

## Chapter 703: PRIVATE DOCKS AND PIERS

[HISTORY: Adopted by the Conservation Commission of the Town of Barnstable 10-26-2004, as amended 2/6/2018 and 2/20/2018. Subsequent amendments noted where applicable.]

### GENERAL REFERENCES

Beaches and waterways — See Ch. 32.

Boats — See Ch. 40.

Wetlands protection — See Ch. 237.

Marinas — See Ch. 405.

Mooring — See Ch. 406.

Sandy Neck Barrier Beach — See Ch. 601.

### § 703-1. Preamble.

- A. Chapter 237, Wetlands Protection, of the General Ordinances of the Code of the Town of Barnstable, explicitly protects the values of the natural resources of its fore shores, intertidal areas and the Commonwealth of Massachusetts' tidelands and waters as well as inland wetlands, ponds and lakes.
- B. The purpose of these regulations is to establish performance standards for private docks and piers. The authority for these regulations derives from Chapter 237, Wetlands Protection, of the General Ordinances of the Code of the Town of Barnstable, Section 8. These regulations will not apply to fresh water docks unless the Commission specifically finds that they are applicable.
- C. The construction, use, and maintenance of docks, piers and walkways are likely to have a significant or cumulative adverse effect on the wetland resource values of storm damage prevention, fin and shellfisheries, wildlife habitat, erosion and sediment control, and recreation. Construction, maintenance and use of piers can have adverse effects on resource areas and on the use of these areas for recreational purposes. Further, piers destroyed by storm pose a threat to nearby properties by increasing water-borne debris.
- D. Turbulence, such as caused by jet-drive boats, and propeller dredging generated by boat use associated with piers significantly increase turbidity levels. High turbidity levels attenuate light. Light is necessary for photosynthetic process responsible for the primary productivity and oxygen regeneration of the water. The suspended sediments settle on shellfish beds, smothering existing shellfish and altering the quality of the benthic environment essential for spat (mollusk larvae) settlement. Resuspension of bottom sediments causes redistribution of sediments, alteration in sediment grain size distribution and causes changes in bottom topography relief, elevation and grade, including creation of depressions in the bottom. Settlement of sediments into depressions can create deep pockets of highly fluid-like sediment which may not be able to physically support shellfish or which can become anoxic and therefore not support shellfish. Disturbance of sediments during the period of shellfish larval settlement hinders or prevents the effective settlement of shellfish larvae. Boat traffic generated from piers will add to this disruption and may cause erosion of banks and marshes.
- E. Construction of piers and subsequent boat activity causes resuspension of nutrient-laden sediment particles which may cause a release of sediment-bound nutrients to the water column resulting in a "bloom" of vegetation. Release of nutrients to the water column leads to eutrophication and anoxic bottom conditions. Anoxic sediments and anoxic bottom conditions create adverse impacts on benthic resources, including shellfish and fisheries.
- F. While pier construction is typically the least environmentally destructive method of crossing a marsh, it may adversely affect the physical characteristics and functional value of marsh. Marsh plants provide the major energy flow (detritus food chain) between the autotrophic and heterotrophic levels in a marsh-estuarine system. Many species of sport and commercial fish and shellfish are dependent upon this system. Plants adapted to high ambient light intensity,

such as marsh grasses, are ill-adapted to the shaded conditions created by a pier. Shading may result in the loss of vegetation biomass (decreased plant height, population density, and leaf thickness) or alteration of species composition. Reduction in plant density results in the loss of sediment normally trapped by roots and culms. Tidal washout of sediment can result in localized depressions which, through evaporation of trapped water, concentrate salt. High sediment salt levels effectively preclude recolonization by original vegetation. Localized tidal washout may lead to further vegetative regression, erosion, and disruption of natural communities in the area.

- G. Propeller turbulence near or in areas of submerged aquatic vegetation, such as eel grass, or salt marsh damages vegetation, thereby increasing the rate at which organic detritus is produced. If this organic detritus does not completely decompose aerobically, then anoxic bottom conditions will ensue, which adversely impact shellfish and fisheries.
- H. Cumulative impacts of the construction, maintenance and use of piers threaten to decrease the overall productivity of the marsh ecosystem, to reduce its ability to absorb storm wave energy, and to reduce its contribution to groundwater and surface water quality. Cumulative impacts also affect shellfish habitat and shell fishing.
- I. Docks and piers when placed in land containing shellfish or shellfish habitat have an adverse impact on the resource area value of recreation. The placement, length and size of docks and appurtenant floats can interfere with the harvesting of quahogs, soft shell clams, and scallops. Docks and piers can have an unacceptable significant or cumulative effect on habitat and recreation as defined in Section 14 of Chapter 237, Wetlands Protection, of the General Ordinances of the Code of the Town of Barnstable.
- J. Piers, depending on their length, can have an adverse impact on recreation by interfering with recreational boating activities. Not properly designed, piers can interfere with intertidal lateral access for recreational fishing and fowling. Any proposal that affects navigation is likely to have a significant or cumulative adverse effect on recreation. Excessive lighting on piers may cause temporary "night blindness" in boaters and may disrupt feeding habits of nocturnal aquatic animals.
- K. Docks conforming to the following regulations can be presumed to minimize the aforementioned possible negative impacts.

