



**CITY OF NEWBURYPORT
CONSERVATION COMMISSION**
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NEWBURYPORT, MA 01950
978-465-4462

Guidelines for Plum Island Conservation Applications

Revised July 26, 2010
(Replaces last revision, October 6, 2009)

Overview

These guidelines are not intended to replace the Massachusetts Wetlands Protection Act or the Newburyport Wetlands Ordinance or any related regulations. They are meant only to assist applicants in preparing a *Notice of Intent* or a *Request for Determination* filing for a project on Plum Island and to assist the Newburyport Conservation Commission (the Commission) and its Administrator in reviewing proposed projects. These guidelines are not meant to cover all possible projects on Plum Island, but only the more typical projects which may be proposed. Note that *italicized* terms are defined at the end of this document under “Definitions and Acronyms.”

It is up to the applicant to present the project in a complete manner following the requirements of the Massachusetts Wetlands Act and Regulations and the Newburyport Wetlands Ordinance and any local Regulations adopted by the Commission.

It should be noted that standards for projects within the FEMA high hazard zones (*V-zones* or *AO-zones*) are much more stringent than for other zones on Plum Island, and that these Guidelines do not specifically reference these stricter standards.

If, after the plans are submitted to the Commission, another city department – such as Zoning, Building or Board of Health – requires changes to the plans, the new plans must also be submitted to the Commission. If an *Order of Conditions* or a *Determination of Applicability* has already been issued by the Commission, the applicant may also be required to submit an Amended filing.

Residents and property owners on Plum Island are strongly encouraged to consult with the Newburyport Conservation Administrator when planning new projects to insure that the proper permits or sign-offs are in-place prior to the commencement of work. Work performed without a permit from the Commission may result in enforcement actions and fines per the Newburyport Wetlands Ordinance.

Project (Site) Plans for a Notice of Intent

Site Plans for *Notices of Intent* must be created, signed and stamped by a registered Professional Engineer or Land Surveyor* (see exceptions below. Plans should include, at a minimum the following:

- An identifiable reference name, including the address, plan and lot number(s) and latest revision date. All revised plans submitted during the NOI process *must* have a revision date with notation;
- Lot lines;
- Note specifying vertical datum used (e.g., NGVD, NAVD88);
- Legend identifying symbols used on the plan;
- Boundaries of all jurisdictional resource areas. For Riverfront properties, include the 100 foot inner riparian zone as well as the outer 200 foot boundary;
- Boundaries of A and V Flood Zones (including AO, if present). The project site should be located on the latest available FEMA maps as well as from the Assessor's map. The FEMA maps are available in the Conservation Administrator's office. The project plan should indicate the flood zone(s) as determined from these maps and the delineation of any wetland resources on the property.
- Plan scale;
- Elevation (side) view of the proposed structure showing the *Lowest Horizontal Structural Member* of the proposed (or revised) structure, noting its elevation in relation to the *Base Flood Elevation (BFE)* if determined, and its elevation in relationship to the *Highest Existing Ground Elevation* (if BFE is not determined or it is higher than the BFE). Elevations should be based on NGVD29 or NAVD88.
- Clearly show existing conditions, including grades, all structures, driveways, walkways, sheds and all vegetation, preferably with a legend identifying the plant species;
- Clearly show proposed conditions with all of the items listed in the above bullet point plus any additional items. Show any proposed plant mitigation areas with species and square footage. Note the proposed materials for driveways, walkways and beneath covered structures (e.g., carport);
- Location and type of piles, if applicable;
- Location and size of Utility Shaft;
- Erosion controls (or fencing showing the limit of work);
- Location of dumpsters, equipment storage, etc. for construction purposes (All should be located in an un-vegetated area, preferably on an existing driveway or disturbed area.)

The 25%/50% rule

This rule is used to determine when an existing building should be placed on pilings. This rule is a compromise between the desirability of having all houses on Plum Island built on pilings and the practicality for smaller projects. The intent is that if a project is large enough, then the building should be placed on pilings. Note that a project must meet both the 25% and 50% rules.

* May be waived for small projects with consent from the Conservation Commission or its Administrator.

The 25%/50% rule does **not** apply if:

- the building is already completely on pilings, or is proposed to be completely on pilings where the *Lowest Horizontal Structural Member* will be at least two feet above *BFE* or the *Highest Existing Ground Elevation*, whichever is higher.

or

- a Licensed Engineer certifies that an existing portion of the solid foundation will not require modifications to support the proposed building (other than new pilings exterior to the existing footprint), in which case the existing portion of the solid foundation may remain. The certification must state that no additional supports (lally columns or other) will be required for the proposed modifications/additions.

