DELIVERED SEP 0 9 2021

City of Middleburg Heights, Ohio

Ordinance No. 2021-68

Introduced by: Mr. Meany, Mr. Ali, and Mr. McGregor

AN ORDINANCE
AUTHORIZING THE MAYOR AND FINANCE DIRECTOR
TO ENTER INTO A CONTRACT WITH
MACKAY ENGINEERING
AND DECLARING AN EMERGENCY

WHEREAS, the City's purchasing policy requires City Council approval on any single purchase of products or services exceeding $25,000 or any professional service contract exceeding $10,000, with the exception of items purchased through or at an amount equal to an approved cooperative purchasing agreement; and

WHEREAS, the City desires to retain the services of a competent and qualified contractor to provide certain products/services to the City; and

WHEREAS, Mackay Engineering is competent and qualified to furnish products and/or services to the City and has provided a responsive and responsible proposal, and desires to provide Engineering Services – Indian Creek Relief Sewer Project.

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF MIDDLEBURG HEIGHTS, CUYAHOGA COUNTY, STATE OF OHIO:

Section 1. That the Mayor and Finance Director is hereby authorized to enter into a contract with Mackay Engineering to provide certain products and/or services to the City, a copy of which is attached hereto and marked "Exhibit A".

Section 2. That there is hereby appropriated an additional $435,000 from the Streets/Infrastructure Improvements Fund to implement this Ordinance.

Section 3. That it is hereby found and determined that all formal actions of this council concerning and relating to the passage of this ordinance were adopted in an open meeting of this council, and that all deliberations of this council and any of its committees that resulted in such formal actions were in meetings open to the public, in compliance with all legal requirements including chapter 107 of the Codified Ordinances and section 121.22 of Ohio Revised Code.

Section 4. That this ordinance is hereby declared to be an emergency measure, immediately necessary for the preservation of the public peace, health and safety of the citizens of the City of Middleburg Heights, Ohio. Therefore, this ordinance shall take effect and be in force immediately upon its passage and approval by the Mayor.

PASSED 9/14/21

PRESIDENT OF COUNCIL

ATTEST:

CLERK OF COUNCIL

PRESENTED TO MAYOR 9/15/21

APPROVED ON: 9-16-2021

MAYOR

	YEAS	NAYS
BORTOLOTTO	X	
ALI	X	
SAGE	X	
MEANY	X	
MCGREGOR	X	
FERENCE	X	
GRECH	X	

I, Mary Ann Meola Clerk of the Council of the City of Middleburg Hts., Ohio, hereby certify that Ord. 2021-68 adopted by the Council of the City of Middleburg Hts., on 9/14/21 was posted for a period of fifteen days, beginning 9/16/21 and remained so posted for fifteen days at the two posting places as designated by Charter.

Clerk

CERTIFICATE

I, Mary Ann Meola Clerk of Council of the City of Middleburg Heights, Ohio, do hereby certify that the foregoing is a true and accurate copy of Ord. 2021-68 passed on the 14th day of September 2021 by said Council.

Clerk of Council

MACKAY
Engineering & Surveying Company

7017 Pearl Road
Cleveland, Ohio 44130
www.mackayeng-surv.com

(440) 886-4500
Fax (440) 886-4590
Email: info@mackayeng-surv.com

July 8, 2021

James Herron
City of Middleburg Heights
15700 Bagley Road
Middleburg Heights, Ohio 44130

Re: Indian Creek Relief Sewer

Dear Mr. Herron:

As you requested, we have prepared the following proposal for engineering, surveying and construction administration services for the referenced project. Our services shall consist of the civil engineering and land surveying services necessary to prepare plans and specifications and bid documents and provide construction administration for the Indian Creek Sanitary Sewer Relief Project ("Project") and as specifically set forth below. The design services for the Project will also include an analysis of the capacity of the existing Indian Creek storm sewers, as set forth below and in the R2O Consulting, LLC ("R2O") proposal attached. This Project is being funded by the City and OPWC as described in the City's OPWC application. This work will be performed in accordance with the current terms of our employment with the City and the hourly rates set forth therein will be applied to our actual time to complete the services described below.

