CEE HydroSystems™

CASE HISTORY

CEE ECHO™ Replaces Traditional Land Survey Methods for Small Scale Surveys

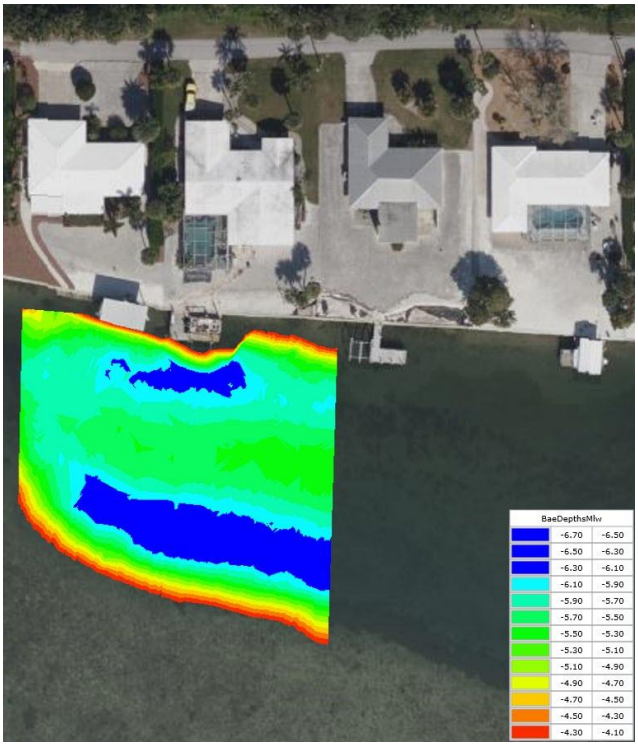
Florida, USA survey engineers moved away from time-consuming land survey methods for commercial and residential permitting hydrographic projects. Using dedicated single beam Hydromagic software and their existing Trimble R780 GNSS receiver with the CEE ECHO™, significant improvements in fieldwork efficiency were realized – even for small project areas.

Blue Arc Engineering, Inc are expert civil, coastal, and environmental engineers specializing in environmental resource permitting (ERP) and design. Based in Fort Myers, Florida USA, the firm's clients range from small single-family residential homes up to large municipality developments.

In Florida, many homes are next to water and have dock structures that require regulatory permits concerned with the available depth in waterways. Often these depth surveys are conducted with laborious manual measurements with range poles and GNSS. Blue Arc switched to using a CEE hydrographic survey approach to greatly improve survey efficiency and product quality.

CEE ECHO™ portable survey echo sounder kit.

A typical small scale survey was conducted at a residential dock. An existing Trimble R780 GNSS was used to collect a LABINS benchmark to calibrate all measure down information accurately for tracking the water levels. The 200kHz transducer and the GNSS receiver were placed on the stern of the 14' Jon boat. Transects were attempted every 10ft to 25ft within the narrow working area, with Eye4Software Hydromagic managing acquisition and subsequent editing. The GNSS data were fed into the CEE ECHO™ with a combined Network (Ethernet) output to a field laptop.



Hydromagic TIN Model surface of surveyed depths.

Trimble R780 Precision RTK GNSS receiver.

For inaccessible areas, the R780 GNSS was used separately to collect depth data which was added into the same project file as the boat data. The CEE ECHO™ single beam transducer made it possible to survey deeper areas during a higher tide, which would be unfeasible to collect with a manual GNSS depth shot.

The aim of adding the CEE ECHO™ was mostly to improve fieldwork efficiency. Blue Arc principal engineer Jack Archambault submitted positive comments about the setup used on this and other similar projects completed soon after receiving the new setup:

"Fieldwork that would have taken a full day was cut it in half and produced clean, easy to process, detailed information for the client. We were able to produce the bathymetric survey product within days of field work satisfying the client's needs."

"Producing a bottom elevation surface was surprisingly easy in Hydromagic. Compared to GNSS field acquisition software, the Hydromagic package added a lot of extra convenience - aerials could be downloaded in real time, boundaries could be drawn during the survey to ensure the scope of work was fully met."