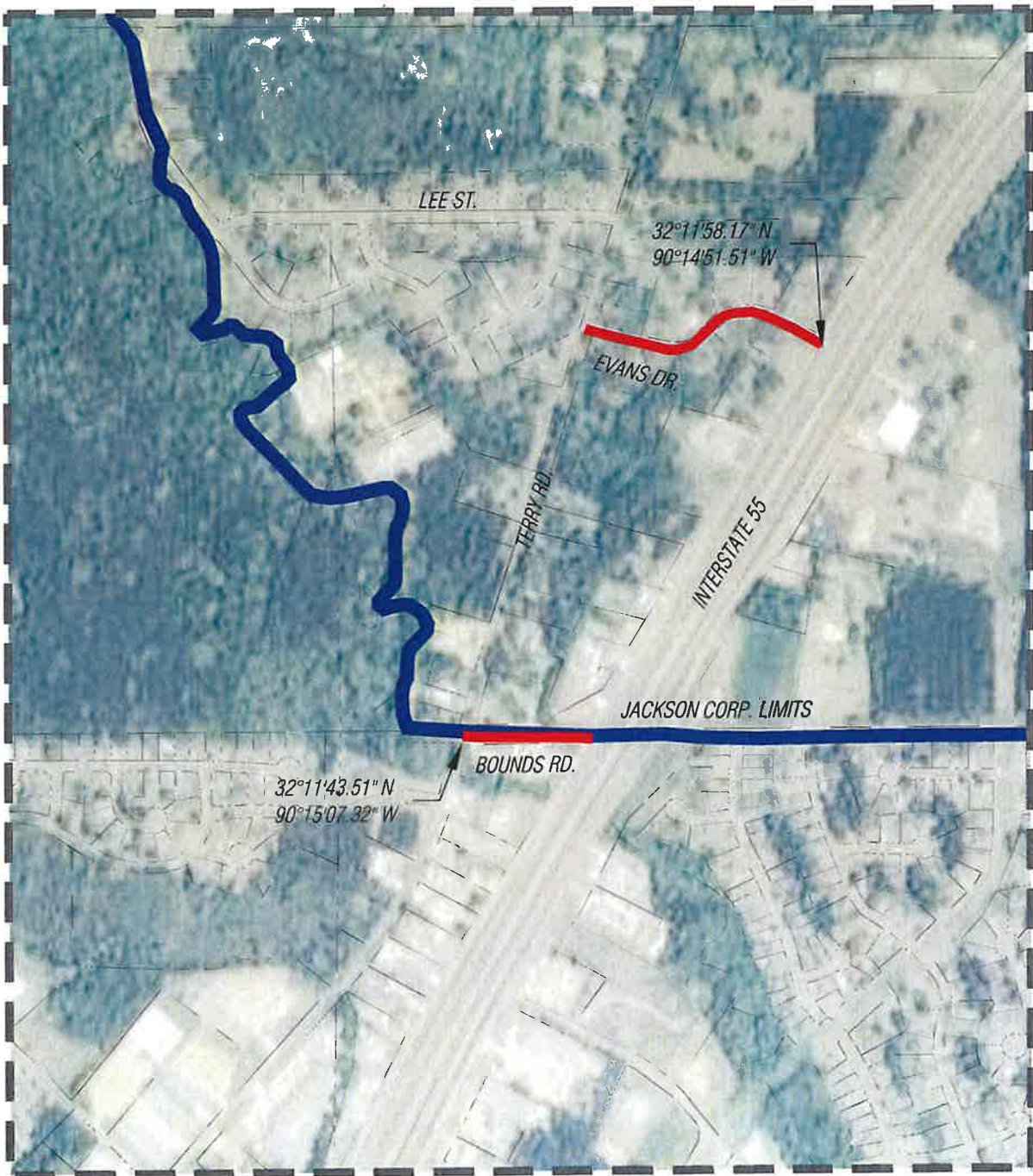
MAP
NUMBER
1 of 4
PROJECT
NUMBER
B-10742



SCALE: 1"=12000'

DATE: 07/10	DRAWN: RTS		PROJECT LOCATION: JACKSON, MS 39272	PROJECT: SMALL DIAMETER DISTRJBUTION 2417 - TERRY ROAD	MAP NUMBER 2 of 4
CHECKED: MM	SCALE: 12000		CLIENT: JXN WATER 1054 GREYMONT AVE JACKSON, MS	SHEET CONTENTS: CITY OF JACKSON MAP / PROJECT LOCATION	PROJECT NUMBER B-10742
REF C/L:					
EG SURFACE:					
FG SURFACE:					

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NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10 DRAWN: RTS
CHECKED: MM SCALE: 600
REF C/L:
EG SURFACE:
FG SURFACE:

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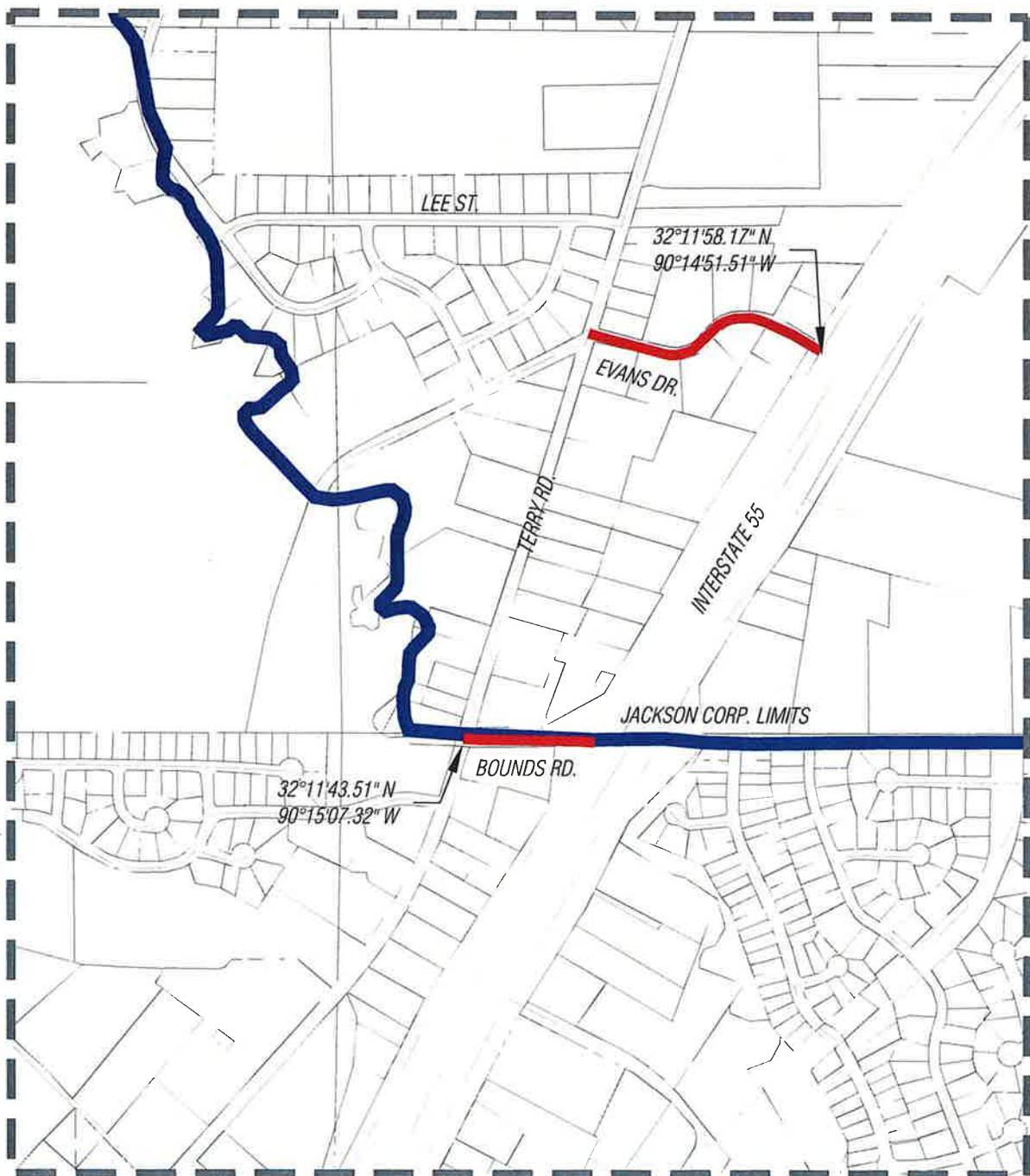
PROJECT LOCATION:
JACKSON, MS 39272

CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2417 - TERRY ROAD

SHEET CONTENTS:
SCOPE OF WORK

MAP
NUMBER
3 of 4
PROJECT
NUMBER
B-10742



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10	DRAWN: RTS
CHECKED: MM	SCALE: 600
REF C/L:	
EG SURFACE:	
FG SURFACE:	

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PROJECT LOCATION: JACKSON, MS 39272
CLIENT: JXN WATER 1054 GREYMONT AVE JACKSON, MS

PROJECT: SMALL DIAMETER DISTRIBUTION 2417 - TERRY ROAD
SHEET CONTENTS: SCOPE OF WORK

MAP NUMBER 4 of 4
PROJECT NUMBER B-10742

July 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
JXN Water Project 2418 – Lake Ridgelea Waterline Replacement Project
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for funds for the Lake Ridgelea Waterline Replacement Project. The neighborhood has encountered multiple water and sewer leaks due to system condition. The proposed project consists of ten (10) locations totaling 11,809 linear feet of existing water lines ranging in size from 2" to 8". The new water lines will be a minimum size of 8" in diameter to support fire protection.

Below is a description of the street location of existing water lines anticipated for replacement as part of this project.

- Reel St – W Ridge Rd to Hook St (2" Water, 1,230')
- W Ridge Rd – Hook St to Rod Rd (2" Water, 1,324')
- Meadow Lane – Lake Shore Dr to S Ridge Rd (2" Water, 1,780')
- Lure Ave – Lake Shore Dr to Turtle Rd (2" Water, 1,250')
- Lake Shore Dr – S Ridge Rd to Pike Ave/Mary Lane (4" Water, 1,950')
- Pike Ave – Mary Lane to Turtle Rd (2" Water, 725')
- Park Ave – Mary Lane to Gary Rd (2" Water, 800')
- Mary Lane – Lakeshore Dr to Oak Ave (4" Water, 750')
- Oak Ave – Mary Lane to Gary Rd (4" Water, 500')
- Lake Shore Dr – Gary Rd to Mary Lane/Park Ave (2" Water, 1,500')



The proposed project totaling 11,809 linear feet of new water distribution lines, fire hydrants, service lines, and valves will follow along existing road rights-of-way as shown on the attached exhibits.

Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

Sincerely,

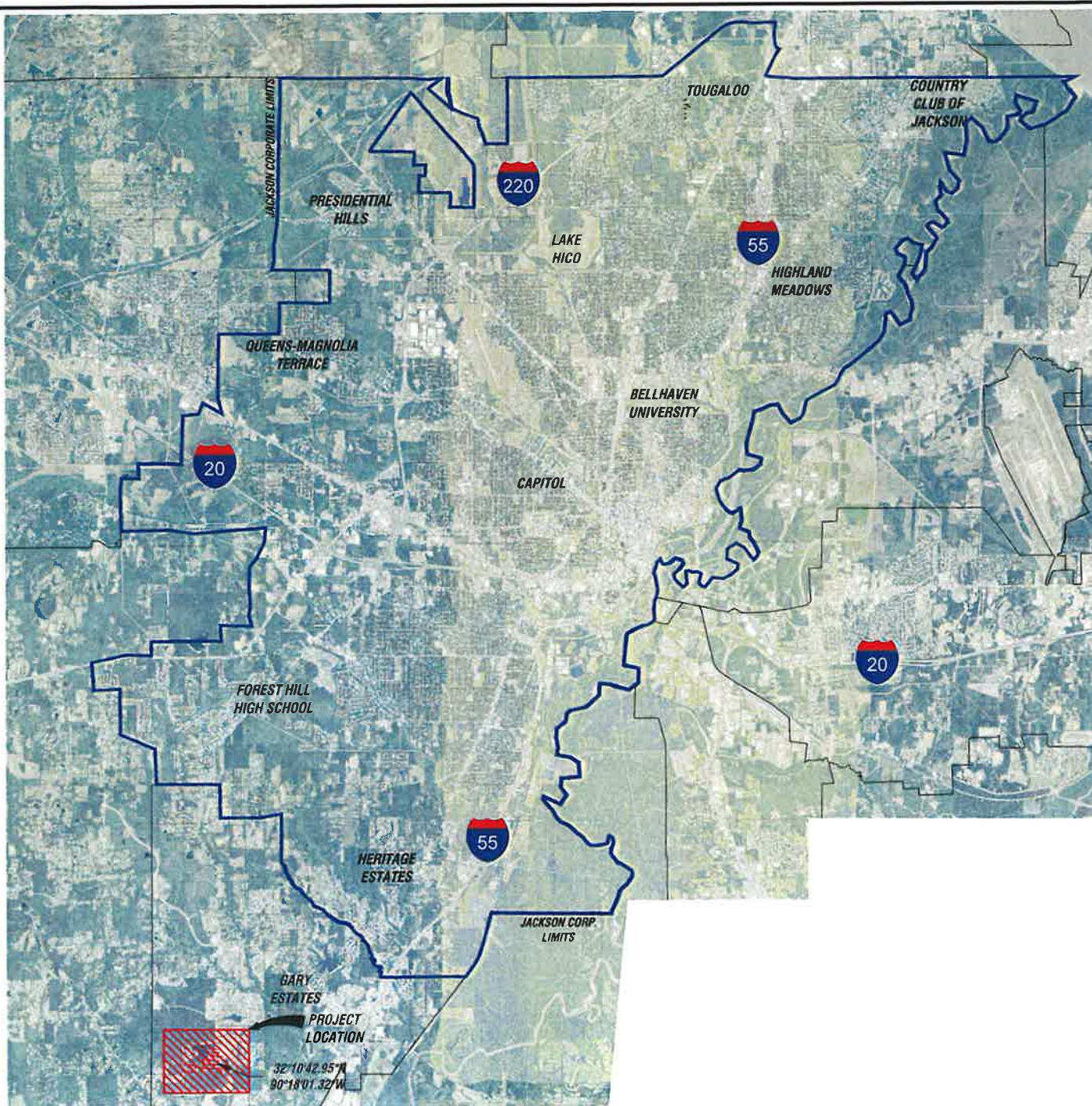
A handwritten signature in black ink, appearing to read "James B. Wolf".

James B. Wolf, P.E., P.L.S.

Benchmark Engineering & Surveying, LLC

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742



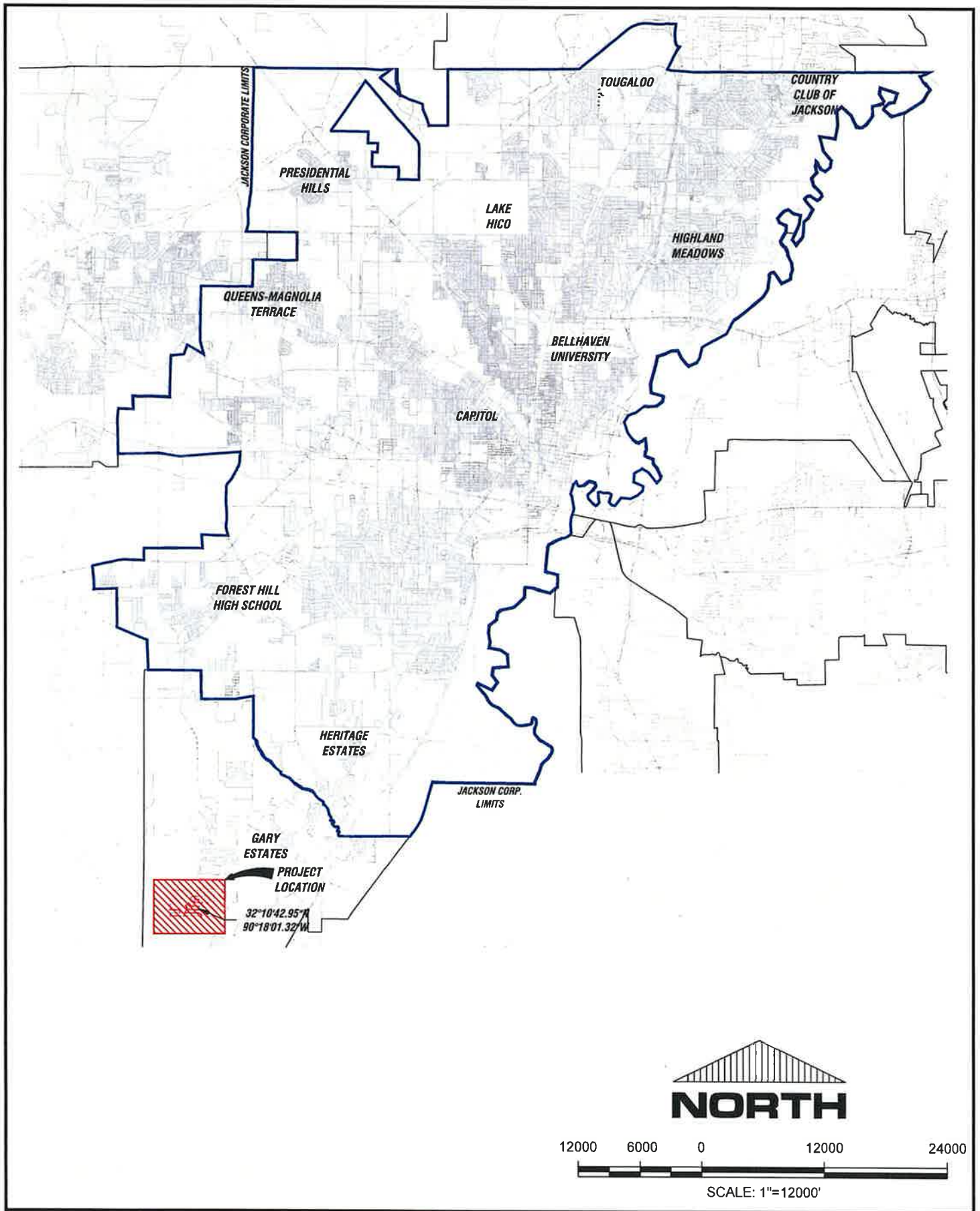
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CHECKED: MM	SCALE: 12000		CIENT: JXN WATER	SHEET CONTENTS: CITY OF JACKSON MAP / PROJECT LOCATION	PROJECT NUMBER B-10742
REF C/L:			1054 GREYMONT AVE JACKSON, MS		
EG SURFACE:					
FG SURFACE:					

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SCALE: 1"=12000'

DATE: 07/10	DRAWN: RTS
CHECKED: MM	SCALE: 12000
REF C/L:	
EG SURFACE:	
FG SURFACE:	

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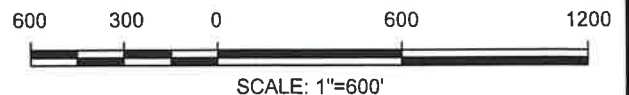
PROJECT LOCATION:
JACKSON, MS 39272

CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2418 - LAKE RIDGELEA

SHEET CONTENTS:
CITY OF JACKSON MAP / PROJECT LOCATION

MAP
NUMBER
2 of 4
PROJECT
NUMBER
B-10742



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

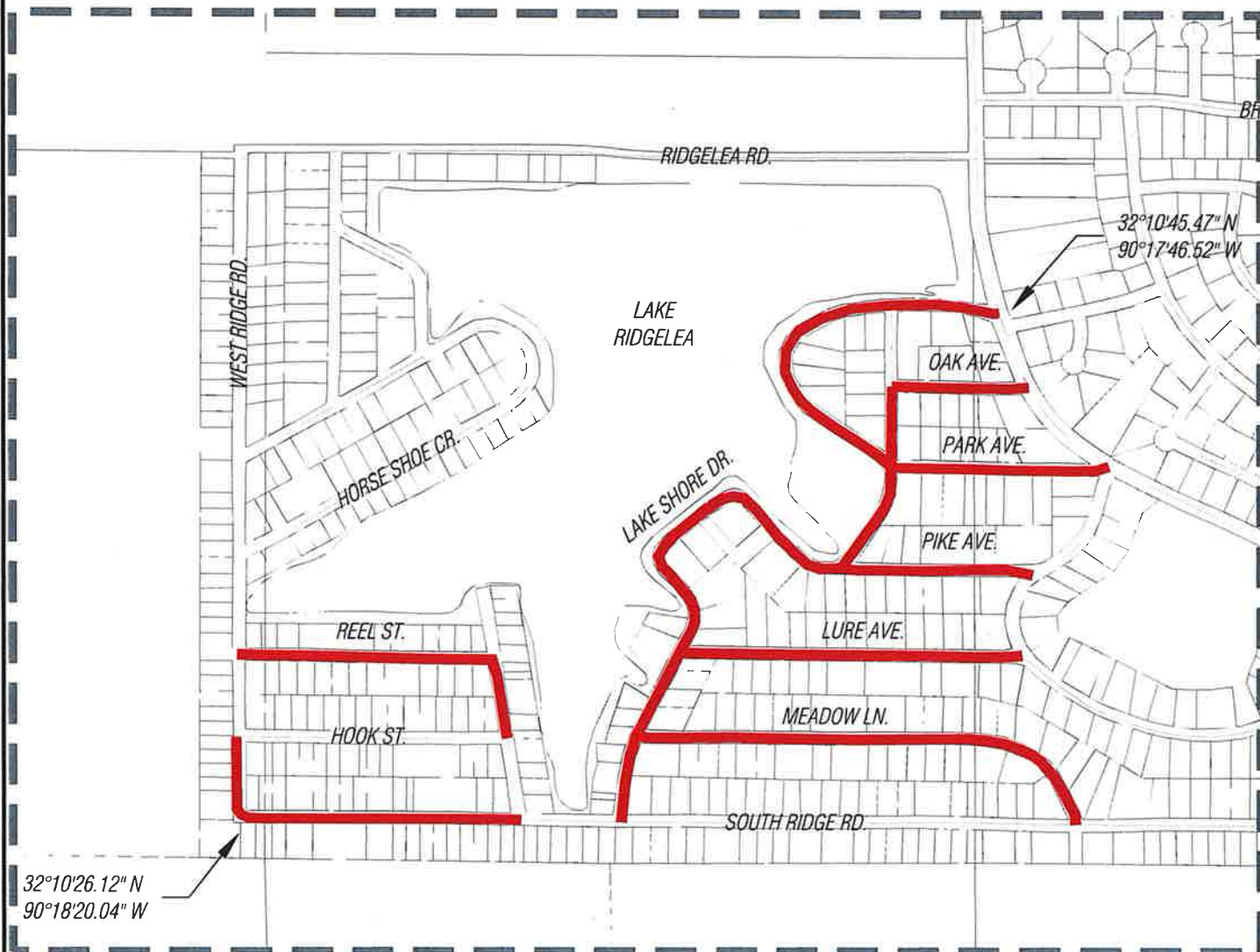
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EG SURFACE:	
FG SURFACE:	

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PROJECT LOCATION:
JACKSON, MS 39272
CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2418 - LAKE RIDGELEA
SHEET CONTENTS:
SCOPE OF WORK

MAP
NUMBER
3 of 4
PROJECT
NUMBER
B-10742



SCALE: 1"=600'

NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10	DRAWN: RTS
CHECKED: MM	SCALE: 600
REF C/L:	
EG SURFACE:	
FG SURFACE:	

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PROJECT LOCATION: JACKSON, MS 39272
CLIENT: JXN WATER 1054 GREYMONT AVE. JACKSON, MS

PROJECT: SMALL DIAMETER DISTRIBUTION 2418 - LAKE RIDGELEA
SHEET CONTENTS: SCOPE OF WORK

MAP NUMBER 4 of 4
PROJECT NUMBER B-10742

July 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
JXN Water Project 2419 – Richwood Estates Waterline Replacement Project
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for funds for the Richwood Estates Waterline Replacement Project. The neighborhood has encountered multiple water and sewer leaks due to system condition. The proposed project consists of five (5) locations totaling 6,195 linear feet of existing water lines ranging in size from 2" to 8". The new water lines will be a minimum size of 8" in diameter to support fire protection.

Below is a description of the street location of existing water lines anticipated for replacement as part of this project.

- Northwood Cir – Hamilton Blvd to Dead End (2" Water, 1,800')
- Richwood Dr – W County Line to Dead End (2" & 4" Water, 1,175')
- Hamilton Blvd – Livingston Rd to W County Line (4" Water, 2,300')
- Homewood Cir – Hamilton Blvd to Dead End (2" Water, 270')
- Oak Tree Dr – Hamilton Blvd to Countrywood (2" Water, 650')

The proposed project totaling 6,195 linear feet of new water distribution lines, fire hydrants, service lines, and valves will follow along existing road rights-of-way as shown on the attached exhibits.



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Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

Sincerely,

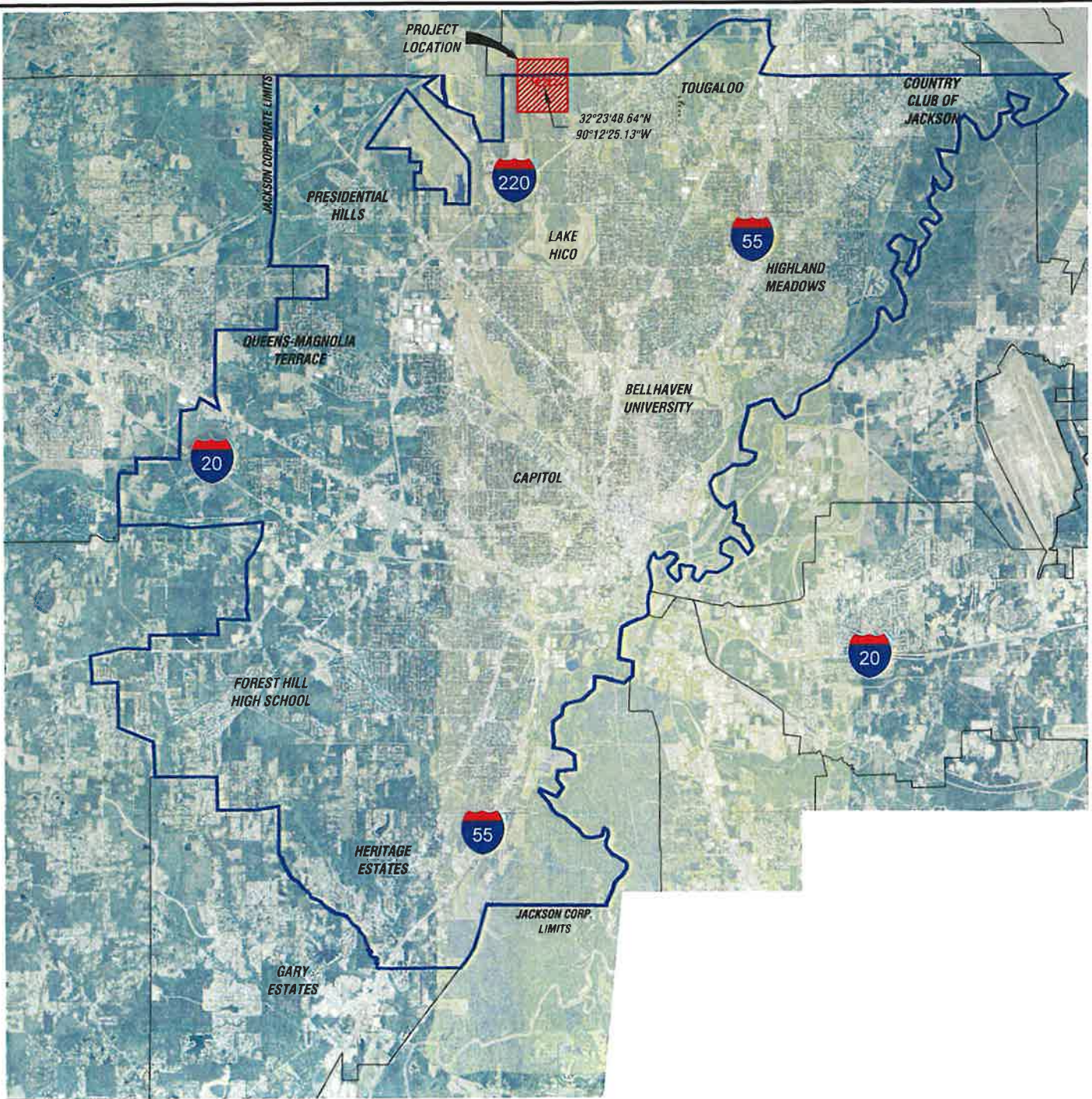
A handwritten signature in black ink, appearing to read "James B. Wolf".

James B. Wolf, P.E., P.L.S.

