



Date: February 7, 2023

To: John Crocker, Town of Tisbury, Tisbury, MA, Leslie Fields, Woods Hole Group

From: Christopher Wright, C.H., CR Environmental, Inc., East Falmouth, MA

RE: January 2023 Post-Dredge Single Beam Bathymetric Survey Methodology - Lake Tashmoo Entrance Channel

On January 25, 2023, approximately 2 months following the pre-dredge survey, CR Environmental Inc. conducted a post-dredge single beam bathymetric survey of the entrance channel to Lake Tashmoo for the Town of Tisbury. The survey was conducted surrounding high tide so that shallow areas could be occupied.

Tide corrections were provided by Real Time Kinematic (RTK) GPS and verified through comparison with a tide gage installed adjacent to a Site benchmark inshore of the eastern jetty. Vineyard Land Surveying and Engineering surveyed the benchmark (elevation 1.33 ft NAVD88). Tide corrected sounding data were processed and exported in ASCII “XYZ” text format and then adjusted to Mean Low Water (MLW) elevations. Point data have been provided in NAVD88 and MLW in MS Excel format. The NAVD88 to MLW conversion = -1.20 ft (per NOAA VDatum).

Surfer software was used to create a 5x5 foot grid of the MLW data. The grid node points have been delivered in MS Excel format. Bathymetry is shown using one-foot contours on Figure 1. One-foot and 0.5-foot contours have been delivered in shapefile and DXF formats. The areas of the entrance channel shallower than -6 feet, -7 feet and -8 feet MLW are depicted on Figure 2.

