

Town of Orleans



Conservation Commission

Wetland Regulations Chapter 196A

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§ 196A-1. Introduction and purpose

A. Introduction. These regulations are promulgated by the Town of Orleans Conservation Commission pursuant to the authority granted to it under § 160-11 of the Orleans Code, known as the Orleans Wetlands Protection Bylaw (hereinafter referred to as the Bylaw). These regulations (hereinafter referred to as OWR) shall complement the Orleans Wetlands Protection Bylaw, and shall have the force of law upon their effective date.

B. Purpose.

(1) The Bylaw sets forth a public review and decision-making process by which activities affecting areas subject to protection under the Bylaw are to be regulated by controlling activities deemed by the Commission likely to have a significant or cumulative effect upon wetland values including, but not limited to the following interests:

(a) Public and private water supply and quality.

(b) Ground water supply and quality.

(c) Storm damage prevention.

(d) Flood control.

(e) Fisheries.

(f) Prevention of pollution.

(g) Shellfish habitat.

(h) Wildlife habitat.

(i) Aesthetics.

(j) Erosion and sedimentation control.

(k) Recreation.

(l) Agriculture.

(m) Aquaculture.

(2) The purpose of these regulations is to define and clarify that process by establishing standard definitions and uniform procedures by which the

Orleans Conservation Commission may carry out its responsibilities under the Bylaw.

§ 196A-2. Statement of jurisdiction (§ 160-2)

Except as permitted by the Conservation Commission or as provided in this chapter, no person shall remove, fill, dredge, alter or build upon or within one hundred (100) feet of any bank, beach, dune or flat; upon or within one hundred (100) feet of any freshwater wetland, coastal wetland, marsh, wet meadow, bog, or swamp; upon or within one hundred (100) feet of any lake, pond, creek, river, stream, estuary or the ocean; upon any land under said waters; or upon or within one hundred (100) feet of any land subject to flooding or inundation by groundwater, surface water or tidal action; or upon Land Subject to Coastal Storm Flowage; or upon an Area of Critical Environmental Concern (ACEC) as defined in §160-4 herein.

Any activity proposed or undertaken outside any area specified above shall not be subject to regulation under this chapter unless, in the judgment of the Conservation Commission, said activity will result or has resulted in the removing, filling, altering or building upon any area specified.

- A. Areas subject to protection under the Bylaw: Except as permitted by the Conservation Commission or as provided in this chapter, no person shall remove, fill, dredge, alter, or build upon any of the following resource areas or associated buffer zones:
 - (1) Bank, beach, dune, flat, freshwater wetland, marsh, bog, coastal wetland, swamp, wet meadow.
 - (2) Lake, pond, creek, river, stream, estuary, the ocean.
 - (3) Upon any land subject to flooding or inundation by tidal action, groundwater or surface water.
 - (4) Within one hundred (100) feet of any resource area in Subsection A(1), (2) or (3) above.
 - (5) Upon Land Subject to Coastal Storm Flowage.
 - (6) Upon an Area of Critical Environmental Concern (ACEC).
 - For the sole purpose of applying 196A to ACEC's, the boundary of these Resource Areas is defined as follows:
 - A. *Inner Cape Cod Bay ACEC*: The landward extent of the Inner Cape Cod Bay ACEC is the 10-foot contour as shown on the USGS topographical map dated 1974.

Pleasant Bay ACEC: The landward extent of the 10' contour, as shown on the USGS topographical map dated 1974, plus 100 feet including any areas inland within 100 feet of any stream, swamp, marsh, bog, pond, or other wetland (as defined in Wetlands Protection Act Regulations 310 CMR 10.00) the outflow of which flows into Pleasant Bay

In the event the State ACEC maps include areas beyond the aforementioned Jurisdiction, see the performance standard detailed in 196A-8.B.1.

- B. In the event USGS topographical map dated 1974 used for both ACEC's is either unclear or not specific enough, boundaries of the ACEC Resource Areas, for the sole purposes of applying 196A, shall be determined by the Commission through filings under the Act or the Bylaw.

B. Activities subject to regulation under the Bylaw.

- (1) Activities within the resource areas: Any activity proposed or undertaken within an area specified in OWR § 196A-2A which, in the judgment of the Commission, will constitute removing, filling, dredging or otherwise altering or

- building upon any resource area subject to protection under the Bylaw as set forth in § 196A-2A is subject to regulation under the Bylaw and requires notification to the Commission of the intent of such activity, the appropriate filing of documentation and permission from the Conservation Commission to proceed.
- (2) Activities within the buffer zone: Any activity proposed or undertaken within one hundred feet (100') of an area specified in OWR § 196A-2A(1), (2) or (3) (hereinafter called the buffer zone) which, in the judgment of the Commission, will alter an area subject to protection under the Bylaw is subject to regulation under the Bylaw and requires the appropriate filing of documentation and permission from the Conservation Commission to proceed.
- (3) Activities outside resource area or buffer zones: Any activity proposed or undertaken outside the areas specified in § 196A-2A above shall not be subject to regulation under the Bylaw and these regulations unless, in the judgment of the Conservation Commission, said activity will result or has resulted in the removing, filling, altering or building upon an area or adversely affecting either the resource area or buffer zone specified in § 196A-2A above.

§ 196A-3. General provisions

- A. Burden of proof: The applicant shall have the burden of proving by a preponderance of credible evidence:
- (1) That the work proposed by the applicant is not significant to the protection of the interests identified in § 196A-1A above, or
 - (2) That the proposed work will contribute to the protection of the interests identified in § 196A-1A above by complying with the performance standards established for that particular resource area.
 - (3) That the activity proposed will not have a significant adverse impact either immediate or cumulative upon the wetland values protected by the Bylaw.
- B. Burden of going forward: The applicant shall have the burden of going forward with credible evidence from a competent source in support of all matters asserted by the applicant in accordance with his/her burden of proof pursuant to § 196A-3A above.
- C. Title 5; State Sanitary Code.
- (1) In all cases of Title 5 issues, all state and town regulations will be followed except that both bordering and nonbordering wetlands are protected.

- (2) If a septic system is proposed on a lot that cannot meet the local Board of Health regulations without a variance, the applicant is not entitled to the presumption that all wetland interests are protected under 310 CMR 10.3
- (3) Presumption concerning 310 CMR 15.00 Subsurface Disposal of Sanitary Sewage (Title 5). Even with the issuance of a variance, the applicant is not entitled to the presumption. The Commission notes that the presumption, were the applicant entitled, only applies to the impacts of the discharge from a sewage disposal system and not to the impacts from construction of that system, such as erosion and siltation from the excavation, placement of fill or removal of vegetation or other impacts from the construction of that system. Applicants must demonstrate that all wetland interests are protected and have an approved current Order of Conditions before any work can proceed on these projects.

D. Water Resource Protection Districts.

- (1) Section 164-17 of the Orleans Zoning Bylaw provides that in certain water resource related districts, namely zones one and two, thirty percent (30%) of a lot where development is proposed must remain in its natural state and up to sixty percent (60%) must remain pervious. The main purpose of this section is to maintain water recharge capability. The section provides that the Building Commissioner must approve a plan showing delineation of such areas before any construction can proceed.
- (2) The Conservation Commission will require proof of compliance with the above requirements before issuing an Order of Conditions for any project within its jurisdiction that is also within the regulated districts.

E. Continuing liability for compliance with MGL 131 s. 40 and the Bylaws. MGL 131 s. 40 provides as follows: "Any person who purchases, inherits or otherwise acquires real estate upon which work has been done in violation of the provisions of this section or in violation of any order issued under this section shall forthwith comply with any such order or restore such real estate to its condition prior to such violation; provided, however, that no action, civil or criminal, shall be brought against such person unless such action is commenced within three years following the recording of the deed or the date of the death by which such real estate was acquired by such person.. ." No further work will be approved on a property with an outstanding violation, such as unapproved structures or clearing, until the violation has been remediated.

F. Incorporation.

- (1) General provisions: The procedures, requirements and definitions set forth in the Act (MGL 131 s. 40) and 310 CMR 10.00 et seq. (State

Regulations) are hereby incorporated and made a part of these regulations subject to the following:

- (a) Where they differ from or depart from these regulations or the Orleans Bylaw, the Orleans Bylaw or regulations shall apply.
 - (b) Where the language of the Orleans Bylaw or these regulations is more definitive or protective, the language of the Bylaw or these regulations shall prevail.
 - (c) Where the Act or State regulations are determined to apply, all references contained therein to the Act and said regulations shall be deemed to include a reference to the Orleans Bylaw and regulations.
 - (d) Unless otherwise defined in the Orleans Bylaw or these regulations, those definitions found in the Act or Regulations promulgated thereunder, in effect at the time of the adoption of these regulations shall be incorporated.
- (2) Wetlands, bordering and nonbordering.

(a) Jurisdiction:

[1] MGL 131 s. 40 states as follows: “No person shall remove, fill, dredge or alter any bank, freshwater wetland, coastal wetland, beach, dune, flat, marsh, meadow, or swamp bordering on the ocean or on any estuary, creek, river, stream, pond or lake or any land under said waters.” This requirement that any bank, freshwater wetland, etc., border on the ocean is reiterated in 310 CMR 10.02 “Statement of Jurisdiction.”

[2] The Orleans Wetlands Protection Bylaw, § 160-2, eliminates the requirement that in order to be subject to the Commission’s jurisdiction, the wetland resource areas must be “bordering.” It did so in order to provide broader protection to these resources than that found in the Act or State regulations as permitted by 310 CMR 10.01(2) which states, “Nothing contained herein should be construed as preempting or precluding more stringent protection of wetlands or other natural resources by local by-law, ordinance or regulation.” Thus under the Orleans Bylaw and regulations, these resource areas are subject to the Commission’s jurisdiction and regulation whether or not they are “bordering.”

[3] Therefore, if the inclusion of the word “bordering” anywhere in the Act or 310 CMR 10.00 should result in removing that resource from the Orleans Conservation Commission’s jurisdiction, it shall be deemed for the

purpose of the Orleans Regulations that the word “bordering” in that instance, has not been incorporated in these regulations.

(b) Freshwater wetlands:

[1] The definition of “Bordering Vegetated Wetlands” (wet meadows, marshes, swamps and bogs) found in 310 CMR 10.55(2) is specifically not incorporated herein and the following definition is adopted instead:

“Vegetated wetlands are freshwater wetlands which may or may not border on creeks, rivers, streams, ponds, and lakes. The types of freshwater wetlands are wet meadows, marshes, swamps and bogs. They are areas where the topography is low and flat and where the soils are annually saturated. The ground and surface water regime and the vegetational community which occur in each type of freshwater wetland are specified in MGL 131 s. 40 and in these regulations.

[2] All other references to “bordering vegetated wetlands” in 310 CMR10.55 and elsewhere throughout 310 CMR 10.00 et seq. shall be deemed to refer to both bordering and nonbordering vegetated wetlands.

[3] Wetland replication: The Orleans Wetlands Bylaw § 160-3 “Wetlands replication” prohibits wetlands replication as a form of mitigation. In accordance with this prohibition, these regulations do not incorporate any part of the performance standard found at 10.55(4)(b) permitting loss of up to 5,000 square feet of wetlands if replicated and (c) permitting loss of up to 500 square feet under other limited circumstances. Nor do these regulations incorporate any other section of the Act or 310 CMR 10.00 et seq. which permits loss of wetlands when mitigating by replication. Nothing in this section prohibits construction of new wetlands as long as such new wetland is not replacement of existing wetlands.

G. Savings. Should any portion of these regulations be declared invalid by a decision of court, the legislature or other body having jurisdiction, the remainder of these regulations shall remain in full force and effect.

H. Reservation. These regulations should not be construed to limit the authority under the Orleans Wetlands Protection Bylaw. The Commission reserves the right to act in a manner consistent with the Bylaw upon any matter within its jurisdiction.

I. Amendments. Amendments to these regulations shall be made in the same manner set forth in § 160-11 of the Orleans Wetlands Protection Bylaw.

J. Exceptions:

- (1) MGL 131 s. 40 provides the following exceptions to the application of its provisions: maintenance and repair of lawfully located structures used to provide specific services to the public; certain emergency projects; mosquito control works, some maintenance dredging; normal maintenance and improvement of land in agriculture and aquaculture use; and those exceptions provided by any special act prior to January 1, 1973. The Orleans Wetland Bylaw, § 160-5A and B however, provides exceptions only for maintenance and repair of lawfully located structures used to provide certain services to the public and for limited emergency projects. Both exceptions are subject to notice and performance standard requirements. Section 160-5C provides that “Other than stated in this section, the exceptions provided in the Wetlands Protection Act shall not apply.”
- (2) The Orleans Conservation Commission has not in the past exercised its jurisdiction over the additional activities excepted by the state but not by the Orleans Bylaw. However, the Commission reserves its right to exercise such jurisdiction in the future.

K. Variances:

- (1) The Conservation Commission may, in its discretion, grant variances from the specific stipulations of one or more of these regulations pursuant to this section. Such variances may be granted in specific instances where relief for the property owner may be warranted and said relief will not adversely affect the wetlands interests. Variances shall be granted only in accordance with the provisions of this section, and shall, in no way, set a precedent.
- (2) A variance may be granted for the following reasons and upon the following conditions:
 - (a) The Conservation Commission may, in its discretion, grant a variance from these regulations upon a clear and convincing showing by the Applicant that the proposed work, or its natural and consequential impacts and effects, will not adversely affect the interests protected in the Bylaw. In exercising its discretion the Commission shall take cognizance of other reasonable alternatives which would permit the proposed work to be undertaken without deviating from the provisions of these regulations. It shall be the responsibility of the Applicant to provide the Conservation Commission with any or all information which the Commission may request, in writing. The failure of the Applicant to furnish any information which has been so requested may result in the denial of a request for a variance pursuant to this section.