Benchmark Engineering & Surveying, LLC

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742



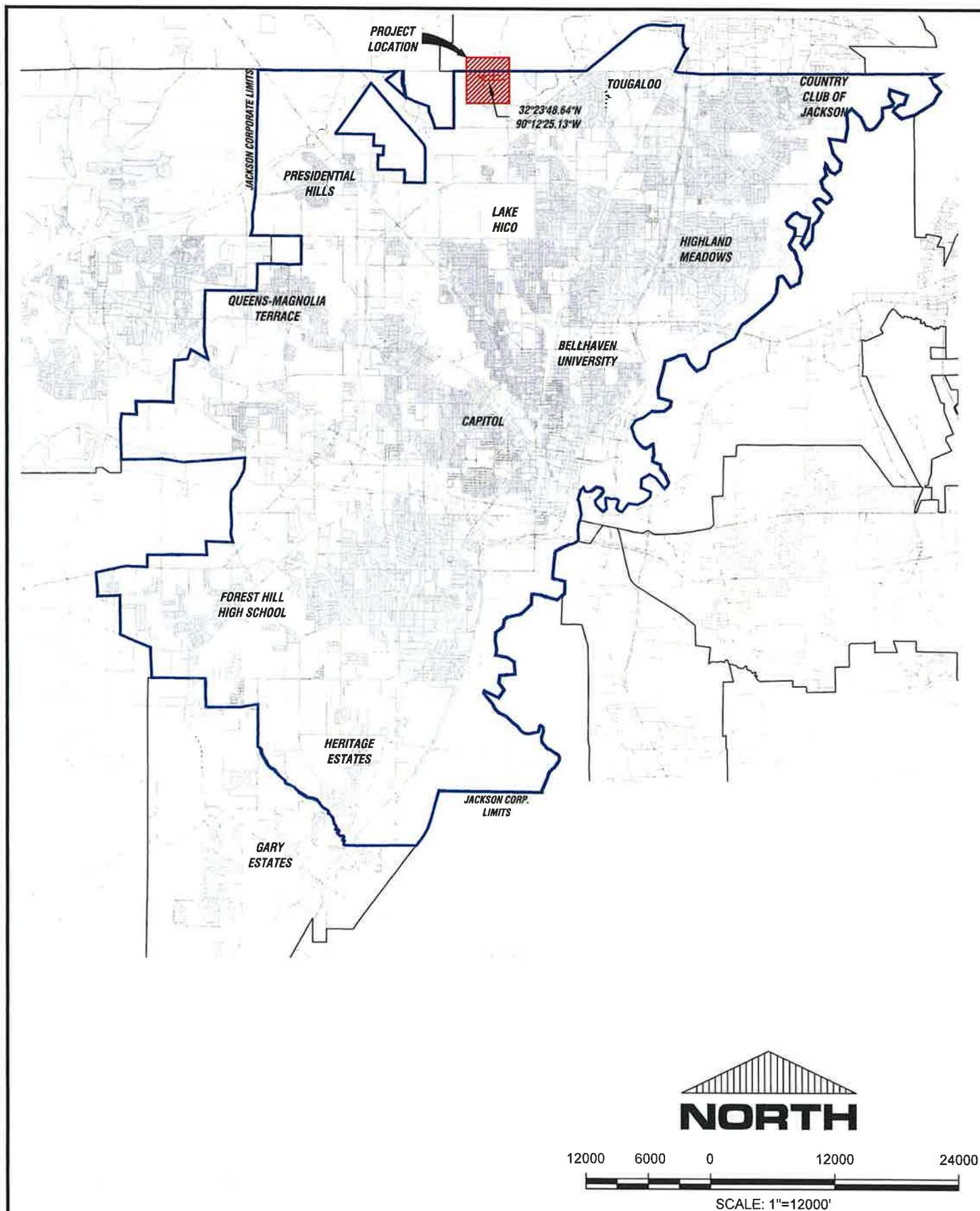
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CHECKED: MM	SCALE: 12000		CLIENT: JXN WATER 1054 GREYMONT AVE. JACKSON, MS	SHEET CONTENTS: CITY OF JACKSON MAP / PROJECT LOCATION	PROJECT NUMBER B-10742
REF C/L:					
EQ SURFACE:					
FG SURFACE:					

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ENGINEERING & SURVEYING, LLC

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BRANDON | FLOWOOD | MADISON

www.benchmarkms.com 601.482.7726



DATE: 07/10	DRAWN: RTS
CHECKED: MM	SCALE: 12000
REF C/L:	
EG SURFACE:	
FG SURFACE:	

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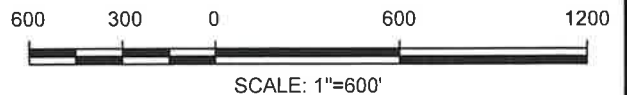
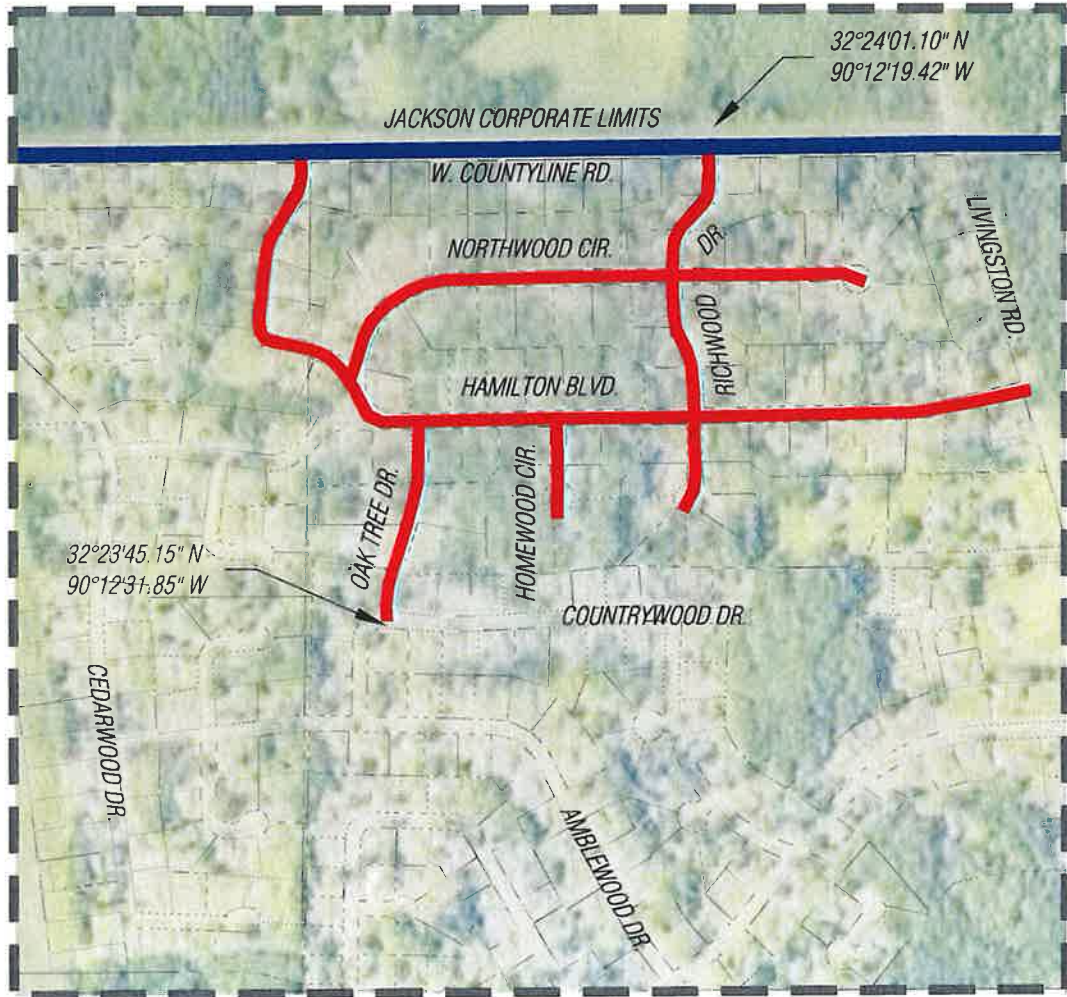
PROJECT LOCATION:
JACKSON, MS 39213

CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2419 - RICHWOOD ESTATES

SHEET CONTENTS:
CITY OF JACKSON MAP / PROJECT LOCATION

MAP NUMBER
2 of 4
PROJECT NUMBER
B-10742



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10	DRAWN: RTS
CHECKED: MM	SCALE: 600
REF C/L:	
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FG SURFACE:	

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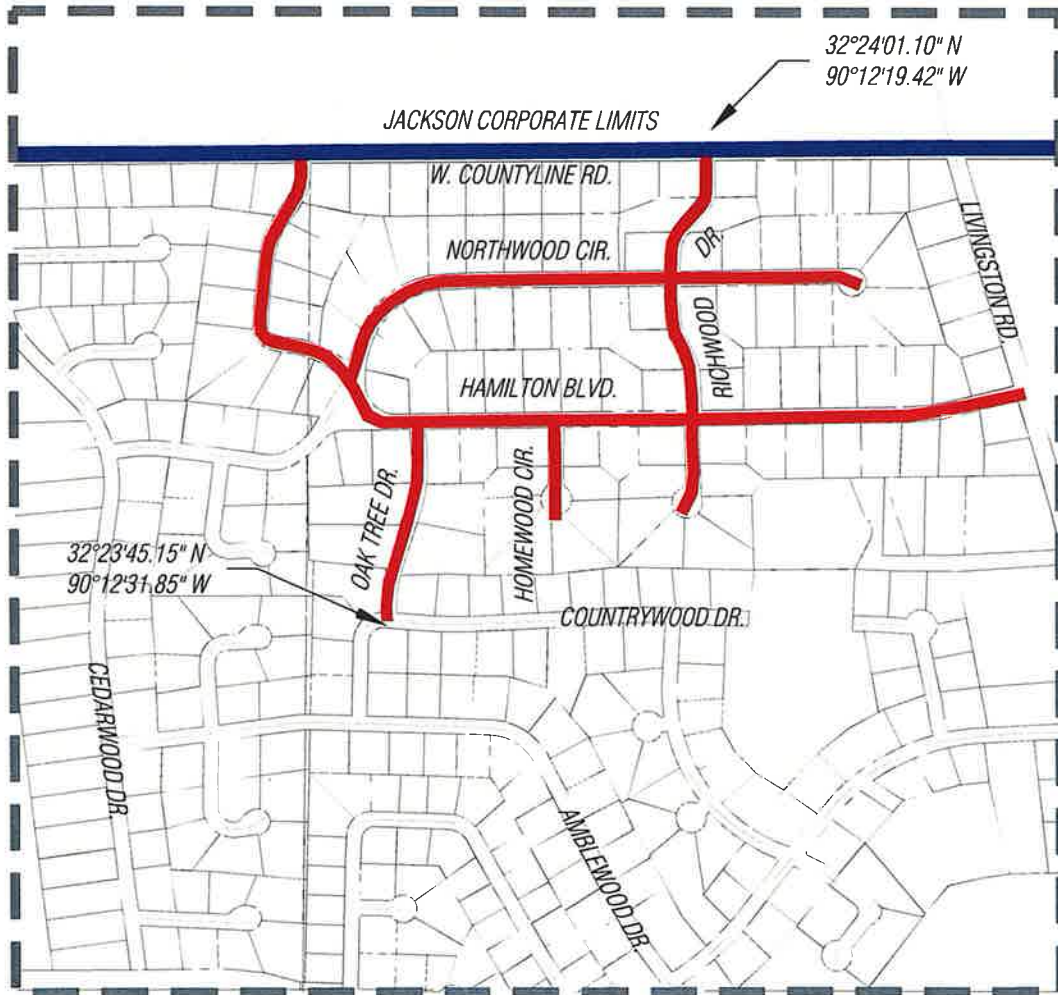
PROJECT LOCATION:
JACKSON, MS 39213

CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2419 - RICHWOOD ESTATES

SHEET CONTENTS:
SCOPE OF WORK

MAP NUMBER
3 of 4
PROJECT NUMBER
B-10742



SCALE: 1"=600'

NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE:	07/10	DRAWN:	RTS
CHECKED:	MM	SCALE:	600
REF C/L:			
EG SURFACE:			
FG SURFACE:			

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PROJECT LOCATION: JACKSON, MS 39213
CLIENT: JXN WATER 1054 GREYMOAT AVE. JACKSON, MS

PROJECT: SMALL DIAMETER DISTRIBUTION 2419 - RICHWOOD ESTATES
SHEET CONTENTS: SCOPE OF WORK

MAP NUMBER 4 of 4
PROJECT NUMBER B-10742

July 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
JXN Water Project 2420 – Rollingwood Waterline Replacement Project
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for funds for the Rollingwood Waterline Replacement Project. The neighborhood has encountered multiple water and sewer leaks due to system condition. The proposed project consists of six (6) locations totaling 8,700 linear feet of existing water lines ranging in size from 2" to 8". The new water lines will be a minimum size of 8" in diameter to support fire protection.

Below is a description of the street location of existing water lines anticipated for replacement as part of this project.

- Banyan Dr – Rollingwood Dr to Rollingwood (4" Water, 550')
- Rollingwood Dr – Yucca Dr to Yucca Dr (4" Water, 5,200')
- Amour Dr - Rollingwood Dr to Rollingwood (4" Water, 750')
- Calvo Dr - Rollingwood Dr to Rollingwood (4" Water, 530')
- Poinciana Dr - Rollingwood Dr to Rollingwood (4" Water, 750')
- Dendron Dr - Rollingwood Dr to Rollingwood (4" Water, 920')

The proposed project totaling 8,700 linear feet of new water distribution lines, fire hydrants, service lines, and valves will follow along existing road rights-of-way as shown on the attached exhibits.



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Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

Sincerely,

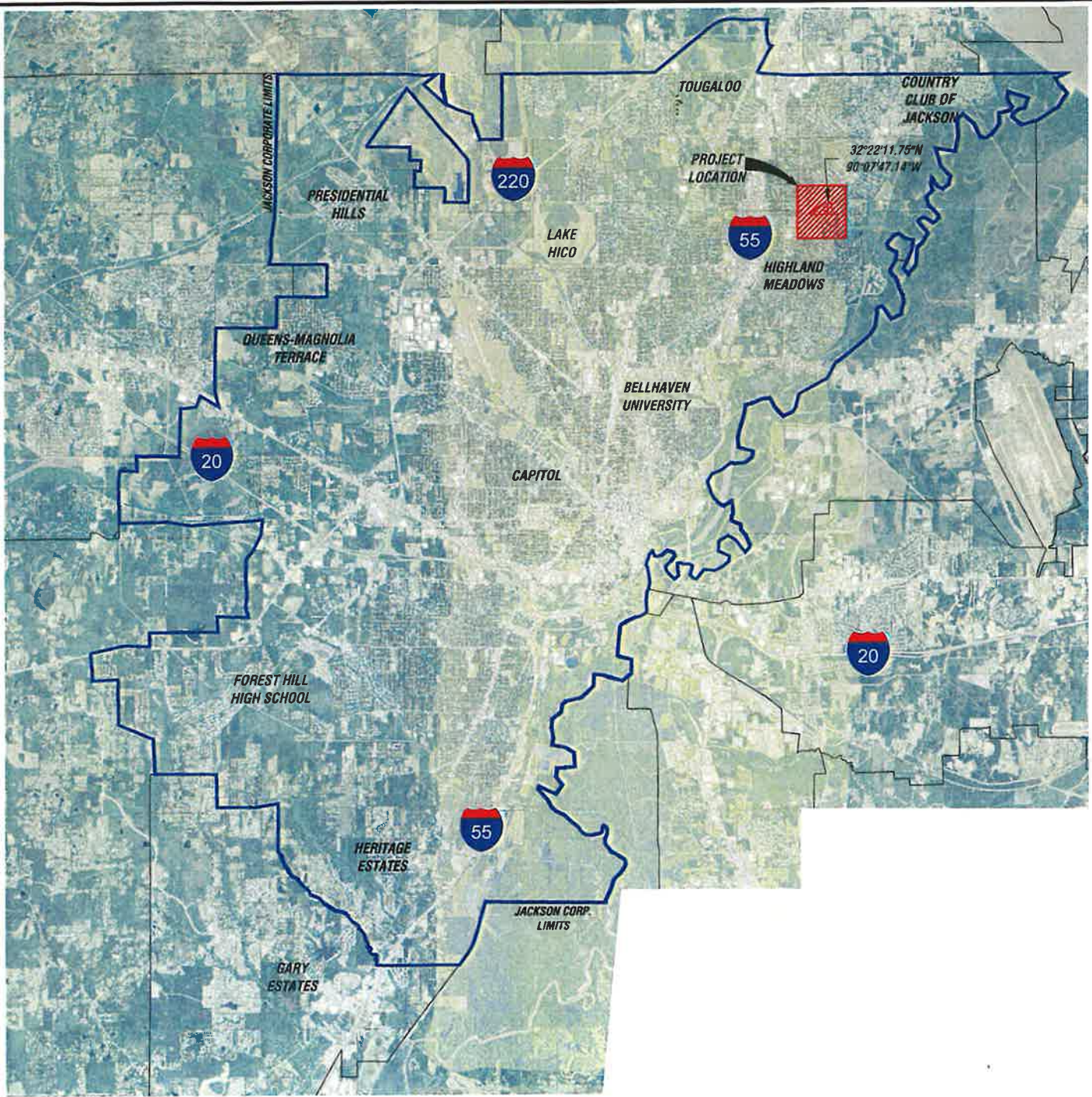
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James B. Wolf, P.E., P.L.S.

Benchmark Engineering & Surveying, LLC

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742



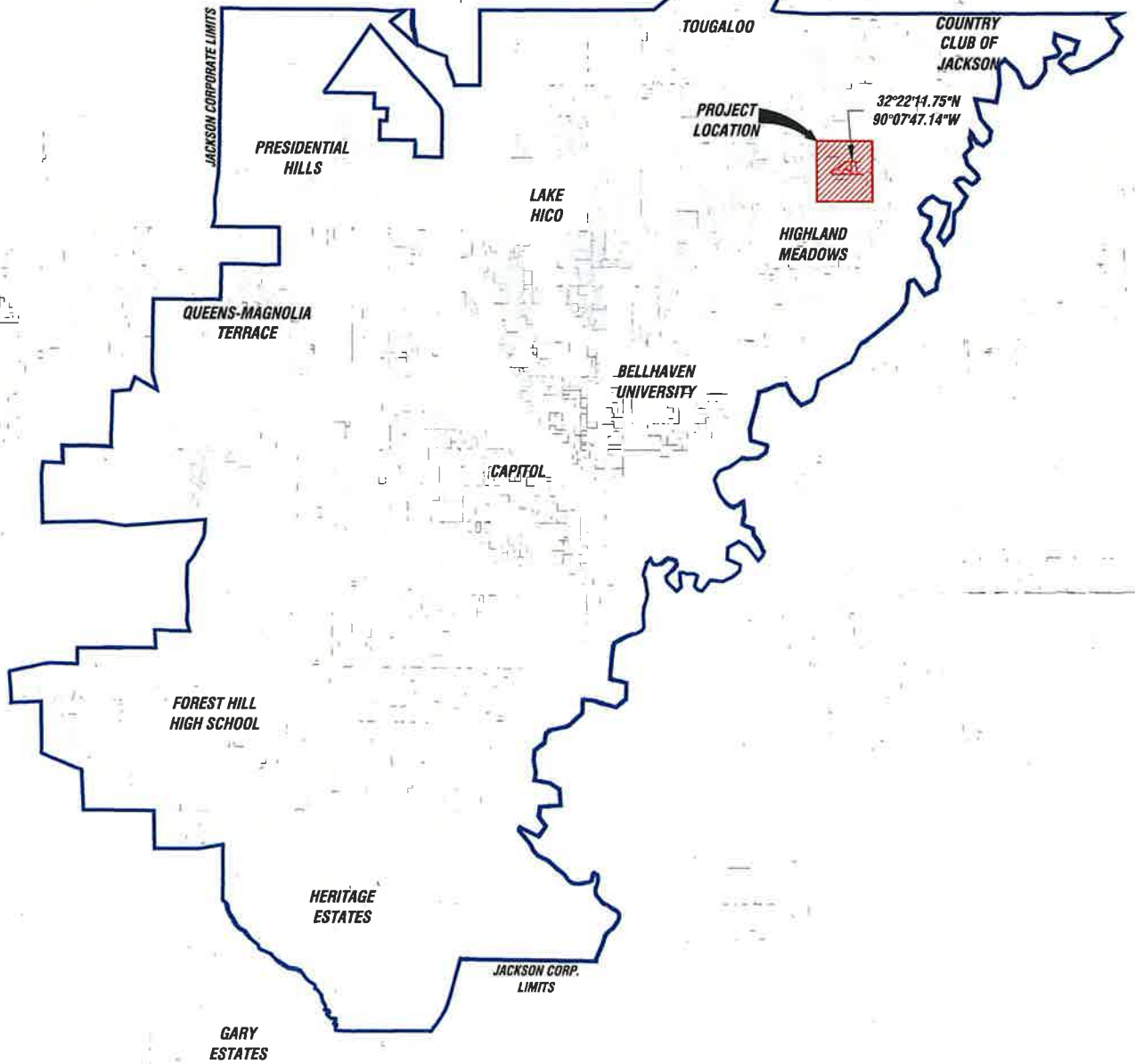
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REF C/L:					
EG SURFACE:					
FG SURFACE:					

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DATE: 07/10	DRAWN: RTS
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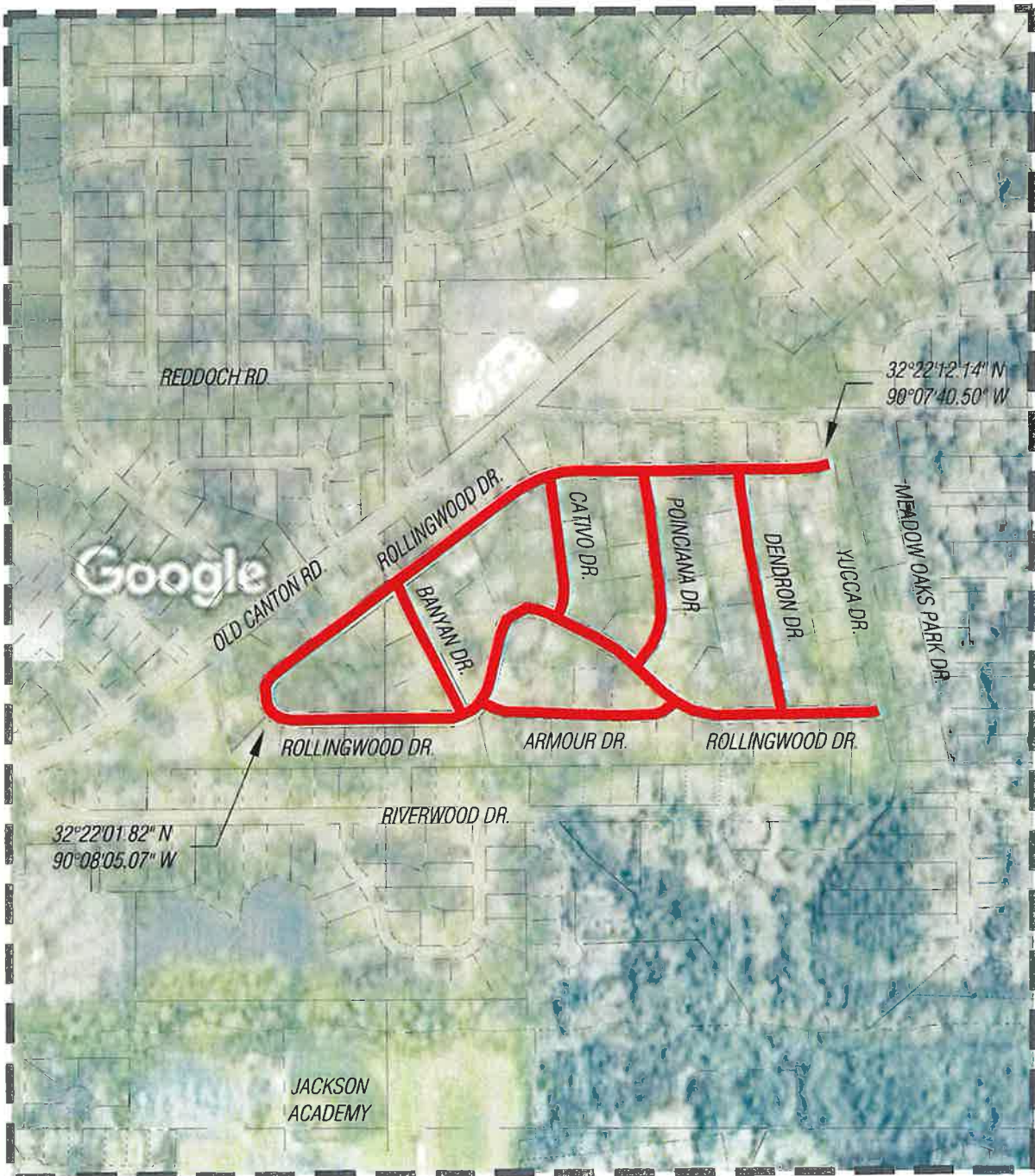
PROJECT LOCATION:
JACKSON, MS 39211

CLIENT:
JXN WATER
1054 GREYMONTE AVE JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2420 - ROLLINGWOOD

SHEET CONTENTS:
CITY OF JACKSON MAP / PROJECT LOCATION

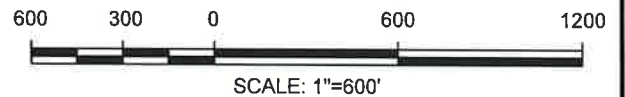
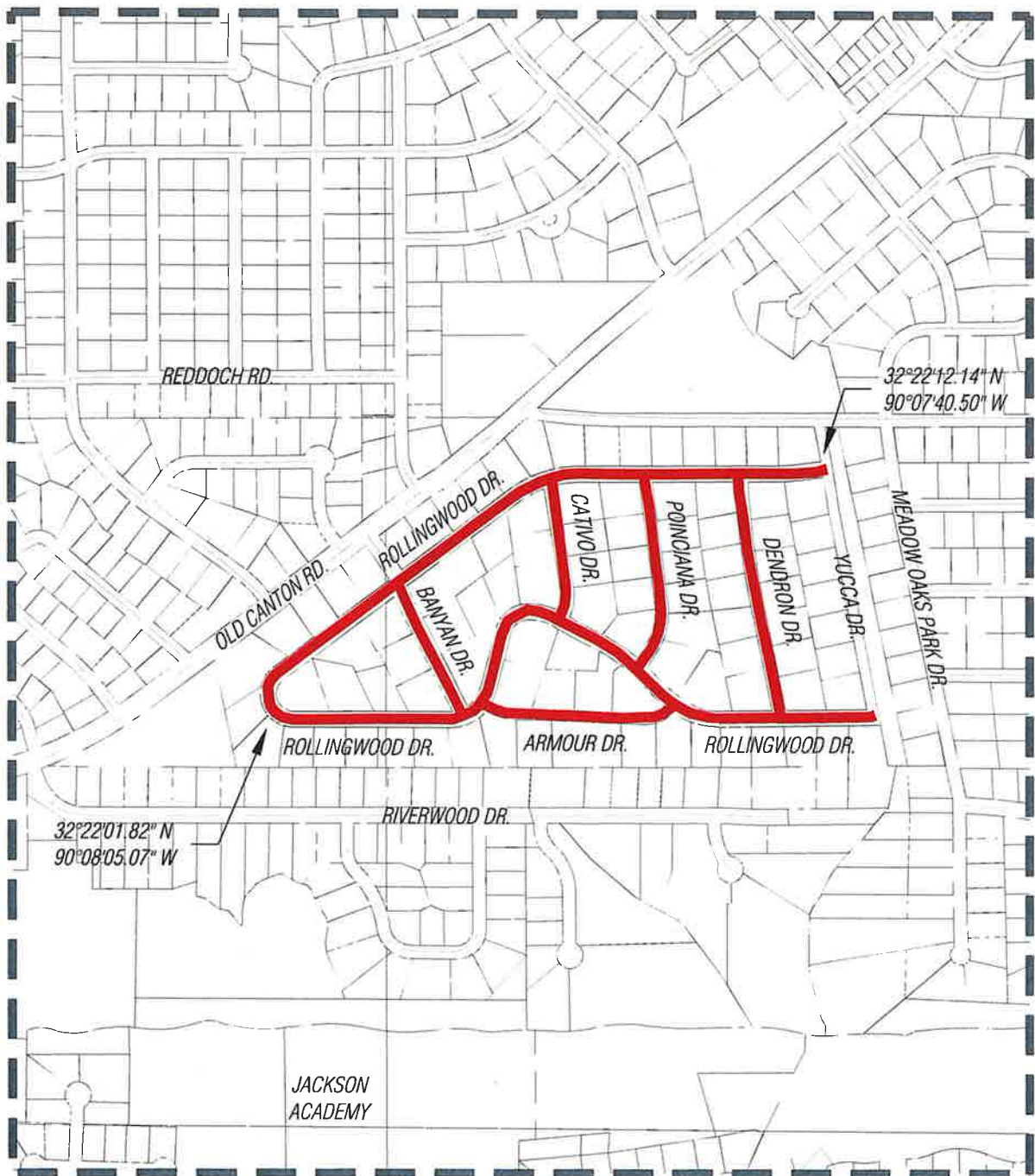
MAP
NUMBER
2 of 4
PROJECT
NUMBER
B-10742



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10 DRAWN: RTS CHECKED: MM SCALE: 600 REF C/L: EG SURFACE: FG SURFACE:	BENCHMARK ENGINEERING & SURVEYING, LLC CIVIL • STRUCTURAL • PLANNING • SURVEYING • UAV MAPPING BRANDON FLOWOOD MADISON EST. 2004 www.benchmarksurvey.com 601-527-7730	PROJECT LOCATION: JACKSON, MS 39211 CLIENT: JXN WATER 1054 GREYMONT AVE. JACKSON, MS	PROJECT: SMALL DIAMETER DISTRIBUION 2420 - ROLLINGWOOD SHEET CONTENTS: SCOPE OF WORK	MAP NUMBER 3 of 4 PROJECT NUMBER B-10742
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NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10	DRAWN: RTS
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PROJECT LOCATION:
JACKSON, MS 39211
CLIENT:
JXN WATER
1054 GREYMONT AVE JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2420 - ROLLINGWOOD
SHEET CONTENTS:
SCOPE OF WORK

MAP
NUMBER
4 of 4
PROJECT
NUMBER
B-10742

July 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
JXN Water Project 2421 – Colonial Country Club Replacement Project
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for funds for the Colonial Country Club Replacement Project. The neighborhood has encountered multiple water and sewer leaks due to system condition. The proposed project consists of three (3) locations totaling 3,900 linear feet of existing water lines ranging in size from 2" to 8". The new water lines will be a minimum size of 8" in diameter to support fire protection.

Below is a description of the street location of existing water lines anticipated for replacement as part of this project.

- Colonial Cir – Adkins Blvd to Stanton Dr (4" Water, 1,800')
- Colonial Cir – Fairway St to Clubview Dr (4" Water, 1,600')
- Clubview Dr – S Parkway Dr to Colonial Cir (4" Water, 500')

The proposed project totaling 3,900 linear feet of new water distribution lines, fire hydrants, service lines, and valves will follow along existing road rights-of-way as shown on the attached exhibits.



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Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

Sincerely,

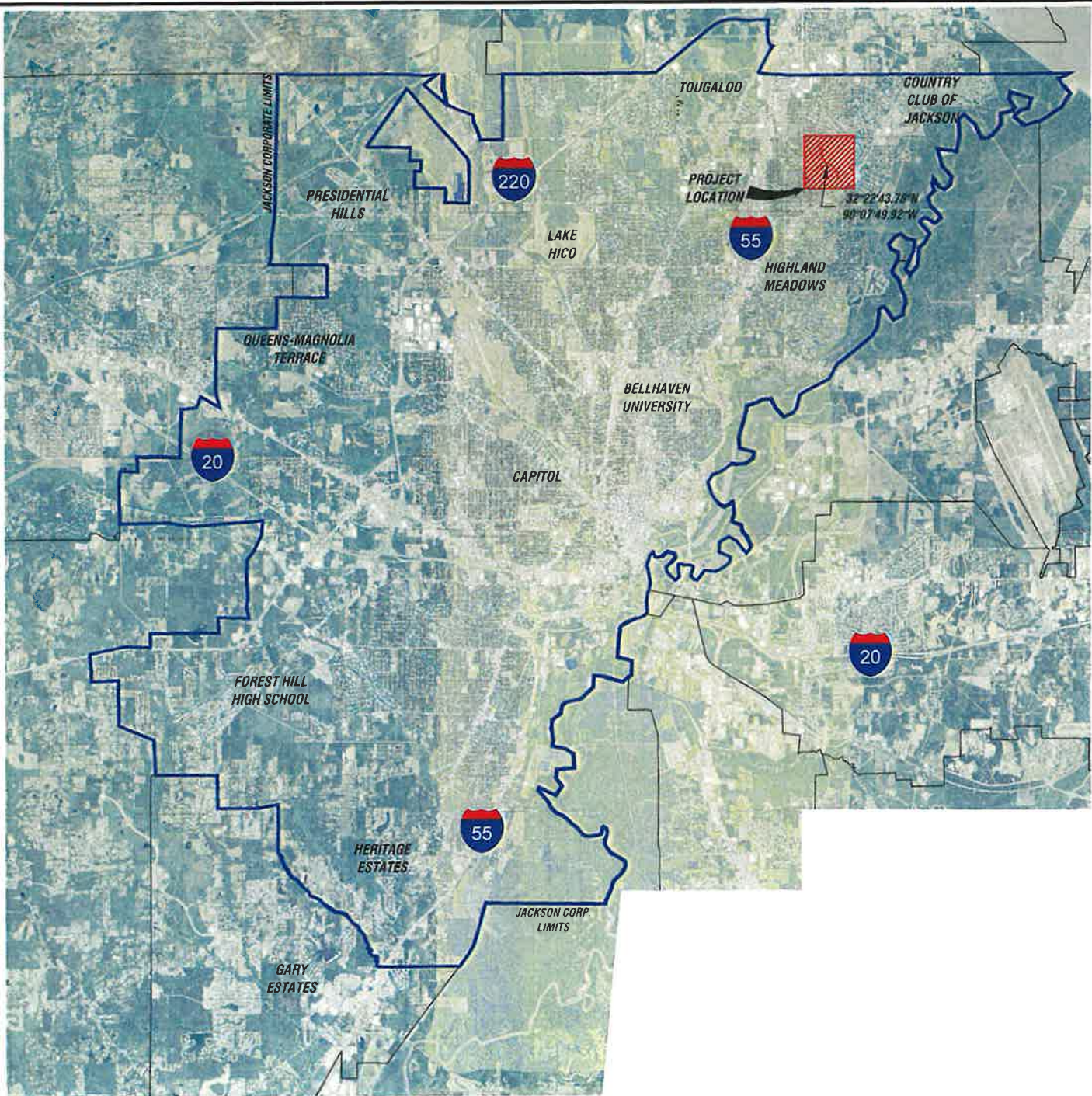
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James B. Wolf, P.E., P.L.S.