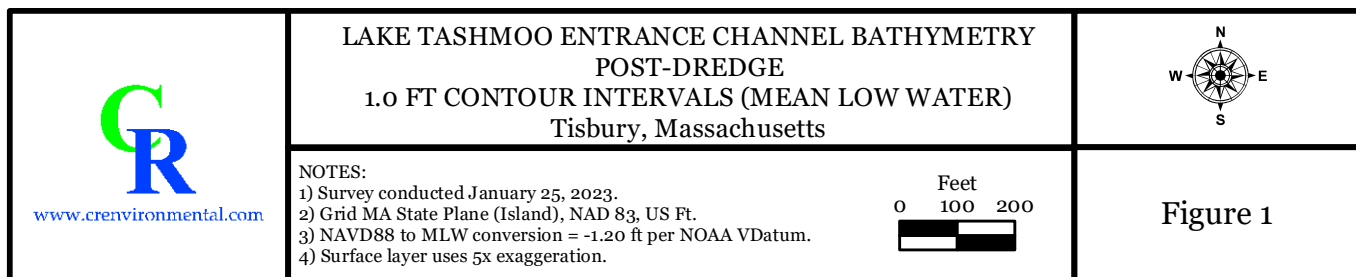
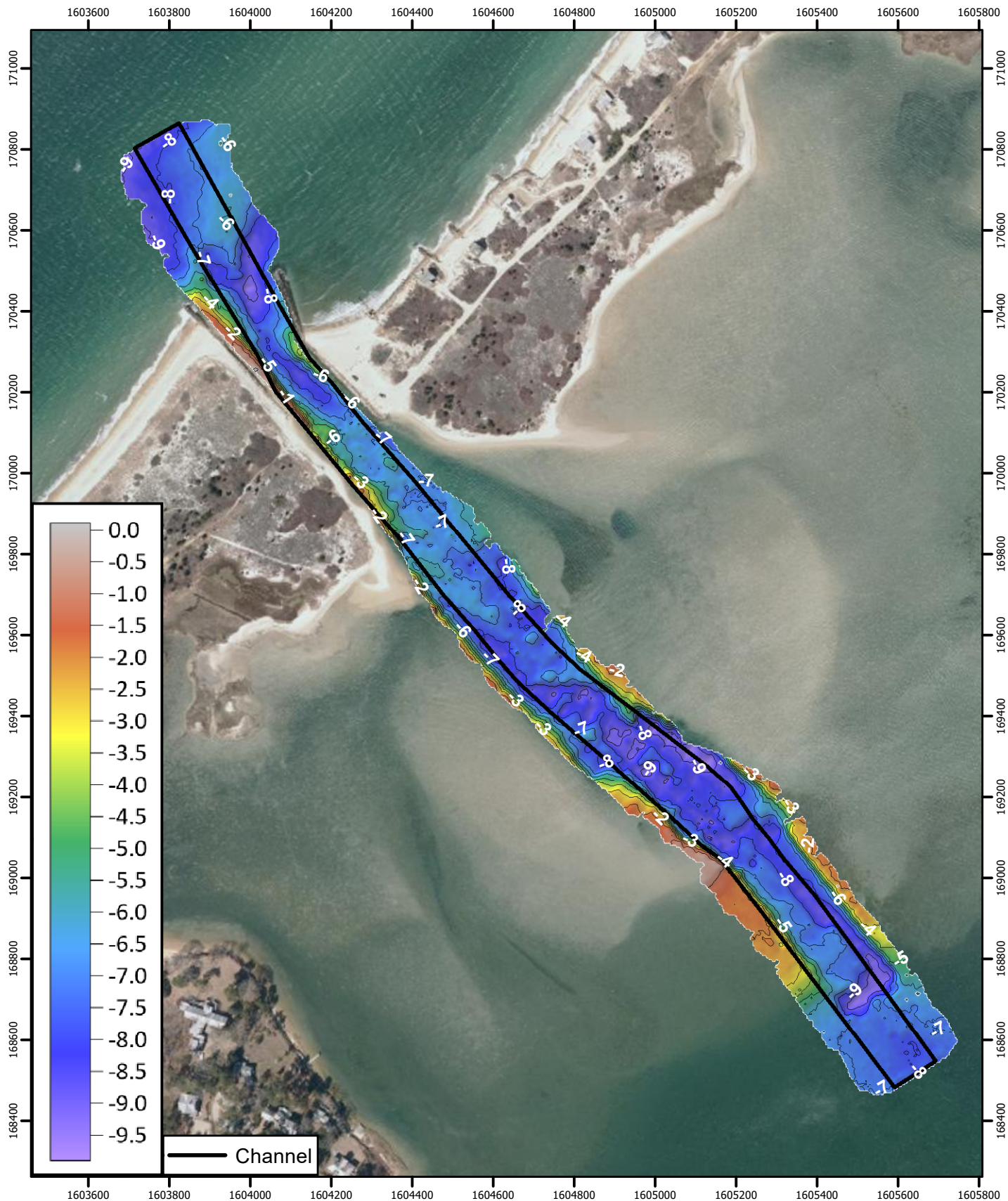
Post-dredge sediment volume calculations for the entrance channel were constrained to the channel polygon provided by Woods Hole Group (Figure 2). The post-dredge sediment volumes within the entrance channel polygon above the specified elevations are provided in cubic feet and cubic yards (Table 1). The entrance channel is a dynamic area. For comparison, sediment volumes from the November 29, 2022, pre-dredge survey are also provided (Table 1).