(b) The Conservation Commission may grant a variance from these regulations when it is necessary to avoid so restricting the use of the property as to constitute an unconstitutional taking without compensation. If an application for a variance pursuant to this section is received by the Conservation Commission, the Commission may request an opinion from Town Counsel as to whether the application of these regulations to a particular case will result in such a taking without compensation.

L. Amended orders of conditions:

Where an applicant seeks permission to expand or change a use previously prohibited or limited by past Orders, either by an Amended Order of Conditions or a new Order of Conditions, the applicant must make a clear showing of changed circumstances and must present proof that such changed circumstances have rendered the past prohibition or limitation which the applicant seeks to change, unnecessary to the preservation and protection of the wetlands interests of the Act and this Bylaw.

M. Effective date. The effective date of these regulations shall be August 8, 1995. These regulations apply to all applications made on or after the effective date.

N. Site specificity and precedence. Because each parcel of land and proposed project thereon has its own unique characteristics and impacts, every project brought before the Commission for approval will be considered on a site specific basis. And, because of this site specificity each project will stand alone and shall not set a precedent in the decisions to be made on subsequent projects.

§ 196A-4. Definitions

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

ABUTTER: 310 CMR 10.04 -- Owner of land sharing a common boundary or corner with the site of the proposed activity in any direction.

ABUTTER NOTIFICATION: MGL 131 S. 40 -- Any person filing a Notice of Intent or requesting a prior Determination with a Conservation Commission shall at the same time give written notification thereof, by delivery, in hand or certified mail, return-receipt requested, to all abutters and owners of property within one hundred feet (100') of the property line of the land where the activity is proposed at the mailing addresses shown on the most recent applicable tax list of the assessors. If any work is to occur on a property with shoreline on a pond of less than 10 acres, Abutter Notification shall be extended to all pond shore owners. Said notification shall be at the applicant's expense, and shall state where copies of the notice of intent may be examined and obtained and where information regarding the date, time and place of the public hearing

may be obtained. Proof of such notification, with a copy of the notice mailed or delivered, shall be filed with the Conservation Commission.

ACEC: 310 CMR 10.23 -- An Area of Critical Environmental Concern (ACEC) is established [MGL ch 21A s. 2(7)] in special areas that meet designation criteria. The performance standard, of “no adverse effect” on any of the interests protected by these Regulations, must be met for activities in this special area [310 CMR 10.24(5)] (see Areas of Critical Environmental Concern, MCZM 1982).

ACT: 310 CMR 10.04 -- The Massachusetts Wetlands Protection Act, Chapter 131, section 40, hereinafter referred to as “the Act.”

ACTIVITY -- Any form of draining, dumping, dredging, damming, discharging, excavating, filling or grading; the erection, reconstruction, or expansion of any building or structure; the driving of pilings; the construction or improvement of roads and other ways; the changing of runoff characteristics; the intercepting or diverging of ground or surface water systems; the discharging of pollutants; the destruction of plant life including cutting or pruning, the application of fertilizer, pesticides or insecticides; and any other changing of the physical characteristics of land, or of the physical or chemical characteristics of water. Structures shall include, but not be limited to, dwellings, garages, patios, tennis courts, playgrounds, mobile homes, swimming pools, pavement, signs, fences, retaining walls, antennae, utilities, conduits, fuel storage tanks, air-conditioning units, subsurface sewage disposal systems, or other temporary or permanent construction or facility.

ADMINISTRATIVE REVIEW -- A review by the Commission or its agent pursuant to a written request to the Conservation Commission to determine whether or not additional filing will be necessary to perform work of a minor nature in an area subject to protection under § 196A-2A or, if not, whether to approve such work.

ADVERSE EFFECT: MGL 131 S. 40 -- A greater than negligible change in the resource area or one of its characteristics or factors that diminishes the value of the resource area to one or more of the interests of the Act or this Bylaw, as determined by the issuing authority. “Negligible” means small enough to be disregarded.

AESTHETICS: Orleans Chapter 160 -- The performance standard for aesthetics in wetlands, related water resources and adjoining land areas specifies that placement of buildings, structures or parking facilities shall not detract from the site’s scenic qualities and shall blend with the natural landscape. Also, in those areas, building sites should be kept away from the crest of hills, and foundations should be constructed to reflect the natural terrain.

AGRICULTURE: (See state regs. 310 CMR 10.04) -- Reserved.

ALTER: Orleans Chapter 160 -- Includes, without limitation, the following activities when undertaken to, upon, within or affecting resource areas protected by this chapter:

- A. Removal, excavation or dredging of soil, sand, gravel or aggregate materials of any kind.
- B. Changing preexisting drainage characteristics, flushing characteristics, sanitary distribution, sedimentation patterns, flow patterns or flood retention characteristics.
- C. Drainage or other disturbance of the water level or water table.
- D. Dumping, discharging, or filling with any material which may degrade water quality.
- E. Placing of fill or removal of materials, which would alter elevation.
- F. Driving of piles or erection or repair of buildings or structures of any kind.
- G. Placing of obstructions or objects in water.
- H. Destruction of plant life, including cutting or pruning of trees and shrubs especially those species that are endangered, threatened, or of special concern.
- I. Changing water temperature, biochemical oxygen demand or other physical or chemical characteristics of water.
- J. Any activities, changes or work which may cause or tend to contribute to pollution of any body of water or groundwater.

APPLICANT: Orleans Conservation Commission -- Any person who files a Notice of Intent, Request for Determination of Applicability or Administrative Review, or on whose behalf such notice is filed either under MGL c. 131 s. 40 or the Orleans Wetlands Protection Bylaw, Chapter 160 of the Orleans Code.

AQUACULTURE -- Reserved.

BANK (INLAND): 310 CMR 10.54(2) -- The portion of the land surface which normally abuts and confines a water body. It occurs between a water body and a vegetated wetland and adjacent floodplain, or, in the absence of these, it occurs between a water body and an upland.

BANK COASTAL: 310 CMR 10.30(2) -- The seaward face or side of any elevated landform, other than a coastal dune, which lies at the landward edge of a coastal beach, land subject to tidal action or other wetland.

BANK (COASTAL), TOP OF -- See “Coastal Bank, (top of).”

BEACH (COASTAL): 310 CMR 10.27(2) -- Any unconsolidated sediment subject to wave, tidal and coastal storm action which forms the gently sloping shore of a body of salt water and includes tidal flats. Coastal beaches extend from the mean low water line landward to the dune line, coastal bank line or the seaward edge of existing man-made structures, when these structures replace one of the above lines, whichever is closest to the ocean.

BEACH (BARRIER): 310 CMR 10.29(2) -- A narrow low-lying strip of land generally consisting of coastal beaches and coastal dunes extending roughly parallel to the trend of the coast. It is separated from the mainland by a narrow body of fresh, brackish or saline water or a marsh system. A barrier beach may be joined to the mainland at one or both ends.

BEACH (INLAND): 310 CMR 10.54(2) -- A naturally occurring inland beach is an unvegetated bank as defined above (bank inland).

BEDROOM: see Orleans Board of Health Code -- 185-17.2

BEST AVAILABLE MEASURE: 310 CMR 10.04 -- The most up-to-date technology or the best designs, measures or engineering practices that have been developed and that are commercially available.

BEST PRACTICAL MEASURES: 310 CMR 10.04 -- Technologies, designs, measures or engineering practices that are in general use to protect similar interests.

BOG—See “vegetated wetland.”

BORDERING: (See § 196A-3 on incorporation) -- The Orleans Bylaw has omitted the state requirement that any freshwater or coastal wetland, marsh, wet meadow, bog or swamp must border on any lake, pond, creek, river, stream, estuary or the ocean in order to be subject to the jurisdiction of the Orleans Conservation Commission, § 160-2. Therefore, the definition of bordering is omitted from these regulations.

BOUNDARY: Orleans Conservation Commission -- The line which delineates the edge of any resource area or buffer zone subject to protection under the Act or the OWPB.

BUFFER STRIP: Orleans Conservation Commission -- A strip of densely vegetated land lying between human activity and the boundary of a resource area.

BUFFER ZONE: Orleans Conservation Commission -- The area of land extending one hundred (100) feet horizontally landward from the boundary of any resource area specified in § 160-2, except for an ACEC and Land Subject to Coastal Storm Flowage

CERTIFICATE OF COMPLIANCE: Orleans Conservation Commission -- A written determination by the Conservation Commission that work or a portion thereof has been completed in accordance with Order of Conditions.

COASTAL BANK (TOP OF): The top of a Coastal Bank shall be delineated by applying MA DEP Wetlands Program Policy 92-1 Issued March 3, 1992. The buffer zone for the resource area shall extend inland for 100 feet from the designated Top of the Bank.

COASTAL DUNE: 310 CMR 10.28 (2) – any natural, hill, mound or ridge of sediment landward of a Coastal Beach deposited by wind action or storm overwash. Coastal Dune also means sediment deposited by artificial means and serving the purpose of storm damage prevention or flood control.

COASTAL WETLANDS: MGL 131 s.40 -- Any bank, marsh, swamp, meadow, flat or other lowland subject to tidal action or coastal storm flowage.

CONDITIONS: Orleans Conservation Commission – Those requirements set forth in a written permit issued by the Conservation Commission for the purpose of permitting and regulating, or prohibiting any activity that removes, fills, dredges, or alters or will alter an area subject to protection under the Bylaw as set forth in § 196A-2A.

CONSERVATION COMMISSION: 310 CMR 10.04 -- That body comprised of members lawfully appointed pursuant to MGL c.40 s.8c.

CONSERVATION COMMISSION ADMINISTRATOR: Orleans Conservation Commission -- The duly authorized agent of the Commission, with the authority to carry out certain Commission's functions. These shall include, but not be limited to, Administrative Reviews, site visits, review of application compliance with submission requirements, enforcement, reports to the Commission and any other duties assigned by the Commission.

CREEK: 310 CMR 10.04 -- Means the same as a stream as defined hereinafter.

CUMULATIVE EFFECT: Orleans Chapter 160 -- The effect of activities regulated under this Bylaw which may be individually insignificant to the interests and values under this Bylaw, but when considered in relation to other past, or present activities in a given area may be significant to said interests and values in the aggregate.

DATE OF ISSUANCE: 310 CMR 10.04 -- The date a permit is mailed, as evidenced by a postmark, or the date it is hand delivered or faxed.

DATE OF RECEIPT: 310 CMR 10.04 -- The date of delivery to an office, home or usual place of business by mail, hand delivery or fax.

DETERMINATION: 310 CMR 10.04 --

- A. A Determination of Applicability is a written finding by the Conservation Commission after public hearing as to whether a site or the work proposed thereon is subject to the jurisdiction of the OWP and does or does not require the filing of a Notice of Intent.
- B. A Determination of Significance is a written finding by the Conservation Commission, after a public hearing, that the area on which the proposed work is to be done, or which the proposed work will alter, is significant to one or more of the interests identified in § 160-2.
- C. A Notification of Nonsignificance is a written finding by the Conservation Commission, after a public hearing, that the area on which the proposed work is to be done, or which the proposed work will alter, is not significant to any of the interests of the § 160-2.

DITCH -- Any depression through which water flows as drainage in times of high water. (See also "Stream").

DOCK: Any structure, accessible by land, including but not limited to ramp, pier, wharf, dock and float which could be used to access boats whether or not tied.

DREDGE: 310 CMR 10.04 -- To deepen, widen or excavate, either temporarily or permanently.

EROSION AND SEDIMENTATION CONTROL: Orleans Chapter 160 --

- A. Erosion Control means the regulation of activities or processes which would threaten, by wearing away the surface soil or by undermining the interior portions of the landforms, the stability of landforms and resource areas, and the soil and/or vegetation associated with protected resources and adjoining land areas.
- B. Sedimentation Control means the regulation of activities, or processes that would threaten the ability of wetlands to settle out sediments and other waterborne material beyond their capacity to do so without adverse effect on other wetland functions.

ESTUARY: 310 CMR 10.04:

- A. Any area where fresh and salt water mix and the tidal effects are evident;
or
- B. Any partially enclosed coastal body of water where the tide meets the current of any stream or river or groundwater discharge.

EXTENSION PERMIT: 310 CMR 10.04 -- A written extension of time within which the authorized work shall be completed.

FEMA—Federal Emergency Management Agency.

FILL: 310 CMR 10.04 -- Any deposition of material that raises an elevation, either temporarily or permanently.

FINAL ORDER -- 310 CMR 10.04.

FIRM -- Flood Insurance Rate Map.

FISH: MGL 130 -- Fish includes all species of fresh and salt water finfish and shellfish.

FLAT: 310 CMR 10.27(2)(B) -- See “tidal flat.”