Benchmark Engineering & Surveying, LLC

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742



SCALE: 1"=12000'

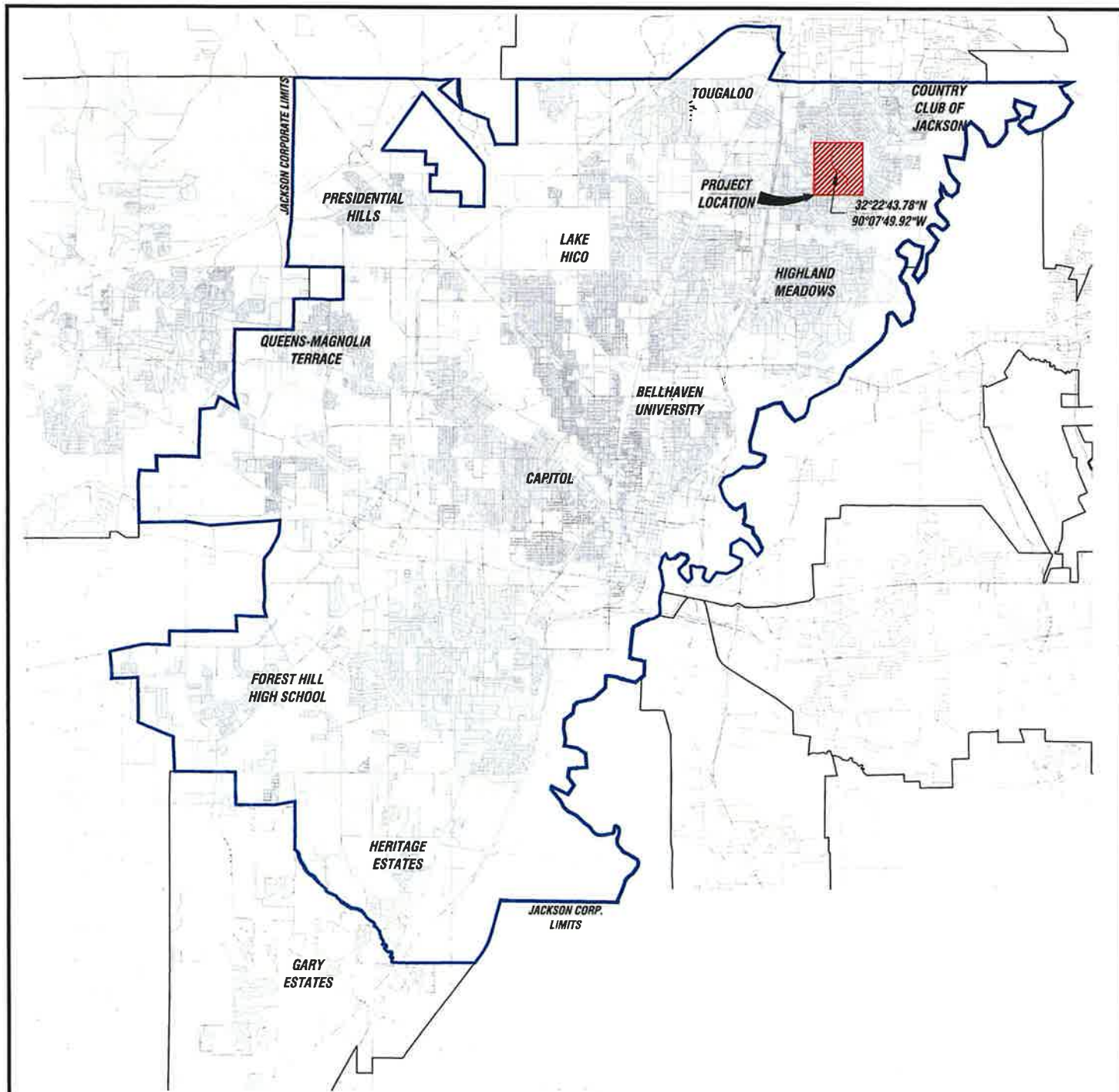
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PROJECT LOCATION:
 JACKSON, MS 39211
 CLIENT:
 JXN WATER
 1054 GREYMONT AVE JACKSON, MS

PROJECT:
 SMALL DIAMETER DISTRIBUTION
 2421 - COLONIAL COUNTY CLUB
 SHEET CONTENTS:
 CITY OF JACKSON MAP / PROJECT LOCATION

MAP
 NUMBER
 1 of 4
 PROJECT
 NUMBER
 B-10742



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SCALE: 1"=12000'

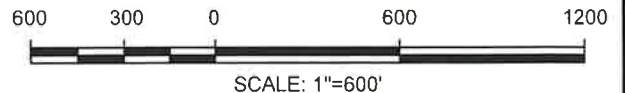
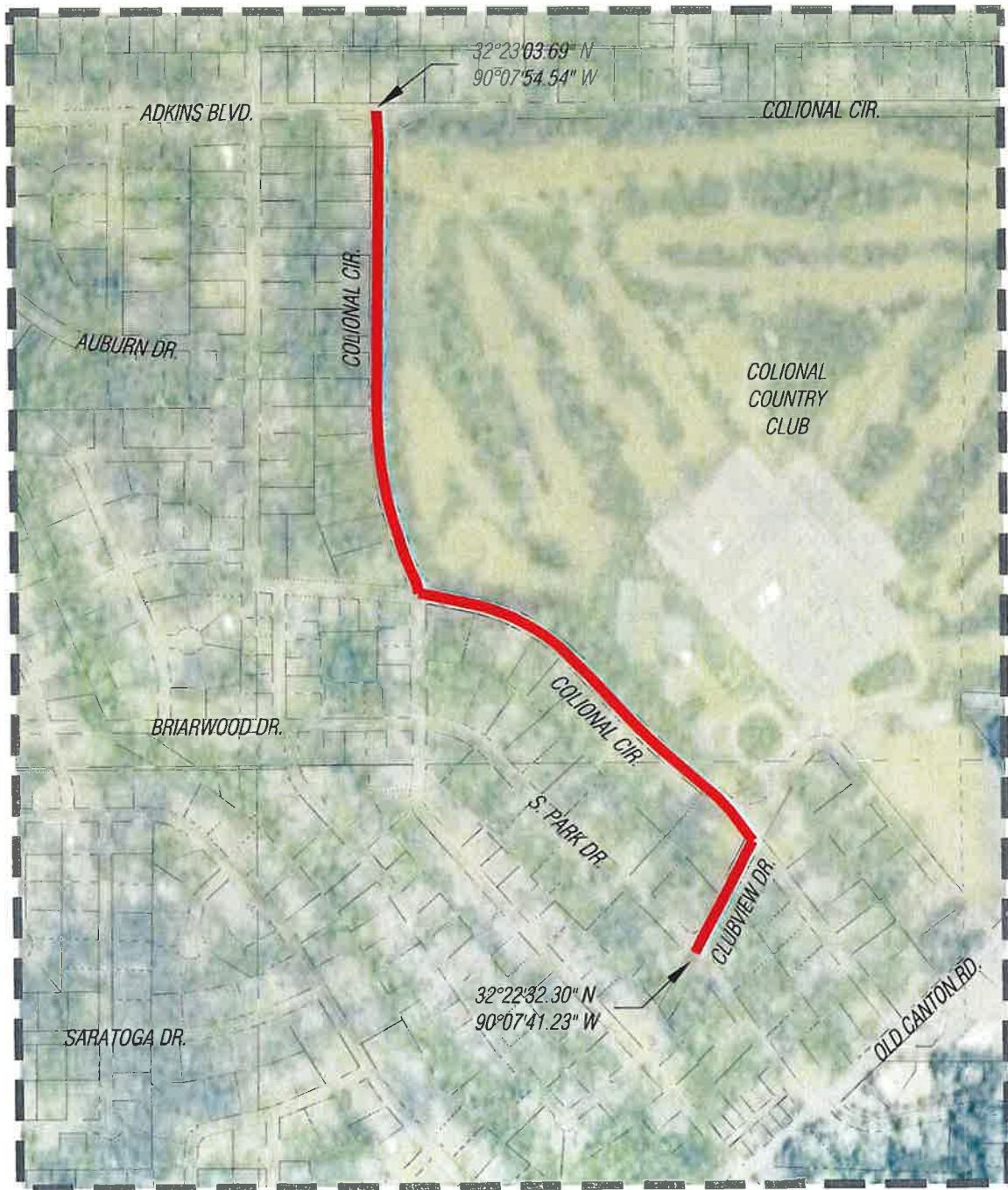
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PROJECT LOCATION: JACKSON, MS 39211
CLIENT: JXN WATER 1054 GREYMONT AVE. JACKSON, MS

PROJECT: SMALL DIAMETER DISTRIBUTION 2421 - COLONIAL COUNTY CLUB
SHEET CONTENTS: CITY OF JACKSON MAP / PROJECT LOCATION

MAP NUMBER 2 of 4
PROJECT NUMBER B-10742



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10	DRAWN: RTS
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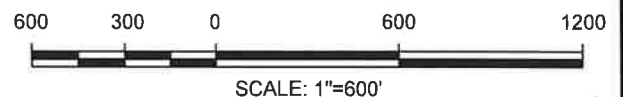
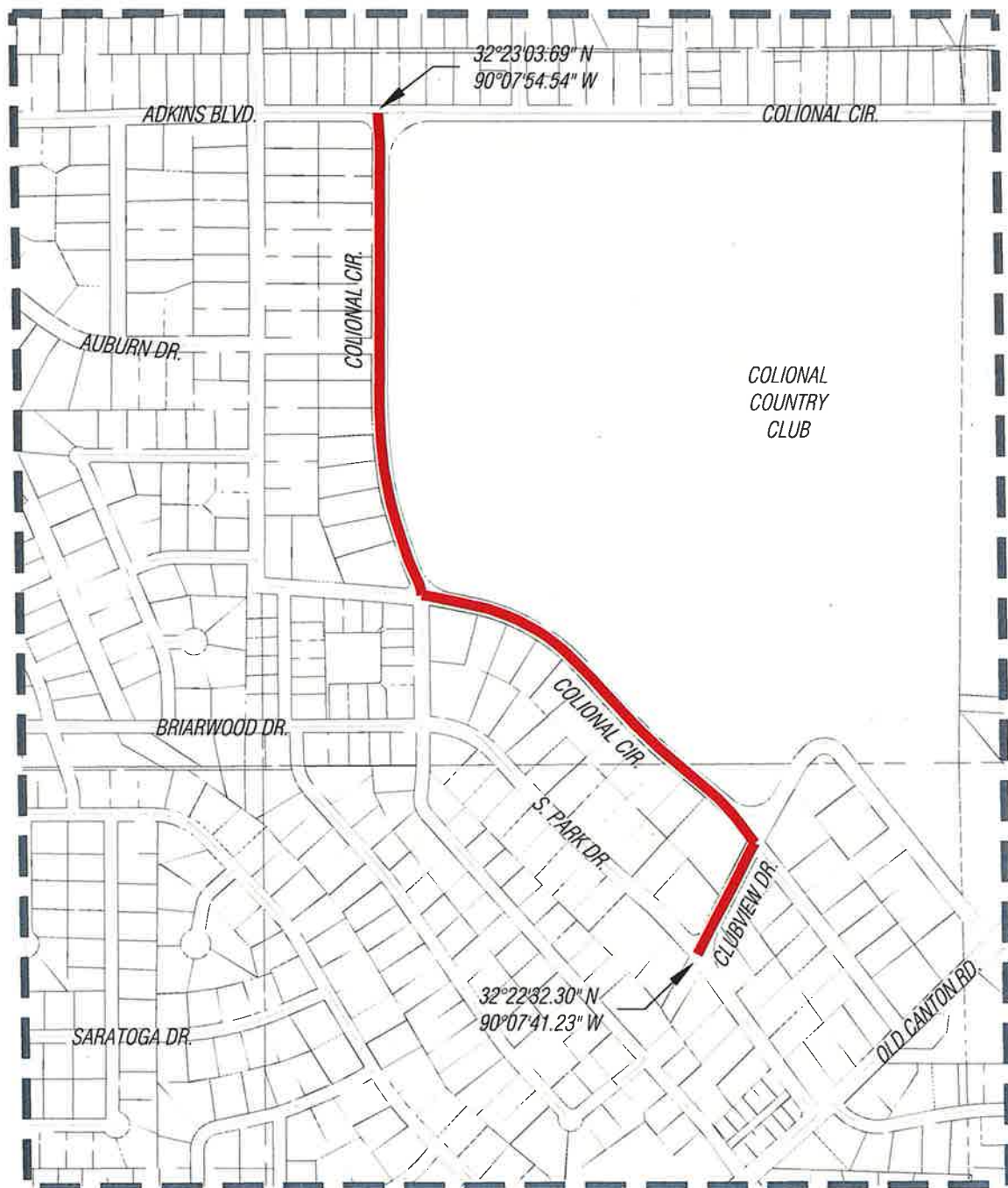
PROJECT LOCATION:
JACKSON, MS 39211

CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2421 - COLONIAL COUNTRY CLUB

SHEET CONTENTS:
SCOPE OF WORK

MAP NUMBER 3 of 4
PROJECT NUMBER B-10742



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE:	07/10	DRAWN:	RTS
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PROJECT LOCATION:	JACKSON, MS 39211
CLIENT:	JXN WATER 1054 GREYMONT AVE JACKSON, MS

PROJECT:	SMALL DIAMETER DISTRIBUTION 2421 - COLONIAL COUNTRY CLUB
SHEET CONTENTS:	SCOPE OF WORK

MAP NUMBER	4 of 4
PROJECT NUMBER	B-10742

July 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
JXN Water Project 2422 – Woodhaven Waterline Replacement Project
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for funds for the Woodhaven Waterline Replacement Project. The neighborhood has encountered multiple water and sewer leaks due to system condition. The proposed project consists of eleven (11) locations totaling 6,050 linear feet of existing water lines ranging in size from 2" to 8". The new water lines will be a minimum size of 8" in diameter to support fire protection.

Below is a description of the street location of existing water lines anticipated for replacement as part of this project.

- Westmore Dr – Woodlake Dr to Waycross Ct (4" Water, 1,270')
- Waycross Ct – Watermore Dr to Dead End (4" Water, 370')
- Westmore Ct - Watermore Dr to Dead End (4" Water, 300')
- Westwind Rd – Woodhaven Rd to Woodson Dr (4" Water, 465')
- Winnsboro Ct – Woodhaven Rd to Dead End (2" Water, 180')
- Woodhaven Ct - Woodhaven Rd to Dead End (2" Water, 175')
- Dabney Dr – Beasley Rd to Devonshire Dr (4" Water, 570')
- Devonshire Dr – Dabney Dr to Beasley Rd (4" Water, 1,350')
- Huntview Dr – Hallmark Dr to Avon Way (4" Water, 350')
- Avon Way – Huntview Dr to Paddock Pl (2" Water, 600')
- Canterbury Rd – Hallmark Dr to Dead End (4" Water, 420')



The proposed project totaling 6,050 linear feet of new water distribution lines, fire hydrants, service lines, and valves will follow along existing road rights-of-way as shown on the attached exhibits.

Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

Sincerely,

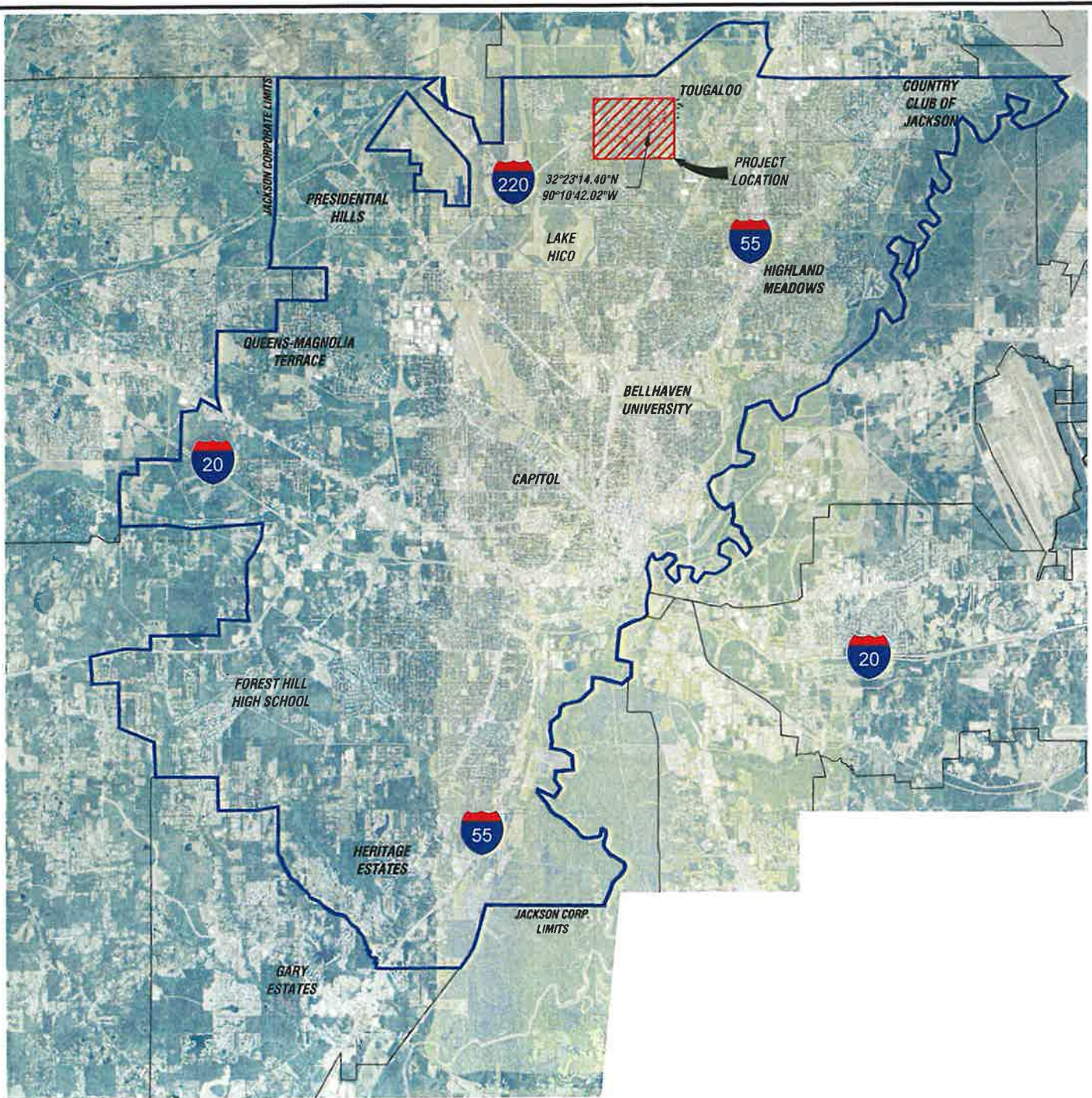
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James B. Wolf, P.E., P.L.S.

Benchmark Engineering & Surveying, LLC

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742



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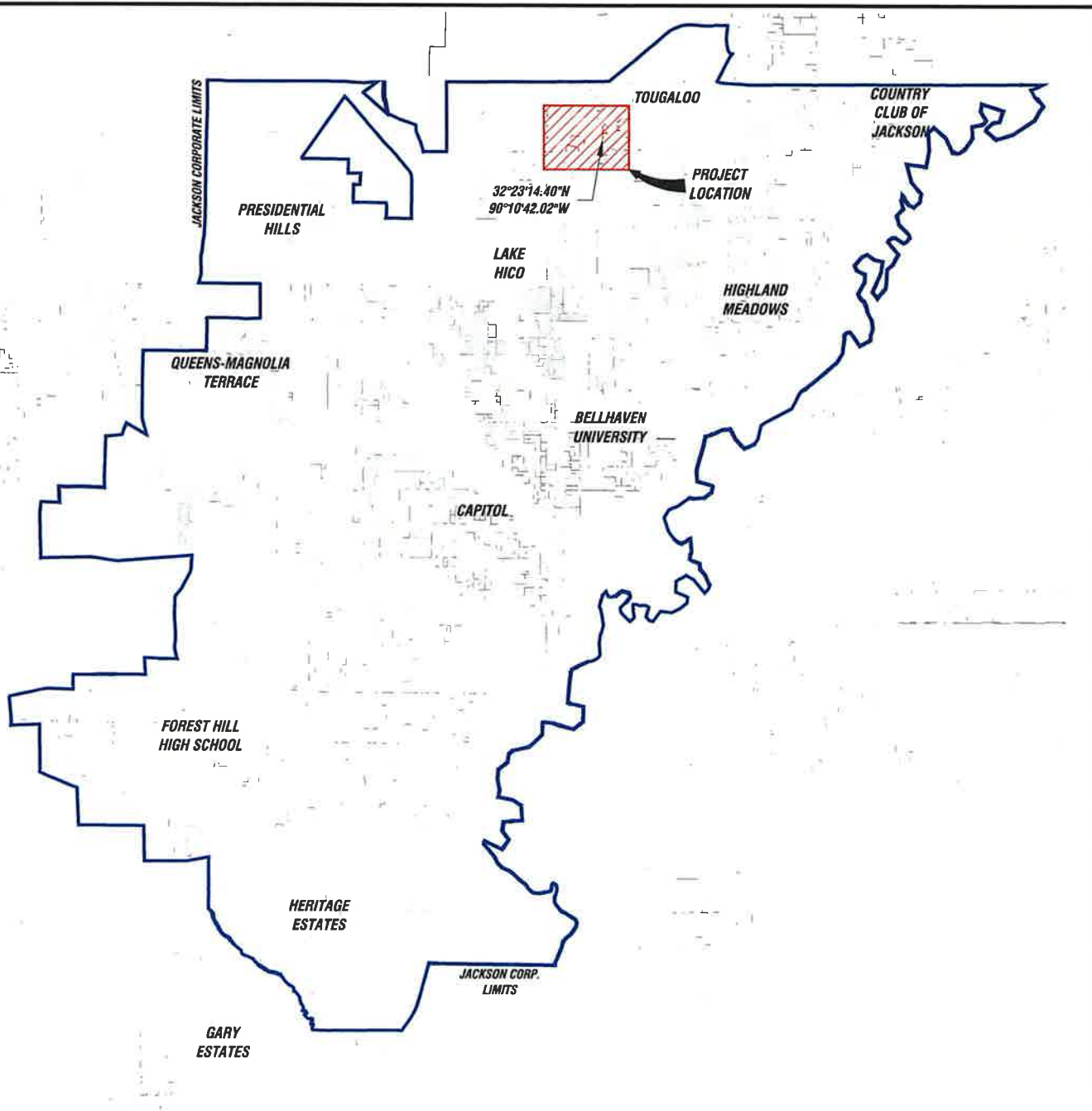
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EG SURFACE:
FG SURFACE:

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PROJECT LOCATION:
JACKSON, MS 39206
CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2422 - WOODHAVEN
SHEET CONTENTS:
CITY OF JACKSON MAP / PROJECT LOCATION

MAP
NUMBER
1 of 4
PROJECT
NUMBER
B-10742



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SCALE: 1"=12000'

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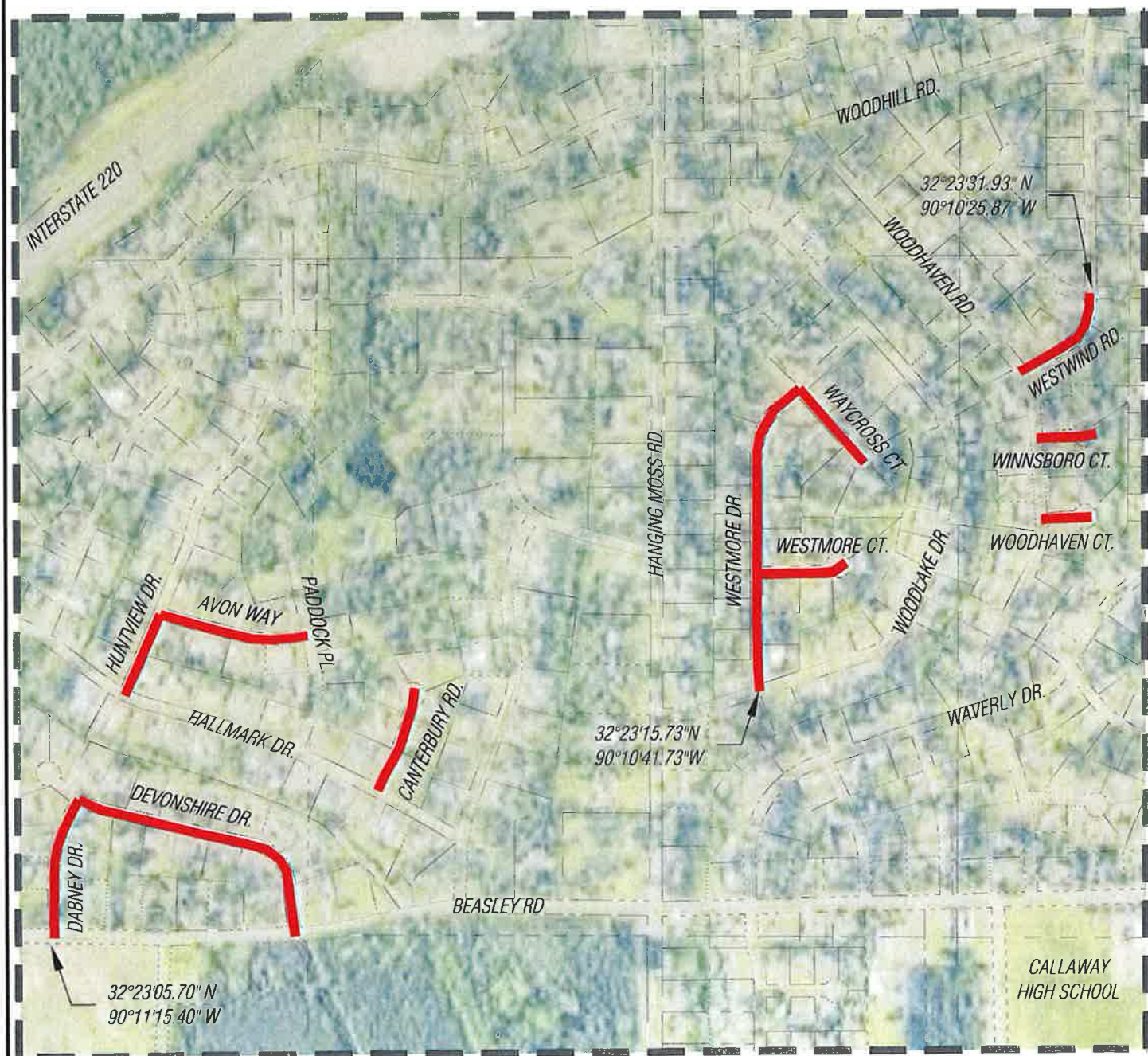
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PROJECT LOCATION: JACKSON, MS 39206
CLIENT: JXN WATER 1054 GREYMONT AVE JACKSON, MS

PROJECT: SMALL DIAMETER DISTRIBUTION 2422 - WOODHAVEN
SHEET CONTENTS: CITY OF JACKSON MAP / PROJECT LOCATION

MAP NUMBER 2 of 4
PROJECT NUMBER B-10742



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE:	07/10	DRAWN:	RTS
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REF. C/L:			
EG SURFACE:			
FG SURFACE:			

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PROJECT LOCATION:
JACKSON, MS 39206

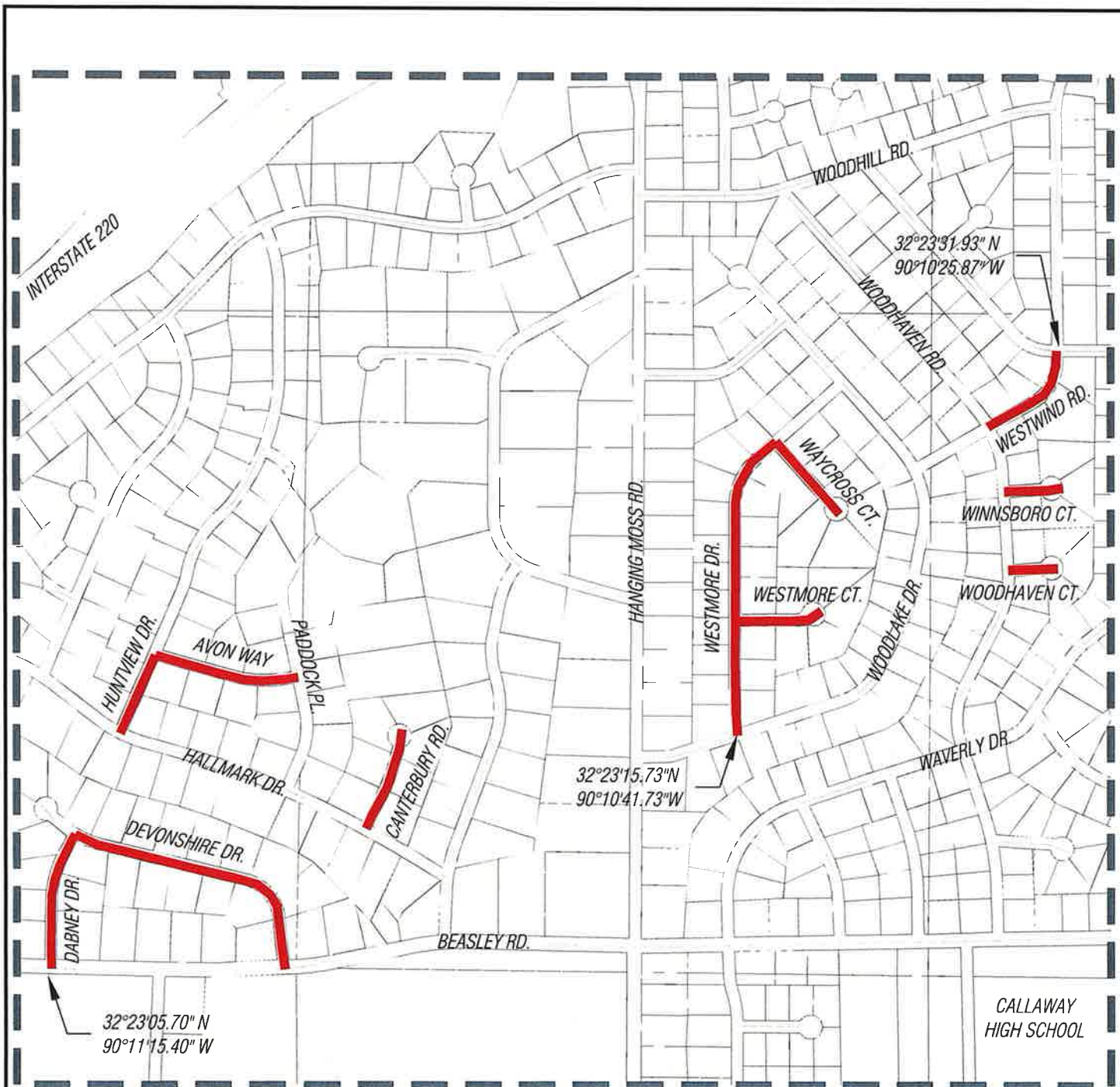
CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2422 - WOODHAVEN

SHEET CONTENTS:
SCOPE OF WORK

MAP
NUMBER
3 of 4

PROJECT
NUMBER
B-10742



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10	DRAWN: RTS
CHECKED: MM	SCALE: 600
REF C/L:	
EG SURFACE:	
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www.benchmarkms.com 601-627-7780

PROJECT LOCATION: JACKSON, MS 39206
CLIENT: JXN WATER 1054 GREYMONT AVE JACKSON, MS

PROJECT: SMALL DIAMETER DISTRIBUTION 2422 - WOODHAVEN
SHEET CONTENTS: SCOPE OF WORK

MAP NUMBER 4 of 4
PROJECT NUMBER B-10742

July 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
JXN Water Project 2423 – Belhaven Park Waterline Replacement Project
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for funds for the Belhaven Park Waterline Replacement Project. The neighborhood has encountered multiple water and sewer leaks due to system condition. The proposed project consists of four (4) locations totaling 2,630 linear feet of existing water lines ranging in size from 2" to 8". The new water lines will be a minimum size of 8" in diameter to support fire protection.

Below is a description of the street location of existing water lines anticipated for replacement as part of this project.

- Parkhurst Dr – Laurel St to River Park Dr (2" Water, 630')
- Gaddis St – Bailey Ave to Dead End (2" Water, 450')
- Tunica St – J.R. Lynch to Utica Ave (4" Water, 700')
- Washington Ave – Hill Ave to Shirley Ave (2" Water, 850')

The proposed project totaling 2,630 linear feet of new water distribution lines, fire hydrants, service lines, and valves will follow along existing road rights-of-way as shown on the attached exhibits.



