

**A RESOLUTION AUTHORIZING AND DIRECTING THE MAYOR AND FINANCE DIRECTOR TO ENTER INTO AN AGREEMENT WITH GPD GROUP TO PROVIDE PROFESSIONAL ENGINEERING AND CONSULTING SERVICES FOR SANITARY AND STORM SEWER GEOGRAPHIC INFORMATION SYSTEM MAPPING, AND DECLARING AN EMERGENCY**

WHEREAS, the Village intends to collect data, update, and convert its sanitary and storm sewer maps into a digital web-based Geographic Information System (“GIS”) map;

WHEREAS, the updated web-based GIS map of the sanitary and storm sewer systems will be integrated with other data and services provided at no charge to the Village by the Summit County GIS division and the Northeast Ohio Regional Sewer District GIS division; and

WHEREAS, the updated GIS map of the sanitary and storm sewer systems will also allow the Village to integrate other data into the GIS map such as archived plans, sewer videos, and pavement ratings; for better capital planning and

WHEREAS, GPD Group, a professional engineering firm that also serves as the Village’s Engineer, submitted a proposal to the Village to perform the GIS mapping of the sanitary and storm sewer systems; and

WHEREAS, Council desires to authorize the Mayor and Finance Director to enter into an agreement with GPD Group for professional engineering consulting services for the sanitary and storm sewer GIS mapping.

NOW, THEREFORE, BE IT RESOLVED by the Council of the Village of Richfield, Summit County, State of Ohio, that:

SECTION 1. The Mayor and the Finance Director are authorized and directed to enter into an agreement with GPD Group for professional engineering consulting services for sanitary and storm sewer GIS mapping as described above and pursuant to the proposal submitted by GPD Group dated October 3, 2018, attached hereto as Exhibit A, in an inflation adjusted amount not to exceed \$90,000 which includes a 10% contingency for unknown and unforeseen expenditures.

SECTION 2. Because the contract for professional engineering services, this Council waives the requirement of competitive bidding pursuant to Section 141.03(f) of the Richfield Codified Ordinances.

SECTION 3. It is found and determined that all formal actions of this Council concerning and relating to the adoption of this Resolution were adopted in an open meeting of this Council, and that all deliberations of this Council and of any of its committees that

resulted in such formal action were in meetings open to the public, in compliance with all legal requirements including Section 121.22 of the Ohio Revised Code.

SECTION 4. This Resolution is declared to be an emergency measure necessary for the immediate preservation of the public health, safety and general welfare and for the further reason that it is immediately necessary to move forward at the earliest possible time; wherefore, provided this Resolution receives the affirmative vote of two-thirds of the members of Council elected or appointed, it shall take effect immediately upon its passage and execution by the Mayor; otherwise, it shall take effect and be in force from and after the earliest period allowed by law.

PASSED: \_\_\_\_\_

\_\_\_\_\_  
President of Council

\_\_\_\_\_  
Mayor

ATTEST:

Dated: \_\_\_\_\_

\_\_\_\_\_  
Clerk of Council



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October 03, 2018

Mr. Christopher J. Papp  
Director of Service and Engineering  
Village of Richfield  
4410 West Streetsboro Road  
Richfield, Ohio 44286

**RE: The Village of Richfield  
GIS and Mapping Services Proposal**

Dear Mr. Papp:

GPD Group (GPD) is pleased to provide this proposal for GIS services, field assessment, location, and mapping of the Village stormwater and sanitary sewer systems. The following is a brief description of our current understanding of your project and the anticipated scope of services. Also enclosed is our person-hour and task based fee estimate to coincide with our understanding of the scope.

### **Project Understanding**

The objective of this project is to assist the Village with the update and enhancement of their existing GIS system and data. We will accomplish this by working with Village staff to upgrade existing desktop GIS software and add a cloud-based component that will provide better access to GIS information via web browsers and mobile devices such as phones and tablets. We will also provide field crews to complete an inventory of the storm and sanitary sewer systems, which will then be added to the Village GIS database and applications.

### **Summary of Scope Items**

#### **GIS and Mapping Services**

##### Task 1 – GIS Assistance

###### Task 1.1 – Data Collection and Management Plan

A Data Collection and Management Plan (DCMP) will be created to guide the flow of data and information throughout the course of the project and document our processes and procedures.

