

## **Project Description**

### **1. Introduction**

This narrative is to supplement the Notice of Intent submitted by the Town of Hull Dept. of Public Works to maintain Beach Avenue in part for transportation, mostly residential, to meet essential human needs (e.g., delivery of heating oil, utility equipment for maintenance of utilities) and ensure best emergency response needs from sand accumulation the result of landward migration of the primary frontal dune along N. Nantasket Beach. This work entails the mechanical removal of a portion of the landward toe of the primary dune that has encroached upon the existing paved portion of Beach Ave and secondary dune material that has occupied sidewalk areas and avenue shoulders along the western boundary of Beach Ave over time.

The proposed work is limited to the area from Revere St up to just north beyond Adams St. The proposed project is detailed in the *Updated Beach Ave Plan 04.06.22* which shows the general area where Beach Ave widening is proposed to occur. In addition, parking for residents is permitted by the Town along the western boundary of Beach Avenue which exacerbates, in part, the need to address and mitigate dune migration onto Beach Avenue for the reasons specified above. This project is proposed to be considered as a *limited project* per 310 CMR 7(a).

### **2. Site Description**

The site consists of a paved street known as Beach Ave extending from Revere St to the south and northerly to Adams St. The site abuts a coastal beach to the east (North Nantasket Beach) and highly developed residential properties to the west, north and south. The Town Assessor's Office references this project area along Beach Avenue as shown in Maps 19, 21, and 23 (Feb 14, 2022 version).

The following resource areas are located in the project area:

- Coastal Dune
- Land Subject to Coastal Storm Flowage (LSCSF)
- located within an area mapped as Priority Habitat and Estimated Habitat for Rare Species (most notably Piping Plover) according to the Massachusetts Natural Heritage & Endangered Species Program (NHESP)

In addition, the project area:

- does not contain or is not near a Certified Vernal Pool according to the NHESP
- is not located within Chapter 91 Tidelands jurisdiction; and,
- is not located within an Area of Critical Environmental Concern (ACEC)

### **3. Proposed Activities**

Four (4) activities are proposed in and within the vicinity of Beach Avenue from Revere St to Adams St. and improve Beach Avenue vehicular access: 1) Beach Ave widening to meet the minimum requirement of 20 feet of unobstructed width for fire access roads (527 CMR 1 c.18) from the western to eastern edges; 2) cleaning and stockpiling of reclaimed beach sand to a storage area at the Town's landfill; 3) repurposing reclaimed beach to fill gaps in the primary dune which may result from traffic impact along Beach Ave or use as replenishment permitted

by maintaining Town-managed pedestrian paths; and 4) revegetation of areas that may be necessary and practical from time to time along the landward toe of dune along Beach Avenue within the project area.

- Beach Avenue widening:  
Beach Avenue widening is proposed by using a backhoe, front-end loader and bobcat-type of machinery on the existing paved portion of Beach Avenue to vertically cut back a portion of the primary dune to a only the width necessary and allowable under 527 CMR 1 c.18 as measured from a line between adjacent western street side utility poles across to the landward toe of the dune. Some of the widening activities may include removal of secondary dune material that has occupied sidewalk or avenue shoulders along the western boundary of Beach Ave. Dune material removed in this manner will be collected and placed into DPW transport vehicles and delivered to the Town's landfill area where it will be stockpiled. Any vegetative material deemed "reusable" as determined by the Conservation Administrator will be repurposed on-site to the primary dune where permitted, immediately after Beach Ave. widening exercises.
- Cleaning and stockpiling:  
Reclaimed dune sand will be processed to remove debris (e.g., storm debris such as relic lobster traps, timber, and logs), remnant asphalt, concrete, and other extraneous, non-natural material) and stored as a pile at a location on the landfill property. Storage will be in a manner that minimizes any potential loss due to stormwater runoff and loss to nearby receiving waters or storm drainage systems.
- Repurposing of reclaimed sand:  
Repurposing of reclaimed sand will occur after cleaning and stockpiling following guidance by the Conservation Administrator, as approved by the Conservation Commission, to areas being managed under the Town-maintained pedestrian path permit following the guidance established by Select Board-adopted N. Nantasket Beach Management Plan
- "Practical" revegetation of dune:  
There may be instances where re-vegetation of the dune may be deemed practical by the Conservation Administrator after Beach Ave widening exercises. Re-vegetation is proposed for those areas during favorable planting conditions (per guidance available from the MA Office of Coastal Zone Management).

