

## EXECUTIVE SUMMARY

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Epsilon Associates, Inc. has been contracted to assist the Town Committee on Squibnocket in its review of proposals to provide access for the Squibnocket Farm Homeowners Association (SFHA) and potentially expand beach access to the public Squibnocket Beach. The two main proposals under consideration include (1) the SFHA proposal for a limited section of elevated roadway near Squibnocket Pond, and (2) the Friends of Squibnocket, LLC (FoS) proposal for a manmade dune with a landward road slightly above grade across the bordering vegetated wetlands and the landward edge of the barrier beach. Also under consideration are (1) whether the existing revetment should be removed and (2) the identification of a suitable site for relocation of the current parking lot.

Our key findings and recommendations are as follows:

- 1. Wetlands Resource Areas at the Site Include: Barrier Beach, Coastal Beach, Coastal Dune, Coastal Bank, Bordering Vegetated Wetlands, Land Subject to Coastal Storm Flowage.** We agree with most of the resource area delineations shown by FoS on their plan entitled “Wetlands Resource Map for Squibnocket Pond Project, Chilmark, Massachusetts,” dated August 13, 2014, prepared by Atlantic Design Engineers, LLC. However, we do not believe the depiction of the parking lot as “coastal dune” is consistent with the definition of a coastal dune in the Wetlands Protection Act regulations and would instead consider the parking lot to be Land Subject to Coastal Storm Flowage and Barrier Beach.
- 2. The Parking Lot Should be Located Off the Barrier Beach and Coastal Dune Resource Areas:** Alteration of the dune by hardening for a parking lot is discouraged by the state performance standards for coastal dunes, so an upland location for the parking lot (such as the one included in the FoS proposal) is strongly preferred. The parking lot locations within the coastal dune or barrier beach resource areas shown in the SFHA proposal are not recommended given the regulatory prohibitions on altering coastal dunes or removing vegetation from them.
- 3. The FoS Proposal Will Likely Not be Considered a “Limited Project”:** It is our opinion that the FoS proposal will not be considered a “Limited Project.” The Wetlands Protection Act regulations are clear that the designation of a proposal as a “Limited Project” is contingent upon a lack of reasonable alternatives. Because the SFHA proposal would be considered a reasonable alternative, the FoS proposal would not meet the criteria for a “Limited Project.” Projects that do not meet the “Limited Project” status must meet all applicable Wetland Protection Act regulation performance standards.
- 4. The FoS Proposal Faces Significant Regulatory Hurdles Related to Wetlands Filling and Fragmentation:**

- ◆ The FoS proposal will require an Order of Conditions, Chapter 91 approval, 401 Water Quality Certification, Category II US Army Corps of Engineers permit (this is an actual application), CZM Federal Consistency review, and review by the Martha's Vineyard Commission. The project will require MEPA review if Chapter 91 or 401 approval is required, if a Request for a Superseding Order of Conditions is filed, or if state funds (CZM grant money) are utilized.
- ◆ The FoS proposal as currently presented does not meet the performance standards for Bordering Vegetated Wetlands (BVW) under the Wetlands Protection Act. Mitigation (in the form of wetlands replication) and providing a hydrologic connection to the BVW to the northeast of the proposed access road will be required. The use of culvert(s) to provide this hydrological connection will likely require additional fill to raise the roadway and achieve stable side slopes; such additional fill will likely cause the FoS proposal to exceed the allowable 5,000 sf of fill in wetlands, which would be difficult or impossible to permit given the available alternative proposed by SFHA that does not require filling.
  - The performance standards for BVW allow a "loss" of up to 5,000 sf of BVW, provided that an equal area of replacement BVW is created.
  - The FoS proposal includes the fill of approximately 4,350 square feet (sf) of BVW. The proposal does not currently include mitigation; however, the state performance standards will require the creation of an equal size of replacement BVW. The mitigation area must be connected to Squibnocket Pond, as close to the filled area as possible.
  - In addition to the filled area of approximately 4,350 sf, the roadway will cut off the hydraulic connection to an additional 8,040 sf of BVW, for a total alteration of 12,390 sf. It is our opinion that the 8,040 sf of fragmented wetland will be considered a "loss" of BVW and that the proposal (4,350 sf of fill plus 8,040 sf of fragmented BVW) will thus exceed the allowable 5,000 sf "loss" of BVW.
  - If the FoS proposal were altered to provide a hydrologic connection (via culverts or other means) between Squibnocket Pond and the BVW to the northeast of the new access road, raising of the access road and additional fill to achieve suitable side slopes may be required. Therefore, even if the "loss" of the 8,040 sf of fragmented wetlands is avoided, it seems likely that the additional fill required to provide the required height for culverts for the FoS proposal would result in loss of BVW in excess of 5,000 sf.

