

Staff Report

Date: September 6, 2019

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **350 New Boston Road – Certificate of Compliance – DEP# 023-1112,
Fairhaven CON 023-093**

DOCUMENTS REVIEWED

- Certificate of Compliance Request
- Original Notice of Intent
- Order of Conditions issued March 14, 2011
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw (Chapter 192)

RESOURCE AREAS ON/NEAR SITE

- Bordering Vegetated Wetland
 - *Significance:*

PROJECT SUMMARY

- Septic system repair at existing dwelling

COMMENTS

- Project never commence and Order of Conditions has expired

RECOMMENDATION

- I recommend issuing a Certificate of Compliance for an Invalid Order of Conditions.

Staff Report

Date: September 12, 2019

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **9 Goulart Memorial Drive – DEP# 023-1294, Fairhaven CON 19-042**

DOCUMENTS REVIEWED

- Request from property owner
- Current Order of Conditions
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw (Chapter 192)

RESOURCE AREAS ON/NEAR SITE

- Bordering Vegetated Wetlands (310 CMR 10.55)
 - *Significance:* Bordering vegetated wetlands are likely to be significant to public or private water supply, to groundwater supply, to flood control, to storm damage prevention, to prevention of pollution, and to wildlife habitat. Plants and soils of bordering vegetated wetlands remove or detain sediments, nutrients, and toxic substances that occur in run-off and flood waters.

The vegetation in bordering vegetated wetlands acts to slow down and reduce the passage of flood waters during periods of peak flows by providing temporary flood water storage and by facilitating water removal through evaporation and transpiration. This process reduces downstream flood crests and the resulting damage to private and public property. During dry periods, the water retained in bordering vegetated wetlands is essential to the maintenance of base flow levels in rivers and streams, which is important to the protection of water quality and water supplies.

Wetland vegetation provides shade which moderates water temperatures important to fish life. Wetlands flooded by adjacent water bodies and waterways provide food, breeding habitat, and cover for fish.

Bordering vegetated wetlands are probably the Commonwealth's most important inland habitat for wildlife. The hydrologic regime, plant community composition and structure, topography, and water chemistry of bordering vegetated wetlands provide important food, shelter, migratory and overwintering areas, and breeding and nesting areas for many birds, mammals, amphibians, reptiles, and insects.

- Salt Marsh (310 CMR 10.32)
 - *Significance:* Salt marshes are significant to prevention of pollution, to protection of marine fisheries, wildlife habitat, and, where there are shellfish, to protection of land containing shellfish. Salt marshes are likely to be significant to storm damage prevention and groundwater supply.

Salt marshes provide the basis for a large food web that supports many marine organisms, including finfish and shellfish as well as many bird species. Salt marshes also provide a spawning and nursery habitat for several important estuarine forage finfish as well as important food, shelter, breeding areas, and migratory and overwintering areas for many wildlife species.

Salt marsh plants and substrate remove pollutants from surrounding waters. Sediments also absorb chlorinated hydrocarbons and heavy metals such as lead, copper, and iron. The marsh also retains nitrogen and phosphorus compounds, which in large amounts can lead to algal blooms in coastal waters.

The underlying peat also serves as a barrier between fresh groundwater landward of the salt marsh and the ocean, thus helping maintain the level of such groundwater. Salt marsh cord grass and underlying peat are resistant to erosion and dissipate wave energy, thereby providing a buffer that reduces wave damage.

When a salt marsh is significant to one or more of the interests specified above, the following characteristics are critical to the protection of such interests:

the growth, composition, and distribution of salt marsh vegetation (*interests*: protection of marine fisheries and wildlife habitat, prevention of pollution, storm damage prevention);

the flow and level of tidal and fresh water (*interests*: protection of marine fisheries and wildlife habitat, prevention of pollution); and

the presence and depth of peat (*interests*: groundwater supply, prevention of pollution, storm damage prevention).

PROJECT SUMMARY

- The property owner is requesting to take down additional trees and shrubs that what was approved by his existing Order of Conditions.

COMMENTS

- The trees and shrubs he would like to take down are in the Bordering Vegetated Wetland and appear to be healthy wetland vegetation.
- If the vegetation was damaged and dying and a threat to personal property, I could see a reason to remove it and replace it with something similar.
- In my opinion, removing healthy wetland vegetation is unnecessary.

RECOMMENDATION

- I am going to leave it up to the Commission to discuss with the property owner.

Staff Report

Date: September 12, 2019
To: Conservation Commission
From: Whitney McClees, Conservation Agent
Subject: **200 Mill Road – Notice of Intent – DEP#023-1286, Fairhaven CON-19-029**

DOCUMENTS REVIEWED

- Notice of Intent and associated attachments submitted
- Updated plan submitted 8/6/2019
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw

RESOURCE AREAS ON/NEAR SITE

- Bordering Vegetated Wetland (310 CMR 10.55)
 - *Significance:* Bordering vegetated wetlands are likely to be significant to public or private water supply, to groundwater supply, to flood control, to storm damage prevention, to prevention of pollution, and to wildlife habitat. Plants and soils of bordering vegetated wetlands remove or detain sediments, nutrients, and toxic substances that occur in run-off and flood waters.

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- Riverfront Area
 - Project not proposed to occur within Riverfront area

PROJECT SUMMARY

- The Notice of Intent was filed for the construction of a 72-space parking expansion within the 100-foot buffer zone to a Bordering Vegetated Wetland.
- The Applicant has proposed a stormwater easement to utilize a stormwater facility on a neighboring property to manage the stormwater from the proposed parking expansion.
- The updated plans have reduced the parking from a 72-space lot to a 68-space lot.

COMMENTS

- Given the existing significant area of impervious surface on the property and that much of the buffer zone and Riverfront Area on the property is already impervious, adding to that square footage may have detrimental impacts on the wetland, which is part of a larger system of Riverfront Area (Nasketucket River) and other Bordering Vegetated Wetlands.
- From 310 CMR 10.00 Preface to the Wetlands Regulations, 2005 Revisions:
 - “Research on the functions of buffer zones and their role in wetlands protection has clearly established that buffer zones play an important role in preservation of the physical, chemical, and biological characteristics of the adjacent resource area. The potential for adverse impacts to resource areas from work in the buffer zone increases with the extent of the work and the proximity to the resource area.”
- From 310 CMR 10.00 Preface to the 1983 Regulations:
 - “Any project undertaken in close proximity to a wetlands resource area has a high likelihood of resulting in some alteration of that area, either immediately or as a consequence of daily operation of the completed project. The problem becomes particularly severe when Bordering Vegetated Wetlands are involved; inadvertent damage to these sensitive areas can easily occur and in many instances is irreparable.”
- The Stormwater Management Report still needs peer review. The applicant indicated he would like to do the review through the Planning Board, but still hasn’t submitted to the Planning Department as of September 12, 2019.
- The applicant has requested a continuance to October 28, 2019.

RECOMMENDATION

- I recommend accepting the applicant’s request to continue to October 28, 2019 with the caveat that if nothing has been submitted to the Planning Board and the stormwater peer review has not begun by the October 15 meeting, I will begin the stormwater peer review process.

Staff Report

Date: September 12, 2019

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **Hiller Avenue and Timothy Street, Assessors Map 28C, Lots 71 & 71A – Notice of Intent – DEP#023-1297, Fairhaven CON-19-051**

DOCUMENTS REVIEWED

- Notice of Intent and associated attachments submitted
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw

RESOURCE AREAS PRESENT ON SITE

- Bordering Vegetated Wetland (BVW)
 - *Significance:* Bordering vegetated wetlands are likely to be significant to public or private water supply, to groundwater supply, to flood control, to storm damage prevention, to prevention of pollution, and to wildlife habitat. Plants and soils of bordering vegetated wetlands remove or detain sediments, nutrients, and toxic substances that occur in run-off and flood waters.

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PROJECT SUMMARY

- The Notice of Intent was filed for the construction of paved roadways and stormwater management systems and the installation of utilities, including the placement of fill for the aforementioned work, for a proposed 16-lot subdivision.

