

## 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 Area_100m_NAD83-MLLW_geoid12b

*Table 11: ERS method and SEP file*

All soundings submitted for H13424 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 18.

The following PPK methods were used for horizontal control:

- RTX

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 H13424 MBES data from vessel S222.

### WAAS

The Wide Area Augmentation System (WAAS) was used for real-time horizontal control during data acquisition on vessel S222.

## C.3 Additional Horizontal or Vertical Control Issues

### C.3.1 POS files logged over GPS week change

Due to a survey acquisition oversight, a POS file was unable to be utilized for 2900 meters of line 0037\_20210718\_000831\_S222\_EM2040. The file was logged too early following GPS week change, and was not able to be used in post processing.