

April 1, 2024



601 South 2nd Street
Rogers, Arkansas 72757

ATTN: Mr. Brian Sartain, P.E.
Utility Engineer

RE: Statement of Findings for
Blossom Way New Gravity Sewer Main in
Rogers, Arkansas
MCE Project Number: 24-2115

Dear Mr. Sartain:

We are pleased to present this Statement of Findings relevant to the new Blossom Way Gravity Sewer Main to be installed along the north side of Osage Creek in Rogers, Arkansas. This document summarizes the observations and information obtained from the on-site drilling operations.

1.0 Project Description

The project alignment is located on the south side of Rogers, Arkansas near South 28th Place. According to the information provided, the alignment of the new gravity sewer main is planned to run from South Dixieland Road following Osage Creek west to near the Whitaker Parkway exit off Interstate 49.

Onsite vegetation across the alignment consisted of low-to-medium cut grass with one (1) boring on red fill dirt. Mature trees and underbrush lined Osage Creek. The topography across the site may be described as generally sloping down towards the west-northwest, with maximum grade differentials across the entire alignment on the order of 40 feet.

2.0 Conducted Scope of Work

MCE was requested to conduct eight (8) auger soundings with planned target depths between 15.0 to 25.0 feet along the planned alignment. The locations and depths of the soundings were determined based on the information provided by Rogers Water Utilities with considerations to the accessibility of drilling equipment and existing public utilities. The project soundings were intended to advance through subgrade materials at the selected locations to identify any hard materials that may cause excavation and installation difficulties during the construction of the planned sewer main.

Based on the understood site conditions and terrain, the auger soundings were conducted with a CME 45 B Truck Mounted Drill Rig, utilizing 4.25-inch diameter solid stem augers. The augers were each advanced to a planned target depth of between 15.0 to 25.0 feet below the existing surface elevations. Field notes were recorded indicating the thickness of encountered surface materials, subsurface materials encountered at various depths, and any materials causing resistance to advancing augers. An image showing the location of conducted soundings is presented in Figure 1. A summary of the data collected from the soundings is presented in Table 1.