The DCMP will include the following:

- Our process to inventory/document plans, drawings, notes, etc. provided by the Village
- Hardware and software used on the project
- Data sources
- Field data collection procedures
- QA/QC procedures

#### Task 1.2 - GIS Software Update and Maintenance

Once the DCMP has been created, GPD will work with Village personnel to obtain the necessary software and licensing to execute the project and provide the Village with access to their GIS data. We will assist in coordination with the software vendor (ESRI) to confirm that the Village is current on its existing software maintenance agreement and the proper version and licensing for the desktop software has been installed. We will also coordinate with ESRI to obtain the information required to establish and configure ArcGIS Online, which is a cloud-based GIS platform that will allow the Village to access their GIS information via the web or mobile devices.

#### Task 1.3 - Configure ArcGIS Online and User Accounts

ArcGIS Online is a cloud-based GIS platform that is part of the ArcGIS software suite already in use by the Village. ArcGIS Online will provide a framework for the Village to share maps and data throughout the organization or with the general public. This feature of the software suite has not been previously been set up for use by the Village and as mentioned above, GPD will assist in obtaining the necessary information to get the application up and running and configured. A Home Page will need to be created so that maps and content can be easily accessed. GPD will also create user accounts to provide access to the application for Village personnel. There may be additional costs to the software vendor if the Village chooses to add more user accounts than are included in their original license agreement. This is scalable so the Village could purchase additional accounts at any time as usage of the application increases. GPD will create a folder structure within the application to organize content. We will also create content groups that are used to determine who can access the information contained within the groups. For example, a group may be created that contains zoning information or other general information that can be shared with the public while another group may be created that contains the sanitary and storm sewer data which can only be accessed internally by Village personnel.

#### Task 1.4 - Create Web Maps and Web Applications

The final step in this task is to create the maps and web mapping applications that will be used by the Village to access their GIS data and by GPD as we conduct fieldwork to complete the inventory of the storm and sanitary sewer systems. We have included time in this sub-task to create up to four web maps and one web mapping application. The web mapping application will be similar to the one currently hosted by GPD on our platform and will contain all available GIS data that can be viewed, queried, and printed from a web browser.

### Task 2 – Storm Sewer System

#### Task 2.1 –Records Review

GPD will conduct a thorough review of Village records including new subdivision plats, as-built drawings, construction drawings, and field notes to identify any existing storm sewer system structures within the Village. To reduce costs, GPD assumes the Village will provide all records and plans requested for the purpose of this review. Structure locations will be documented and provided to the survey crew for location and condition assessment. The Village has previously made much of this information available to GPD.

#### Task 2.2 –Geodatabase Design Review

An ESRI geodatabase will be designed to contain storm sewer system assets based on the ESRI Local Government Information Model. Additional fields may be added to the model to capture assessment information such as condition and photos of the structures. Fieldwork will be conducted and recorded within this database. The framework of the database will be documented in the DCMP.

#### Task 2.3 –Fieldwork Preparation

Once the records review is complete, the data will be provided to a GIS technician who will create preliminary field mapping for use by the survey crews. A data dictionary will also be created and installed on the field data collectors. The data dictionary allows feature attributes to be collected in the field along with the location. Attributes collected for storm structures will follow the requirements defined for the each feature class within the geodatabase and described in the DCMP.

#### Task 2.4 –Survey Location and Details of Storm Sewer Structures

To assist with this task, GPD requests personnel from the Village be made available for the purpose of locating and marking structures. Field survey of the storm structure locations will be completed using Trimble R6/R8 GNSS receivers. In areas where it is not possible to obtain accurate GNSS signals, Trimble S6 Robotic Total Stations will be utilized to traverse and locate the required features. The use of Trimble TSC3 data collectors using Access or Survey Pro software will allow us to seamlessly switch between GNSS and Robotic surveying to minimize any delay in data collection. Feature attributes to be collected for storm sewer structures will be determined by the data model created previously and reviewed in Task 2.2.

### Task 3 – Sanitary Sewer System

The process for locating the sanitary sewer system assets is identical for that of the storm sewer system and will be conducted in coordination with the storm sewer system to improve efficiency. For budgeting and planning purposes, it has been broken out into a separate task as part of this proposal.

### Task 4 – Mapping and Database Updates

#### Task 4.1 - Build Geodatabase/Integrate Field Survey Data

An ESRI geodatabase was designed and created previously for the Village containing outfall and pavement condition information. This geodatabase will be updated per the design review in Task 2.2 and feature classes (layers) will be created to store the storm and sanitary sewer features and associated photos and information. Once the geodatabase has been updated and all fieldwork is complete, a GIS Technician will import data collected in the field into each feature class. A QC check will be run to validate that the import of field data was completed successfully.

#### Task 4.2– Supplemental Attribute Data

It is anticipated that some attributes describing both sanitary and storm sewer features either may not be able to be captured in the field or may not be necessary to be captured during fieldwork. Attribute information of this nature will be directly entered into the geodatabase by a GIS Technician using tools such as Python scripts or the database field calculator to increase efficiency and reduce the amount of time required for data entry.

