

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:

Method	Ellipsoid to Chart Datum Separation File
ERS via VDATUM	VDatum- WGS84_ACHARE_Polygon_ACHARE_Polygon_xyWGS84- MLLW_geoid12b.csar

Table 12: ERS method and SEP file

All soundings submitted for H13140 are reduced to MLLW using VDatum techniques as outlined 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 19.

RTK

Trimble-RTX service was used with an Applanix POS MVv5 GNSS-INS system to obtain highly accurate ellipsoidally referenced position data to meet ERS specifications for H13140 MBES data.

C.3 Additional Horizontal or Vertical Control Issues

C.3.1 DN278 Vertical Offset

A vertical offset of unknown origin was observed between MBES data collected by HSL 2904 on DN 278 (2018-10-05) and MBES data collected on DN 279 (2018-10-16). Comparisons of the impacted data from DN 278 against overlapping mainscheme and crossline data show the offset ranges from 17cm to 7 cm shoaler than the likely sea floor. The offset is apparent in data collected between 1634 UTC (line 0566_20181005_163451) and 1647 UTC (line 0568_20181005_164351) on DN 278.