



The City of
OKLAHOMA CITY
UTILITIES DEPARTMENT

July 26, 2024

Project Title: Lift Station Rehabilitation

Project Location: Oklahoma City Wastewater Collection System - Lift Station No. 8; Lift Station No. 40; Lift Station No. 47 ; Lift Station No. 53

Project Number: SC-1141

Estimated Project Cost: To Be Determined.

1.0 Project Description:

The Oklahoma City Water Utilities Trust (OCWUT) is evaluating the rehabilitation of Lift Stations 8, 40, 47 and 53 in the wastewater collection system.

2.0 Project Intent:

The Engineer will provide all preliminary engineering services required to develop a rehabilitation plan for Lift Stations 8, 40, 47, and 53. Final design, bidding, construction administration and management, inspection, and as-built services may be completed under a future amendment.

3.0 Background:

OCWUT funds, operates, and maintains more than 3,000 miles of wastewater lines that carry commercial and industrial waste to one of four wastewater treatment plants (WWTPs) before discharge. The wastewater collection system includes 70 lift stations, ranging in capacity from 0.001 million gallons per day (MGD) to 80 MGD. Various components of lift stations 8, 40, 47, and 53 have reached the end of their useful lives and are in need of rehabilitation or replacement. Preliminary design services will be completed for all four lift stations and will recommend a final phasing plan approach for the improvements.

3.1 Lift Station Overview

Lift Station No. 8 was constructed in 1978. It is located at 6311 W Captains Drive, which is in the island of the cul-de-sac of Captains Drive in the neighborhood of Ski Island (S28 T13N R4W). The lift station is a Cantex system lift station with 2 pumps. The pumps typically run two to four (2-4) times a day combined. The wet well for this station is located in the street portion of the cul-



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de-sac to the west of the lift station. It serves approximately a dozen residences along W Captains Drive before pumping wastewater back up W Captains Drive until it connects to a gravity main approximately three hundred (300) feet away. The wet well is supplied by two gravity mains, one from the north and the other from the south.

Lift Station No. 40 was constructed in 1964. It is located at 3613 N Bryant, which is at the corner of NE 36th and N Bryant, just West of Forest Park (S24 T12N R3W). The lift station is a dual Pump system, one in the Cantex and one submersible in the wet well, with a pump operating in each capacity. The pumps typically run four to five (4-5) times a day combined. The wet well and lift station are located within a fenced area in the east lawn of what is currently the Rolfe Funeral Home located at 2936 NE 36th Street. It serves three (3) businesses along the N I-35 service road before pumping wastewater back along the service road until it connects to a gravity main approximately four-tenths (4/10) of a mile away. The wet well is supplied by a single gravity main from the west.

Lift Station No. 47 was constructed in an unknown year, assumed to be in the range of the mid-60s to late-70s. It is located at 702 N Villa Avenue, which is in the front of what is currently the Dental Depot Academy located at 704 N Villa Avenue (S31 T12N R3W). The lift station is a Cantex system lift station with two (2) pumps. The pumps typically run thirty to forty (30-40) times a day combined. The wet well is located in the right-of-way off of N Villa and the lift station is approximately ten (10) feet beyond the right of way into a separate easement. It serves approximately six (6) businesses along N Villa before pumping wastewater north along N Villa until it connects to a gravity main just south of the railroad tracks approximately six hundred and fifty (650) feet away. The wet well is supplied by an unknown combination of gravity main(s).

Lift Station No. 53 was constructed in 1967. It is located at 1122 N I-35 Service Road, north of NE 10th street (S25 T12N R3W). This lift station is a Cantex system lift station with a single pump. This pump runs approximately once a week. Both the wet well and lift station are located within a fenced area off of the N I-35 service road. It has served no more than three (3) businesses historically, currently only two (2). It pumps wastewater north along the N I-35 service road until it connects to a gravity main in Edwards Park approximately a quarter (¼) of a mile away. The wet well is supplied by a single gravity main from the south.

4.0 Lift Stations

The Oklahoma City wastewater collection system relies on a network of sanitary sewer lift stations to move wastewater from low points and/or dead ends in the collection system to a point where the wastewater can continue its journey to one of the City's four Wastewater Treatment Plants (WWTPs) by gravity.



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4.1 Background

Operational data and parameters for each lift station are shown below in Table 4.1.

Table 4.1

Parameter	Lift Station No. 8	Lift Station No. 40	Lift Station No. 47	Lift Station No. 53
Location	Captains Drive	NE 36 th and Bryant	NW 7 th and Villa	NE 10 th and I-35
Station Capacity (MGD)	0.04	0.00039	0.0017	0
Flow (gpm)	27.78	0.27	1.18	-
Type of Well	Cantex	Wet Well/Cantex	Cantex	Cantex
Dimensions (ft x ft)	5 (diameter) x 17 (depth)	5 (diameter) x 7 (depth)	6 (diameter) x 19 (depth)	4 (diameter) x 9 (depth)
Number of Pumps	2	2	2	1
Pump Brand	Vertical stacked	#1 – Stacked pump #2 Myers	Stacked pump	Stacked pump
Pump HP	5	20, 7.5	7.5	5
Voltage /Phase	240/3	240/3	240/3	240/3
VFD	No	No	No	No
Influent Pipe Diameter (inches)	4	8	Unknown	8
Effluent Pipe Diameter (inches)	4	4	4	4

4.2 Lift Station Rehabilitation

OCWUT staff completed an initial assessment of Lift Stations 8, 40, 47, and 53 and identified the following possible items for rehabilitation and/or replacement. The provided list is not intended



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to be exhaustive but provides the minimum scope for the rehabilitation of these lift stations. The Engineer is responsible for completing an assessment and providing final recommendations.