A portion of the required work will be performed by subconsultants to Mackay. The subconsultants that will be utilized on this project and their scope of services will be as follows:

- R2O: Hydraulic storm and sanitary sewer modeling – see attached R2O proposals dated September 23, 2020 and June 15, 2021.
- GeoSci, Inc. ("GeoSci"): Geotechnical engineering – see attached GeoSci proposal dated May 28, 2021.

Our liability to the City in connection with the services of all subconsultants is limited to the terms and conditions set forth in their proposal(s).

Kim Kerber will be the project manager for this Project. Kim will be the point of contact for the City and she will coordinate with the City, subconsultants and other governmental agencies as needed in connection with the design and construction of the Project.

The proposed project consists of the design and construction of a sanitary relief sewer on Indian Creek Drive from Baldwin Creek Drive to Gerald Drive; Gerald Drive from Indian Creek Drive to Delaware Drive, and Aldersyde Drive (full length plus easement). The location of the proposed relief sewer is shown on the attached Indian Creek Gerald Project Area Map. Approximately 8660 feet of sanitary sewer will be installed on this Project at an estimated cost of approximately $3,300,000. The Project and assumptions concerning the Project are described in more detail in the September 14, 2020 Investigation of Flood Prone Areas prepared by R2O.

The design portion of this Project will also include a hydraulic analysis and modeling by R2O of the existing storm sewer located on Indian Creek in the area of the proposed sanitary relief sewer. The analysis will explore what if any storm water improvements may be necessary or recommended in connection with the sanitary relief sewer. This storm water system analysis is described in more detail in the September 23, 2020 proposal from R2O. This proposal does not include any sewer metering and if metering is required it will be the subject of another fee proposal.

Our engineering, surveying and construction administration services for this Project shall consist of the following items:

1. Topographic, utility and existing conditions survey.
2. Hydraulic analysis and modeling of existing storm sewer on Indian Creek.
3. Meeting with the City to review the storm sewer analysis by R2O and to decide whether storm sewer improvements should be included in this Project. (If storm sewer improvements are added to the Project the above not to exceed fee will be increased to account for the design of these additional improvements.)
4. Improvement plans for the sanitary relief sewer.
5. Detailed specifications.
6. Bid documents.
7. Construction Administration.

Our Not to Exceed Fee for the above services related to the sanitary relief sewer is $390,000.00 as set forth in the City's OPWC application. Our not to exceed fee for the storm sewer modeling is $44,965.00, which is R2O's fee for Phase 2 services as set forth in the September 23, 2020 proposal from R2O. The total fee for all of the above described services is $434,965.00.

Our services do not include any sewer flow monitoring, sewer cleaning/videoing, subsurface utility engineering, ecological services, traffic engineering services, the acquisition of any property and/or any temporary or permanent right-of-way or easements that may be required for this Project. Any fees associated with approvals by any approval agencies will be paid by the City of Middleburg Heights and are not included in our fees, additionally all copying costs will be provided by a third part copy service and will be paid directly by the City. We have assumed that Mackay will be provided with access to all parcels for surveying purposes and as required to prepare the plans.

We look forward to working with the City on this important Project and we are available to discuss any questions you have.

Very truly yours,

Michael Mackay
President

/pmb
Attachments

cc: Mayor Castelli
Jason Stewart

R2O

September 23, 2020

Mr. Michael Mackay
Mackay Engineering and Surveying
7017 Pearl Road
Cleveland, OH 44130

Re: City of Middleburg Heights – Indian Creek Stormwater Flood Analysis

Dear Mr. Mackay:

R2O Consulting is pleased to provide you with the following proposal for services for the above referenced project. This project is for the City of Middleburg Heights and will be administered by Mackay Engineering and Surveying Company ("Mackay") as the Consulting Engineer for Middleburg Heights in accordance with its project agreement with the City.

We propose to provide the following services and work product for this project:

SEE THE ATTACHED PROPOSAL DATED SEPTEMBER 23, 2020

Our Not to Exceed Fee for the above Phase 2 services is $44,965. This fee will not be exceeded without the prior written permission of Mackay. The following hourly rates would be applied to the time actually worked on this project. These rates are valid for one (1) year after the date of this proposal and are subject to revision thereafter.

