



March 14th, 2023

Mr. Beau Breeden
President
Cape St. Clair Improvement Association
1223 River Bay Road
Annapolis, Maryland 21409

**Re: Lake Clair Shoreline Monitoring Study Results
Cape St. Clair Community
Anne Arundel County, Maryland**

Dear Mr. Breeden,

Sustainable Science, LLC (SSLLC) is pleased to provide a summary of the shoreline monitoring results for the community main beach. The project design involved vinyl sheet pile to intercept nearshore sediment transport to reduce the dredging effort in the adjacent marina channel as well as naturally enlarging the parking lot beach.

The Lake Clair shoreline monitoring program was executed immediately following the second construction phase and throughout the 2022 hurricane season. During this time period, a transect survey was executed immediately and 2 weeks after Hurricane Ian. The last monitoring survey was performed after the hurricane season on December 27th, 2022.

The results of the monitoring study are provided in the attached **Sheet 2; Site 2 Transect Monitoring Plots**. It is pointed out that the shown plots horizontal scale is 20 times larger than the vertical scale for presentation ease. A total of six (6) transect surveys were executed between February 20th and December 27th, 2022.

Referring to Transect 7 plots, the beach is shown to have increased close to 20 feet waterward from February 20th through October 5th, 2022 (the day after Hurricane Ian passed through Cape St. Clair). The end of hurricane season transect survey on December 27th, 2022 revealed the shoreline had retreated about 6 feet landward with a slight dune elevation gain. Transect 8 surveys were executed at the same time as Transect 7 surveys and show relatively no appreciable shoreline change. We therefore judge that the vinyl sheet pile system has collected the long shore sediment transport hence is satisfying the design goals.

A site visit was performed today with the below photograph documenting the current shoreline conditions:

*Sustainable Science, LLC
410 S. Second Street, Denton, MD 21629
www.sustainablesience.com*

*Email (Albert): albert@sustainablesience.com
Email (Seth): seth@sustainablesience.com*

*Phone (Albert): (410) 924-4316
Phone (Seth): (443) 786-9388*



We very much thank you for engaging us to execute the shoreline monitoring study. We judge that the Lake Clair shoreline response is trending as predicted. If you have any questions or need additional information, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read "F. Albert McCullough III".

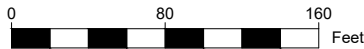
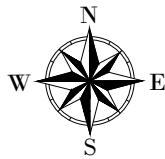
F. Albert McCullough III, PE, PWS
Principal Coastal Engineer

Cc: Mr. Joe Berg

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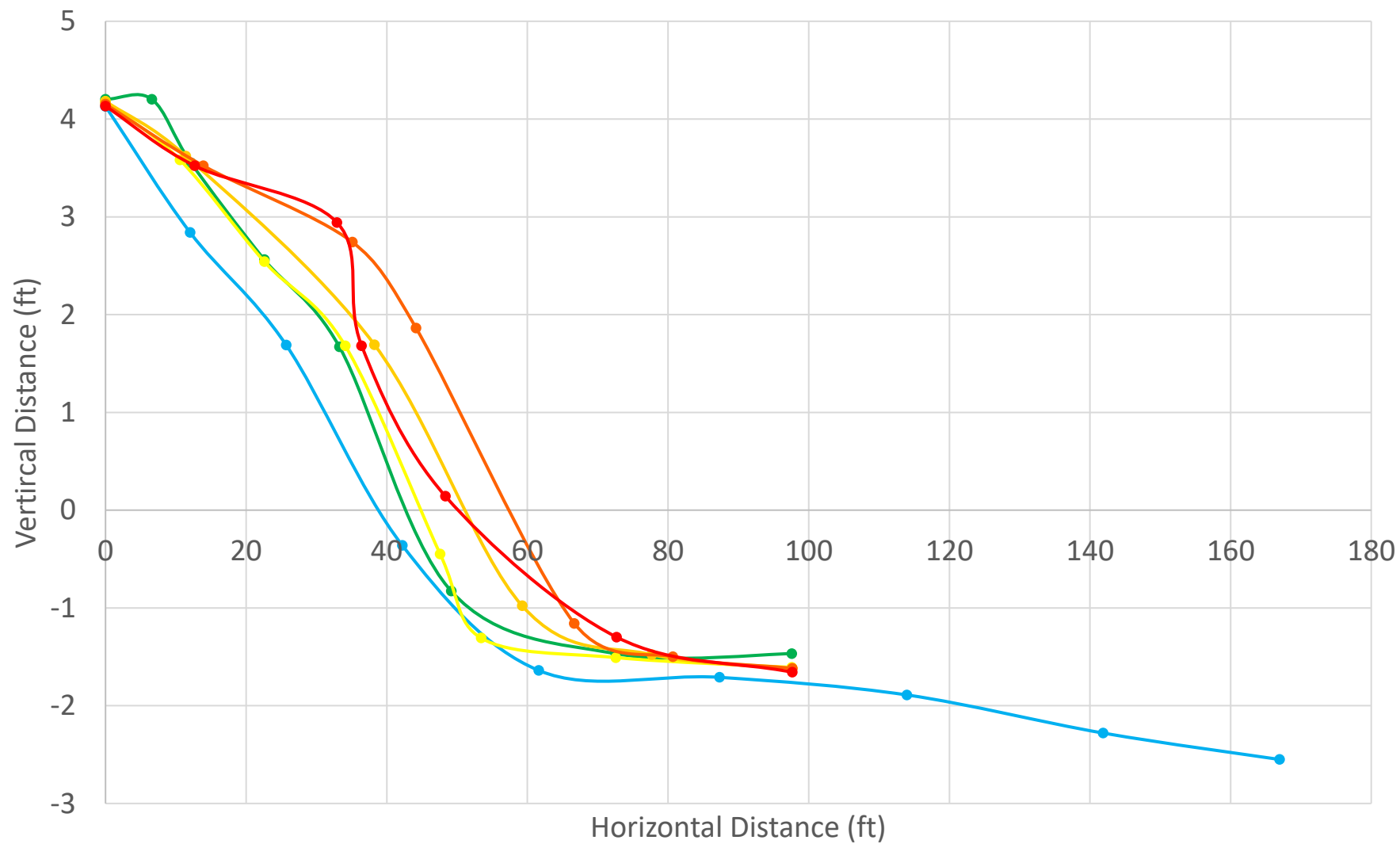
SITE 2 TRANSECT LOCATIONS	
CAPE ST CLAIR LIVING SHORELINE	
PREPARED FOR HOMEOWNER'S ASSOCIATION	
ANNE ARUNDEL COUNTY	MARYLAND