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Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

Sincerely,

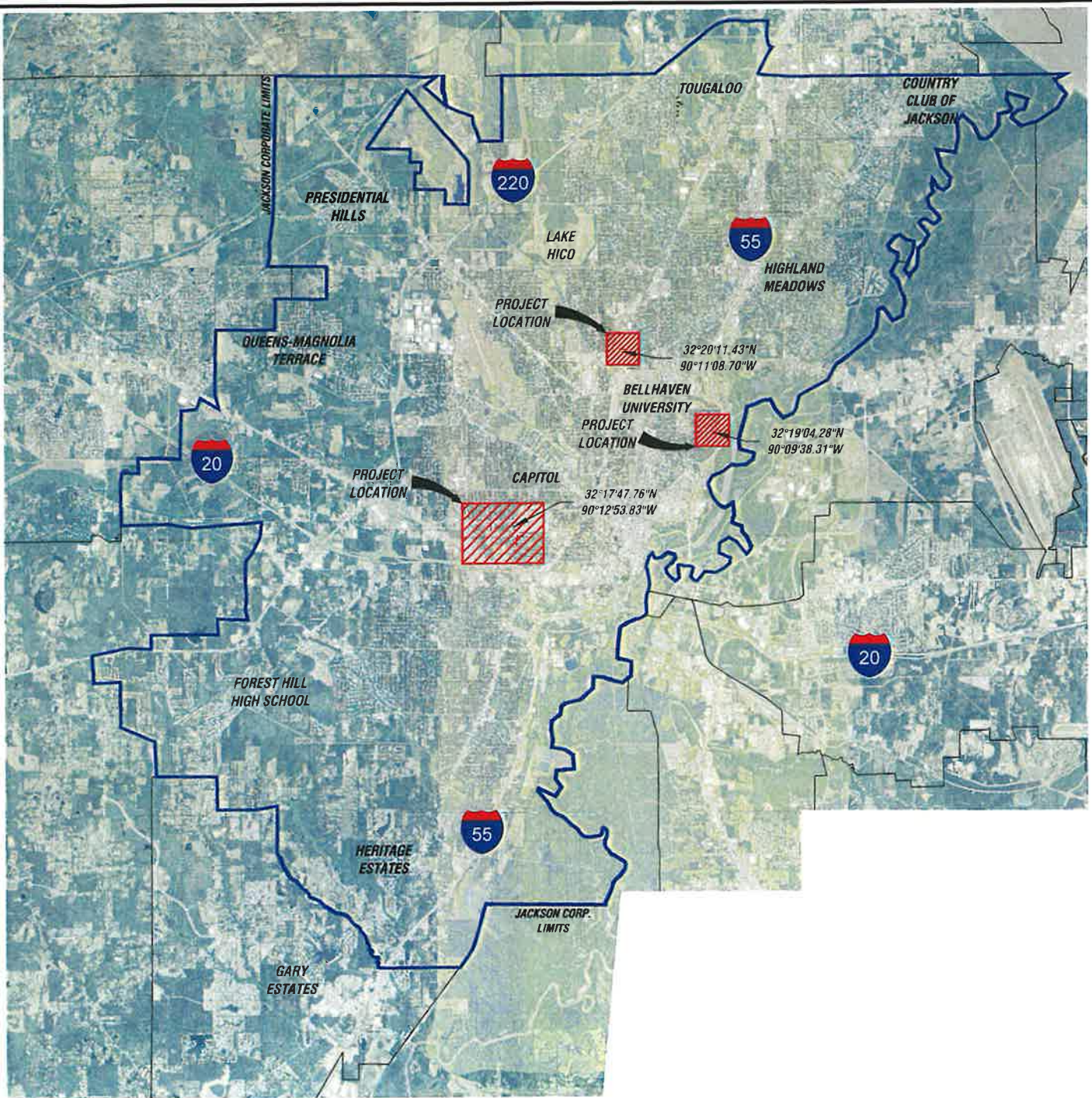
A handwritten signature in black ink, appearing to read "James B. Wolf". The signature is fluid and cursive, with the first name "James" being more prominent.

James B. Wolf, P.E., P.L.S.

Benchmark Engineering & Surveying, LLC

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742



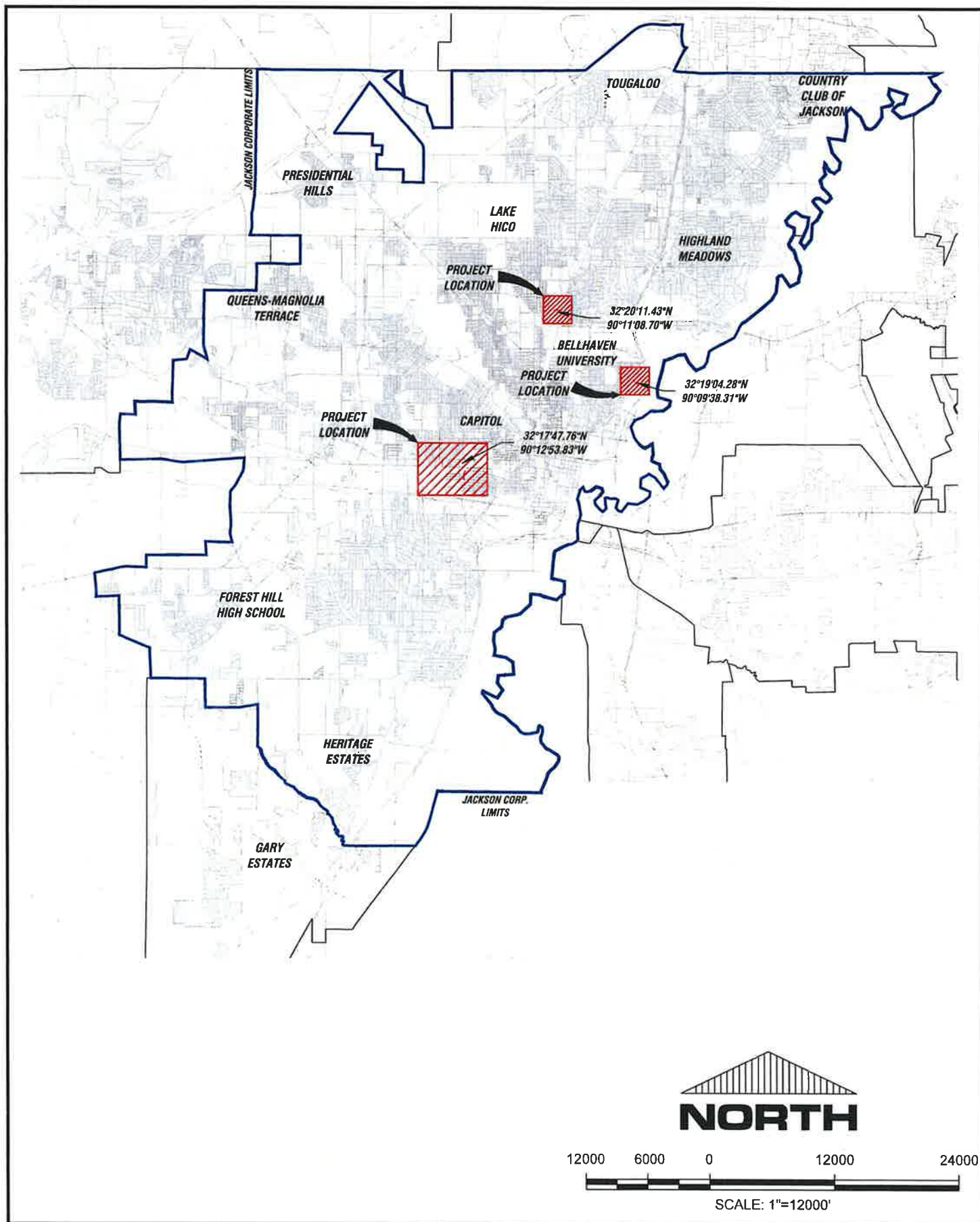
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CHECKED: MM	SCALE: 12000		CLIENT: JXN WATER	SHEET CONTENTS: CITY OF JACKSON MAP / PROJECT LOCATION	PROJECT NUMBER B-10742
REF C/L:					
EG SURFACE:					
FG SURFACE:					

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SCALE: 1"=12000'

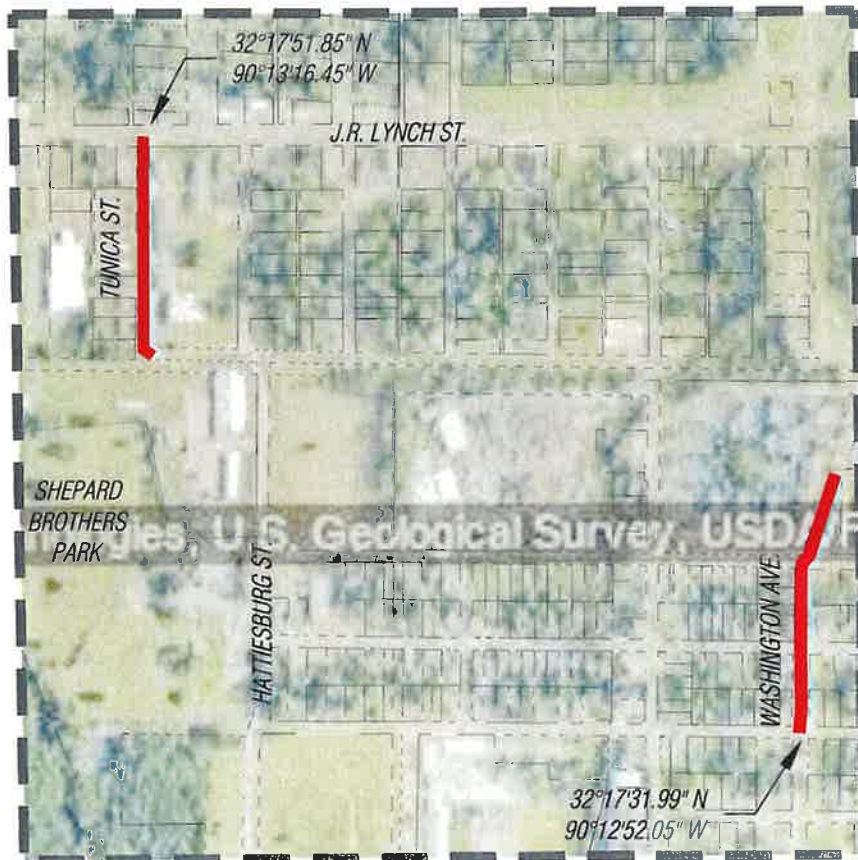
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FG SURFACE:	

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PROJECT LOCATION:
JACKSON, MS 39202,
39204, 39209, & 39213
CLIENT:
JXN WATER
1054 GREYMONT AVE JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2423 - BELHAVEN PARK
SHEET CONTENTS:
CITY OF JACKSON MAP / PROJECT LOCATION

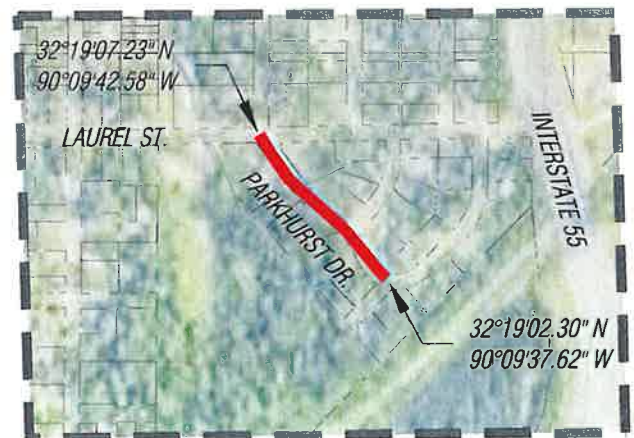
MAP
NUMBER
2 of 4
PROJECT
NUMBER
B-10742



TUNICA STREET



GADDIS STREET



PARKHURST STREET



600 300 0 600 1200



SCALE: 1"=600'

NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

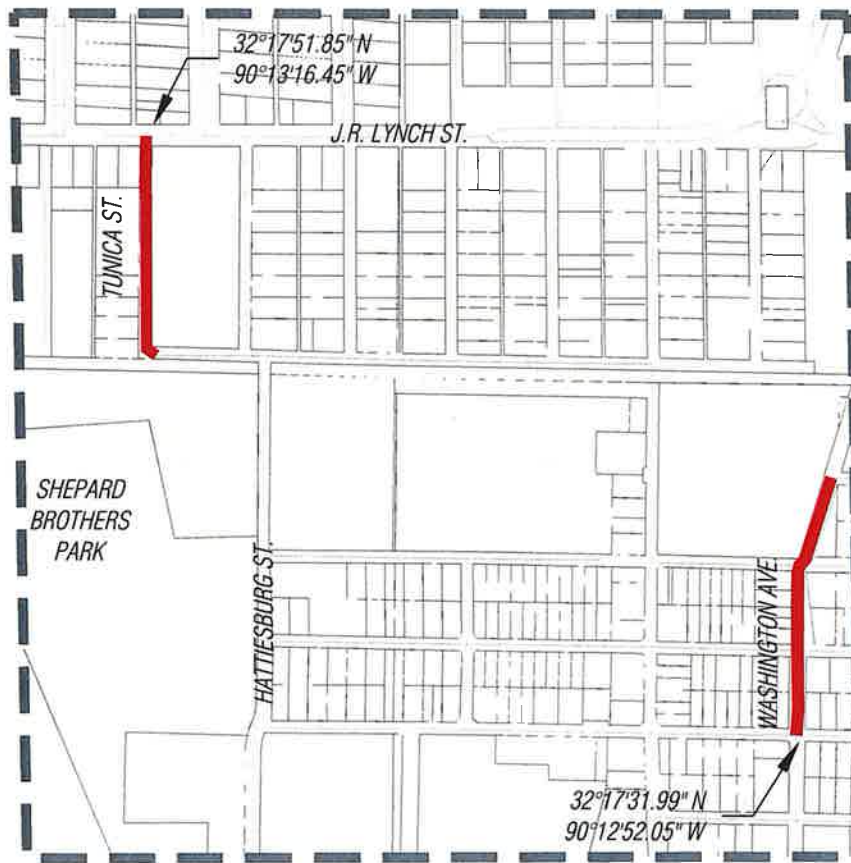
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CHECKED: MM	SCALE: 600
REF C/L:	
EG SURFACE:	
FG SURFACE:	

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PROJECT LOCATION:
JACKSON, MS 39202,
39204, 39209, & 39213
CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2423 - BELHAVEN PARK
SHEET CONTENTS:
SCOPE OF WORK

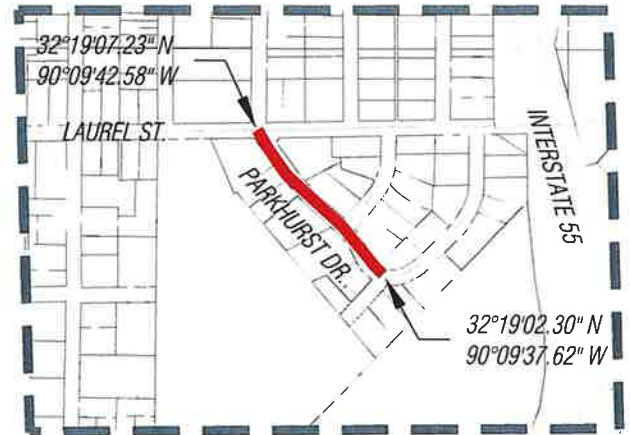
MAP
NUMBER
3 of 4
PROJECT
NUMBER
B-10742



TUNICA STREET



GADDIS STREET



PARKHURST STREET



600 300 0 600 1200

SCALE: 1"=600'

NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10	DRAWN: RTS		PROJECT LOCATION: JACKSON, MS 39202, 39204, 39209, & 39213	PROJECT: SMALL DIAMETER DISTRIBUTION 2423 - BELHAVEN PARK	MAP NUMBER 4 of 4
CHECKED: MM	SCALE: 600		CLIENT: JXN WATER 1054 GREYMONT AVE. JACKSON, MS	SHEET CONTENTS: SCOPE OF WORK	PROJECT NUMBER B-10742
REF C/L:					
EG SURFACE:					
FG SURFACE:					

July 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
JXN Water Project 2424 – Reedbridge/Dearborn Waterline Replacement Project
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for funds for the Reedbridge/Dearborn Waterline Replacement Project. The neighborhood has encountered multiple water and sewer leaks due to system condition. The proposed project consists of six (6) locations totaling 7,000 linear feet of existing water lines ranging in size from 2" to 8". The new water lines will be a minimum size of 8" in diameter to support fire protection.

Below is a description of the street location of existing water lines anticipated for replacement as part of this project.

- Patch Ave – Nimitz St to McCain Ave (2" Water, 950')
- McCain Ave – Nimitz St to Lindsey Dr (2" Water, 900')
- Road of Remembrance – Rosslyn to Mount Vernon (4" Water, 2,000')
- Road of Remembrance – W Capitol Rd to Summer St (4" Water, 900')
- Mount Vernon Ave – Summer St to Sewanee Dr (4" Water, 1,600')
- Summer St – Mt Vernon Ave to Galvez St (4" Water, 650')



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The proposed project totaling 7,000 linear feet of new water distribution lines, fire hydrants, service lines, and valves will follow along existing road rights-of-way as shown on the attached exhibits.

Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

Sincerely,

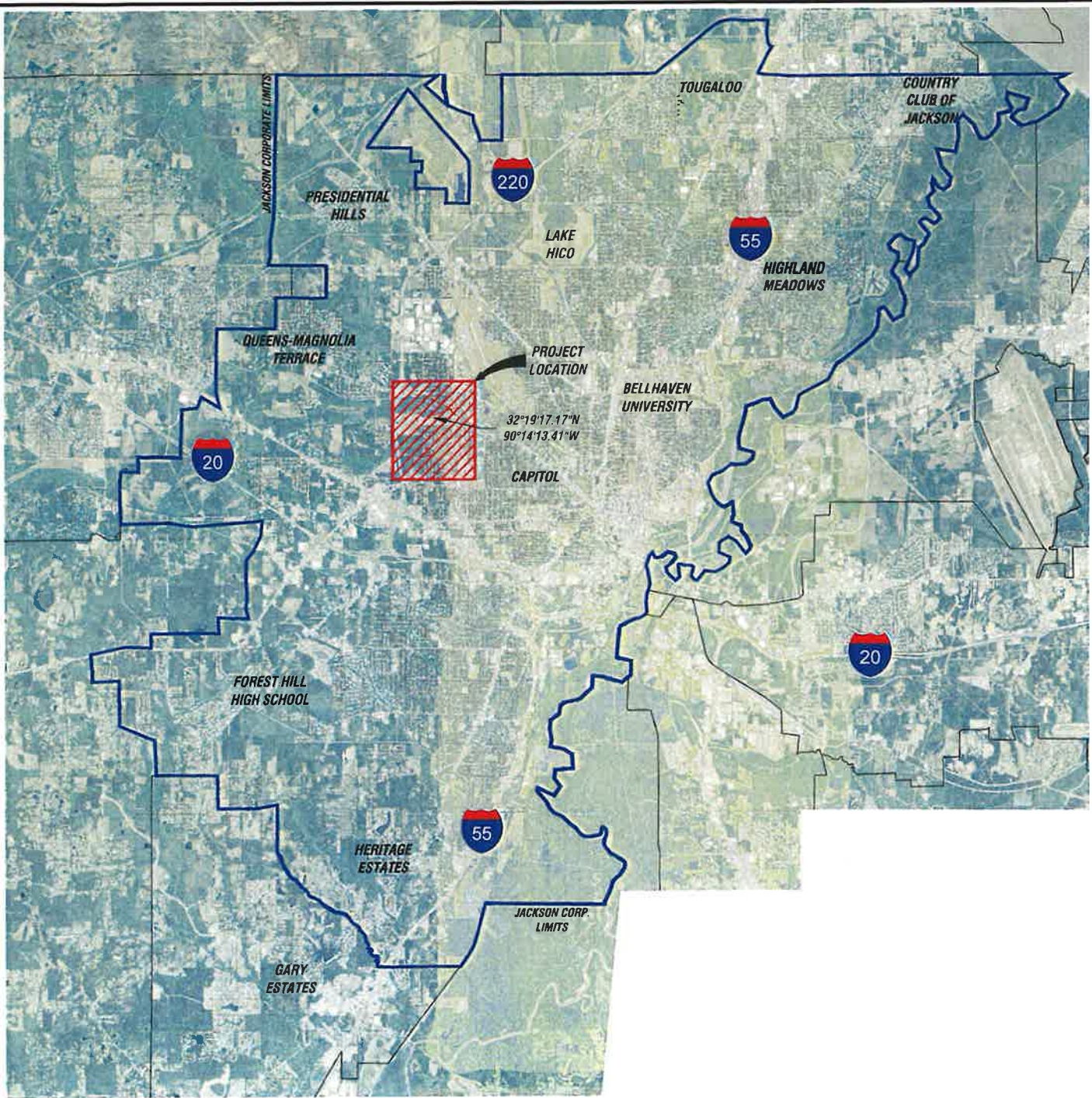
A handwritten signature in black ink, appearing to read "James B. Wolf". The signature is fluid and cursive, with the first name "James" being more prominent.

James B. Wolf, P.E., P.L.S.

Benchmark Engineering & Surveying, LLC

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742



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SCALE: 1"=12000'

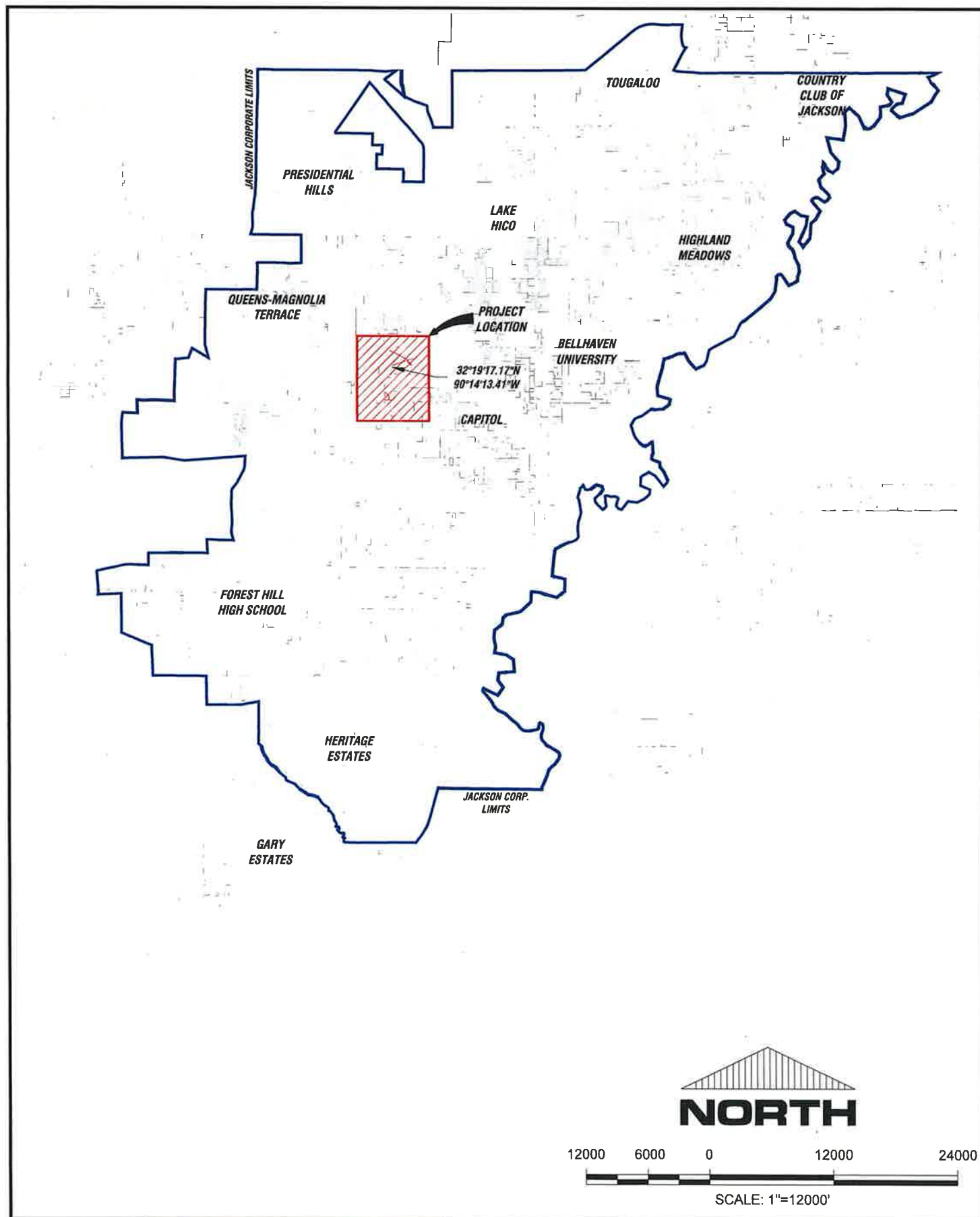
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PROJECT LOCATION:
JACKSON, MS 39209
CLIENT:
JXN WATER
1054 GREYMONT AVE JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2424 - REEDBRIDGE/DEARBORN
SHEET CONTENTS:
CITY OF JACKSON MAP / PROJECT LOCATION

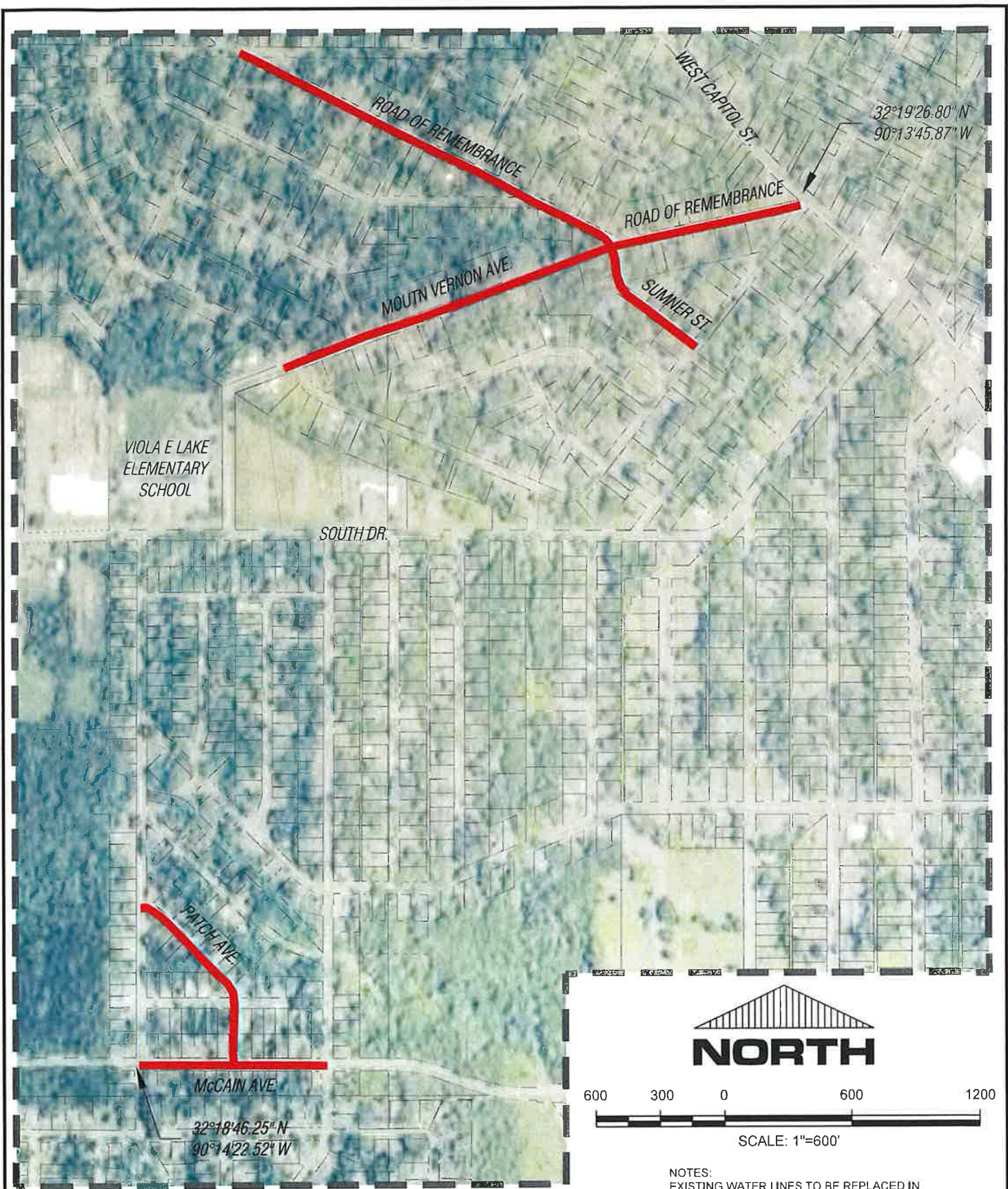
MAP
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1 of 4
PROJECT
NUMBER
B-10742



SCALE: 1"=12000'

DATE: 07/10	DRAWN: RTS		PROJECT LOCATION: JACKSON, MS 39209	PROJECT: SMALL DIAMETER DISTRIBUTION 2424 - REEDBRIDGE/DEARBORN	MAP NUMBER 2 of 4
CHECKED: MM	SCALE: 12000'		CLIENT: JXN WATER 1054 GREYMONT AVE. JACKSON, MS	SHEET CONTENTS: CITY OF JACKSON MAP / PROJECT LOCATION	PROJECT NUMBER B-10742
REF C/L:					
EG SURFACE:					
FG SURFACE:					

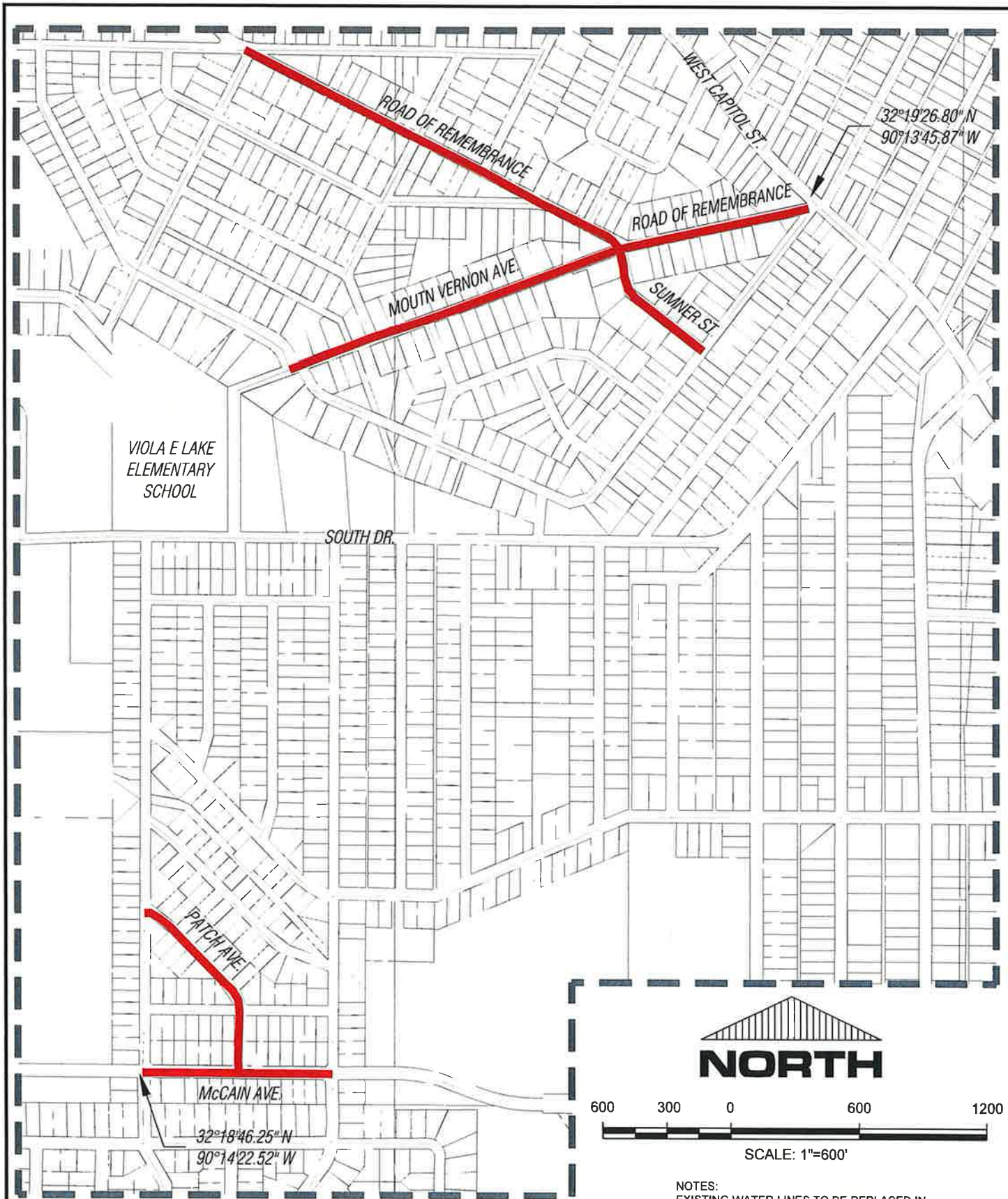
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NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10 DRAWN: RTS CHECKED: MM SCALE: 600 REF C/L: EG SURFACE: FG SURFACE:	BENCHMARK ENGINEERING & SURVEYING, LLC CIVIL • STRUCTURAL • PLANNING • SURVEYING • UAV MAPPING BRANDON FLOWOOD MADISON EST. 2004 www.benchmarkms.com 601-937-3282	PROJECT LOCATION: JACKSON, MS 39209 CLIENT: JXN WATER 1054 GREYMONT AVE. JACKSON, MS	PROJECT: SMALL DIAMETER DISTRIBUTION 2424 - REEDBRIDGE/DEARBORN SHEET CONTENTS: SCOPE OF WORK	MAP NUMBER 3 of 4 PROJECT NUMBER B-10742
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NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10	DRAWN: RTS
CHECKED: MM	SCALE: 600
REF C/L:	
EG SURFACE:	
FG SURFACE:	

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PROJECT LOCATION:
JACKSON, MS 39209

CLIENT:
JXN WATER
1054 GREYMONT AVE JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2424 - REEDBRIDGE/DEARBORN

SHEET CONTENTS:
SCOPE OF WORK

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NUMBER
4 of 4
PROJECT
NUMBER
B-10742

July 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
JXN Water Project 2425 – McLeod Garner Estates Waterline Replacement Project
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for funds for the McLeod Garner Estates Waterline Replacement Project. The neighborhood has encountered multiple water and sewer leaks due to system condition. The proposed project consists of five (5) locations totaling 3,070 linear feet of existing water lines ranging in size from 2" to 8". The new water lines will be a minimum size of 8" in diameter to support fire protection.

