

**ORDINANCE RECORD****VILLAGE OF NEWBURGH HEIGHTS, OHIO****ORDINANCE NO. 2022-21**

INTRODUCED BY: Mayor Trevor Elkins

**AN ORDINANCE AUTHORIZING THE MAYOR TO ENTER INTO A LETTER AGREEMENT WITH OHM ADVISORS FOR MEMBER COMMUNITY INFRASTRUCTURE PROGRAM PROJECT VERIFICATION SERVICES IN AN AMOUNT NOT TO EXCEED \$57,000.00, AND DECLARING AN EMERGENCY.**

WHEREAS, the Northeast Ohio Regional Sewer District (“NEORS”) requires its member communities to perform project performance verification to document how a Member Community Infrastructure Program (“MCIP”) project is performing;

WHEREAS, NEORS requires that the Village’s 20’s Area MCIP Sewer Separation Project perform and report on the following project performance verification activities: (i) pre- and post-construction flow monitoring; and (ii) post-construction rainfall-derived inflow and infiltration (RDII) evaluation;

WHEREAS, pre- and post-construction Dry Weather Water Quality Investigation and Sampling; and

WHEREAS, OHM proposes the following work be performed as part of this project to meet NEORS’s MCIP requirements: (i) perform pre- and post-construction flow monitoring to quantify the level of I/I reduction within the combined sewer separation project area; (ii) conduct post-construction RDII evaluation of the flow monitoring data collected during the pre- and post-construction monitoring periods to quantify private property I/I contributions to the new sanitary system; (iii) conduct pre- and post-construction end-of-pipe water quality sampling for E. coli at the discharge of the storm sewer on three separate days during dry weather to ensure a representative E. coli measurement; and (iv) prepare a technical submittal summarizing the work performed as part of the pre- and post-construction project performance verification, according to NEORS minimum requirements (items (i) through (iv) herein collectively referred to as the “Flow Monitoring Work”);

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL FOR THE VILLAGE OF NEWBURGH HEIGHTS, COUNTY OF CUYAHOGA AND STATE OF OHIO, THAT:

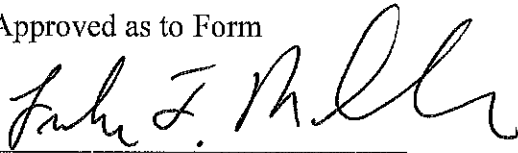
Section 1. Council hereby authorizes and directs the Mayor to enter into a Letter Agreement with OHM Advisors for performance of the Flow Monitoring Work at a cost not to exceed \$57,000.00, which Letter Agreement shall be in the form attached hereto as Exhibit A, and which exhibit is incorporated herein by reference as if fully rewritten.

Section 2. That it is found and determined that all formal actions of this Council concerning and relating to the adoption of this Ordinance were adopted in an open meeting of this Council, and that all deliberations of this Council that resulted in such formal action occurred in meetings open to the public, in compliance with all legal requirements, including Section 121.22 of the Ohio Revised Code.

Section 3. This Ordinance is hereby declared to be an emergency measure immediately necessary for the preservation of public peace, health and safety of the inhabitants of the Village of Newburgh Heights, such emergency being the need to meet NEORSRD requirements for MCIP project performance verification in a time frame that does not delay the Village's 20's Sewer Separation Project; wherefore, provided it receives the affirmative vote of four (4) or more of the members elected or appointed to this Council, this Ordinance shall take effect and be in force immediately upon its passage; otherwise, it shall take effect and be in force from and after the earliest time allowed by law.

PASSED: March 1, 2022

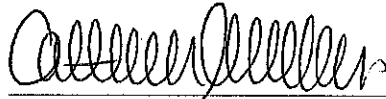
Approved as to Form



Solicitor



Trevor Elkins, Mayor  
Village of Newburgh Heights, Ohio



Cathleen Nagorski, Fiscal Officer  
Village of Newburgh Heights, Ohio

1<sup>ST</sup> Reading: 3/1/22  
2<sup>ND</sup> Reading: 3/1/22  
3<sup>RD</sup> Reading: 3/1/22



ARCHITECTS. ENGINEERS. PLANNERS.