FLOOD ZONES -- Areas designated by the Federal Emergency Management Agency (FEMA) and depicted on the FEMA Flood Insurance Rate Maps as subject to wave action or flooding during large coastal events;

- A. VELOCITY ZONE -- The area and elevation designated as subject to severe wave action during large coastal storm events.
- B. A-ZONE -- The area and elevation designated as likely to be flooded during a 100-year flood event.
- C. B-ZONE -- The area and elevation designated as likely to be flooded during a 500-year storm event.
- D. C-ZONE -- An area of minimal flooding.

FRESHWATER WETLANDS: MGL 131 -- See “vegetated wetlands.”

GROUNDWATER SUPPLY: 310 CMR 10.04 -- Water below the earth’s surface in the zone of saturation.

HARDSHIP: Orleans Conservation Commission --

- A. The occasion when a literal enforcement of the provisions of these regulations would involve a substantial hardship, financial or otherwise, to the petitioner or appellant;
- B. The hardship is owing to circumstances relating to the soil conditions, shape or topography of such land or structures and especially affecting such land or structures but not affecting generally the zoning district in which it is located; and
- C. Desirable relief may be granted without either substantial detriment to the public good or nullifying or substantially derogating from the intent or purpose of the OWP.

- D. Excessive economic burden placed on an applicant as a result of the wetlands regulations may be considered to be a hardship. It is presumed that any proposed private activity within the area of jurisdiction will place public resources at risk. An applicant is expected to take steps to protect these public resources. Such steps may place an economic burden on the applicant that would not be placed on a person working beyond the area of jurisdiction. Some additional economic burden is presumed to be a reasonable requirement necessary to protect the public resource. In order to demonstrate hardship, the applicant must show that the public resource can be equally protected at less cost by some other means. Hardship shall in no case be a condition unique to the applicant. The hardship must be associated with activities on the property for which the proposal is made.

ISSUING AUTHORITY: 310 CMR 10.04 -- Conservation Commission, Mayor, Selectmen or the Department, whichever is applicable.

LAKE: 310 CMR 10.04 -- Any open body of fresh water with a surface area of 10 acres or more and shall include great ponds.

LAND CONTAINING SHELLFISH: Orleans Conservation Commission -- See "shellfish habitat."

LAND SUBJECT TO COASTAL STORM FLOWAGE: 310 CMR 10.04 -- Land subject to any inundation caused by coastal storms up to and including that caused by a 100 year storm, surge of record or storm of record, whichever is greater.

LAND SUBJECT TO FLOODING: 310 CMR 10.57(2) -- An area with low, flat topography and inundated by flood waters rising from creeks, rivers, streams, rivers, ponds, lakes, estuaries or the ocean.

- A. Isolated (10.57) (2) (b) (1) (2) (3).
- B. Bordering (10.57) (2)(a).

LAND SUBJECT TO TIDAL ACTION: 310 CMR 10.04 -- Any land subject to periodic rise and fall of a coastal water body including spring tides.

LAND UNDER THE OCEAN OR AN ESTUARY: 310 CMR 10.04 -- Land extending from the mean low water (MLW) line seaward to the boundary of the municipality's jurisdiction and includes land under estuaries.

LAND UNDER WATER BODIES AND WATERWAYS: 310 CMR 10.56(2) The bottom of, or land under the surface of the ocean or any estuary, creek, river, stream, pond or lake. Said land may be composed of sand, gravel, rocks, bedrock, peat, fine sediments, or organic muck.

LAND UNDER SALT PONDS: 310 CMR 10.33(2) -- A shallow enclosed or semi-enclosed body of saline water that may be partially or totally restricted by barrier beach formations. Salt ponds may receive fresh water from small streams emptying into their upper reaches and/or springs in the salt pond itself (or along its margin).

LIMIT OF WORK: Orleans Conservation Commission -- That line past which no work or activity is permitted without further application to the Commission. (See Section 196A-7H.)

MAJORITY: 310 CMR 10.04 -- More than one-half of the members of the Conservation Commission then in office.

MARSH (SALT) -- Coastal wetland areas that extend landward up to the highest tide line of the year, and where a significant portion of the vegetation community is adapted to saline conditions and is composed of, but not limited to nor necessarily including all of, the following plants or groups of plants: salt marsh cord grass (*Spartina alterniflora*), salt meadow cord grass (*Spartina patens*), spike grass (*Distichlis spicata*), black grass (*Juncus gerardi*), groundsel tree (*Baccharis halimifolia*), sea lavender (*limonium carolinianum*), seaside goldenrod (*Solidago sempervirens*), sea blite (*Suaeda maritima*), samphire (*Salicornia europaea*), glasswort (*Salicornia bigelovii*), saltmarsh bulrush (*Scirpus robustus*), salt bush (*Atriplex patula*), seaside plantain (*Plantago juncooides*) and aster (*Aster tenuifolius*).

MARSH (FRESHWATER): MGL 131 S. 40 -- See “vegetated wetlands.”

MEADOW -- (See “vegetated wetlands”).

MIGRATORY AREAS: 310 CMR 10.04 -- Those areas used by wildlife moving from one habitat to another whether seasonally or otherwise.

MHW -- (See “tides.”)

MLW -- (See “tides.”)

MEPA: 310 CMR 10.04 -- The Massachusetts Environmental Policy Act, MGL c.30, s. 62-62H and the regulations promulgated thereto, 301 CMR 10.00 et seq.

NAVIGATION: Orleans Chapter 160 -- The ability to traverse a waterway.

NOTICE OF INTENT (NOI): 310 CMR 10.04 -- The written notice filed by any person intending to remove, fill, dredge or alter an Area Subject to Protection under the Massachusetts Wetlands Protection Act (the Act), MGL 131 s. 40 or the Orleans Wetlands Protection Bylaw (the Bylaw).

OCEAN: 310 CMR 10.04 -- The Atlantic Ocean and all contiguous waters subject to tidal action.

ORDER: 310 CMR 10.04 -- Order of Conditions, Superseding Order, Final Order or Enforcement Order whichever is applicable.

ORDER OF CONDITIONS: Orleans Conservation Commission -- The document issued by the Conservation Commission containing conditions which regulate or prohibit an activity under either the Act and/or the Orleans Wetlands Protection Bylaw.

PARTY TO ANY PROCEEDING: Orleans Conservation Commission/310 CMR 10.04 -
- Means the applicant, the Conservation Commission and, the Department and pursuant to Article II may include the owner of a site, any abutter, any person aggrieved, any ten residents of the town where the land is located and any ten persons pursuant to MGLc.30 A S. 10A.

PERSON: MGL 131 S. 40 -- Includes any individual, group of individuals, association, partnership, corporation, company, business organization, trust, estate, the commonwealth or political subdivision thereof, administrative agency, public or quasi-public corporation or body or any other legal entity or its legal representatives, agents or assigns.

PERSON AGGRIEVED: 310 CMR 10.04/Orleans Conservation Commission -- Any person who, because of an act or failure to act by the issuing authority, may suffer an injury in fact which is different either in kind or magnitude from that suffered by the general public and which is within the scope of the interests identified in the Bylaw facts to allow the Conservation Commission to determine whether or not the person is in fact aggrieved.

PIERS -- See "docks."

PLANS: 310 CMR 10.04/Orleans Conservation Commission -- Such data, maps, engineered drawings, calculations, specifications, schedules and other materials, if any, deemed necessary by the issuing authority to describe the site and/or the work, to determine the applicability of the Bylaw or to determine the impact of the proposed work upon the interests identified as set forth in § 196A-1B.

POND, COASTAL: 310 CMR 10.33(2) -- See "salt pond."

POND, INLAND: Orleans Chapter 160 -- Any open body of fresh water, either naturally occurring or man-made by impoundment, which is never without standing water due to natural causes, except during periods of extended drought. For purposes of this definition, "extended period of drought" shall mean any period of (4) four or more months during which the average rainfall for each month is fifty percent (50%) or less of the ten year average for that same month. Basins or lagoons which are part of wastewater treatment plants shall not be considered nor shall swimming pools or other impervious man-made retention basins.

PREVENTION OF POLLUTION: Orleans Conservation Commission -- The prevention or reduction of contamination of surface waters, both fresh and salt, groundwater, and/or soil.

PRIVATE WATER SUPPLY: 310 CMR 10.04 -- Any source or volume of surface or groundwater demonstrated to be in any private use or demonstrated to have a potential for private use.

PROTECTION OF FISHERIES: 310 CMR 10.04/Orleans Conservation Commission -- Protection of the capacity of an Area Subject to Protection Under the Bylaw as specified in § 196A-2A to prevent or reduce contamination or damage to fish and to serve as their habitat and nutrient source. Fish includes all species of fresh and salt water finfish and shellfish.

PROTECTION OF LAND CONTAINING SHELLFISH OR SHELLFISH HABITAT: Orleans Conservation Commission -- Protection of the capacity of an Area Subject to Protection Under the Bylaw, OWPB § 160-2 to prevent or reduce contamination or damage and to shellfish, their nutrient source or their habitat.

PROTECTION OF WILDLIFE: Orleans Conservation Commission -- The capacity of an Area Subject to Protection Under the Bylaw, OWPB § 160-2 to provide necessary wildlife habitat (see “wildlife habitat”); and also the ability of any resource area to provide food, breeding habitat, or escape cover for any species falling within the definition of Wildlife set forth in these regulations.

PUBLIC WATER SUPPLY: 310 CMR 10.04 -- Any source or volume of surface or ground water demonstrated to be in public use or approved for water supply pursuant to MGL c.111 s.160 by the Division of Water Supply of the DEP or shown to have a potential for public use.

QUORUM: 310 CMR 10.04 -- A majority of members then in office.

RECONSTRUCTION: “Reconstruction” shall mean alteration and rebuilding of up to 25% of the structure, measured by square footage of the foundation, or cubic footage of the structure. Alteration and rebuilding of over 25% of the structure shall be considered new construction.

RECREATION: Orleans Chapter 160 -- Any leisure activity or sport taking place in, on, or within 100 feet of a resource area which is dependent on the resource area directly or indirectly for its conduct and enjoyment. Recreational activities include, but are not limited to, the following: noncommercial fishing and shellfishing, hunting, boating, swimming, walking, painting, birdwatching and aesthetic enjoyment.

REQUEST FOR DETERMINATION OF APPLICABILITY (RD): 310 CMR 10.04 -- A written request made by any person to the Conservation Commission for a decision as

to whether a site or work thereon is subject to the Bylaw and if so, requires the filing of a NOI.

RESOURCE AREAS: Orleans Chapter 160:

- A. The areas specified in § 196A-2A(1), (2), (3), (5), or (6) as follows:
 - (1) Bank, beach, dune, flat, freshwater wetland, marsh, bog, coastal wetland, swamp, wet meadow.
 - (2) Lake, pond, creek, river, stream, estuary, the ocean and any land under said waters.
 - (3) Any land subject to flooding or inundation by tidal action, groundwater or surface water.
 - (4) Land Subject to Coastal Storm Flowage.
 - (5) Area of Critical Environmental Concern (ACEC).

- B. Definitions of specific resource areas are contained in other sections of these regulations and the state wetland regulations.

RIVER: A natural flowing body of water that empties to any ocean, lake, pond, other wetland, or other river, and which flows throughout the year.

ROCKY INTERTIDAL SHORES: 310 CMR 10.31(2) – Naturally occurring rocky areas such as bedrock or boulder-strewn areas between the mean high water (MHW) line and the mean low water (MLW) line.

SALT MARSH—See “marsh, salt.”

SALT POND: 310 CMR 10.33(2) -- A shallow enclosed or semi-enclosed body of saline water that may be partially or totally restricted by barrier beach formation. Salt ponds may receive fresh water from small streams emptying into their upper reaches and/or springs in the salt pond itself.

SIGNIFICANT: 310 CMR 10.04 -- Plays a role. A resource area is significant to an interest identified in § 196A-1B when it plays a role in the provision or protection, as appropriate, of that interest.

SHELLFISH: Orleans Chapter 160 -- Mollusks and Crustaceans including but not limited to various species of the following: clams, conchs, mussels, oysters, periwinkles, quahogs, razor clams, scallops, sea clams, lobsters and crabs.

SHELLFISH HABITAT: Orleans Chapter 160 -- Those areas below the mean high water line in any coastal resource area that provides or has provided the characteristics including but not limited to sediment type and grain size, circulation patterns, hydrologic regime, water chemistry, plant communities and food supply, necessary to support shellfish species.

STORM DAMAGE PREVENTION: 310 CMR 10.04 -- The prevention of damage caused by water and wind from storms, including, but not limited to erosion and sedimentation, damage to vegetation, property or buildings, or damage caused by flooding, waterborne debris or waterborne ice.

STREAM: Orleans Conservation Commission -- A body of running water, including brooks and creeks, which moves in a definite channel in the ground due to a hydraulic gradient. A portion of a stream may flow through a culvert or beneath a bridge. Such a body of running water which does not flow throughout the year (i.e. which is intermittent) is also a stream.

SUPERSEDING DETERMINATION: 310 CMR 10.04 -- A determination of applicability, of significance or nonsignificance, as the case may be, issued by the Department of Environmental Protection.

SUPERSEDING ORDER: 310 CMR 10.04 -- A document issued by the Department of Environmental Protection containing conditions which regulate or prohibit an activity.

SWAMP—MGL 131 s. 40 pp 8.