### **§ 703-2. Definitions.**

As used in this chapter, the following terms shall have the meanings indicated:

**BOAT LIFT, DAVIT, or BOAT ELEVATOR:** a mechanical or electrically driven device attached to a dock, pier or bulkhead for raising and lowering a vessel vertically (from one level to another), in and out of the water.

**DOCKS AND PIERS** — The terms "dock" and "pier" shall be used interchangeably for the purposes of these regulations and shall mean the entire structure of any pier, wharf walkway, bulkhead, or float, and any part thereof, including pilings, ramps, walkways, float, tie-off pilings, dolphins and/or outhaul posts, that is located on a bank (inland) (310 CMR 10.54), land under water bodies and waterways (310 CMR 10.56), land under the ocean (310 CMR 10.25), land under a salt pond (310 CMR 10.33), rocky intertidal shore (310 CMR 10.31), or that portion of a coastal beach (310 CMR 10.27) seaward of the mean high water line. Notwithstanding the above, either a swimming float or work float, kept at a mooring, that receives a permit from the Harbormaster and is not connected with the shore, is not a float subject to these regulations.

**DRAFT** — The maximum depth of a vessel as measured from the surface of the water to the deepest part when loaded to the manufacturer's maximum load specification. In vessels equipped with outboard or I/O engines, draft shall be measured with its propulsion unit in its

lowest operating position.

**IMPROVEMENT DREDGING:** means any dredging under an order of conditions from the Conservation Commission starting in 1973, or from other agencies prior to 1973, in an area which has not previously been dredged or which extends the original dredged width, depth, length or otherwise alters the boundaries of a previously dredged area.

**LITTORAL PROCESSES:** means the movement of sediments, including gravel, sand, or cobbles, along the shore caused by waves or currents.

**MAINTENANCE DREDGING:** means dredging under an order of conditions in any previously dredged area which does not extend, expand, or exceed the originally dredged width, depth or length. However, such dredging does not by its very nature include or mean improvement dredging or backfilling.

**MEAN HIGH WATER (MHW)** — The present arithmetic mean of water heights observed at high tide over a specific 19-year metonic cycle determined by using hydrographic survey data of the National Ocean Survey and the U.S. Department of Commerce.

**MEAN LOW WATER (MLW)** — The arithmetic mean of water heights observed at low tide over a specific 19-year metonic cycle determined by using hydrographic survey data of the National Ocean Survey and the U.S. Department of Commerce.

**MEAN LOWER LOW WATER (MLLW)** — The average of the lower low water heights of each tidal day as established by the arithmetic mean of water heights observed at low tide over a specific 19-year metonic cycle determined by using hydrographic survey data of the National Ocean Survey and the U.S. Department of Commerce.

**NAVIGATION** — The ability to traverse a waterway by watercraft.

**PRIVATE PIER** — A water-dependent structure accessory to a residential use but shall also include Yacht Club, Association and community piers and any other noncommercial, nongovernmental pier.

**SEASONAL USE** — The dock, ramp, floats and all supporting materials are not in place in any wetland resource area prior to April 1 of each year and are removed prior to November 1 of each year.

**SHELLFISH HABITAT** — Areas below MHW that exhibit, or can be demonstrated to have exhibited within a reasonable historical period, characteristics including but not limited to sediment type, grain size, circulation patterns, hydrologic regime, water chemistry, plant and algal communities, food supply, and normal predation patterns necessary to support shellfish species populations. A determination of shellfish habitat can be based on the results of a site analysis and/or on current or historic shellfish productivity, municipal shellfish population development programs, or as shown on any maps or reports developed by the Marine and Environmental Affairs Division filed with the Commission and the Town Clerk (for example "The Significant Shellfish Resource and Habitat Area Mapping Project for the Three Bay Area," dated August 21, 2000). Shellfish relay areas are presumed to be good habitat. Absence of shellfish shall not be solely determinative of the quality of shellfish habitat due to the cyclic nature of shellfish population.