#### **4. Compliance with Massachusetts Wetlands Protection Regulations (310 CMR 10.00)**

The following sections analyze the proposed project against the performance standards for Coastal Dune on a Barrier Beach. There are no performance standards for LSCSF. No activities are proposed on the adjacent coastal beach.

According to (310 CMR 10.28(2)) a Coastal Dune is:

"Any natural hill, mound or ridge of sediment landward of a coastal beach deposited by wind action or storm over wash. Coastal dune also means sediment deposited by artificial means and serving the purpose of storm damage prevention or flood control."

WHEN A COASTAL DUNE IS DETERMINED TO BE SIGNIFICANT TO STORM DAMAGE PREVENTION, FLOOD CONTROL OR THE PROTECTION OF WILDLIFE HABITAT, 310 CMR 10.28(3) THROUGH 310 CMR 10.28(6) SHALL APPLY:

- (a) There must be no effect on sand removal by waves;
- (b) There must be no removal of vegetation that destabilizes the Dune;
- (c) There must be no change in dune form that would affect storm damage prevention or increase flood damage;
- (d) There must be no interference with dune movement;
- (e) There must be no artificial removal of sand; and
- (f) No new structures may be constructed unless they are accessory to an existing building, minimize effects on the Dune, and are not coastal engineering projects.

This project is proposed as a “limited project”. The wetlands regulations establish provisions for commissions (or the *Department of Environmental Protection* (MassDEP) on *appeal*), upon review, to allow certain *regulatable* activities even though they may not meet the performance standards otherwise required for work in certain wetland resource areas. These activities are sometimes called “limited projects” after the use of this term in the Regulations. “Limited” refers to the relatively limited situations in which they apply. All “limited” and similar projects (with one exception for certain agricultural water management structures (310 CMR 10.53(5) are discretionary; this proposed project recognizes the conservation commission may, but is not required to, approve them. These discretionary projects are described in 310 CMR 10.53 and are listed below.

(From the MA Association of Conservation Commission’s Handbook):

“In the exercise of this discretion, the issuing authority shall consider the magnitude of the alteration and the significance of the project site to the interests identified in the Wetlands Protection Act (WPA), the availability of reasonable alternatives to the proposed activity, the extent to which adverse impacts are minimized, and the extent to which mitigation measures, including replication or restoration, are provided to contribute to the protection of the interests identified in WPA.”

Coastal “limited” projects are found under 310 CMR 10.24(7)(c).

- 10.24(7)(c)1. *Maintenance (some) improvement of existing public roads but **not (emphasis added)** limited to widening less than a single lane, adding shoulders, correcting substandard intersections, and improving drainage systems*
- 10.24(7)(c)2. Maintenance/improvement of structures existing as of November 1 1987
- 10.24(7)(c)3. Routine maintenance and repair of road drainage existing as of November 1 1987
- 10.24(7)(c)4. Closure of landfills required by MassDEP
- 10.24(7)(c)5. Airport vegetation control under FAA Rules
- 10.24(7)(c)6. Containment/remediation of spills of oil/hazardous materials
- 10.24(7)(c)7. Roadways needed to transport equipment to a renewable energy project site

- 10.24(8) Ecological Restoration Limited Project.

