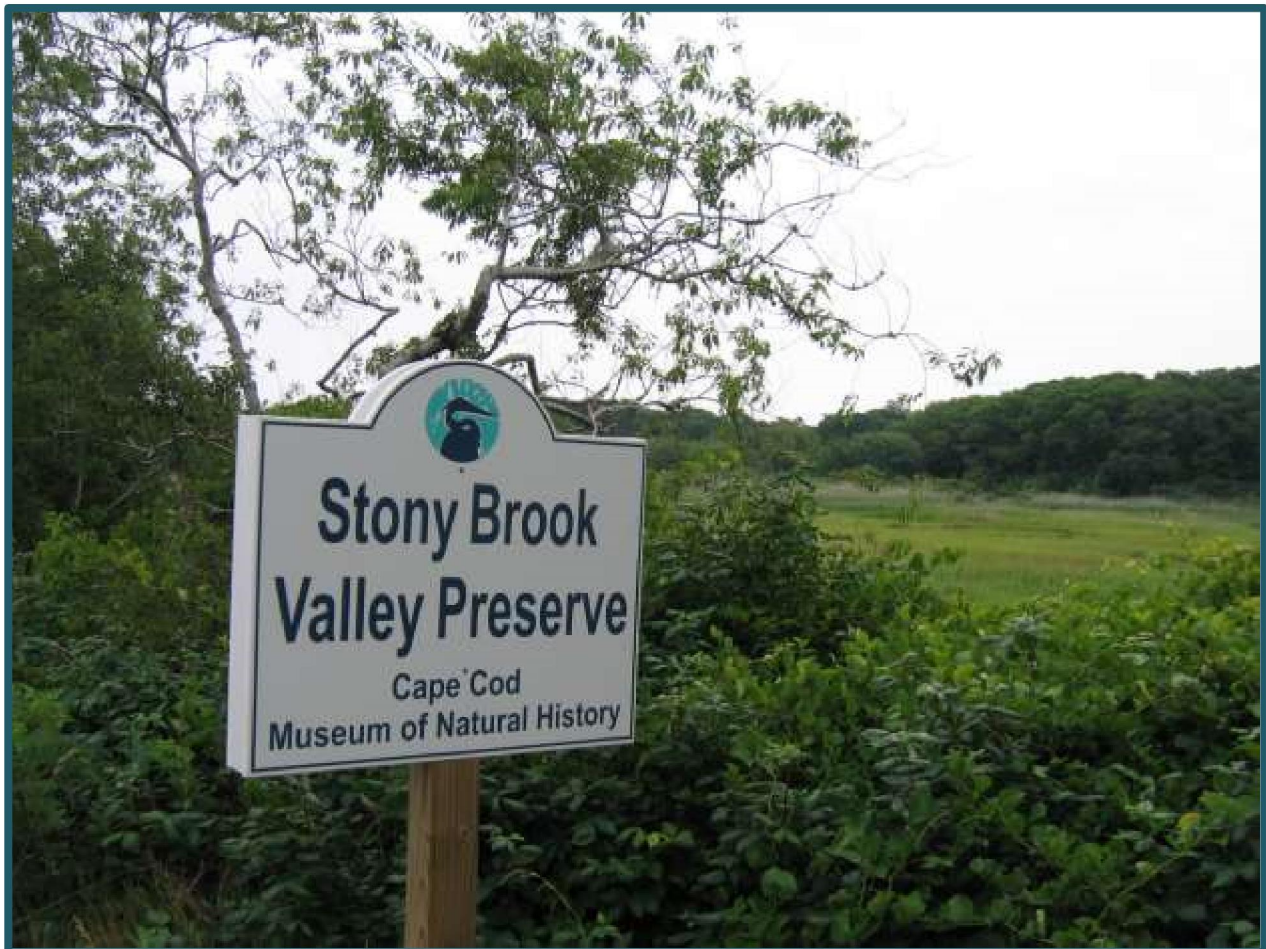


**CAPE COD MUSEUM OF NATURAL HISTORY
COMMUNITY PRESERVATION COMMITTEE**

SPRING 2018 APPLICATION:

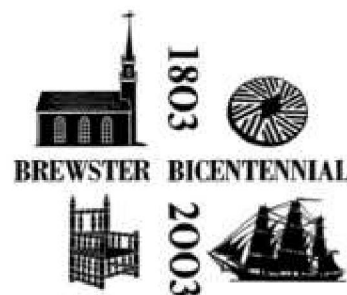
**LEE BALDWIN SOUTH TRAIL
OBSERVATION PLATFORM & BRIDGES RESTORATION**



OVERLOOKING THE STONY BROOK VALLEY



Town of Brewster
Community Preservation Committee
2198 Main Street
Brewster, Massachusetts 02631-1898
(508) 896-3701 x 133
Fax (508) 896-8089



