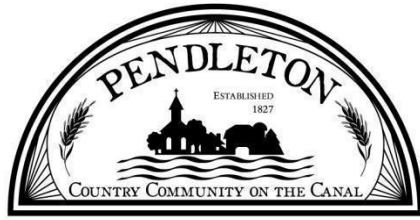


TOWN OF PENDLETON  
6570 Campbell Boulevard  
Lockport, NY 14094



*Supervisor Joel Maerten  
Councilman Jason Evchich  
Councilman Justin Graham  
Councilman Joseph Hickman  
Councilman David Leible*

At the meeting of the Town Board of the Town of Pendleton, Niagara County, New York, held in the Board Room at the Town of Pendleton Town Hall, 6570 Campbell Boulevard, Lockport, New York, 14094 at 7:00 p.m. on June 13, 2022.

### **Resolution Accepting Proposal for Leak Detection**

**WHEREAS**, the Town of Pendleton operates a water distribution system, servicing property owners within the Town as well as providing roadside sources of water for fire protection services; and

**WHEREAS**, it is incumbent upon the Town of Pendleton to properly maintain all components of the water distribution system, limiting losses and ensuring continuous and reliable service; and

**WHEREAS**, ongoing efforts to focused on identifying sources of water loss have not identified all sources of water loss and such water loss exceeds acceptable and anticipated levels, necessitating further investigation to identify sources of water loss; and

**WHEREAS**, it is necessary and prudent to retain the services of experts who have the knowledge, tools, and experience necessary for identification of sources of water loss; and

**WHEREAS**, the Town of Pendleton has received a proposal for services from GPRS and upon review the Town Engineer has recommended to the Town Board that acceptance of said proposal is in the Town's best interest; and

**NOW, THEREFORE BE IT RESOLVED**, by the Town Board of the Town of Pendleton on this 13<sup>th</sup> day of June 2022:

- 1) The Town Board accepts the proposal for leak detection from GPRS.
- 2) In accordance with the Town of Pendleton's approved Procurement Policy, the services provided by GPRS are declared professional services.
- 3) GPRS will conduct a comprehensive survey of the Town's water distribution system and will provide a written summary report upon completion of the work outlined in GPRS's proposal
- 4) Upon completion of the outlined work GPRS will be compensated up to \$15,800.00
- 5) This resolution shall take effect immediately upon approval by resolution of the Town Board.

May 27, 2022

**Client:** Town of Pendleton

**Attn:** Aaron Bair

[abair@pendletonny.us](mailto:abair@pendletonny.us), 716.545.0859

**Project:** Town of Pendleton New York

**Submitted By:**

Jared Malone

419.250.9170

[Jared.Malone@gprsinc.com](mailto:Jared.Malone@gprsinc.com)

GPRS appreciates the opportunity to provide this proposal. I encourage you to visit our website ([www.gprsinc.com](http://www.gprsinc.com)) and contact any of the numerous references listed. Our insurance certificate and W-9 can also be downloaded [here](#). Please feel free to contact me if you have any questions, or if you need additional information.

## LEAK DETECTION

We understand the scope of work to be to locate any potential leaks throughout the water distribution system of Pendleton, NY as shown in the drawing or site map shown on Page 2. This system is estimated at 60 miles with water lines ranging from 6" – 12". Pipe material is asbestos concrete pipe with some PVC in subdivisions. There are approximately 2,750 services and about 500 hydrants. Water loss is 24.86% as of April 2022.

Contact points will be listened to using noise amplification equipment throughout the entire system in order to identify general areas with potential leaks. The leak will then be located using a combination of a correlator and ground microphones. Our ability to accurately locate the leak will depend on a variety of factors such as depth, pipe material, soil type, water pressure, and noise interference from traffic, machinery, etc. Any potential leaks can be detailed in a formal report (see Project Costs table).