COMMENTS

- From 310 CMR 10.00 Preface to the Wetlands Regulations, 2005 Revisions:
 - “Research on the functions of buffer zones and their role in wetlands protection has clearly established that buffer zones play an important role in preservation of the physical, chemical, and biological characteristics of the adjacent resource area. The potential for adverse impacts to resource areas from work in the buffer zone increases with the extent of the work and the proximity to the resource area.”
 - “Extensive work in the inner portion of the buffer zone, particularly clearing of natural vegetation and soil disturbance is likely to alter the physical characteristics of resource areas by changing their soil composition, topography, hydrology, temperature, and the amount of light received. Soil and water chemistry within resource areas may be adversely affected by work in the buffer zone. Alterations to biological conditions in adjacent resource areas may include changes in plant community composition and structure, invertebrate and vertebrate biomass and species composition, and nutrient cycling. These alterations from work in the buffer zone can occur through the disruption and erosion of soil, loss of shading, reduction in nutrient inputs, and changes in litter and soil composition that filters runoff, serving to attenuate pollutants and sustain wildlife habitat within resource areas.”
- From 310 CMR 10.00 Preface to the 1983 Regulations:
 - “Any project undertaken in close proximity to a wetlands resource area has a high likelihood of resulting in some alteration of that area, either immediately or as a consequence of daily operation of the completed project. The problem becomes particularly severe when Bordering Vegetated Wetlands are involved; inadvertent damage to these sensitive areas can easily occur and in many instances is irreparable.”
- From the MACC Wetlands Buffer Zone Guidebook:
 - Most studies find that buffers dominated by trees or a mix of vegetative cover types, structure, and age classes are most effective in removing nutrients and sediment pollution.
 - Vegetated buffers between 30 and 100+ feet appear to be effective in reducing sediments, phosphorus, and nitrogen with 75% removal rate.
 - Additional benefits of vegetated buffers:
 - phosphorus and sediment removal capacity is most effective within 50 feet of the resource area.
 - nitrogen removal capacity is most effective within at least 100 feet of the resource area.
 - vegetated buffer width of minimum 50 feet is most effective to maintenance of water temperature.
 - buffers of less than 50 feet are more susceptible to degradation by human disturbance. Buffers of 25 feet or less do not function in a meaningful way to reduce disturbance to the adjacent wetland.
 - During flood events, buffer zones become backup flood storage areas and minimize water quality and storm damage impacts from floods and severe storm events.
 - When reviewing a project in the buffer zone, it is important to consider:
 - Will the project substantially reduce the capacity of the buffer zone to slow, detain, filter, store, and infiltration runoff prior to reaching the resource area?

- Will the project substantially reduce the capacity of the buffer zone to protect wildlife habitat functions of the wetland resource area?
 - Will the project substantially reduce existing buffer zone vegetation that provides protection to resource area vegetation, thus potentially reducing the functional capacity of the adjacent resource area?
 - Is the existing or proposed undisturbed buffer zone suitable to maintain sediment, pollutant, pathogen, and nutrient removal capacity of the adjacent resource area?
 - Can the project be reasonably shifted or modified to allow work and also the necessary buffer zone protection of resource area sediment, pollutant, pathogen, and nutrient removal, flood control, storm damage prevention, and protection of wildlife habitat functions?
- Both proposed detention ponds are located directly next to the wetlands on the property and portions of all three roadways fall within the 100-foot buffer zone to the wetlands. 10 of the 16 proposed house lots fall within the jurisdiction of the Conservation Commission.
- Several of the lots are comprised of predominantly wetland (e.g. Lots 8, 9, and 12), which may cause encroachment into the wetlands and potential for violations in the future. Many of these lots will likely need permits through the Conservation Commission for any proposed future work, whether that is the construction of homes or any additions to homes already constructed, such as decks, pools, or patios.
- The amount of work proposed currently and work that will be proposed in the future comprises a significant portion of the inner buffer zone. Significantly reducing the amount of vegetation, especially mature trees, in the buffer zone can have negative impacts on the wetland, such as increased temperatures and a reduction in pollutant filtration. Significantly increasing the number of homes in the area has the potential to increase the amount of fertilizers, herbicides, and pesticides that runoff into the wetland.
- Several of the proposed driveways and portions of the roadways are within 25 to 50 feet of the wetland, which increases the potential for the alteration of hydrology in the wetland.
- Undisturbed buffer zones are important to protect the wetland's ability to perform its ecosystem functions: public or private water supply, groundwater supply, flood control, storm damage prevention, prevention of pollution, and wildlife habitat.
- The Stormwater Peer review is being conducted through the Planning Department. The peer reviewer has made one round of comments and the applicant has responded to those comments. The peer reviewer is in the process of evaluating the comments and the changes to the plans.
- The applicant has requested a continuance to October 15, 2019.

RECOMMENDATION

- I recommend approving the applicant's request to continue until October 15, 2019.

Staff Report

Date: September 12, 2019

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **240 Alden Road – Abbreviated Notice of Resource Area Delineation – DEP# 023-1303, Fairhaven CON 023-075**

DOCUMENTS REVIEWED

- ANRAD application and associated documents
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw (Chapter 192)
- Peer Review by Natural Resource Services, Inc.

RESOURCE AREAS ON/NEAR SITE

- Bordering Vegetated Wetland (310 CMR 10.55)
 - *Significance:* Bordering vegetated wetlands are likely to be significant to public or private water supply, to groundwater supply, to flood control, to storm damage prevention, to prevention of pollution, and to wildlife habitat. Plants and soils of bordering vegetated wetlands remove or detain sediments, nutrients, and toxic substances that occur in run-off and flood waters.

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- Bank (310 CMR 10.54)
 - *Significance:* Banks are likely to be significant to public or private water supply, to groundwater supply, to flood control, to storm damage prevention, to the prevention of pollution, and to the protection of fisheries and wildlife habitat. When banks are

composed of concrete, asphalt, or other artificial impervious material, said banks are likely to be significant to flood control and storm damage prevention.

Banks are areas where groundwater discharges to the surface and where, under some circumstances, surface water recharges the groundwater. Where banks are partially or totally vegetated, the vegetation serves to maintain the banks' stability, which in turn protects water quality by reducing erosion and siltation.

Banks may also provide shade that moderates water temperatures, as well as providing breeding habitat, escape cover, and food, all of which are significant to the protection of fisheries. The topography, plant community composition and structure, and soil structure of banks together provide important food, shelter, migratory and overwintering areas, and breeding areas for wildlife.

Banks act to confine floodwaters during the most frequent storms, preventing the spread of water to adjacent land. Because banks confine water during such storms to an established channel, they maintain water temperature and depths necessary for the protection of fisheries.

An alteration of a bank that permits water to frequently and consistently spread over a large and more shallow area increases the amount of property which is routinely flooded, as well as elevating water temperature and reducing fish habitat within the main channel, particularly during warm weather.

- Riverfront Area (310 CMR 10.58)
 - *Significance*: Riverfront areas are likely to be significant to protect public or private water supply, to protect groundwater, to provide flood control, to prevent storm damage, to prevent pollution, to protect land containing shellfish, to protect wildlife habitat, and to protect fisheries.

Land adjacent to rivers and streams can protect the natural integrity of these water bodies. The presence of natural vegetation within riverfront areas is critical to sustaining rivers as ecosystems and providing these public values. The riverfront area can prevent degradation of water quality by filtering sediments, toxic substances (such as heavy metals), and nutrients (such as phosphorus and nitrogen) from stormwater, nonpoint pollution sources, and the river itself. Riverfront areas can also trap and remove disease-causing bacteria that otherwise would reach rivers and coastal estuaries where they can contaminate shellfish beds and prohibit safe human consumption. Natural vegetation within the riverfront area also maintains water quality for fish and wildlife.

Where rivers serve as water supplies or provide induced recharge to wells, the riverfront area can be important to the maintenance of drinking water quality and quantity. When riverfront areas lack the capacity to filter pollutants, contaminants can reach human populations served by wells near rivers or by direct river intakes. The capacity of riverfront areas to filter pollutants is equally critical to surface water supplies, reducing or eliminating the need for additional treatment.

By providing recharge and retaining natural flood storage, as well as by slowing surface water runoff, riverfront areas can mitigate flooding and damage from storms. Increases in storage of floodwaters can decrease peak discharges and reduce storm damage. Vegetated riverfronts also dissipate the energy of storm flows, reducing damage to public and private property.

Riverfront areas are critical to maintaining thriving fisheries. Maintaining vegetation along rivers promotes fish cover, increases food and oxygen availability, decreases sedimentation, and provides spawning habitat. Where groundwater recharges surface water flows, loss of recharge as a result of impervious surfaces within the riverfront area may aggravate low flow conditions and increase water temperatures.

Riverfront areas are also important wildlife habitat, providing food, shelter, breeding, migratory, and overwintering areas. Even some predominantly upland species use and may be seasonally dependent on riverfront areas. Riverfront areas promote biological diversity by providing habitats for an unusually wide variety of upland and wetland species. Loss of connectivity, from activities that create barriers to wildlife movement within riverfront areas, results in habitat fragmentation and causes declines in wildlife populations. Wildlife must also be able to move across riverfront areas, between uplands and the river.