APPLICATION FOR COMMUNITY PRESERVATION ACT FUNDING

Date Application Submitted: July 1, 2018

Name of Project Applicant: Cape Cod Museum of Natural History (CCMNH)

Name of Co-Applicant(s), if applicable: _____

Name of Contact Person: Robert Smith

Contact Person's Mailing Address: 869 Route 6A, Brewster, MA 02631

Contact Person's Daytime Phone Number: 508-896-3867 x131; Home-508-896-6333/Cell -978-618-6709

Contact Person's email Address: bobmsm@earthlink.net

Proposed Project Name: Lee Baldwin Trail Observation Platform & Bridges Restoration

Project Address (or assessor's parcel ID): 869 Route 6A Brewster, MA 02631 Map 20, Parcel 27

Project Synopsis:

As both a wildlife sanctuary and a walker's delight, the Stony Brook Valley Preserve, owned by the Cape Cod Museum of Natural History, is a Cape Cod treasure. Balancing recreation and conservation presents challenges and CCMNH's Land Stewardship Committee is always busy solving problems, protecting wildlife, and enhancing habitats with careful study and stewardship. The Museum is surrounded by 300 acres of Museum, Town and Conservation-owned land with nature trails meandering through woodland, salt marsh and over Wing Island to the shore of Cape Cod Bay. The Lee Baldwin Trail starts across Route 6A from the Museum and winds through the famous Stony Brook Valley. It travels through a brackish salt marsh across the Stony Brook into a unique beech forest. There is a wooden observation platform at the start of the trail and a number of small bridges on the walk through the marsh.

The Museum wishes to rebuild and restore the observation platform, located at the beginning of the Lee Baldwin Trail. The platform was built in 2010 and is in need of restoration. In addition, two of the small bridges on the Lee Baldwin Trail that were originally built in 2010, need to be re-built. Three such bridges have already been rebuilt by the Museum.

Category: ☒ Open Space ☐ Historic Preservation ☒ Recreation ☐ Community Housing

CPA funding requested up to \$ 12,000.00 **Total Cost of Proposed Project** \$ 17,500.00

1. PROJECT DESCRIPTION:

The goals of this project encompass a number of the Community Preservation general criteria areas for Community Preservation and Enhancement serving the purposes of Open Space and Recreation; preserving access to resources that would not otherwise be easily observed; leveraging public and private funds and enhancing existing Brewster resources; all contributing to the preservation of Brewster's unique character.

The Cape Cod Museum of Natural History (CCMNH) was founded in 1954, with a mission to inspire appreciation, understanding and stewardship of our natural environment through discovery and learning. The Museum is housed in a 17,000 square foot building on its own 4-acre site. It has two floors of exhibits explaining the coastal change creation of Cape Cod, Native American presence; archaeology showing 8,000 years of human activity; native animals and habitats; films, lectures and workshops on a variety of topics are offered year round along with special programs for children especially during school vacation; our KidSummer nature program; an impressive display of indigenous and migratory preserved birds, an aquarium that is a microcosm of the Cape with salt, brackish and freshwater specimens; the Eldridge Arnold bird-carving exhibit; examples of biomimicry and learning through nature to solve 21st century problems; and special, temporary exhibits to enhance the permanent collection. The Museum is surrounded by 300 acres of Museum, Town and Conservation-owned land, with nature trails meandering through woodland, salt marsh and over Wing Island to the shore of Cape Cod Bay. **(ATT. 1a.)**

Most of the land in the Stony Brook Valley Preserve was acquired for the Museum by John Hay, the eminent natural history writer and principal founder and benefactor of the organization, and other public-spirited citizens. To ensure this land is forever preserved, the Trustees of the Museum gave a Conservation Restriction on the land to the Brewster Conservation Trust (BCT). The Museum retains ownership and the right to use the land for education, passive recreation, and scientific research. The two organizations work together to maintain trails for the public; to protect wild areas from human intrusion and invasive species; and to consider joint projects in environmental education, research, habitat enhancement, and public programming. Sensitive stewardship helps protect these critical habitats for state-listed Threatened/Special Concern species, and maintain a landscape of historic and scenic importance.

The Lee Baldwin Trail (1 mile) starts across Route 6A from the Museum and meanders through the famous Stony Brook Valley. It travels through a brackish salt marsh across the Stony Brook into a unique beech forest. Between mid-April and early-June, Stony Brook becomes a herring run, connecting these ocean-dwelling alewives with their freshwater spawning grounds.

