

C. VERTICAL AND HORIZONTAL CONTROL

C.1 Vertical Control

The vertical datum for this project is Mean Lower Low Water (MLLW). The operating National Water Level Observation Network (NWLON) station at Virginia Key, FL (872-3214) serves as datum control for Survey H1897.

The survey area is located within Zones FSE1, FSE6, SA227 and SA228 as provided by preliminary tidal zoning data included with the SOW*. Verified tides with final tide zoning were applied by OSI. There were no significant water level errors or uncertainty observed in cross line data or final BASE surfaces. **Submitted with original field records*

As mentioned in Section B.2.5 (Table 7 and Figure 4), Zones FSE1 and FSE6 were adjusted to include a small portion of the survey near the Government Cut section of the channel.

C.2 Horizontal Control

The horizontal datum for this project is the North American Datum of 1983 (NAD83). All data products are referenced to Latitude/Longitude or Universal Transverse Mercator (UTM) Zone 17, meters.

All position data were acquired using a POS MV inertial measurement unit (IMU) Differential GPS (DGPS) positioning system. Differential beacon correctors from the U.S. Coast Guard station in Miami were used for the primary position system. Differential beacon correctors from the U.S. Coast Guard station in Cape Canaveral were used by a secondary navigation system as a horizontal control confidence check.

OSI established a horizontal control point, “CG2,” adjacent to the survey vessel’s berth at the U.S. Coast Guard Station, Miami, FL, using the National Geodetic Survey’s Online Positioning Users Service (OPUS) technology. The OPUS position was used as a reference for daily navigation system confidence checks. Refer to the DAPR and Vertical and Horizontal Control Report (VHCR) for additional details.