Vernal pools are frequently found within depressions in riverfront areas. These pools are essential breeding sites for certain amphibians which require isolated, seasonally wet areas without predator fish. Most of these amphibians require areas of undisturbed woodlands as habitat during the non-breeding seasons. Some species require continuous woody vegetation between woodland habitat and breeding pools. Depending on the species, during non-breeding seasons these amphibians may remain near the pools or travel ¼ mile or more from the pools. Reptiles, especially turtles, often require areas along rivers to lay their eggs. Since amphibians and reptiles are less mobile than mammals and birds, maintaining integrity of their habitat is critical.

PROJECT SUMMARY

- Seeking boundary confirmations of Bordering Vegetated Wetland and Bank

COMMENTS

- Delineation was done October 28, 2017.
- There is currently no work is proposed within jurisdictional areas on these lots.
- The Bordering Vegetated Wetland on site is connected to a larger system of wetlands on Long Road.
- Natural Resource Services, Inc. submitted their peer review letter and noted the following:
 - Flags WFA16, 17, 18, and 20 were removed and reestablished further north largely as a result of soil indicators.
 - Flagging labeled Bank A1 - Bank A36 depicts the bank of a perennial stream which is currently noted as an intermittent stream on the submitted plan. For a perennial stream represented on the USGS topographic map to qualify as 'intermittent', the applicant would need to provide the appropriate documentation. Additionally, the stream was flowing at the time of the peer review.
 - The delineated watercourse should be labeled as a perennial stream and afforded a 200-foot riverfront area per 310 CMR 10.58 and a 100-foot buffer per the Fairhaven Wetlands Bylaw.
 - What appears to be spoils from a greenhouse operation occupy the BVW boundary between WFA7 - WFA10. Material includes fill, plastics, and bricks, among other debris.

FCC may consider this to be an unauthorized alternation and could require the applicant to remove the material from the regulated resource area and buffer zone either through this filing or another process the issuing authority determines to be appropriate.

- Concrete structures were noted interior of flags WFA2 - WFA6. These structures may be remnants of old fountains. Given their water-holding capacity, these features may also serve as vernal pools. An in-season assessment would be required to confirm whether or not these areas could meet NHESP criteria for vernal pool certification. NRS could not accurately discern a timeframe in which these fountain structures were installed in their review of historic aerial images, due in part to graininess of available photographs.
- At least 2 dilapidated sheds were also noted within the area near the fountains.
- The applicant has requested a continuance to September 30, 2019 to allow for more time to respond to the peer reviewer's comments.

RECOMMENDATION

- I recommend approving the applicant's request to continue until September 30, 2019.

Staff Report

Date: September 12, 2019

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **6 Emerson Avenue – Notice of Intent – DEP# 023-1302, Fairhaven CON 19-066**

DOCUMENTS REVIEWED

- Notice of Intent and associated documents
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw (Chapter 192)

RESOURCE AREAS ON/NEAR SITE

- Land Subject to Coastal Storm Flowage (LSCSF) Zone VE
 - *Significance:* Land subject to coastal storm flowage are likely to be significant to flood control and storm damage prevention. LSCSF provides a temporary storage area for flood water and can slow down storm surge flood waters, reducing damage to both man-made and natural features.
- Coastal Beach: No work proposed in the resource area
 - *Buffer Zone Significance:* Buffer Zones play an important role in preservation of the physical, chemical, and biological characteristics of the adjacent resource area (Coastal Beach). The potential for adverse impacts to resource areas from work in the buffer zone increases with the extent of work and the proximity to the resource area.
- Barrier Beach: Located on abutting lot, no work proposed in the resource area.
 - *Buffer Zone Significance:* Buffer Zones play an important role in preservation of the physical, chemical, and biological characteristics of the adjacent resource area (Barrier Beach). The potential for adverse impacts to resource areas from work in the buffer zone increases with the extent of work and the proximity to the resource area.
- Marsh: Located on abutting lot, no work proposed in the resource area.
 - *Buffer Zone Significance:* Buffer Zones play an important role in preservation of the physical, chemical, and biological characteristics of the adjacent resource area (Marsh). The potential for adverse impacts to resource areas from work in the buffer zone increases with the extent of work and the proximity to the resource area.

PROJECT SUMMARY

- Notice of Intent filed for the installation of a garage, stamped patio, and concrete driveway.
- Entire project takes place within Land Subject to Coastal Storm Flowage Zone VE.
- Only the proposed stamped patio falls within the buffer zone to Coastal Beach.
- According to the plan, impervious surface is increasing from 5,416 square feet (30.3%) to 7,703 square feet (43.1%).

COMMENTS

- The amount of impervious surface that is proposed seems to be a large amount for a velocity flood zone area. How might that impact the property itself and the surrounding area?
- The property also falls within Buffer Zone to Barrier Beach and Buffer Zone to Marsh. It is important to consider how diverting any potential flood water or any runoff through the increase of impervious surface might affect the nearby resource areas.
 - The Barrier Beach and Marsh are located south of the property across Emerson Avenue.
- The applicant had previously requested a continuance to the September 16, 2019 meeting to allow for time to submit updated plans to address the Commission's comments from the July 8, 2019 meeting.
- The applicant has indicated updated plans will not be ready for Monday's meeting but has not yet requested a specific date to continue the hearing until.

RECOMMENDATION

- If the applicant specifies a date, I recommend approving the applicant's request to continue to that date. If the applicant does not specify a date, I recommend continuing until September 30, 2019.

Staff Report

Date: September 13, 2019

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **Bridge Street, Map 36, Lot 15 – Notice of Intent – DEP# 023-1299,
Fairhaven CON 023-081**

DOCUMENTS REVIEWED

- Notice of Intent and associated documents
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw (Chapter 192)
- Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act

RESOURCE AREAS ON/NEAR SITE

- Bordering Vegetated Wetland (310 CMR 10.55)
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PROJECT SUMMARY

- Proposed construction of an auto dealership with ancillary paved parking in Bordering Vegetated Wetland. Replication proposed.

COMMENTS

- The wetland line approval has lapsed. This was originally filed in April and then withdrawn after I indicated that the line was not accurate and would need to be redelineated.
- This new filing uses the same wetland line as the April filing. In May, large areas outside of the wetland line contained hydric soils. I assessed the soils and vegetation well outside of the line in July and again found hydric soils and wetland vegetation. The USDA soil maps of the area label the soils as hydric as well.
- The property has been consistently mowed, including inside the old wetland line, for the last several years. Per the MassDEP handbook, Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act, any one of the three indicators is sufficient to determine that the sample location is in a BVW if the site has been disturbed.
- I requested peer reviewer proposals from the following people: John Rockwell, Magdalena Lofstedt, Brad Holmes (Environmental Consulting & Restoration, LLC), Brooke Monroe (Pinebrook Consulting), and Natural Resource Services, Inc.
- I have received the following communication from John Rockwell:

Thank you for your inquiry regarding peer review services. Since retiring several years ago, I have provided peer review services for several towns in the Buzzards Bay watershed and select private clients.

I reviewed this site for a similar project when I was employed by the Buzzards Bay National Estuary Program (BBNEP). The BBNEP is a subagency of Massachusetts Coastal Zone Management [which made me an employee of the Commonwealth of Massachusetts]. As a former employee of the Commonwealth, I may not participate in a particular matter, for any entity other than the Commonwealth, that I participated in as a state employee. Since this is substantially an identical project to one I reviewed in 2014 & 2015 while providing technical assistance to the Fairhaven Conservation Commission, I must regretfully turn down this request.

If I remember correctly, at one time Peter Fletcher assisted the Commission in the delineation on this site. You may want to consider contacting him for the BVW delineation review of any new submittal.

If I can be of assistance on any other project (that I was not associated with while at the BBNEP) please do not hesitate to contact me.

Sincerely,
John Rockwell, M.S.

- Brad Holmes from ECR submitted his proposal for the review of the NOI and delineation with an estimated budget of \$2,500.
- Natural Resource Services, Inc. submitted their proposal for the review of the NOI and delineation with an estimated budget of \$1,750.00.
- Magdalena Lofstedt has not yet submitted her proposal for the review of the NOI and delineation, but indicated she will be submitting it prior to the meeting.
- I have not received a proposal from Brooke Monroe, Pinebrook Consulting.

RECOMMENDATION

- I recommend that Commission choose a peer reviewer.

Staff Report

Date: September 12, 2019
To: Conservation Commission
From: Whitney McClees, Conservation Agent
Subject: **46 Sconticut Neck Road – Notice of Intent – DEP#023-1296,
Fairhaven CON-19-050**

DOCUMENTS REVIEWED

- Notice of Intent and associated attachments submitted
- Revised plans dated August 10, 2019
- Revised mitigation plan dated August 10, 2019
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw
- Stormwater Management Plan Review by GCG Associates, Inc.
- Second review by GCG Associates, Inc.

RESOURCE AREAS PRESENT

- Bordering Vegetated Wetland (310 CMR 10.55)
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Wetland vegetation provides shade which moderates water temperatures important to fish life. Wetlands flooded by adjacent water bodies and waterways provide food, breeding habitat, and cover for fish.