The observation platform on the Lee Baldwin Trail was originally constructed in 2010. The design and construction was part of a Town of Brewster Project funded by the National Oceanic and Atmospheric Administration Restoration Center and the American Recovery and Reinvestment Act of 2009 that enlarged the Stony Brook culverts under 6A and restored tidal flow to the marsh on the south side. The total construction cost of the platform, the five (5) small bridges/ramps to cross newly cut swales, and reconstruction of the earthen path crossing the marsh was \$33,000. The platform and trail are entirely on museum property and any ongoing maintenance and repair has been the responsibility of the Museum. **(ATT. 3a.)**

Since the platform was opened, it has been used by trail-walkers, wildlife observers, school and camp groups and anyone just wanting to sit and relax, surrounded by nature. The platform commands outstanding views south up the Stony Brook Valley. The platform contains several informational signs that inform the visitor about the habitat and physical surroundings of the Valley.

At the time the platform was being designed, there was discussion about which materials to use for the floor platform and the sitting bench deck. The choice was between wood (yellow cypress, *Cupressus nootkatensis*, was specified) and plastic composite (e.g. Trex). A decision was made to use the wood, although the price difference from the low bidder was only \$500, with the wood being the higher.

Since 2011, the wood decking material, the stairway material and deck of the round sitting bench have deteriorated, especially in the last two years, and the rate of the rot appears to be increasing. All of this material is yellow cypress. The Museum has made a decision that the only practical and safe solution is to replace all of the yellow cypress materials on the platform with a Brazilian sustainable hardwood Ipe (commonly called Epay). The Epay material will provide a longer term, maintenance-free solution. Another reason for using Epay rather than composite is that there are a large number of cut edges due to the design of the bench and deck. This leaves the edges of any composite material, now no longer sealed, exposed to the elements. We feel a solid wood material is the better choice. The Epay is also a more attractive solution. **(ATTs. 3 b.-g.)**

It should be noted that the structural frame of the platform is in good condition. The frame was constructed of cedar. Since the summer of 2016, the Museum has replaced many sections of wood, some on the walking deck and stairs and some on the sitting bench. Two of the pieces on the walking deck were so rotted that they could have collapsed under a person's weight. Museum staff is regularly monitoring the condition. When the project was permitted in 2011, the Brewster Conservation Commission specifically rejected the use of any chemically-treated wood, so that is not an option. **(ATT. 2a.)**

Also constructed in 2010 were five small bridges/ramps on the section of the trail that crosses the marsh. These ramps provide a dry crossing over the small swales under most tide conditions, in addition to the four major trail bridges that have existed for many years over the major swales and over Stony Brook itself. Three of these small ramps were lost during storms in 2016 and 2017, most likely because they were not properly anchored to the concrete footings that had been set into the marsh. All three of these were replaced by the Museum in late 2017, using different materials (Epay frame and composite deck) and better anchoring systems. The Museum would now like to replace the two remaining ramps from the 2010 period. **(ATT. 3h. & i.)**

2. CPA GOALS/CRITERIA:

The goals of this project specifically relate to the Recreation and Open Space areas of Community Preservation; enhancing and contributing to the preservation of Brewster's unique character.

Open Space Criteria:

Provide opportunities for passive recreation and environmental education.

Enhance or protect wildlife corridors, promote connectivity of habitat and prevent fragmentation of habitats

Provide connections with existing trails or potential trail linkages

Preserve scenic views or border a scenic road.

By providing an accessible view point the Observation platform allows visitors to view the marsh and its wildlife without physically entering the marsh area and disturbing the environment, habitat and wildlife.

- This contributes to the preservation of one of Brewster's most popular scenic marshes and accompanying vista, while providing access and a view to the Stony Brook Valley that does not impact or disturb wildlife and habitats.
- Provides a scenic view of the Stony Brook Valley and the Stony Brook Herring Run.
- Provides an observation point along the Lee Baldwin Trail, which is part of the Brewster Pathways Trail program

- Provide interpretive signage that informs residents and visitors about the habitat and physical surroundings of the Stony Brook Valley.

Recreation Criteria:

Support multiple active and passive recreation uses.

Serve a significant number of residents and visitors.

Expand the range of recreational opportunities available to all ages of Brewster residents and visitors.

Benefit other Brewster Committees providing recreational resources to residents

- This project supports multiple passive recreation uses, ranging from picnicking, walking, bird/wildlife observation.
- Provides for continuation of an opportunity for recreation in NW Brewster within the Stony Brook Valley, available to all ages of Brewster residents and visitors.
- Provides an enhancement to the Lee Baldwin South Walking Trail experience. Over the years the Town and the Museum have increased the number of walking trails for environmental education by working with the Department of Natural Resources, Museum Staff and the Trails Committee.
- Serves a significant number of Brewster residents and visitors
- Benefits the Brewster Pathways Committee by enhancing connections with existing trails and conservation areas (e.g. Stranahan Conservation Area and Trail)

Every Town survey that has been done indicates that residents and visitors alike want more walking trails and enhancements to these trails. The Observation Platform allows residents and visitors viewing access to an unfragmented marshland, as well as a view of the Herring Run, for nature observation.

