C. Vertical and Horizontal Control

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

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	OPR-R320-KR-22_ERTDM2021_NAD83-MLLW.bin OPR-R320-KR-22_ERTDM2021_NAD83-MLLW_1000m.sd

Table 11: ERS method and SEP file

In order to reference soundings to Mean Lower Low Water Datum, a separation model was applied to the Qinsy DB files via a .bin separation file in the acquisition software and a .sd separation file in the processing software.

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 3.

The following PPK methods were used for horizontal control:

- RTX

Applanix PosPac MMS was utilized to post process real time positioning data utilizing Trimble's PP-RTX implementation of Trimble CenterPoint RTX to create a Smoothed Best Estimate of Trajectory (SBET).

RTK

GNSS satellite corrections were received on each vessel using the G4+ carrier signal from the Marinestar Global Correction System maintained by Fugro.