

# C. Vertical and Horizontal Control

A summary of the horizontal and vertical control for survey H13268 follows.

## C.1 Vertical Control

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

### ERS Datum Transformation

The following ellipsoid-to-chart vertical datum transformation was used:

<b>Method</b>	<b>Ellipsoid to Chart Datum Separation File</b>
ERS via VDATUM	OPR-J311-KR-19_VDatum2_xyNAD83- MLLW_geoid12b.csar

*Table 13: ERS method and SEP file*

The separation model listed in Table 13 was provided with the Project Instructions and used for sounding correction within the assigned survey area. Realtime navigation for all MBES survey lines were overwritten with post-processed navigation solutions in SBET format. Post-processed solutions were generated using Applanix POSpac MMS using the Trimble CenterPoint RTX option which relies on precise satellite orbit and timing information to create centimeter level positioning and elevation without the use of traditional local base stations. Information on survey control is detailed in the DAPR.

## C.2 Horizontal Control

The horizontal datum for this project is North American Datum of 1983 (NAD 83).

The projection used for this project is Universal Transverse Mercator (UTM) Zone 16.

## DGPS

The following DGPS Stations were used for horizontal control:

<b>DGPS Stations</b>
English Turn, LA (293 kHz)

*Table 14: USCG DGPS Stations*

Real-time positioning for side scan sonar operations was provided by differential GPS using corrections received from the US Coast Guard National Differential GPS (NDGPS) coverage network from differential beacons at English Turn, LA (293 kHz).

## WAAS

The Federal Aviation Administration Wide Area Augmentation System (FAA WAAS) was enabled to be active if the English Turn station experienced periods of down time.