3. COMMUNITY BENEFITS:

Restoration of the Observation Platform will provide benefits to numerous populations. The general current population of Brewster (9,360) will benefit, as will Brewster's 30,000+ annual visitors, many of whom will be able to enjoy this area. The Town will be expanding the range of recreational opportunities available to all ages of Brewster residents and visitors by restoring this popular asset.

The Brewster voters have been approving land acquisition for over 45 years, accumulating over 1,100 acres to protect their drinking water and surface waters, wildlife corridors, rare and endangered species habitats and passive recreation areas. Both the Town of Brewster and the Cape Cod Museum have purchased lands in the Stony Brook Valley, creating a large 300-acre Conservation Area.

The 1991, 1999 and 2013 Town of Brewster surveys, done for the Town Open Space & Recreation Plans, found that residents value the preservation of public lands for accessible peaceful recreation. The Stony Brook Valley Preserve provides for such passive recreation and is an important part of Brewster's unique character.

Since the platform was opened, it has been used by trail-walkers, wildlife observers, school and camp groups and anyone just wanting to sit and relax, while surrounded by nature. Walking trails and this observation platform allow residents and visitors access to this important wildlife habitat area. The platform commands outstanding views south up the Stony Brook Valley and of the Stony Brook Herring Run. The platform also contains several informational signs that informs the visitor about the habitat and physical surroundings of the Valley.

Brewster is currently engaged in a Visioning Project to learn what people value most about the Town, what the challenges are, and the Town's direction into the future. The Vision Advisory Group has identified the most common themes—the building blocks for the vision—and goals for each of them. The building blocks included Community Character, Open Space, Housing, the Local Economy, Coastal Management, Water Resources,

Governance, and Community Infrastructure. Visioning meetings, coupled with the Vision Advisory Group's January 2018 survey results, indicated that residents valued Open Space, Water Resources Protection and Coastal Management/Protection most highly. Residents prioritized Open Space/Habitat Identification/ Protection along with Protection of Water Resources. Coastal Management was deemed critical to the protection and restoration of coastal resources such as salt marshes.

The Museum was established based on stewardship of such natural environments. It strives to preserve and protect critical habitats, maintain landscapes of historic and scenic importance; all the while balancing recreation with conservation of these lands. This protection allows residents and visitors alike to enjoy passive recreation such as walking and hiking on the Stony Brook Valley Preserve.

4. COMMUNITY SUPPORT:

The Observation Platform restoration work itself will be undertaken by a licensed contractor, with additional labor provided by Museum volunteers, and with community partners, including members of the Brewster Friends of Lands, Aquatics, Trails, and Shellfish group (FLATS), volunteers from the Cape Cod Museum of Natural History, the Brewster Conservation Commission, and the Brewster Conservation Trust (BCT).

5. TIMELINE:

Lee Baldwin South Trail Observation Platform:

ACTION	START	INTERIM ACTIONS	COMPLETION
Permitting and Design	Summer 2018		
Construction	Fall 2018		Spring 2019
Completion			Fall 2019

The permitting process will start in the summer of 2018. This would include application to the Community Preservation Committee, Historic District Committee, Building Department and Conservation Commission. If the application is supported by the Community Preservation Committee, and then approved at fall 2018 Town Meeting, the renovation could start immediately thereafter, weather permitting. Final work would be done during spring 2019.

6. CREDENTIALS:

The restoration project will be performed by Building Dreams, Inc., a licensed contractor, who will obtain all necessary construction permits. The Museum will be responsible for all future maintenance of the platform, once the restoration is complete.

7. BUDGET:

The estimated costs of the project are as follows:

Restoration of the observation platform:

Contractor	\$8,755.00 (June 2018 estimate)
<u>Volunteer Labor</u>	<u>\$3,000.00 (60 hours @\$50.00/hour)</u>
	\$11,755.00

Reconstruction of the two (2) small bridges/ramps:

Materials	\$1,500.00
Labor	\$2,400.00 (three individuals, working for 6 hours to do each bridge/ ramp @\$100 for primary, \$50/hour for two helpers)
	\$3,900.00

TOTAL \$15,655.00 with possible increased costs=\$17,500.00

The observation platform restoration cost is based on an estimate received on 6/4/18. This estimate included permitting by a licensed contractor, material purchases and construction supervision by the contractor. That estimate did not include the 60 hours of volunteer time that will be provided assisting the contractor in the restoration project. Volunteer resources are calculated at \$50/hour

The cost of reconstruction of the two bridges includes material only, with labor being provided by Museum volunteers, as indicated above. Any cost overruns will be borne by the Museum of Natural History.

With the recent increases in permitting and materials costs, the museum is requesting a new quote from Building Dreams, Inc., factoring in the increased material and labor costs for a spring 2019 construction.)