DATE:	3/22/2022
SCALE:	AS SHOWN
DESIGN BY:	SAM
DRAWN BY:	JFM
CHECKED BY:	FAM
SS PROJECT NO:	17013
SHEET NO:	2 OF 2



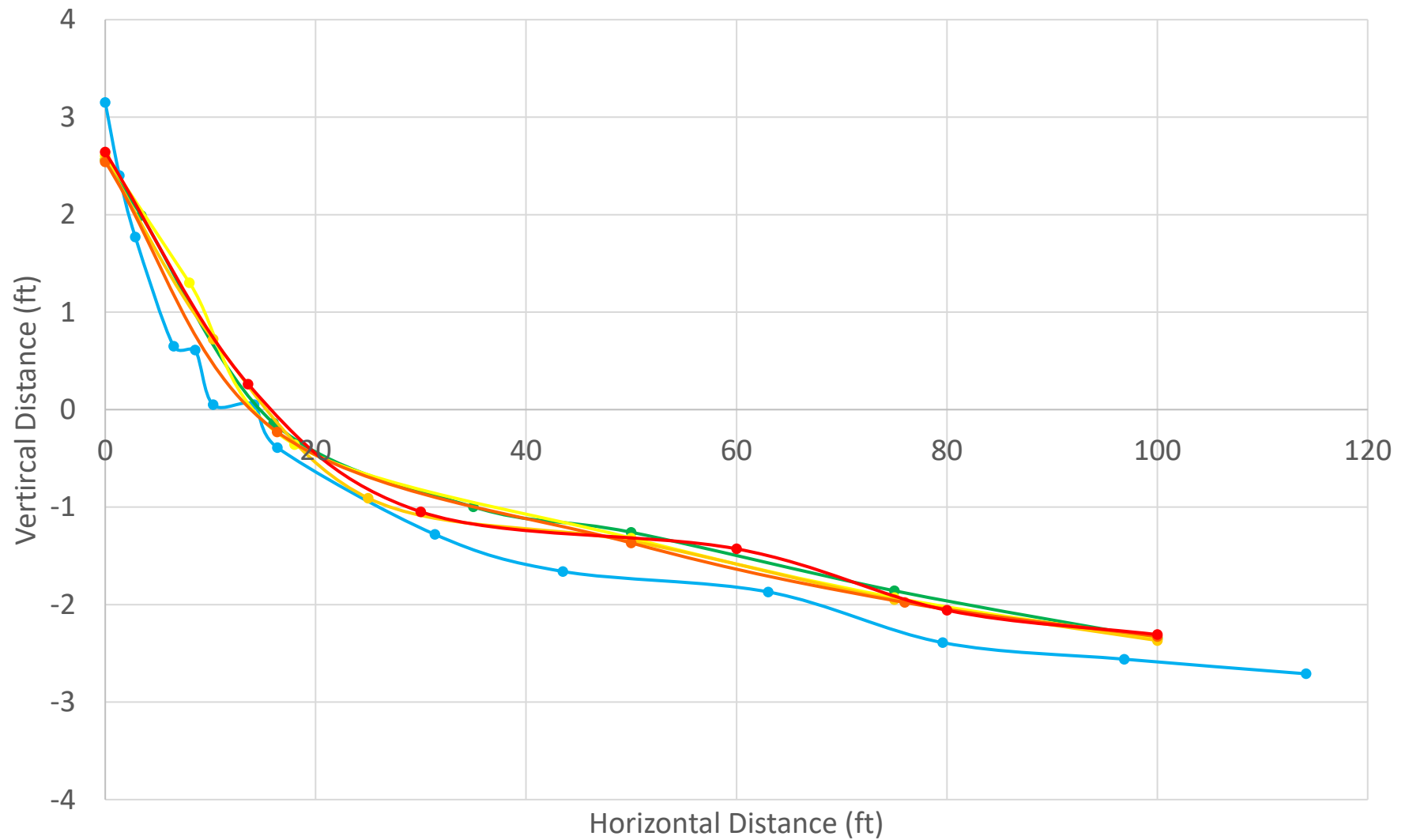
**SUSTAINABLE
SCIENCE, LLC**
ENGINEERING SERVICES
410 S. SECOND STREET
DENTON, MARYLAND 21629

Transect 7



February 20th, 2022 March 25th, 2022 May 2nd, 2022
August 16th, 2022 October 5th, 2022 December 27th, 2022

Transect 8



February 20th, 2022 March 25th, 2022 May 2nd, 2022
August 16th, 2022 October 5th, 2022 December 27th, 2022