

Job No. 2010-0074

March 14, 2024

Carolyn Stoeber, Agent Chilmark Conservation Commission 401 Middle Road, PO Box 119 Chilmark, MA 02535

Sent Via Email: chilmarkconservation@gmail.com

Re: Notice of Intent Application: Supplemental Information: 2020-2022 Monitoring Summary Report

Propose to Install and Maintain Cobble and Sand Renourishment Fool's High Tide, LLC 25 East Lane Chilmark, MA Map 32 Parcel 68.1

Dear Carolyn,

Per the Commission's request, we are submitting this 2020-2022 Monitoring Summary Report as supplemental information for the above referenced project: Also enclosed are copies of the bi-annual monitoring reports that were submitted to the Commission for the previous beach nourishment/cobble berm project on 25 East Lane under Superseding Order of Conditions (DEP File No. 12-702) and a Local Bylaw Only Order of Conditions:

- December 2020 Post Construction Bi-Annual Monitoring Report, dated 11/10/2021
- July 2021 Post Construction Bi-Annual Monitoring Report, dated 11/10/2021
- December 2021 Bi-Annual Monitoring Report, dated 6/1/2022
- April 2022 Post Construction/Bi-Annual Monitoring Report, dated 6/1/2022
- December 2022 Bi-Annual Monitoring Report, dated 6/6/2023

The bulleted reports each include an evaluation, photographs documenting the site conditions, and a plan showing the results of the bi-annual survey.

Summary of 2020-2022 Monitoring Reports

In April 2020, prior to the first construction of the beach nourishment/cobble berm, the beach was predominantly comprised of mixed cobble with a thin veneer of sand in spots. In May 2020, the first cobble berm was constructed by John Keene Excavation and supervised by Woods Hole Group. All material was compatible with the grain size and cobble on the beach and served as a buffer seaward of the coastal bank.

Between May 2020 and the first bi-annual survey on December 3, 2020, the native coastal bank was well protected by the cobble and sand nourishment and exhibited no new erosion. The seaward edge of the newly constructed berm cut back approximately five (5) feet and there was a slight rise in elevation of the fronting beach where the eroded material likely deposited. There was a slight lowering of the profile farther seaward, but this is typical for winter beaches in high energy environments.

Between December 3, 2020, and the next survey on July 7, 2021, the native coastal bank was still afforded adequate protected by the constructed cobble berm and sand nourishment and exhibited no new undercutting or erosion. Even



though there was approximately five (5) feet of additional berm erosion, the remaining berm continued to protect the toe of the native coastal bank. The profile data indicated an insignificant change across the remaining profile of the beach. The ephemeral sand cover that comes and goes seasonally had returned and extended from the Fools High Tide Beach across Stonewall Beach to the west. The profile data also confirmed changes to the intertidal beach and rocky intertidal area were insignificant.

Between July 7, 2021, and the December 7, 2021 survey, the majority of the material in the cobble berm had eroded away, and therefore, the berm no longer served as a buffer seaward of the coastal bank. Since the berm had decreased in volume, Woods Hole Group recommended it be renourished with additional sand and cobble. The process to obtain additional permission from the regulatory agencies began and subsequent permits were issued.

The cobble berm was reconstructed in March of 2022 by John Keene Excavation and again supervised by Woods Hole Group. All material was compatible with the grain size and cobble on the beach. During the post-reconstruction/bi-annual survey on April 1, 2022, the berm once again served as a buffer seaward of the coastal bank by increasing the width, height, and volume of the coastal beach.

Between April 1, 2022, and the next survey on December 8, 2022, minor erosion of the cobble berm occurred. Despite minimal erosion between the April and December 2022 surveys, the cobble berm experienced significant erosion due to a storm event that took place on December 23, 2022. Although the cobble berm had been successful at protecting the coastal bank, the volume of nourishment was inadequate to protect the bank for more than 1-2 years.

The monitoring showed the project met the performance standards of the wetland resource areas. While in place, the cobble nourishment provided enhanced storm damage protection and improved flood control, supplied sediment to the littoral system, and decreased the erosion of the coastal beach and coastal bank. The monitoring also showed there were no impacts on endangered shorebirds because it had been designed to meet the MA Natural Heritage & Endangered Species Program recommendations and specifications.

As the current location of the eroded cobble material is unknown, it is assumed the cobble spread across the coastal beach directly seaward of the cobble berm. No significant change could be observed in the topography of the beach, either at the east/west ends, nor on the seaward beach face. This is likely due to the relatively small volume of nourishment as compared with the ~400-foot-long beach at 25 East Lane. The current location of the sandy material is also unknown, although sand deposits west of the site continue to seasonally accrete.

Proposed Monitoring under Notice of Intents

The current projects at 25 East Lane and 21 & 0 East Lane propose the same bi-annual post-construction monitoring as the previous 2020-2022 monitoring at 25 East Lane. Monitoring reports will include photographs and a synopsis of the beach profile surveys that will be collected twice per year, prior to April 1 and after September 1 of each year. Abutting properties will be visually inspected for seasonal changes within 100' of the cobble nourishment projects, and observations will be included in the monitoring reports. Topographic beach profiles will measure the elevation of the beach at distinct transects along the properties (Figure 1 & 2). The same transects will be measured during each survey so that a comparison of beach height can be made between surveys. Data will be used to monitor how the renourishment performs and to provide a gauge as to when additional renourishment will be required to maintain resiliency. The monitoring reports will be submitted to the Conservation Commission.