The project that was originally proposed in 2010 included an ADA compliant elevated boardwalk from the south parking lot to the observation platform. Because of higher than expected costs of other parts of the project, the boardwalk was eliminated and only the observation platform was constructed. The intent at this time is to restore just the platform to prevent further deterioration, and, at a later date, pursue the construction of the boardwalk as was originally proposed. That cost would be significant (\$75,000 to \$100,000), and CPA funds may be requested for a percentage of the cost.

Public funding to restore the platform and the bridges is being requested because, even though they are on private land owned by the Museum, they, and the entire Lee Baldwin trail, are available to all and are part of the Brewster Pathways Trails system. Museum membership or admission is not required to visit the Stony Brook Preserve or other Museum Trails.

The Museum's 2016 IRS form 990 is available if needed. (Att. 2b.)

8. MAINTENANCE:

The Observation Platform is under the custody and control of the Cape Cod Museum of Natural History. The Museum is responsible for the maintenance and management of the Platform.

9. SITE CONTROL:

The Observation Platform is on land that is part of the Stony Brook Preserve. Approximately 70 acres on the south side of route 6A is owned by the Cape Cod Museum of Natural History. The land is all under permanent conservation restrictions. The Observation Platform is located on Museum property. It is under the custody and control of the Cape Cod Museum of Natural History and is open to residents and visitors alike.

Town of Brewster Community Preservation Committee

CATEGORY SPECIFIC CRITERIA

(Identify which of the following criteria apply to your project.)

BOLD and Underlined

Open Space Proposals

- ☐ Permanently protect important wildlife habitat, including areas of significance for biodiversity, diversity of geological features and types of vegetation, contain a habitat type that is in danger of vanishing from Brewster or preserve habitat for threatened or endangered species of plants or animals.
- ☐ **Provide opportunities for passive recreation and environmental education.**
- ☐ **Enhance or protect wildlife corridors, promote connectivity of habitat and prevent fragmentation of habitats.**
- ☐ **Provide connections with existing trails or potential trail linkages.**
- ☐ **Preserve scenic views or border a scenic road.**
- ☐ Protect drinking water quantity and quality.
- ☐ Provide flood control/storage.
- ☐ Preserve important surface water bodies, including wetlands, vernal pools or riparian zones.
- ☐ Preserve priority parcels in the Town's Open Space Plan/maximize the amount of open land owned by the Town of Brewster.

Historical Preservation Proposals

- ☒ **MANDATORY:** Must be on the State Register of Historic Places or have a letter from the Brewster Historical Commission indicating that the resource has been determined to be significant in the history, archaeology, architecture, or culture of Brewster.
- ☒ **MANDATORY:** Project must meet Secretary of the Interior Standards for rehabilitation and/or restoration of Historic Preservation Properties.
- ☒ **MANDATORY IF REQUEST IS FROM A CHURCH/RELIGIOUS ORGANIZATION:** The project must satisfy the analysis outlined by the SJC's Caplan vs. Town of Acton decision.
- ☐ Protect, preserve, enhance, restore and/or rehabilitate historic, cultural, architectural or archaeological resources of significance, especially those that are threatened.
- ☐ Protect, preserve, enhance, restore and/or rehabilitate town-owned properties, features or resources of historical significance.
- ☐ Protect, preserve, enhance, restore and/or rehabilitate the historical function of a property or site;
- ☐ Demonstrate a public benefit and/or public access, or
- ☐ Otherwise provide permanent protection for maintaining the historic resource.
- ☐ Project site should not be privately owned unless there is demonstrable public access and benefit.

Community Housing Proposals

- ☐ Increase the supply of year-round affordable rental housing for all types of households, such as young singles and couples, families, and seniors.
- ☐ Build support for addressing housing needs through partnerships with conservation groups and non-profit and for-profit developers.
- ☐ Create housing that is affordable and appropriate for very low-income seniors and people with disabilities.
- ☐ Increase local capacity to plan, advocate for, and create affordable housing, preserve the affordability and condition of existing affordable units, and monitor affordable housing restrictions.
- ☐ Increase the variety of mixed-income housing choices in Brewster, particularly in or near commercial areas in order to support Brewster's economy and accommodate household growth.

- ☐ Provide at least 10% of Brewster's year-round housing units as affordable housing in order to meet local and regional needs.
- ☐ Ensure long term affordability.
- ☐ Give priority to local residents, town employees, employees of local businesses, and households with children in Brewster school's as allowed by law.

Recreation Proposals

- ☐ **Support multiple active and passive recreation uses.**
- ☐ **Serve a significant number of residents and visitors.**
- ☐ **Expand the range of recreational opportunities available to all ages of Brewster residents and visitors.**
- ☐ **Benefit other Brewster committees providing recreational resources to residents.**
- ☐ Promote the use of alternative corridors that provide safe and healthy non-motorized transportation.

