Since 1994, the Siasconset Beach area has been monitored to track changes in the beach and adjacent bluff area. The results of the monitoring has been documented in a series of reports from the Woods Hole Group, the most recent of which is the Southeast Nantucket Beach Monitoring 67th Survey Report March 2016 (survey dates of March 1st through 3rd, 2016). This is the sixth report issued following the installation of the bluff protection (geotube) project near Baxter Road during the winter of 2013/14. The purpose of this memo is to provide a professional opinion regarding the overall effect, both directly and indirectly, of the geotube project installed along the beach near Baxter Road in Siasconset, Massachusetts during the winter of 2013/14.

COWI North America's ("COWI") opinion on the geotube effects is based primarily on our review of the information provided in the 67th Survey Report. From September 2013 to March 2016 (post-geotube installation) the shoreline south of the project site has trended toward some accretion, while the shoreline immediately to the north has trended toward erosion. However, in the latest survey, the trends reversed, with the north experiencing accretion and the south some erosion. The surveyed transects within the geotube installation have generally exhibited erosion over the past 25 months since the project installation. In addition, the annual period from April 2015 to March 2016 shows erosion to be the dominant trend over all of the study area with the majority of transects.

For the latest survey period (October 2015 to March 2016), the transects immediately to the north of the project site demonstrated some accretion while the transects to the south demonstrated erosion. This quarter appears to have been a fairly energetic period, however many (36 out of 46) of the surveyed transects experiencing accretion over the interval. It is notable that the fall 2015 survey was taken immediately following a Nor'easter that occurred in early October.

This site, like many open coast, sandy shorelines, exhibits substantial natural variation as can be seen to the north and south of the project site. Even with erosion the dominant long-term trend, the results for the geotube area and immediate vicinity are within the historic shoreline change patterns for the site, and are not indicative of negative geotube impacts on the shoreline. Future surveys and monitoring will be required to adequately determine the performance/effect of the
geotube system. Variability of past survey results, limited data, as well as expected seasonal and other temporal variations prevent any additional conclusions from being reached at this time. Future monitoring efforts will cover a longer time period, will capture seasonal variations, and will allow for more definite assessments of impacts to be completed.