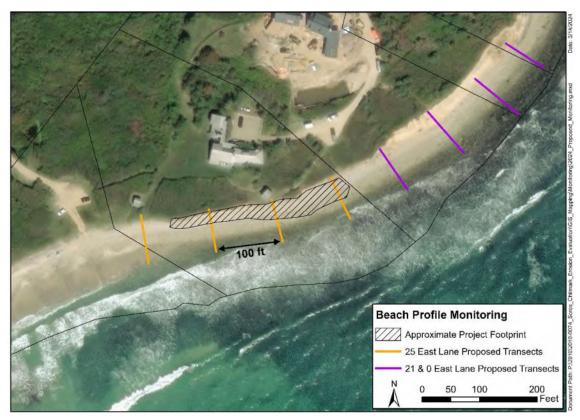


Figure 1. Plan showing location of beach profile monitoring transects at 25 East Lane.



Figure 2. Plan showing location of proposed beach profile monitoring transects at 21 & 0 East Lane.



If you have any questions, or require any additional information, please give me a call at 508-397-9689 or send an email to <u>tmarden@coastalprotectioneng.com</u>.

Sincerely,

Jara March

Tara Marden Senior Project Manager/Coastal Geologist

TPM/beg

Enclosures: as stated

cc: MassDEP/SERO/Wetlands & Waterways Fool's High Tide, LLC Richard Nylen, Lynch, DeSimone & Nylen, LLP Connor Ofsthun, Woods Hole Group, Inc.



November 10, 2021

Job No. 2010-0074

Kara Shemeth Chilmark Conservation Commission 401 Middle Road, PO Box 119 Chilmark, MA 02535

Sent via email: <u>kshemeth@chilmarkma.gov</u>

Re: Post Construction Bi-Annual Monitoring Report: December 2020

Beach Nourishment/Cobble Berm Fool's High Tide, LLC 25 East Lane Chilmark, MA Map 32 Parcel 68.1 DEP File No. SE 12-702 (SOOC)

Dear Ms. Shemeth,

Per Special Condition #5 of the Bylaw Only Order of Conditions (OOC) and Special Condition #9 of the Superseding Order of Conditions (SOOC) issued for the above referenced project, we are hereby submitting this post construction December 2020 Bi-Annual Monitoring Report. This report includes photographs documenting the site conditions from April-December 2020 (see attached Figures 1-12), an attached plan entitled "Bi-Annual Monitoring Plan – December 2020 for Fools High Tide, LLC", dated 2/2/2021 showing results of the December 2020 beach profile survey, and the following evaluation:

Pre-Construction - In April 2020, prior to construction, the beach was predominantly comprised of mixed cobble with a thin veneer of sand in spots. The bank was undercut and actively eroding. Figures 1 thru 4 were taken just prior to construction and show the existing conditions on the site and demonstrate the need for the permitted cobble and sand nourishment project. At this time, the cobble stretched continuously from the project site through Stonewall Beach to the west and the thin veneer of sand that comes and goes seasonally, can be seen in Figures 1-3.

During Construction- The cobble berm was constructed in May of 2020 by John Keene Excavation and supervised by Woods Hole Group. The homeowner was given permission by the Conservation Department and the Natural Heritage Endangered Species Program to work inside of the time-of-year restriction for state listed shorebirds to get the project completed before the summer. Per the Bylaw Only OOC, a total of 575 cubic yards of mixed cobble was placed along the toe of the coastal bank to build the cobble berm, and 650 cubic yards of compatible sand nourishment was placed over the top of the cobble berm as a sand veneer and as an apron on the east and west sides of the berm. Figures 5 and 6 were taken during construction in early May. Figure 5, taken from Stonewall Beach and looking east, shows the eastern extend of the construction limit of work (red line) with Stonewall Beach in the foreground. Figure 6, taken on the property, shows new placed cobble in the permitted footprint. Figures 7 and 8 were taken upon completion of the work and show the newly constructed berm covered with a two-foot sand veneer.

Post-Construction Monitoring, fall 2020 - Between the time of construction and the first bi-annual survey on December 3, 2020, the native coastal bank was well protected by the cobble and sand nourishment and exhibited no new erosion. The seaward edge of the newly constructed berm cut back approximately five (5) feet and there was a slight rise in elevation of the fronting beach where the eroded material likely deposited. There was a slight lowering of the profile farther seaward



but this is typical for winter beaches in high energy environments. The surveyed cross-sections are shown on the attached plan, "Bi-Annual Monitoring Plan – December 2020 for Fools High Tide, LLC".

Woods Hole Group will continue to monitor the site to determine if additional cobble is necessary after the winter season. The next survey will be performed in 6 months and the data will be presented to the agencies.

If you have any questions, or require any additional information, please give me a call at 508-397-9689 or send an email to <u>tmarden@woodsholegroup.com</u>.

Sincerely,

Jana March

Tara Marden Coastal Geologist/Project Manager

TPM/beg

Enclosures: as stated

cc: Dan Gilmore, Chief, MassDEP/SERO/Wetlands & Waterways Richard Nylen, Lynch, DeSimone & Nylen, LLP Joel Kubick, Woods Hole Group, Inc.