LIST OF ATTACHMENTS:

Attachment 1: MAPS

- a. Aerial View of Stony Brook Valley Conservation Area
- b. Brewster Walking Trails, Lee Baldwin (South Trail) Map

Attachment 2: BUDGETS

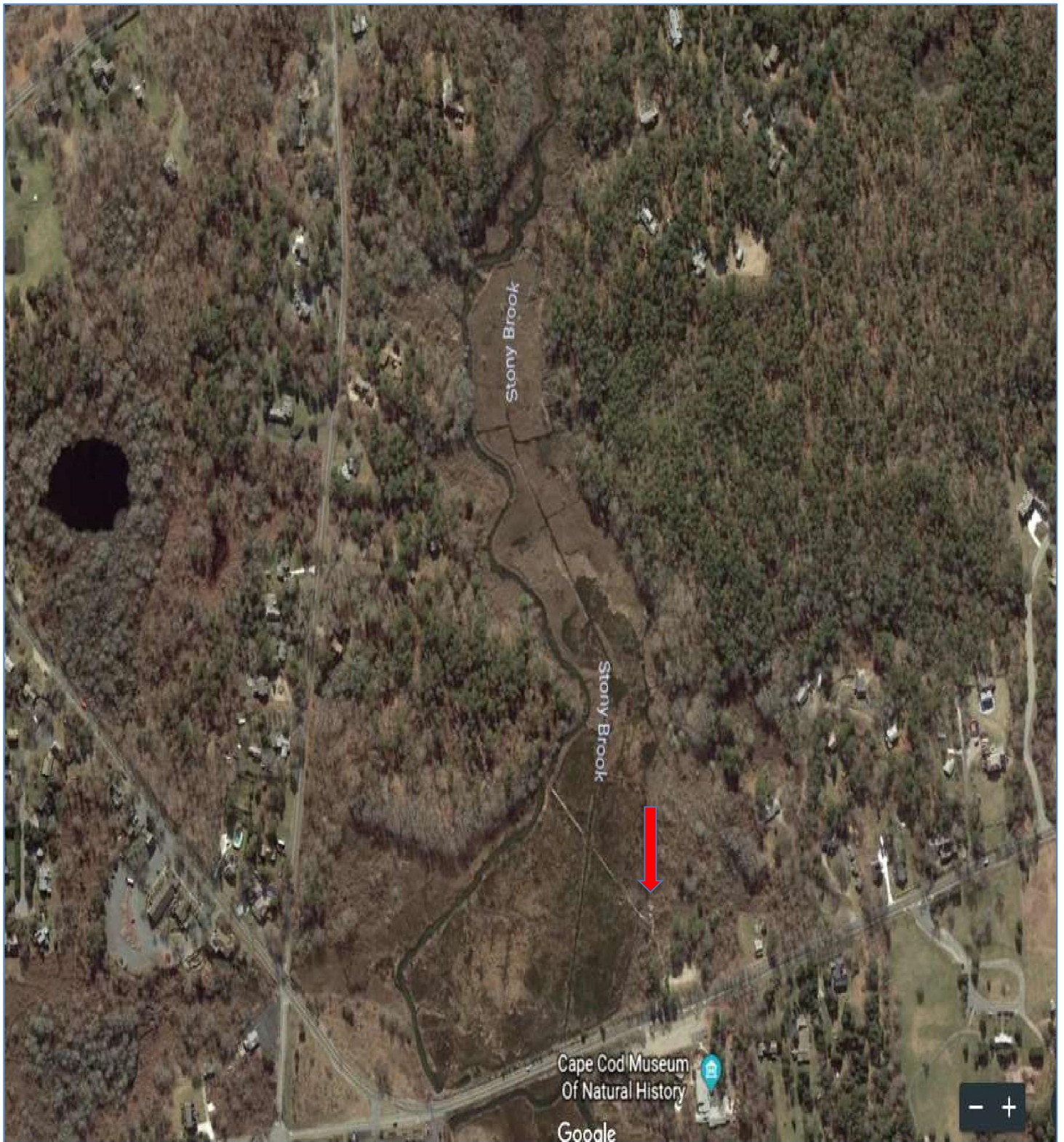
- a. Proposal #18086903 from Building Dreams, Inc., dated June 4, 2018
- b. 2016 IRS Tax Form 990

Attachment 3: PHOTOS

- a. Observation Platform: New - 11/16/2010
- b. Entrance to Observation Platform: Showing Condition of Supporting Structure - 12/27/2016
- c. Observation Platform: Showing Deteriorating Condition of Deck - 12/27/2016
- d. Observation Platform: Showing Deteriorated Condition of Center Bench - 12/27/2016
- e. Observation Platform: Showing Further Deterioration of Platform and Bench - 5/18/2018
- f. Observation Platform: Showing Temporary Patches -6/29/2018
- g. Observation Platform Understructure- 5/18/2018
- h. Older Ramp, to be replaced
- i. Completed New Style Ramp over Small Swales

