

3D Solutions

Newsletter

Haag 3D Solutions

Haag 3D Solutions provides 3D imaging and BIM technologies to deliver highly accurate, reliable as-built documentation. Haag 3D Solutions specializes in professional 3D geospatial solutions for all types of design and construction projects. Haag 3D Solutions is a division of Haag Engineering.



3D Solutions

Confined Space Scanning

In September, H3DS was awarded a contract to document 25 combined storm and sanitary sewer regulators in Jersey City, NJ for the JCMUA. The contract was critical as the existing drawings of these regulators were from the 1950's and throughout the years modifications have been made or discrepancies were found that caused the drawings to become suspect. Working for a consultant, H3DS performed 3D Laser Scanning of the interior of each of the regulators to document the subsurface vaulted three-dimensionally. Utilizing the consultant provided GPS control, all of the regulators were located and documented in the JCMUA specified coordinate system and datum.

This project was aided with the use of a special tripod that allowed the HDS7000 laser scanner to be inverted and lowered into the regulators. The inverted tripod afforded the ability to quickly scan the regulators without the need for confined space entry or procedures. This method allowed a time and cost savings, by eliminating the need for Confined Space Entry and allowed for highly accurate data to be acquired within the regulators.

H3DS supplied the JCMUA with point cloud data, TruView Files and 2D AutoCAD files to allow the regulators to be evaluated and redesigned if needed. In addition the use of 3D Laser Scanning provided a document of the regulators during a specific time. 21 of the 25 regulators were documented before Superstorm Sandy impacted the region and it has yet to be determined if any of the regulators documented were damaged during the superstorm.



Events:

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| September | 25th Annual Haag Dove Hunt |
| October
Tacoma | 2012 BIM Forum
Chris Zmijewski and Jan Reinhart, ADEPT, attended the BIM Forum in Tacoma, WA to find out what the state of the industry is and what the future holds for BIM and FM. |
| November
The Netherlands | SPAR Europe-World Forum ,
The Hague, The Netherlands |
| Upcoming: | 2012 Construction SuperConference -San Francisco, CA |
| | 2013 Annual Windstorm Insurance Conference - Orlando, FL |
| | NYSAPLS 54th Annual Surveyors Conference and Exhibition - Saratoga Springs, NY |

Laser scanning for BIM (Building Information Model) requires close collaboration among team members and an in-depth understanding of the client's needs.



Project Highlight: The Cloisters



The Cloisters museum and gardens, the branch of The Metropolitan Museum of Art (MMA) devoted to the art and architecture of medieval Europe, was assembled from architectural elements, both domestic and religious, that date from the twelfth through the fifteenth century. The building and its cloistered gardens—located in Fort Tryon Park in northern Manhattan—are treasures in themselves, effectively part of the collection housed there. The Cloisters' collection comprises approximately three thousand works of art from medieval Europe, dating from about the ninth to the sixteenth century.

H3DS was asked by The Cloisters to perform a pilot project, consisting of 3D Laser Scanning and Photographic Documentation of the Trie Cloister and Garden. Utilizing a HDS 7000 with a color photography attachment, H3DS personnel were able to document the Trie Cloister from the ground and rooftop levels. In addition, an elevated tripod was utilized to minimize line of sight shadows of the stonework. H3DS staff is working with The Cloisters and The Metropolitan Museum of Art to determine additional steps for digital documentation and management and three dimensional documentation and management. At the intermediate point of this project, TruView files have been delivered along with point cloud data to create accurate as-built plans and models. H3DS continues to work with MMA staff and other design professionals to work with the data and develop a strategy for its implementation.



Presenting at the 2012 SPAR Europe Conference

Christopher Zmijewski and Jim Wiethorn (Haag Engineering) teamed up and presented “Tracing the Evidence in Heavy Equipment (construction) Accidents” in The Netherlands on November 12, 2012. This session will review new 3DLS and photogrammetry technologies for gathering data and how the information is processed and incorporated into compelling visual evidence in presenting engineering conclusions.

www.SPARPointGroup.com/Europe



New York 2nd Avenue Subway – Volume Analysis

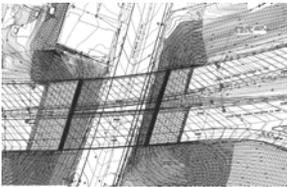
In October, H3DS performed laser scanning of the NYMTA's excavation at 96th Street Station, as part of the Second Avenue Subway Construction. Working for a Union Surveyor, H3DS supplied personnel and equipment to scan the secant pile walls that are supporting the excavation for the construction of this new station. The 3DLS operation scanned approximately 800 Linear Feet of pile wall (60 feet high) for the purpose of volume analysis.