Figure 1. Fool's High Tide beach looking west, April 2020



Figure 2. Fool's High Tide beach looking west, April 2020



Figure 3. Fool's High Tide beach looking east, April 2020



Figure 4. Figure 3. Fool's High Tide beach looking east, April 2020



Figure 5. Stonewall Beach looking east, May 2020



Figure 6. Fool's High Tide cobble berm construction, May 2020



Figure 7. Fool's High Tide cobble berm construction complete, May 2020



Figure 8. Fool's High Tide cobble berm construction complete, May 2020



Figure 9. Fool's High Tide beach looking west, December 2020



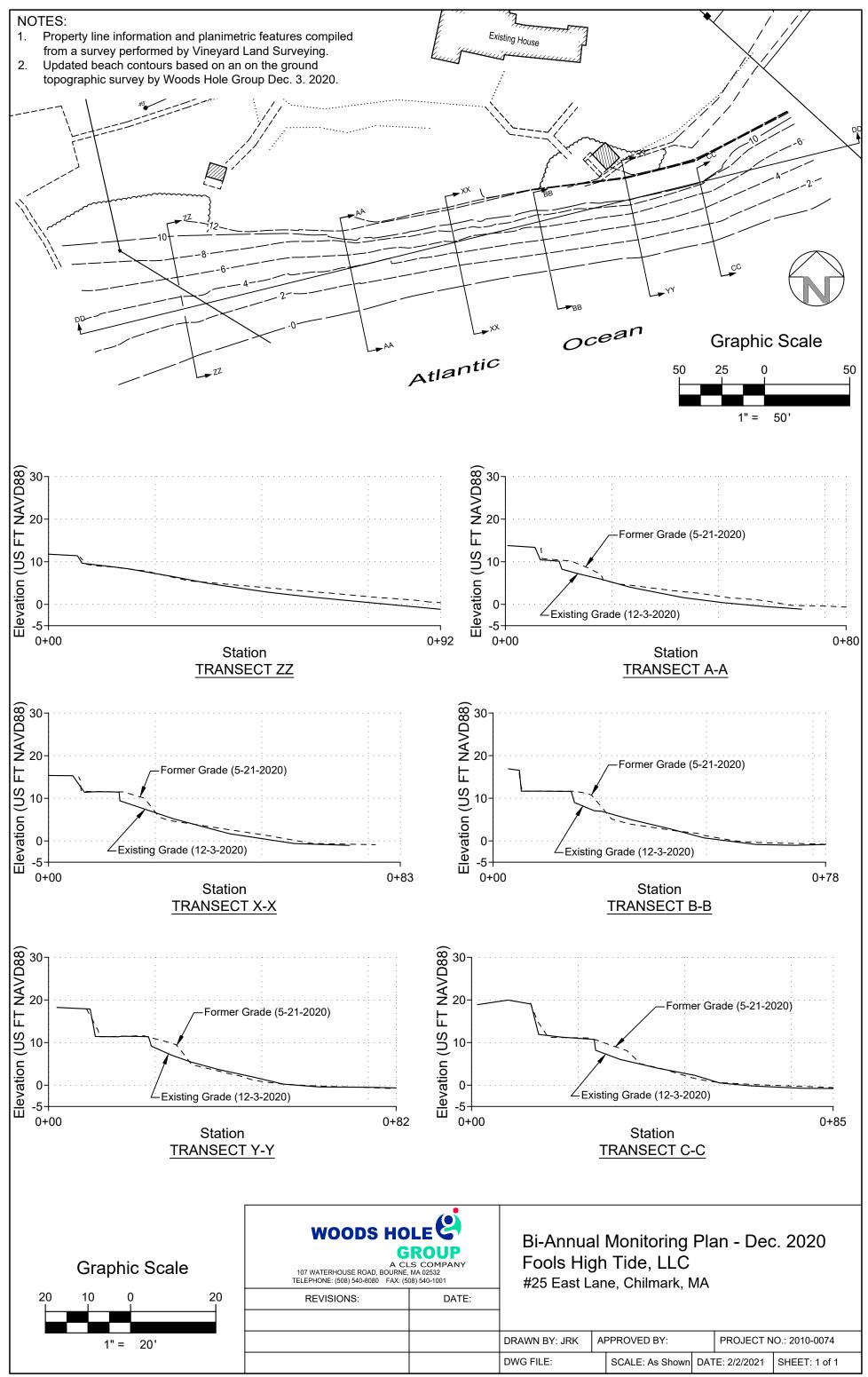
Figure 10. Stonewall Beach Assoc. beach looking north, Dec. 2020



Figure 11. Fool's High Tide beach looking east, December 2020



Figure 12. Fool's High Tide beach looking east, December 2020



2010-0074_12-2020.dwg



November 10, 2021

Job No. 2010-0074

Kara Shemeth Chilmark Conservation Commission 401 Middle Road, PO Box 119 Chilmark, MA 02535

Sent via email: kshemeth@chilmarkma.gov

Re: Post Construction Bi-Annual Monitoring Report: July 2021

Beach Nourishment/Cobble Berm Fool's High Tide, LLC 25 East Lane Chilmark, MA Map 32 Parcel 68.1 DEP File No. SE 12-702 (SOOC)

Dear Ms. Shemeth,

Per Special Condition #5 of the Bylaw Only Order of Conditions and Special Condition #9 of the Superseding Order of Conditions (SOOC) issued for the above referenced project, we are hereby submitting this post construction July 2021 Bi-Annual Monitoring Report. This report includes photographs documenting the site conditions (see Figures 1-5), an attached plan entitled "Bi-Annual Monitoring Plan – July 2021 for Fools High Tide, LLC", dated 7/12/2021 showing results of the beach profile survey, and the following evaluation:

Between the time of the previous bi-annual survey on December 3, 2020 and the next survey on July 7, 2021, the native coastal bank was still afforded adequate protected by the constructed cobble berm and sand nourishment and exhibited no new undercutting or erosion. Even though there was approximately five (5) feet of additional berm erosion, the remaining berm continued to protect the toe of the native coastal bank as shown in Figures 1 and 2. The profile data indicate an insignificant change across the remaining profile of the beach. The ephemeral sand cover that comes and goes seasonally had returned and extended from the Fools High Tide Beach across Stonewall Beach to the west.

