Keeping You Informed - Replacement of the Ferry Dolphins
December 2014

In the November 2014 Beachcomber, HMC President Gary Wanzong gave members an overview of the upcoming replacement project for the ferry dolphins at the mainland and island-side ferry docks. This is a project that has been on our radar screen for several years, and as we get closer to the time for replacement of the dolphins the Board felt it was critical to take you along on each part of the journey.

In the November Beachcomber Gary reported that we recently updated the Survey Report that HMC commissioned in 2010 on the state of our dolphins. The 2014 updated Report confirmed the conclusions from the previous report that our dolphins are reaching the end of their natural life. Gary further reported that we were able to locate the geotechnical report that was created in 1994 when the docks were being replaced. That report covered the condition of the soils located on the sea floor which will dictate the type of replacement dolphins we will be required to install.

On Monday November 24th Claudia Ellsworth and Mike Graham met with Garry Squires of GeoEngineers. The 1994 report is all they have in their files. No raw data is preserved after 10 years. Since 1994 there have been code changes, which will also impact us. The report contains good information but not enough for GeoEngineers to supply critical information to the design engineer at this time. The prior test holes did not go deep enough, nor were they far enough off shore to supply the information required for this project.

A monopile system requires additional testing. GeoEngineers would need to drill a test hole at each pile location to determine the depth of the mud, eroded glacial till, un-eroded glacial till and at what depth we encounter glacial lacustrine, which is composed of clay. Placing monopiles in clay leaves the piles susceptible to tilting. The monopile will not recover from a push from the side, but rather leave a gap between the pole and the clay, which would then fill with mud. Test holes at each location would require a barge with drilling rig. This is expensive, about $50,000 per day and would take about a week of work ($300,000 to $400,000). If clay is encountered then we would have to go with the Tripod system. If no clay is encountered we would still have risks during installation. If the monopile encounters a rock during construction, it is problematic whether we could overcome the obstruction. If we fail we would need to revert to the tripod system.

The Tripod system would only require two test holes of 65 feet each drilled at the end of the ramps. GeoEngineers could then make a correlation between the old test holes and the new test holes. We discussed using the ferry in place of a barge, but stability would be an issue. Another solution considered was drilling from the ramps. Additional information is required concerning how much downward force can be applied to the ramps and the driller would need to feel comfortable drilling from this platform. To accomplish this will require parking on the ramp, bracing if necessary and removal of two timbers from the ramp giving the drill rig access to the seafloor. GeoEngineers would be able to supply sufficient information to design the tripods based on these two bore holes and the prior 4 shallower holes drilled for the 1994 report. The cost to drill these two holes would be $20,000 to $50,000.

It is recommended that the test holes be drilled in 2015 and we have requested a proposed scope of work and cost estimate from GeoEngineers for those tests. This will allow HMC to better estimate the costs of construction.

It is also important to remember, that while this is a costly replacement project, it represents the last of our known major infrastructure replacement projects for the next 50-75 years.

Obviously there is much more to be discussed and decided with the final outcome being put to a membership vote. The Board plans to keep you informed by providing updated information as it occurs.