TIDES: Orleans Conservation Commission:

- A. **SPRING:**10.04 -- Those tides that occur at or near the time when the gravitational forces of the sun and moon are in phase (new and full moons), and which are of the greatest amplitude during the approximately 14-day tidal cycle.
- B. **NEAP** -- Those tides that occur between the new and full moons and have less variation than the spring tides.
- C. **EXTREME** -- Those tides generally associated with storms or astronomical configurations and are perceptibly higher and lower than the spring tides.
- D. **MEAN HIGH WATER:** 10.23 -- The line where the arithmetic mean of the high water heights observed over a specific 19-year metonic cycle (the National Tidal Datum Epoch) meets the shore and shall be determined using hydrographic survey data of the National Ocean Survey of the U.S. Department of Commerce and local observations.

- E. MEAN LOW WATER: 10.23 -- The line where the arithmetic mean of the low water heights observed over a specific 19-year metonic cycle (the National Tidal Datum Epoch) meets the shore and shall be determined using hydrographic survey data of the National Ocean Survey of the U.S. Department of Commerce and local observations.

TIDAL FLAT: 310 CMR 10.27(2)(b) -- Any nearly level part of a coastal beach which usually extends from the mean low water line landward to the more steeply sloping face of the coastal beach or which may be separated from the beach by land under the ocean.

VEGETATED FRESHWATER WETLAND (WET MEADOWS, MARSHES, SWAMPS AND BOGS): MGL 131 s.40, 310 CMR 10.55/Orleans Conservation Commission -- The term "freshwater wetlands" as used in this section shall mean wet meadows, marshes, swamps, bogs, areas where groundwater, flowing or standing surface water or ice provides a significant part of the supporting substrate for a plant community for at least five months of the year; emergent and submergent plant communities in inland waters; that portion of any bank which touches any inland waters. Freshwater wetlands are areas where the topography is low and flat, and where the soils are annually saturated and within which 50% or more of the species of the vegetational community consists of the wetland plant species identified below:

- A. BOGS: MGL 131 s. 40 -- Areas where standing or slowly running water is near or at the surface during a normal growing season and where a vegetational community has a significant portion of the ground or water surface covered with sphagnum moss (*Sphagnum*) and where the vegetational community is made up of a significant portion of one or more of, but not limited to nor necessarily including all, of the following plants or groups of plants: aster (*Aster nemoralis*), azaleas (*Rhododendron canadense* and *R. viscosum*), black spruce (*Picea mariana*), bog cotton (*Eriophorum*), cranberry (*Vaccinium macrocarpon*), high bush blueberry (*Vaccinium corymbosum*), larch (*Larix laricina*), laurels (*Kalmia augustifolia* and *K. polifolia*), leatherleaf (*Chamaedaphne calyculata*), orchids (*Arethusa*, *Calopogon*, *Pogonia*), pitcher plants (*Sarracenia purpurea*), sedges (*Cyperaceae*), sundews (*Droseraceae*), sweet gale (*Myrica gale*), white cedar (*Chamaecyparis thyoides*).
- B. SWAMPS, MGL 131 s. 40 -- Areas where the groundwater is at or near the surface of the ground for a significant part of the growing season or where runoff water from surface drainage frequently collects above the soil surface, and where a significant part of the vegetational community is made up of, but not limited to nor necessarily including all, of the following plants or groups of plants: alders (*Alnus*), ashes (*Fraxinus*), azaleas (*Rhododendron canadense* and *R. viscosum*), black alder (*Ilex verticillata*), black spruce (*Picea mariana*), button bush (*Cephalanthus occidentalis*), American or white elm (*Ulmus americana*), white Hellebore

(*Veratrum viride*), hemlock (*Tsuga canadensis*), highbush Blueberry (*Vaccinium corymbosum*), larch (*Larix laricina*), cowslip (*Caltha palustris*), poison sumac (*Toxicodendron vernix*), red maple (*Acer rubrum*), skunk cabbage (*Symplocarpus foetidus*), sphagnum mosses (*Sphagnum*), spicebush (*Lindera benzoin*), black gum tupelo (*Nyssa sylvatica*), sweet pepper bush (*Clethra alnifolia*), white cedar (*Chamaecyparis thyoides*), willow (*Salicaceae*).

- C. WET MEADOW, MGL 131 s. 40 -- Areas where the groundwater is at the surface for a significant part of the growing season and near the surface throughout the year and where a significant part of the vegetational community is composed of various grasses, sedges and rushes; made up of, but not limited to nor necessarily including all, of the following plants or groups of plants: blue flag (*Iris*), vervain (*Verbena*), thoroughwort (*Eupatorium*), dock (*Rumex*), false loosestrife (*Ludwigia*), hydrophile grasses (*Gramineae*), marsh fern (*Dryopteris thelypteris*), rushes (*Juncaceae*), sedges (*Cyperaceae*), sensitive fern (*Onoclea sensibilis*), smartweeds (*Polygonum*).
- D. MARSHES, MGL 131 s. 40: Areas where a vegetational community exists in standing or running water during the growing season and where a significant part of the vegetational community is composed of, but not limited to nor necessarily including all of the following plants or groups of plants: arums (*Araceae*), bladderworts (*Utricularia*), bur reeds (*Sparganiaceae*), button bush (*Cephalanthus occidentalis*), cattails (*Typha*), common reeds (*Phragmites*), duck weeds (*Lemnaceae*), eel grass (*Vallisneria*), frog bits (*Hydrocharitaceae*), horsetails (*Equisetaceae*), hydrophilic grasses (*Gramineae*), leatherleaf (*Chamaedaphne calyculata*), pickerel weeds (*Pontederiaceae*), pipeworts (*Ericoaulon*), pond weeds, (*Potamogeton*), rushes (*Juncaceae*), sedges (*Cyperaceae*), smartweeds (*Polygonum*), sweet gale (*Myrica gale*), water milfoil (*Haloragaceae*), water lilies (*Nymphaeaceae*), water starworts (*Callitrichaceae*), water willow (*Decodon verticillatus*).

VERNAL POOLS: Orleans Conservation Commission -- Those areas containing vernal pool habitat.

VERNAL POOL HABITAT: -- Confined basin depressions that, at least in most years, hold water for a minimum of two continuous months during the spring and/or summer, and that are free of adult fish populations, as well as the area within 100 feet of the mean annual boundaries of such depressions. These areas are essential breeding habitat, and provide other extremely important wildlife habitat functions during nonbreeding season as well, for a variety of amphibian species such as wood frog (*Rana sylvatica*) and the spotted salamander (*Ambystoma maculatum*), and are important habitat for other wildlife species.

WATER-DEPENDENT USES: 310 CMR 10.04 -- Those uses and facilities that require direct access to, or location in, marine, tidal or inland waters and therefore cannot be located away from said waters, including but not limited to: marinas, public recreational uses, navigational and commercial fishing and boating facilities, water based recreational uses, navigation aids, basins and channels, industrial uses dependent upon waterborne transportation or requiring large volumes of cooling or process water that cannot reasonably be located or operated at an upland site, crossings over or under water bodies or waterways (but limited to railroad and public roadway bridges, tunnels, culverts, as well as railroad tracks and public roadways connecting thereto which are generally perpendicular to the water body or waterway) and any other uses and facilities as may further hereafter be defined as water-dependent in 310 CMR 9.00.

WILDLIFE: Orleans Conservation Commission -- Wildlife includes all nondomestic animals, including but not limited to, mammals, birds, reptiles, amphibians, fish and the habitat required by these animals for nesting, cover and food, with the exception of species of the Class Insecta which have been determined by the Commonwealth of Massachusetts to be a pest whose protection would be a risk to man. The definition encompasses but is not limited to all vertebrate and invertebrate species listed by state and federal agencies as endangered, threatened or of special concern.

WILDLIFE HABITAT: Orleans Chapter 160 -- Those resource areas subject to Conservation Commission jurisdiction which, due to their plant community composition and structure, hydrologic regime or other characteristics, provide important food, shelter, migratory or overwintering areas or breeding areas for wildlife.

WORK: 310 CMR 10.04 -- The same as activity.

ARTICLE II Procedures

§ 196A-5. Fees.

The following fee schedule is for the Town of Orleans wetland filings. The MA DEP Fees are not included in this fee schedule and should be paid separately. Please note that the fees for AFTER THE FACT work are DOUBLE unless noted in the schedule below.

Administrative Review	
Construction	\$20.00
Vegetation	\$20.00
After-the-Fact Filing	\$50.00
Request for Determination of Applicability	\$100.00
Revised Plan Request	\$50.00

Notice of Intent In accordance with WPA Form 3 Instructions to Section E: Fees	\$ Variable
Notice of Intent (Additional Local Fee)	\$100.00
Certificates of Compliance	\$75.00
Amended Order of Conditions	\$50.00
Coastal Engineered Structure	\$ 2.00 per linear foot
Docks	\$ 2.00 per linear foot
Reissues of Orders of Conditions, Certificates of Compliance, Extensions of Orders of Conditions, etc.	\$20.00

§ 196A-6. Filing requirements.

As part of these Regulations the Commission will require Forms, submission requirements and procedures that are available in the Conservation Department as well as the websites of the Town of Orleans (www.town.orleans.ma.us) and the Department of Environmental Protection (www.state.ma.us/dep).

- A. A Notice of Intent may be submitted to the Conservation Department by noon on Monday of the 1st and 3rd week in the month generally fifteen (15) days prior to the desired Tuesday morning Hearing date. Application dates may vary due to holidays and other reasons.
- B. When continuing a Hearing, request to continue for a certain reason to a date when you are sure all the new information can be submitted by Thursday at noon before the Hearing. Hearings cannot be continued indefinitely and those that are continued several times without additional or requested information may be denied for lack of Information.
- C. A Certificate of Compliance request must include a report of any changes to the Order and any Conditions that have not been met even when asserting that the project has been satisfactorily completed or is in substantial compliance. The Conservation Commission may request an official Revised Site Plan to reflect the as-built conditions.

ARTICLE III
Specific Resource Areas Regulated

§ 196A-7. Buffer zone and buffer strip.

A. Preamble.

- (1) The Department of Environmental Protection has recognized the value of buffer zones to the protection of wetlands. 310 CMR 10.02 (2) (b) provides that any activity proposed within the buffer zone which, in the judgment of the issuing authority will alter an area protected under the Act is subject to regulation. It is generally agreed, however, that more protection is necessary for the 100' buffer zone than is provided for in the State Regulations. Since most of the proposed activities coming before the Commission occur in the buffer zone, this new section has been added to define the Commission's concerns and to set forth measures which must be taken to prevent the detrimental impacts of activities in this area on those wetland values protected by the Orleans Wetlands Protection Bylaw.
- (2) These adverse impacts can arise from both construction and from the ultimate use of the project involved. They include, but are not limited to, erosion, siltation, loss of groundwater recharge capability, contamination of water bodies by surface runoff carrying heavy metals such as lead, cadmium, copper and zinc, hydrocarbons such as gasoline and motor oil, pesticides and herbicides, bacteria, viruses, and sediments. Nutrient loading of water bodies results from the use of lawn fertilizers as well as septic effluent. Wildlife habitat may be lost through introduction of invasive plants or otherwise and aesthetic values compromised.
- (3) One method of protecting environmentally sensitive areas is to provide vegetated areas or buffer zones between structures and the resource to be protected. Such buffer zones can filter or absorb many of the pollutants, encourage water recharge, prevent erosion and sedimentation, provide wildlife habitat and help to preserve the aesthetics of our natural shoreline.
- (4) Vegetation in the entire 100-foot buffer acts to prevent pollution of groundwater and surface water, functions as erosion control and wildlife habitat, and provides aesthetic improvement. Buffer zones, due to their plant community composition and structure, hydrologic regime or other characteristics that provide important food, shelter, migratory or over-wintering areas or breeding areas for wildlife are presumed to be significant to the protection of wildlife habitat. Buffers around vernal pools are especially important as the adult stages of the amphibians using the pools are generally found within 300 feet of the pool. Trees and shrubs provide important screening of buildings from public areas. Vegetation in

the 100-foot buffer also reduces the velocity and the nutrient content of the run off, which protects the water body.

- (5) Buffer zones are often compromised by existing structures, or roadways. The remaining buffer is especially important to protect the interests under the Act.

B. Presumption: Where a proposed activity involves the altering of a buffer zone, the Commission shall presume that such area is significant to the interests specified in the Orleans Bylaw – Chapter 160. This presumption is rebuttable upon clear and convincing evidence that the buffer zone does not play a role in the protection of said interests. No work will be permitted in the buffer zone which has a significant adverse impact upon the interests (wetland values) protected by the Act or the Orleans Bylaw. In buffer zones adjacent to an ACEC and in the Town Cove/Nauset estuary, the No Adverse Impact standard will apply.

C. Guidelines for work in the buffer zone:

- (1) Buffer strip: Where work results in eroded or bare ground, the area must be revegetated as soon as practicable or mulched immediately. Where there is new construction or reconstruction, a buffer strip will be required landward of the resource area. It shall consist of natural indigenous vegetation and shall be a minimum of twenty-five feet (25') in width depending on factors below. The Commission may also require that a buffer strip be created where none presently exists to mitigate past buffer alterations. No work will be permitted in the buffer strip except limited vegetation removal or reduction and work necessary to maintain the buffer strip as described under Elements of buffer strip.
- (2) Between twenty-five (25) and fifty (50) feet landward of the resource area, only activities that protect or enhance the wetland interests and values protected under the Act and the Orleans Bylaw will be permitted. It is the Commission's intent to maintain a fifty (50) foot buffer strip. In determining the feasibility of such a width, the Commission may consider the prior use of the specific area as well as other factors such as the topography, size and configuration of the lot and the impact of a setback of the applicant's ability to obtain substantially the view sought or the desired location of the proposed structure. For new construction, in no instance should the "limit of work" area extend into the fifty (50) foot area. Notwithstanding the previous statements, landscaping which includes selective vegetation removal and replacement, and selective pruning, and vista cutting, may be permitted at the discretion of the Commission upon clear and convincing evidence that the wetland values noted above will be protected.

