C. Vertical and Horizontal Control

Additional information discussing the vertical or horizontal control for this survey can be found in the accompanying HVCR.

C.1 Vertical Control

The vertical datum for this project is Mean Lower Low Water.

<u>Standard Vertical Control Methods Used:</u>

Discrete Zoning

The following National Water Level Observation Network (NWLON) stations served as datum control for this survey:

Station Name	Station ID
Fort Point	8423898

Table 11: NWLON Tide Stations

File Name	Status
8423898_Verified2014.tid	Verified Observed

Table 12: Water Level Files (.tid)

File Name	Status
UNH2014CORP.zdf	Final

Table 13: Tide Correctors (.zdf or .tc)

The entire survey area fell within one tide zone, NA169, provided by CO-OPS, NOS. This zone is based off the primary station of Fort Point, NH with no subordinate guage. The time correction is -6mins and the range ratio is 1x. Originally the preliminary tides were used with a tide file applied to the data is the observed data from Fort Point, NH with the -6 minute time correction applied. For the final surface the verified tide file and the tide zone file were applied.

C.2 Horizontal Control

The horizontal datum for this project is North American Datum of 1983 (NAD83).

The projection used for this project is UTM zone 19N.

For precisely positioning, two GNSS base stations are established at neighborhood of survey area for broadcasting RTK corrections to R/V Coastal Surveyor via Trimble Trimmark 3 radio Modems in CMR+ format. One is located on the roof of the Seacoast Science Center at Odiorne State Park, New Hampshire. Another base station is established at the Rye Harbor State Park to provide RTK corrections for the areas where are not covered by the first base station at Odiorne State Park. The reference point of the base station is located on the bedrock. The coordinates of reference point are provided by Online Positioning User Service (OPUS, http://www.ngs.noaa.gov/OPUS/) depending on 6 hours observation on June 12, 2014. The majority of this survey had corrections from the RTK base station at Rye.