Figures 1, 3 and 4 show the dramatic sand cover that had accreted across the coastal beach from the western end of the project site across Stonewall Beach to the west. This is typical for this site during the summer months when prevailing winds carry sand back onto the beach. Figure 5 shows the rocky intertidal area, which looks unaffected by the cobble berm and sand nourishment project. The profile data confirm that changes to the intertidal beach and rocky intertidal area have been insignificant.

Whereas the berm continues to decrease in volume, the protection it affords will be diminished overtime. If the berm cuts back to the point of no longer be able to protect the native coastal bank and upland property, it will be the recommendation of the Woods Hole Group to renourish the berm with additional sand and cobble. The property owner is aware that they will need additional permission from the regulatory agencies prior to installing any new material on the beach.





Figure 1. Cobble beach, July 7, 20021 (looking east).



Figure 2. Cobble beach, July 7, 2021 (looking east).





Figure 3. Cobble beach, July 7, 2021 (looking west).



Figure 4. Stonewall Association beach, July 7, 2021 (looking west).





Figure 5. Cobble beach, July 7, 2021 (looking west).

If you have any questions, or require any additional information, please give me a call at 508-397-9689 or send an email to <u>tmarden@woodsholegroup.com</u>.

Sincerely,

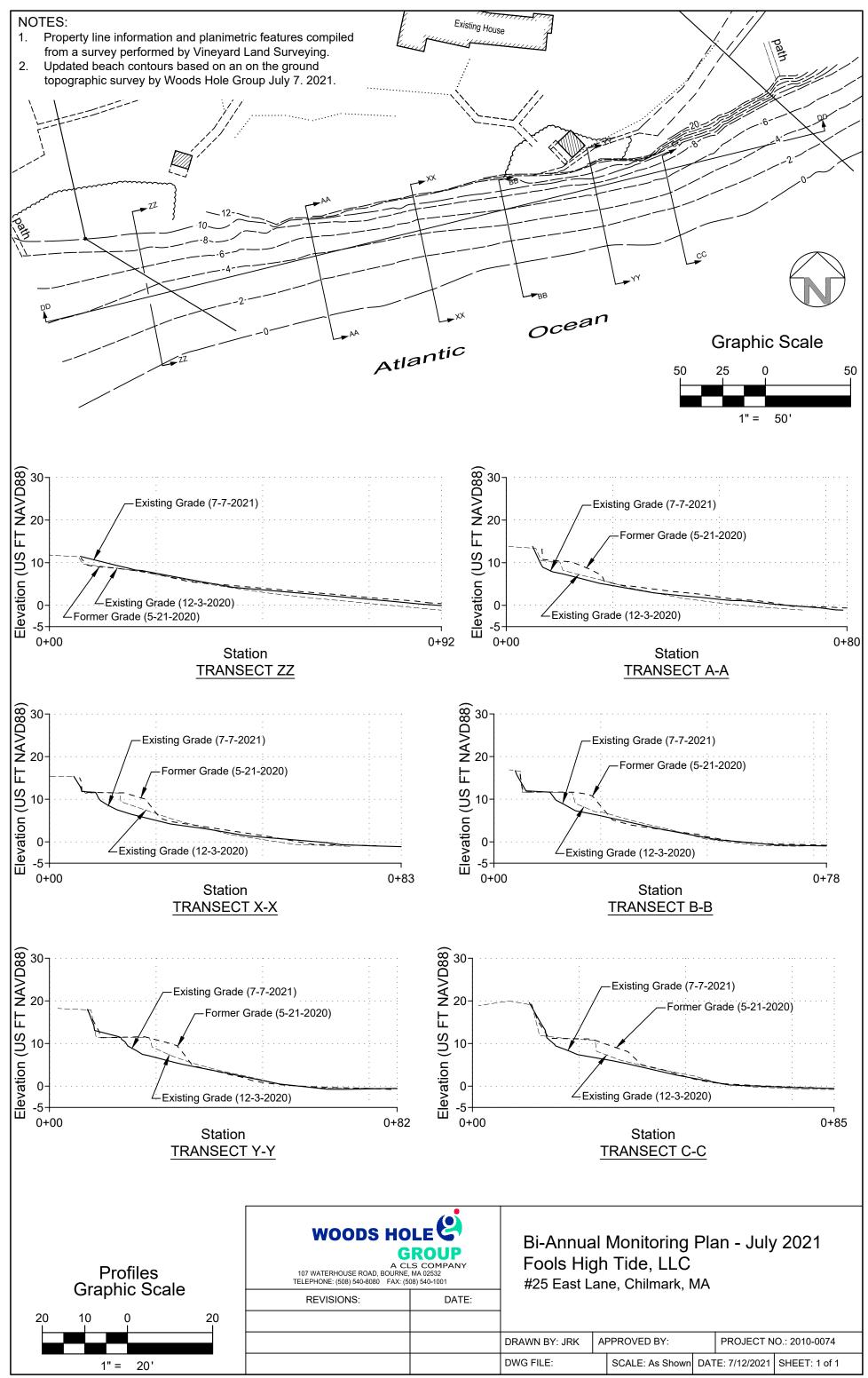
Jana March

Tara Marden Coastal Geologist/Project Manager

TPM/beg

Enclosure

cc: Dan Gilmore, Chief, MassDEP/SERO/Wetlands & Waterways Richard Nylen, Lynch, DeSimone & Nylen, LLP Joel Kubick, Woods Hole Group, Inc.



