

# REVOLUTIONIZING THE UTILITY INDUSTRY: THE IMPACT AND GROWTH OF THE UTILITY INVESTIGATION SCHOOL (UIS)

By Wei Liao & Ming Chen

In the USA, there are more than 50 million miles of underground utilities, varying in depth, soil conditions, materials, size, and access points. Accurate location of these utilities is crucial for construction projects. Recent data shows that over 70% of projects face delays and budget overruns due to utility conflicts. In 2018, the Common Ground Alliance reported a 16% increase in damages from 439,000 incidents in 2017 to 509,000 in 2018. Inaccurate utility information increases the risk of incidents, and delays in utility relocation threaten public safety, with utility line strikes occurring every minute in the country.



In order to have an industry paradigm shift to reverse this trend. Louisiana Tech University Trenchless Technology Center (TTC) has responded to this crisis by partnering with ASCE Utility Engineering and Surveying Institute (UESI) to offer the 5-day Utility Investigation School (UIS). TTC was established by Dr. Tom Iseley over 30 years ago as an Industry/University/Government Cooperative Research Center to advance the science and practice of trenchless technology (TT) through research, education and technology transfer. TTC hosted its first Utility Investigations School (UIS) developed with ASCE/UESI in August, 2016. Dr. Tom Iseley, who held the position of TTC director at that time, played a pivotal role in collaboration with Jim Anspach, representing UESI. The foundation of UIS is rooted

in ASCE38, as illustrated in Figure 1. The concept for establishing the school arose when Dr. Iseley and Jim Anspach observed a deficiency in awareness regarding ASCE 38 within both the engineering community and among property owners.

The class was intended to address the two performance goals of ASCE 38: how can a project be designed so as to have minimal utility issues during project development, and how can the professionals protect themselves against utility-related claims. UIS provided attendees the knowledge and tools to provide competent utility investigations in accordance with accepted national standards.

Jim Anspach, Chair ASCE 38 and 2018 UESI President

developed the school curriculum. The course covered geophysics, utility systems construction and configuration, ASCE 38 risk-based presentations and professional liability issues. In addition to the classroom lectures, a practical session was held where participants were offered hands-on experience with multiple technology such as the Ground

Penetrating Radar (GPR), Pipe and Cable Locator (PCL), etc.

As commonly recognized, one of the asset management fundamentals is knowing what you've got and where it is. This delves into the aspect of location and mapping, and it served as the primary motivation for Buried Asset Management Institute (BAMI-I) to collaborate with companies operating in the subsurface utility engineering sector, with the aim of becoming a part of it. Since 6th UIS, BAMI-I has conducted this program 13 times across various locations in the country.

The 13th UIS and 14th UIS had a distinct character. The California Department of Transportation (Caltrans) displayed substantial interest and dedication to the subject matter. They made requests for two distinct schools, one in San Diego and one in Sacramento, exclusively intended for Caltrans personnel. In the end, a group of 40 participants was successfully assembled. These initiatives have achieved considerable success, and it is gratifying to observe the active involvement of the Department of Transportation (DOT). It is believed that DOT, as one of the key stakeholders, plays a critical role in the mission.

BAMI-I has organized three UIS in the Denver area: two at the Colorado School

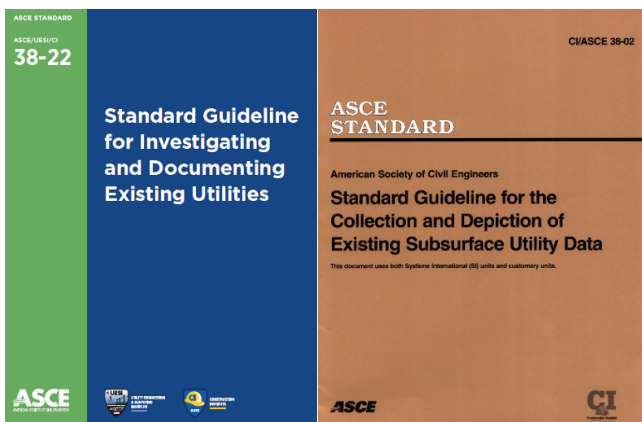


Figure 1: ASCE 38- 02 and ASCE 38-22



The 13<sup>th</sup> BAMI-I/UESI Utility Investigation School September 19-23, 2022 San Diego, CA.



The 14<sup>th</sup> BAMI-I/UESI Utility Investigation School, November 14-18, 2022 Sacramento, CA.



The 9<sup>th</sup> BAMI-I/UESI Utility Investigation School, August 9-13, 2021 in Southfield, MI.



6<sup>th</sup> UIS Colorado School of Mines

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The 18<sup>th</sup> BAMI-I/UESI Utility Investigation School, NYU Tandon School of Engineering — May 15-19, 2023

of Mines and one near the airport. BAMI-I will return there in December 11-15, 2023 to conduct the 20th UIS. These UIS have been highly successful, particularly because Colorado has enacted a law mandating the use of ASCE 38 for designers working on projects involving a specified amount of excavation.

BAMI-I has been requested to assist other countries, particularly Colombia, South America, in developing their educational programs for stakeholders. In 2022, after two years of preparation, Arlex Toro representing Latin America Society of Trenchless Technology (LAMSTT) and Dr. Iseley representing BAMI-I signed a course collaboration agreement at BAMI-I annual Board of Director meeting to offer the Certificate Course of Mapping and GIS School in the South American region. This course is two-day program with plans to expand it into a five-day program in the near future. BAMI-I has been actively involved in this effort, with recent visits and the successful organization of multiple schools in collaboration with them.

In May 2023, BAMI-I hosted the 18th Utility Investigation School (UIS) in collaboration with New York University. New York University has entered into a contract with the city to evaluate the feasibility tackling the challenging task of mapping the entire underground infrastructure of New York, a highly complex endeavor. In this context, BAMI-I was engaged to organize a comprehensive five-day school, offering valuable insights and expertise in the field.

The 19th UIS is scheduled to occur in Baltimore, MD from October 16-20, 2023.

So far, more than 400 students have enrolled in this course, which serves as a Body of Knowledge course for test preparation related to UESI Utility Engineering certifications. It has been gratifying to witness the engagement and sustained enthusiasm among learners interested in Subsurface Utility Engineering (SUE) and the ASCE 38 Standard. BAMI-I has consistently prioritized ongoing education and the promotion of best practices in SUE.

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