Attachment 4: LETTERS OF SUPPORT

- a. Brewster Conservation Trust
- b. Brewster Pathways Committee



ATT. 1a: Aerial View of Stony Brook Valley Conservation Area, showing location of Museum, Stony Brook and the Observation Platform (red arrow)



Brewster Conservation Trust
P.O. Box 243
Brewster MA 02631
www.brewsterconservationtrust.org

Town of Brewster, MA
www.brewster-ma.gov



Brewster Walking Trails



3 John Wing Trail

The John Wing Trail, from Route 6A beside the Cape Cod Museum of Natural History to Wings Island provides a view of the habitats that are typical of the Cape Cod Bay shore: upland forest, salt marsh, salt meadow, dunes, and mud flats. Wings Island provided a rich environment for Native Americans and settlers. Stones placed in Sachems Field have been arranged to show a pattern similar to what Native Americans might have used to mark time. The island was also the site of early salt works and salt hay harvesting. Paines Creek, to the east, leads to Brewster's famous Herding run into Lower Mill Pond. Wings Island is named after John Wing, Brewster's first colonial settler. Walkers are encouraged to visit the Museum of Natural History.

Round trip trail length: 1.3 miles.

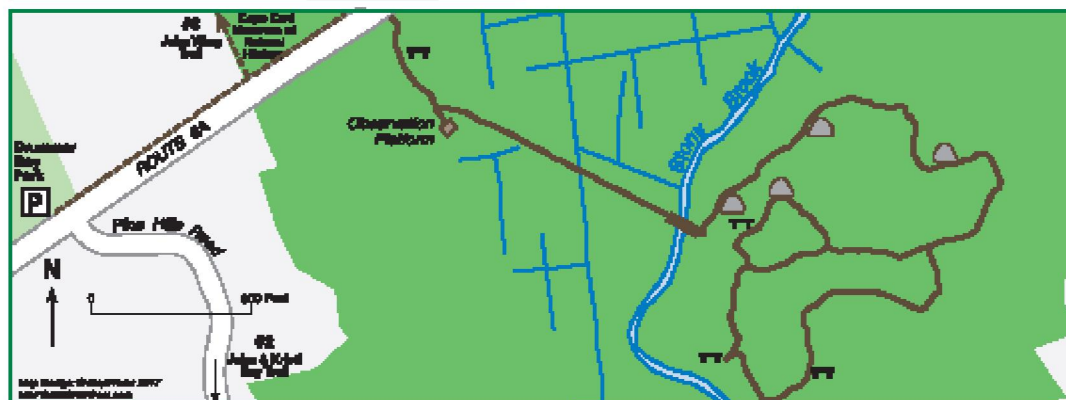
Directions: Parking is available at Drummer Boy Park. The trailhead is approximately 0.3 miles east, adjacent to the Museum of Natural History.

4 Lee Baldwin Trail (South Trail)

The Cape Cod Museum of Natural History South Trail honors the late Lee Baldwin, native Cape Cod naturalist and veteran walk leader. The trail crosses the Stony Brook Marsh and extends to upland groves of beech trees. The 2010 enlargement of the Route 6A culvert over Stony Brook has allowed greater tidal flow to restore the marsh to its original condition. The trail provides several stations for viewing life in the marsh.

Round trip trail length: 1.0 miles.

Directions: Parking is available at Drummer Boy Park. The trailhead is approximately 0.3 miles east, across Rt. 6A from the Museum of Natural History.



ATT. 1b: BREWSTER WALKING TRAILS, LEE BALDWIN (SOUTH TRAIL) MAP

Proposal

18086903

Building Dreams, Inc.

692 Walnut Plain Rd
Rochester, MA 02770
720-231-7000
Mike@buildingdreamsinc.org

June 4, 2018

BILL TO

Cape Cod Museum of Natural History
869 Route 6A
Brewster, MA 02631
508-896-3867

FOR

869 Route 6A
Brewster, MA

SCOPE OF WORK

Permitting

Remove decking on top and top surfaces of bench

Remove stair treads and risers

All structural members to be verified once decking removed

Install new Epay top, bench surface and stair treads

Natural with stainless screw fasteners

Pattern matching existing to be used

Trash removal

Total \$8,755.00

Building Dreams

All proposal are valid for 30 days. Please contact for scheduling.