2010-0074_07-2021 SP.dwg



June 1, 2022

Job No. 2010-0074

Kara Shemeth Chilmark Conservation Commission 401 Middle Road, PO Box 119 Chilmark, MA 02535

Sent via email: kshemeth@chilmarkma.gov

Re: <u>Bi-Annual Monitoring Report: December 2021</u>

Beach Nourishment/Cobble Berm Fool's High Tide, LLC 25 East Lane Chilmark, MA Map 32 Parcel 68.1 DEP File No. SE 12-702 (SOOC)

Dear Ms. Shemeth,

Per Special Condition #5 of the Bylaw Only Order of Conditions and Special Condition #9 of the Superseding Order of Conditions (SOOC) issued for the above referenced project, we are hereby submitting this December 2021 Bi-Annual Monitoring Report. This report includes photographs documenting the site conditions (see Figures 1-4), an attached plan entitled "Bi-Annual Monitoring Plan – December 2021 for Fools High Tide, LLC", dated 4/15/2022 showing results of the beach profile survey, and the following evaluation:

Between the time of the previous bi-annual survey on July 7, 2021 and this survey on December 7, 2021, the majority of the material in the cobble berm had eroded away, and therefore, the berm no longer provided adequate protection to the coastal bank, see Figures 1-4.

Since the berm continued to decrease in volume, Woods Hole Group recommended it be renourished with additional sand and cobble. The process to obtain additional permission from the regulatory agencies began and subsequent permits were issued. The renourishment project was scheduled for March, 2022.





Figure 1. Cobble and sandy beach, December 2021 (looking east).



Figure 2. Cobble and sandy beach, December 2021 (looking east).





Figure 3. Cobble and sandy beach, December 2021 (looking west).



Figure 4. Cobble beach, December 2021 (looking west).



If you have any questions, or require any additional information, please give me a call at 508-397-9689 or send an email to <u>tmarden@woodsholegroup.com</u>.