Senior Technical Advisor	$200.00
Project Manager	$130.00
Senior Modeler	$125.00
Modeler	$110.00
Field Engineer	$95.00
GIS Supervisor	$85.00
Administer	$85.00
Modeling Support	$82.00
Engineering Support	$80.00

R2O Consulting will invoice monthly for work performed the previous month. Mackay will submit these invoices as part of its invoices to the City of Middleburg Heights and payment will be made to R2O Consulting after Mackay has received payment from the City. The invoice will be detailed and will set forth the project, the date, the hours spent by employees and any expenses incurred.

R2O Consulting will maintain, during the duration of the project, general liability insurance in an amount not less than $1,000,000 each occurrence, automobile liability insurance in an amount not less than $1,000,000 each occurrence, umbrella general liability insurance in an amount not less than $3,000,000 general aggregate limit; and, professional liability insurance in an amount not less than $1,000,000 in an annual aggregate.

You may indicate your acceptance of this proposal by signing and returning a copy of this letter, which will then serve as our agreement. This document shall represent our total agreement and supersedes any prior representations. Any amendment shall be in writing and signed by both parties. This agreement has been made and delivered in the State of Ohio and is to be interpreted and enforced according to the laws of the State of Ohio. Should you have any questions, please contact me. We look forward to working with you on this project

Very truly yours,

Kellie Carpenter Rotunno, PE, BCEE
Chief Executive Officer

Acceptance by Mackay Engineering and Surveying Company

By: _____ Date: _____
Michael Mackay, President

September 23, 2020

Phase 2 – Scenario Modeling of Potential Solutions

Task 2a. Indian Creek Stormwater Flood Analysis

R2O will evaluate the data provided by Mackay and to qualify connectivity and pipe attribute information. Once initial data is evaluated and verified, R2O will develop Indian Creek storm water model. The model will be developed through extending the existing Northeast Ohio Regional Sewer District Baldwin Creek Stormwater master model into the problem area. Model development will consist of model network build and model basin refinement. Once the existing conditions model is complete, R2O will develop level of service maps. R2O will utilize existing conditions model to perform alternatives analysis. Potential concepts include stormwater conveyance improvements and stormwater detention. Alternatives will be advanced to pre-design level.

R2O will prepare a technical memorandum summarizing the model development effort, existing level of service, and alternatives. Technical memorandum will include cost estimates performed by Mackay. Mackay will provide plan profile sheets for existing storm sewer system, Northeast Ohio Regional Sewer District storm water model, survey information, and Northeast Ohio Regional Sewer District ArcGIS Online access for City of Middleburgh Heights, cost estimating.

Task 2b. Problem Area Flood Analysis

Selected problem area alternative analysis will be advanced. Hydraulic modeling will be used to evaluate stormwater existing conditions, conceptualize stormwater alternatives and or advance sanitary alternatives conceptualized in Phase 1.

Step 1: Build storm sewer model (using as-builts and supplemental survey data as needed)
Survey needs from Mackay (~12 manholes + Basin)
Step 2: Evaluate existing LOS for stormwater
Step 3: Evaluate alternatives to improve stormwater LOS. Work with Mackay to establish acceptable target LOS for stormwater (10-year/25 year, other).
Step 4: For offloading stormwater from Indian Creek, look at impacts to Baldwin Creek
Step 5: Evaluate side-by-side with sanitary relief options to explore opportunities for "value engineering" and constructability impacts.

Phase 3 – Preliminary design, costs development
Based upon the findings of Phase 2, the MES/R2O team will advance selected alternatives to preliminary design and prepare engineering costs estimates. Our team will work with the City of Middleburg Heights to develop criteria by which the alternatives will be compared. Such criteria may include: Costs, Level of Service, Community Impact, Constructability, Potential Funding sources, or others. The criteria will be weighted based upon the importance identified by the City.

The resultant ranking of alternatives will be presented to the City for consideration and potential presentation to the public.

Phase 4 – Final Design and Hydraulic Optimization
Selected alternatives will be advanced to final design. The hydraulic model will be used to optimize elements of the design throughout the design process. By updating the hydraulic model with accurate design features as the design advances from preliminary to final design, the City will be able to validate the "Level Of Service" that will result from the project.