However, a building **must** be raised on pilings if:

- 50% or more of the exterior walls of an existing building have been removed, or are proposed to be removed, and a new roof will be constructed, or is proposed to be constructed.

Determining space for the 25% rule (square footage)

The Newburyport Wetlands Ordinance refers to a 25% or more increase in square-footage as one of the triggers for placing an entire house on pilings. The Commission is no longer basing this on a volume computation as described in the previous *Guidelines for Plum Island Applications* (July 5, 2004), but is now basing this calculation on the total square-footage of *Habitable Living Space*.

Habitable Living Space does not include porches (even if screened), garages, sheds, basements, attics but does include kitchens, bathrooms, hallways and three-season porches with ceiling heights of at least seven feet.

For example, if an existing house with a solid foundation currently has 2,000 square feet of living space and the applicant proposes to build an addition on the side of her house that will add 500 or more square feet of living space, then the entire structure must be raised on pilings. However, if a Licensed Engineer certifies that the existing portion of the foundation will not require modifications to support the proposed building then the foundation may remain; however, the addition must be raised on pilings.

The applicant should show, in writing, what components went into the calculations and reference specific plans when presenting the calculations.

Determining cost for the 50% rule (value of structure)

When a proposal is for expanding the size of an existing house or for a renovation of an existing house, the applicant should present either:

A licensed Appraiser's valuation of the existing house (structure only) and the same licensed Appraiser's valuation of the proposed house. Both evaluations should be signed by the appraiser and both should reference the specific plans from which the evaluations were made. The evaluations should include a letter from the Appraiser explaining the methodology used in making the evaluations.

Or:

The assessed value of the house (structure only) from the Assessor's office and a cost estimate from a licensed Builder for the proposed work. The proposed work should include the cost of any demolition and removal of debris. The cost estimate, signed by the licensed Builder should reference a specific plan.

Appraisals and cost estimates do not include house-hold appliances and fixtures.

The applicant should be aware at the time of filing that any unforeseen problems with an existing or proposed structure may affect the appraised value or cost estimates which could require a new filing and require that the house be placed on pilings. If such a problem is found during demolition or construction, it should be reported immediately to the Commission or its Administrator, so that it can be determined if a new filing is necessary.

Elevation above flood level and elevation above ground level

The first floor of a building should be two feet above *BFE* (if determined) or the *Highest Existing Ground Elevation*, whichever is higher, as defined by the latest available FEMA flood maps. The two foot elevation must be measured from the bottom of the *Lowest Horizontal Structural Member*.

Fences

In order to allow for the lateral movement of sand on the island, any proposed fence must be at least 80% open for the first two feet above grade and at least 50% open above two feet. The percent openness shall be determined as viewed from a point in front of and perpendicular to the fence (e.g., no shadow-box style is allowed). The openness shall be uniform across each fence section as described above. Plans should show where the fence is to be located and should denote locations of fence posts. Plans should show a diagram or photograph of a typical section of the fencing to be used.

If more than 10% of an existing non-compliant fence is to be repaired, the entire fence must be brought into compliance.

Lattice and other enclosures

Any proposed lattice or other enclosures (e.g., wooden slats) around pilings of a proposed building or deck must be at least three feet above grade and at least 50% uniformly open to allow for the free movement of sand. Any lattice work should be within the footprint of the building. Plans should show a diagram or photograph of a typical section of the lattice to be used.

Driveways, walk-ways, stairway landings, parking and patio areas

Any proposed driveway, walk-way, stairway landing, parking area or patio may be constructed *only* with gravel, crushed stone or shells. Pavers, pervious or otherwise are not allowed. No more than 6 inches of sand should be excavated for construction of these areas and excavated sand must remain on site. Linpac (or similar) may no longer be used as a base or as the surface of the driveway since it eventually creates a hard surface.

The lateral limits of these areas may be surrounded by timber or stone measuring no more than four inches by six inches.

The size of any driveway or parking area should be kept to a minimum.

Repairs to existing non-compliant driveways are at the discretion of the Commission. (Enlargement of such driveways is not allowed.)

Pavers, pervious or otherwise, **are not allowed**. Crushed stone, shell or pea stone should be used instead.

In-ground structures

In-ground structures which may be permitted, determined on a site-by-site basis, are:

Concrete pads:

Concrete pads supporting stairs, gas tanks, etc. may be allowed, but should be limited to the minimum required size.