Sincerely,

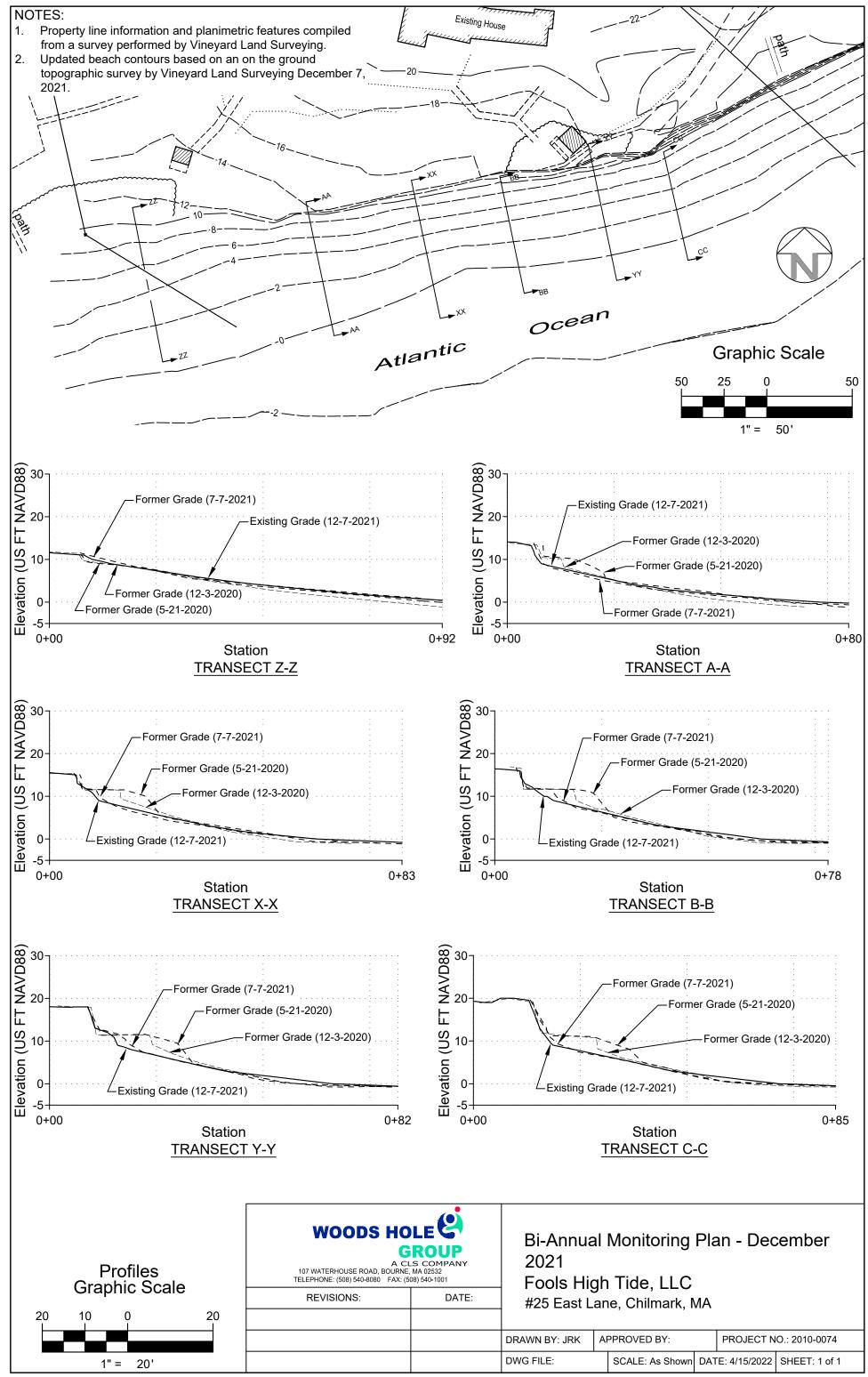
Jara March

Tara Marden Coastal Geologist/Project Manager

TPM/beg

Enclosure

cc: Dan Gilmore, Chief, MassDEP/SERO/Wetlands & Waterways Fool's High Tide, LLC Richard Nylen, Lynch, DeSimone & Nylen, LLP Joel Kubick, Woods Hole Group, Inc.



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June 1, 2022

Job No. 2010-0074

Kara Shemeth Chilmark Conservation Commission 401 Middle Road, PO Box 119 Chilmark, MA 02535

Sent via email: <u>kshemeth@chilmarkma.gov</u>

Re: Post-Reconstruction/Bi-Annual Monitoring Report: April 2022

Beach Nourishment/Cobble Berm Fool's High Tide, LLC 25 East Lane Chilmark, MA Map 32 Parcel 68.1 DEP File No. SE 12-702 (SOOC)

Dear Kara,

Per Special Condition #5 of the Amended Bylaw Only Order of Conditions (AOOC) and Special Condition #9 of the Superseding Order of Conditions (SOOC) issued for the above referenced project, we are hereby submitting this April 2022 Post-Reconstruction/Bi-Annual Monitoring Report. This report includes photographs documenting the site conditions (see attached Figures 1-12), an attached plan entitled "Bi-Annual Monitoring Plan – April 2022 for Fools High Tide, LLC", dated 4/14/2022 showing results of the post-reconstruction beach profile survey, and the following evaluation:

During Reconstruction- The cobble berm was reconstructed in March of 2022 by John Keene Excavation and supervised by Woods Hole Group. Per the Amended Bylaw Only OOC, a total of 575 cubic yards of mixed cobble was placed along the toe of the coastal bank to rebuild the cobble berm, and 650 cubic yards of compatible sand nourishment was placed over the top of the cobble berm as a sand veneer and as an apron on the east and west sides of the berm.

Post-Reconstruction/Bi-Annual Monitoring, April 2022 – During the post-reconstruction/bi-annual survey on April 1, 2022, the native coastal bank is once again well protected by the cobble and sand renourishment. Figures 1-12 were taken upon completion of the work and show the newly reconstructed berm covered with a two-foot sand veneer.

Woods Hole Group will continue to monitor the site. The next survey will be performed in December 2022 and the data will be presented to the agencies.



If you have any questions, or require any additional information, please give me a call at 508-397-9689 or send an email to <u>tmarden@woodsholegroup.com</u>.

Sincerely,

Jara March

Tara Marden Coastal Geologist/Project Manager

TPM/beg

Enclosures: as stated

cc: Dan Gilmore, Chief, MassDEP/SERO/Wetlands & Waterways
Fool's High Tide, LLC
Richard Nylen, Lynch, DeSimone & Nylen, LLP
Joel Kubick, Woods Hole Group, Inc.



