

## 3D Sonar Modeling Tool

In March 2010 SeaView Systems was contracted by JF White Construction Co. to perform a high resolution sonar survey of a Sewer Surge Tower at the New York City Department of Environmental Protections 13<sup>th</sup> St pumping station in Lower Manhattan. An important operational constraint was that there was only a 2 hour window of opportunity in which to deploy the tool, record the data then recover it before the pumping station was required to be brought back on line.

Within 6 weeks from notice to proceed SeaView Systems had designed and constructed a 3D Sonar Modeling Tool – essentially a computer controlled, 40ft encoder positioned, subsea, linear actuator with a profiling sonar mounted on the end of the traveling shaft. The tool provided a combined XYZ 3D Point Cloud from which the surge tower dimensions could be reverse engineered. The custom designed control system utilizes a graphical user interface (GUI) to control the shaft direction and speed as well as providing status feedback to the operator.

The tool was able to be assembled in 15 minutes on-site with limited workspace and without the need for ladders or scaffolding.

Sonar data was post processed to produce point cloud images which were in turn converted to Autocad DXF files.