**SPRING TIDES:** The average height of the high waters of the spring tides is called spring high water or mean high water springs (MHWS). The Spring Tide Line is defined as the annual average of the two, monthly lunar spring tides. This information can be obtained from the NOAA tide tables.

### § 703-3. Filing protocols.

- A. A notice of intent is required for any new pier or dock, whether fixed or floating, permanent or seasonal; also for any substantial alteration or extension of an existing pier or dock.
- B. one copy of the notice of intent shall be sent to each person or office on the following list, by certified mail or hand-delivered, and a receipt obtained at the time of filing of the notice of intent with the Conservation Commission:
  - (1) Shellfish Biologist/Marine and Environmental Affairs.
  - (2) Harbormaster.
  - (3) Waterways Committee.
- C. The applicant shall provide evidence to the Conservation Commission at the time of the notice of intent filing that such copies have been mailed or delivered. The project shall be clearly identified and staked or marked with a buoy at pier end within three weeks prior to the hearing.
- D. The notice of intent shall include:
  - (1) Brief comments, where appropriate, on each of the Guidelines.
  - (2) Length, draft and type of boats, horsepower and type of propulsion system intended for docking or use at the pier, including the depth of the propulsion system in its lowest position.
  - (3) Locus identified by Town Assessor's map and parcel number, and by street number, street and village.
  - (4) Locus shown on Assessor's map.
  - (5) Daytime telephone number of applicant, or name and telephone number of applicant's agent.
  - (6) A shellfish survey, including an analysis of shellfish habitat suitability, and substrate sediment analysis. The minimum area surveyed shall include a 50-foot radius from the proposed project. The actual samples shall represent no less than 0.5% of this area.
  - (7) The shellfish survey report shall include as a minimum:
    - (a) The resume of the person(s) conducting the survey, including their qualifications for conducting such a survey;
    - (b) The date, time of day and tidal conditions at the time of the survey;
    - (c) A narrative explaining the methodology and equipment utilized, location and number of transects/quadrants utilized, results obtained, observations and conclusions.
- E. The project plans shall show:
  - (1) A description of all materials to be used and the method of construction, including the method of pile installation; when near shellfish habitat, the type of precautions used to insure the barge and equipment used will not damage shellfish habitat.
  - (2) Where the structure is seasonal or includes seasonal floats, a statement indicating the site for winter storage and the method of hauling, if any.
  - (3) Soundings within 100 feet of the dock and from the dock to the closest marked channel. Depth shall be measured to the top surface of soft sediments. Soundings shall be of sufficient density to allow the exact determination of water depths around the proposed pier and floats, and to the closest navigable channel. The soundings shall show the MLW in the areas where the proposed boat will be berthed.

- (4) Data shall be supplied to the Commission showing the time and date of the depth survey, the existing weather conditions, the state of the tide and the actual depths measured from water surface to the bottom. The methodology used to determine MLW and MHW shall be given. If MLW or MHW is derived from NGVD or other reference Datum, an explanation of the calculations used must be included in the narrative.
  - (5) Eel grass within 200 feet of dock.
  - (6) Marked or recognized navigation channels within 200 feet of pier.
  - (7) Any moorings within two hundred feet of the proposed pier and information affixed to those moorings
  - (8) Location of existing Town, commercial and private piers, Town landings (ways to water), public or Association beaches, shellfish propagation or relay areas and designated Town shellfishing areas within three hundred feet of the proposed pier.
  - (9) Approximate shoreward boundary of any existing public or commercial mooring area within 200 feet of the pier. (A recent aerial photograph, taken during the summer boating season, may be used for this purpose if desired.) Proximate moorings shall be shown on plan.
  - (10) Location of existing Town, commercial or private piers and docks, and Town landings, within 300 feet of pier.
  - (11) The plan shall have the official stamp of a registered civil engineer or land surveyor.
- F. In addition to the above requirements, the applicant shall comply with the Submission Requirements Checklist available at the Conservation Commission Office.
- G. a notice of intent may not be accepted or approved by the Conservation Commission unless all of the foregoing requirements have been completed. If any section does not apply, such inapplicability shall be indicated.