Figure 1. Fool's High Tide (FHT) beach looking east, April 1, 2022

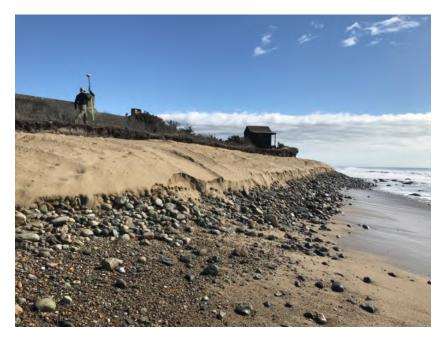


Figure 3. FHT cobble berm reconstruction complete, April 1, 2022

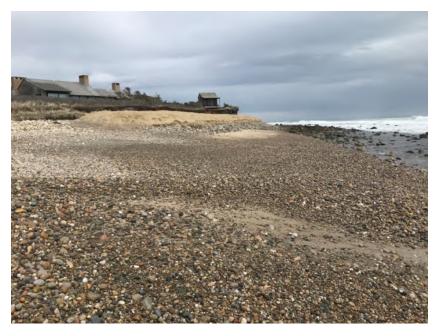


Figure 2. FHT cobble berm reconstruction complete, April 1, 2022



Figure 4. FHT cobble berm reconstruction complete, April 1, 2022



Figure 5. FHT cobble berm reconstruction complete, April 1, 2022



Figure 7. FHT cobble berm reconstruction complete, April 1, 2022



Figure 6. FHT cobble berm reconstruction complete, April 1, 2022



Figure 8. FHT cobble berm reconstruction complete, April 1, 2022



Figure 9. FHT cobble berm reconstruction complete, April 1, 2022



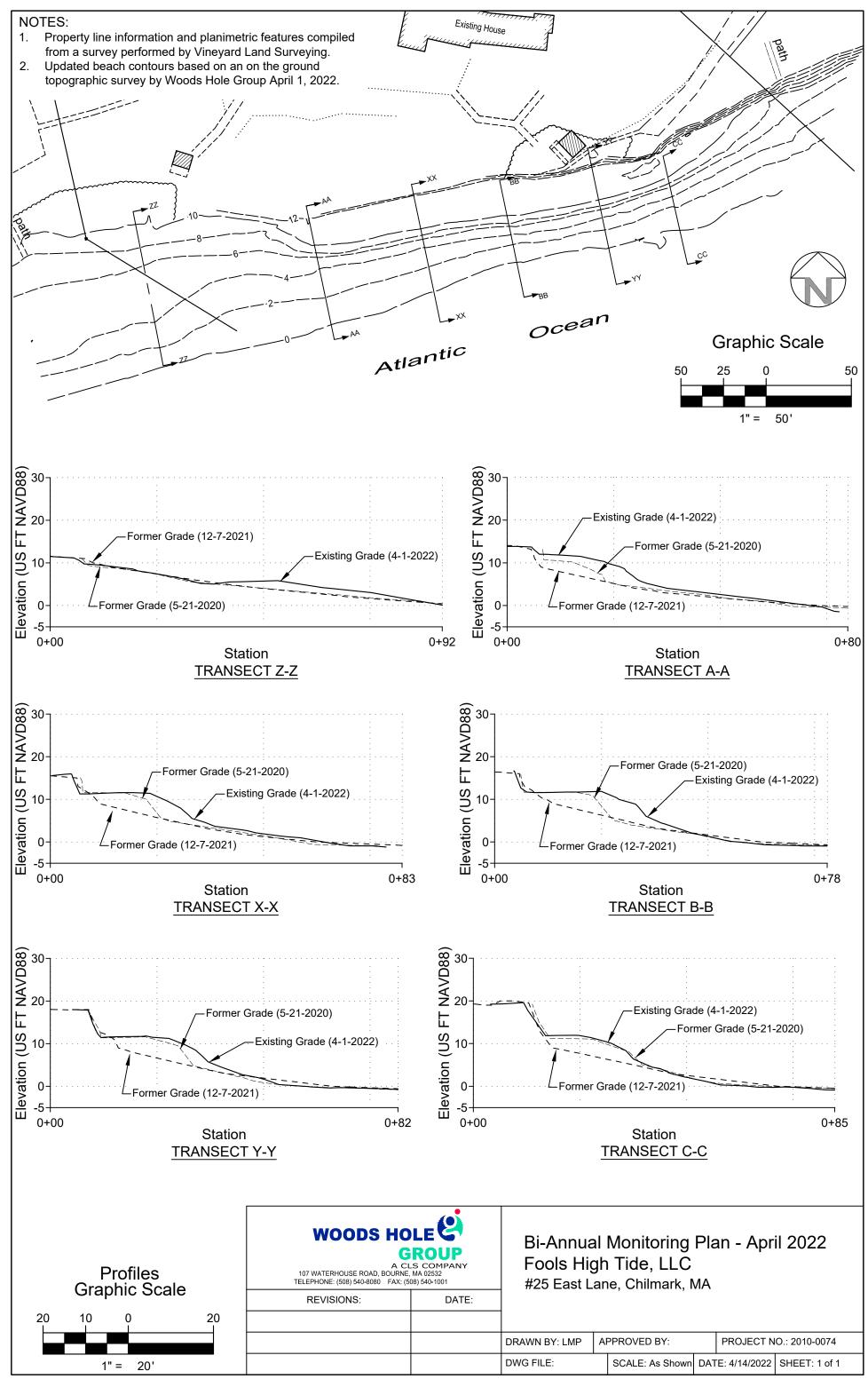
Figure 11. FHT cobble berm reconstruction complete, April 1, 2022



Figure 10. FHT cobble berm reconstruction complete, April 1, 2022



Figure 12. Stonewall Beach Association, looking west, April 1, 2022



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June 6, 2023

Job No. 2010-0074-00

Kara Shemeth Chilmark Conservation Commission 401 Middle Road, PO Box 119 Chilmark, MA 02535

Sent via email: <u>kshemeth@chilmarkma.gov</u>

Re: <u>Bi-Annual Monitoring Report: December 2022</u>

Beach Nourishment/Cobble Berm Fool's High Tide, LLC 25 East Lane Chilmark, MA Map 32 Parcel 68.1 DEP File No. SE 12-702 (SOOC)

Dear Kara,

Per Special Condition #5 of the Amended Bylaw Only Order of Conditions (AOOC) and Special Condition #9 of the Superseding Order of Conditions (SOOC) issued for the above referenced project, we are hereby submitting this December 2022 Bi-Annual Monitoring Report. This report includes photographs documenting the site conditions (see attached Figures 1-3), an attached plan entitled "Bi-Annual Monitoring Plan – December 2022 for Fools High Tide, LLC", dated 05/25/2023 showing results of the bi-annual beach profile survey, and the following evaluation:

Between the time of the previous bi-annual survey on April 1, 2022 and this survey on December 8, 2022, minor erosion of the cobble berm occurred.