4.2.0 General Notes

- Pumps are obsolete and replacement parts are not available.
 - Due to the size of the Cantex and piping arrangement, no replacement pumps are available.
 - The Cantex walls and floor have deteriorated allowing water intrusion into the enclosure.

4.2.1 Lift Station No. 8

- Access is limited by the location of the Cantex in the middle of the Cul-De-Sac.
 - The Wet Well being in the middle of the street is a safety issue.
 - The consequence for property damage in the unlikely event of a Wet Well overflow is significant.

4.2.2 Lift Station No. 40

- Access is limited by the location of the Cantex in the middle of the site. There is no driveway or approach to gain access to the site.
 - All maintenance is done with a crane truck parked outside the site with the crane extended over the fence of the site.
 - The Wet Well has an aluminum cover that deflects easily, lacking structural soundness.
- This site uses a split method of pumping, one Cantex and one submersible pump. This nearly doubles the maintenance concerns and issues with this site.

4.2.3 Lift Station No. 47

- Access is limited. The Cantex is in the front yard of a local business.
 - The parking lot of that business is used for City vehicles to park while maintenance tasks are performed. This can potentially take up every parking space immediately outside their fence and block getting in and out of the business.
- There is no fence for the lift station or room to install one.

4.2.4 Lift Station No. 53

- The ductile piping from the wet well to the Cantex is deteriorating. The lift station crew repaired this section of piping last year.



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- The site has only one pump. It does not meet the current requirements for redundancy.

4.3 Operational Challenges

4.3.0 General Notes

- Every maintenance task requires a permit required confined space entry.
 - This takes a minimum of 3 people to a crew with specialized safety equipment and training.
 - One person for entering the space (entrant), one person acting as the supervisor to the entry, and one person to act as the hands for the supervisor since the supervisor cannot break their line of site on the entrant.
 - The design of these sites as dry well requires a significant increase in man-hours to maintain. This is a significant cost over the life of the Lift Station.
 - Due to the small entrance to the Cantex and the necessary piping and ventilation, a successful emergency extraction would be extremely difficult.

5.0 Current Projects:

There are currently no known projects in the Utilities department that will directly impact these lift stations or the gravity mains that supply them.

6.0 Draft Project Scope:

The initial contract will include Task 1A - Preliminary Report services. The following subtasks are proposed. This list is not exhaustive, and it is expected the selected engineer will review and make additional recommendations.

6.1 Primary Subtasks

- Project Management and Progress Reporting.
- Kickoff Meeting.
- Data collection and analysis.
- Field Investigations.
- Condition Assessment of Lift Stations.
- Preliminary Engineering Report with phasing plan.
- Engineering Report for Phase 1 Improvements constituting a 15% design deliverable.



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7.0 Letter of Interest Requirements:

In addition to the requirements outlined in the advertisement, Letter of Interest submittals must also provide the below information.

7.1 Similar Project Experience

- Indicate the key aspects or characteristics of the reference project that are relevant to OCWUT for the project the letter of interest is being submitted.
- Indicate the members of the proposed project team that worked on the reference project and what role they served on the project.

7.2 Project Team Availability

- Specifically address the availability of each proposed project member and communicate in a quantifiable manner how much availability they have (e.g. 25%, 50%, 75%, 100%).
- If the firm has existing projects with the City of Oklahoma City or any of its Trusts, provide a list of those projects, the members of the proposed project team working on those projects, and how much of their workload is allocated to those projects.

8.0 Available Information:

Upon execution of a non-disclosure agreement, the following information will be made available for review in preparation of Letter of Interest submissions. The executed form must be submitted to Harrison Dunlap (harrison.dunlap@okc.gov) and Patty Pool (patty.butenhoff@okc.gov) via e-mail.

- Relevant site operational data.
- Available as-built drawings for the lift stations.

9.0 Optional Pre-Submittal Meeting & Site Visit

An optional meeting and site visit will be held on August 29, 2024, at 08:00 AM. The meeting will begin at the Lift Station group office located at 2701 NE 4th Street and will proceed to the four stations. Participants must have personal protective equipment (steel-toed boots, eye protection, and a hard hat) to participate in the site walk-through. All lift station locations have permit required confined spaces due to the potential for the presence of corrosive gases. This will be the only opportunity to visit the sites during the solicitation process. Participants must be under the supervision of the Lift Station group at each site. A sign-in sheet will be present at each site.



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10.0 Proposal Schedule:

- Advertisement: 08/21/2024
- Optional Pre-Submittal Meeting and Site Visit: 08/29/2024
- Deadline for Submitting Questions: 09/02/2024
- Answers Published: 09/05/2024
- Letter of Interest Submission Deadline: 09/12/2024
- Notification of Short-Listed Firms: 10/01/2024
- Interviews: 10/11/2024