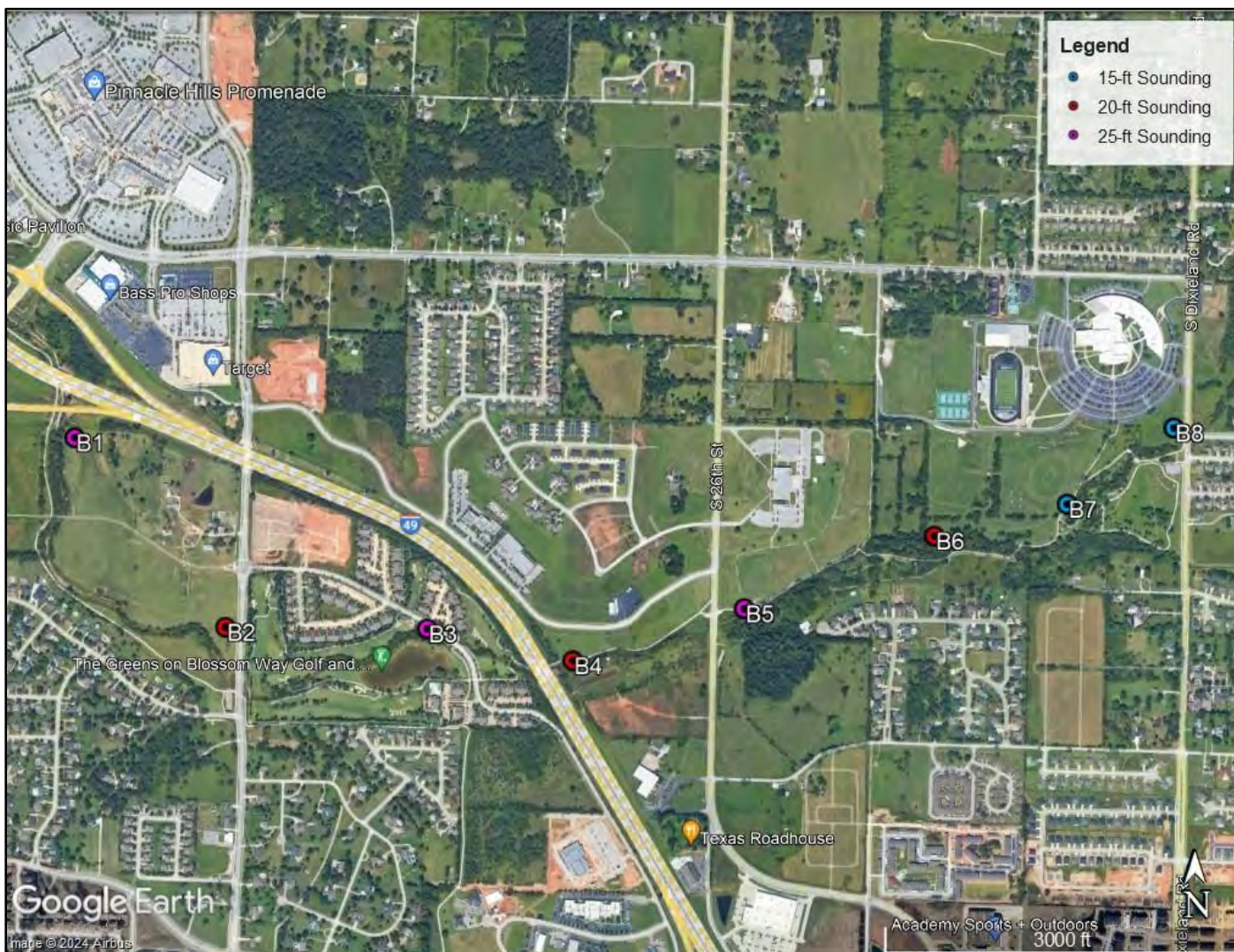


Figure 1: Layout of Project Sounding Locations

Table 1: Project Soundings – Depths and Elevations

Sounding ID	Latitude	Longitude	Existing Surface Elevations (ft)	Planned Target Depth (ft)	Auger Refusal Depth (ft)	End of Sounding Elevation (ft)
B-01	36.297688	-94.176530	1228.0	25.0	-	1203.0
B-02	36.293299	-94.172185	1242.0	20.0	-	1222.0
B-03	36.293258	-94.166386	1249.0	25.0	-	1224.0
B-04	36.292519	-94.162214	1252.0	20.0	-	1232.0
B-05	36.293717	-94.157296	1263.0	25.0	20.0	1243.0
B-06	36.295387	-94.151836	1261.0	20.0	18.0	1243.0
B-07	36.296120	-94.148035	1267.0	15.0	-	1252.0
B-08	36.297874	-94.144973	1268.0	15.0	-	1253.0

NOTES: Surface Elevations shown in Table 1 are rounded to the nearest 1.0 feet and are based on the current elevations provided by Google Earth (2023).

3.0 Summary of Soundings

Based on field logs completed during the investigation, we anticipate that silty topsoil materials will be present at the surface throughout the planned alignment, with the exception where we encountered fill. These materials make up Stratum I within the overall project strata. We have estimated that these topsoil materials average approximately three (3) inches thick. Along the alignment near mature trees, underbrush, and small waterways, the thickness of topsoil material may vary greatly.

MCE anticipates the materials that make up Stratum II consist largely of fine-grained lean clays (CL Materials) with occasional chert gravels throughout. Typically, these materials were encountered underlying the Stratum I materials at each sounding location and spanned to depths that ranged from one (1) to 20.0 feet below the existing surface elevations.

The encountered Stratum III materials were indicative of the local geologic formation known as the Boone Formation. This formation is largely comprised of fine to coarse-grained limestone with interbedded chert. The quantity and quality of the chert is known to vary considerably both vertically and horizontally within the Boone Formation. Residual soils formed from the Boone Formation typically consist of various gradations of clay, silt, sand, and chert gravel. MCE anticipates these materials would generally classify as either clayey gravel with sand (GC), clayey sand with gravel (SC), or silty gravel with sand (GM). These materials are known to provide drilling and exaction difficulties dependent on the existing materials' in-situ consistency.

Based on the data presented in Table 1, materials resulting in auger refusal were encountered by two (2) of the conducted auger soundings (B-05 and B-06) at depths ranging from 18.0 to 20.0 feet below the existing surface elevations. These materials were consistent with the encountered Stratum IV materials indicative of chert seams/layers and/or limestone. N-values of 50 over 1 and 50 over 0 inches were recorded at these borings indicating hard soil or rock. These materials provided hard drilling conditions which resulted in auger refusal. It should be noted, that the force applied to advance to these depths may not be directly comparable to those of medium to heavy-duty excavation equipment.

MCE anticipates that medium-duty excavation equipment (Backhoe, Mini Excavator, etc.) will likely be capable of excavating to a depth of five (5) to 10 feet. MCE anticipates that heavy-duty excavation equipment (Track hoe), capable of excavating to deeper depths along the planned alignment, will likely be utilized to install the proposed pipeline and pipeline features below 15 feet. However, if the proposed excavation operations are required to extend to depths deeper than 25 feet, MCE recommends the Contractor budget for the potential need for rock removal equipment.

If you have any questions regarding any of the information or data presented in the sections above, please feel free to reach out to MCE for further discussion at any time.

Respectfully Submitted,
McClelland Consulting Engineers, Inc.



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Principal | Geotechnical Department Head



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Geologist | Project Designer