Bordering vegetated wetlands are probably the Commonwealth's most important inland habitat for wildlife. The hydrologic regime, plant community composition and structure, topography, and water chemistry of bordering vegetated wetlands provide important food, shelter, migratory and overwintering areas, and breeding and nesting areas for many birds, mammals, amphibians, reptiles, and insects.

- Other resource areas on the property include: Salt Marsh, Priority and Estimated Habitat for Rare and Endangered Species (associated with the Salt Marsh), Land Subject to Coastal Storm Flowage.

- There is no work proposed in or with 100 feet of these areas.

PROJECT SUMMARY

- The Notice of Intent was filed for the construction of an 8-house subdivision, roadway, stormwater facility, and utilities and for wetland mitigation of historical impacts.
- The proposed construction is located in the most western portion of the property and will be located on approximately 2.3 acres of predominantly disturbed land or old field habitat. An additional impact to natural wood land will impact approximately 2,500 square feet (0.06 acres). The remainder of the property, approximately 25 acres, will remain undisturbed.
- The Fairhaven Conservation Commission issued an Order of Resource Area Delineation (ORAD) on April 4, 2019 confirming the wetland delineation on the property (DEP File # SE 023-1284).
- A historic wetland impact area was identified by MassGIS 2005 Human Altered Areas database. The entire area accounts for 24,751 square feet.
- To mitigate for the historic impact, the project proposes to construct a 16,728 square foot deciduous forested swamp located in the southeast portion of the property.

COMMENTS

- From 310 CMR 10.00 Preface to the Wetlands Regulations, 2005 Revisions:
 - “Research on the functions of buffer zones and their role in wetlands protection has clearly established that buffer zones play an important role in preservation of the physical, chemical, and biological characteristics of the adjacent resource area. The potential for adverse impacts to resource areas from work in the buffer zone increases with the extent of the work and the proximity to the resource area.”
 - “Extensive work in the inner portion of the buffer zone, particularly clearing of natural vegetation and soil disturbance is likely to alter the physical characteristics of resource areas by changing their soil composition, topography, hydrology, temperature, and the amount of light received. Soil and water chemistry within resource areas may be adversely affected by work in the buffer zone. Alterations to biological conditions in adjacent resource areas may include changes in plant community composition and structure, invertebrate and vertebrate biomass and species composition, and nutrient cycling. These alterations from work in the buffer zone can occur through the disruption and erosion of soil, loss of shading, reduction in nutrient inputs, and changes in litter and soil composition that filters runoff, serving to attenuate pollutants and sustain wildlife habitat within resource areas.”
- From 310 CMR 10.00 Preface to the 1983 Regulations:
 - “Any project undertaken in close proximity to a wetlands resource area has a high likelihood of resulting in some alteration of that area, either immediately or as a consequence of daily operation of the completed project. The problem becomes particularly severe when Bordering Vegetated Wetlands are involved; inadvertent damage to these sensitive areas can easily occur and in many instances is irreparable.”
- Per 314 CMR 9.04(3), the applicant will need to obtain a 401 water quality certification or record a deed restriction providing notice to subsequent purchasers limiting the amount of fill for the single and complete project to less than 5000 square feet cumulatively of bordering and/or isolated vegetated wetlands and land under water and the discharge is not to an Outstanding Resource Water.
- Applicant will also likely need to submit something to US Army Corps of Engineers under Section 404 (Federal Clean Water Act)

- The revisions to the Wetland Mitigation have addressed my comments.
- The second peer review by GCG noted several comments had been resolved and others needed more information to be considered resolved.
- The applicant has not provided a response to the peer reviewer's second round of comments yet nor have they provided updated plans. The Engineer communicated with me that they would like to present the updated plans at the meeting to address the changes that have been made.

RECOMMENDATION

- As I have not seen the revised plans, I cannot make a recommendation at this time.

Staff Report

Date: September 12, 2019

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **88 Fort Street – Notice of Intent – DEP# 023-1305, Fairhaven CON 023-079**

DOCUMENTS REVIEWED

- Notice of Intent and associated documents, including addendum plan to address earlier violation
- Revised plans dated August 26, 2019
- Comments from DEP
- Comments from DMF
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw (Chapter 192)
- Massachusetts Office of Coastal Zone Management’s StormSmart Properties Fact Sheets
- Applying the Massachusetts Wetlands Regulations: A Practical Manual for Conservation Commissions to Protect the Storm Damage Prevention and Flood Control Functions of Coastal Resource Areas

RESOURCE AREAS ON/NEAR SITE

- Coastal Beach (310 CMR 10.27)
 - *Significance:* Coastal beaches, which are defined to include tidal flats, are significant to storm damage prevention, flood control, and the protection of wildlife habitat. In addition, tidal flats are likely to be significant to the protection of marine fisheries and, where there are shellfish, land containing shellfish.

Coastal beaches dissipate wave energy by their gentle slope, their permeability, and their granular nature, which permit changes in beach form in response to changes in wave conditions.

Coastal beaches serve as a sediment source for dunes, subtidal areas, and any coastal areas downdrift from any point on the beach. Steep storm waves cause beach sediment to move offshore, resulting in a gentler beach slope and greater energy dissipation. Less steep waves cause an onshore return of beach sediment, where it will be available to provide protection against future storm waves.

Coastal beaches serve the purposes of storm damage prevention and flood control by dissipating wave energy, by reducing the height of storm waves and by providing sediment to supply other coastal features, including coastal dunes, land under the ocean, and other coastal beaches.

A number of birds also nest in the coastal berm, between the toe of a dune and the high tide line. In addition, isolated coastal beaches on small islands are important as haul out areas for harbor seals.

Coastal beaches are extremely important in recycling of nutrients derived from storm drift and tidal action.

When coastal beaches are determined to be significant to storm damage prevention or flood control, the following characteristics are critical to the protection of those interests: volume (quantity of sediments) and form, and the ability to respond to wave action.

When coastal beaches are significant to the protection of marine fisheries or wildlife habitat, the following characteristics are critical to the protection of those interests: distribution of sediment grain size, water circulation, water quality, and relief and elevation.

- Coastal Bank (310 CMR 10.30)
 - *Significance:* Coastal banks are likely to be significant to storm damage prevention and flood control. Coastal banks that supply sediment to coastal beaches, coastal dunes, and barrier beaches are significant to storm damage prevention and flood control. Coastal banks that, because of their height, provide a buffer to upland areas from storm waters are significant to storm damage prevention and flood control.

Coastal banks composed of unconsolidated sediment and exposed to vigorous wave action serve as a major continuous source of sediment for beaches, dunes, and barrier beaches, as well as other land forms caused by coastal processes, all of which dissipate storm wave energy, thus protecting structures of coastal wetlands landward of them from storm damage and flooding.

Coastal banks, because of their height and stability, may act as a buffer or natural wall, which protects upland areas from storm damage and flooding. Disturbances to a coastal bank which reduce its natural resistance to wind and rain erosion cause cuts and gullies in the bank increase the risk of its collapse, increase the danger to structures at the top of the bank, and decrease its value as a buffer. Bank vegetation tends to stabilize the bank and reduce the rate of erosion due to wind and rain runoff.

When a coastal bank is significant to storm damage prevention or flood control because it supplies sediment to coastal beaches, coastal dunes, or barrier beaches, the ability of the coastal bank to erode in response to wave action is critical to the protection of those interests.

When a coastal bank is significant to storm damage prevention or flood control because it is a vertical buffer to storm waters, the stability of the bank, i.e. the natural resistance of the bank to erosion caused by wind and rain runoff, is critical to the protection of those interests.

- Land Containing Shellfish (310 CMR 10.34)
 - *Significance:* Land containing shellfish is significant to the protection of marine fisheries as well as to the protection of the interest of land containing shellfish. Shellfish are a valuable renewable resource. The maintenance of productive shellfish beds not only assures the continuance of shellfish themselves, but also plays a direct role in supporting fish stocks by providing a major food source. When a resource area is found

the be significant to the protection of land containing shellfish and is, therefore, also significant to marine fisheries, the following factors are critical to the protection of those interests: shellfish, water quality, water circulation, and the natural relief, evaluation, or distribution of sediment grain size of such land.

- Land Subject to Coastal Storm Flowage (LSCSF) Zone AE
 - *Significance:* Land subject to coastal storm flowage is likely to be significant to flood control and storm damage prevention. LSCSF can slow down flood waters and allow them to flow across a natural landform surface, providing frictional resistance and reducing their energy and destruction potential. It can allow flood waters to spread over a wide area without obstructions. Obstructions can cause the channelization of flood waters and storm-wave overwash and an increase in the velocity and volume of flow to adjacent or landward areas. LSCSF can also allow flood waters to be detained, absorbed into the ground, or evaporated into the atmosphere. LSCSF also protects the land from storm erosion by providing a substrate for vegetation that helps to stabilize sediments and slow down flood waters.