Below is a description of the street location of existing water lines anticipated for replacement as part of this project.

- Atwood St – Atwood St N/S to McLeod St (4" Water, 450')
- Garner St – Gallatin St to Dead End (4" Water, 170')
- S.L. Bowman Lane – Gallatin St to Dead End (4" Water, 180')
- Union St – W Silas Brown and Winter St (4" Water, 620')
- Boyd St – State St to Madison (4" Water, 1,650')

The proposed project totaling 3,070 linear feet of new water distribution lines, fire hydrants, service lines, and valves will follow along existing road rights-of-way as shown on the attached exhibits.

Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

Sincerely,

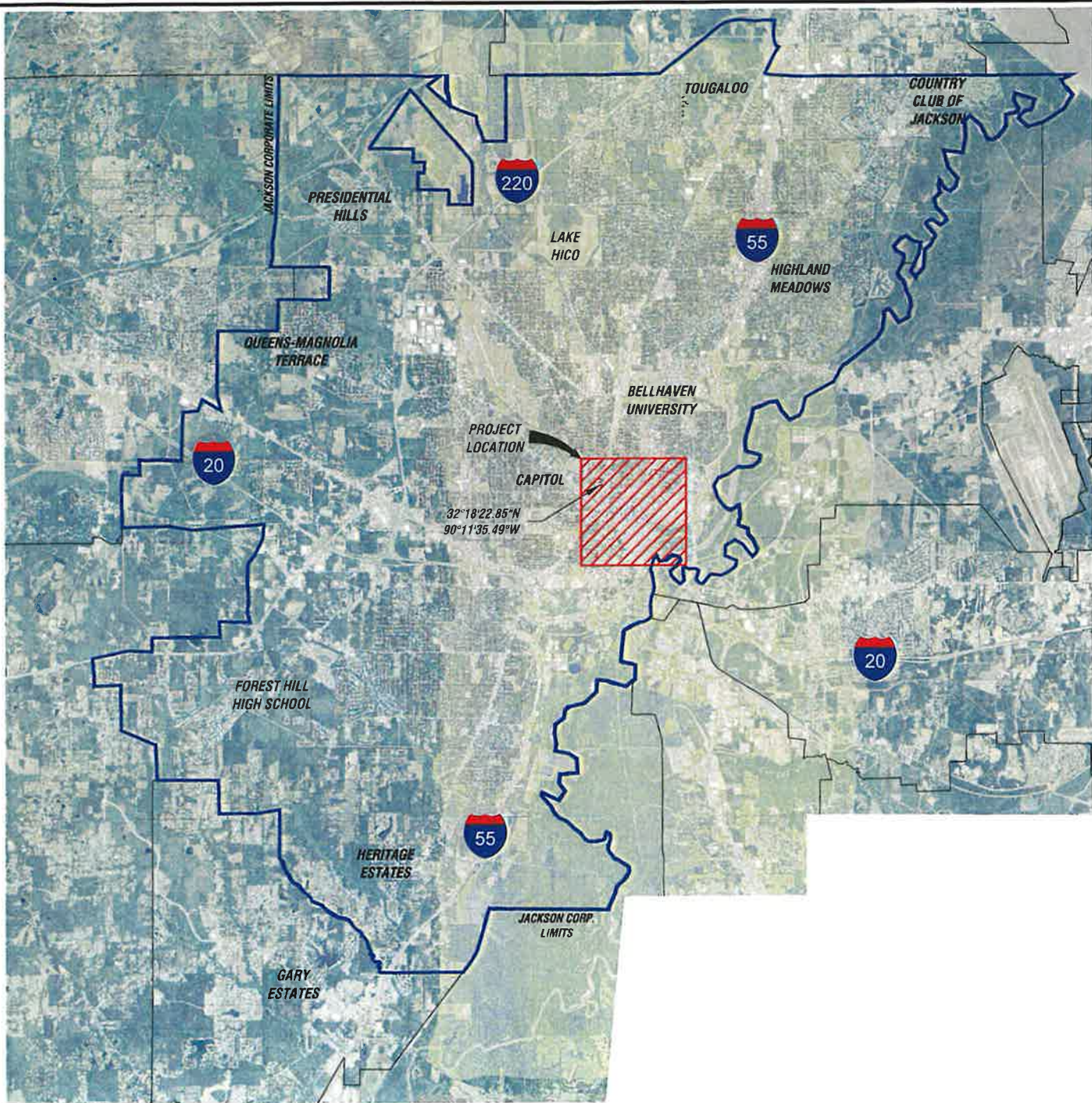


James B. Wolf, P.E., P.L.S.

Benchmark Engineering & Surveying, LLC

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742



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SCALE: 1"=12000'

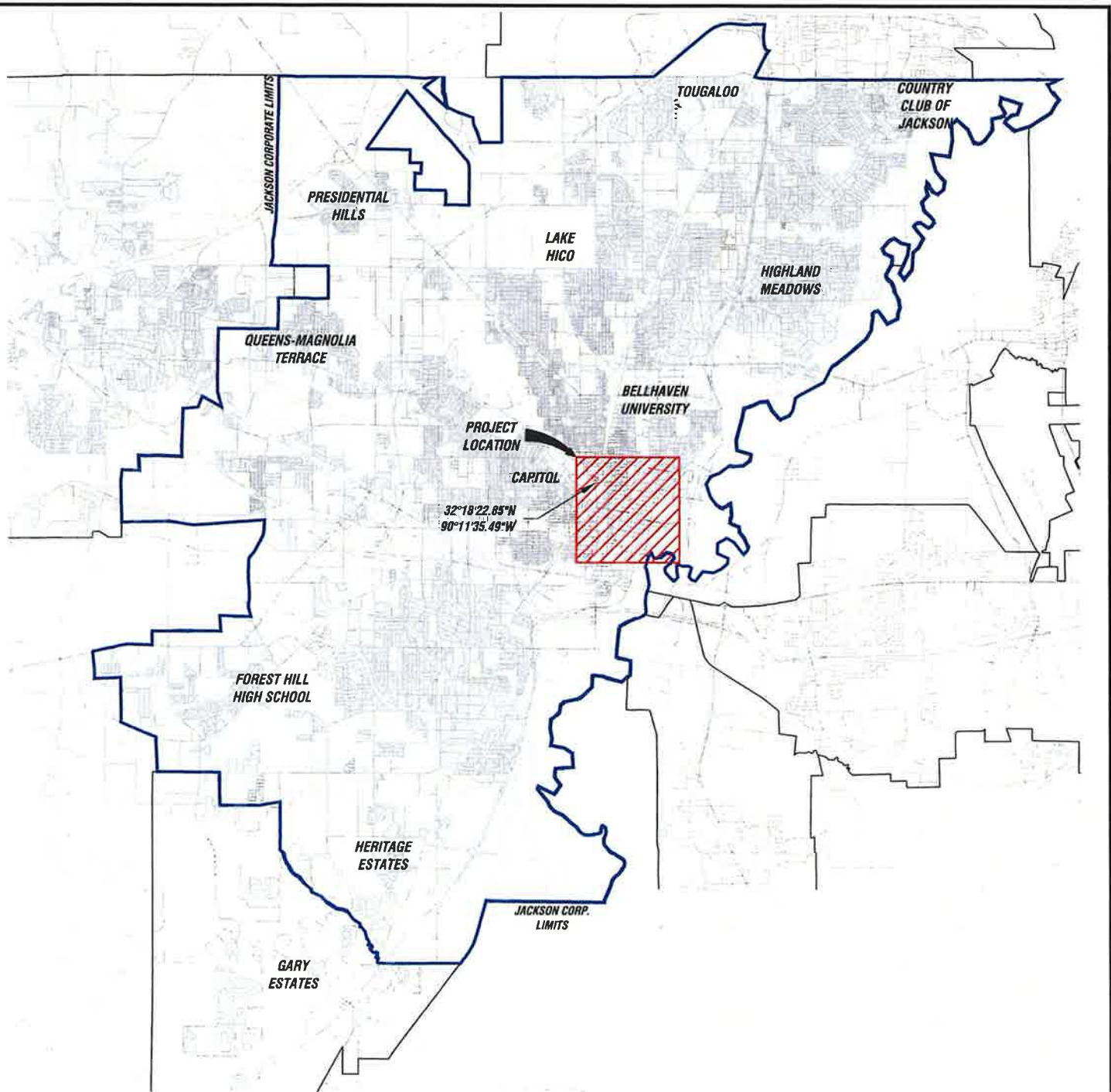
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 EG SURFACE:
 FG SURFACE:

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PROJECT LOCATION:
 JACKSON, MS 39202,
 39203, & 39204
 CLIENT:
 JXN WATER
 1054 GREYMONT AVE. JACKSON, MS

PROJECT:
 SMALL DIAMETER DISTRIBUTION
 2425 - MCLEOD GARNER
 SHEET CONTENTS:
 CITY OF JACKSON MAP / PROJECT LOCATION

MAP
 NUMBER
 1 of 4
 PROJECT
 NUMBER
 B-10742



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SCALE: 1"=12000'

DATE: 07/10	DRAWN: RTS
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PROJECT LOCATION: JACKSON, MS 39202, 39203, & 39204
CLIENT: JXN WATER 1054 GREYMONT AVE. JACKSON, MS

PROJECT: SMALL DIAMETER DISTRIBUTION 2425 - MCLEOD GARNER
SHEET CONTENTS: CITY OF JACKSON MAP / PROJECT LOCATION

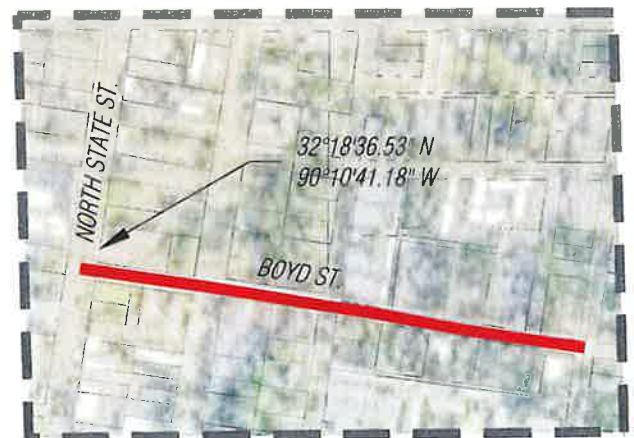
MAP NUMBER 2 of 4
PROJECT NUMBER B-10742



ATWOOD STREET



UNION STREET



BOYD STREET



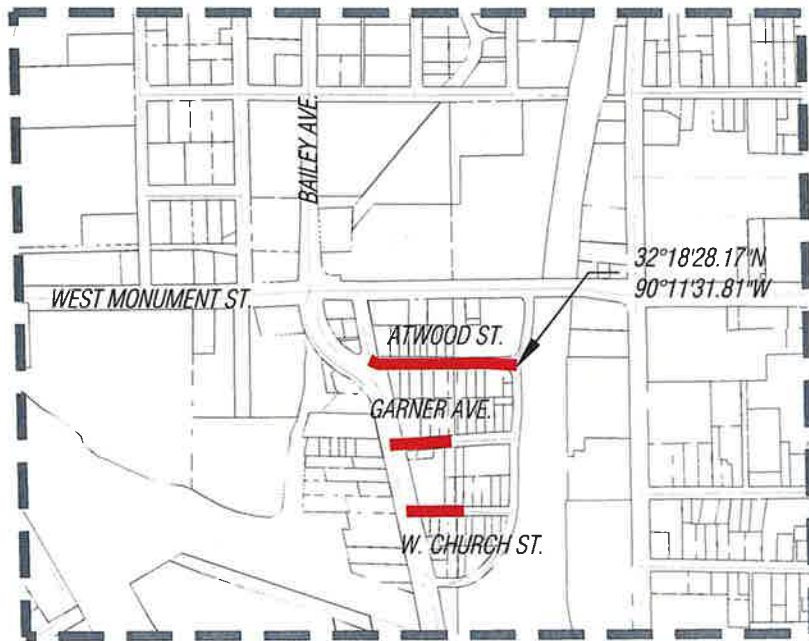
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NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

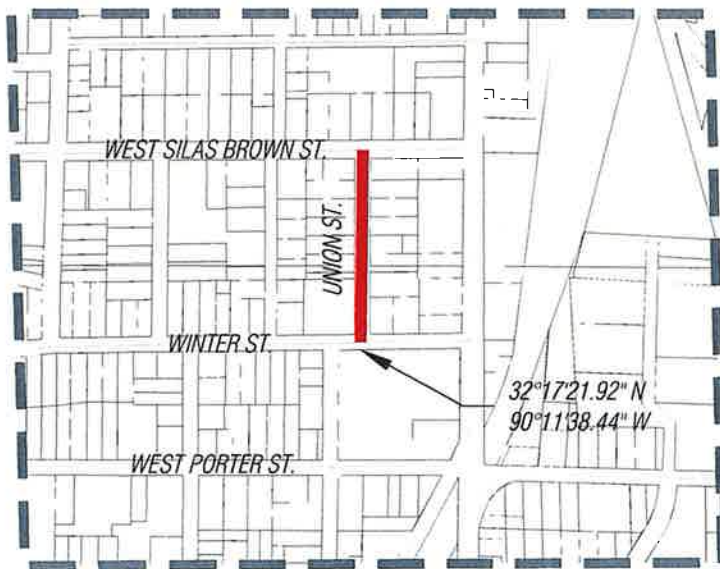
— PROPOSED WATER LINE (TYP.)

DATE: 07/10	DRAWN: RTS		PROJECT LOCATION: JACKSON, MS 39202, 39203, & 39204	PROJECT: SMALL DIAMETER DISTRIBUTION 2425 - MCLEOD GARNER	MAP NUMBER 3 of 4
CHECKED: MM	SCALE: 600		CLIENT: JXN WATER	SHEET CONTENTS: SCOPE OF WORK	PROJECT NUMBER B-10742
REF C/L:					
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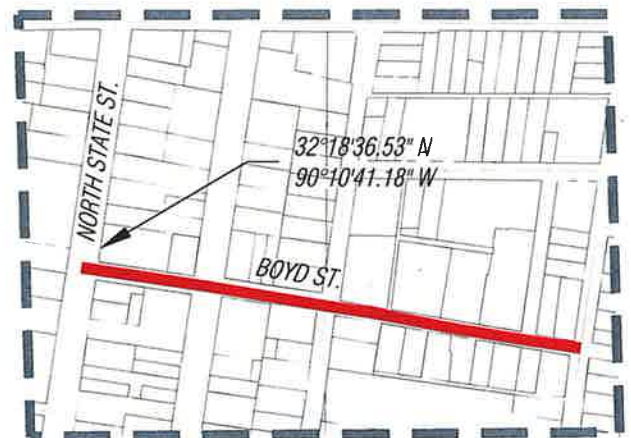
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ATWOOD STREET



UNION STREET



BOYD STREET



SCALE: 1"=600'

NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10	DRAWN: RTS		PROJECT LOCATION: JACKSON, MS 39202, 39203, & 39204	PROJECT: SMALL DIAMETER DISTRIBUTION 2425 - MCLEOD GARNER	MAP NUMBER 4 of 4
CHECKED: MM	SCALE: 600		CLIENT: JXN WATER 1054 GREYMONT AVE. JACKSON, MS	SHEET CONTENTS: SCOPE OF WORK	PROJECT NUMBER B-10742
REF C/L:					
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July 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
JXN Water Project 2426 – East Manor Estates Waterline Replacement Project
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for funds for the East Manor Estates Waterline Replacement Project. The neighborhood has encountered multiple water and sewer leaks due to system condition. The proposed project consists of five (5) locations totaling 1,245 linear feet of existing water lines ranging in size from 2" to 8". The new water lines will be a minimum size of 8" in diameter to support fire protection.

Below is a description of the street location of existing water lines anticipated for replacement as part of this project.

- Canterbury Ct – E Manor Dr to Dead End (2" Water, 400')
- Regency Ct - E Manor Dr to Dead End (2" Water, 250')
- St. Regis Ct - E Manor Dr to Dead End (2" Water, 170')
- Kings Ct - E Manor Dr to Dead End (2" Water, 250')
- Chateau Ct - E Manor Dr to Dead End (2" Water, 175')

The proposed project totaling 1,245 linear feet of new water distribution lines, fire hydrants, service lines, and valves will follow along existing road rights-of-way as shown on the attached exhibits.



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Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

Sincerely,

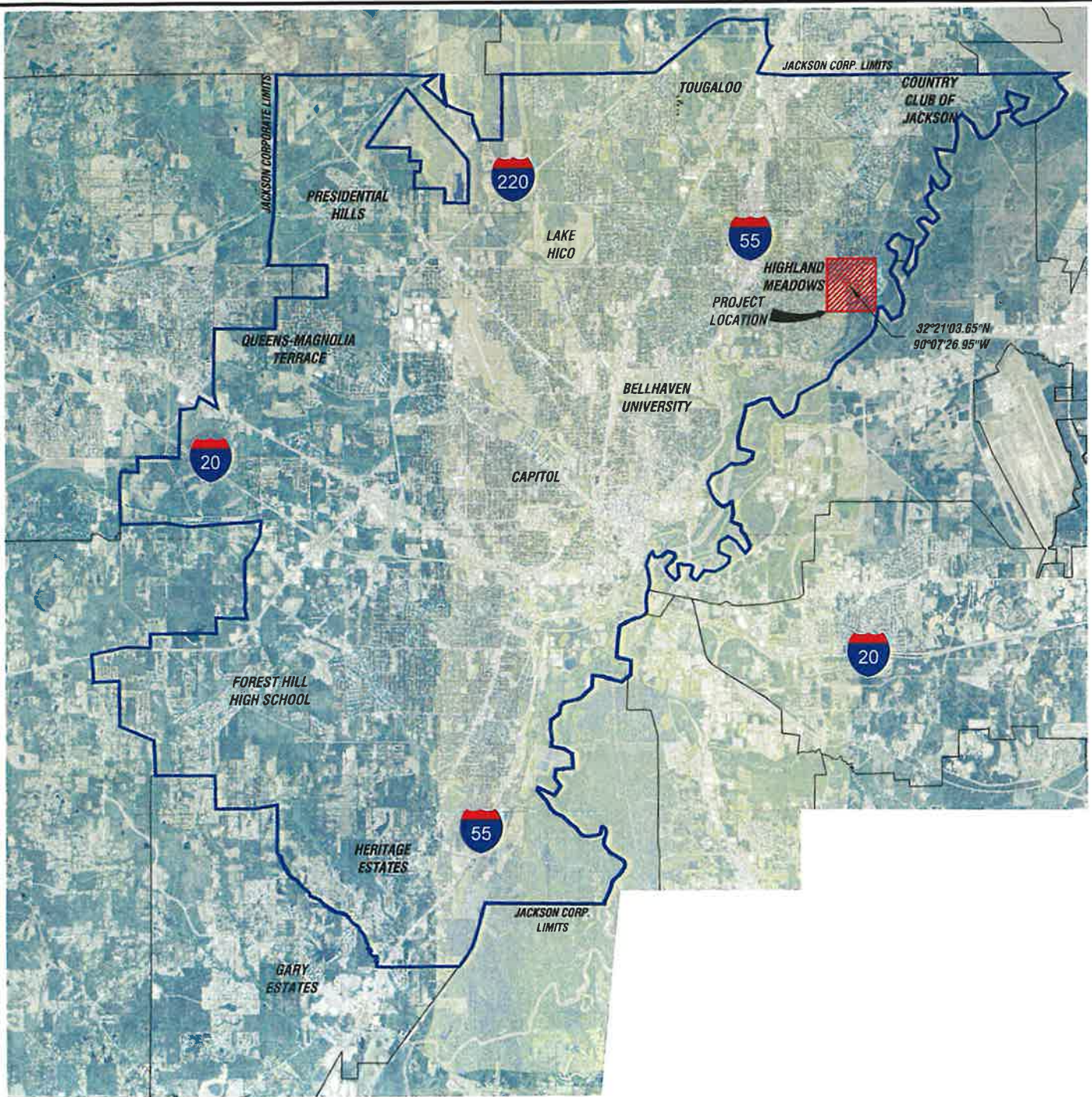
A handwritten signature in black ink, appearing to read "James B. Wolf".

James B. Wolf, P.E., P.L.S.

Benchmark Engineering & Surveying, LLC

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742



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SCALE: 1"=12000'

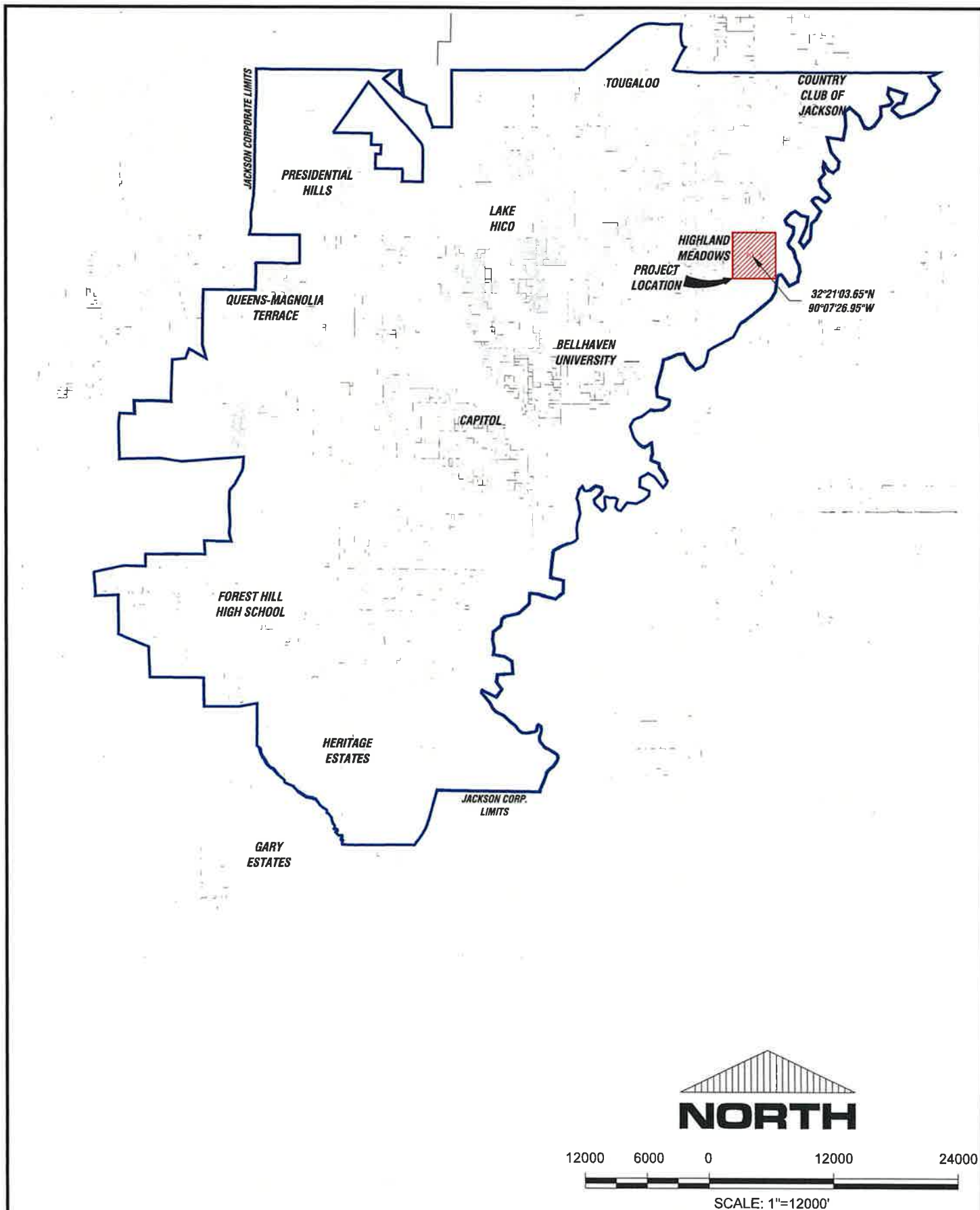
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 REF. C.A.:
 EG SURFACE:
 FG SURFACE:

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PROJECT LOCATION:
 JACKSON, MS 39211
 CLIENT:
 JXN WATER
 1054 GREYMONT AVE. JACKSON, MS

PROJECT:
 SMALL DIAMETER DISTRIBUTION
 2426 - EAST MANOR ESTATES
 SHEET CONTENTS:
 CITY OF JACKSON MAP / PROJECT LOCATION

MAP
 NUMBER
 1 of 4
 PROJECT
 NUMBER
 B-10742



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SCALE: 1"=12000'

DATE: 07/10	DRAWN: RTS
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PROJECT LOCATION:
JACKSON, MS 39211

CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2426 - EAST MANOR ESTATES

SHEET CONTENTS:
CITY OF JACKSON MAP / PROJECT LOCATION

MAP
NUMBER
2 of 4
PROJECT
NUMBER
B-10742



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE: 07/10	DRAWN: RTS
CHECKED: MM	SCALE: 600
REF C/L:	
EG SURFACE:	
FG SURFACE:	

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PROJECT LOCATION:
JACKSON, MS 39211

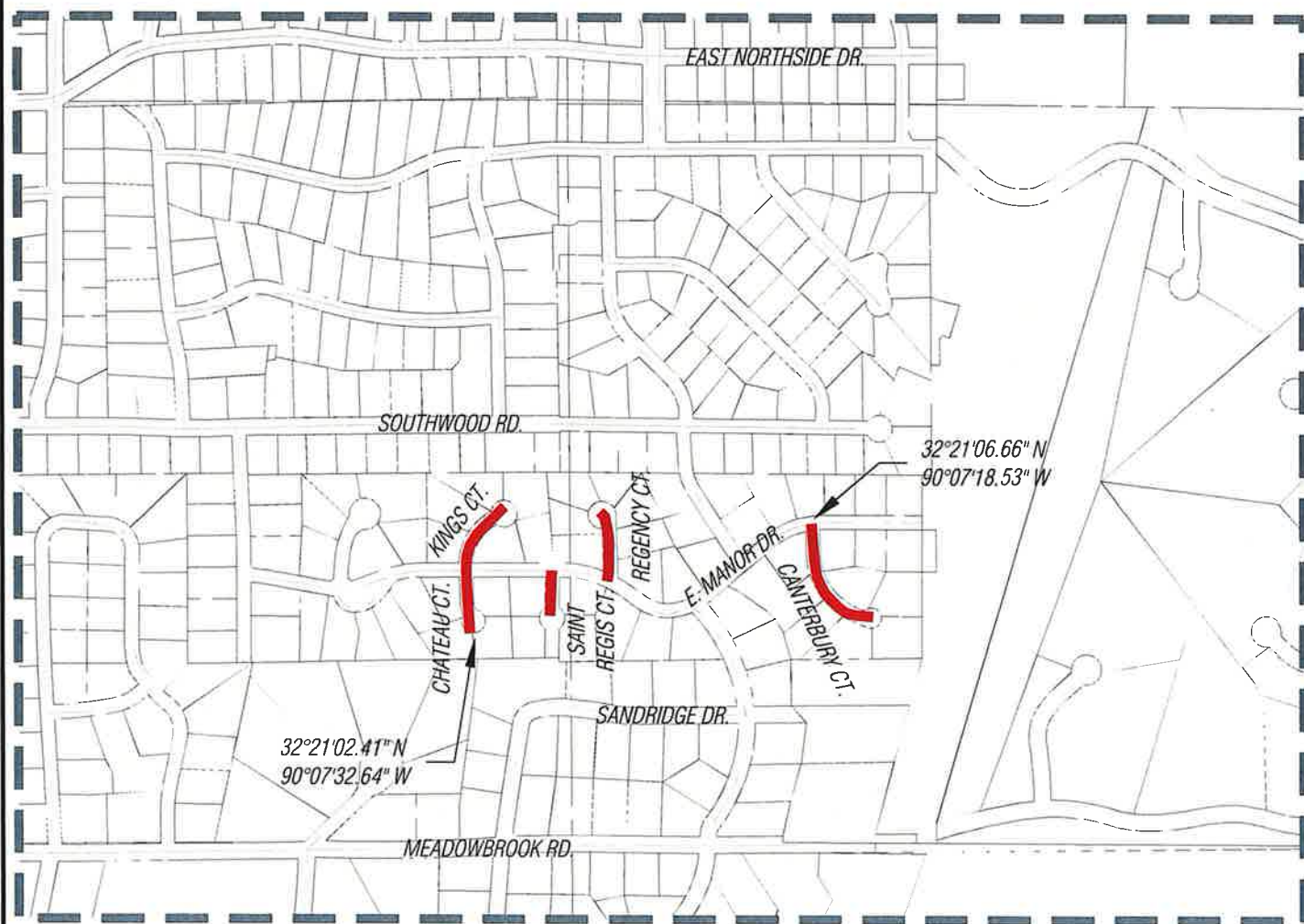
CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2426 - EAST MANOR ESTATES

SHEET CONTENTS:
SCOPE OF WORK

MAP
NUMBER
3 of 4

PROJECT
NUMBER
B-10742



NOTES:
EXISTING WATER LINES TO BE REPLACED IN
EXISTING R.O.W. AND/OR EASEMENT (TYP.)

— PROPOSED WATER LINE (TYP.)

DATE:	07/10	DRAWN:	RTS
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PROJECT LOCATION:
JACKSON, MS 39211
CLIENT:
JXN WATER
1054 GREYMONT AVE. JACKSON, MS

PROJECT:
SMALL DIAMETER DISTRIBUTION
2426 - EAST MANOR ESTATES
SHEET CONTENTS:
SCOPE OF WORK

MAP
NUMBER
4 of 4
PROJECT
NUMBER
B-10742

July, 23, 2025

US Army of Corps of Engineers
Vicksburg District
Regulatory Functions Branch
4155 Clay Street
Vicksburg, Mississippi 39183-3435

RE: City of Jackson
Addendum to 2024 Facility Plan Update
JXN Water Project – Rehabilitation of Ground Water Wells
Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF)

To Whom it May Concern:

JXN Water is applying through the Mississippi State Department of Health's Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program for funds for the Rehabilitation of Ground Water Wells. The proposed project consists of adding 1 new well, deepening up to 2 existing wells, and rehabilitating equipment at multiple sites.

Below is a description of the site location of the existing water wells anticipated for rehabilitation as part of this project.

- 1) Hwy No. 18 Well
- 2) Maddox Rd. Well
- 3) Siwell Rd. Well
- 4) Willowood Well
- 5) TV Rd. Well
- 6) Wiggins Rd. Well

Please review these documents and let us know if any permits and/or surveys are required for approval of these projects.

Should you need any additional information, please contact our office at 601-627-7780.