- (3) Between fifty (50) and one hundred (100) feet landward of the resource area, alterations, including construction, will only be permitted where such work can be conditioned by the Commission to fully satisfy the required standards of protection to the wetlands interests identified in the Act and the Orleans Bylaw.
- (4) When considering guidelines for work in the buffer zone, the site specificity and precedence provision enumerated in § 196A-3(K) of these Regulations should be noted.
- (5) Installation of underground utilities (gas mains, water mains, power lines, etc.) within the buffer zone are to be considered as new construction and must be conditioned as such. Any installation within the 50 foot buffer strip of a resource area will require a variance from the regulations.
- (6) When situating a new building or an addition within the 50-100 foot buffer zone, where feasible the structure should be set back at least 75 feet from the resource area to allow for passage between the building and the 50-foot buffer and to avoid the intrusion of lawn in the 50-foot buffer.

D. Buffer strip.

- (1) Goal: The goal of the Commission is to maintain a strip of dense, vegetative cover between the development activity and the resource area to be protected, consisting of indigenous plant materials suitable for the maintenance of wildlife, both flora and fauna.
- (2) Function: A buffer strip serves to provide wildlife habitat, improve water recharge, reduce pollution and erosion and to maintain the natural appearance of our fresh and saltwater shorelines.
- (3) Size of buffer strip:
 - (a) Such a strip shall be a minimum of twenty-five feet (25') in width running along the resource area boundary, unless such width is unreasonable in view of the lot size, placement of an existing structure or such other factors as the Commission may consider.
- (4) The elements of the buffer strip should reflect the indigenous vegetation suitable to the site.
 - (a) Coastal banks should be protected from run off and erosion by planting adjacent areas with at minimum low growing salt tolerant shrubs such as roses (*Rosa virginiana*, *Rosa Carolina*), bayberry (*Myrica pensylvanica*) and beach plum

(Prunus maritime), and/or a border of field grasses mowed only once a year between October and March to a minimum height of 3 inches.

(b) Approval may be granted to maintain dense plantings at the top of a coastal bank at a three-foot height where necessary for view preservation. Fast-growing shrubs such as Rosa rugosa may be pruned to permit regrowth from the plant's base.

(c) Freshwater wetlands should retain their bordering native pond shore shrubs such as blueberry (Vaccinium corymbosum), swamp azalea (Rhododendron viscosum), sweet pepperbush (Clethra alnifolia), inkberry (Ilex glabra) and herbaceous plants that grow on the edge of the wetland and on to the bank; for example, blue joint grass (Calamagrostis canadensis), rushes (Juncus effuses, J. canadensis) and thoroughworts (Eupatorium hyssopifolium, E.perfoliatum).

(d) Where new plantings are permitted in the Order of Conditions, use of organic fertilizers may be allowed. The use of herbicides should be limited but if needed for invasive plant control, a licensed applicator shall be utilized. Consult Barnstable County Extension Service for further details of I.P.M.

(e) Plantings which require heavy watering will not be permitted, particularly adjacent to coastal banks where such watering may result in runoff and erosion.

(f) An access path, not more than four feet (4') wide through the strip may be maintained by such mowing as is required.

(5) Permissible work in buffer strip: While it is the Commission's intent that no work shall occur in this strip, any work which is proposed must meet a higher performance standard than work proposed elsewhere in the buffer zone, and will generally be limited to habitat improvement or vista cutting. Vista cutting is limited to pruning, lifting and clearing as defined below. Habitat improvement is described under G, Wildlife Habitat.

The Commission may require that a buffer strip be created where none presently exists to mitigate past or present construction impacts.

E. Pruning, cutting, clearing and planting.

(1) Cutting, removal, or other destruction of aboveground vegetation within a resource area as defined in § 196A-2 of these regulations or within a buffer strip as defined above shall be limited. If a buffer strip is to be maintained in grasses or as a wildflower meadow, other appropriate vegetation removal may be approved.

(2) Identification of specific view: View clearing in the buffer zone or vista cutting and pruning in the buffer strip or resource area will not be permitted until construction is completed and a specific view identified after occupancy. Applicants are encouraged to consult with the Commission before submitting the appropriate filing and when planning projects that involve the removal or replacement of vegetation in the buffer zone, buffer strip, or resource area.

(3) Buffer Zone and Buffer Strip definitions: As used in this section the following terms shall have the meanings indicated:

CUTTING -- The removal of vegetation.

CLEAR CUTTING -- Removal, to the ground, of all woody vegetation, including mowing of understory brush down to a minimum height of two inches (2").

SELECTIVE CUTTING -- The removal of smaller, weaker, dead and less desirable tree species, leaving the more vigorous and native trees.

VISTA CUTTING -- The removal of vegetation that blocks a view.

PRUNING -- The removal of branches or parts of branches on shrubs and trees.

SELECTIVE PRUNING -- Removal of dead, diseased, obstructing, and weak branches or parts of branches, as well as selective thinning of branches to lessen wind resistance.

LIFTING -- Lifting of the canopy by removing lower limbs from the main trunk.

(4) Criteria

(a) Pruning

When selective pruning of trees is permitted, the removal of such branches shall be as described above for removal of dead, diseased, obstructing and weak branches as well as thinning of branches to lessen wind resistance. When pruning of shrubs is permitted, the shrubs shall retain their natural shape and features such as fruits and flowers by selecting the optimum height for the shrub and pruning

different branches in alternate years. With prior approval, Top of Coastal Bank plantings may be pruned to a minimum of 4 feet yearly.

(b) Cutting

When cutting of live trees for a view is proposed, the Commission will require that pruning and thinning the canopy shall be accomplished first. When cutting is the only viable option in a heavily vegetated lot the Commission may allow the removal of up to 5% of existing trees greater than or equal to (>) 6" Diameter at Breast Height, or 10% of existing trees less than or equal to (<) 6" Diameter at Breast Height in any 3 year period. All trees proposed to be removed must be clearly delineated on-site

Specific specimen trees may be identified by the Commission for preservation.

(c) When removal of fallen or damaged trees is desirable after a storm, the Commission may allow this through either acceptance of DEP issued Emergency Regulations, or through the normal Administrative Review filing procedure. If storm damaged trees provide an immediate risk to the health or safety of residents, Emergency removals can be authorized by the Commission or its Agent.

(d) Dead and diseased trees may be removed if they endanger a structure or live vegetation. Flush cutting rather than uprooting will be required in some cases.

(e) When lifting is proposed, the health of the tree must be considered as well as the impact to wildlife. In no instance shall more than 1/3 of the above ground trunk height be pruned.

(f) Clear cutting of land is prohibited. The only clear cutting within Jurisdiction that shall take place will be for the clearing of land for the construction of buildings with Commission approval.

(g) The Commission may require the replacement planting of native shrubs and trees in areas proposed for tree removal.

(h) When vista pruning/cutting is proposed, the Commission encourages that specific windows of view (containing top, sides and bottom and not devoid of all tree canopy species) be identified and shown on a plan. The Commission prohibits "property line to property line" cutting. Filtered Vistas are encouraged and can be normally accomplished through pruning and lifting, although

topping of trees may be permitted in specific cases. Clear cutting for a view is prohibited.

F. Lawns:

- (1) Preamble. Lawn fertilization can be a major source of excess nutrients that leach into groundwater or are washed off into roads that lead to water bodies causing eutrophication, unwanted algal blooms, oxygen depletion, fish kills and foul odors. The extent of such eutrophication will depend upon the amount of nutrients added and the flushing capacity of the receiving waters. Insecticides and herbicides used to maintain lawns also contaminate our waters. Under the Orleans General Bylaw Chapter 103, the application of nitrogen and phosphorus is prohibited within 100 feet of Resource Areas provided it does not meet one of the allowable exemptions under the General Bylaw.
- (2) Requirements. Grasses with their fibrous root system tend to be excellent stabilizing plants especially on steep slopes. The same factors that affect trees and shrubs also influence the health of grasses.
 - (a) For any lawns that are to be planted within 100 feet of a resource area, a minimum of 4-6 inches of loam is required prior to planting. This will improve conditions for the lawn and also reduce chances of nutrient leaching through the soil.
 - (b) Only hardy species of grass that require little or no fertilizer and those that can tolerate drier conditions are allowed such as a mixture of fescues, rye grasses, etc.
- (3) Herbicide use.
 - (a) Because Cape Cod is such an environmentally fragile area, the Commission suggests limited use of herbicides. When they are absolutely required, the Commission recommends that professional advice be sought and that a licensed applicator must be employed if either herbicides or pesticides are used within Commission Jurisdiction.

G. Wildlife Habitat. See § 160-4 OWPB.

- (1) Preamble: The Commission encourages the preservation of indigenous vegetation for environmental protection and also because of its important function as wildlife habitat. Plants that are sometimes regarded as “trash” species are often used by wildlife for important functions such as nesting, feeding and protective cover sites. For example, fox grape and other vine-

like plants are used as food sources and nesting sites by both native and migratory species. Dead trees, often considered undesirable, are used as nesting and perching sites for a variety of birds and mammals, and as a food source by insect-eating birds. Dense understory in wooded areas may provide nesting sites, travel corridors and protective cover for a wide variety of fauna. In addition to its aesthetic value, wildlife also serves to maintain a natural “checks and balances system” within various ecological communities. A well-known example of this balance is the predation of birds acting to control the populations of various insects.

- (2) Habitat improvement: Different groups of native plants make up various habitats, such as a sand plain grassland or pond shore shrub community. These native plant communities or habitats are often overrun with non-native and/or invasive species such as bittersweet, honeysuckle, bamboo, etc. Although these species may provide some cover and food for some animals, the native wildlife is dependent on the local native plant species that these are replacing. Removing non-native plants and replacing them with native species suitable for each habitat can improve the habitat. Within the 50-foot buffer zone only native non-invasive species may be planted (with the exception of Japanese rose [*Rosa rugosa*] on coastal banks). Non-native non-invasive plants may be used outside the 50-foot buffer zone, though the Commission emphasizes the advantages of using native species well adapted to Cape soils and weather conditions. Supporting a greater variety of wildlife is possible by increasing food sources and providing maximum protection. Both are achievable by providing a full range of plant species types for each vegetation layer: the lower level with groundcovers, grasses and wildflowers; the middle layer with shrubs and small trees; and the upper canopy with large trees. Removal of the shrub layer or lifting all the trees would eliminate food sources, reduce protection and prevent some species from nesting or denning on the site. However, the Commission encourages the removal and replacement of invasive species such as Bamboo, Phragmites, Bush Honeysuckle, Autumn Olive, etc. with native species if it can be shown that such removal and replacement will enhance or protect wildlife habitat.

No landscaping or vegetation plan associated with any application to the Conservation Commission should propose the use of plant species listed on the Orleans Prohibited Plant List, which is available in the Conservation Department. Planting of invasive plants anywhere within the 100-foot buffer is strictly prohibited.

- (3) Presumption of significance:
- (a) The Commission presumes that wildlife will be protected when sufficient open space is left in its natural state to

support the indigenous populations of mammals, birds, reptiles, amphibians, and fish.

(b) The Commission maintains a list of plants recommended for landscaping.

H. Limit of Work. All development activity shall be contained within the Limit of Work as determined by the Commission. The Limit of Work line as shown on the plan is, therefore, a strict limit, and any work outside this line (including pruning and construction staging) will require a new filing.

I. Erosion control.

(1) Methods of erosion control: Planting of appropriate grasses, shrubs and trees and the use of buffer strips, catch basins, dry wells, diversion ditches, contour terraces, stone trenches earthen dams, grassed waterways, etc. are all recognized erosion control measures and are to be utilized in appropriate places considering specific sites.

(2) A fabric silt fence is the preferred method of protecting downside areas from erosion during the construction phase. This erosion control method must be shown on the submitted plan and installed on the contour in order to prevent runoff and erosion. It must be maintained intact until the disturbed area is stabilized and revegetated. Straw bales or straw wattles should only be used to support fabric silt fences in steep terrain or wherever else is deemed advisable to protect the buffer zone. The bales and or wattles must also be maintained intact and the disturbed area must be revegetated as soon as the bales are removed.

(3) The silt fence or straw bale/wattle barrier may also serve to delineate a portion of the limit of work on the site and may be required to confine the construction activity as well as to prevent erosion. These must also be placed on the contour.

(4) Revegetation/mulching requirements.

(a) Any activity that denudes or bares 50 square feet or more of ground surface within 100 feet of a resource area requires immediate seeding of a fast germinating grass such as annual rye grass. Native grass mixes or native groundcovers must be used within 50 feet from the edge of a resource area.

(b) This area must be covered with a light mulch to enhance germination and to assist in prevention of runoff.

(c) Construction sites must have some method of erosion control to prevent sedimentation into roadways as a result of the bare ground.

(d) Erosion control methods may also apply to certain areas outside the jurisdiction of the Conservation Commission. [See § 196A-2B(3).]