June 15, 2021

Mr. Michael Mackay, President
Mackay Engineering and Surveying Company
7017 Pearl Road
Middleburg Heights, Ohio 44130

Re: Middleburg Heights – Indian Creek Sewer Design Support Services

Dear Mr. Mackay:

R2O Consulting is pleased to provide you with the following proposal for services for the above referenced project. This project is described in more detail in the scope of work in Attachment A. This project is for the City of Middleburg Heights and will be administered by Mackay Engineering and Surveying Company ("Mackay") as the Consulting Engineer for Middleburg Heights in accordance with its project agreement with the City.

We propose to provide the following services and work product for this project:

SEE ATTACHMENT A

Our Not to Exceed Fee for the services described in Attachment A is $26,564. Our fee will not be exceeded without the prior written permission of Mackay. The following hourly rates will be applied to the actual time worked on this project. These rates are valid for one (1) year after the date of this proposal and are subject to revision thereafter.

Project Principal	$225
Sr. Consultant	$200
Senior Reviewer	$150
Snr. Modeler 1	$132
Snr. Modeler 2	$125
Modeler	$108
Field Engineer	$100
GIS Support	$90
Model Support	$85
Contract Admin	$85

R2O Consulting will invoice monthly for work performed the previous month. Mackay will submit these invoices as part of its invoices to the City of Middleburg Heights and payment will be made to R2O Consulting after Mackay has received payment from the City. The invoice will be detailed and will set forth the project, the date, the hours spent by employees and any expenses incurred.

SCHEDULE

The work described in this scope is dependent upon the design schedule established by Mackay. R2O is prepared to begin working on this effort when authorized by Mackay.

BUDGET

R2O will provide the above-described scope of services on a time and materials basis in accordance with provided billing rates for a not-to-exceed fee of $26,564, as summarized in the table below.

R2O Scope and Fee Schedule for:

City of Middleburg Heights Indian Creek Relief Sewer Modeling			
Date:	6/3/2021	Fully Burdened Labor Cost	Estimated Hours
Client:	City of Middleburg Heights		
Prime:	Mackay Engineering		
	Total R2O Project Cost	*$26,564*	-
	ODC'S	*$0*	-
	R2O Labor Totals	*$26,564*	*202*
1.0 Project Management		$2,280	8
2.0 Sanitary Model Updates		$13,726	116
2.1	Update Model based upon field data collection performed by Mackay	$9,194	84
2.2	Review Model Calibration	$4,532	32
3.0 Sanitary Sewer Hydraulic Evaluations		$10,558	78
3.1	Confirm existing conditions LOS	$2,962	20
3.2	Estimate future conditions LOS	$2,434	16
3.3	Technical Memo	$5,162	42