This project does not propose any activity that will have an effect on the dune with respect to sand removal by waves as all activity will occur on the landward edge of the dune where wave activity does not occur. However, artificial removal of the sand on the landward toe of the dune as proposed may result in some dune destabilization and as such may not meet the performance standard 310 CMR 10.28 (3) because some of the proposed removal is vegetated and may result in slumping of dune onto the roadway when removed. This project does not propose to interfere with dune migration, as this process will be allowed to occur. However, said migration will result in accumulation onto the roadway in a manner that will significantly impact public safety and basic human needs to the residents along Beach Avenue. Removed sand will be stockpiled for use in permitted pedestrian crossing repair where seasonal erosion due to coastal storms has occurred. Annual beach grass planting by the town has resulted in a more stable dune system over time and has afforded significant increases in dune volume and width on the seaward sections of the primary dune along Nantasket Beach. Removal of sand and re-vegetation will follow conditions required by the NHESP.

## **5. Alternatives Analysis**

This section describes three (3) potential alternatives to the proposed widening and mechanical removal of dune sand accumulated on the paved, existing portion of Beach Avenue. These alternatives are 1) do nothing, 2) reconfigure parking, and 3) abandon Beach Avenue for vehicular use.

### **a. Do nothing**

This alternative would meet the performance standards for the coastal dune and would not require this project to be considered as a limited project. However, this alternative would not satisfy the legal duty of the Fire Chief and the Fire Department to provide fire/rescue services. This alternative is not desirable for these reasons.

### **b. Reconfigure Parking Along Beach Ave.**

This alternative could be conditioned to meet the performance standards for the coastal dune and would not require this project to be considered as a limited project. This alternative would require additional study to assess the degree to which parking should be restricted, possibly eliminating parking on Beach Ave altogether, or eliminating parking in critical areas along Beach Avenue; in particular in the area where Beach Ave intersects Town streets connecting perpendicular to the Avenue. Nearly all Beach Ave. residents within the project area have some form of off-street parking or means to create off street parking. Since the main purpose for this NOI is to address near-urgent needs from the perspective of public safety (i.e., emergency response, especially during congested summer-beach season), this alternative may require a temporary or permanent ban to all parking along Beach Avenue until an appropriate parking plan can be developed and the subsequent adoption by Select Board. This alternative will most likely disrupt current parking practices for immediate abutters. *It is not necessarily the opinion of this applicant that this alternative is*

*undesirable since it would allow for continued migration of the primary dune further onto Beach Avenue, but would eventual result in the need to address this matter again when future migration of the dune results in restricting vehicular passage after implementing an approved parking reconfiguration plan.*

- c. Abandon Beach Ave and develop alternative access to homes along Beach Ave from Manomet Avenue.

This alternative also could be conditioned to meet the performance standards for the coastal dune and would not require this project to be considered as a limited project. This alternative would require extensive design and require easements where needed and would most likely need to address other private and public property rights that may arise to satisfy this alternative. This alternative would be lengthy with respect to time for design, adoption, and implementation and would not likely be favorable for residents of the project area. However, this alternative would be a measure of *managed retreat*, and provide the room for the natural development of a more robust dune which would enhance the dune's climate change impact resiliency with respect to flooding and storm damage. From the perspective of storm damage protection and flood control, this alternative might be the best strategy but is not practical with respect to timing and meeting basic human needs and the urgency of public safety.

## 6. Project Analysis

The proposed project occurs at a site with an existing roadway that is experiencing encroachment by the primary dune onto a roadway (Beach Avenue) which is necessary for public access, utility supply (e.g., heating oil), and utility maintenance (gas, electricity, sewer, and water) to homes along its stretch as well as ensuring and improving safe and efficient emergency response. The proposed mechanical removal of sand at locations detailed in the accompanying plans is the preferred alternative. The Town has performed this exact road maintenance strategy for these purposes in the past and is seeking to continue this activity for these reasons in a manner that minimizes adverse impacts while maintaining necessary basic human needs and necessary public safety functions.

In summary, the project would be in compliance with the Massachusetts WPA regulations since these activities could be permitted as a "limited project" such that impacts are minimized to the maximum extent possible, and to the extent to which mitigation measures, including re-vegetation and reuse of mechanically removed material, will be used to refortify the primary coastal dune to ensure the protection of the interests identified in WPA to the maximum extent possible.