§ 196A-8. Estuaries and ACEC's in Orleans.

A. Preamble.

- (1) An Area of Critical Environmental Concern (ACEC) is established under MGL ch. 21A Section 2 (7). Pleasant Bay and Inner Cape Cod Bay have been so designated. The additional 100 feet beyond the 10' contour included with the Pleasant Bay ACEC is important in reducing anthropologic effects to the water body such as siltation from erosion caused by increased runoff from pavement and buildings or pollution from hydrocarbons or pesticides in the runoff. For the same reasons, this additional protection is also necessary for the Inner Cape Cod Bay ACEC. The natural components of both ACEC's include barrier beach systems, dunes and sandy beaches, acres of salt marsh, productive shellfish habitat, large estuaries, anadromous fish runs, floodplain, and extensive areas for boating and swimming. The estuaries are habitat for upland species and waterfowl as well as a spawning and nursery ground for many marine species. The beaches, dunes and marshes protect adjacent upland from storm damage.
- (2) Clean water must be maintained to protect the marine resources as well as the public health of recreational boaters, fishermen and swimmers. The biological productivity of these estuarine systems is sustained by the contiguous salt ponds and salt marshes that contribute large quantities of nutrients, carbon and energy to the coastal food chain. Minimum alteration of the natural features of the ACEC allows them to function at their natural capacity. These undeveloped expanses also contribute to the scenic beauty enjoyed by Orleans residents and visitors.

B. Performance standards.

- (1) The standard of performance that must be met by proposed development activities in an ACEC is "no adverse effect" - 310 CMR 10.24(5).

It is the responsibility of the applicant to show, using credible evidence from a competent source, that the proposed activity will have no adverse effect, either immediate or cumulative, on the ACEC Resources.

In areas located outside the Jurisdiction in 196A-2, that are mapped within the ACEC by the State, activities or alteration not requiring a State permit shall not be subject to the regulation under 196A.

- (2) Since the Nauset/Town Cove estuary, and the 100' buffer to the Inner Cape Cod Bay ACEC share all the same characteristics of both Orleans ACEC'S, the Commission shall apply the same performance standard of no adverse effect to these areas, provided that, the areas are within the jurisdiction of 196A-2.

§ 196A-9. Land subject to flooding or inundation by groundwater or surface water.

This section 310 CMR 10.57 is incorporated subject to the changes below.

A. Preamble.

(1) State regulations at 310 CMR 10. 57 (3) (b) (1) read "Isolated Land Subject to Flooding is an isolated depression or a closed basin which serves as a ponding area for runoff or high groundwater which has risen above the ground surface." Section 10.57(2)(b) reads "Isolated Land Subject to Flooding is an isolated depression or closed basin without an inlet or an outlet. It is an area which at least once a year would confine standing water to a volume of at least ¼ acre-feet and to an average depth of at least six (6) inches."

(2) Rationale for the change in size in these regulations (see below) is the many small flooding areas which provide filtration and recharge of runoff into the groundwater and the many kettle holes characteristic of Orleans which at times intersect the water table but which are often considerably smaller than the area protected by state regulations. Many of these kettle holes as well as our small ponds, are, or may be, connected hydrologically. With growing concerns about the quality and quantity of our water supply and the quality of our surface waters, the Commission believes a greater degree of protection for isolated land subject to flooding is appropriate until further information proves otherwise.

(3) Greater protection will also be provided for many small but significant areas of wildlife habitat which provide seasonal wetland habitats and essential breeding sites for certain amphibians requiring isolated areas that generally flood in the spring and/or summer. Many birds, reptiles and mammals also depend upon these wetlands as a source of food, shelter and breeding habitat. Such wildlife and its habitat also contribute to our recreational and aesthetic enjoyment.

- B. Definition. Isolated Land Subject to Flooding (ILSF) is a depression or closed basin without an inlet or outlet, which serves as a ponding area for runoff of fresh water or for high groundwater which, because of an elevated water table, has risen above the ground surface. ILSF is land which at least once a year, except during periods of drought, confines standing water to a volume which would cover no less than 650 square feet at an average depth of two inches.
- C. Boundary. The boundary of an area of land subject to flooding shall be determined by one or more of the following, depending upon the availability of information. Where more than one method is possible, the method leading to the largest area shall be used. That boundary shall be:
- (1) The line enclosing that area having a vegetative cover of 50% or more of freshwater species as defined in § 196-4 of these regulations or
 - (2) The line enclosing the largest observed or recorded area of water confined in said area, or
 - (3) The area calculated to be inundated by runoff from the 100 year storm. Such calculation shall be done in accordance with 310 CMR 10.57 (2)(b)(3).
- D. Presumption. Where a project involves removing, filling, dredging or altering of land subject to flooding (both bordering and isolated areas) the Commission shall presume that such an area is significant to the following interests specified both in § 196A-1A of these regulations and 310 CMR 10.57(1)(a)(b): public and private water supply and quality, groundwater supply and quality, flood control, prevention of pollution, wildlife habitat and to the interests of aesthetics and recreation.
- E. Performance standards. A proposed project that may result in alteration of an isolated wetland shall not result in the following:
- (1) Flood damage due to filling which causes lateral displacement of water that would otherwise be confined to such area.
 - (2) An adverse effect on public or private water supply or groundwater supply, where such area is underlain by pervious material.
 - (3) An adverse effect on the capacity of said area to prevent pollution of the groundwater, where the area is underlain by pervious material which in turn is covered by a mat of organic peat, or muck or vegetation.

- (4) An impairment of its capacity to provide for wildlife habitat, including seasonal wetlands (vernal pool) habitat as determined by § 196A-4 of these regulations.

§ 196A-9A. Land Subject to Coastal Storm Flowage

A. Preamble.

Land Subject to Coastal Storm Flowage – including but not limited to coastal beaches, salt marshes, banks, barrier beaches, salt ponds, dunes, land containing shellfish, land under the ocean, and banks of and land underlying fish runs – is important for the protection of public and private water supply, groundwater and groundwater quality, flood control, erosion and sedimentation control, storm damage prevention, water pollution prevention, wildlife habitat, fisheries, shellfish, and to the interests of aesthetics and recreation.

Land Subject to Coastal Storm Flowage extends from mean low water to the calculated extent of a 100-year storm. During extreme high tides and hurricanes the ability of the land to absorb flood waters is important to buffer inland areas from flood and wave damage. The more gentle and permeable a seaward-sloping land surface is, the more effective that land surface is in reducing the height and velocity of incoming storm waves. Dredging of land subject to coastal storm flowage has the potential of allowing storm waves to break further inland and to impact other areas which might not otherwise be affected. Filling of land subject to coastal storm flowage is likely to cause displacement of flooding consequences to other areas.

Those portions of coastal floodplains which are immediately landward of salt marshes, coastal beaches, barrier beaches, coastal dunes, or coastal banks, require special protection. As sea level rises, these areas will be inundated more frequently by storm and tide. Activities carried out within these traditional areas may interfere with the natural landward migration of the adjacent coastal resource area.

B. Presumption.

Where a project involves removing, filling, dredging or altering land subject to coastal storm flowage, the Commission shall presume that such an area is significant to the following interests specified both in §196A-1B of these regulations and 310 CMR10.57 (1)(a)(b): the protection of public and private water supply, groundwater and groundwater quality, flood control, erosion and sedimentation control, storm damage prevention, water pollution prevention, wildlife habitat, fisheries, shellfish, and to the interests of aesthetics and recreation.

C. Performance Standards.

A proposed project that may result in alteration of land subject to coastal storm flowage shall not cause or create the likelihood of the following:

- (1) Reduction in the ability of the land to absorb and contain waters.
- (2) Reduction in the ability of the land to buffer more inland areas from flooding and wave damage.
- (3) Displacement or diversion of flood waters to other areas.
- (4) Damage to other structures or property.
- (5) Pollution of groundwater, surface water, or salt water.
- (6) Reduction of an area's capacity to provide for wildlife.
- (7) An increase in the elevation or velocity of flood waters.
- (8) Prevention of the migration of resource areas such as salt marshes due to sea level rise.

ARTICLE IV
Specific Activities Regulated

§ 196A-10. Preamble to Article IV

Under the Bylaw, activities in the following areas are subject to conditions by the Commission. The complexity of these activities warrants the specific requirements set forth below.

§ 196A-11. Docks and Piers

A. Preamble.

- (1) For the most part, docks provide private, not public, access to resources which are, themselves, public, and upon which dock construction and use impacts are adverse. Docks and piers are also subject to Orleans Zoning Bylaws.
- (2) These adverse impacts cover a broad range. Turbulence and prop dredging generated by boat traffic to and from docks significantly increase turbidity levels that block sunlight necessary for the photosynthetic processes upon which the productivity of our waters depend. Suspended sediments cover shellfish habitat, smothering existing shellfish and

altering the quality of the sand bottom essential for spat (mollusk larvae) settlement. Dock structures alter the circulation patterns that affect shellfish settlement. Prop dredging in near shore areas destroys shellfish habitat. Boat traffic generated from docks adds to this disruption and causes erosion of banks and marshes.

- (3) Marshes, which provide the food chain for many species of sport and commercial fish and shellfish as well as other wildlife, are also affected. The shaded conditions docks produce can cause a decrease in plant height, population density and leaf thickness as well as alteration of species composition. Reductions in plant density result in loss of sediment normally trapped by roots and culms. Tidal washouts and localized depressions result which concentrate salt through evaporation of trapped water preventing recolonization by the original vegetation. The marsh's ability to absorb wave energy as well as the marsh's contribution toward maintaining ground and surface water quality is also adversely impacted. Displacement of marsh areas by dock pilings and the area immediately surrounding them results in marsh loss. This loss can be substantial when the cumulative impact of increasing numbers of docks is considered.
- (4) Docks also impact recreational interests by restricting areas where boating may freely occur.
- (5) Cumulative impacts of dock proliferation 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.

B. Presumptions: Docks are one of the few activities which come before the Commission for regulation which occur entirely within resource areas, i.e. beaches, flats, salt and freshwater wetlands, land under both salt and fresh water bodies, land subject to tidal action, to flooding and to coastal storm flowage. Collectively, these resource areas are presumed significant to all the interests protected under the Act and the Orleans Wetlands Protection Bylaw, Chapter 160. Furthermore, almost without exception, docks occur in ACEC's or in the Town Cove/Nauset estuary system where the performance standard requires that there be no adverse impact upon the interests protected by the Act and Orleans Bylaw.

C. Pleasant Bay Resource Management Plan. The Pleasant Bay Resource Management Plan, which has been approved by the Commonwealth of Massachusetts and adopted by the Town of Orleans, provides a framework for state and local permitting of docks and piers in Pleasant Bay. The plan concludes that a significant portion of the shoreline of the ACEC is resource sensitive and not appropriate for siting new docks and piers. In the remaining

areas of shoreline within the ACEC, the plan calls for revised standards and criteria to be used in evaluating proposals for docks and piers.

The resource assessment incorporated into the Pleasant Bay Resource Management Plan concludes that the areas listed below are extremely resource-sensitive and therefore are not appropriate for siting new private docks and piers. The resource management plan recommends that the construction of new private docks and piers or the extension of existing private piers be prohibited in these areas.

This recommendation does not apply to existing licensed piers or the maintenance of existing licensed piers.

- (1) Quanset Pond, from the westerly boundary of the property with Map and Parcel Number 93-9 to the easterly boundary of the property with the Map and Parcel Number 93-12.
- (2) On the Northside of Big Pleasant Bay and through the Narrows, from the westerly boundary of the property with Map and Parcel Number 93-17 to the northerly boundary of the property with Map and Parcel Number 89-11, and the Western shore of Sipsons Island from the northerly boundary of the property with Map and Parcel Number 94-7 and all contiguous properties running counterclockwise to the southerly boundary of the property with Map and Parcel Number 94-10.
- (3) From the entrance channel of Paw Wah Pond beginning at the southerly boundary of the property with Map and Parcel Number 76-16, and continuing through the River Complex to the southerly boundary of the property with the Map and Parcel Number 64-7, including Paw Wah, Arey's and Meeting House Ponds, the Namequoit River and The River.
- (4) Pochet Inlet, from the southerly boundary of the property with Map and Parcel Number 65-02 and continuing Northward to the southerly boundary of the property with Map and Parcel Number 52-11, and including the Eastern Shore of Pochet Inlet.

The Pleasant Bay Resource Management Alliance has adopted standards for applications for new docks and piers. The considerations resulting in these standards have equal application to the Inner Cape Cod Bay ACEC and to Town Cove/Nauset Estuary which, under these regulations, is treated as if it were an ACEC.