January 26, 2022

Village of Newburgh Heights  
Mayor Trevor Elkins  
3801 Harvard Avenue  
Newburgh Heights, OH 44105

**RE: 20s Area MCIP Project Performance Verification**  
Village of Newburgh Heights  
Proposal # 22122

Dear Mayor Elkins:

The following scope of services, price proposal, and project schedule represent our understanding of the project, based upon prior discussions, meetings, and/or additional project information made available at the time of this proposal. Should you have any questions, please let us know.

**Proposal Outline**

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Sincerely,

OHM Advisors

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Director of Ohio  
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Authorization to Proceed

Signature Date

Trevor K. Elkins

Printed Name Title



## Project Understanding

The Northeast Ohio Regional Sewer District (NEORS, or “the District”) requires its member communities to perform project performance verification to document how a Member Community Infrastructure Program (MCIP) project is performing. The District requires that Newburgh Heights 20’s Area MCIP Sewer Separation project perform and report on the following project performance verification activities:

- Pre- and Post-construction Flow Monitoring
- Post-construction Rainfall-derived Inflow and Infiltration (RDII) evaluation
- Pre- and Post-construction Dry Weather Water Quality Investigation and Sampling

OHM proposes the following work be performed as part of this project in order to meet the District’s 2019 MCIP requirements:

- Perform pre- and post-construction flow monitoring to quantify the level of I/I reduction within the combined sewer separation project area
- Conduct post-construction RDII evaluation of the flow monitoring data collected during the pre- and post-construction monitoring periods to quantify private property I/I contributions to the new sanitary sewer
- Conduct pre- and post-construction end-of-pipe water quality sampling for *E. coli* at the discharge of the storm sewer on three separate days during dry weather to ensure a representative *E. coli* measurement
- Prepare a technical submittal summarizing the work performed as part of the pre- and post-construction project performance verification, according to District minimum requirements

## Scope of Services

### Task #1 Data Collection and Review (\$8,000)

Task 1 includes project communications and collecting available data from the Village and the District necessary to complete the proposed tasks. It is expected that the following data will be made available to perform the work:

- As-builts from the Village providing the length, diameter, material and invert elevation of the constructed sewer separation project – post construction
- Rainfall data from a District-owned rain gauge sufficient for the project’s needs

### Task #2 Flow Monitoring Field Work (\$25,000)

For sewer separation MCIP projects, the District requires pre- and post-construction sewer flow monitoring to document the hydraulic performance and flow characteristics in the MCIP project area. The objective of Task 2 is to measure and record the flow in the sanitary sewer to be used quantify the level of I/I reduction resulting from the sewer separation. To accomplish this, one flow meter will be installed on the combined sewer (to be repurposed as the new sanitary sewer), immediately downstream of the MCIP project area. The meter location is shown in Figure 1 (attached).

To meet the District’s MCIP flow monitoring requirements, pre- and post-construction flow metering will be conducted for a three-month duration. Monitoring can end sooner if three storms that meet either of the following criteria are captured:

- Rain event meets or exceeds a depth of 0.2 inches AND an intensity of 0.25 inches/hour
- 24-hour rainfall is greater than 0.75 inches

Specific work efforts of the flow monitoring task include the following:

- Coordinate with the District to prepare for pre- and post-construction flow monitoring
- Flow meter pre-installation site investigation to determine installation feasibility and prepare for installation



- Provide for traffic control and safety during site visits (assumed that only minor traffic control is needed)
- Install and calibrate one flow meter pre- and post-construction at the following location (if feasible):  
District Manhole ID CO35AACA0
- Collect and record the following flow data in 5-minute intervals over a continuous monitoring period for a duration up to three months:
  - Depth
  - Velocity
  - Flowrate
- Maintain and service flow meters, including battery replacements
- Perform data downloads (manual data downloads two times per month or telemetry transfer of meter data during monitoring period, if feasible)
- Bi-weekly review of manual data downloads
- Monthly meter calibrations
- Uninstall meter at conclusion of monitoring periods

### **Task #3 Post-Construction RDII Analysis (\$9,000)**

The flow monitoring data collected in Task 2 will be used to perform the post-construction RDII analysis. The objective of Task 3 is to quantify the amount of I/I removal in the sanitary sewer system as a result of the sewer separation project. For MCIP combined sewer separation projects, the District requires post-construction RDII analysis that provides, at a minimum, a calculation of the percentage of rainfall that enters the sanitary sewer system for each rain event. The District refers to this percentage as the R-value; the term “R-value” is used interchangeably with “RDII,” “percent I/I,” “C%” and “capture coefficient.” The R-value will be determined for each storm event recorded during the post-construction monitoring period using the H2Ometrics software.