Sincerely,

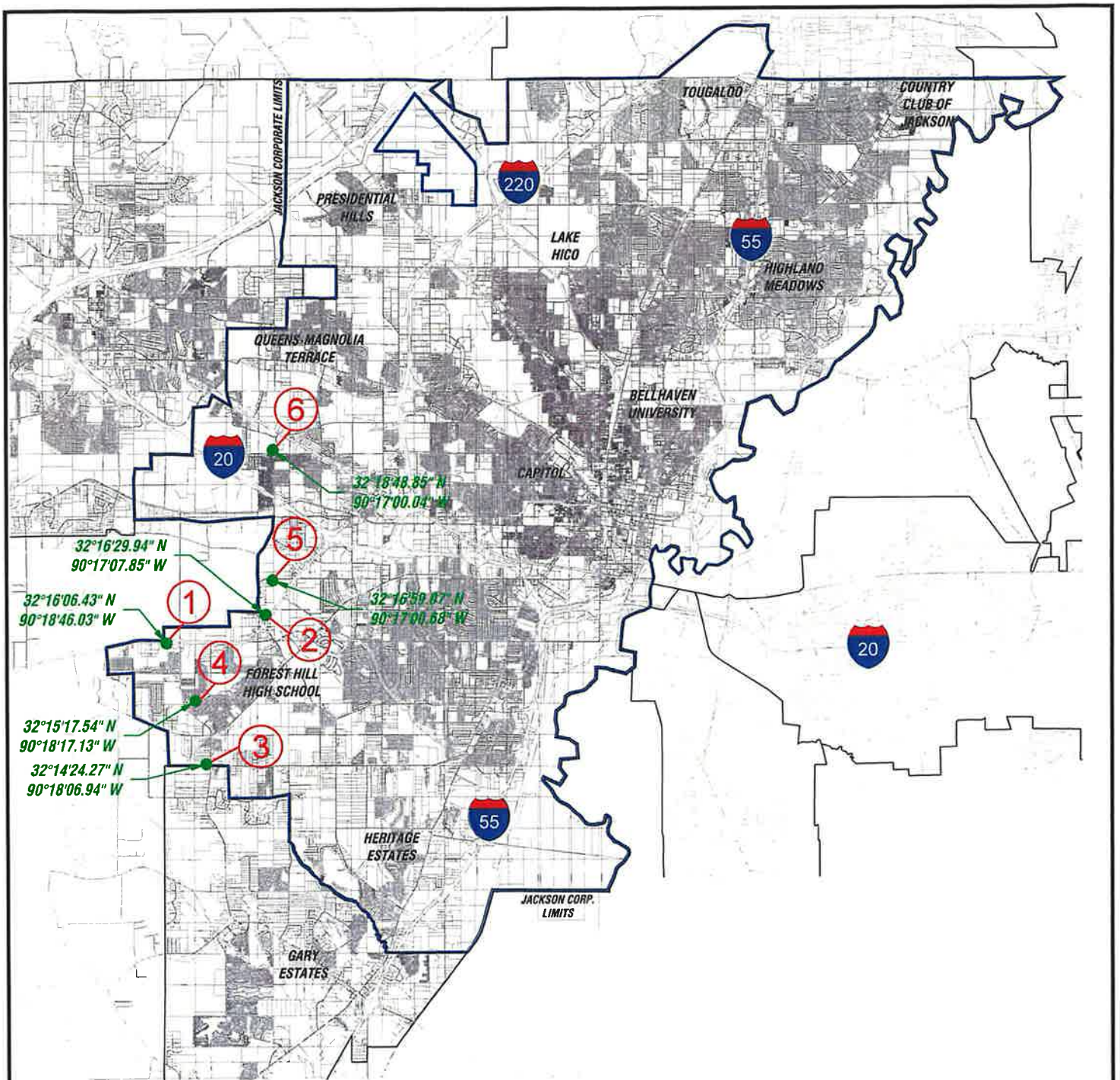


James B. Wolf, P.E., P.L.S.

Benchmark Engineering & Surveying, LLC

Enclosures

Cc: MS Department of Archives & History
Natural Heritage Program
Bradley Fletcher, Stantec
B-10742



LEGEND

- ① HIGHWAY NO. 18 WELL
- ② MADDOX RD. WELL
- ③ SIWELL RD. WELL
- ④ WILLOWOOD WELL
- ⑤ TV RD. WELL
- ⑥ WIGGINS RD. WELL

● WELL LOCATIONS



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SCALE: 1"=12000'

DATE: 07/22 DRAWN: RTS
 CHECKED: MM SCALE: 12000
 REF. C/L:
 EQ. SURFACE:
 PG. SURFACE:

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PROJECT LOCATION:
 CITY OF JACKSON
 JACKSON, MS 39286
 CLIENT:
 JXN WATER
 1054 GREYMONT AVE JACKSON, MS

PROJECT:
 2024 FACILITIES PLAN ADDENDUM
 SHEET CONTENTS:
 EXISTING WELL LOCATIONS

MAP
 NUMBER
 1
 PROJECT
 NUMBER
 B-10742

MS Department of Archives and History

August 14, 2025

Mr. James B. Wolf
Benchmark Engineering
660 Katherine Drive
Flowood, Mississippi 39232

RE: Proposed Water Improvement Project for 17 locations, Batch 1, Jackson
(MS Dept of Health) MDAH Project Log #07-139-25, Hinds County

Dear Mr. Wolf:

We have reviewed the request for cultural resources assessment, received on July 24, 2025, for the above referenced project in accordance with our responsibilities under Section 106 of the National Historic Preservation Act and 36 CFR Part 800.

One of the multiple sites submitted to our office is located within the boundaries of the potentially eligible Shadowlawn Heights Historic District, eligible under Criterion C: Architecture as an intact collection of early 1950s Minimal Traditional houses. However, given that the scope of work details the project will occur within existing easements and rights of way, this project will have No Adverse Effect on the potential historic district.

Furthermore, in regard to archaeological sites, if any cultural materials such as pottery, nails, glass, stone tools, arrowheads, or animal bones are encountered, all work should cease, and the chief archaeologist shall be notified within 24 hours so that the appropriate descendant communities can be consulted for a path forward in accordance with state and federal law.. With this condition, we have no objection with the proposed undertaking.

Should there be additional work in connection with the project, or any changes in the scope of work, please let us know in order that we may provide you with appropriate comments in compliance with the above referenced regulations. If you have any questions, please do not hesitate to contact us at section106@mdah.ms.gov.

Sincerely,



Roger Walker
Acting Review and Compliance Officer

FOR: Katie Blount
State Historic Preservation Officer

August 14, 2025

Mr. James B. Wolf
Benchmark Engineering
660 Katherine Drive
Flowood, Mississippi 39232

RE: Proposed Water Improvement Project for 17 locations, Batch 2, Jackson
(MS Dept of Health) MDAH Project Log #07-140-25, Hinds County

Dear Mr. Wolf:

We have reviewed the request for cultural resources assessment, received on July 24, 2025, for the above referenced project in accordance with our responsibilities under Section 106 of the National Historic Preservation Act and 36 CFR Part 800.

One of the multiple projects submitted to our office is located within the boundaries of the potential Capitol Neighbors West Historic District, eligible under Criterion C: Architecture for intact collections of Minimal Traditional houses. Another project is within the boundaries of the Belhaven Heights Historic District, listed in the National Register on December 18, 2012, along with the boundaries of the locally designated Belhaven Heights Historic District, established on August 20, 1996. However, given the scope of work states work will be done within existing easements and rights of way only, the projects will have No Adverse Effect on the historic districts.

Furthermore, in regard to archaeological sites, if any cultural materials such as pottery, nails, glass, stone tools, arrowheads, or animal bones are encountered, all work should cease, and the chief archaeologist shall be notified within 24 hours so that the appropriate descendant communities can be consulted for a path forward in accordance with state and federal law.. With this condition, we have no objection with the proposed undertaking.

Should there be additional work in connection with the project, or any changes in the scope of work, please let us know in order that we may provide you with appropriate comments in compliance with the above referenced regulations. If you have any questions, please do not hesitate to contact us at section106@mdah.ms.gov.

Sincerely,



Roger Walker
Acting Review and Compliance Officer

FOR: Katie Blount
State Historic Preservation Officer

August 14, 2025

Mr. James B. Wolf
Benchmark Engineering
660 Katherine Drive
Flowood, Mississippi 39232

RE: Proposed Water Improvement Project for 17 locations, Batch 3, Jackson
(MS Dept of Health) MDAH Project Log #07-141-25, Hinds County

Dear Mr. Wolf:

We have reviewed the request for cultural resources assessment, received on July 24, 2025, for the above referenced project in accordance with our responsibilities under Section 106 of the National Historic Preservation Act and 36 CFR Part 800.

One of the multiple project areas, the project on Boyd Street, is within the boundaries of the Belhaven Heights Historic District and an amendment to the district, listed in the National Register on November 25, 1983 and September 3, 1998, respectively. Furthermore, the project is within the boundaries of the locally designated Belhaven Heights Historic District, designated on March 9, 1999. However, given that the scope of work states the work will occur within existing easements and rights of way, the projects will have No Adverse Effect on the historic districts.

Furthermore, in regard to archaeological sites, if any cultural materials such as pottery, nails, glass, stone tools, arrowheads, or animal bones are encountered, all work should cease, and the chief archaeologist shall be notified within 24 hours so that the appropriate descendant communities can be consulted for a path forward in accordance with state and federal law.. With this condition, we have no objection with the proposed undertaking.

Should there be additional work in connection with the project, or any changes in the scope of work, please let us know in order that we may provide you with appropriate comments in compliance with the above referenced regulations. If you have any questions, please do not hesitate to contact us at section106@mdah.ms.gov.

Sincerely,



Roger Walker
Acting Review and Compliance Officer

FOR: Katie Blount
State Historic Preservation Officer

MS Department of Wildlife,
Fisheries, and Parks
(Natural Heritage Program)



Mississippi
Department of Wildlife, Fisheries, and Parks

Sam Polles, Ph.D.
Executive Director

August 22, 2025

Benchmark Engineering & Surveying
660 Katherine Drive, Suite 302
Flowood, , MS 39232

Re: JXN Water Facilities
Plan / Addendum
Hinds County, MS

Project # #2411
Internal Id 27553

To JAMES WOLF:

In response to your request for information dated August 11, 2025, we have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
<i>Asclepias hirtella</i>	Green Milkweed			S2
<i>Carya laciniosa</i>	Big Shellbark Hickory			S2
<i>Crataegus calpodendron</i>	Pear Hawthorn			S3
<i>Echinacea purpurea</i>	Eastern Purple Coneflower			S3
<i>Lasionycteris noctivagans</i>	Silver-haired Bat			S3
<i>Lasiurus cinereus</i>	Hoary Bat	PS		S3
<i>Ophisaurus attenuatus</i>	Slender Glass Lizard			S2
<i>Ptelea trifoliata</i>	Common Hoptree			S3S4
<i>Trillium ludovicianum</i>	Louisiana Trillium			S1S2

State Rank

S1 - Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S2 - Imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

State and Federal Status

LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.

LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

As listed above, there are 9 species of concern in our database within a 2-mile radius of the proposed JXN Water Facilities Plan/Addendum #2411 project(s) in Jackson, Hinds County, MS (32.265278, -90.247778). As described in your environmental review request, this project has eight separate locations and involves 12,665 LF of new water distribution lines, fire hydrants, service lines, and valves within the existing road rights-of-way. Of the 9 species listed above, the Hoary Bat possess a federal partial status that does not apply to the portions of their respective ranges that occur in Mississippi. It has been noted that portions of the proposed project will cross Hardy Creek. Many of the listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Due to the nature of this project, our primary concern is the possibility of asbestos, lead (if old cement asbestos / lead lines are being replaced or disturbed), sediment deposition, turbidity, exhaust runoff from roads, increased herbicide and pesticide load, and other unintentional introduction of pollutants being introduced to nearby streams and bodies of water, such as Hardy Creek. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival of these species. When the waterlines cross any creeks / water drainages / bodies of water, precautions should be taken to ensure that the proposed projects do not result in increased stream flow or further stream channel, bed, or bank degradation upstream or downstream, as well as potential head-cutting, downstream of the proposed project site. Stream stabilization projects such as armoring or using riprap / concrete, while providing needed erosion control on-site, can sometimes lead to increased erosion in other areas of the same waterbody due to increased stream velocities and a lack of vegetation to reduce flow energy. Such changes can also change the hydrology of an area, disturbing the habitat. Portions of these sites may also be underlain by hydric soils and/or be designated wetlands. If the waterlines cross through culverts, we recommend that bat surveys should be conducted prior to determining if bats are present. Culverts provide an important artificial habitat for birds and bats. Bats will hibernate as early as October to April. Maternity season for bats starts in April and ends towards late July/early August. If bats are present, please contact MS Department of Wildlife, Fisheries and Parks Biologist, Katelin Cross, at (601) 576-6013 or at Katelin.Cross@mmns.ms.gov. Should this project be approved, we recommend that best management practices such as streamside management zones (SMZs) and other BMPs be properly implemented, monitored, and maintained for compliance, specifically measures that will prevent suspended silt and contaminants from leaving the site in storm water run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies (<https://www.mfc.ms.gov/forest-health/water-quality-and-forestry-best-management-practices/>). Please check MS Department of Environmental Quality for other BMP. (<https://www.mdeq.ms.gov/water/surface-water/nonpoint-source-pollution-program/stormwater-runoff-management-manual/>) In addition, should any impacts to streams or wetlands occur as a result of the proposed project, we ask that serious consideration be given to the cumulative impacts of stream and wetland disturbance and elimination, and that appropriate, in-kind mitigation be provided.

Please feel free to contact us if we can provide any additional information, resources, or assistance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Marilee Humphries

The Mississippi Natural Heritage Program (MNHP) has compiled a database that is the most complete source of information about Mississippi's rare, threatened, and endangered plants, animals, and ecological communities. The quantity and quality of data collected by MNHP are dependent on the research and observations of many individuals and organizations. In many cases, this information is not the result of comprehensive or site-specific field surveys; most natural areas in Mississippi have not been thoroughly surveyed and new occurrences of plant and animal species are often discovered. Heritage reports summarize the existing information known to the MNHP at the time of the request and cannot always be considered a definitive statement on the presence, absence or condition of biological elements on a particular site.



Mississippi
Department of Wildlife, Fisheries, and Parks

Sam Polles, Ph.D.
Executive Director

August 22, 2025

Benchmark Engineering & Surveying
660 Katherine Drive, Suite 302
Flowood, MS 39232

Re: JXN Water Facilities
Plan / Addendum
Hinds County, MS

Project # #2412
Internal Id 27554

To JAMES WOLF:

In response to your request for information dated August 11, 2025, we have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
Falco sparverius	American Kestrel			S3B,S4S5N
Tyto alba	Common Barn-owl			S3

State Rank

S1 - Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S2 - Imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

State and Federal Status

LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.

LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

As listed above, there are 2 species of concern in our database within a 2-mile radius of the proposed JXN Water Facilities Plan/Addendum #2412 project in Jackson, Hinds County, MS (32.249167, -90.311111). As described in your environmental review request, this project will involve 1,300 LF of new water distribution lines, fire hydrants, service lines, and valves along Hidden Valley Lane within the existing rights-of-way. The quantity and quality of data collected by the Mississippi Natural Heritage Program are dependent on the research and observations of many individuals and organizations and, in many cases, this information is not the result of comprehensive or site-specific field surveys. It has been noted that the proposed project will occur near Big Creek. Many of the listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Due to the nature of this project, our primary concern is the possibility of asbestos, lead (if old cement asbestos / lead lines are being replaced or disturbed), sediment deposition, turbidity, exhaust runoff from roads, increased herbicide and pesticide load, and other unintentional introduction of pollutants being introduced to the surrounding environment and nearby bodies of water, such as Big Creek. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival of these species. If the waterlines cross through culverts, we recommend that bat surveys should be conducted prior to determining if bats are present. Culverts provide an important artificial habitat for birds and bats. Bats will hibernate as early as October to April. Maternity season for bats starts in April and ends towards late July/early August. If bats are present, please contact MS Department of Wildlife, Fisheries and Parks Biologist, Katelin Cross, at (601) 576-6013 or at Katelin.Cross@mmns.ms.gov. Should this project be approved, we recommend that best management practices such as streamside management zones (SMZs) and other BMPs be properly implemented, monitored, and maintained for compliance, specifically measures that will prevent suspended silt and contaminants from leaving the site in storm water run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies (<https://www.mfc.ms.gov/forest-health/water-quality-and-forestry-best-management-practices/>). Please check MS Department of Environmental Quality for other BMP. (<https://www.mdeq.ms.gov/water/surface-water/nonpoint-source-pollution-program/stormwater-runoff-management-manual/>) In addition, should any impacts to streams or wetlands occur as a result of the proposed project, we ask that serious consideration be given to the cumulative impacts of stream and wetland disturbance and elimination, and that appropriate, in-kind mitigation be provided.

Please feel free to contact us if we can provide any additional information, resources, or assistance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Marinee Humphries

The Mississippi Natural Heritage Program (MNHP) has compiled a database that is the most complete source of information about Mississippi's rare, threatened, and endangered plants, animals, and ecological communities. The quantity and quality of data collected by MNHP are dependent on the research and observations of many individuals and organizations. In many cases, this information is not the result of comprehensive or site-specific field surveys; most natural areas in Mississippi have not been thoroughly surveyed and new occurrences of plant and animal species are often discovered. Heritage reports summarize the existing information known to the MNHP at the time of the request and cannot always be considered a definitive statement on the presence, absence or condition of biological elements on a particular site.



Mississippi
Department of Wildlife, Fisheries, and Parks

Sam Polles, Ph.D.
Executive Director

August 22, 2025

Benchmark Engineering & Surveying
660 Katherine Drive, Suite 302
Flowood, MS 39232

Re: JXN Water Facilities
Plan / Addendum
Hinds County, MS

Project # #2413
Internal Id 27555

To JAMES WOLF:

In response to your request for information dated **August 11, 2025**, we have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
Carya laciniosa	Big Shellbark Hickory			S2
Crataegus calpodendron	Pear Hawthorn			S3
Echinacea purpurea	Eastern Purple Coneflower			S3
Lasionycteris noctivagans	Silver-haired Bat			S3
Limnothlypis swainsonii	Swainson's Warbler			S3B
Ptelea trifoliata	Common Hoptree			S3S4

State Rank

S1 - Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S2 - Imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

State and Federal Status

LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.

LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

As listed above, there are 6 species of concern in our database within a 2-mile radius of the proposed JXN Water Facilities Plan/Addendum #2413 project in Jackson, Hinds County, MS (32.211667, -90.236667). As described in your environmental review request, this project will involve the installation of 2,160 LF of new water distribution lines, fire hydrants, service lines, and valves on Scottsdale Drive within existing the rights-of-way. Many of the listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Due to the nature of this project, our primary concern is the possibility of asbestos, lead (if old cement asbestos / lead lines are being replaced or disturbed), sediment deposition, turbidity, exhaust runoff from roads, increased herbicide and pesticide load, and other unintentional introduction of pollutants being introduced to the surrounding environment and nearby bodies of water. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival of these species. If the waterlines cross through culverts, we recommend that bat surveys should be conducted prior to determining if bats are present. Culverts provide an important artificial habitat for birds and bats. Bats will hibernate as early as October to April. Maternity season for bats starts in April and ends towards late July/early August. If bats are present, please contact MS Department of Wildlife, Fisheries and Parks Biologist, Katelin Cross, at (601) 576-6013 or at Katelin.Cross@mmns.ms.gov. Should this project be approved, we recommend that best management practices such as streamside management zones (SMZs) and other BMPs be properly implemented, monitored, and maintained for compliance, specifically measures that will prevent suspended silt and contaminants from leaving the site in storm water run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies (<https://www.mfc.ms.gov/forest-health/water-quality-and-forestry-best-management-practices/>). Please check MS Department of Environmental Quality for other BMP. (<https://www.mdeq.ms.gov/water/surface-water/nonpoint-source-pollution-program/stormwater-runoff-management-manual/>) In addition, should any impacts to streams or wetlands occur as a result of the proposed project, we ask that serious consideration be given to the cumulative impacts of stream and wetland disturbance and elimination, and that appropriate, in-kind mitigation be provided.

Please feel free to contact us if we can provide any additional information, resources, or assistance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Marinee Humphries

The Mississippi Natural Heritage Program (MNHP) has compiled a database that is the most complete source of information about Mississippi's rare, threatened, and endangered plants, animals, and ecological communities. The quantity and quality of data collected by MNHP are dependent on the research and observations of many individuals and organizations. In many cases, this information is not the result of comprehensive or site-specific field surveys; most natural areas in Mississippi have not been thoroughly surveyed and new occurrences of plant and animal species are often discovered. Heritage reports summarize the existing information known to the MNHP at the time of the request and cannot always be considered a definitive statement on the presence, absence or condition of biological elements on a particular site.



Mississippi
Department of Wildlife, Fisheries, and Parks

Sam Polles, Ph.D.
Executive Director

August 22, 2025

Benchmark Engineering & Surveying
660 Katherine Drive, Suite 302
Flowood, MS 39232

Re: JXN Water Facilities
Plan / Addendum
Hinds County, MS

Project # #2414
Internal Id 27556

To JAMES WOLF:

In response to your request for information dated August 11, 2025, we have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
Lasionycteris noctivagans	Silver-haired Bat			S3

State Rank

S1 - Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S2 - Imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

State and Federal Status

LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.

LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

As listed above, there is 1 species of concern in our database within a 2-mile radius of the proposed JXN Water Facilities Plan/Addendum #2414 project(s) in Jackson, Hinds County, MS (32.224167, -90.275833). As described in your environmental review request, this project involves the installation of 2,600 LF of new water distribution lines, fire hydrants, service lines, and valves on Tuesday Lane and Velma Drive within the existing rights-of-way. The quantity and quality of data collected by the Mississippi Natural Heritage Program are dependent on the research and observations of many individuals and organizations and, in many cases, this information is not the result of comprehensive or site-specific field surveys. Many of the listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Due to the nature of this project, our primary concern is the possibility of asbestos, lead (if old cement asbestos / lead lines are being replaced or disturbed), sediment deposition, turbidity, exhaust runoff from roads, increased herbicide and pesticide load, and other unintentional introduction of pollutants being introduced to the surrounding environment and nearby bodies of water. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival of these species. If the waterlines cross through culverts, we recommend that bat surveys should be conducted prior to determining if bats are present. Culverts provide an important artificial habitat for birds and bats. Bats will hibernate as early as October to April. Maternity season for bats starts in April and ends towards late July/early August. If bats are present, please contact MS Department of Wildlife, Fisheries and Parks Biologist, Katelin Cross, at (601) 576-6013 or at Katelin.Cross@mms.ms.gov. Should this project be approved, we recommend that best management practices such as streamside management zones (SMZs) and other BMPs be properly implemented, monitored, and maintained for compliance, specifically measures that will prevent suspended silt and contaminants from leaving the site in storm water run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies (<https://www.mfc.ms.gov/forest-health/water-quality-and-forestry-best-management-practices/>). Please check MS Department of Environmental Quality for other BMP. (<https://www.mdeq.ms.gov/water/surface-water/nonpoint-source-pollution-program/stormwater-runoff-management-manual/>) In addition, should any impacts to streams or wetlands occur as a result of the proposed project, we ask that serious consideration be given to the cumulative impacts of stream and wetland disturbance and elimination, and that appropriate, in-kind mitigation be provided.

Please feel free to contact us if we can provide any additional information, resources, or assistance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Marilee Humphries

The Mississippi Natural Heritage Program (MNHP) has compiled a database that is the most complete source of information about Mississippi's rare, threatened, and endangered plants, animals, and ecological communities. The quantity and quality of data collected by MNHP are dependent on the research and observations of many individuals and organizations. In many cases, this information is not the result of comprehensive or site-specific field surveys; most natural areas in Mississippi have not been thoroughly surveyed and new occurrences of plant and animal species are often discovered. Heritage reports summarize the existing information known to the MNHP at the time of the request and cannot always be considered a definitive statement on the presence, absence or condition of biological elements on a particular site.



Mississippi
Department of Wildlife, Fisheries, and Parks

Sam Polles, Ph.D.
Executive Director

August 22, 2025

Benchmark Engineering & Surveying
660 Katherine Drive, Suite 302
Flowood, , MS 39232

Re: JXN Water Facilities
Plan / Addendum
Hinds County, MS

Project # #2415
Internal Id 27557

To JAMES WOLF:

In response to your request for information dated August 11, 2025, we have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
<i>Alosa alabamae</i>	Alabama Shad	C		S1
<i>Carya laciniosa</i>	Big Shellbark Hickory			S2
<i>Crataegus calpodendron</i>	Pear Hawthorn			S3
<i>Echinacea purpurea</i>	Eastern Purple Coneflower			S3
<i>Lasiorycteris noctivagans</i>	Silver-haired Bat			S3
<i>Limnothlypis swainsonii</i>	Swainson's Warbler			S3B
<i>Obovaria unicolor</i>	Alabama Hickorynut		C	S1
<i>Ophisaurus attenuatus</i>	Slender Glass Lizard			S2
<i>Potamilus inflatus</i>	Inflated Heelsplitter	LT	LE	S1

Scientific Name	Common Name	Federal Status	State Status	State Rank
<i>Ptelea trifoliata</i>	Common Hoptree			S3S4
<i>Truncilla truncata</i>	Deertoe			S3
<i>Uniomerus declivis</i>	Tapered Pondhorn			S3

State Rank

S1 - Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S2 - Imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

State and Federal Status

LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.

LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

As listed above, there are 12 species of concern in our database within a 2-mile radius of the proposed JXN Water Facilities Plan/Addendum #2415 project(s) in Jackson, Hinds County, MS (32.241667, -90.236667). As described in your environmental review request, this project involves the installation of 3,350 LF of new water distribution lines, fire hydrants, service lines, and valves on Middle Drive and Wildwood Circle within the existing rights-of-way. Of the 12 species listed above, the Inflated Heelsplitter is listed as federally threatened and state endangered. The Alabama Shad is currently under review for federal listing and the Alabama Hickorynut is currently under review for state listing. Additionally, this proposed project is set to occur within 2-miles of federally designated critical habitat, the Pearl River, for the Gulf Sturgeon. It is noted that the proposed projects will occur near Cany Creek. Many of the listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Due to the nature of this project, our primary concern is the possibility of asbestos, lead (if old cement asbestos / lead lines are being replaced or disturbed), sediment deposition, turbidity, exhaust runoff from roads, increased herbicide and pesticide load, and other unintentional introduction of pollutants being introduced to the surrounding environment and nearby bodies of water, such as Cany Creek. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival of these species. The life history and ecology of all species of endangered mussels, such as the Inflated Heelsplitter and Alabama Hickorynut, are poorly known. Freshwater mussels are filter feeders that play vital role in maintaining clean and healthy aquatic ecosystems by feeding on bacteria, algae, plankton, and silts. Mussels are highly sensitive to environmental disturbances such as bank degradation, erosion, siltation, and road/runoff pollution, which can smother their habitats and reduce water quality. Stream or watershed projects that may cause siltation, impoundment, headcutting, or otherwise negatively affect remaining habitat should be discouraged. Alabama Shad is an anadromous species found in the Gulf of Mexico and its associated rivers. This species once migrated up rivers in great abundance, to reach their spawning waters. However, it has suffered drastic declines throughout its range and is now absent from many river systems and watersheds. Primary causes for its decline include obstruction of rivers by locks and dams, as well as degraded water quality due to sedimentation and pollution. Navigational dredging of sand bars also directly destroys the spawning grounds. One estimate offers that ten of the twenty-one rivers formerly known to support Alabama Shad still host the species. If the waterlines cross through culverts, we recommend that bat surveys should be conducted

prior to determining if bats are present. Culverts provide an important artificial habitat for birds and bats. Bats will hibernate as early as October to April. Maternity season for bats starts in April and ends towards late July/early August. If bats are present, please contact MS Department of Wildlife, Fisheries and Parks Biologist, Katelin Cross, at (601) 576-6013 or at Katelin.Cross@mmns.ms.gov. Should this project be approved, we recommend that best management practices such as streamside management zones (SMZs) and other BMPs be properly implemented, monitored, and maintained for compliance, specifically measures that will prevent suspended silt and contaminants from leaving the site in storm water run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies (<https://www.mfc.ms.gov/forest-health/water-quality-and-forestry-best-management-practices/>). Please check MS Department of Environmental Quality for other BMP. (<https://www.mdeq.ms.gov/water/surface-water/nonpoint-source-pollution-program/stormwater-runoff-management-manual/>) In addition, should any impacts to streams or wetlands occur as a result of the proposed project, we ask that serious consideration be given to the cumulative impacts of stream and wetland disturbance and elimination, and that appropriate, in-kind mitigation be provided.

Please feel free to contact us if we can provide any additional information, resources, or assistance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Marinee Humphries

The Mississippi Natural Heritage Program (MNHP) has compiled a database that is the most complete source of information about Mississippi's rare, threatened, and endangered plants, animals, and ecological communities. The quantity and quality of data collected by MNHP are dependent on the research and observations of many individuals and organizations. In many cases, this information is not the result of comprehensive or site-specific field surveys; most natural areas in Mississippi have not been thoroughly surveyed and new occurrences of plant and animal species are often discovered. Heritage reports summarize the existing information known to the MNHP at the time of the request and cannot always be considered a definitive statement on the presence, absence or condition of biological elements on a particular site.



Mississippi
Department of Wildlife, Fisheries, and Parks

Sam Polles, Ph.D.
Executive Director

August 22, 2025

Benchmark Engineering & Surveying
660 Katherine Drive, Suite 302
Flowood, MS 39232

Re: JXN Water Facilities
Plan / Addendum
Hinds County, MS

Project # #2416
Internal Id 27558

To JAMES WOLF:

In response to your request for information dated August 11, 2025, we have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
<i>Alosa alabamiae</i>	Alabama Shad	C		S1
<i>Asclepias hirtella</i>	Green Milkweed			S2
<i>Fundulus dispar</i>	Northern Starhead Topminnow			S3
<i>Lasionycteris noctivagans</i>	Silver-haired Bat			S3
<i>Lasiurus cinereus</i>	Hoary Bat	PS		S3
<i>Obovaria unicolor</i>	Alabama Hickorynut		C	S1
<i>Ophisaurus attenuatus</i>	Slender Glass Lizard			S2
<i>Potamilus inflatus</i>	Inflated Heelsplitter	LT	LE	S1
<i>Truncilla truncata</i>	Deertoe			S3

Scientific Name	Common Name	Federal Status	State Status	State Rank
Unio merus declivis	Tapered Pondhorn			S3

State Rank

S1 - Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.
S2 - Imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.
S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

State and Federal Status

LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.
LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

As listed above, there are 10 species of concern in our database within a 2-mile radius of the proposed JXN Water Facilities Plan/Addendum #2416 project(s) in Jackson, Hinds County, MS (32.278611, -90.221389). As described in your environmental review request, this project involves the installation of 4,910 LF of new water distribution lines, fire hydrants, service lines, and valves at seven locations within the existing rights-of-way. Of the 10 species listed above, the Inflated Heelsplitter is listed as federally threatened and state endangered. The Alabama Shad is currently under review for federal listing and the Alabama Hickorynut is currently under review for state listing. The Hoary Bat possess a federal partial status that does not apply to the portions of their respective ranges that occur in Mississippi. Additionally, this proposed project is set to occur within 2-miles of federally designated critical habitat, the Pearl River, for the Gulf Sturgeon. Many of the listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Due to the nature of this project, our primary concern is the possibility of asbestos, lead (if old cement asbestos / lead lines are being replaced or disturbed), sediment deposition, turbidity, exhaust runoff from roads, increased herbicide and pesticide load, and other unintentional introduction of pollutants being introduced to the surrounding environment and nearby bodies of water. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival of these species. The life history and ecology of all species of endangered mussels, such as the Inflated Heelsplitter and Alabama Hickorynut, are poorly known. Freshwater mussels are filter feeders that play vital role in maintaining clean and healthy aquatic ecosystems by feeding on bacteria, algae, plankton, and silts. Mussels are highly sensitive to environmental disturbances such as bank degradation, erosion, siltation, and road/runoff pollution, which can smother their habitats and reduce water quality. Stream or watershed projects that may cause siltation, impoundment, headcutting, or otherwise negatively affect remaining habitat should be discouraged. Alabama Shad is an anadromous species found in the Gulf of Mexico and its associated rivers. This species once migrated up rivers in great abundance, to reach their spawning waters. However, it has suffered drastic declines throughout its range and is now absent from many river systems and watersheds. Primary causes for its decline include obstruction of rivers by locks and dams, as well as degraded water quality due to sedimentation and pollution. Navigational dredging of sand bars also directly destroys the spawning grounds. One estimate offers that ten of the twenty-one rivers formerly known to support Alabama Shad still host the species. If the waterlines cross through culverts, we recommend that bat surveys should be conducted prior to determining if bats are present. Culverts provide an important artificial habitat for birds and bats. Bats will hibernate as early as October to April. Maternity season for bats starts in April and ends towards late July/early August. If bats are present, please contact MS Department of Wildlife, Fisheries and Parks Biologist, Katelin Cross, at (601) 576-6013 or at Katelin.Cross@mmns.ms.gov. Should this project be approved, we

recommend that best management practices such as streamside management zones (SMZs) and other BMPs be properly implemented, monitored, and maintained for compliance, specifically measures that will prevent suspended silt and contaminants from leaving the site in storm water run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies (<https://www.mfc.ms.gov/forest-health/water-quality-and-forestry-best-management-practices/>). Please check MS Department of Environmental Quality for other BMP. (<https://www.mdeq.ms.gov/water/surface-water/nonpoint-source-pollution-program/stormwater-runoff-management-manual/>) In addition, should any impacts to streams or wetlands occur as a result of the proposed project, we ask that serious consideration be given to the cumulative impacts of stream and wetland disturbance and elimination, and that appropriate, in-kind mitigation be provided.

Please feel free to contact us if we can provide any additional information, resources, or assistance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Marinee Humphries

The Mississippi Natural Heritage Program (MNHP) has compiled a database that is the most complete source of information about Mississippi's rare, threatened, and endangered plants, animals, and ecological communities. The quantity and quality of data collected by MNHP are dependent on the research and observations of many individuals and organizations. In many cases, this information is not the result of comprehensive or site-specific field surveys; most natural areas in Mississippi have not been thoroughly surveyed and new occurrences of plant and animal species are often discovered. Heritage reports summarize the existing information known to the MNHP at the time of the request and cannot always be considered a definitive statement on the presence, absence or condition of biological elements on a particular site.