CONSULTANTS • LABORATORIES

110 Blaze Industrial Pkwy.
Berea, Ohio 44017
Tel: 440-234-8985
www.geo-sci.com

May 28, 2021

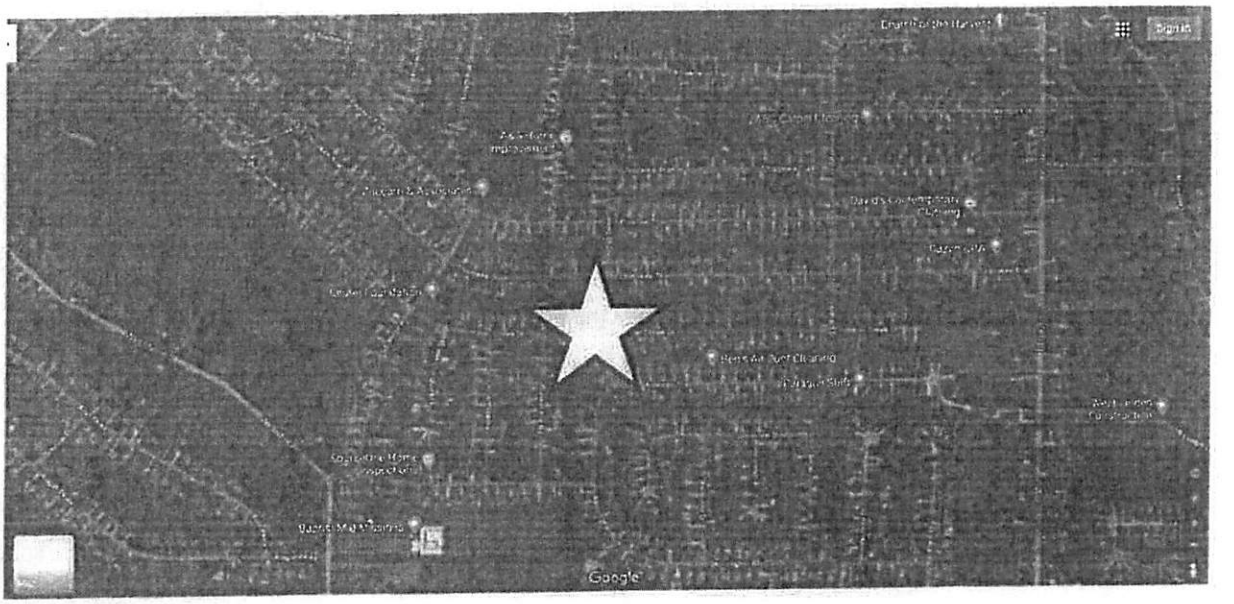
Mr. Michael Mackay, P.E., P.S.
Middleburg Heights City Engineer
7017 Pearl Road
Middleburg Heights, Ohio 44130

Re: Proposal - Subsurface Exploration and Pavement Cores
Indian Creek Relief Sewer
Indian Creek & Aldersyde Drives
Middleburg Heights, Cuyahoga County, Ohio
Geo-Sci Proposal No. G410082

Dear Mr. Mackay:

As per your request, Geo-Sci is pleased to offer this proposal to provide a subsurface exploration and pavement cores on Indian Creek and Aldersyde Drives in Middleburg Heights, Cuyahoga County, Ohio, as shown on the aerial picture below:

Figure 1. Site Map



Project Description

Based upon the information provided, it is proposed to perform sanitary sewer improvements and pavement reconstruction at the above-mentioned streets location. Based upon information provided, it appears that traffic control can likely be maintained with signs, barrels, cones and flaggers. Geo-Sci has been asked to provide this quotation to perform coring and soil investigation to determine the type of pavement, soil, suitability of development, and geotechnical parameters.

Scope of Work

The Scope of Work included herein is in accordance with your request.

Field Investigation / Coring and Drilling

Based upon the information provided, it is proposed to drill and sample ten (10) test borings at indicated locations to an approximate depth of 30 feet, each, for a total of 300 lineal feet of drilling. In addition, eight (8) test cores shall be procured from the existing pavement, at borings B-3 through B-10 locations, in an effort to determine the existing pavement make up. The test borings shall be terminated at the indicated depth or refusal, whichever is encountered first. If auger refusal in bedrock is encountered, rock coring in minimum two (2) locations will be performed down to 30 feet, to determine the rock hardness. Areas where cores and borings are performed will be backfilled and patched with asphalt immediately after drilling. Boring/coring locations will be marked in field by Geo-Sci or Mackay Engineering personnel. Also, signage and traffic control will be provided by Geo-Sci.

Groundwater levels shall be noted during and immediately upon completion of the drilling operations. Drilling, sampling and standard penetration tests shall be conducted in accordance with applicable ASTM standards.

Geo-Sci personnel shall notify the Ohio Utilities Protection Service and the utility companies whose names are provided to us prior to commencing the drilling operations.

Laboratory Testing

The samples collected shall be transported to our laboratory and selected samples shall be tested as follows:

- Visual Classification in accordance with the Unified Soil Classification System;
- Moisture Content;
- Hydrometer Analysis;
- Atterberg Limits (Liquid Limit and Plastic Limit);
- Grain Size Analysis.

Report

A Geotechnical Report shall be prepared and shall include the following:

- Laboratory test results;
- Individual typed test boring logs and test boring/coring location plan;
- Photograph of the cores;
- Identification and thickness of the cores layers and base;
- Sanitary sewer bedding and excavation considerations;
- Construction considerations including groundwater, compaction, CBR value based on correlations with liquid and plastic limits, and site preparation recommendations.