Utility shafts (for houses on pilings):

A utility shaft may be no larger than 3.5 feet per side, measured from the exterior of the walls, and should meet all FEMA building standards.

In-ground structures which are **not permitted** include, but are not limited to:

- In-ground cisterns
- In-ground swimming pools
- New solid foundations
- Retaining walls
- Footings (not allowed per Mass Building Code 780 CMR 120.G, Appendix G). Footings include sonotubes or other poured in-ground structures. (Driven piles should be used instead.)

Decks

Construction of a new deck or increasing the footprint of an existing deck (any modification involving work in or on the ground) will require the filing of an *RDA*.

If the project involves the expansion of an existing deck, the new portion must be elevated at least two feet above *BFE* (if determined) or, two feet above the *Highest Existing Ground Elevation* whichever is higher.

Repair or replacement of decking boards of an existing non-compliant deck may be permitted through a sign-off by the Conservation Administrator. If any structural repairs or changes are being made, then an *RDA* must be filed.

Depending upon the scope of the project, the Commission may require an *NOI* to be filed.

Sheds

Sheds must be elevated at least two feet above *BFE* (if determined) or, two feet above the *Highest Existing Ground Elevation*, whichever is higher.

Sheds 100 square feet or smaller may be elevated using cinder blocks or bricks at each corner of the structure.

Garages

The Commission will consider proposed garages on a case-by-case basis, in order to ensure that the performance standards for “Coastal Dunes” are met—specifically those set forth in 310 CMR 10.28(4):

Notwithstanding the provisions of 310 CMR 10.28(3), when a building already exists upon a coastal dune, a project accessory to the existing building may be permitted, provided that such work, using the best commercially available measures, minimizes the adverse effect on the coastal dune caused by the impacts listed in 310 CMR 10.28 (3)(b) through 10.28(3)(e). Such an accessory project may include, but is not limited to, a small shed or a small parking area for residences. It shall not include coastal engineering structures.

If the Commission determines that an applicant can show that a garage can meet all of the performance standards for barrier beaches and coastal dunes, it may permit a garage. Any garage, however, must be constructed two feet above *BFE* (if determined) or the *Highest Existing Ground Elevation*, whichever is higher, as any other structure.

Exterior work – roofing

The Conservation Administrator may sign off on a building permit for removal and replacement of roofing material – such as roofing shingles.

If the rafters or sheathing need replacement and that replacement is going to be in the same configuration/silhouette as the existing rafters and sheathing, the applicant may file an *RDA*. Otherwise the applicant should file an *NOI*.

Under no circumstance shall materials or debris be placed on dunes or naturally vegetated areas (e.g., beach grass). All debris resulting from the project shall be disposed of in dumpsters or containers and removed the property as soon as possible.

Exterior work – siding

The Conservation Administrator may sign off on a building permit for removal and replacement of existing windows, doors and siding. This does not include removal/replacement of building sheathing or structural elements.

Under no circumstance shall materials or debris be placed on dunes or naturally vegetated areas (e.g., beach grass). All debris resulting from the project must be disposed of in dumpsters or containers and removed the property as soon as possible.

Interior work

If the proposed interior work does not include any structural changes that would affect the foundation, the Conservation Administrator may sign off on a Building Permit. If any interior structural changes are proposed, and those changes require the addition of piles or columns of any sort, a *Notice of Intent* must be filed.

As with exterior work, under no circumstance shall materials or debris be placed on dunes or naturally vegetated areas (e.g., beach grass).

Landscaping

- Sod and seeded lawns are not permitted.
- The Commission encourages the use of native plants that are indigenous to the dune environment. Consult with the Conservation Administrator for more information.
- Replacing native coastal dune vegetation is **not** permitted without a sign-off from the Conservation Administrator or a wetlands permit.

- Landscaping may require either an *RDA* or *NOI*, depending on the extent of the work. Check with the Conservation Administrator as to what, if any, permit will be required.

Boardwalks and walkways

In general, walkways and paths should be kept to a minimum.

- Crushed stone and gravel may be used (much like a driveway)
- Elevated walkways may be allowed but will require either an *RDA* or an *NOI*.
- Wooden (or composite) roll-out type walkways are allowed but must be removed by Nov 1 of each year and shall not be put back down until April 1.

Mitigation

All project mitigation must be performed onsite.

Definitions and Acronyms

A-Zones (Flood Hazard Zones) – Areas subject to a 1% or greater chance of flooding in any given year and that are not subject to wave heights in excess of three feet.