## EQUIPMENT

- **Electronic Microphone.** The leak noise amplification system consists of a control unit, a microphone, and headphones, and is used to listen for a leak signal on a water system contact points (valves, hydrants, etc.) to identify a general location of a potential water leak. This same system will also be used with a ground microphone to further pinpoint the leak location from the surface. Its effectiveness depends on a variety of factors such as pipe size and material, water pressure, leak size, soil type, and noise interference from traffic, machinery, etc.
- **Leak Noise Correlator.** The leak correlator consists of sensors that are placed on water system contact points, and the sound signals between these points will then be processed by mathematical algorithms to provide an approximate distance of the leak between the two points. The accuracy of the potential leak location depends on the ability of the pipe to be located along with the accurate input of pipe attributes such as pipe size and material (size and material information provided by the client).
- **Underground Scanning GPR Antenna.** The antenna frequencies range from 250 MHz-450 MHz is mounted in a stroller frame which rolls over the surface. The surface needs to be reasonably smooth and unobstructed in order to obtain readable scans. Obstructions such as curbs, landscaping, and vegetation will limit the feasibility of GPR. The data is displayed on a screen and marked in the field in real time. The total depth achieved can be as much as 8' or more with this antenna but can vary widely depending on the types of materials being scanned through. Some soil types such as clay may limit maximum depths to 3' or less. As depth increases, targets must be larger in order to be detected and non-metallic targets can be especially difficult to locate. Depths provided should always be treated as estimates as their accuracy can be affected by multiple factors. For more information, please visit: [Link](#)
- **Electromagnetic Pipe Locator.** The EM locator can passively detect the signals from live AC power or radio signals travelling along some conductive utilities. It can also be used in conjunction with a transmitter to connect directly to accessible, metallic pipes, risers, or tracer wires. A current is sent through the pipe or tracer wire at a specific frequency and the resulting signal can then be detected by the receiver. A utility's ability to be located depends on a variety of factors including access to the utility, conductivity, grounding, interference from other utilities, and many others. Depths provided should always be treated as estimates as their accuracy can be affected by multiple factors. For more information, please visit: [Link](#)
- **Traceable Rodder.** The rodder has a copper wire encased in fiberglass. The line is pushed through accessible pipes before placing a current on the wire and the signal is then traced from the surface. The maximum traceable depth is 10' depending on the soil conditions and the maximum distance is 200'. The line can be pushed through a pipe with direct access such as a sewer line at a cleanout or a storm drain catch basin. It may not be able to be pushed through deeper pipes within manholes. Electrical conduits will not be accessed by GPRS. The signal cannot be located through metallic pipes. For more information, please visit: [Link](#)
- **GPS.** This handheld GPS unit offers accuracy down to 4 inches, however, the accuracy achieved will depend on the satellite environment at the time of collection and should not be considered to be survey-grade. Features can be collected as points, lines, or areas and then exported as a KML/KMZ or overlaid on a CAD drawing. For more information, please visit: [Link](#)

MAP OF SCAN AREA



## PROJECT COSTS

SERVICE	DESCRIPTION	PRICE
LEAK DETECTION	Described on Page 1	\$15,800
MOBILIZATION		Included
FORMAL REPORT	Detailed report of findings with photos, example data, and a site sketch (if applicable) in addition to the basic summary report that is included with every job. See example: <a href="#">Link</a>	Included
GPS MAP	Findings will be collected with GPS and displayed with an aerial image background. Results are not survey-grade accuracy. See example: <a href="#">Link</a>	Included
<b>TOTAL</b>		<b>*\$15,800</b>

- \* As-builts and any other applicable drawings should be made available to GPRS prior to the project if possible.
- \* A thorough utility search can only be completed if GPRS is given access to all utility structures, interior and exterior. This service is never a replacement for the use of the state One Call system (811).
- \* All of our technicians have OSHA-10 safety training or greater. Site-specific safety training is not included in this quote. Please notify us if this project requires additional safety training.
- \* These rates assume that there are no certified payroll requirements. GPRS has not been notified of any PLA, DIR, or Certified Payroll requirements. If GPRS receives notice that any of these conditions exist, there will be additional costs

**This proposal is subject to the General Terms and Conditions for Services of Ground Penetrating Radar Systems, LLC posted at [Link](#) (the "Terms and Conditions") and is hereby incorporated by reference into and made a part of this proposal. Customer acknowledges it has read and agrees to be bound by such Terms and Conditions. In the event of any conflict between the terms of this proposal and the Terms and Conditions, the Terms and Conditions will prevail. Customer also acknowledges that Ground Penetrating Radar Systems, LLC may, from time to time and at its discretion, modify the Terms and Conditions and Customer agrees to be bound by such Terms and Conditions as modified.**

## PROPOSAL-SPECIFIC TERMS & CONDITIONS

1. Customer agrees to meet and perform all requirements described in this document and has fully read and understands all items listed within this document.
2. It is the customer's responsibility to prepare the site for scanning, including clearly identifying areas to be scanned, securing access to all areas required for scanning, and keeping these areas clear and free of obstructions. Delays caused by customer's failure to do so may result in an increased price.
3. GPRS does not conduct an investigation, analysis, or interpretation of soil composition, soil/concrete conditions, or geophysical, geological, engineering, or land surveying information. Customer acknowledges it understands that we are merely reporting retrieved data and that we do NOT provide geophysical, geological, engineering, or land surveying services. Customer should contact a professional in those fields if such services are needed.
4. If for some reason the technician arrives on site and the work is cancelled there will be a charge of \$500.00 per requested technician.

## ACCEPTED AND AGREED:

Billing Company Name: \_\_\_\_\_

Billing Address: \_\_\_\_\_

Company Phone/Email: \_\_\_\_\_ PO#: \_\_\_\_\_ Job#: \_\_\_\_\_

Print Name: \_\_\_\_\_ Signature \_\_\_\_\_ Date: \_\_\_\_\_