The presence or absence of gases or chemical contamination will only consist of apparent observations during drilling and handling of samples. Odors will be noted, however, chemical analysis of the soil samples is beyond the scope of this proposal.

Costs

The Geotechnical Services as described above shall be provided for a lump sum cost of **$8,800.00** divided as following:

- **$5,400.00** for drilling/coring operations
- **$2,600.00** for lab testing and report preparation
- **$800.00** for traffic control

In the event that additional borings, depths or pavement cores are needed due to subsurface conditions, while the rig is still on the site, it will be charged at the rate of **$45.00 per foot and $150.00 per pavement core, only after authorization from the client**.

Project Schedules

Geo-Sci can begin the work within five (5) working days upon authorization. Generally, we can provide preliminary information during and soon after completion of the drilling and coring operations. The final report will be issued within 28 days from authorization.

We trust that you will find the scope of work in this proposal in agreement with your requirements. Please inform us of your intentions so that we may plan our time accordingly. This proposal can be accepted by signing and returning a copy of the enclosed Terms and Conditions that form a part of this proposal or by issuing a purchase order or letter referencing this proposal.

We appreciate your consideration of our company for this project and look forward to being of service. Should you have any questions or if we may be of further assistance, please contact us at (440) 234-8985.

Sincerely,

Geo-Sci, Inc.

Dorian Taran
Geotechnical Engineer

TERMS AND CONDITIONS

Fee
The total fee shall be understood to be an estimate, based upon Scope of Service, and shall not be exceeded without written approval of the Client. Reimbursable expenses invoiced with a mark-up of no greater than 1.10%.

Billings / Payments
Invoices for services and reimbursable expenses shall be submitted, on a monthly basis and upon completion of the services. Invoices shall be payable within 30 days from the invoice date. A service charge of 1.5% per month will be applied to the unpaid balance after 30 days from the invoice date. Geo-Sci shall have the right to suspend/terminate services if payment is not received within 60 days after the invoice date and Geo-Sci shall have no liability for any resultant delays or damages incurred by Client as a result of such suspension/termination. Retainers shall be credited on the final invoice. The Client agrees to pay all costs of collection, including reasonable attorney's fees.

Standard of Care
In providing services under this agreement, Geo-Sci will endeavor to perform in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances. Geo-Sci will perform its services as expeditiously as is consistent with professional skill and care and the orderly progress of Geo-Sci's part of the Project. Regardless of any other term or condition of the Agreement, Geo-Sci makes no express or implied warranty of any sort. All warranties, including warranty of merchantability or warranty of fitness for a particular purpose, are expressly disclaimed.

Consequential Damages
Notwithstanding any other provision to the contrary, and to the fullest extent permitted by law, neither the Client nor Geo-Sci shall be liable to the other for any incidental, indirect or consequential damages arising out of or connected in any way to the Project or this Agreement. This mutual waiver of consequential damages shall include, but not be limited to, loss of use, loss of profit, loss of business or income or any other consequential damages that either party may have incurred from any cause of action whatsoever.

Hazardous Materials / Mold
Geo-Sci shall have no responsibility for the discovery, presence, handling, removal, disposal or exposure of persons to hazardous materials of any form including mold. The existing or constructed building may, as a result of post-construction, use, maintenance, operation or occupation, contain or be caused to contain mold substances which can present health hazards and result in bodily injury, property damage and/or necessary remedial measures and costs for which Geo-Sci shall have no responsibility.

Indemnifications
The Client agrees, to the fullest extent permitted by law, to indemnify and hold Geo-Sci and its subcontractors harmless from and against any and all damage, losses or cost (including reasonable attorney's fees and defense costs) caused in whole or in part by its acts, errors or omissions and those of anyone for whom they are legally liable. Geo-Sci further agrees to indemnify the Client for damages arising from its own negligent errors acts or omissions.