- Loss of BVW in excess of 5,000 sf would require a variance, which cannot be granted if there are reasonable alternatives. The SFHA proposal would be considered a reasonable alternative, so it is highly unlikely that a variance would be granted.
- ◆ The FoS proposal likely does not meet the performance standards for coastal dunes at 310 CMR 10.28(3)(d), which prohibit interfering with the landward or lateral movement of the dune. Since the proposed dune is designed to allow overwash only in a 75-year storm event, it would likely be considered to have an adverse effect on the ability of the dune to move landward.
- ◆ The FoS proposal could avoid approvals under Chapter 91 and the 401 Water Quality Certification by relocating all dune fill above the Mean High Water line; some fill is currently shown below the MHW line near Money Hill.
- ◆ The FoS proposal as currently presented would not meet the requirements of the US Army Corps of Engineers. Replication of the 4,350 sf of filled BVW would be required, so a mitigation site would need to be identified. Additionally, the proposal would need to provide a hydrologic connection between BVW on the landward and seaward sides of the new road, through use of one or more culverts or other means. Finally, an alternatives analysis would be required showing there are no reasonable means of avoiding the fill of BVW. The SFHA proposal would be considered a reasonable alternative that does not require filling, and so it is unlikely that the FoS proposal would be considered the preferred alternative.
- ◆ If MEPA review is required, the FoS proposal likely would not satisfy MEPA's requirement for the identification of an alternative that avoids impacts (filling of BVW). The SFHA proposal would be considered a reasonable alternative that avoids this impact.

**5. The SFHA Proposal for the Elevated Roadway is Generally Consistent with Applicable Regulatory Programs:**

- ◆ The SFHA proposal will require an Order of Conditions, Category I US Army Corps of Engineers permit (this is a simple notification form only), and review by the Martha's Vineyard Commission. The project will only require MEPA review if the local Conservation Commission Order of Conditions is appealed and a Request for a Superseding Order of Conditions is filed with the state Department of Environmental Protection, or if state funds (CZM grant money) are utilized.
- ◆ The SFHA proposal for the elevated roadway is generally consistent with state Wetlands Protection Act performance standards for the applicable resource

areas. The SFHA proposal is also consistent with the requirements of the US Army Corps of Engineers regulatory program, and, if MEPA review is required, would satisfy MEPA's requirement for the identification of an alternative that avoids impacts (filling BVW).

- ◆ The parking lot location included in the SFHA proposal does not meet the state performance standards for coastal dunes and should be relocated to a location outside of the coastal dune and barrier beach resource areas.

6. **Revetment Removal Will Result in Shoreline Equilibration:** Removal of the revetment will result in equilibration of the shoreline over a period of years so that the new toe of bank will form a generally straight line from the unprotected coastal bank north of the parking lot to the unprotected coastal bank south of Money Hill or an arcuate shape if the till in the Money Hill moraine is more resistant to shoreline retreat than the barrier beach shoreline. We generally agree with the depiction of the equilibrated toe of bank line presented by the FoS in their "Base Map – Zero Year" figure prepared by Atlantic Design Engineers, LLC and dated August 20, 2014.
7. **The Proposed Roadway Should be Located as Far Landward as Possible:** To account for the post-revetment removal shoreline position, ongoing expected erosion, and sufficient room to allow a coastal dune to form and migrate landward, the access road should be moved as far landward as possible. For both the FoS and the SFHA proposal, if the current configuration is retained and the revetment is removed, the southwestern end of the access road near Money Hill may be threatened in as little as 25 years. We therefore recommend that the access road be moved farther landward. The narrowest point between the new access roadway and the equilibrated top of coastal bank will likely be in the vicinity of Money Hill. In order to achieve a 50-year design life, and given an expected shoreline erosion rate of approximately 2.0 ft/yr, we recommend the new access roadway be located a minimum distance of ~100 feet from the top of coastal bank along its entire length. As an option, the elevated roadway could even possibly cross the edge of Squibnocket Pond because of its pile-supported construction. Additional environmental data gathering would be required if it is over the pond to document the environmental resources in the proposed alignment.
8. **Pond Route:** A bridge placed across Squibnocket Pond could be consistent with applicable regulatory programs; however, more information on specific resources within the pond would be required.
9. **The Specific Endangered Species in the Project Area Are Not Yet Known:** Correspondence from NHESP that lists the species present in the project area is expected over the next several weeks and may result in slight modifications or amendments to the above recommendations.