Where LSCSF overlaps other coastal resource areas, it plays an important role in determining the delineation and function of these resource areas, specifically coastal beaches and dunes, barrier beaches, and coastal banks.

Particular physical characteristics of LSCSF that are critical to the protection of the flood control and storm damage prevention interests include: topography, slope, surface area, soil characteristics (i.e., composition, size, shape, and density of material), vegetation, erodability, and permeability of sediments. Topography, slope, and permeability are critical for determining how effective an area is in dissipating wave energy, absorbing flood waters, and protecting areas within and landward of these zones from storm damage and flooding.

PROJECT SUMMARY

- Proposed removal of the existing seawall to beach grade, leaving in place any subsurface foundation stones, and construction of a new precast concrete block wall

COMMENTS

- Comments from MassDEP
 - The precast wall is also located on coastal beach and the area of impact should be quantified and included in the NOI. If the removal of “debris” exceeds 100 cubic yards (dredge), then an individual 401 Water Quality Certification would be required. Can the proposed Redi-Rock wall be located entirely above mean high water?
 - Chapter 91 license may be required.
 - 401 Water Quality Certification may be required.
 - This project proposes a discharge of dredged or fill material into “Waters of the United States” potentially subject to the federal Clean Water Act. Per the Massachusetts General Permit (MAGP) issued under the federal Clean Water Act, you may be required to notify the US Army Corps of Engineers, New England District of this project proposal. Review under Section 404 may be required.
- Comments from MA DMF
 - The project site lies within and adjacent to mapped shellfish habitat for soft shell clam (*Mya arenaria*) and quahog (*Mercenaria mercenaria*). Subtidal waters within the project

site have habitat characteristics suitable for these species. Land containing shellfish is deemed significant to the interest of the Wetlands Protection Act (310 CMR 10.34) and the protection of marine fisheries.

- MA DMF has identified Acushnet River as winter flounder (*Pseudopleuronectes americanus*) spawning habitat. Winter flounder enter the area and spawn from January through May, laying clumps of eggs directly on the substrate. These demersal eggs hatch approximately fifteen to twenty days later. The Atlantic States Marine Fisheries Commission has designated winter flounder spawning habitat as “Habitat Area of Particular Concern” (HAPC). A recent stock assessment has determined that Southern New England/Mid Atlantic winter flounder populations are at only 23% of the recommended recovery level, and even though it is not currently experiencing overfishing, it is overfished. Because of the winter flounder stock status, every effort should be made to protect winter flounder and their spawning habitat.
- MA DMF has also identified the Acushnet River as passage, spawning, and/or juvenile development habitat for American eels (*Anguilla rostrata*), white perch (*Morone americana*) and alewife (*Alosa pseudoharengus*). MA DMF has placed a ban on the harvest of river herring (blueback and alewife) due to drastic declines in their populations. Division biologists emphasize the need for risk averse management to protect these species.
- MA DMF offers the following comments for your consideration:
 - Work from the upland as much as possible to reduce equipment on the beach and intertidal areas
 - MA DMF appreciates that “all work to install the crushed stone base and lower 2-courses of blocks will occur 2 hours of normal low tidal cycle to minimize the bottom disturbance.”
 - MA DMF recommends the old seawall be dredged within two hours of low tide. If this cannot be accomplished, MA DMF recommends no dredging between January 15 – May 31 to protect winter flounder eggs and juvenile development.
- 310 CMR 10.27(3) – “Any project on a coastal beach, except any project permitted under 310 CMR 10.30(3)(a), shall not have an adverse effect by increasing erosion, decreasing the volume or changing the form of any such coastal beach or an adjacent or downdrift coastal beach.
- 310 CMR 10.27(4) – “Any groin, jetty, solid pier, or other such solid fill structure which will interfere with littoral drift, in addition to complying with 310 CMR 10.27(3), shall be constructed as follows:
 - a) It shall be the minimum length and height demonstrated to be necessary to maintain beach form and volume. In evaluating necessity, coastal engineering, physical oceanographic and/or coastal geologic information shall be considered.
 - b) Immediately after construction, any groin shall be filled to entrapment capacity in height and length with sediment of grain size compatible with that of the adjacent beach.
 - c) Jetties trapping littoral drift material shall contain a sand by-pass system to transfer sediments to the downdrift side of the inlet or shall be periodically redredged to provide beach nourishment to ensure that downdrift or adjacent beaches are not starved of sediments.”
- 310 CMR 10.27(5) – “Notwithstanding 310 CMR 10.27(3), beach nourishment with clean sediment of a grain size compatible with that on the existing beach may be permitted.”

- Armored structures can contribute to long-term beach loss by trapping sand and preventing it from distributing to the beach. These structures may also accelerate erosion on neighboring properties.
- New vertical seawalls, revetments, bulkheads, or other coastal engineering structures can cause damage to the coastal beach, as they eliminate a sediment source and contribute to erosion seaward of the structure over time. Therefore, these projects should not be permitted unless coastal engineering structures are proposed on an eroding coastal bank where there are no other feasible alternatives to prevent storm damage to a building that was constructed prior to the effective date of the Regulations, August 10, 1978.
- Waves are reflected by vertical structures, causing energy to be deflected straight down onto the beach and straight up and over the wall, damaging the area behind it.
- Non-structural options, such as beach and dune nourishment, should be considered as an alternative to a coastal engineering structure, and at a minimum, as mitigation for the impacts from any permitted structure.
- While seawalls and revetments can help protect landward property and infrastructure from waves and tides, they do not stop (and may exacerbate) erosion. As natural erosive forces continue to remove sediment over time, beaches in front of the hard structures are diminished and can eventually be completely lost. Seawalls and revetments can exacerbate erosion problems by reflecting waves onto the beach in front of them or onto neighboring properties. As these sources of erosion continue, more of the hard structure is exposed, causing more wave reflection and erosion. Overtime, the structure can become undermined, reducing its shoreline protection capacity, increasing maintenance costs, and ultimately leading to total structure failure. Nature-based solutions can often be less expensive and involve less maintenance than armored shoreline stabilization techniques such as seawalls.
- The applicant submitted the square footage of proposed alteration of Coastal Beach.
 - They note a net gain of 1,340 square feet. The Area filled is 114 square feet and the area of beach removed of debris is 1,454 square feet.
- The revisions to the Addendum plan include:
 - removing the fill inside of the cinder blocks around the tree to the original grade and then topped with 1 inch of bark mulch
 - removing the fill at the fence to original grade and then sloped at 5:1 away from fence and re-seeded
- *Question for Applicant:* How much higher is the original grade at the fence than the rest of the lawn area?
- The revisions to the Waterways plan include:
 - The addition of an 8'x8' pervious patio behind the proposed seawall
 - 5' wide mulch bed of creeping juniper shrubs along entire length of proposed seawall
- It appears all of the debris is not being proposed to be removed to stay below the 100 cubic yard threshold for a 401 Water Quality Certification.
- *Question for Applicant:* What is the patio proposed to be constructed from?
- Our bylaw fee schedule includes a shellfish mitigation fee of \$8/square foot for projects larger than 12 square feet. Because the project is removing debris and creating more habitat, does the Commission feel the shellfish mitigation fee is necessary for the 114 square feet of seawall in Land Containing Shellfish?

RECOMMENDATION

- If the Commission decides to close the public hearing and issue an Order of Conditions, my recommended conditions are as follows:

Approve plan dated August 26, 2019.

A. General Conditions

1. ACC-1
2. With respect to all conditions except_____, the Conservation Commission designates the Conservation Agent as its agent with full powers to act on its behalf in administering and enforcing this Order.
3. REC-1
4. REC-2
5. ADD-1
6. ADD-2
7. ADD-4b
8. ADD-4c
9. ADD-5
10. STO-4
11. STO-5
12. The Limit of Work shall be bound by the easterly lot line of Map 5, Lot 4 running 44.74 feet north-south, the southerly lot line running 228 feet east-west of Map 5, Lot 4 and property line extension of the southerly lot line as noted on the approved plans, the westerly extent of the debris to be removed, the northwesterly extent of the debris to be removed off the corner of Main Street and Church Street, and the northerly lot line running 230 feet east-west along Church Street of Map 5, Lot 4.
13. Stone seawall debris to be removed shall not exceed 100 cubic yards. If an excess of 100 cubic yards is deemed as needing to be removed through a separate permitting process, the Conservation Commission shall be informed in writing and copies of the appropriate permits shall be provided prior to work commencing. Additionally, all of the conditions that apply to the approved debris removal shall apply to any debris removal exceeding 100 cubic yards.
14. This Order of Conditions does not accept or approve the resource area boundaries as depicted on the approved plans.

