

Great Lakes Research Center

Michigan Technological University

Location: Houghton, MI

Contract Value: \$1.66 million

The Great Lakes Research Center is being built on the campus of Michigan Technological University in Houghton, MI. The complex is located on the waterfront, adjacent to campus. The GLRC will contain aquatic research laboratories, coastal research instrumentation, data center, boathouse facilities, offices and meeting rooms.

Hardman Construction installed H-Piles for building foundations and off shore docking facilities as well as steel sheeting for permanent docks/shore protection.

Ground Conditions

The existing soil conditions were not suitable to support the new building. There was 32' of fill material with stamp sand and numerous cobbles, and below the fill material were layers of sands/silts/clays and boulders. These materials varied between loose to very dense. These extended to the depths of the boring which terminated at 60'.

Foundation Solution

H-Piles were selected because they could be driven through the numerous cobbles and boulders on site and also because the marine work already required driven piles and steel sheeting; therefore, any alternate foundation would increase mobilization costs.

An uplift test, a lateral test and two compression tests were required to verify design assumptions prior to installation. A total of 365 H-Piles were installed for the building foundation, and 40 galvanized piles were installed for docking facilities. In addition to the H-Piles there was 350 LF of steel sheeting installed for docks.

The project was bid in August, started in September and completed in December, 2010. The project was a prime bid package and was awarded to Hardman for \$1.66 million.

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