**§ 703-4. Regulations.**

- A. Private, noncommercial docks, being structures accessory to and appurtenant to dwellings, will be permitted only on land contiguous to the dwelling being served, except where unusual circumstances of longstanding may apply, such as where the dwelling is separated from the shore by a road.
- B. No dock, even if otherwise permitted, may be constructed when it is appurtenant to a residential dwelling until an occupancy permit has been issued for that dwelling.
- C. Only non-CCA material may be used in the construction of the dock. Lead caps are not permitted. No creosote treated materials may be used. [Note: CCA piles and structural timber three inches or more in thickness may continue to be used until such time as the Commission determines that suitable alternatives exist.]
- D. Lighting, if installed, shall not exceed a 25 watt incandescent bulb, set a minimum of 12 feet apart and a maximum of two feet high from the walking surface. These lights must be baffled or shaded to direct light downward only. The lights cannot utilize timers and should be switched at the beginning and end of dock. No lighting shall interfere with safe navigation.
- E. All piers and walkways shall be provided with access stairs at or proximate to MHW or other means provided for along shore public traverse. All structures shall be provided with suitable signage notifying the public of its right to free access as provided by the commonwealth, or equivalent.
- F. The DEP permit number shall be permanently and conspicuously placed on the dock so as to be visible from seaward.

- G. Storage of floats, other seasonal pier material, and boats shall not be allowed on marshes, dunes, or coastal banks. All such materials must be stored in a permitted area and transported thereto without causing damage to any resource area, or outside of conservation jurisdiction.
- H. Where the project includes the use of floats, the combined size of all floats shall be consistent with the impact of the entire project on the protected values at the site, but not greater than 200 square feet. A minimum depth of 12 inches of water measured at MLW is required under the floats.
- I. Plank spacing shall be a minimum of 3/4 inch. However, where any portion of the dock (walkways, ramps, pier, etc) crosses a salt marsh, a minimum of 65% light penetration is required. The maximum dock width shall be 4 feet, measured center of pile to center of pile. For single pile construction, maximum deck width shall be four feet.
- J. No dock, including pier, floats, dolphins, etc., shall extend further from shore than:
- (1) A point equaling 1/2 of the lot's water frontage measured in a straight line between the lot's waterfront corners. Owners of two adjoining lots may combine frontage and erect a shared pier, provided that such agreement is registered in perpetuity at the Registry of Deeds.
  - (2) A point 35 feet from a publicly used channel, either a marked channel or a channel as defined by historic use. This dimension includes the beam of the vessel being berthed.
  - (3) Is necessary to attain a depth of water at mean low water suitable for a private use of the pier that is consistent with protection of the wetland resources adjacent to the site and uses of the adjacent waters and wetlands by the public in pursuit of the interests protected under the Town of Barnstable Wetlands Protection Ordinance, but under no circumstances greater than 100 feet from mean low water, including all "ells" and "tees," regardless of configuration.
  - (4) Twenty percent of the width of a linear waterway at MLW except where the location of an existing channel shall dictate otherwise. This width shall include the beam of the berthed vessel. In such waterways, i.e., rivers, narrow estuaries, etc., sufficient open water shall be maintained to sustain a variety of activities not simply related to safe transit.
- K. Notwithstanding any other provision pertaining to length, no dock shall be longer than is necessary to attain the minimum depths required herein, and may not obstruct waterways normally used for recreation.
- L. The base of the pier shall be as close as possible to the center line of the lot, and it shall project outwards at an angle as nearly perpendicular to the shoreline as possible.
- M. Within the limits of performance standards governing overall length of docks, the following depth requirements must be met for motorized vessels, with these draft requirements continuing over time:
- (1) In areas determined to be of high-value shellfish habitat, the minimum depth under the draft of the boat must be 30 inches at MLW. High-value shellfish habitats are those found to be significant to the provision or protection of the wetland values protected under Chapter 237, Wetlands Protection, of the General Ordinances of the Code of the Town of Barnstable.. Any area rated six or above on any maps or reports developed by the Natural Resources Division and filed with the Commission and the Town Clerk shall be presumptively considered a high-value shellfish area.
  - (2) In areas determined not to be high-value shellfish habitat, the minimum depth under the draft of the boat must be 12 inches at MLW.
  - (3) For vessels using unconventional drive systems, such as but not limited to jet-drives, the applicant, in addition to meeting the above minimum depth requirements, must

further demonstrate that the water depth is adequate to protect the interests herein referenced.