Mississippi
Department of Wildlife, Fisheries, and Parks

Sam Polles, Ph.D.
Executive Director

August 22, 2025

Benchmark Engineering & Surveying
660 Katherine Drive, Suite 302
Flowood, MS 39232

Re: JXN Water Facilities
Plan / Addendum
Hinds County, MS

Project # #2417
Internal Id 27559

To JAMES WOLF:

In response to your request for information dated **August 11, 2025**, we have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
Acipenser oxyrinchus desotoi	Gulf Sturgeon	LT	LE	S1
Obovaria unicolor	Alabama Hickorynut		C	S1
Potamilus inflatus	Inflated Heelsplitter	LT	LE	S1
Quercus austrina	Bluff Oak			S2
Truncilla truncata	Deertoe			S3
Uniomerus declivis	Tapered Pondhorn			S3

State Rank

S1 - Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S2 - Imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

State and Federal Status

LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.

LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

As listed above, there are 6 species of concern in our database within a 2-mile radius of the proposed JXN Water Facilities Plan/Addendum #2417 project(s) in Jackson, Hinds County, MS (32.199722, -90.247778). As described in your environmental review request, this project involves the installation of 1,420 LF of new water distribution lines, fire hydrants, service lines, and valves on Evans Drive and Bounds Road within the existing rights-of-way. Of the 6 species listed above, the Gulf Sturgeon and Inflated Heelsplitter are listed as federally threatened and state endangered. Additionally, the Alabama Hickorynut is currently under review for state listing. According to our database, this proposed project is set to occur within 2-miles of federally designated critical habitat, the Pearl River, for the Gulf Sturgeon. Many of the listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Due to the nature of this project, our primary concern is the possibility of asbestos, lead (if old cement asbestos / lead lines are being replaced or disturbed), sediment deposition, turbidity, exhaust runoff from roads, increased herbicide and pesticide load, and other unintentional introduction of pollutants being introduced to the surrounding environment and nearby bodies of water. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival of these species. The Gulf Sturgeon has declined throughout its range from the results of overfishing in the early 1900s and the loss of spawning habitat. Gulf Sturgeon forage and overwinter in marine waters and migrate back to their freshwater natal streams to spawn. Juveniles will remain in the river for the first 2-3 years of life, before heading to marine waters. Dam construction, dredging, and channelization have prevented sturgeon from gaining access to spawning grounds and/or destroyed the substrates on which the eggs are deposited on. Widespread industrial and domestic pollution has also reduced both feeding and spawning habitat for sturgeons. The life history and ecology of all species of endangered mussels, such as the Inflated Heelsplitter and Alabama Hickorynut, are poorly known. Freshwater mussels are filter feeders that play vital role in maintaining clean and healthy aquatic ecosystems by feeding on bacteria, algae, plankton, and silts. Mussels are highly sensitive to environmental disturbances such as bank degradation, erosion, siltation, and road/runoff pollution, which can smother their habitats and reduce water quality. Stream or watershed projects that may cause siltation, impoundment, headcutting, or otherwise negatively affect remaining habitat should be discouraged. If the waterlines cross through culverts, we recommend that bat surveys should be conducted prior to determining if bats are present. Culverts provide an important artificial habitat for birds and bats. Bats will hibernate as early as October to April. Maternity season for bats starts in April and ends towards late July/early August. If bats are present, please contact MS Department of Wildlife, Fisheries and Parks Biologist, Katelin Cross, at (601) 576-6013 or at Katelin.Cross@mmns.ms.gov. Should this project be approved, we recommend that best management practices such as streamside management zones (SMZs) and other BMPs be properly implemented, monitored, and maintained for compliance, specifically measures that will prevent suspended silt and contaminants from leaving the site in storm water run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies (<https://www.mfc.ms.gov/forest-health/water-quality-and-forestry-best-management-practices/>). Please check MS Department of Environmental Quality for other BMP. (<https://www.mdeq.ms.gov/water/surface-water/nonpoint-source-pollution-program/stormwater-runoff-management-manual/>) In addition, should any impacts to streams or wetlands occur as a result of the proposed project, we ask that serious consideration be given to the cumulative impacts of stream and wetland disturbance and elimination, and that appropriate, in-kind mitigation be provided.

Please feel free to contact us if we can provide any additional information, resources, or assistance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Marilee Humphries

The Mississippi Natural Heritage Program (MNHP) has compiled a database that is the most complete source of information about Mississippi's rare, threatened, and endangered plants, animals, and ecological communities. The quantity and quality of data collected by MNHP are dependent on the research and observations of many individuals and organizations. In many cases, this information is not the result of comprehensive or site-specific field surveys; most natural areas in Mississippi have not been thoroughly surveyed and new occurrences of plant and animal species are often discovered. Heritage reports summarize the existing information known to the MNHP at the time of the request and cannot always be considered a definitive statement on the presence, absence or condition of biological elements on a particular site.



Mississippi
Department of Wildlife, Fisheries, and Parks

Sam Polles, Ph.D.
Executive Director

August 22, 2025

Benchmark Engineering & Surveying
660 Katherine Drive, Suite 302
Flowood, MS 39232

Re: JXN Water Facilities
Plan / Addendum
Hinds County, MS

Project # #2418
Internal Id 27560

To JAMES WOLF:

In response to your request for information dated August 11, 2025, we have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
Lilium superbum	Turk's-cap Lily			S3S4
Uniomerus declivis	Tapered Pondhorn			S3

State Rank

S1 - Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S2 - Imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

State and Federal Status

LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.

LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

As listed above, there are 2 species of concern in our database within a 2-mile radius of the proposed JXN Water Facilities Plan/Addendum #2418 project(s) in Byram, Hinds County, MS (32.311667, -90.300278). As described in your environmental review request, this project involves the installation of 11,809 LF of new water distribution lines, fire hydrants, service lines, and valves at ten locations within the existing rights-of-way. The quantity and quality of data collected by the Mississippi Natural Heritage Program are dependent on the research and observations of many individuals and organizations and, in many cases, this information is not the result of comprehensive or site-specific field surveys. It is noted that the proposed project(s) will occur adjacent to Lake Ridgilea. Many of the listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Due to the nature of this project, our primary concern is the possibility of asbestos, lead (if old cement asbestos / lead lines are being replaced or disturbed), sediment deposition, turbidity, exhaust runoff from roads, increased herbicide and pesticide load, and other unintentional introduction of pollutants being introduced to the surrounding environment and nearby bodies of water. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival of these species. If the waterlines cross through culverts, we recommend that bat surveys should be conducted prior to determining if bats are present. Culverts provide an important artificial habitat for birds and bats. Bats will hibernate as early as October to April. Maternity season for bats starts in April and ends towards late July/early August. If bats are present, please contact MS Department of Wildlife, Fisheries and Parks Biologist, Katelin Cross, at (601) 576-6013 or at Katelin.Cross@mmns.ms.gov. Should this project be approved, we recommend that best management practices such as streamside management zones (SMZs) and other BMPs be properly implemented, monitored, and maintained for compliance, specifically measures that will prevent suspended silt and contaminants from leaving the site in storm water run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies (<https://www.mfc.ms.gov/forest-health/water-quality-and-forestry-best-management-practices/>). Please check MS Department of Environmental Quality for other BMP. (<https://www.mdeq.ms.gov/water/surface-water/nonpoint-source-pollution-program/stormwater-runoff-management-manual/>) In addition, should any impacts to streams or wetlands occur as a result of the proposed project, we ask that serious consideration be given to the cumulative impacts of stream and wetland disturbance and elimination, and that appropriate, in-kind mitigation be provided.

Please feel free to contact us if we can provide any additional information, resources, or assistance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Marinee Humphries

The Mississippi Natural Heritage Program (MNHP) has compiled a database that is the most complete source of information about Mississippi's rare, threatened, and endangered plants, animals, and ecological communities. The quantity and quality of data collected by MNHP are dependent on the research and observations of many individuals and organizations. In many cases, this information is not the result of comprehensive or site-specific field surveys; most natural areas in Mississippi have not been thoroughly surveyed and new occurrences of plant and animal species are often discovered. Heritage reports summarize the existing information known to the MNHP at the time of the request and cannot always be considered a definitive statement on the presence, absence or condition of biological elements on a particular site.



Mississippi
Department of Wildlife, Fisheries, and Parks

Sam Polles, Ph.D.
Executive Director

August 22, 2025

Benchmark Engineering & Surveying
660 Katherine Drive, Suite 302
Flowood, MS 39232

Re: JXN Water Facilities
Plan / Addendum
Hinds County, MS

Project # #2419
Internal Id 27561

To JAMES WOLF:

In response to your request for information dated August 11, 2025, we have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
Egretta caerulea	Little Blue Heron			S2B, S2N
Eudocimus albus	White Ibis			S2B, S3N
Lampropeltis calligaster	Yellow-bellied Kingsnake			S3S4
Lampropeltis calligaster rhombomaculata	Mole Kingsnake			S3
Staphylea trifolia	American Bladdernut			S3
Trillium ludovicianum	Louisiana Trillium			S1S2

State Rank

S1 - Critically Imperiled in Mississippi because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S2 - Imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

State and Federal Status

LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.

LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

As listed above, there are 6 species of concern in our database within a 2-mile radius of the proposed JXN Water Facilities Plan/Addendum #2419 project(s) in Jackson, Hinds County, MS (32.396667, -90.206944). As described in your environmental review request, this project involves the installation of 6,195 LF of new water distribution lines, fire hydrants, service lines, and valves at five locations within the existing rights-of-way. It is noted that the proposed project(s) will occur within 2 miles of the Natchez Trace Parkway. Many of the listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Due to the nature of this project, our primary concern is the possibility of asbestos, lead (if old cement asbestos / lead lines are being replaced or disturbed), sediment deposition, turbidity, exhaust runoff from roads, increased herbicide and pesticide load, and other unintentional introduction of pollutants being introduced to the surrounding environment and nearby bodies of water. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival of these species. If the waterlines cross through culverts, we recommend that bat surveys should be conducted prior to determining if bats are present. Culverts provide an important artificial habitat for birds and bats. Bats will hibernate as early as October to April. Maternity season for bats starts in April and ends towards late July/early August. If bats are present, please contact MS Department of Wildlife, Fisheries and Parks Biologist, Katelin Cross, at (601) 576-6013 or at Katelin.Cross@mmms.ms.gov. Should this project be approved, we recommend that best management practices such as streamside management zones (SMZs) and other BMPs be properly implemented, monitored, and maintained for compliance, specifically measures that will prevent suspended silt and contaminants from leaving the site in storm water run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies (<https://www.mfc.ms.gov/forest-health/water-quality-and-forestry-best-management-practices/>). Please check MS Department of Environmental Quality for other BMP (<https://www.mdeq.ms.gov/water/surface-water/nonpoint-source-pollution-program/stormwater-runoff-management-manual/>). In addition, should any impacts to streams or wetlands occur as a result of the proposed project, we ask that serious consideration be given to the cumulative impacts of stream and wetland disturbance and elimination, and that appropriate, in-kind mitigation be provided.

Please feel free to contact us if we can provide any additional information, resources, or assistance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Marinee Humphries

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comprehensive or site-specific field surveys; most natural areas in Mississippi have not been thoroughly surveyed and new occurrences of plant and animal species are often discovered. Heritage reports summarize the existing information known to the MNHP at the time of the request and cannot always be considered a definitive statement on the presence, absence or condition of biological elements on a particular site.



Mississippi
Department of Wildlife, Fisheries, and Parks

Sam Polles, Ph.D.
Executive Director

August 22, 2025

Benchmark Engineering & Surveying
660 Katherine Drive, Suite 302
Flowood, MS 39232

Re: JXN Water Facilities
Plan / Addendum
Hinds County, MS

Project # #2420
Internal Id 27562

To JAMES WOLF:

In response to your request for information dated August 11, 2025, we have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
<i>Alosa alabamae</i>	Alabama Shad	C		S1
<i>Carya laciniosa</i>	Big Shellbark Hickory			S2
<i>Graptemys oculifera</i>	Ringed Map Turtle	LT	LE	S2
<i>Graptemys pearlensis</i>	Pearl River Map Turtle	LT	C	S1
<i>Lasiurus cinereus</i>	Hoary Bat	PS		S3
<i>Limnothlypis swainsonii</i>	Swainson's Warbler			S3B
<i>Obovaria unicolor</i>	Alabama Hickorynut		C	S1
<i>Pleurobema beadleianum</i>	Mississippi Pigtoe			S3
<i>Potamilus inflatus</i>	Inflated Heelsplitter	LT	LE	S1

Scientific Name	Common Name	Federal Status	State Status	State Rank
Stizostedion vitreum	Walleye			S2
Strophitus pascagoulaensis	Pascagoula Creekshell			S2
Truncilla truncata	Deertoe			S3

State Rank

S1 - Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S2 - Imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

State and Federal Status

LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.

LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

As listed above, there are 12 species of concern in our database within a 2-mile radius of the proposed JXN Water Facilities Plan/Addendum #2420 project(s) in Jackson, Hinds County, MS (32.369722, -90.129722). As described in your environmental review request, this project involves the installation of 8,700 LF of new water distribution lines, fire hydrants, service lines, and valves at six locations within the existing rights-of-way. Of the 13 species listed above, the Ringed Map Turtle and Inflated Heelsplitter are listed as federally threatened and state endangered. The Pearl River Map Turtle is listed as federally threatened and is currently under review for state listing. The Alabama Shad is currently under review for federal listing, and the Alabama Hickorynut is currently under review for state listing. The Hoary Bat possess a federal partial status that does not apply to the portions of their respective ranges that occur in Mississippi. According to our database, this proposed project is set to occur within 2-miles of federally designated critical habitat, the Pearl River, for the Gulf Sturgeon. It should also be noted that the proposed project(s) will occur adjacent to or cross White Oak Creek and an unnamed tributary of Hanging Moss Creek. Many of the listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Due to the nature of this project, our primary concern is the possibility of asbestos, lead (if old cement asbestos / lead lines are being replaced or disturbed), sediment deposition, turbidity, exhaust runoff from roads, increased herbicide and pesticide load, and other unintentional introduction of pollutants being introduced to the surrounding environment and nearby bodies of water. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival of these species. Habitat requirements for the Ringed Map Turtle and Pearl River Map Turtle include instream woody debris (logs, snags, downed treetops) for basking and abundant sandbar areas for nesting. Nesting occurs mid-May to early July, with peak nesting in mid-June. Habitat modifications, including channelization, de-snagging, and reservoir construction, are of concern as these activities remove basking sites, destroy nesting beaches, and alter suitable habitat. Siltation and water pollution may adversely affect both the Map Turtle and its invertebrate food source. Stream alteration projects that result in the removal of snags or sandbars should be discouraged within the range of this species. The life history and ecology of all species of endangered mussels, such as the Inflated Heelsplitter and Alabama Hickorynut, are poorly known. Freshwater mussels are filter feeders that play vital role in maintaining clean and healthy aquatic ecosystems by feeding on bacteria, algae, plankton, and silts. Mussels are highly sensitive to environmental disturbances such as bank degradation, erosion,

siltation, and road/runoff pollution, which can smother their habitats and reduce water quality. Stream or watershed projects that may cause siltation, impoundment, headcutting, or otherwise negatively affect remaining habitat should be discouraged. Alabama Shad is an anadromous species found in the Gulf of Mexico and its associated rivers. This species once migrated up rivers in great abundance, to reach their spawning waters. However, it has suffered drastic declines throughout its range and is now absent from many river systems and watersheds. Primary causes for its decline include obstruction of rivers by locks and dams, as well as degraded water quality due to sedimentation and pollution. Navigational dredging of sand bars also directly destroys the spawning grounds. One estimate offers that ten of the twenty-one rivers formerly known to support Alabama Shad still host the species. When the waterlines cross any creeks / water drainages / bodies of water, precautions should be taken to ensure that the proposed projects do not result in increased stream flow or further stream channel, bed, or bank degradation upstream or downstream, as well as potential head-cutting, downstream of the proposed project site. Stream stabilization projects such as armoring or using riprap / concrete, while providing needed erosion control on-site, can sometimes lead to increased erosion in other areas of the same waterbody due to increased stream velocities and a lack of vegetation to reduce flow energy. Such changes can also change the hydrology of an area, disturbing the habitat. Portions of these sites may also be underlain by hydric soils and/or be designated wetlands. If the waterlines cross through culverts, we recommend that bat surveys should be conducted prior to determining if bats are present. Culverts provide an important artificial habitat for birds and bats. Bats will hibernate as early as October to April. Maternity season for bats starts in April and ends towards late July/early August. If bats are present, please contact MS Department of Wildlife, Fisheries and Parks Biologist, Katelin Cross, at (601) 576-6013 or at Katelin.Cross@mmns.ms.gov. Should this project be approved, we recommend that best management practices such as streamside management zones (SMZs) and other BMPs be properly implemented, monitored, and maintained for compliance, specifically measures that will prevent suspended silt and contaminants from leaving the site in storm water run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies (<https://www.mfc.ms.gov/forest-health/water-quality-and-forestry-best-management-practices/>). Please check MS Department of Environmental Quality for other BMP. (<https://www.mdeq.ms.gov/water/surface-water/nonpoint-source-pollution-program/stormwater-runoff-management-manual/>) In addition, should any impacts to streams or wetlands occur as a result of the proposed project, we ask that serious consideration be given to the cumulative impacts of stream and wetland disturbance and elimination, and that appropriate, in-kind mitigation be provided.

Please feel free to contact us if we can provide any additional information, resources, or assistance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Marinee Humphries

The Mississippi Natural Heritage Program (MNHP) has compiled a database that is the most complete source of information about Mississippi's rare, threatened, and endangered plants, animals, and ecological communities. The quantity and quality of data collected by MNHP are dependent on the research and observations of many individuals and organizations. In many cases, this information is not the result of comprehensive or site-specific field surveys; most natural areas in Mississippi have not been thoroughly surveyed and new occurrences of plant and animal species are often discovered. Heritage reports summarize the existing information known to the MNHP at the time of the request and cannot always be considered a definitive statement on the presence, absence or condition of biological elements on a particular site.



Mississippi
Department of Wildlife, Fisheries, and Parks

Sam Polles, Ph.D.
Executive Director

August 22, 2025

Benchmark Engineering & Surveying
660 Katherine Drive, Suite 302
Flowood, MS 39232

Re: JXN Water Facilities
Plan / Addendum
Hinds County, MS

Project # #2421
Internal Id 27563

To JAMES WOLF:

In response to your request for information dated August 11, 2025, we have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
Acipenser oxyrinchus desotoi	Gulf Sturgeon	LT	LE	S1
Alosa alabamae	Alabama Shad	C		S1
Carya laciniosa	Big Shellbark Hickory			S2
Graptemys oculifera	Ringed Map Turtle	LT	LE	S2
Graptemys pearlensis	Pearl River Map Turtle	LT	C	S1
Lasiurus cinereus	Hoary Bat	PS		S3
Limnothlypis swainsonii	Swainson's Warbler			S3B
Obovaria unicolor	Alabama Hickorynut		C	S1
Pleurobema beadleanum	Mississippi Pigtoe			S3

Scientific Name	Common Name	Federal Status	State Status	State Rank
Potamilus inflatus	Inflated Heelsplitter	LT	LE	S1
Stizostedion vitreum	Walleye			S2
Strophitus pascagoulaensis	Pascagoula Creekshell			S2
Trillium ludovicianum	Louisiana Trillium			S1S2
Truncilla truncata	Deertoe			S3

State Rank

S1 - Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S2 - Imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

State and Federal Status

LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.

LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

As listed above, there are 14 species of concern in our database within a 2-mile radius of the proposed JXN Water Facilities Plan/Addendum #2421 project(s) in Jackson, Hinds County, MS (32.378611, -90.130000). As described in your environmental review request, this project involves the installation of 3,900 LF of new water distribution lines, fire hydrants, service lines, and valves along Colonial Circle and Clubview Drive within the existing rights-of-way. Of the 14 species listed above, the Gulf Sturgeon, Ringed Map Turtle, and Inflated Heelsplitter are listed as federally threatened and state endangered. The Pearl River Map Turtle is listed as federally threatened and is currently under review for state listing. The Alabama Shad is currently under review for federal listing and the Alabama Hickorynut is currently under review for state listing. The Hoary Bat possess a federal partial status that does not apply to the portions of their respective ranges that occur in Mississippi. According to our database, this proposed project is set to occur within 2-miles of federally designated critical habitat, the Pearl River, for the Gulf Sturgeon. Many of the listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Due to the nature of this project, our primary concern is the possibility of asbestos, lead (if old cement asbestos / lead lines are being replaced or disturbed), sediment deposition, turbidity, exhaust runoff from roads, increased herbicide and pesticide load, and other unintentional introduction of pollutants being introduced to the surrounding environment and nearby bodies of water. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival of these species. The Gulf Sturgeon has declined throughout its range from the results of overfishing in the early 1900s and the loss of spawning habitat. Gulf Sturgeon forage and overwinter in marine waters and migrate back to their freshwater natal streams to spawn. Juveniles will remain in the river for the first 2-3 years of life, before heading to marine waters. Dam construction, dredging, and channelization have prevented sturgeon from gaining access to spawning grounds and/or destroyed the substrates on which the eggs are deposited on. Widespread industrial and domestic pollution has also reduced both feeding and spawning habitat for sturgeons. Habitat requirements for the Ringed Map Turtle and Pearl River Map Turtle include instream woody debris (logs, snags, downed treetops) for basking and abundant sandbar areas for nesting. Nesting occurs mid-May

to early July, with peak nesting in mid-June. Habitat modifications, including channelization, de-snagging, and reservoir construction, are of concern as these activities remove basking sites, destroy nesting beaches, and alter suitable habitat. Siltation and water pollution may adversely affect both the Map Turtle and its invertebrate food source. Stream alteration projects that result in the removal of snags or sandbars should be discouraged within the range of this species. The life history and ecology of all species of endangered mussels, such as the Inflated Heelsplitter and Alabama Hickorynut, are poorly known. Freshwater mussels are filter feeders that play vital role in maintaining clean and healthy aquatic ecosystems by feeding on bacteria, algae, plankton, and silts. Mussels are highly sensitive to environmental disturbances such as bank degradation, erosion, siltation, and road/runoff pollution, which can smother their habitats and reduce water quality. Stream or watershed projects that may cause siltation, impoundment, headcutting, or otherwise negatively affect remaining habitat should be discouraged. Alabama Shad is an anadromous species found in the Gulf of Mexico and its associated rivers. This species once migrated up rivers in great abundance, to reach their spawning waters. However, it has suffered drastic declines throughout its range and is now absent from many river systems and watersheds. Primary causes for its decline include obstruction of rivers by locks and dams, as well as degraded water quality due to sedimentation and pollution. Navigational dredging of sand bars also directly destroys the spawning grounds. One estimate offers that ten of the twenty-one rivers formerly known to support Alabama Shad still host the species. If the waterlines cross through culverts, we recommend that bat surveys should be conducted prior to determining if bats are present. Culverts provide an important artificial habitat for birds and bats. Bats will hibernate as early as October to April. Maternity season for bats starts in April and ends towards late July/early August. If bats are present, please contact MS Department of Wildlife, Fisheries and Parks Biologist, Katelin Cross, at (601) 576-6013 or at Katelin.Cross@mmns.ms.gov. Should this project be approved, we recommend that best management practices such as streamside management zones (SMZs) and other BMPs be properly implemented, monitored, and maintained for compliance, specifically measures that will prevent suspended silt and contaminants from leaving the site in storm water run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies (<https://www.mfc.ms.gov/forest-health/water-quality-and-forestry-best-management-practices/>). Please check MS Department of Environmental Quality for other BMP. (<https://www.mdeq.ms.gov/water/surface-water/nonpoint-source-pollution-program/stormwater-runoff-management-manual/>) In addition, should any impacts to streams or wetlands occur as a result of the proposed project, we ask that serious consideration be given to the cumulative impacts of stream and wetland disturbance and elimination, and that appropriate, in-kind mitigation be provided.

Please feel free to contact us if we can provide any additional information, resources, or assistance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Marinee Humphries

The Mississippi Natural Heritage Program (MNHP) has compiled a database that is the most complete source of information about Mississippi's rare, threatened, and endangered plants, animals, and ecological communities. The quantity and quality of data collected by MNHP are dependent on the research and observations of many individuals and organizations. In many cases, this information is not the result of comprehensive or site-specific field surveys; most natural areas in Mississippi have not been thoroughly surveyed and new occurrences of plant and animal species are often discovered. Heritage reports summarize the existing information known to the MNHP at the time of the request and cannot always be considered a definitive statement on the presence, absence or condition of biological elements on a particular site.



Mississippi
Department of Wildlife, Fisheries, and Parks

Sam Polles, Ph.D.
Executive Director

August 22, 2025

Benchmark Engineering & Surveying
860 Katherine Drive, Suite 302
Flowood, , MS 39232

Re: JXN Water Facilities
Plan / Addendum
Hinds County, MS

Project # #2422
Internal Id 27564

To JAMES WOLF:

In response to your request for information dated **August 11, 2025**, we have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
Carya laciniosa	Big Shellbark Hickory			S2
Egretta caerulea	Little Blue Heron			S2B,S2N
Eudocimus albus	White Ibis			S2B,S3N
Lampropeltis calligaster	Yellow-bellied Kingsnake			S3S4
Lampropeltis calligaster rhombomaculata	Mole Kingsnake			S3
Lasiurus cinereus	Hoary Bat	PS		S3
Mustela frenata	Long-tailed Weasel			S3
Staphylea trifolia	American Bladdernut			S3

Scientific Name	Common Name	Federal Status	State Status	State Rank
Trillium ludovicianum	Louisiana Trillium			S1S2

State Rank

S1 - Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S2 - Imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

State and Federal Status

LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.

LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

As listed above, there are 9 species of concern in our database within a 2-mile radius of the proposed JXN Water Facilities Plan/Addendum #2422 project(s) in Jackson, Hinds County, MS (32.387222, -90.178333). As described in your environmental review request, this project involves the installation of 6,050 LF of new water distribution lines, fire hydrants, service lines, and valves at eleven locations within the existing rights-of-way. Of the 9 species listed above, the Hoary Bat possess a federal partial status that does not apply to the portions of their respective ranges that occur in Mississippi. It has been noted that portions of the proposed project will occur near an unnamed tributary of Hanging Moss Creek. Many of the listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Due to the nature of this project, our primary concern is the possibility of asbestos, lead (if old cement asbestos / lead lines are being replaced or disturbed), sediment deposition, turbidity, exhaust runoff from roads, increased herbicide and pesticide load, and other unintentional introduction of pollutants being introduced to the surrounding environment and nearby bodies of water, such as the unnamed tributary of Hanging Moss Creek. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival of these species. If the waterlines cross through culverts, we recommend that bat surveys should be conducted prior to determining if bats are present. Culverts provide an important artificial habitat for birds and bats. Bats will hibernate as early as October to April. Maternity season for bats starts in April and ends towards late July/early August. If bats are present, please contact MS Department of Wildlife, Fisheries and Parks Biologist, Katelin Cross, at (601) 576-6013 or at Katelin.Cross@mmns.ms.gov. Should this project be approved, we recommend that best management practices such as streamside management zones (SMZs) and other BMPs be properly implemented, monitored, and maintained for compliance, specifically measures that will prevent suspended silt and contaminants from leaving the site in storm water run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies (<https://www.mfc.ms.gov/forest-health/water-quality-and-forestry-best-management-practices/>). Please check MS Department of Environmental Quality for other BMP. (<https://www.mdeq.ms.gov/water/surface-water/nonpoint-source-pollution-program/stormwater-runoff-management-manual/>) In addition, should any impacts to streams or wetlands occur as a result of the proposed project, we ask that serious consideration be given to the cumulative impacts of stream and wetland disturbance and elimination, and that appropriate, in-kind mitigation be provided.

Please feel free to contact us if we can provide any additional information, resources, or assistance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Marinee Humphries

The Mississippi Natural Heritage Program (MNHP) has compiled a database that is the most complete source of information about Mississippi's rare, threatened, and endangered plants, animals, and ecological communities. The quantity and quality of data collected by MNHP are dependent on the research and observations of many individuals and organizations. In many cases, this information is not the result of comprehensive or site-specific field surveys; most natural areas in Mississippi have not been thoroughly surveyed and new occurrences of plant and animal species are often discovered. Heritage reports summarize the existing information known to the MNHP at the time of the request and cannot always be considered a definitive statement on the presence, absence or condition of biological elements on a particular site.



Mississippi
Department of Wildlife, Fisheries, and Parks

Sam Polles, Ph.D.
Executive Director

August 22, 2025

Benchmark Engineering & Surveying
660 Katherine Drive, Suite 302
Flowood, MS 39232

Re: JXN Water Facilities
Plan / Addendum
Hinds County, MS

Project # #2423
Internal Id 27565

To JAMES WOLF:

In response to your request for information dated August 11, 2025, we have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
Accipiter cooperii	Cooper's Hawk			S2B
Acipenser oxyrinchus desotoi	Gulf Sturgeon	LT	LE	S1
Alosa alabamae	Alabama Shad	C		S1
Asclepias hirtella	Green Milkweed			S2
Bombus pensylvanicus	American Bumble Bee			S1S3
Camassia scilloides	Wild Hyacinth			S2
Clematis catesbyana	Satin-curfs			S3S4
Crataegus calpodendron	Pear Hawthorn			S3
Cyprinodontus meridionalis	Southern Blue Sucker			S3

Scientific Name	Common Name	Federal Status	State Status	State Rank
<i>Dasistoma macrophylla</i>	Mullein Foxglove			S3S4
<i>Desmognathus valentini</i>	Valentine's Southern Dusky Salamander			S3
<i>Echinacea purpurea</i>	Eastern Purple Coneflower			S3
<i>Egretta caerulea</i>	Little Blue Heron			S2B,S2N
<i>Eudocimus albus</i>	White Ibis			S2B,S3N
<i>Euphagus carolinus</i>	Rusty Blackbird			S2N
<i>Falco sparverius</i>	American Kestrel			S3B,S4S5N
<i>Frasera carolinensis</i>	Carolina Gentian			S3
<i>Fundulus dispar</i>	Northern Starhead Topminnow			S3
<i>Graptemys oculifera</i>	Ringed Map Turtle	LT	LE	S2
<i>Graptemys pearlensis</i>	Pearl River Map Turtle	LT	C	S1
<i>Helmitheros vermivorum</i>	Worm-eating Warbler			S2B
<i>Hybopsis amnis</i>	Pallid Shiner			S3
<i>Ictiobus niger</i>	Black Buffalo			S3
<i>Iris brevicaulis</i>	Lamance Iris			S1
<i>Lasiorycteris noctivagans</i>	Silver-haired Bat			S3
<i>Lasiurus cinereus</i>	Hoary Bat	PS		S3
<i>Lasmigona complanata</i>	White Heelsplitter			S3
<i>Limnothlypis swainsonii</i>	Swainson's Warbler			S3B
<i>Macrochelys temminckii</i>	Alligator Snapping Turtle	C		S3
<i>Matelea carolinensis</i>	Carolina Anglepod			S3
<i>Mustela frenata</i>	Long-tailed Weasel			S3
<i>Nyctanassa violacea</i>	Yellow-crowned Night-Heron			S4B,S2N
<i>Nycticorax nycticorax</i>	Black-crowned Night-heron			S2B,S4N
<i>Obovaria unicolor</i>	Alabama Hickorynut		C	S1

Scientific Name	Common Name	Federal Status	State Status	State Rank
Parkesia motacilla	Louisiana Waterthrush			S2S3B
Pleurobema beadleanum	Mississippi Pigtoe			S3
Pleurobema riddellii	Louisiana Pigtoe		C	S1
Polyodon spathula	Paddlefish			S3
Potamilus inflatus	Inflated Heelsplitter	LT	LE	S1
Spiranthes ovalis	Lesser Ladies'-tresses			S2S3
Symphyotrichum oolentangiense	Sky Blue Aster			S1
Trifolium reflexum	Buffalo Clover			S1
Truncilla truncata	Deertoe			S3
Uniomerus declivis	Tapered Pondhorn			S3
Utricularia olivacea	Piedmont Bladderwort			S1

State Rank

S1 - Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S2 - Imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

State and Federal Status

LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.

LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

As listed above, there are 45 species of concern in our database within a 2-mile radius of the proposed JXN Water Facilities Plan/Addendum #2423 project(s) in Jackson, Hinds County, MS (32.2963899, -90.214722). As described in your environmental review request, this project involves the installation of 2,630 LF of new water distribution lines, fire hydrants, service lines, and valves at four locations within the existing rights-of-way. Of the 47 species listed above, the Gulf Sturgeon, Ringed Map Turtle, and Inflated Heelsplitter are listed as federally threatened and state endangered. The Pearl River Map Turtle is listed as federally threatened and is currently under review for state listing. Furthermore, the Alabama Shad and Alligator Snapping Turtle are currently under review for federal listing. The Alabama Hickorynut and Louisiana Pigtoe are currently under review for state listing. The Hoary Bat possess a federal partial status that does not apply to the portions of their respective ranges that occur in Mississippi. According to our database, this proposed project is set to occur within 2-miles of federally designated critical habitat, the Pearl River, for the Gulf Sturgeon. It should also be noted that according to our database, the proposed

project(s) occurs within 2-miles of the Woodland Hills Natural Area and Leflores Bluff State Park, which are considered managed areas and conservation sites of concern due to their vast diversity of species that occupy the unique and sensitive habitats. Many of the listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Due to the nature of this project, our primary concern is the possibility of asbestos, lead (if old cement asbestos / lead lines are being replaced or disturbed), sediment deposition, turbidity, exhaust runoff from roads, increased herbicide and pesticide load, and other unintentional introduction of pollutants being introduced to the surrounding environment and nearby bodies of water. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival of these species. The Gulf Sturgeon has declined throughout its range from the results of overfishing in the early 1900s and the loss of spawning habitat. Gulf Sturgeon forage and overwinter in marine waters and migrate back to their freshwater natal streams to spawn. Juveniles will remain in the river for the first 2-3 years of life, before heading to marine waters. Dam construction, dredging, and channelization have prevented sturgeon from gaining access to spawning grounds and/or destroyed the substrates on which the eggs are deposited on. Widespread industrial and domestic pollution has also reduced both feeding and spawning habitat for sturgeons. Habitat requirements for the Ringed Map Turtle and Pearl River Map Turtle include instream woody debris (logs, snags, downed treetops) for basking and abundant sandbar areas for nesting. Nesting occurs mid-May to early July, with peak nesting in mid-June. Habitat modifications, including channelization, de-snagging, and reservoir construction, are of concern as these activities remove basking sites, destroy nesting beaches, and alter suitable habitat. Siltation and water pollution may adversely affect both the Map Turtle and its invertebrate food source. Stream alteration projects that result in the removal of snags or sandbars should be discouraged within the range of this species. The life history and ecology of all species of endangered mussels, such as the Inflated Heelsplitter, Alabama Hickorynut, and Louisiana Pigtoe, are poorly known. Freshwater mussels are filter feeders that play vital role in maintaining clean and healthy aquatic ecosystems by feeding on bacteria, algae, plankton, and silts. Mussels are highly sensitive to environmental disturbances such as bank degradation, erosion, siltation, and road/runoff pollution, which can smother their habitats and reduce water quality. Stream or watershed projects that may cause siltation, impoundment, headcutting, or otherwise negatively affect remaining habitat should be discouraged. Alabama Shad is an anadromous species found in the Gulf of Mexico and its associated rivers. This species once migrated up rivers in great abundance, to reach their spawning waters. However, it has suffered drastic declines throughout its range and is now absent from many river systems and watersheds. Primary causes for its decline include obstruction of rivers by locks and dams, as well as degraded water quality due to sedimentation and pollution. Navigational dredging of sand bars also directly destroys the spawning grounds. One estimate offers that ten of the twenty-one rivers formerly known to support Alabama Shad still host the species. Alligator Snapping Turtles use woody debris to hide under in waterbodies of all sizes. Because they mature slowly, have a low reproduction rate, egg predation, habitat alteration, and intentional and unintentional harvest, their population recovery has been much slower than anticipated. If the waterlines cross through culverts, we recommend that bat surveys should be conducted prior to determining if bats are present. Culverts provide an important artificial habitat for birds and bats. Bats will hibernate as early as October to April. Maternity season for bats starts in April and ends towards late July/early August. If bats are present, please contact MS Department of Wildlife, Fisheries and Parks Biologist, Katelin Cross, at (601) 576-6013 or at Katelin.Cross@mmns.ms.gov. Should this project be approved, we recommend that best management practices such as streamside management zones (SMZs) and other BMPs be properly implemented, monitored, and maintained for compliance, specifically measures that will prevent suspended silt and contaminants from leaving the site in storm water run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies (<https://www.mfc.ms.gov/forest-health/water-quality-and-forestry-best-management-practices/>). Please check MS Department of Environmental Quality for other BMP. (<https://www.mdeq.ms.gov/water/surface-water/nonpoint-source-pollution-program/stormwater-runoff-management-manual/>) In addition, should any impacts to streams or wetlands occur as a result of the proposed project, we ask that serious consideration be given to the cumulative impacts of stream and wetland disturbance and elimination, and that appropriate, in-kind mitigation be provided.

Please feel free to contact us if we can provide any additional information, resources, or assistance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Marinee Humphries

The Mississippi Natural Heritage Program (MNHHP) has compiled a database that is the most complete source of information about Mississippi's rare, threatened, and endangered plants, animals, and ecological communities. The quantity and quality of data collected by MNHHP are dependent on the research and observations of many individuals and organizations. In many cases, this information is not the result of comprehensive or site-specific field surveys; most natural areas in Mississippi have not been thoroughly surveyed and new occurrences of plant and animal species are often discovered. Heritage reports summarize the existing information known to the MNHHP at the time of the request and cannot always be considered a definitive statement on the presence, absence or condition of biological elements on a particular site.



Mississippi
Department of Wildlife, Fisheries, and Parks

Sam Polles, Ph.D.
Executive Director

August 22, 2025

Benchmark Engineering & Surveying
660 Katherine Drive, Suite 302
Flowood, MS 39232

Re: JXN Water Facilities
Plan / Addendum
Hinds County, MS

Project # #2324
Internal Id 27566

To JAMES WOLF:

In response to your request for information dated **August 11, 2025**, we have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
Lasionycteris noctivagans	Silver-haired Bat			S3
Lasiurus cinereus	Hoary Bat	PS		S3
Mustela frenata	Long-tailed Weasel			S3

State Rank

S1 - Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S2 - Imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

State and Federal Status

LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.

LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

As listed above, there are 3 species of concern in our database within a 2-mile radius of the proposed JXN Water Facilities Plan/Addendum #2424 project(s) in Jackson, Hinds County, MS (32.304722, 90.236944). As described in your environmental review request, this project involves the installation of 7,000 LF of new water distribution lines, fire hydrants, service lines, and valves at six locations within the existing rights-of-way. The quantity and quality of data collected by the Mississippi Natural Heritage Program are dependent on the research and observations of many individuals and organizations and, in many cases, this information is not the result of comprehensive or site-specific field surveys. Of the 3 species listed above, the Hoary Bat possess a federal partial status that does not apply to the portions of their respective ranges that occur in Mississippi. It has been noted that portions of the proposed project will occur near Lynch Creek. Many of the listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Due to the nature of this project, our primary concern is the possibility of asbestos, lead (if old cement asbestos / lead lines are being replaced or disturbed), sediment deposition, turbidity, exhaust runoff from roads, increased herbicide and pesticide load, and other unintentional introduction of pollutants being introduced to the surrounding environment and nearby bodies of water, such as Lynch Creek. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival of these species. If the waterlines cross through culverts, we recommend that bat surveys should be conducted prior to determining if bats are present. Culverts provide an important artificial habitat for birds and bats. Bats will hibernate as early as October to April. Maternity season for bats starts in April and ends towards late July/early August. If bats are present, please contact MS Department of Wildlife, Fisheries and Parks Biologist, Katelin Cross, at (601) 576-6013 or at Katelin.Cross@mmns.ms.gov. Should this project be approved, we recommend that best management practices such as streamside management zones (SMZs) and other BMPs be properly implemented, monitored, and maintained for compliance, specifically measures that will prevent suspended silt and contaminants from leaving the site in storm water run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies (<https://www.mfc.ms.gov/forest-health/water-quality-and-forestry-best-management-practices/>). Please check MS Department of Environmental Quality for other BMP. (<https://www.mdeq.ms.gov/water/surface-water/nonpoint-source-pollution-program/stormwater-runoff-management-manual/>) In addition, should any impacts to streams or wetlands occur as a result of the proposed project, we ask that serious consideration be given to the cumulative impacts of stream and wetland disturbance and elimination, and that appropriate, in-kind mitigation be provided.

Please feel free to contact us if we can provide any additional information, resources, or assistance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Marinee Humphries

The Mississippi Natural Heritage Program (MNHP) has compiled a database that is the most complete source of information about Mississippi's rare, threatened, and endangered plants, animals, and ecological communities. The quantity and quality of data collected by MNHP are dependent on the research and observations of many individuals and organizations. In many cases, this information is not the result of comprehensive or site-specific field surveys; most natural areas in Mississippi have not been thoroughly surveyed and new occurrences of plant and animal species are often discovered. Heritage reports summarize the existing information known to the MNHP at the time of the request and cannot always be considered a definitive statement on the presence, absence or condition of biological elements on a particular site.



**Mississippi
Department of Wildlife, Fisheries, and Parks**

Sam Polles, Ph.D.
Executive Director

August 22, 2025

**Benchmark Engineering & Surveying
660 Katherine Drive, Suite 302
Flowood, MS 39232**

Re: JXN Water Facilities
Plan / Addendum
Hinds County, MS

**Project # #2425
Internal Id 27567**

To JAMES WOLF:

In response to your request for information dated **August 11, 2025**, we have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
Accipiter cooperii	Cooper's Hawk			S2B
Acipenser oxyrinchus desotoi	Gulf Sturgeon	LT	LE	S1
Alosa alabamae	Alabama Shad	C		S1
Arcidens confragosus	Rock Pocketbook			S3
Bombus pensylvanicus	American Bumble Bee			S1S3
Camassia scilloides	Wild Hyacinth			S2
Clematis catesbyana	Satin-curfs			S3S4
Crataegus calpodendron	Pear Hawthorn			S3

Scientific Name	Common Name	Federal Status	State Status	State Rank
<i>Cyprinodon merriamensis</i>	Southern Blue Sucker			S3
<i>Dasistoma macrophylla</i>	Mullein Foxglove			S3S4
<i>Desmognathus valentini</i>	Valentine's Southern Dusky Salamander			S3
<i>Echinacea purpurea</i>	Eastern Purple Coneflower			S3
<i>Euphagus carolinus</i>	Rusty Blackbird			S2N
<i>Falco sparverius</i>	American Kestrel			S3B,S4S5N
<i>Frasera carolinensis</i>	Carolina Gentian			S3
<i>Fundulus dispar</i>	Northern Starhead Topminnow			S3
<i>Graptemys oculifera</i>	Ringed Map Turtle	LT	LE	S2
<i>Graptemys pearlensis</i>	Pearl River Map Turtle	LT	C	S1
<i>Helmitheros vermivorum</i>	Worm-eating Warbler			S2B
<i>Hybopsis amnis</i>	Pallid Shiner			S3
<i>Ictiobus niger</i>	Black Buffalo			S3
<i>Iris brevicaulis</i>	Lamance Iris			S1
<i>Lasionycteris noctivagans</i>	Silver-haired Bat			S3
<i>Lasiurus cinereus</i>	Hoary Bat	PS		S3
<i>Lasmigona complanata</i>	White Heelsplitter			S3
<i>Limnodynastes swainsonii</i>	Swainson's Warbler			S3B
<i>Macrochelys temminckii</i>	Alligator Snapping Turtle	C		S3
<i>Matelea carolinensis</i>	Carolina Anglepod			S3
<i>Mustela frenata</i>	Long-tailed Weasel			S3
<i>Nyctanassa violacea</i>	Yellow-crowned Night-Heron			S4B,S2N
<i>Nycticorax nycticorax</i>	Black-crowned Night-heron			S2B,S4N
<i>Obovaria unicolor</i>	Alabama Hickorynut		C	S1
<i>Parkesia motacilla</i>	Louisiana Waterthrush			S2S3B

Scientific Name	Common Name	Federal Status	State Status	State Rank
Pleurobema beadleanum	Mississippi Pigtoe			S3
Pleurobema riddellii	Louisiana Pigtoe		C	S1
Polyodon spathula	Paddlefish			S3
Potamilus inflatus	Inflated Heelsplitter	LT	LE	S1
Spiranthes ovalis	Lesser Ladies'-tresses			S2S3
Trifolium reflexum	Buffalo Clover			S1
Truncilla truncata	Deertoe			S3
Unio merus declivis	Tapered Pondhorn			S3
Utricularia olivacea	Piedmont Bladderwort			S1

State Rank:

S1 - Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S2 - Imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

State and Federal Status:

LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.

LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

As listed above, there are 42 species of concern in our database within a 2-mile radius of the proposed JXN Water Facilities Plan/Addendum #2425 project(s) in Jackson, Hinds County, MS (32.306111, -90.193056). As described in your environmental review request, this project involves the installation of 3,070 LF of new water distribution lines, fire hydrants, service lines, and valves at five locations within the existing rights-of-way. Of the 44 species listed above, the Gulf Sturgeon, Ringed Map Turtle, and Inflated Heelsplitter are listed as federally threatened and state endangered. The Pearl River Map Turtle is listed as federally threatened and is currently under review for state listing. Furthermore, the Alabama Shad and Alligator Snapping Turtle are currently under review for federal listing. The Alabama Hickorynut and Louisiana Pigtoe are currently under review for state listing. The Hoary Bat possess a federal partial status that does not apply to the portions of their respective ranges that occur in Mississippi. According to our database, this proposed project is set to occur within 2-miles of federally designated critical habitat, the Pearl River, for the Gulf Sturgeon. It should also be noted that according to our database, the proposed project(s) occurs within 2-miles of the Woodland Hills Natural Area and Leflores Bluff State Park, which are considered managed areas and conservation sites of concern due to their vast diversity of species that occupy the unique and sensitive habitats. Many of the listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Due to the nature of this project, our primary concern is the possibility of asbestos, lead (if old cement asbestos / lead lines are being replaced or disturbed), sediment deposition, turbidity,

exhaust runoff from roads, increased herbicide and pesticide load, and other unintentional introduction of pollutants being introduced to the surrounding environment and nearby bodies of water. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival of these species. The Gulf Sturgeon has declined throughout its range from the results of overfishing in the early 1900s and the loss of spawning habitat. Gulf Sturgeon forage and overwinter in marine waters and migrate back to their freshwater natal streams to spawn. Juveniles will remain in the river for the first 2-3 years of life, before heading to marine waters. Dam construction, dredging, and channelization have prevented sturgeon from gaining access to spawning grounds and/or destroyed the substrates on which the eggs are deposited on. Widespread industrial and domestic pollution has also reduced both feeding and spawning habitat for sturgeons. Habitat requirements for the Ringed Map Turtle and Pearl River Map Turtle include instream woody debris (logs, snags, downed treetops) for basking and abundant sandbar areas for nesting. Nesting occurs mid-May to early July, with peak nesting in mid-June. Habitat modifications, including channelization, de-snagging, and reservoir construction, are of concern as these activities remove basking sites, destroy nesting beaches, and alter suitable habitat. Siltation and water pollution may adversely affect both the Map Turtle and its invertebrate food source. Stream alteration projects that result in the removal of snags or sandbars should be discouraged within the range of this species. The life history and ecology of all species of endangered mussels, such as the Inflated Heelsplitter, Alabama Hickorynut, and Louisiana Pigtoe, are poorly known. Freshwater mussels are filter feeders that play vital role in maintaining clean and healthy aquatic ecosystems by feeding on bacteria, algae, plankton, and silts. Mussels are highly sensitive to environmental disturbances such as bank degradation, erosion, siltation, and road/runoff pollution, which can smother their habitats and reduce water quality. Stream or watershed projects that may cause siltation, impoundment, headcutting, or otherwise negatively affect remaining habitat should be discouraged. Alabama Shad is an anadromous species found in the Gulf of Mexico and its associated rivers. This species once migrated up rivers in great abundance, to reach their spawning waters. However, it has suffered drastic declines throughout its range and is now absent from many river systems and watersheds. Primary causes for its decline include obstruction of rivers by locks and dams, as well as degraded water quality due to sedimentation and pollution. Navigational dredging of sand bars also directly destroys the spawning grounds. One estimate offers that ten of the twenty-one rivers formerly known to support Alabama Shad still host the species. Alligator Snapping Turtles use woody debris to hide under in waterbodies of all sizes. Because they mature slowly, have a low reproduction rate, egg predation, habitat alteration, and intentional and unintentional harvest, their population recovery has been much slower than anticipated. If the waterlines cross through culverts, we recommend that bat surveys should be conducted prior to determining if bats are present. Culverts provide an important artificial habitat for birds and bats. Bats will hibernate as early as October to April. Maternity season for bats starts in April and ends towards late July/early August. If bats are present, please contact MS Department of Wildlife, Fisheries and Parks Biologist, Katelin Cross, at (601) 576-6013 or at Katelin.Cross@mmns.ms.gov. Should this project be approved, we recommend that best management practices such as streamside management zones (SMZs) and other BMPs be properly implemented, monitored, and maintained for compliance, specifically measures that will prevent suspended silt and contaminants from leaving the site in storm water run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies (<https://www.mfc.ms.gov/forest-health/water-quality-and-forestry-best-management-practices/>). Please check MS Department of Environmental Quality for other BMP. (<https://www.mdeq.ms.gov/water/surface-water/nonpoint-source-pollution-program/stormwater-runoff-management-manual/>) In addition, should any impacts to streams or wetlands occur as a result of the proposed project, we ask that serious consideration be given to the cumulative impacts of stream and wetland disturbance and elimination, and that appropriate, in-kind mitigation be provided.

Please feel free to contact us if we can provide any additional information, resources, or assistance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Marinee Humphries

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Mississippi
Department of Wildlife, Fisheries, and Parks

Sam Polles, Ph.D.
Executive Director

August 22, 2025

Benchmark Engineering & Surveying
660 Katherine Drive, Suite 302
Flowood, MS 39232

Re: JXN Water Facilities
Plan / Addendum
Hinds County, MS

Project # #2426
Internal Id 27568

To JAMES WOLF:

In response to your request for information dated August 11, 2025, we have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
Acipenser oxyrinchus desotoi	Gulf Sturgeon	LT	LE	S1
Alosa alabamae	Alabama Shad	C		S1
Egretta caerulea	Little Blue Heron			S2B, S2N
Euphagus carolinus	Rusty Blackbird			S2N
Fundulus dispar	Northern Starhead Topminnow			S3
Graptemys oculifera	Ringed Map Turtle	LT	LE	S2
Graptemys pearlensis	Pearl River Map Turtle	LT	C	S1
Helminthophila vermivora	Worm-eating Warbler			S2B

Scientific Name	Common Name	Federal Status	State Status	State Rank
Lasiurus cinereus	Hoary Bat	PS		S3
Limnothlypis swainsonii	Swainson's Warbler			S3B
Macrochelys temminckii	Alligator Snapping Turtle	C		S3
Nyctanassa violacea	Yellow-crowned Night-Heron			S4B,S2N
Nycticorax nycticorax	Black-crowned Night-heron			S2B,S4N
Obovaria unicolor	Alabama Hickorynut		C	S1
Parkesia motacilla	Louisiana Waterthrush			S2S3B
Potamilus inflatus	Inflated Heelsplitter	LT	LE	S1
Stizostedion vitreum	Walleye			S2
Symphyotrichum oolentangiense	Sky Blue Aster			S1
Trifolium reflexum	Buffalo Clover			S1
Truncilla truncata	Deertoe			S3
Uniomerus declivis	Tapered Pondhorn			S3

State Rank

S1 - Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S2 - Imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

State and Federal Status

LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.

LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

As listed above, there are 22 species of concern in our database within a 2-mile radius of the proposed JXN Water Facilities Plan/Addendum #2426 project(s) in Jackson, Hinds County, MS (32.350833, -90.123889). As described in your environmental review request, this project involves the installation of 1,245 LF of new water distribution lines, fire hydrants, service lines, and valves at five locations within the existing rights-of-way. Of the 22 species listed above, the Gulf Sturgeon, Ringed Map Turtle, and Inflated Heelsplitter are listed as federally threatened and state endangered. The Pearl River Map Turtle is listed as federally threatened and is currently under review for state listing. The Alabama Shad and Alligator Snapping Turtle are currently under review for federal listing. The Alabama Hickorynut is currently under review for state listing. The Hoary Bat possess a federal partial status that does not

apply to the portions of their respective ranges that occur in Mississippi. According to our database, this proposed project is set to occur within 2-miles of federally designated critical habitat, the Pearl River, for the Gulf Sturgeon. Many of the listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Due to the nature of this project, our primary concern is the possibility of asbestos, lead (if old cement asbestos / lead lines are being replaced or disturbed), sediment deposition, turbidity, exhaust runoff from roads, increased herbicide and pesticide load, and other unintentional introduction of pollutants being introduced to the surrounding environment and nearby bodies of water. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival of these species. The Gulf Sturgeon has declined throughout its range from the results of overfishing in the early 1900s and the loss of spawning habitat. Gulf Sturgeon forage and overwinter in marine waters and migrate back to their freshwater natal streams to spawn. Juveniles will remain in the river for the first 2-3 years of life, before heading to marine waters. Dam construction, dredging, and channelization have prevented sturgeon from gaining access to spawning grounds and/or destroyed the substrates on which the eggs are deposited on. Widespread industrial and domestic pollution has also reduced both feeding and spawning habitat for sturgeons. Habitat requirements for the Ringed Map Turtle and Pearl River Map Turtle include instream woody debris (logs, snags, downed treetops) for basking and abundant sandbar areas for nesting. Nesting occurs mid-May to early July, with peak nesting in mid-June. Habitat modifications, including channelization, de-snagging, and reservoir construction, are of concern as these activities remove basking sites, destroy nesting beaches, and alter suitable habitat. Siltation and water pollution may adversely affect both the Map Turtle and its invertebrate food source. Stream alteration projects that result in the removal of snags or sandbars should be discouraged within the range of this species. The life history and ecology of all species of endangered mussels, such as the Inflated Heelsplitter and Alabama Hickorynut, are poorly known. Freshwater mussels are filter feeders that play vital role in maintaining clean and healthy aquatic ecosystems by feeding on bacteria, algae, plankton, and silts. Mussels are highly sensitive to environmental disturbances such as bank degradation, erosion, siltation, and road/runoff pollution, which can smother their habitats and reduce water quality. Stream or watershed projects that may cause siltation, impoundment, headcutting, or otherwise negatively affect remaining habitat should be discouraged. Alabama Shad is an anadromous species found in the Gulf of Mexico and its associated rivers. This species once migrated up rivers in great abundance, to reach their spawning waters. However, it has suffered drastic declines throughout its range and is now absent from many river systems and watersheds. Primary causes for its decline include obstruction of rivers by locks and dams, as well as degraded water quality due to sedimentation and pollution. Navigational dredging of sand bars also directly destroys the spawning grounds. One estimate offers that ten of the twenty-one rivers formerly known to support Alabama Shad still host the species. Alligator Snapping Turtles use woody debris to hide under in waterbodies of all sizes. Because they mature slowly, have a low reproduction rate, egg predation, habitat alteration, and intentional and unintentional harvest, their population recovery has been much slower than anticipated. If the waterlines cross through culverts, we recommend that bat surveys should be conducted prior to determining if bats are present. Culverts provide an important artificial habitat for birds and bats. Bats will hibernate as early as October to April. Maternity season for bats starts in April and ends towards late July/early August. If bats are present, please contact MS Department of Wildlife, Fisheries and Parks Biologist, Katelin Cross, at (601) 576-6013 or at Katelin.Cross@mmns.ms.gov. Should this project be approved, we recommend that best management practices such as streamside management zones (SMZs) and other BMPs be properly implemented, monitored, and maintained for compliance, specifically measures that will prevent suspended silt and contaminants from leaving the site in storm water run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies (<https://www.mfc.ms.gov/forest-health/water-quality-and-forestry-best-management-practices/>). Please check MS Department of Environmental Quality for other BMP. (<https://www.mdeq.ms.gov/water/surface-water/nonpoint-source-pollution-program/stormwater-runoff-management-manual/>) In addition, should any impacts to streams or wetlands occur as a result of the proposed project, we ask that serious consideration be given to the cumulative impacts of stream and wetland disturbance and elimination, and that appropriate, in-kind mitigation be provided.

Please feel free to contact us if we can provide any additional information, resources, or assistance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Marinee Humphries

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Mississippi
Department of Wildlife, Fisheries, and Parks

Sam Polles, Ph.D.
Executive Director

August 22, 2025

Benchmark Engineering & Surveying
660 Katherine Drive, Suite 302
Flowood, MS 39232

Re: JXN Water Facilities
Plan / Addendum
Hinds County, MS

Project # #2427
Internal Id 27569

To JAMES WOLF:

In response to your request for information dated August 11, 2025, we have searched our database for occurrences of state or federally listed species and species of special concern that occur within 2 miles of the site of the proposed project. Please find our concerns and recommendations below.

The following species of concern may occur within 2 miles of the proposed project area:

Scientific Name	Common Name	Federal Status	State Status	State Rank
Asclepias hirtella	Green Milkweed			S2
Camassia scilloides	Wild Hyacinth			S2
Carya myristiciformis	Nutmeg Hickory			S3S4
Echinacea purpurea	Eastern Purple Coneflower			S3
Falco sparverius	American Kestrel			S3B,S4S5N
Lasionycteris noctivagans	Silver-haired Bat			S3
Trillium ludovicianum	Louisiana Trillium			S1S2
Triosteum angustifolium	Yellowleaf Tinker's-weed			S3
Tyto alba	Common Barn-owl			S3

State Rank

S1 - Critically imperiled in Mississippi because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S2 - Imperiled in Mississippi because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it vulnerable to extirpation.

S3 - Rare or uncommon in Mississippi (on the order of 21 to 100 occurrences).

State and Federal Status

LE Endangered - A species which is in danger of extinction throughout all or a significant portion of its range.

LT Threatened - A species likely to become endangered in foreseeable future throughout all or a significant portion of its range.

Based on the information provided, we conclude that if best management practices are properly implemented, monitored, and maintained (particularly measures to prevent, or at least, minimize negative impacts to water quality), the proposed project likely poses no threat to listed species or their habitats.

Recommendations:

As listed above, there are 9 species of concern in our database within a 2-mile radius of the proposed JXN Water Facilities Plan/Addendum #2427 project(s) in Jackson, Hinds County, MS (32.268333, -90.312778). As described in your environmental review request, this ground water well rehabilitation project involves six wells. More specifically this project consists of adding one new well, deepening up to two existing wells, and rehabilitating equipment at multiple sites. It has been noted that the Hwy No. 18 Well and Willowood Well will occur near Big Creek and its tributaries. It has also been noted that the Ty Rd. Well will occur near Caney Creek and its tributaries. Furthermore, the Wiggins Rd. Well occurs near historical Jackson Prairie habitat. Many of the listed species are on the decline because of degradation or destruction of essential habitat needed to support them. Due to the nature of this project, our primary concern is the possibility of sediment deposition, turbidity, exhaust runoff from roads, increased herbicide and pesticide load, and other unintentional introduction of pollutants being introduced to the surrounding environment and nearby bodies of water, such as Big Creek and Caney Creek. These factors may negatively impact habitat conditions by detrimentally affecting respiration, feeding, and reproduction of amphibians, bats, birds, crayfishes, fishes, insects, turtles, and vegetation. Furthermore, maintenance of natural floodplain vegetation and hydrology are important factors contributing to the survival of these species. According to our data, the Wiggins Road Well is located near the boundaries of historical prairie habitat and may have some potential for restoration. Less than 1% of native prairies exist in Mississippi today. Prairies are often less than 100 acres in size but can harbor exceptionally high numbers of plant species and sustain a wide range of insect and bird diversity. Threats to prairies are development, cultivation, fire suppression, changes to hydrology, and land use changes. Due to the nature of this proposed project, impacts to remnant Black Prairie habitat should be minimal if BMPs are followed. We would also like to suggest using native plant species for ground cover and erosion control around the water well if applicable. Should this project be approved, we recommend that best management practices such as streamside management zones (SMZs) and other BMPs be properly implemented, monitored, and maintained for compliance, specifically measures that will prevent suspended silt and contaminants from leaving the site in storm water run-off as this may negatively affect water quality and habitat conditions within nearby streams and waterbodies (<https://www.mfc.ms.gov/forest-health/water-quality-and-forestry-best-management-practices/>). Please check MS Department of Environmental Quality for other BMP. (<https://www.mdeq.ms.gov/water/surface-water/nonpoint-source-pollution-program/stormwater-runoff-management-manual/>) In addition, should any impacts to streams or wetlands occur as a result of the proposed project, we ask that serious consideration be given to the cumulative impacts of stream and wetland disturbance and elimination, and that appropriate, in-kind mitigation be provided.

Please feel free to contact us if we can provide any additional information, resources, or assistance that will help minimize negative impacts to the species and/or ecological communities identified in this review. We are happy to work with you to ensure that our state's precious natural heritage is conserved and preserved for future Mississippians.

Completed by Marinee Humphries

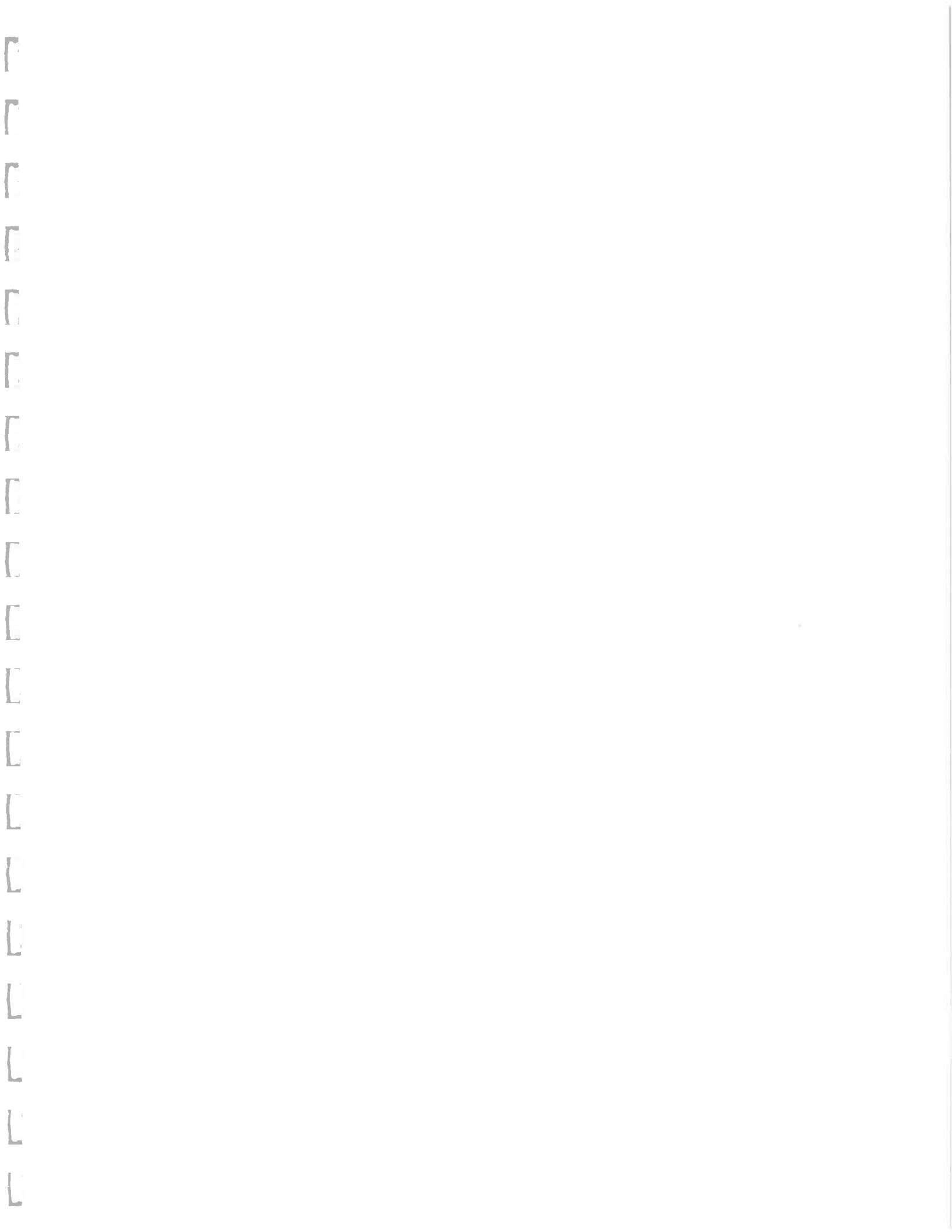
The Mississippi Natural Heritage Program (MNHP) has compiled a database that is the most complete source of information about Mississippi's rare, threatened, and endangered plants, animals, and ecological communities. The quantity and quality of data collected by MNHP are dependent on the research and observations of many individuals and organizations. In many cases, this information is not the result of comprehensive or site-specific field surveys; most natural areas in Mississippi have not been thoroughly surveyed and new occurrences of plant and animal species are often discovered. Heritage reports summarize the existing information known to the MNHP at the time of the request and cannot always be considered a definitive statement on the presence, absence or condition of biological elements on a particular site.

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APPENDIX E

PUBLIC HEARING
DOCUMENTATION

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