Once the data was acquired, H3DS' office staff removed equipment and structural supports from the 3DLS data and created 3D surfaces on the pile walls. Utilizing the 3D surfaces and the design wall locations, H3DS was able to provide the contractor and ultimately the MTA of highly accurate volume of shotcrete required to complete the effort. H3DS provided detailed plans of the wall surface (at both 1' and 5' grids) along with supporting volume calculations.



Sprain Brook Parkway Bridge

Documentation and Visualization



Working for ECCO III, H3DS performed laser scanning of the Sprain Brook Parkway Bridge over Route 119 in Elmsford, NY, to provide accurate existing conditions and coordinated proposed structure information for the contractors to utilize in presentations and coordination analysis.

This project will replace the pair of deficient bridges carrying Sprain Brook Parkway over Route 119, which are rates the worst of 25 deficient bridges in the Hudson Valley Area. Scans were completed from the street level and adjacent to the abutments to capture the visible substructure and superstructure of the bridges. After data acquisition, H3DS' office staff completed models of the existing structure, utilizing the 3DLS data and of the proposed structure, utilizing the design plans. H3DS combined these two models with the point cloud data, which allow the contractor to coordinate the varying stages of construction and analyze the 3D Coordination of this complex bridge replacement.

Creating an accurate base plan with 3D Laser Scan data is the first step in creating reliable Transportation Information Models that can be used by designers, engineers, owners and contractors. This project highlights examples of a contractor utilizing the services to identify potential 3D conflicts before they occur.

Special Tripods

Inverted and Elevated

Overhead Plenum Surveys

H3DS is pleased to announce that it is providing 3DLS documentation of overhead plenum spaces. Utilizing an elevated tripod, H3DS can raise its 3D Laser Scanners into overhead plenum spaces, by removing tiles (in drop ceilings) or access panels in drywalled ceilings. With a 3D Laser Scanner elevated into a plenum space, additional documentation is added to 3DLS data that is crucial for MEP and Structural components that may not be visible from the working spaces. This application is extremely vital for hospitals, data centers and other facilities that have complex MEP components of limited space between the drop ceiling and structural ceilings.



Inverted Surveys

H3DS is pleased to announce the addition of a special tripod that allows us to invert our HDS7000 scanner and lower it into confined spaces. The addition of this special piece of hardware will allow H3DS to acquire scan data in confined spaces without having to enter the confined space therefore alleviating the need to have OSHA confined space training, attendants, rescue tripods and harnesses, which will speed data collection.



Update on USIBD

By Kevin Kianka

Membership

Kevin Kianka (Director of BIM/Modeling Program for Haag 3D Solutions) serves as the Director of Membership for the USIBD and is currently working on initiatives to recruit new members. The USIBD is continuing to expand its membership as it starts to enter its second year. Membership and participation is excelling with 3D Laser Scanning, Building Documentation and Modeling firms, but has room for growth in the following areas:

Facility Owners
Facility Managers
Architects and Engineers
Contractors and Construction Managers
Governmental
Academic

Standards

The USIBD Standard's Committee is working on draft versions of a variety of documents to assist owners and others selecting firms to evaluate qualifications and specify services. Documents being prepared included: Requests for Qualifications, Requests for Proposals, Best Practices, Standard Definitions, and Specifications for documentation and presentation.

If you would like to join the USIBD or be part of the establishment of standards and specifications related to building documentation, please feel free to go to www.USIBD.org or reach out to Kevin at kkianka@haagengineering.com.

Haag 3D Solutions is a Founding Member of the USIBD and proudly supports and promotes the organization, its initiatives and members in furthering the building documentation industry.



Haag Engineering Co., Forensic Engineers & Consultants since 1924, is excited to announce the establishment of a new company division, **Haag 3D Solutions, LLC**. **Haag 3D Solutions** is a technology and services company specializing in the application of 3D imaging and BIM technologies, delivering highly accurate and reliable as-built documentation for both public and private sector clients. **Haag 3D Solutions** was created to provide professional 3D geospatial solutions for all types of design and construction projects.

Centered in the northeast, The **Haag 3D Solutions** division is headquartered in Mt. Laurel, New Jersey, and will compliment the entire Haag Engineering team and offices throughout the United States.



Office Locations:

- Dallas, TX
- Houston, TX
- Austin, TX
- Los Angeles, CA
- Minneapolis, MN
- Tampa, FL
- Denver, CO
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