ATT. 2a: BUILDING DREAMS, INC. OBSERVATION PLATFORM PROPOSAL #18086903



Observation Platform - new. 11/16/2010

ATT. 3a: OBSERVATION PLATFORM: NEW- 11/16/2010



ATT.3b: ENTRANCE TO OBSERVATION PLATFORM- SHOWING CONDITION OF SUPPORTING STRUCTURE – 12/27/2016



**ATT.3C: OBSERVATION PLATFORM- SHOWING DETERIORATED CONDITION OF DECK -
12/27/2016**



ATT. 3d: OBSERVATION PLATFORM- SHOWING DETERIORATED CONDITION OF CENTER BENCH- 12/27/2016



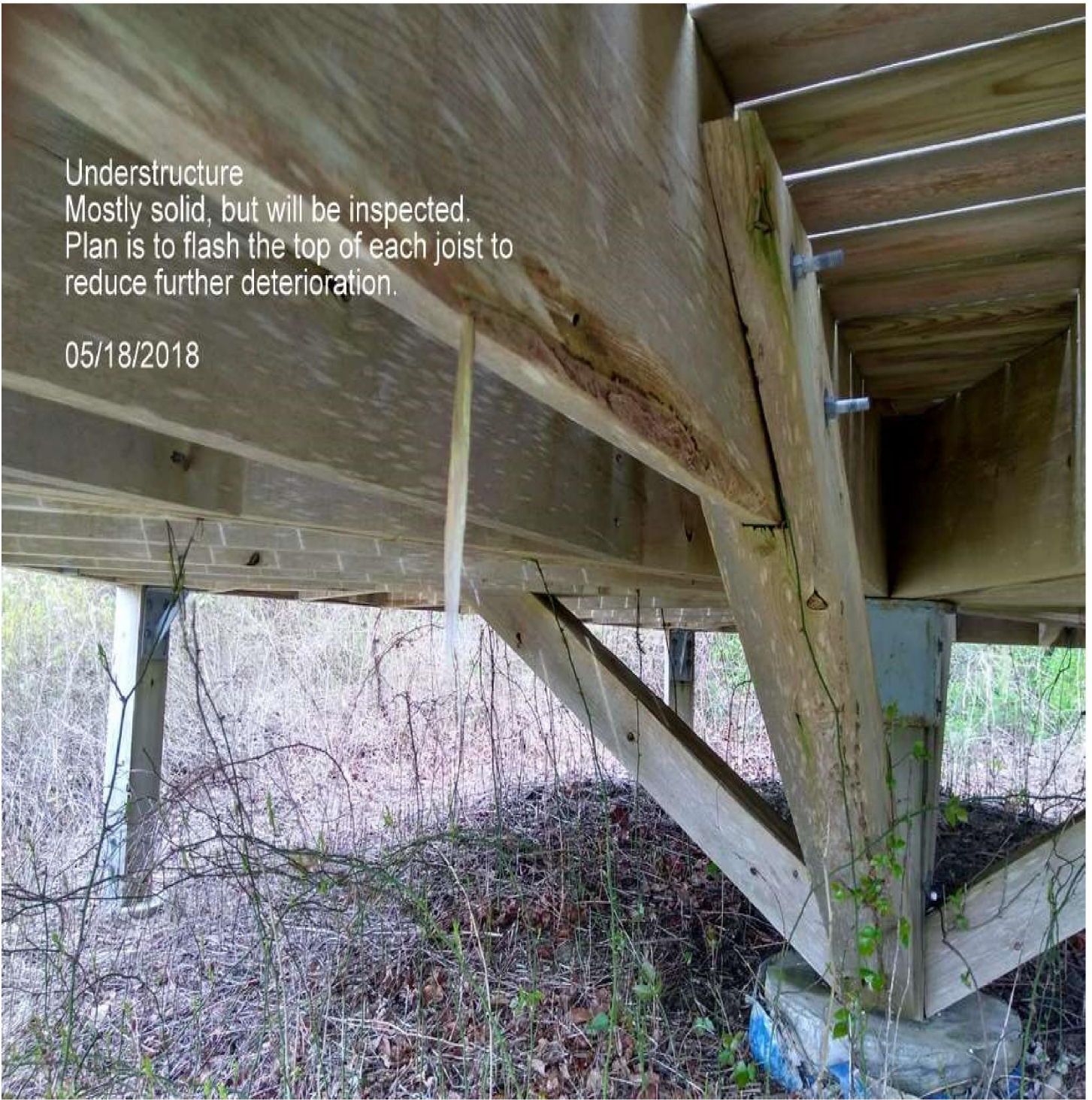
ATT. 3e: OBSERVATION PLATFORM SHOWING FURTHER DETERIORATION OF PLATFORM AND BENCH -5/18/2018



ATT.3f: OBSERVATION PLATFORM SHOWING TEMPORARY PATCHES – 6-29-2018

Understructure
Mostly solid, but will be inspected.
Plan is to flash the top of each joist to
reduce further deterioration.

05/18/2018



ATT. 3g: OBSERVATION PLATFORM – UNDERSTRUCTURE- 5-18-2018



ATT. 3h. OLDER RAMP, ONE OF TWO, TO BE REPLACED



Completed new style
ramp over small swales.

ATT. 3i: COMPLETED NEW STYLE RAMP, CONSTRUCTED OF COMPOSITE MATERIAL