#### Task 4.3 - Quality Control

Quality Assurance and Quality Control will be maintained throughout the course of the project in accordance with the processes and procedures outlined in the DCMP. As part of our Quality Assurance, we will use domain values and Boolean logic to maintain data consistency. This also reduces manual data entry errors and reduces the time in checking for those errors. Quality Control will be maintained by using automated database tools supplemented with periodic field reviews and visual checks. All sewer system data created by GIS personnel will be reviewed by GPD's Water Resource Engineers.

#### Task 4.4 – Updates to Web Maps and Web Mapping Applications

At this stage the project when all data has been created and reviewed, the web maps and web mapping applications will need to be updated. This process will include tasks such as adding additional features, updating existing layers, and adding additional search and query capabilities. The updated maps and applications will be made available in the ArcGIS Online platform.

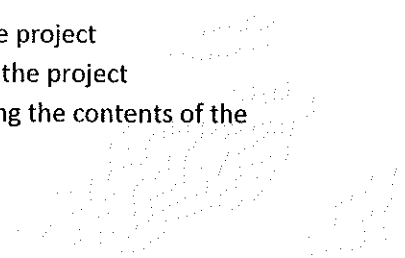
#### Task 4.5 – Preparation of Deliverables

The final project task is the preparation of the data deliverables. A GIS Technician will assemble all the digital data used during the project. The technician will also create map packages (.mpk files) of any ArcMap documents (.mxd files) created during the project. All web maps and web mapping applications and data will be made available in the ArcGIS Online platform. The DCMP will be updated to include any changes made to the geodatabase design during the course of the project and a hard copy will be provided. All data deliverables will be reviewed by a GIS Specialist and delivered to the Village upon completion of the project.

### **Deliverables**

The deliverables for this project are defined as follows:

- An ESRI File Geodatabase and containing storm and sanitary sewer system data and related GIS information including photos
- Map Packages (.mpk files) of all map documents created for the project
- All web maps and web mapping applications developed during the project
- A final copy of the DCMP including the data dictionary describing the contents of the geodatabase



### Client Responsibilities

- It is the responsibility of the Village to provide all plans, as-built drawings, sub-division plats, and field notes containing sanitary and storm sewer system information for review.
- The Village will provide personnel to assist with property access and feature location as necessary.

### Assumptions and Exclusions

- For the purpose of this estimate, GPD assumes the survey location of approximately 500 sanitary structures and 450 storm structures contained within the 9.2 sq. mi. Village boundary.
- Outfalls have been located as part of a previous project and are not included in this scope of work. Outfall locations, photos, and information will be included with the data deliverable.
- Culverts have been located as part of a previous project and are not included in this scope of work. Culvert locations and information will be included with the data deliverable.
- For the purpose of this estimate, GPD assumes no water system features will be located. However, GPD will coordinate with the Cleveland Water Department to obtain access to GIS layers of the water system to be included in the web mapping applications for the Village of Richfield.
- PCR data for 2017 and 2018 will be included with the data deliverable.
- All Summit County GIS data used in the web maps and applications will be updated and included in the data deliverable.

### Schedule

GPD will coordinate with the Village to create an appropriate schedule to complete this scope of work. We assume the effort required to complete this project to be approximately three months from official notice to proceed. To minimize time in the field, GPS location of both storm and sanitary sewer system features will occur simultaneously. Delays in fieldwork due to excessively wet or extremely cold weather may impact the schedule. Records research can be conducted at any time prior to the field survey.

### Fees

Understanding that the tasks above are interrelated and dependent on information still to be collected, GPD has prepared a project budget. Refer to the attached spreadsheet for a breakdown on person-hours by employee classification for the various work tasks anticipated. We anticipate and request the following schedule of fees not to exceed without prior approval:

Description	Estimated Hours	Estimated Fee
Project Management / Contract Administration	19	\$1,680.00
GIS Assistance	27	\$2,412
Stormwater System Mapping	332	\$32,317
Sanitary System Mapping	361	\$35,323
Mapping and Database Updates	72	\$5,556
Direct Expenses	N/A	\$750
<b>Total</b>	<b>807</b>	<b>\$78,038</b>

Please review and advise us of any comments or questions. We appreciate the opportunity to assist with your GIS and mapping needs. If you should have any questions please do not hesitate to contact us directly by calling 330-572-2496 or email to [dneumeyer@gpdgroup.com](mailto:dneumeyer@gpdgroup.com).

Sincerely,

GPD Group



David E. Neumeyer, PE  
Project Manager

