

2018 State Damage Prevention Program Grants Final Report

CFDA Number: 20.720

Award Number: 693JK31840022P5DP

Project Title: *Dig Safely New York State Damage Prevention Grants*

Date Submitted: 10/30/2019

Submitted by: Kevin Hopper

Specific Objective(s) of the Agreement

Under this grant agreement, the DSNY will:

- Purchase and install a simulator and develop training programs at its new damage prevention indoor training facility. The simulator will improve safe digging comprehension by enhancing the training experience from simple awareness of safe digging best practices to experiential education. (Element 4, 8)

Workscope

Under the terms of this grant agreement, the Grantee will address the following elements listed in 49 U.S.C. §60134 (b) through the actions it has specified in its Application.

- Element 1 (Effective Communications): Participation by operators, excavators, and other stakeholders in developing and implementing methods for establishing and maintaining effective communications between stakeholders—from receipt of an excavation notification to successful completion of the excavation, as appropriate.
- Element 2 (Comprehensive Stakeholder Support): A process for fostering and ensuring the support and partnership of stakeholders, including excavators, operators, locators, designers, and local government in all phases of the program.
- Element 3 (Operator Internal Performance Measurement): A process for reviewing the adequacy of a pipeline operator's internal performance measures regarding persons performing locating services and quality assurance programs.
- Element 4 (Effective Employee Training): Participation by operators, excavators, and other stakeholders in developing and implementing effective employee training programs to ensure that operators, the one-call center, the enforcing agency, and the excavators have partnered to design and implement training for the employees of operators, excavators, and locators.
- Element 5 (Public Education): A process for fostering and ensuring active participation by all stakeholders in public education for damage prevention activities.
- Element 6 (Dispute Resolution): A process for resolving disputes that defines the State authority's role as a partner and facilitator to resolve issues.
- Element 7 (Enforcement): Enforcement of State damage prevention laws and regulations for all aspects of the damage prevention process, including public education, and the use of civil penalties for violations assessable by the appropriate State authority.
- Element 8 (Technology): A process for fostering and promoting the use, by all appropriate stakeholders, of improving technologies that may enhance

communications, underground pipeline locating capability, and gathering and analyzing information about the accuracy and effectiveness of locating programs.

- Element 9 (Damage Prevention Program Review): A process for review and analysis of the effectiveness of each program element, including a means for implementing improvements identified by such program reviews.

Accomplishments for this period (Item 1 under Article IX, Section 9.01 Progress Report: “A comparison of actual accomplishments to the objectives established for the period.”)

Project Description

Purchase and Installation of a Simulator to Enhance Experiential Education for all Stakeholders

Dig Safely New York prides itself on its educational and outreach efforts. For the past decade, we have been growing, enhancing and increasing our educational efforts. Analysis trends show us that the more excavators we are educating and the more awareness efforts we push out to the general public, location requests into the call center increase, while damages to underground facilities in the field decrease. In 2018, Dig Safely New York trained and educated more than 14,900 excavators.

Due to the 43% decrease in funding of the PHMSA State Damage Prevention Grant award, Dig Safely New York was approved to scale back the scope of the proposed project to solely include the purchase, shipment, installation and training of a simulator and training programs. These training programs already exist and would be implemented into the simulator and used to augment established curriculums Dig Safely New York offers and will offer in its new facility.

The project to purchase the simulator and implement existing training modules will still further the opportunity for safe digging comprehension, offering another layer of hands-on, innovative training that assist our organization in the shift from simply awareness of safe digging best practices, to firsthand, experiential education. It will also allow us to train excavators and assess excavators from beginner to advanced skillset, before utilizing tangible equipment both in our organization’s new indoor excavation training area, as well as in the field.

On April 9, 2019, Dig Safely New York opened its new Center for Damage Prevention, at 6706 Collamer Road, East Syracuse, NY 13057-9758. This facility consists of a state-of-the-art one-call and training center to accommodate for the current and future growth of the organization, meet current and future industry needs, and further the reach and depth of education provided to industry professionals.

The training center, which consists of a 50-person classroom overlooking an integrated indoor dig area, provides year-round access to classes, certifications, demonstrations, as well as be used as an indoor test bed for the research and development of damage prevention and damage detection technologies, underground facility locating technologies, smart infrastructure technologies, excavation technologies, and more.