Despite minimal erosion between the April and December surveys, the cobble berm experienced significant erosion due to a storm event that took place on December 23, 2022 (see figures 4 & 6). Although the cobble berm has been successful at protecting the coastal bank, the volume of nourishment is inadequate to protect the bank for more than 1-2 years. Due to the loss of the berm and the Commission's decision to require a new Notice of Intent (NOI) to place additional nourishment, the Owner will be submitting requests for Certificates of Compliance to the Commission and MassDEP for the AOOC and SOOC. A new NOI will also be submitted for additional nourishment.



If you have any questions, or require any additional information, please give me a call at 508-397-9689 or send an email to <u>tmarden@woodsholegroup.com</u>.

Sincerely,

Jana March

Tara Marden Coastal Geologist/Project Manager

TPM/beg

Enclosures: Figures 1-5

cc: Mark Bartow, MassDEP/SERO/Wetlands & Waterways Fool's High Tide, LLC Richard Nylen, Lynch, DeSimone & Nylen, LLP Joel Kubick, Woods Hole Group, Inc.



Figure 1. Fool's High Tide (FHT) cobble berm looking west, Dec. 8, 2022



Figure 2. FHT cobble berm looking east, Dec. 8, 2022



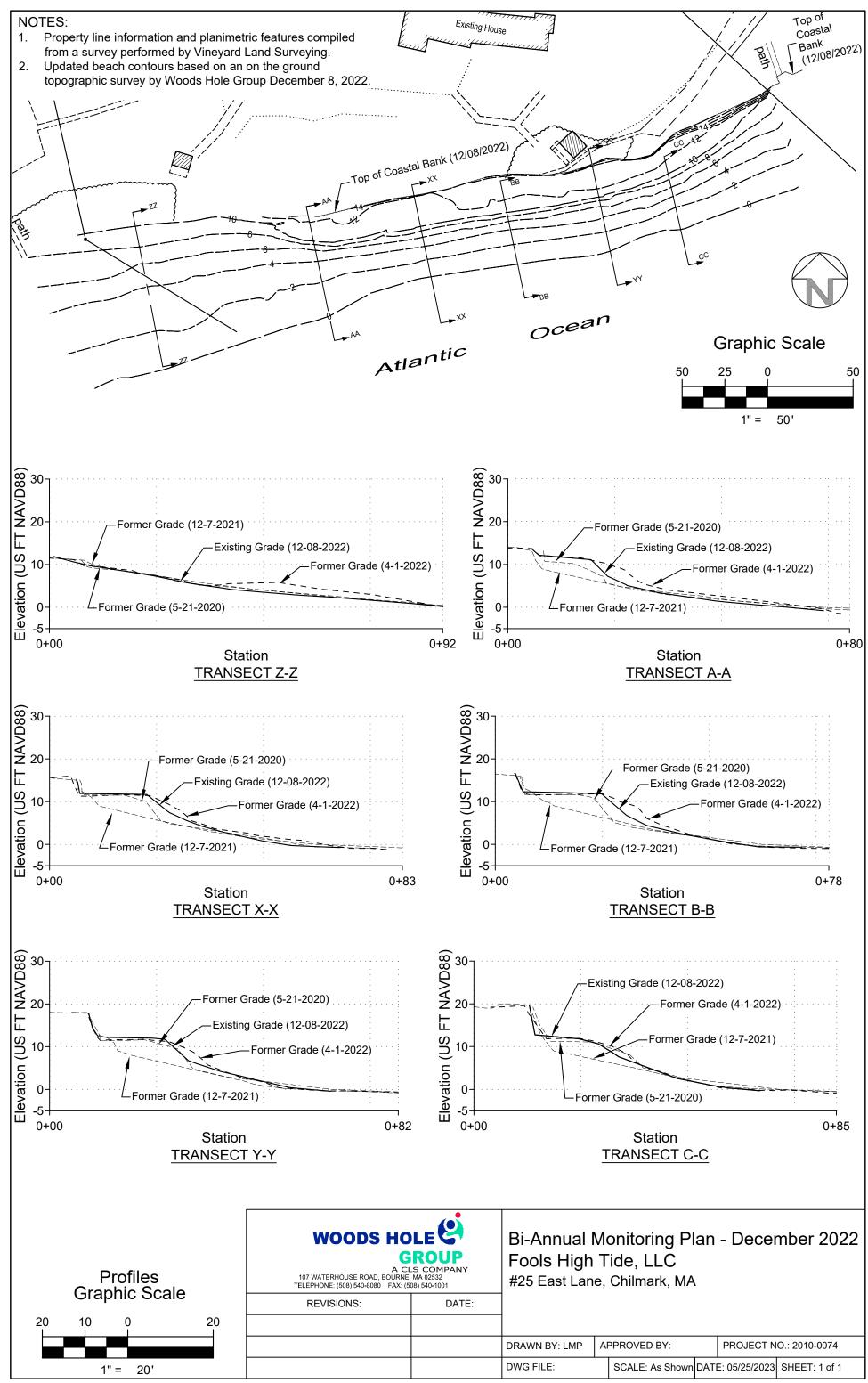
Figure 3. FHT beach and cobble berm looking east, Dec. 8, 2022



Figure 4. FHT beach and cobble berm looking east, March 20, 2023



Figure 5. FHT beach and exposed coastal bank, March 20, 2023



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