B. Prior to Construction

15. CAP-3 These permits include, but are not limited to, a Chapter 91 Waterways License and a permit from the US Army Corps of Engineers.
16. REC-3
17. DER-1
18. PCC-3
19. EMC-1
20. PCC-1
21. SIL-5
22. The silt fence shall be installed in the location depicted on the approved plans surrounding the excavated material stockpile area and the dewatering Dirt Bag.
23. Prior to any dredging work or removal of seawall debris, booms shall be installed around the area approved for dredging/debris removal and approved by the Fairhaven

Harbormaster. Written confirmation of Harbormaster approval shall be submitted to the Conservation Commission.

C. During Construction

24. As recommended by Massachusetts Division of Marine Fisheries (MA DMF), all work shall occur from the upland as much as possible to reduce equipment on the beach and intertidal areas.
25. Per MA DMF, all dredging shall occur within two hours of low tide. If this cannot be accomplished, no dredging shall occur between January 15 and May 31 for the duration of the project to protect winter flounder eggs and juvenile development.
26. Seawall construction shall occur using an excavator set upgradient of mean high water.
27. All work to install the crushed stone base and lower two courses of blocks shall occur within 2 hours of normal low tidal cycle to minimize the bottom disturbance.
28. All concrete debris removed from the existing seawall shall be disposed of at an appropriate offsite location. Clean granite boulders not used for backfill shall also be loaded into trucks and removed from the site.
29. The removal of the existing seawall shall be to beach grade only, leaving in place any subsurface foundation stones to minimize bottom disturbance.
30. Site grading and construction shall be scheduled to avoid periods of high surface water. Once begun, grading and construction shall continue in an expeditious manner to minimize the opportunity for erosion.
31. If creeping juniper shrubs (*Juniperus horizontalis*) are unavailable, a suitable native alternative shall be submitted to the Commission for review and approval.
32. DRG-1
33. DRG-3
34. STO-1
35. STO-3
36. All excavated materials shall be stored in the excavated material stockpile area as depicted on the approved plans.
37. All concrete blocks being used in the construction of the wall shall be stored in the concrete block stockpile area as depicted on the approved plans.
38. MAC-3
39. MAC-6
40. MAC-7
41. All equipment shall be inspected regularly for leaks. Any leaking hydraulic lines, cylinders, or any other components shall be fixed immediately.
42. DEB-1
43. DEB-5
44. BLD-3
45. BLD-4
46. EMC-2
47. SIL-3
48. SIL-4
49. SIL-8
50. LOW-3
51. LOW-5
52. WAT-2 All dewatering shall utilize the dewatering "Dirtbag" by ACF Environmental as depicted on the approved plans. The "ACF Dirtbag" shall be sized to appropriately handle all dewatering operations.

- 53. WAT-3
- D. After Construction/In Perpetuity
 - 54. REV-1
 - 55. RES-4
 - 56. COC-1
 - 57. COC-2

Perpetual Conditions

The below conditions do not expire upon completion of the project.

- 58. CHM-2 This condition shall survive the expiration of this Order, and shall be included as a continuing condition in perpetuity on the Certificate of Compliance.
- 59. DER-4
- 60. If any of the planted vegetation should fail to establish, the Commission reserves the right to request it be replaced with the same or similar native species.

Staff Report

Date: September 12, 2019

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **56 Balsam Street – Request for Determination of Applicability – No DEP#, Fairhaven CON 023-089**

DOCUMENTS REVIEWED

- Request for Determination of Applicability and associated documents
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw (Chapter 192)

RESOURCE AREAS ON/NEAR SITE

- Land Subject to Coastal Storm Flowage (LSCSF) Zone VE
 - *Significance:* Land subject to coastal storm flowage is likely to be significant to flood control and storm damage prevention. LSCSF can slow down flood waters and allow them to flow across a natural landform surface, providing frictional resistance and reducing their energy and destruction potential. It can allow flood waters to spread over a wide area without obstructions. Obstructions can cause the channelization of flood waters and storm-wave overwash and an increase in the velocity and volume of flow to adjacent or landward areas. LSCSF can also allow flood waters to be detained, absorbed into the ground, or evaporated into the atmosphere. LSCSF also protects the land from storm erosion by providing a substrate for vegetation that helps to stabilize sediments and slow down flood waters.

Where LSCSF overlaps other coastal resource areas, it plays an important role in determining the delineation and function of these resource areas, specifically coastal beaches and dunes, barrier beaches, and coastal banks.

Particular physical characteristics of LSCSF that are critical to the protection of the flood control and storm damage prevention interests include: topography, slope, surface area, soil characteristics (i.e., composition, size, shape, and density of material), vegetation, erodability, and permeability of sediments. Topography, slope, and permeability are critical for determining how effective an area is in dissipating wave energy, absorbing flood waters, and protecting areas within and landward of these zones from storm damage and flooding.

- Coastal Beach (310 CMR 10.27)
 - Work is outside of the buffer zone to Coastal Beach
- Coastal Dune (310 CMR 10.28)
 - Work is outside of the buffer zone to Coastal Dune

PROJECT SUMMARY

- The applicant filed a permit after-the-fact for a 60' x 26' asphalt driveway, which was added to the existing apron and installed for ease of exit from property to avoid backing up into oncoming traffic and to reduce maintenance of the previous stone driveway.
- Board of Public Works issued a permit in June allowing the driveway apron to be widened.

COMMENTS

- Based on my calculations, with the paving of the driveway, lot coverage is now about 36%. The maximum lot coverage for an RR district is 25%. Likely, a variance is needed from the Board of Appeals.
- Given the entire property falls within a VE flood zone, the amount of impervious surface on the lot likely reduces flood control and storm damage prevention. When Land Subject to Coastal Storm Flowage is left pervious or in a natural state, it aids in slowing down flood waters and reducing energy and destruction potential.
- Had this size of driveway come before the Commission prior to its installation, my recommendation would have been to reduce the size and install native plantings to offset the increase in impervious surface within the Velocity flood zone.
- *Question for Applicant:* Do you have any plan to install some native plantings in the rear of the property to offset the amount of impervious surface in the front of the property?

RECOMMENDATION

- If the Commission determines the work would have been permitted had it come before you prior to the work being completed, I would recommend closing the public hearing and issuing a Negative 3 Determination with the condition of installing native plantings in the rear of the property to offset the impervious surface in the front of the property and a Negative 6 Determination.
- If the Commission determines the work would not have been permitted had it come before you prior to the work being completed and you would like to see the size of the driveway reduced, I would recommend closing the public hearing and issuing a Positive 3 and Positive 5 Determination.

Staff Report

Date: September 12, 2019

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **46 Charity Stevens Lane – Application Type – DEP# 023-____, Fairhaven CON 023-090**

DOCUMENTS REVIEWED

- Notice of Intent and associated documents
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw (Chapter 192)

RESOURCE AREAS ON/NEAR SITE

- **Bordering Vegetated Wetland (310 CMR 10.55)**
 - *Significance:* Bordering vegetated wetlands are likely to be significant to public or private water supply, to groundwater supply, to flood control, to storm damage prevention, to prevention of pollution, and to wildlife habitat. Plants and soils of bordering vegetated wetlands remove or detain sediments, nutrients, and toxic substances that occur in run-off and flood waters.

The vegetation in bordering vegetated wetlands acts to slow down and reduce the passage of flood waters during periods of peak flows by providing temporary flood water storage and by facilitating water removal through evaporation and transpiration. This process reduces downstream flood crests and the resulting damage to private and public property. During dry periods, the water retained in bordering vegetated wetlands is essential to the maintenance of base flow levels in rivers and streams, which is important to the protection of water quality and water supplies.

Wetland vegetation provides shade which moderates water temperatures important to fish life. Wetlands flooded by adjacent water bodies and waterways provide food, breeding habitat, and cover for fish.

Bordering vegetated wetlands are probably the Commonwealth's most important inland habitat for wildlife. The hydrologic regime, plant community composition and structure, topography, and water chemistry of bordering vegetated wetlands provide important food, shelter, migratory and overwintering areas, and breeding and nesting areas for many birds, mammals, amphibians, reptiles, and insects.

- **Isolated Vegetated Wetland (Fairhaven Wetlands Bylaw, Chapter 192)**
 - *Significance:* Many Isolated Vegetated Wetlands (IVWs) are extremely important wildlife habitat, and typically provide all or most of the same habitat functions as Bordering Vegetated Wetlands.

Isolated vegetated wetlands are likely to be significant to public or private water supply, to groundwater supply, to prevention of pollution, and to wildlife habitat. Plants and

soils of isolated vegetated wetlands remove or detain sediments, nutrients, and toxic substances that occur in run-off and flood waters.