- (4) To prevent bottom scouring, the above-described minimum depths must exist not only at the dock where a boat(s) is to be berthed or used but also between the dock and the nearest navigable channel or open water.
- N. Notwithstanding any other provisions contained herein, no new or expansion of an existing dock shall be permitted within an ACEC (area of critical environmental concern).
- O. Private piers shall be constructed so as to not interfere with any longstanding public recreational use of the waterway, e.g., an area used by sailboats tacking through a narrow waterway, an area used by boaters or others because of unique wind or current conditions, a structure that would interfere with public access to or from a way to water or public.
- P. Where there is a substantial expansion of an existing dock, the Commission may require compliance with all or part of these regulations.
- Q. (1) Boat lifts, boat elevators and boat davits are prohibited for any proposed new dock except where necessary for handicapped access for a resident of the property where the dock is proposed. Where there is no longer a demonstrated medical need, or when the property is transferred or sold, the boat lift, elevator or davits must be removed and the Conservation Division notified.
- (2) Boat lifts, boat elevators and boat davits are prohibited for any existing, permitted dock except:
- (a) where necessary for handicapped access for a resident of the property where the dock is located. Where there is no longer a demonstrated medical need, or when the property is transferred or sold, the boat lift, elevator or davits must be removed and the Conservation Division notified, or,
  - (b) where extraordinary circumstances are proven to exist such as wind, tides, currents and boat wakes, and, where the commonly-used alternatives of boat whips and dolphins/tie-off piles are proven by the applicant as being unable to provide stability for vessels berthed at the dock.
- (3) Boat lifting devices that qualify above in paragraphs 1 or 2 must comply with the following:
- (a) be either mechanically operated or electrically driven. The use of hydraulic fluid is prohibited.
  - (b) be painted a neutral color or anodized.
  - (c) be elevated so that the hull of the vessel is no more than 12" above Mean High Water except that greater heights can be set for extreme tides, not to exceed the spring tide line. Notwithstanding this provision, elevated vessels should be removed during storm events. Due to extreme tidal range, boat lifts, elevators and davits are prohibited in Barnstable Harbor.
  - (d) have a specific vessel identified with its use; such vessel having a neutral hull color and having either no bottom paint or a non-toxic bottom paint. The applicant will provide bottom paint specifications to staff for review.
- R. (1) Improvement dredging to create water depths to otherwise meet the requirements of these regulations is prohibited. Improvement dredging is not allowed to provide greater depths at a shallow site that otherwise would qualify only for either a non-motorized, dinghy dock or a small-draft motorized dock.

- (2) Improvement dredging to create greater water depths at the site of an existing, permitted pier and /or in a fairway from the permitted pier to the nearest channel is prohibited except that a waiver may be sought where accretion of sub-surface sediments has occurred as a result of either:
- (a) the littoral drift of sediments from nearby beaches, dunes and banks that have been artificially nourished, or,
  - (b) the passage and re-passage in the nearest channel of large passenger/car/truck ferries or other large observation, freight or tanker vessels.

Under either 'a' or 'b', improvement dredging is allowed to restore the depths that existed at the time the dock was permitted by the Commission.

**§ 703-5. Presumption of adverse effect; burden of proof; cumulative impact.**

- A. When a proposed project involves the dredging, removing, filling, altering or causing of a potentially adverse effect to an area subject to protection under the ordinance by the construction or enlargement of a dock, the Commission shall presume that the proposed activity will have a significant or cumulative adverse effect upon the resource values specified in Chapter 237, Wetlands Protection, of the General Ordinances of the Code of the Town of Barnstable. These presumptions are rebuttable and may be overcome only by a preponderance of evidence showing that the work does not have a significant or cumulative adverse effect upon the resource values. The burden of proof to overcome the presumption shall be borne by the applicant. Moreover, the Commission will consider the impact of both existing docks and future docks with pending applications in determining the cumulative effects upon the protected resource areas. Where appropriate, the applicant may be required to submit a drawing showing all possible docks (docks that may meet Commission guidelines) within 1/2 mile of the proposed dock or other agreed to cumulative physical location. The cumulative impact of such docks and the related boat use pattern on the values protected by the ordinance will be considered by the Commission. A project which may otherwise comply with these regulations and guidelines may be denied where its cumulative effect would result in an adverse impact upon the protected resource areas.
- B. In most cases seasonal piers present less impact to the resource because of their seasonal nature and because they can be constructed entirely with environmentally benign materials. Accordingly, the presumptions set forth herein may be more easily overcome for this type of construction.
- C. These regulations notwithstanding, the Conservation Commission will consider any and all pier proposals on a site-specific basis, disposing of each according to its merit and to the degree that the preponderance of evidence shall show that the statutory interests have been preserved and protected.

**§ 703-6. Construction protocol.**

- A. The Natural Resources Department shall be given written notice by the applicant not less than 10 working days before the start of construction in order to arrange shellfish removal, reseedling, replanting, monitoring, and subsequent replanting if necessary, at the applicant's expense.
- B. The Conservation Commission shall be given written notice by the applicant not less than five business days before the start of construction.

C. All construction shall proceed in compliance with the plan of record and the order of conditions. No alterations for which revised plans have not been approved prior to construction will be allowed.

Amended:  
February 6, 2018  
February 20, 2018