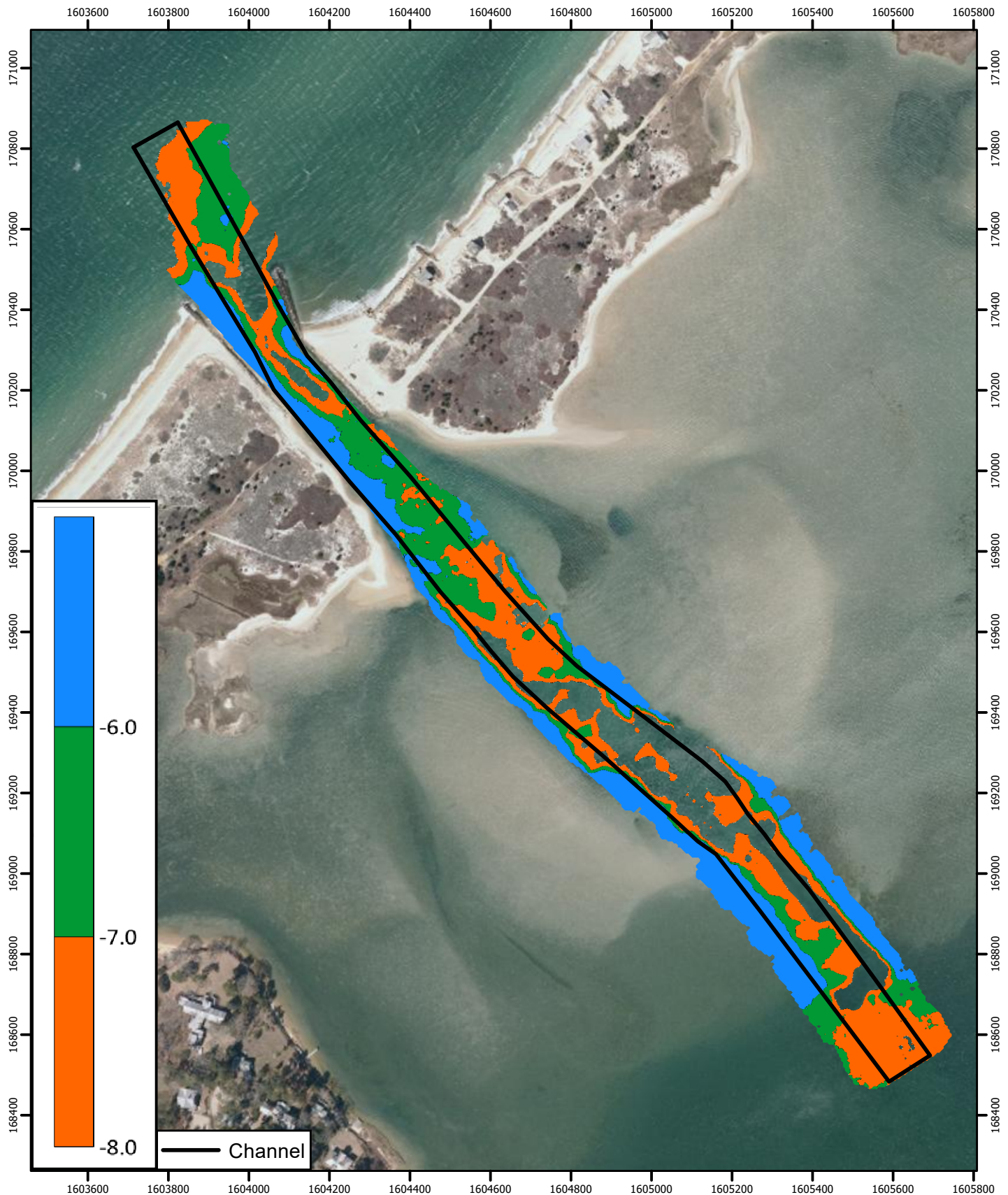
TABLE 1

**LAKE TASHMOO ENTRANCE CHANNEL SEDIMENT VOLUMES
ABOVE 6, 7 and 8 FEET BELOW MEAN LOW WATER
PRE- and POST-DREDGE**

11/29/2022 PRE-Dredge Sediment Volumes			1/25/2023 POST-Dredge Sediment Volumes		
MLW EL (ft)	Cubic Feet	Cubic Yards	MLW EL (ft)	Cubic Feet	Cubic Yards
-8	389531	14427	-8	340620	12616
-7	175952	6517	-7	139046	5150
-6	69171	2562	-6	59891	2218

Pre- and Post-dredge calculations were based on a 5 x 5 ft triangulated grid created from the collected bathymetric data. Calculations were constrained to the polygon defining the entrance channel.





LAKE TASHMOO ENTRANCE CHANNEL BATHYMETRY
POST-DREDGE
Mean Low Water Elevations Shallower than -8 Feet
Tisbury, Massachusetts

NOTES:

- 1) Survey conducted January 25, 2023.
- 2) Grid MA State Plane (Island), NAD 83, US Ft.
- 3) NAVD88 to MLW conversion = -1.20 ft per NOAA VDatum.

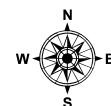
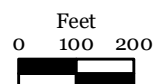


Figure 2



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