Specific work efforts of the RDII analysis task include the following:

- Import flow monitoring and District rainfall data into H2Ometrics software
- Edit (“scrub”) flow monitoring data using H2Ometrics software
- Calculate RDII for each storm event with rainfall that caused a wet-weather response in the monitored sanitary sewer

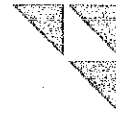
### **Task #4 Dry Weather Water Quality Investigation and Sampling (\$1,000 base fee; \$8,000 if authorized)**

The District requires dry weather water quality sampling in the new storm sewer for MCIP sewer separation projects when flow is observed in the storm sewer during dry weather. The objective of the sampling is to obtain data that quantifies the approximate *E. coli* load reduction to verify the infrastructure separation. The “base” fee includes field investigation to observe and document the presence or absence of flow in the new storm sewer. If no flow is observed, a photograph will be taken to document that no water quality sampling is necessary. If flow is observed, pre- and post-construction dry weather sampling will be required, and the “if authorized” fee will need approval to perform the sampling work. The sampling location is shown in Figure 1 (attached).

Dry weather water quality sampling includes collecting and analyzing dry weather flow samples from the storm water pipe at the downstream end of the separated area. Sampling is required on three separate days and at three different times, in order to ensure a representative *E. coli* measurement. OHM has partnered with a local water and wastewater lab to perform *E. coli* lab analysis on collected samples.

Specific work efforts of the dry-weather water quality sampling task include the following:

- Collect one field sample on three separate days at three different times during dry weather at the downstream end of the storm sewer pre- and post-construction
- Perform lab analysis for *E. coli*



**Task #5 Technical Submittal (\$14,000)**

All work included in the tasks above will be summarized and presented in the format of a technical submittal according to District minimum requirements.

The minimum deliverables required as part of the submittal to the District include the following:

- For flow monitoring and RDII evaluation:
  - Site installation forms
  - Rain data in 5-minute intervals
  - Raw and edited flow monitoring data in 5-minute intervals
  - RDII evaluation report and summary
- For water quality sampling:
  - Field sample collection report
  - Sample analysis results

**Price Proposal**

#	Tasks	Base Fee	If Authorized
Task #1	Background Data Collection and Review	\$8,000	
Task #2	Flow Monitoring Field Work	\$25,000	
Task #3	RDII Analysis	\$9,000	
Task #4	Dry Weather Water Quality Investigation and Sampling	\$1,000	\$8,000
Task #5	Technical Submittal	\$14,000	
<b>Grand Total =</b>		<b>\$57,000</b>	<b>\$8,000</b>

**Anticipated Project Schedule**

With a Notice to Proceed by May 2022 -

- Pre-Construction Flow Monitoring: May 2022 through September 2022
- Pre-Construction RDII Analysis: September 2022
- Construction: Winter 2022
- Post-Construction Flow Monitoring: May 2023 through September 2023
- Post-Construction RDII Analysis: September 2023
- Technical Submittal: October 2023



### **Assumptions**

The following assumptions are made in this fee proposal:

- Coordination with the District is limited to telephone and e-mail communication, and no in-person meetings will be required by the project team.
- Coordination with the Village is limited to telephone and e-mail communication, and no in-person meetings with the project team will be required.

### **Standard Terms & Conditions**

The Terms and Conditions contained in the Annual Engineer contract (as approved by Council Legislation) shall also apply to this contract.

Figure 1  
Newburgh Heights 20's Area Pre- & Post-Monitoring Plan  
Prepared by OHM; confirmed by NEORSD in April 2020

- Proposed Water Quality Sampling Location
- ▲ Proposed Flow Meter Location

