

## C. VERTICAL AND HORIZONTAL CONTROL

### VERTICAL CONTROL

The tidal datum for this project is Mean Lower Low Water (MLLW). The operating tide stations at The Battery, NY (851-8750) and Sandy Hook, NJ (853-1680) served as controls for datum determination. Tidal zoning for this survey is consistent with the Letter Instructions. The zones used for this survey are as follows:

STATION	CORRECTOR (min)	RATIO	REFERENCE
NY3	-30	x1.04	851-8750
NY18	-18	x1.03	851-8750
NY19	-12	x1.03	851-8750
NY20	-6	x1.04	851-8750
NY21	0	x1.00	851-8750

A Request for Approved Tides letter was sent to N/OPS1 on September 22, 2006 (Appendix IV). Verified tides from the N/OPS1 CO-OPS website were downloaded on September 20, 2006 and October 18, 2006 and applied to all sounding data. Final tide zoning was received on February 21, 2007. *Concur.*

### HORIZONTAL CONTROL

The horizontal datum used for this survey is the North American Datum of 1983 (NAD 83), projected using UTM zone 18.

Sounding positional control was determined using the Global Positioning System (GPS) corrected by U.S. Coast Guard differential GPS (DGPS) beacon stations. The primary and only DGPS beacon used for this survey was Sandy Hook, NJ (286). No horizontal control stations were established for this survey.

Horizontal dilution of precision (HDOP) was monitored daily on both launches. That value did not exceed 2.5, and adequate satellite coverage was maintained throughout the survey period.