Risk Allocation
In recognition of the relative risks and benefits of the project to both the Client and Geo-Sci, the Client agrees, to the fullest extent permitted by law, to limit Geo-Sci's total liability to the Client or anyone making claims through the client, for any and all damages or claim expenses (including attorney's fees) arising out of this Agreement, from any and all clauses, to the total amount of Geo-Sci's fee, or $50,000, whichever is greater.

Termination of Services
This agreement may be terminated upon 10 days written notice by either party should the other fail to perform their obligations hereunder. In the event of termination, the Client shall pay Geo-Sci for all services rendered to the date of termination, all reimbursable expenses, and reasonable termination expenses.

Ownership of Documents
All documents produced by Geo-Sci under this agreement, including electronic files, shall remain the property of Geo-Sci and may not be used by the Client for any other purpose without the written consent of Geo-Sci. Any such use or reuse shall be at the sole risk of Client who shall defend, indemnify and hold Geo-Sci and its sub consultants harmless from any and all claims and/or damages arising therefrom. Electronic files are not contract documents and cannot be relied upon as identical to contract documents because of changes or errors induced by translation, transmission, or alterations while under the control of others. Use of information contained in the electronic files is at the user's sole risk and without liability to Geo-Sci and its consultants.

Defects in Service
The Client shall promptly report to Geo-Sci any defects or suspected defects in the Consultant's services. The Client further agrees to impose a similar notification requirement on all contractors in its Client/Contractor contract and shall require all subcontracts at any level to contain a like agreement. Failure by the Client and the Client's contractors or subcontractors to notify the Consultant shall relieve the Consultant of the costs of remedying the defects above the sum such remedy would have cost had prompt notification been given when such defects were first discovered.

Construction Activities
Geo-Sci shall not be responsible for the acts or omissions of any person performing any of the Work or for instructions given by the Client or its representatives to any one performing any of the Work, nor for means and methods or job-site safety.

Dispute Resolution
Any claim or dispute between the Client and Geo-Sci shall be submitted to non-binding mediation, subject to the parties agreeing to a mediator(s). If the Parties cannot agree upon a mediator, the claim or dispute shall be submitted to the American Arbitration Association (AAA) for mediation in accordance with the Construction Arbitration and Mediation Rules of the AAA then in effect. Unless otherwise specified, the laws of the State of Ohio shall govern this agreement.

Relationship of the Parties
All services provided by Geo-Sci are for the sole use and benefit of the Client. Nothing in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against either the Client or Geo-Sci.

Accepted by: _____

Organization: _____

Title: _____

Date: _____

RMH
Concrete & Foundations Inc.

4433 West Collins Road
Collins, Ohio 44826
Ph: 419-668-2828
Fax: 419-668-7370

Submittal Letter

Attn:	Kimberly R. Kerber, PE	Date:	7/8/2021
Company:	McKay Engineering & Surveying Co.	Job #:	
Address:	7017 Pearl Road	Job Name:	Elle's Enchanted Playground
City:	Middleburg Hts., Ohio	Job Location:	Rocky River, Ohio
Phone:	440-886-4500 x 117	Re:	Pipe

We are Sending:		Submittal No. 1
Shop Drawings	Copy of Letter:	
Plans	Purchase Order:	
Change Order Request	Subcontractor Submittal:	
Samples	Other:	
Submittals ✓		

For Approval ✓	Returned for Corrections
For Your Use	Resubmit Copies for Approval
As Requested	Submit Copies for Distribution
Approved as Submitted	Return Corrected Prints
Approved as Noted	Other

Copies	Dated	No.	Description
1	7/8/2021		Pipe Submittals

Remarks:

Signed: Stephen P. Rospert, P.E.