- Bank (310 CMR 10.54)

- *Significance*: Banks are likely to be significant to public or private water supply, to groundwater supply, to flood control, to storm damage prevention, to the prevention of pollution, and to the protection of fisheries and wildlife habitat. When banks are composed of concrete, asphalt, or other artificial impervious material, said banks are likely to be significant to flood control and storm damage prevention.

Banks are areas where groundwater discharges to the surface and where, under some circumstances, surface water recharges the groundwater. Where banks are partially or totally vegetated, the vegetation serves to maintain the banks' stability, which in turn protects water quality by reducing erosion and siltation.

Banks may also provide shade that moderates water temperatures, as well as providing breeding habitat, escape cover, and food, all of which are significant to the protection of fisheries. The topography, plant community composition and structure, and soil structure of banks together provide important food, shelter, migratory and overwintering areas, and breeding areas for wildlife.

Banks act to confine floodwaters during the most frequent storms, preventing the spread of water to adjacent land. Because banks confine water during such storms to an established channel, they maintain water temperature and depths necessary for the protection of fisheries.

An alteration of a bank that permits water to frequently and consistently spread over a large and more shallow area increases the amount of property which is routinely flooded, as well as elevating water temperature and reducing fish habitat within the main channel, particularly during warm weather.

- Land Under Water Bodies or Waterways (310 CMR 10.56)

- *Significance*: Land under water bodies and waterways is likely to be significant to public and private water supply, to groundwater supply, to flood control, to storm damage prevention, to prevention of pollution, and to protection of wildlife habitat. Where such land is composed of concrete, asphalt, or other artificial impervious material, said land is likely to be significant to flood control and storm damage prevention.

Where land under water bodies and waterways is composed of pervious material, such land represents a point of exchange between surface and ground water. The soils and sediments play an important role in the process of detaining and removing dissolved and particulate nutrients (such as nitrogen and phosphorus) from the surface water above. They also serve as traps for toxic substances (such as heavy metal compounds).

Land under water bodies and waterways, in conjunction with banks, serves to confine floodwater within a definite channel during the most frequent storms. An alteration of land under water bodies and waterways that causes water to frequently spread out over a larger area at a lower depth increases the amount of property which is routinely flooded. Additionally, it results in an elevation of water temperature and a decrease in habitat in the main channel, both of which are detrimental to fisheries, particularly during periods of warm weather and low flows.

The plant community composition and structure, hydrologic regime, topography, soil composition, and water quality of land under water bodies and waterways provide important food, shelter, migratory and overwintering areas, and breeding areas for wildlife.

PROJECT SUMMARY

- This project entails construction of new ground-mounted photovoltaic solar arrays, gravel driveways, stormwater facilities, electrical equipment pads, energy storage systems, and above and below-ground utility lines.

COMMENTS

- The report submitted from the wetland scientist includes the following details about the resource areas on the property:
 - The pond appears to be an old irrigation pond and is vegetated with cattails.
 - The isolated wetland is vegetated with red maple, highbush blueberry, poison ivy, and ferns. This area also provides vernal pool habitat.
 - The BVW is located within the woods and within portions of the adjacent field area. The wetlands are dominant in red maple, yellow birch, brier, sweet pepperbush, ferns, skunk cabbage, and highbush blueberry. The wet meadow areas are dominant in sedges, rushes, yellow buttercup, and wetland ferns.
- The proposed eastern solar array does not fall within any of the buffer zones on the property.
- The proposed western solar array proposes construction of panels throughout the buffer zone to Bordering Vegetated Wetland and Isolated Wetlands.
- Portions of the fence surrounding the western array are directly adjacent to the wetland line.
- Approximately 20,000 square feet of vegetation on the southern section of the western array is proposed to be coppiced. Some of that area is within the 100-foot buffer zone.
- *Question for Applicant:* What are the details of the shading easement?
- The disturbed areas are proposed to be seeded with Honey Bee Forage Mix and rye seed mix, which includes the following species:
 - White Blossom Sweetclover – introduced in the US, not native
 - Red Clover – introduced in the US, not native
 - Crimson Clover – introduced in the US, not native
 - White Clover – introduced in the US, not native
 - Yellow Blossom Sweetclover – introduced in the US, not native
 - Alsike Clover – introduced in the US, not native
 - Balansa Clover – likely introduced in the US, not native
- Any pollinator seed mix that is planted on disturbed areas should be native species, such as lowbush blueberry, wild strawberry, or a New England wildflower mix.
- It appears the proposed location for the fence is nearly on top of some of the erosion controls.
- *Question for Applicant:* How will you prevent any sedimentation of the pond area in the middle of the western array? I don't see any proposed erosion controls surrounding it.
- The stormwater report is currently in the process of being peer reviewed.

RECOMMENDATION

- I would recommend asking the applicant if they would like to continue to a future meeting to allow time for the stormwater peer reviewer to complete their assessment.

Staff Report

Date: September 13, 2019

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **21 Silver Shell Beach Drive – Request for Determination of Applicability – No DEP#, Fairhaven CON 023-091**

DOCUMENTS REVIEWED

- Request for Determination of Applicability and associated documents
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw (Chapter 192)

RESOURCE AREAS ON/NEAR SITE

- Land Subject to Coastal Storm Flowage (LSCSF) Zone VE
 - *Significance:* Land subject to coastal storm flowage is likely to be significant to flood control and storm damage prevention. LSCSF can slow down flood waters and allow them to flow across a natural landform surface, providing frictional resistance and reducing their energy and destruction potential. It can allow flood waters to spread over a wide area without obstructions. Obstructions can cause the channelization of flood waters and storm-wave overwash and an increase in the velocity and volume of flow to adjacent or landward areas. LSCSF can also allow flood waters to be detained, absorbed into the ground, or evaporated into the atmosphere. LSCSF also protects the land from storm erosion by providing a substrate for vegetation that helps to stabilize sediments and slow down flood waters.

Where LSCSF overlaps other coastal resource areas, it plays an important role in determining the delineation and function of these resource areas, specifically coastal beaches and dunes, barrier beaches, and coastal banks.

Particular physical characteristics of LSCSF that are critical to the protection of the flood control and storm damage prevention interests include: topography, slope, surface area, soil characteristics (i.e., composition, size, shape, and density of material), vegetation, erodability, and permeability of sediments. Topography, slope, and permeability are critical for determining how effective an area is in dissipating wave energy, absorbing flood waters, and protecting areas within and landward of these zones from storm damage and flooding.

- Coastal Beach (310 CMR 10.27)
 - *Significance:* Coastal beaches, which are defined to include tidal flats, are significant to storm damage prevention, flood control, and the protection of wildlife habitat. In addition, tidal flats are likely to be significant to the protection of marine fisheries and, where there are shellfish, land containing shellfish.

Coastal beaches dissipate wave energy by their gentle slope, their permeability, and their granular nature, which permit changes in beach form in response to changes in wave conditions.

Coastal beaches serve as a sediment source for dunes, subtidal areas, and any coastal areas downdrift from any point on the beach. Steep storm waves cause beach sediment to move offshore, resulting in a gentler beach slope and greater energy dissipation. Less steep waves cause an onshore return of beach sediment, where it will be available to provide protection against future storm waves.

Coastal beaches serve the purposes of storm damage prevention and flood control by dissipating wave energy, by reducing the height of storm waves and by providing sediment to supply other coastal features, including coastal dunes, land under the ocean, and other coastal beaches.

A number of birds also nest in the coastal berm, between the toe of a dune and the high tide line. In addition, isolated coastal beaches on small islands are important as haul out areas for harbor seals.

Tidal flats are likely to be significant to the protection of marine fisheries and wildlife habitat because they provide habitats for marine organisms such as polychaete worms and mollusks, which in turn are food sources for fisheries and migratory and wintering birds. Coastal beaches are extremely important in recycling of nutrients derived from storm drift and tidal action.

When coastal beaches are determined to be significant to storm damage prevention or flood control, the following characteristics are critical to the protection of those interests: volume (quantity of sediments) and form, and the ability to respond to wave action.

When coastal beaches are significant to the protection of marine fisheries or wildlife habitat, the following characteristics are critical to the protection of those interests: distribution of sediment grain size, water circulation, water quality, and relief and elevation.

- **Bordering Vegetated Wetland**
 - *Significance:* Bordering vegetated wetlands are likely to be significant to public or private water supply, to groundwater supply, to flood control, to storm damage prevention, to prevention of pollution, and to wildlife habitat. Plants and soils of bordering vegetated wetlands remove or detain sediments, nutrients, and toxic substances that occur in run-off and flood waters.

