1.4.1. The water level station at Christiansted, St. Croix (975-1364) is the reference station for preliminary tides for hydrography in St. Croix, VI. The time and height correctors listed below for applicable zones should be applied to the preliminary data at Christiansted, St. Croix (975-1364) during the acquisition and preliminary processing phases of this project. Preliminary data may be retrieved in one month increments over the Internet from the CO-OPS SOAP web services at http://opendap.co-ops.nos.noaa.gov/axis/text.html. The Commanding Officer (or Team Leader) must notify CO-OPS/ED personnel immediately of any problems concerning the preliminary tides. Preliminary data are six-minute time series data relative to MLLW in metric units on Greenwich Mean Time. For the time corrections, a negative (-) time correction indicates that the time of tide in that zone is earlier than (before) the preliminary tides at the reference station. A positive (+) time correction indicates that the time of tide in that zone is later than (after) the predicted tides at the reference station. For height corrections, the water level heights relative to MLLW at the reference station are multiplied by the range ratio to estimate the water level heights relative to MLLW in the applicable zone.

<table>
<thead>
<tr>
<th>Zone</th>
<th>Time Corrector(mins)</th>
<th>Range Ratio</th>
<th>Predicted Reference Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC001</td>
<td>0</td>
<td>x0.97</td>
<td>9751364</td>
</tr>
<tr>
<td>SC002</td>
<td>+12</td>
<td>x0.97</td>
<td>9751364</td>
</tr>
<tr>
<td>SC003</td>
<td>+18</td>
<td>x0.97</td>
<td>9751364</td>
</tr>
</tbody>
</table>

1.4.2. Polygon nodes and water level corrections referencing Christiansted, St. Croix (975-1364) are provided in CARIS® format denoted by a *.zdf extension file name.

NOTE: The tide corrector values referenced to Christiansted, St. Croix (975-1364) are provided in the zoning file “I912NCCOS2010CORP” for this project and are in the fourth set of correctors designated as TS4. Longitude and latitude coordinates are in decimal degrees. Negative (-) longitude is a MapInfo® representation of West longitude

“Preliminary” data for the control water level station, Christiansted, St. Croix (975-1364), are available in near real-time and verified data will be available on a weekly basis for the previous week. These water level data may be obtained from the CO-OPS SOAP web services at http://opendap.co-ops.nos.noaa.gov/axis/text.html.

Please contact the Hydrographic Planning Team at NOS.COOPS.HPT@noaa.gov and the Operational Engineering Team NOS.COOPS.OETTEAM@noaa.gov before survey operations begin and once survey operations are completed so that the appropriate CO-OPS water level stations are added to or removed from the CO-OPS Hydro Hot List (http://tidesandcurrents.noaa.gov/hydro).

1.4.3 Zoning Diagram(s)

Zoning diagrams, created in MapInfo® and Adobe PDF, are provided in digital format to assist with the zoning in section 1.4.1.

1.4.4 Final Zoning

Upon completion of project M-I912-NCCOS-2010, submit a Pydro generated request for final tides, with times of hydrography abstract and mid/mif tracklines attached. Forward this request to
Final.Tides@noaa.gov. Provide the project number, as well as a sheet number, in the subject line of the email. CO-OPS will review the times of hydrography, final tracklines, and six-minute water level data from all applicable water level gauges. After review, CO-OPS will send a notice indicating that the tidal zoning scheme sent with the project instructions has been approved for final zoning. If there are any discrepancies, CO-OPS will make the appropriate adjustments and forward a revised tidal zoning scheme to the field group and project manager for final processing.

1.5 TideBot

Preliminary and verified six minute water level time series data may be retrieved from the CO-OPS database via TideBot application. TideBot delivers timely preliminary/verified tidal and Great Lakes six minute water level observations via email to users on a scheduled, recurring basis. To access TideBot through an email account, send an email to TideBot@noaa.gov with the word “help” as the subject. An email reply will be sent with instructions on how to subscribe to TideBot for time series data retrieval.

1.6 Water Level Records

Submit water level data and required station documentation as specified in the latest version of the NOS Hydrographic Surveys Specifications and Deliverables (HSSD) document. For projects where the water level data is not transmitted via GOES satellite, please submit data on a monthly basis.

1.6.1 Water level records should be forwarded to the following address:

NOAA/National Ocean Service/CO-OPS
Chief, Engineering Division
N/OPS1 - SSMC4, Station 6531
1305 East-West Highway
Silver Spring, MD 20910
to the method of sounding or to faults in the measuring apparatus.

Note that transit lines, and crosslines will be considered unusable and shall not be used to determine coverage, generate grids, or contribute to any exportable product.

*Raw full resolution Multibeam dataset*

Specified format dependant on ship software (Hysweep .HSX, Hypack .raw, Hypack .7k snippets)

*Correctors*

Including but not limited to sound velocity profiles (SVP), final tide levels and zoning, attitude and navigation correctors, PPK, raw and post-processed POS data and vessel configuration files.

### III. Personnel Requirements

The resume of the proposed candidate shall be submitted to the Lead Scientist for prior approval. The proposed candidate shall have a B.S in earth or environmental science and extensive experience with hydrography, including specialized familiarity with operating a multibeam system.

### IV. Travel and Other Direct Costs

This contract will cover all direct and indirect costs associated with the survey mission. This include but are not limited to shipping costs for all gear to and from the Maryland to St. Croix, USVI; travel costs (per diem, lodging, meals, and incidentals); rental car; vessel fuel costs; personnel costs; and equipment leasing.

### V. Period of Performance

The period of performance for this task shall be for a minimum of four months with the Government reserving the right to extend the task. The Contractor shall perform off-site, and onboard the NPS vessel R/V Osprey. The principal period of performance shall be eight hours each day Monday through Friday except during Task 2 when a ten hour workday is expected.

### VI. Reference Systems

The Contractor will provide all positions referenced to the North American Datum of 1983 (NAD83). This datum must be used throughout the survey project for everything that has a geographic position or for which a position is to be determined. Those documents used for comparisons, such as charts, junctional surveys, and prior surveys, must be referenced or adjusted to NAD 83. In addition, all software used on a survey must contain the correct datum parameters.

The Contractor will provide all positions referenced to Universal, Transverse Mercator Projection (UTM) Zone 20. Ellipsoidal heights will be computed in NAD83 reference frame using Geodetic Reference System 1980 (GRS80) ellipsoid.