D. Requirements.

- (1) The dock is located more than 500 feet from any other dock to which the owner has or can obtain legal access.
- (2) The dock location is not within a shellfish area identified by the Orleans Shellfish Constable or within shellfish habitat as defined in the Bylaw. No project which would require removal and/or replanting of shellfish in an ACEC will be permitted (310 CMR 10.34).
- (3) The depth of water at the dock's seaward end is at least 2.5 feet at all times and is of sufficient depth to be navigable with or without a motor at mean low tide without prop dredging or other disturbance of the bottom except that caused by poling or walking.
- (4) The dock shall not impinge upon any channel used by either commercial or recreational boaters and shall not impede navigation in any other way.
- (5) The dock is seasonal in construction.
- (6) The structure does not impede legitimate passage for fishing, fowling and navigation and sufficient open water is maintained to sustain a variety of activities including but not limited to fishing, swimming and sailing.
- (7) The landward approach to the dock must not harm the vegetation on the marsh or bank.
- (8) The project is the least intrusive structure which will meet the applicant's goals but will also be the most protective of the wetland resources and values. The applicant must show that all alternatives to the proposed structure have been thoroughly investigated and that the proposed structure will provide at least as great protection to the wetland values cited herein as a less intrusive alternative or the greatest protection to the wetland values cited in the Act and the Bylaw. These alternatives include but are not limited to the use of an offshore mooring with dinghy access, dock sharing, use of a town dock, reduction in the size of the structure, use of a haul rope and the no build alternative.
- (9) Where possible the proposed structure should serve several lots if by so doing it reduces the total number of structures along the coast and does not increase the density of use which would otherwise obtain. Town docks are exempted.
- (10) The structure must meet the following criteria:
 - (a) It shall not exceed eighty (80) feet in overall length, including stairs, ramps and floats, measured from mean high water.

- (b) It shall not exceed four (4) feet in width as measured from the outside of the structure.
 - (c) It shall not exceed a height of four (4) feet above mean high water.
 - (d) Pilings shall not exceed 4x4 inches and shall be spaced at least eight (8) feet apart.
 - (e) There shall be a minimum of one inch spacing between deck planks.
 - (f) The float size shall not exceed three hundred (300) square feet in area and a "T" configuration of the pier and float will be preferred.
 - (g) Docks should be sited perpendicular to the coastal bank and, where possible, a north/south orientation will be preferred.
 - (h) Docks must be erected no closer than fifty (50) feet from existing boating channels, mooring areas or eelgrass beds.
 - (i) Docks must be set back at least fifty (50) feet from the property line, except that docks shared by contiguous properties must be at least fifty (50) feet from the outermost boundary of the contiguous properties.
 - (j) No docks should be closer than two hundred and fifty (250) feet from the nearest dock or boat ramp.
 - (k) Use of non-leaching treated materials is encouraged to prevent the profusion of broken-off, rotted pilings. Installation shall be by boat or floating barge and shall be in accordance with a design and installation plan prepared by a licensed engineer.
- (11) For any dock permitted herein, the applicant must also receive appropriate licenses from the Commonwealth of Massachusetts and the U.S. Army Corps of Engineers. Proof of such licenses shall be forwarded to the Commission before a Certificate of Compliance will be issued.
- (12) The following special conditions will be applied to all docks:
- (a) Human habitation, toilets and the storage of gasoline, oil, grease or other pollutants on any portion of the dock will not be permitted.

- (b) No lighting will be permitted.
 - (c) No commercial activity will be conducted on the dock without the prior approval of the Commission.
 - (d) The dock shall be removed before December 1 and not be re-installed before April 1. Storage of dock components shall be in a location shown on an approved plan.
- E. Determination of potential shellfish habitat. In areas where it is unknown if the area is likely to be a habitat for shellfish, the applicant may be required to submit evidence of shellfish populations based on a shellfish survey conducted by a qualified shellfish biologist. Survey shall include existing populations of all sizes of commercially important species of shellfish (clams, quahogs, scallops, mussels) and shall also include other species of mollusks that may determine predator/prey relationships and food preferences (i.e. filter feeders or deposit feeders). The presence of these species may indicate the capacity of an area to support commercially important species. The survey shall also include a description of shell fragments to the best extent possible and the survey must also include references to historical information regarding presence or absence of shellfish species.
- F. Maintenance of docks and piers.
- (1) Replacement of decking, stringers and railings, ramps or floats will be permitted, in accordance with approved plans on file, as a routine matter. Replacement of pilings, pipes, or other components in the ground will require the filing of a Request for Determination of Applicability. Any construction not in accordance with plans on file will require a Notice of Intent.
 - (2) Maintenance of unlicensed docks and piers will require the filing of a Notice of Intent. Applicants should be aware that the Commonwealth of Massachusetts has the authority to remove any dock that was not properly licensed by October, 1995.
 - (3) Reinstallation and repair of seasonal docks will be permitted as a matter of course and will require no filing.
- G. Alteration of licensed docks. For any dock licensed by the DEP and approved by the Town of Orleans, any enlargement in height, total footprint including but not limited to addition of size or number of floats, or any movement of the structure relative to its shoreline position, will require the filing of a Notice of Intent. Changes to the dock must be acceptable to the DEP under the existing license or a new license must be requested and approved before making

changes to an existing dock. If a new license is requested the dock must meet all current regulations for docks

H. Licensing of docks and piers.

(1) All existing permanent and seasonal docks and piers in the Town of Orleans must also be licensed by the Massachusetts DEP Division of Waterways, Chapter 91 licensing procedure and by the U.S. Army Corps of Engineers and must also have a valid Order of Conditions from the Orleans Conservation Commission and the DEP. Owners of unlicensed docks and piers must have filed a Notice of Intent by September 30, 1996.

(2) Amnesty Licensing: Under the amnesty licensing procedure for all unlicensed docks, either in or outside of an ACEC, a Notice of Intent shall be required accompanied by an engineered plan and providing the information required in the "EOEA Pier Guidelines Checklist" and in the list of submission requirements prepared by the Orleans Conservation Commission. The engineered drawing is to be on the dock as it presently exists. The only changes in an existing dock design that the Commission will consider are those which reduce the scope and impact of the project.

(3) Interim licensing: Interim licensing must meet the same requirements listed above under amnesty licensing unless the applicant can show that the dock is of such minimal proportions and impact that a lesser application will suffice to provide the Commission with adequate baseline information on the dock's structure, its location and its environmental impacts.

(4) Section 196A-8B of these regulations sets specific performance standards for ACEC's and adds the Nauset/Town Cove estuary as requiring no adverse impact on the resources.

(5) Approval of existing unlicensed or licensed docks or new docks: Approval and issuance of an Order of Conditions for an unlicensed dock, even if existing, is not guaranteed and the Commission will consider the structure under current regulations. Approval of a licensed dock will take into consideration the Ch. 91 license, but where the Commission finds egregious environmental impacts such as loss of shellfish habitat or prop scour or the structure is clearly over-designed, the Commission may deny the project and require its removal or alteration. An applicant will have the burden of demonstrating by a preponderance of credible evidence that there will be no adverse effect either immediate or cumulative.

§ 196A-11.1 Walkways

A. Definition and General Restrictions

- (1) A walkway is an elevated or at-grade structure used as a walkway to traverse fresh or salt meadow, marsh, bank, dune, or beach. It differs from a dock in that it begins and terminates above mean high water, even though it may cross over a point that is below mean high water.
- (2) A walkway may not be attached to a float or structure which would facilitate its use by boat.
- (3) A walkway may not be permitted in the future as a pier or a dock unless it meets all the criteria for a new dock.

B. Performance Considerations

A walkway may be permitted in cases where it can be demonstrated to improve the condition of a resource area and when such demonstrated improved condition exceeds the benefit that could be reasonably expected from a restoration effort; or where it can be demonstrated that irreparable erosion and destabilization of a resource area would result from informal access. The owner of the property on which the structure is proposed should submit for review a Notice of Intent and any other required applications, including clear delineation of property boundaries. In demonstrating the potential improved condition of or preventive benefit to the resource area, the following potential impacts must be considered:

- (1) The extent of existing erosion or degradation of vegetation or substrate resulting from foot traffic must be evaluated. Reasonable efforts to regenerate damaged resource areas should be fully explored.
- (2) The presence or absence of habitat must be determined. There should be no loss or degradation of habitat for shellfish, finfish, birds, reptiles or other animals, or of fish runs resulting from the proposed structure.
- (3) There should be no detrimental impacts on vegetation caused by the proposed structure.
- (4) There should be no significant alteration in wind patterns and littoral processes resulting from the proposed structure.
- (5) There should be no undue detriment to public views resulting from the proposed structure.

- (6) There should be no loss or degradation of public access opportunities resulting from the proposed structure.
- (7) There should be no other detrimental impact caused by the proposed structure.
- (8) The cumulative effect of the proposed structure must be considered. Cumulative effects are the combined effects (B)(1) through (B)(7) of all existing structures within the same resource system.
- (9) Impacts on the resource from the use of the proposed structure must be determined. The frequency, volume and intensity of use must justify the need for the structure. Shared use structures are to be encouraged as a means to provide access to the shore while minimizing the number of structures that might otherwise be permitted.

C. Design Standards for Walkways

- (1) **Setbacks.** Setbacks from property lines and structures provide a way to reduce density, and the associated intensity of impacts on resource areas, and to encourage shared use structures.

A walkway should be located where it will have the least impact on or can improve the condition of a resource area. A setback of one hundred, but no less than fifty, feet from the property boundaries is preferred unless the structure will be owned and used by two or more contiguous property owners. In such cases the setback requirement may apply to the outermost boundaries of the two or more contiguous properties so that the structure may be placed on a shared property line.

The structure must be at least 500 feet from another structure to which the owner has or can reasonably obtain legal access.

- (2) **Height & Width.** The height of the structure at all points above the marsh shall be equal to or exceed the width of the deck. For the purpose of this condition, height shall be measured from the marsh substrate to the bottom of the longitudinal support beam. The height shall not go above three feet or below one foot as measured from the substrate or, in the case of a creek, mean high water. The laying of planks directly on the ground or substrate is prohibited.

The height of a structure is necessary to allow sufficient light penetration to underlying vegetation, and to prevent storm damage. The height maximum is to protect the natural appearance of the resource area. Similarly, the width limitation is intended to limit adverse impacts on vegetation.

- (3) Plank Spacing. No less than three-quarter inch spacing is required between planks to allow light penetration for vegetation. Alternate decking material may be used if it provides a similar or greater degree of light penetration.
- (4) Pile Size and Spacing. Piles shall not exceed 4 inches x 4 inches and should be spaced a minimum of eight feet apart to minimize the impact of installation to the underlying substrate. The use of helical or other alternate technology pilings, or seasonal stub piles, that can be demonstrated to minimize impacts on the substrate, should be encouraged.
- (5) Railings. The use of railings should be avoided unless a need can be demonstrated or to conform to the applicable building code.
- (6) Orientation. A north to south orientation of the structure results in maximum sunlight penetration to underlying vegetation, and is preferred wherever feasible.
- (7) Seasonal installation is encouraged. Permanent 4 x 4 stub piles with removable planks or sections are preferred to prevent storm damage to the structure and potential impacts from storm debris on the adjacent marsh area. The term "seasonal" is intended to mean six months or, generally, May 1 through October 31. Permanent structures may be permitted in cases where the structure will be used consistently year-round, or in cases where more than one property owner is sharing use of the structure.
- (8) Materials. Use of building materials that do not leach pollutants into the aquatic ecosystem are preferred over CCA-treated lumber. Use of treated materials is allowed because they minimize the incidence of rotting in structures. Creosote-treated lumber is prohibited.
- (9) Installation. Installation should be accomplished with minimal disturbance to surrounding soils or vegetation, using methods in the applicable Order of Conditions, as determined on a case-by- case basis. A design and installation plan approved by a licensed engineer or surveyor is preferred.
- (10) Storage. All removable portions of seasonal structures must be removed using practices that minimize impacts on the resource, and be stored outside the resource area unless otherwise specified in the applicable Order of Conditions.
- (11) Lighting. No electric lighting will be permitted.

D. ACEC - In an ACEC the "no adverse effect" performance standard shall apply.

§ 196A-11.2 Docks in a Freshwater Resource Area

A. Definitions

(1) A dock in a freshwater resource area is an elevated structure used to access the water beyond the shoreline.

Note that a walkway which is located above mean annual high water in a freshwater resource area should not be allowed to have affixed to it a float or raft that would extend the use of the structure below mean annual high water where it could function like a dock without meeting the requirements contained within this regulation.

(2) Freshwater resource areas encompass, but are not limited to, all ponds, great ponds, rivers, intermittent streams, and Bordering Vegetated Wetlands (BVW). Some of these resource areas may be brackish through connections to saltwater bodies. Shoreline structures that are proposed below Mean High Water within Great Ponds must obtain a Chapter 91 License from the Massachusetts Department of Environmental Protection (DEP).

B. Performance Considerations

All naturally formed ponds and lakes on Cape Cod are groundwater fed and therefore the presumption is that a pond or lake is a Coastal Plain pond with characteristics including concentric bands of coastal plain pond vegetation, gentle sloping shoreline, and fluctuating water level. Therefore, a new or expanded dock in a freshwater resource area may only be permitted in cases where an improvement to the condition of the resource area can be demonstrated and when such demonstrated improved condition exceeds the benefit that could be reasonably expected from a restoration effort. This presumption can be overcome using verifiable evidence from a credible source. A dock may be approved where it can be demonstrated that irreparable erosion and destabilization of a resource area would result from informal access.

New or expanded structures are not allowed if any of the following criteria apply:

- (1) The presence of rare, endangered or threatened species has been documented within 100 feet of any portion of the proposed structure.
- (2) Where in the judgment of the Commission the small size of the water body or the proximity of reasonable access alternatives makes a structure unnecessary;

- (3) Where in the judgment of the Commission a structure is unnecessary to protect and maintain wetland resources, and particularly the exemplary habitat communities and BVW noted above.

