1. THIS SURVEY MEETS STANDARDS AS OUTLINED IN CORPS OF ENGINEERS' HYDROGRAPHIC SURVEY MANUAL EM1110-2-1003, DATED NOVEMBER 30, 2013 FOR NAVIGATION AND DREDGING SUPPORT SURVEYS.

2. HORIZONTAL REFERENCE - NAD 83, NEW JERSEY STATE PLANE, ZONE 2900, U.S. FOOT.

3. VERTICAL REFERENCE – MEAN LOWER LOW WATER, WHICH IS 2.97' BELOW N.A.V.D. 88.

4. GEOID 12B AND NOAA TIDAL EPOCH: 1983 – 2001 WERE USED. SOUNDINGS ARE EXPRESSED IN FEET AND TENTHS AND REFER TO MEAN LOWER LOW WATER.

5. SOUNDINGS WERE SELECTED FOR PLOTTING PURPOSES ONLY, USING THE MINIMUM DEPTH WITHIN A 30'X30' CELL SHIFTED TO THE CELL CENTER.

6. CONTOURS DEPICT ACTUAL LOCATION OF BATHYMETRY AND DO NOT NECESSARILY REFLECT PLOTTED SOUNDING LOCATIONS.

7. CONTOURS WERE GENERATED USING THE MINIMUM DEPTH WITHIN A 15'X15' CELL.

8. HYPACK, INC. SOFTWARE WAS USED TO PERFORM THE SOUNDING SELECTION AND CONTOUR GENERATION.

9. THE INFORMATION DEPICTED ON THIS MAP REPRESENT THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

10. THE POSITIONS OF THE AIDS TO NAVIGATION ARE PROVIDED FOR INFORMATION ONLY, AND SHOULD NOT BE USED FOR NAVIGATION.

11. THE LIMITS OF THE FEDERAL CHANNEL DEPICT THE MOST CURRENT CHANNEL FRAMEWORK AVAILABLE WHICH CAN ALSO BE DOWNLOADED HERE:

http://navigation.usace.army.mil/Survey/Framework

12. BASE MAPPING LINEWORK OR ORTHOPHOTOGRAPHY HAS BEEN COMPILED FROM A VARIETY OF SOURCES AND DATES AND IS INTENDED TO PORTRAY GENERAL CHARACTERISTICS OF THE SHORELINE AND OTHER FEATURES. TEMPORAL CHANGES MAY HAVE OCCURRED SINCE THIS DATA SET WAS COLLECTED AND SOME PARTS OF THE DATA MAY NO LONGER BE AN ACCURATE REPRESENTATION OF THE SURFACE CONDITIONS.

Scale in Feet

200 0 200 400 600

- Shoalest Sounding per Quarter
- CenterLine
- ToeLine
- QuarterLine
- StationLine
- 45 - 53.953
- 44 - 45
- 43 - 44
- 42 - 43
- 41 - 42
- 40 - 41
- 26.9 - 40

US Army Corps of Engineers Philadelphia District

DISCLAIMER
This data is provided for general information only. It was collected and processed to the standards of EM 1110-2-1003 and publishes the official navigation charts to be used in navigation. The government makes no representations or warranties regarding the accuracy of the data by others than the Corps of Engineers constitutes a waiver of reliance by other parties on the accuracy or adequacy of the data. The soundings are accurate only at the time they are measured and only represent the bottom at the sounding locations. Buoys, pontoons, and other floats are equipment used to produce navigation aids and are not accurate representations of bottom effects, are constantly changing the topography of the waterway floats drift with the current and tide. The computer plotting software have inherent inaccuracies, and printed displays are approximations.

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U.S. ARMY CORPS OF ENGINEERS
PHILADELPHIA DISTRICT

Surveyed By:
Plotted By: E. Anthony
Checked By:
Drawing No.
Plot Scale
Approved
Chief, Survey Section

DELAWARE RIVER, PHILADELPHIA TO THE SEA
BULKHEAD BAR RANGE
EXAMINATION
STA. 209+201.65 toSTA. 212+592.81 - 09 SEP 24

E-PS-322