AO Zone – Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet. Average flood depths derived from detailed hydraulic analyses are shown in this zone. Mandatory flood insurance purchase requirements and floodplain management standards apply.

Base Flood Elevation (BFE) – The elevation shown on the Flood Insurance Rate Map (*FIRM*) for *Special Flood Hazard Areas* that indicates the water surface elevation resulting from a flood that has a one percent chance of equaling or exceeding that level in any given year (sometimes referred to as the 100-year storm).

CDM Maps – Flood maps created for Newburyport by Camp, Dresser and McKee, dated April 16, 2002 and approved by the Massachusetts Department of Environmental Protection (DEP) showing the *Primary Frontal Dune* (PFD) and FEMA flood zones. These were used to determine flood hazard zones on Plum Island but have been replaced with the 2007 *FEMA Flood Maps* (see definition below).

Coastal High Hazard Area (V-Zone) – means an area of special flood hazard extending from offshore to the inland limit of a *Primary Frontal Dune* along an open coast and any other area subject to high velocity wave action from storms or seismic sources.

FEMA Flood Map – This refers to the current FEMA flood map (or *FIRM*) in effect. At present, the current flood maps in use for Plum Island are the *CDM Maps* and maps submitted to the city by FEMA in 2007, showing the *Primary Frontal Dune* (PFD). Once the newly revised FEMA maps are approved and accepted (target date: June/July 2011) they will replace previous FEMA and *CDM Maps*.

FIRM – Flood Insurance Rate Map. This is the official flood map for a community, which delineates both the special hazard zones and the risk premium zones applicable to the community.

Habitable Living Space – this is the finished areas of a house or building in which ceilings are at least seven feet. It does not include porches (even if screened), garages, sheds, basements and attics but does include kitchens, bathrooms, hallways and three-season porches.

Highest Existing Ground Elevation – the highest natural elevation of the ground surface, prior to construction, adjacent to the proposed foundation of a structure or the highest grade within the vicinity of the footprint of the proposed structure as determined by the Conservation Commission.

Lowest Horizontal Structural Member – the bottom of the lowest structural member (i.e., beam, joist or other horizontal member) that supports a house, shed, deck, etc. as it relates to either the *Base Flood Elevation (BFE)* or the *Highest Existing Ground Elevation*.

Notice of Intent (NOI) – is an application for work performed in any wetland resource area (includes barrier beaches and dunes) to determine whether or not the project may be conditioned so that it will have no adverse affect on the resource areas according to the Massachusetts Wetlands Protection Act and its regulations and the Newburyport Wetlands Ordinance. Once the Commission reviews the *Notice of Intent* through the public hearing process, and determines that the project can be conditioned to protect the resource areas, it issues an **Order of Conditions** permit.

Primary Frontal Dune (PFD) – means a continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes immediately landward and adjacent to the beach and subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope. The area between the landward limit of the dune to the water constitutes a V-Zone.

Request for Determination of Applicability (RDA) – is an application requesting the Conservation Commission to determine if the project is minor enough that it can be permitted through a **Determination of Applicability** permit or if for work is significant enough to require the filing of a *Notice of Intent*. Once the project has been reviewed by the Commission, it will issue a *Determination of Applicability*. If a “negative” Determination is made, the applicant may perform the work under the Determination and does not need to file a *Notice of Intent*.

Special Flood Hazard Area (SFHA) – is the land in the flood plain subject to a 1 percent or greater chance of flooding in any given year (100 year storm). This includes all “A” and “V” Zones.

V-Zones – (High Hazard Zones) Areas of tidal influence which have been determined to be subject to wave run heights in excess of three feet or subject to high-velocity wave run-up or wave-induced erosion.

Online Resources

The following resources are available as hyperlinks in Word versions of this document. An electronic version of this document are available on the Newburyport Conservation Commission webpage at:

www.cityofnewburyport.com/Planning/ConservationPage.html

Documents

[City of Newburyport Wetlands Ordinance](#), adopted October 9, 2001 and revised September 12, 2005

Massachusetts Wetlands Protection Act Regulations, 310 CMR 10.00

- [Part A \(regulations\): PDF 590 KB](#)
- [Part B \(appendices\): PDF 369 KB](#)

Massachusetts Building Code (www.mass.gov/Eeops/docs/dps/inf/780CMR-1/780120a.pdf -- search for: **780 CMR 120.G**)

Websites

[Coastal Zone Management StormSmart Coasts Program](#)

[Coastal Zone Management Coastal Landscaping Guide](#)

[Massachusetts Department of Environmental Protection](#)