The vegetation in bordering vegetated wetlands acts to slow down and reduce the passage of flood waters during periods of peak flows by providing temporary flood water storage and by facilitating water removal through evaporation and transpiration. This process reduces downstream flood crests and the resulting damage to private and public property. During dry periods, the water retained in bordering vegetated wetlands is essential to the maintenance of base flow levels in rivers and streams, which is important to the protection of water quality and water supplies.

Wetland vegetation provides shade which moderates water temperatures important to fish life. Wetlands flooded by adjacent water bodies and waterways provide food, breeding habitat, and cover for fish.

Bordering vegetated wetlands are probably the Commonwealth's most important inland habitat for wildlife. The hydrologic regime, plant community composition and structure, topography, and water chemistry of bordering vegetated wetlands provide important food, shelter, migratory and overwintering areas, and breeding and nesting areas for many birds, mammals, amphibians, reptiles, and insects.

- Buffer Zone to Bordering Vegetated Wetland and Coastal Beach
 - From 310 CMR 10.00 Preface to the Wetlands Regulations, 2005 Revisions:
 - “Research on the functions of buffer zones and their role in wetlands protection has clearly established that buffer zones play an important role in preservation of the physical, chemical, and biological characteristics of the adjacent resource area. The potential for adverse impacts to resource areas from work in the buffer zone increases with the extent of the work and the proximity to the resource area.”
 - “Extensive work in the inner portion of the buffer zone, particularly clearing of natural vegetation and soil disturbance is likely to alter the physical characteristics of resource areas by changing their soil composition, topography, hydrology, temperature, and the amount of light received. Soil and water chemistry within resource areas may be adversely affected by work in the buffer zone. Alterations to biological conditions in adjacent resource areas may include changes in plant community composition and structure, invertebrate and vertebrate biomass and species composition, and nutrient cycling. These alterations from work in the buffer zone can occur through the disruption and erosion of soil, loss of shading, reduction in nutrient inputs, and changes in litter and soil composition that filters runoff, serving to attenuate pollutants and sustain wildlife habitat within resource areas.”
 - From 310 CMR 10.00 Preface to the 1983 Regulations:
 - “Any project undertaken in close proximity to a wetlands resource area has a high likelihood of resulting in some alteration of that area, either immediately or as a consequence of daily operation of the completed project. The problem becomes particularly severe when Bordering Vegetated Wetlands are involved; inadvertent damage to these sensitive areas can easily occur and in many instances is irreparable.”

PROJECT SUMMARY

- The applicant is seeking to add fill, loam, and seed to the below three areas to bring the grade up to match the street level or yard level:
 - The front yard is below the street level grade and each time it rains, the front yard floods and makes access to the house difficult. The applicant proposes to bring the grade up approximately 8-9 inches using soil and grass seed.
 - The backyard has a holding septic tank in the ground, which is no longer completely covered by soil/grass and is below grade from the rest of the yard, causing a depression. The applicant proposes to add approximately 4-6 inches of soil and grass seed to level the area to eliminate slip and fall hazards.

- Lot #29 (across Silver Shell Beach Drive) is a small piece of land where the area closest to the street is below street-grade. The applicant proposes to bring in loam and seed to grade a 20' x 32' area level with the street.

COMMENTS

- I see no issues with grading the area in the backyard over the septic tank as the installation of the septic tank was permitted in 2016 and received a Certificate of Compliance. The depression is likely due to settling since the work was completed.
- The area in the front yard falls within Land Subject to Coastal Storm Flowage and is likely outside of the 100-foot buffer zone to the resource areas in the area.
- It is possible that the water is collecting in the front yard due to the installation of the septic system holding tank along the side of the property, funneling more water to the front of the property.
- *Question for Applicant:* Have you spoken with Public Works regarding how changing where the water collects might impact the road?
- *Question for Applicant:* It appears the area that ponds extends beyond the property line. Is it likely that bringing your lawn up to grade with the street will shift the water in front of your neighbor's property?
- On Lot #29, the area the applicant proposed to grade to the street falls within the buffer zone to Coastal Beach in addition to LSCSF.
- *Question for Applicant:* Is the distance from the street to the vegetation 32 feet?
- *Question for Applicant:* How do you plan to bring in and spread the soil?

RECOMMENDATION

- If the Commission feels all of the work proposed will not impact the resource areas, I would recommend issuing a Negative 2 and Negative 6 Determination.
- If the Commission feels the work proposed around the house will not impact any resource areas and the work proposed on Lot 29 is allowable but might have impact on the resource area, I would recommend issuing a Negative 3 Determination with the following condition: At no point shall there be any cutting of vegetation nor shall there be any machinery within a resource area.

Staff Report

Date: September 13, 2019

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **131 Dogwood Street – Bylaw Only Request for Determination of Applicability – Fairhaven CON 023-092**

DOCUMENTS REVIEWED

- Request for Determination of Applicability and associated documents
- 310 CMR 10.00
- Fairhaven Wetlands Bylaw (Chapter 192)

RESOURCE AREAS ON/NEAR SITE

- Isolated Vegetated Wetland (Fairhaven Wetlands Bylaw, Chapter 192)
 - *Significance:* Many Isolated Vegetated Wetlands (IVWs) are extremely important wildlife habitat, and typically provide all or most of the same habitat functions as Bordering Vegetated Wetlands.

Isolated vegetated wetlands are likely to be significant to public or private water supply, to groundwater supply, to prevention of pollution, and to wildlife habitat. Plants and soils of isolated vegetated wetlands remove or detain sediments, nutrients, and toxic substances that occur in run-off and flood waters.

PROJECT SUMMARY

- After-the-fact bylaw only filing for the construction of a deck on an existing house and to fill in a drywell in the existing lawn.

COMMENTS

- The construction of the deck is within the 50-100-foot area of the buffer zone.
- The work began prior to receiving permits from Conservation or Building.
- A Cease and Desist notice was posted.
- As long as erosion controls are installed, it appears that this is an approvable project.

RECOMMENDATION

- I would recommend issuing a Negative 6 Determination with the condition that erosion controls get installed.

Staff Report

Date: September 13, 2019

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **Violations/Enforcement Orders/Cease and Desist Notices and General Business**

Town Beach on West Island

- Still waiting on further communication from violator regarding the \$300 fine
- I sent a certified letter requesting documentation of pending payment or payment within 30 days. I have not yet received the return receipt.

Chamber Street

- I received another report of the beach grass getting cut.
- I conducted a site visit and didn't see anything that appeared to be new cutting but since it's been a recurring issue, I posted a Cease and Desist notice on the electric pole at the end of Chamber Street.

North Street Marsh, Assessors Map 15, Lot 43

- Contained in separate report

Bills

- Natural Resource Services, Inc. - \$850.00 for the peer review of 240 Alden Road
- Fairhaven Neighborhood News - \$420.00 for legal ads for four meetings
- GCG Associates, Inc. - \$1,277.50 for the peer review of 46 Sconticut Neck Road
- GCG Associates, Inc. - \$1072.50 for the peer review of 12 Howland Road
- Nye Lubricants, Inc. - \$127.50 for the reimbursement of the remaining peer review fee

MassDEP/MACC Forum: September 26 at 6:00pm

- *Wetlands Forum September 26th*: MassDEP and MACC will be holding a Wetlands Forum on September 26th from 6 PM to 7:30 PM at the MassDEP Southeast Regional Office, 20 Riverside Drive, Lakeville. Conservation Commission members and Staff are invited. We will have introductions of everyone in attendance, DEP will have a presentation of what the Wetlands and Waterways Division does in the region, then it will be opened up for questions. Light refreshments will be provided.

Staff Report

Date: September 16, 2019

To: Conservation Commission

From: Whitney McClees, Conservation Agent

Subject: **North Street Marsh, Assessors Map 15, Lot 43**

- A site visit was conducted on the raised area of the marsh near Hedge Street on September 16, 2019. Further mowing and maintenance of vegetation was documented and Cease and Desist Notices were posted.
- A letter was sent to the property owner in June 2019 that stated the following:

At their June 3, 2019 meeting, the Conservation Commission noted that all of below listed concerns had been addressed with regard to the cleared area in the buffer zone to the salt marsh at the property located at Assessors Map 15, Lot 43.

- Removal of carpeting
- Brush pile on top of hard pack berm
- Other brush piles around the area
- Removal of the garbage can
- Removal of garbage/refuse on ground

At no point should there be any cutting, clearing, mowing, weed whacking, dumping of debris, or any other activity anywhere on this property (Assessors Map 15, Lot 43) without a proper filing with the Conservation Commission. Any further activity may result in a fine.

Per the Fairhaven Wetlands Bylaw (§192-11), “any person who violates any provision of this chapter, regulations thereunder or permits issued thereunder shall be punished by a fine of not more than \$300. Each day or portion thereof during which a violation continues shall constitute a separate offense, and each provision of the bylaw regulations or permit violated shall constitute a separate offense.”