Although Dig Safely New York already trains more between 13,000 and 16,000 excavators a year on safe digging best practices, the new training site will allow the organization to expand on

training offerings, furthering its mission to prevent underground utility damages and keep communities safe through vital education and preparedness. Reviewing what we know about the underground infrastructure, the yearly investments into maintenance, new installations, inspections, and more, this facility in the Northeast will allow many of the gas companies that are members of Dig Safely New York, to focus on game-changing products that improve gas safety, reduce costs, and improve worker health, productivity, and the environment.

A year-round training site to provide hands-on and visual classroom experiences is also a highly coveted resource in New York State, with the need for skilled workers that are held to higher safety standards, the state's infrastructure crisis, and the long winter months. Additionally, by obtaining training during the winter months in a controlled environment, contractors will have a head start and be more marketable during the hiring rush in the early spring when construction season in New York kicks off.

The simulator secured with these grant funds will allow professionals and students to experience digging with heavy equipment before utilizing the indoor dig area on heavy equipment, adding another level of safer, hands-on training and skills assessment. When we combine a simulator with experiential learning classes, we can collect data, which can be used to deliver assessment results accurately across cognitive learning, skills affect, and objective results. The analytics engines in simulations record, analyze and provide a detailed report on the participants' interaction throughout the simulation. This will give everyone involved a data-driven way to enhance and customize training to professionals across imperative areas of focus. This will be an environment where someone can make mistakes and not have the potential of personal or property injury. Instead, it will allow them to perfect techniques that will make them safer in the field.

Progress Report as of October 30, 2019:

After submitting the 2018 grant application, Dig Safely New York continued to research cost effective ways purchase, ship, and install a quality simulator that would provide a valuable experience to any user, and augment established curriculums through the organization. This led us to John Deere's newest operating training simulator, which has swappable control and pedal sets to provide training on an excavator and HL Backhoe. With options to add displays, motion, and control sets, John Deere simulators are designed to grow with our needs, providing the right tools for individual or group training.

The John Deere Excavator Simulator is part of John Deere's suite of construction equipment operator training simulators. It is a cost-effective, efficient way to train operators in a risk-free environment while avoiding wear and tear to equipment. It will build real skills faster than traditional training alone, and organizations save instructor time and reduce equipment operational costs. Operators who train with John Deere simulators develop the skills they need to perform excavating, loading, and trenching operations safely and efficiently.

Key features and benefits of this simulator include:

- Highly detailed, realistic lessons teach proper operating technique in a virtual environment.
- Actual John Deere controls provide the experience of a real machine.
- Simple set up combined with portability allows for rapid deployment.
- Integrated motion platform creates true-to-life simulation.
- Measures students' skill level through various performance metrics.

The excavator and backhoe training modules features progressive learning exercises from beginner to advanced. Exercises include:

- Excavator
 - Basic controls familiarization
 - Swing, boom, and stick control
 - Loading/unloading from trailer
 - Picking up and handling loads
 - Pipe placement in trench
 - Travelling and positioning
 - Bench loading into a haul truck
 - Trenching for foundation work
- Backhoe
 - Basic controls familiarization
 - Picking up and handling loads
 - Loading trucks
 - Unloading a flatbed truck with construction forks
 - Stringing pipe and craning
 - Backhoe digging and trenching
 - Coupling attachments

The simulator was delivered 09/26/2019. Since the delivery, John Deere (by way of Five Star Equipment) technicians have come to the Dig Safely New York, Inc. office to assist in the set up and training of the equipment use. The simulator is now functional. Dig Safely New York will be sending out a letter to all trade schools and BOCES programs in the service area to advise that the simulator and facility is ready for use this winter.

For a peak at the simulator, click the following link. <https://youtu.be/RsympMWyzV4>

Quantifiable Metrics/Measures of Effectiveness (Item 2 under Article IX, Section 9.01 Progress Report: "Where the output of the project can be quantified, a computation of the cost per unit of output.")

For this particular project under this grant, it is difficult to provide quantifiable metrics however, upon utilization of the project; we will be able to report on the following:

- Number of individuals that utilize the simulator and the number of curriculums the simulator's programs are implemented into.
 - The organizations and industries in which these individuals are associated.
- Effectiveness of training and educational opportunities being offered by Dig Safely New York.

Issues, Problems or Challenges (Item 3 under Article IX, Section 9.01 Progress Report: “The reasons for slippage if established objectives were not met. ”)

Currently, there are no issues, problems or challenge to report.

Financial Status Report

From a financial perspective, Dig Safely New York has spent the entire \$57,000 grant award and will be submitting for reimbursement immediately following this report

Included in the attachments, you will find the final Financial Status Report, Standard Form 425 (SF-425), to report the status of funds.

Requests of the AOR and/or PHMSA

No actions requested at this time.