ry Model Level of
e
10-Year
10-Year
lief Sewer Concept

5/21/21

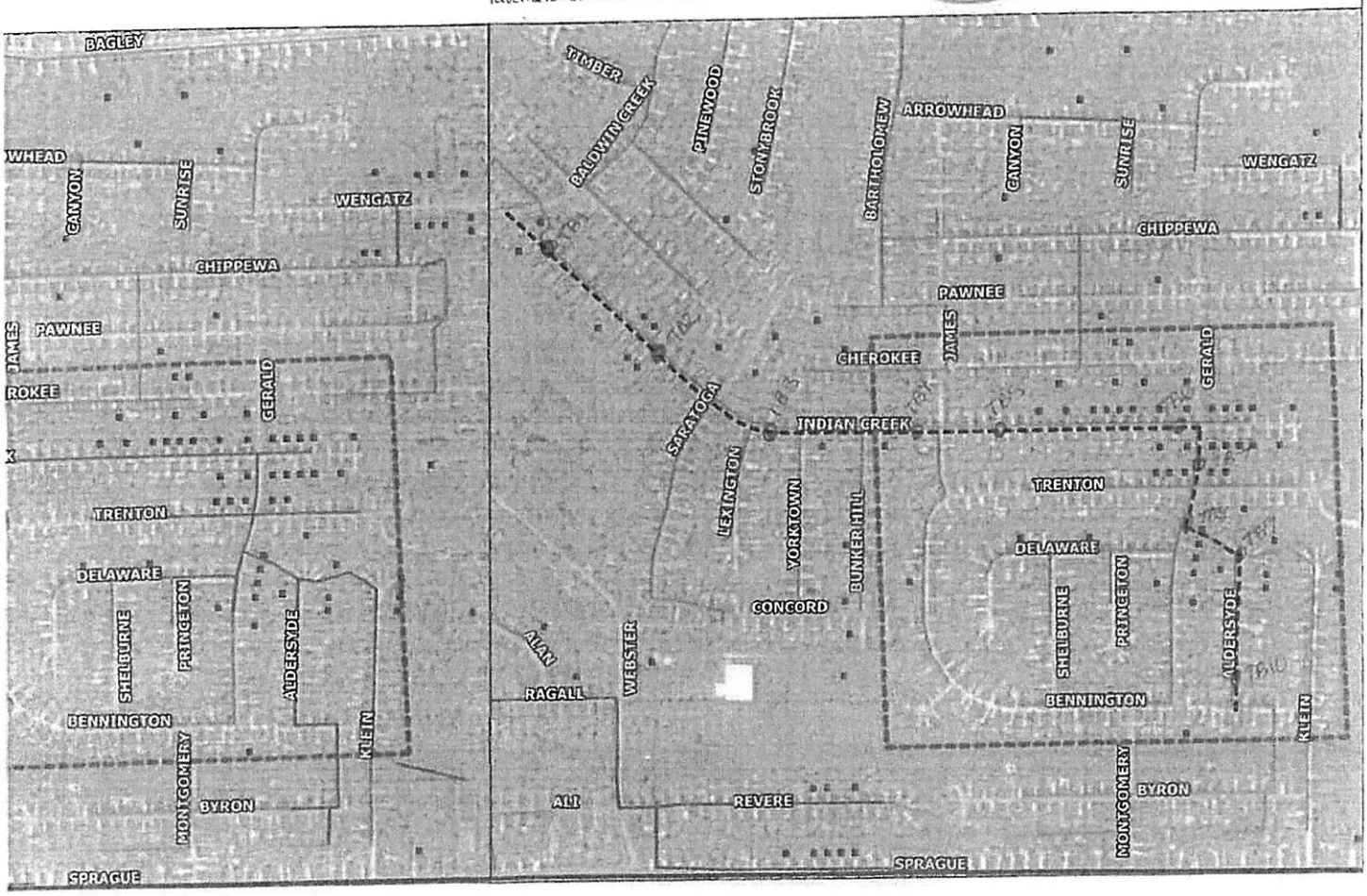
Indian Creek Gerald Project Area
Sanitary LOS Before and After Map

Testbores 30' deep for all
Pavement cores at 5-10

MACKAY ENGINEERING & SURVEYING COMPANY

R2O

Date Created: 9/8/2020



Legend

- Community Boundary
- Project Study Area
- Reported Basement Flooding

N

0 330 660 Feet

Sanitary Model Level of Service

- > 10-Year
- < 10-Year
- Relief Sewer Concept

Indian Creek Gerald Project Area
Sanitary LOS Before and After Map

CITY OF MIDDLEBURG HEIGHTS · STATE OF OHIO · USA

MACKAY ENGINEERING & SURVEYING COMPANY

R2O

Date Created: 9/8/2020