

## Quarterly Report – Public Page

Date of Report: July 31, 2019

Contract Number: 693JK31810009

Prepared for: DOT/PHMSA

Project Title: Improved Tools to Locate Buried Pipe in Congested Undergrounds

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For quarterly period ending: July 31, 2019

### Project Scope

The purpose of this project will be to mitigate third-party pipeline damage and cross bores at the earliest stages through the development and commercialization of a geospatial probe to map existing buried utilities by being inserted inside of a live gas pipeline. This probe will be capable of mapping live underground pipes 3-dimensionally and give accurate locations of utilities. Additionally, a cloud-based data collection system will be created in order to effortlessly collect and store data, so it is easily accessible to the utilities.

### Technical Status

During the fourth quarter, ReDuct worked at starting to construct an alpha-prototype for the upgraded DuctRunner probe. High Quality 3D prints of prototype components were made to ensure the new probe body could appropriately enter a 2" pipe utilizing a 90 degree access fitting. GTI and ReDuct also collaborated on creating a 3D conceptual launch shoe to help guide the new probe through the tight 90 degree bend.

Additionally, GTI created a flow diagram for the Cloud Based Data Collection System that is also being developed as part of this project to allow utilities and other end users to easily receive and store their field data.

### Results and Conclusions:

The project team is still working on getting the upgraded probe around a 90 degree bend for a 2" pipe access port. While the team has been successful in inserting the probe through this bend, the transition needs to be smoother to properly set the probe for accuracy reasons. The team hopes to resolve this issue during the next quarter.

**Plans for Future Activity:**

During the next quarter, the following activities will be conducted:

- Task 2 will continue by procuring and assembling alpha-prototype for newly design smart probe system as well as construct alpha test rig.
- Task 3 will finalize the design for launch shoe for 2" and 4 pipes and work with directional tool manufacturers to ensure shoe can be used with existing systems.
- Task 4 will start creating alpha-prototype of cloud based data collection system.