In the event that none of the foregoing criteria apply, a proponent must be able to demonstrate to the satisfaction of the Commission that the proposed structure is able to meet the following performance criteria:

- (4) There should be no adverse effect on, loss or degradation of habitat for shellfish, finfish, birds, reptiles or other animals, or of fish runs resulting from the proposed structure.
- (5) There should be no adverse effect on submergent or emergent vegetation or BVW caused by the proposed structure.
- (6) There should be no adverse effect on water circulation patterns caused by the proposed structure that could result in a decrease in water quality.
- (7) There should be a sufficient depth of water at the terminus of the proposed structure to prevent damage to emergent or submergent vegetation.
- (8) There should be no adverse effect on the visual character of the shoreline area resulting from the proposed structure. To the extent practicable, applicants should apply the methodology for assessing visual impacts described in the Cape Cod Commission's Visual Impact Assessment Technical Bulletin.
- (9) There should be no adverse effect on public access opportunities resulting from the proposed structure.
- (10) The cumulative effect of the proposed structure should not result in an adverse effect on wetland resources. Cumulative effects are the combined effects (4 through 9) of all existing structures within the same water body.

C. Supporting Documentation

In order to assess the applicability of any of the criteria noted above, the proponent must provide all required applications and supporting documentation, including clear delineation of property boundaries, to the Commission. Documentation should be provided to address the site conditions described below.

1. Existing Conditions: The slope and vegetative survey of terrain from Observed Mean Annual Low Water to the upland edge of Bordering Vegetated Wetland (BVW) (as defined in 310 CMR 10.55) should be evaluated. The extent of existing erosion or degradation of vegetation or substrate (underlying soils) resulting from foot traffic must be evaluated. Reasonable efforts to regenerate damaged resource areas should be fully explored and documented.

2. Characterization of the Water Body: The size (acreage) of the water body should be documented. Observed Mean Annual High Water and Observed Mean Annual Low Water should be documented based on measurements, taken between April 15th and May 15th and between August 15th and September 15th, respectively, and provided to the permit granting body along with groundwater and precipitation data for the year of measurement and the preceding nine years, so that the Commission may determine how characteristic these measurements are of annual levels. Topography and depth of water should be shown in one-foot contours from the upland edge of the BVW to five feet beyond the terminal point of the proposed structure.

3. Wildlife Habitat: The presence or absence of wildlife habitat must be determined. A comprehensive inventory of fish and wildlife, including fisheries, shellfisheries, reptiles, amphibians and other wildlife located within fifty feet laterally from any edge of the proposed structure, conducted by a qualified professional, should be provided.

4. Vegetation in Wetlands: A comprehensive inventory of emergent and submergent vegetation and BVW fifty feet laterally from any edge of the proposed structure, conducted by a qualified professional, should be conducted during the growing season and provided.

5. Rare and Endangered Species: Given the delicate and migratory nature of some rare species, the presence or absence of rare or endangered species must be determined through a site survey by a qualified professional. Copies of notice to the Massachusetts NHESP and all responses to the notice from NHESP are required.

6. Monitoring: Photographs of the surrounding area should be taken before and after initial installation, and on an on-going basis to be determined by the Conservation Commission and specified in the Order of Conditions.

7. Use: Impacts on the resource from the use of the proposed structure should be determined. The type, frequency, volume and intensity of use must justify the need for the structure. Secondary impacts (II.4 through II.9) should be evaluated to determine impacts from use. "Shared-use" proposals (i.e., a single structure jointly owned and used by two or more waterfront property owners) are generally to be encouraged as a way of providing access to the water body while reducing the overall number of structures that might otherwise be permitted.

D. Design Standards for Docks in Freshwater Resource Areas

The general performance standard for Docks in Freshwater Resource Areas shall be the same as in an ACEC, "no adverse effect". In general, a proposed structure should

be designed and constructed so as to cause no adverse effect on the local Resource Area ecology, including but not limited to, wildlife, fisheries, and BVW.

In all cases, structures should be designed to minimize the overall size wherever possible. No structure should be allowed that is designed to accommodate vessels that are not feasible or allowed in the body of water where the structure is proposed.

1. Width: The width of the structure should not exceed 3 feet at any point.
2. Length: The length of the structure should be the minimum needed to reach minimum required water depth (see D. below) and clear emergent vegetation. In cases where additional walkway access is warranted to traverse BVW, such additional walkway area should be designed pursuant to *Guidelines for Private Walkways and Stairways in Fresh and Marine Resource Areas In Pleasant Bay*.
3. Height: The height of the structure should be no less than two and one-half feet, above the existing grade of the BVW or Land Under Water as measured from the bottom surface of decking.
4. Water Depth: Water depth at the terminal end of the structure should be at least one (1) foot. For water bodies that allow motorized vessels there should be a terminal water depth of 2.5 feet.
5. Total Area: The total area of the walkway and dock structures should be the minimum needed to meet performance standards.
6. Orientation: Structures should be designed to be located as close to perpendicular to the shoreline as possible. If this requirement cannot be met, the structure should have a grated or transparent surface to allow light penetration. Structures should be designed to have a north-to-south orientation whenever possible. Structures with an east-to west orientation should have a grated surface to allow maximum light penetration.
7. Setbacks: Structures should be located a minimum of 50 feet from any property line, as measured from the nearest edge of the structure, and should be a minimum of 250 feet from any pre-existing shoreline structure or town- or association-owned landing. Setback requirements may vary for structures shared by two or more property owners, provided that setback requirements for non-participating property owners are maintained.
8. Seasonality: All structures should be seasonal in nature and should be installed no earlier than May 1st and removed no later than November 1st. All seasonal components should be securely stored at an upland site that is approved by the Conservation Commission.
9. Pile Size and Spacing: Pilings, if used, should be four inches by four inches and should be spaced eight feet apart unless the dock is shorter than eight feet. Some

innovative design technologies, if used, may not require pilings. However, if pilings are used they should be driven to refusal; no pilings may be jetted.

10. Materials: Lightweight materials, such as aluminum, are preferred for their easy removal. Grated surfaces are preferred, to allow maximum light penetration. If planks are used, spacing should be a minimum of ¾ inches.

11. Handrails: Docks should not have handrails unless a compelling safety issue or code requirement necessitates their use.

12. Utilities: No utilities or lighting should be allowed on the structure.

13. Storage of Hazardous Materials: Storage of gasoline, oil, grease, pollutants or other hazardous materials on the structure should be prohibited.

14. Innovative Structures: Innovative structures and materials that can be demonstrated to have less impact on natural resources and public safety than traditional docks may be considered.

§ 196A-12. Coastal Erosion.

A. Preamble.

Coastal banks are likely to be significant not only to the interests protected under state law, i.e. storm damage prevention and flood control as cited in 310 CMR 10.30, but to other wetland values protected under the Orleans Bylaw (§ 160-1) i.e. erosion and sedimentation control, fisheries, shellfish habitat, wildlife habitat, recreation and aesthetics. There are adverse impacts on these protected interests when the coastal shoreline is cut off, by revetments or other erosion control measures, from the natural systems of which it is a part.

Among these adverse impacts can be loss or lowering of beaches, or deprivation of bank sediment which would normally be moving in the littoral drift. Limited or altered access along the shoreline impacts hunting, fishing and passive and active recreational opportunities. Wildlife habitat is also destroyed or affected when natural bank vegetation is altered. The aesthetic value of a natural shoreline may also be substantially reduced.

Loss of sand from previously eroding banks may result in the gradual drowning of marshes and changes in shellfish habitat and fisheries, as well as loss of nutrients to these resources. Also marshes which would normally follow an eroding and retreating coastal bank can be blocked by erosion control measures, and their continued growth and health limited.

B. Presumptions:

- (1) When a proposed project involves dredging, removing, filling or altering a coastal bank, the Conservation Commission shall presume that the area is significant to the interests protected under the Orleans Bylaw. This presumption may be overcome by clear and convincing evidence that a coastal bank does not play a role in the protection of these interests and if the Orleans Conservation Commission makes a written determination to that effect.
- (2) The Commission further presumes a coastal bank is significant to storm damage prevention and flood control both because it is a vertical buffer to stormwaters and because it supplies sediment to coastal beaches, coastal dunes or barrier beaches. This presumption can be overcome only by a clear showing that a coastal bank does not play a role in the protection of one or more of these interests. This showing may include but may not be limited to studies of bank composition, erosion rate, destination or eroding materials and historical data.

C. Coastal banks significant to storm damage prevention and flood control as vertical buffers and as sources of sediment to coastal beaches, dunes and barrier beaches:

Where a coastal bank is significant to storm damage prevention and flood control, both because it is a vertical buffer to stormwaters and because it supplies sediment to coastal beaches, dunes, or barrier beaches, no new bulkhead, revetment, seawall, groin, or other Coastal Engineering Structure shall be permitted on such coastal bank except that the Orleans Conservation Commission has the discretion to permit such structure if, in its judgment, such structure is required - and there is no reasonable alternative method of protection - to prevent storm damage to buildings constructed prior to August 10, 1978 [see 310 CMR 10.30(3)] and buildings reconstructed subsequent to that date but prior to the adoption of these regulations, unless the Orders of Conditions under which such reconstruction was performed contain a prohibition against construction of such a structure including but not limited to bulkhead, revetment or seawall.

D. Coastal banks significant to storm damage prevention or flood control as vertical buffers to storm waters:

Where a coastal bank is determined to be significant to storm damage prevention or flood control solely because it is a vertical buffer to stormwaters, and such bank is not found to be significant to storm damage prevention or flood control because it supplies sediment to coastal beaches, dunes, or barrier beaches, the Orleans Conservation Commission may, but is not required to do so, permit construction of bulkheads, revetments, seawalls, gabions, groins, or other

Coastal Engineering Structure that is designed to alter wave, tidal, or sediment transport processes in order to protect inland or upland structures from the effects of such processes provided that such structures qualify for protection under 196A-12.H or 196A-12.I.

- E. Conditions governing new construction within 100 feet of the top of a coastal bank:

The Order of Conditions and the Certificate of Compliance for any new building within 100 feet landward of the top of a coastal bank permitted by the issuing authority under MGL c. 131. 40, or the Orleans Wetlands Protection Bylaw and these regulations, shall contain the following specific condition: “No Coastal Engineering Structure, shall be permitted on an eroding bank at any time in the future to protect the project allowed by this Order of Conditions.”

- F. Definitions. As used in this Section, the following terms shall have the meanings indicated:

BUILDING -- The term building includes dwellings and structures essential to commercial operations. The term does not include tennis courts, boathouses, outbuildings, etc. protection of which will be considered on a case by case basis.

COASTAL ENGINEERED STRUCTURE (CES) – Means, but is not limited to, any breakwater, bulkhead, groin, jetty, revetment, seawall, weir, riprap, gabions, or any other structure that is designed to alter wave, tidal, or sediment transport processes in order to protect inland or upland structures from the effects of such processes, which shall also include gabions or other structures that effect these processes.

DISTANCE OF THE BUILDING FROM THE TOP OF THE BANK -- That distance from the top of the bank to the foundation of the building, not to include decks or foundations or footings under decks.

NEW BUILDING -- A new structure, or one of which over 25% of the structure measured by square footage of the foundation, or cubic footage of the structure, has been altered or rebuilt. This definition is applicable only to construction commenced on the date of the adoption of these regulations and thereafter.

STRUCTURES :

SOFT STRUCTURE – An erosion control solution comprised entirely of biodegradable materials designed to stabilize a bank and slow the rate of erosion without significantly altering wave, tidal or sediment transport processes and with minimal increase to the existing slope of the bank. Soft structures may include the use of fiber rolls, sand, and/or sandbags,

and should be stabilized with plantings of indigenous vegetation as soon as practicable to minimize further erosion.

HARD STRUCTURE -- Permanent bulkheads, revetments, seawalls, gabions, groins, or other Coastal Engineered Structures (CES).

G. General guidelines.

- (1) The Conservation Commission puts emphasis on allowing a Coastal Bank's natural processes to continue for as long as possible before Coastal Erosion controls are applied for.
- (2) Coastal Engineered Structures (CES) may be permitted only after the applicant has shown there are no feasible alternatives. The applicant may be required to show that alternatives, such as soft structures, have been tried and failed.
- (3) Coastal Engineered Structures (CES) must be as low and short as consistent with toe protection. Structures designed for complete protection against catastrophic storms, and lot line to lot line protection will be closely scrutinized.
- (4) A "return" must be designed to avoid end scour on neighboring land and to prevent flanking of the structure. The Commission shall require that the return be setback from the applicant's lot line to prevent accelerated erosion on the abutter's property.
- (5) Multiple projects: Where submitted jointly, these guidelines will be applied as closely as feasible, but with special consideration of a systems approach.
- (6) Chink stone may be permitted only where the applicant can prove by clear and convincing evidence that the stone will remain in place. The applicant will be responsible for the removal of such stone that is scattered on the beach in violation of this requirement.
- (7) Soft Structures that incorporate Fiber Rolls shall be required to have ID tags sewn on all coir rolls when they are installed to ensure proper ID and disposal if the rolls are dislodged from the project site.

H. Banks characterized by non-storm lunar cycle wave action and a normally steady rate of erosion:

In determining whether the bank complies with the above description, the Commission shall look at the state of bank vegetative cover and the locations of

mean high water and spring high tide. Where these locations intersect with the toe of the bank, the Commission shall presume that the banks are normally subject to regular wave action and the following standard shall apply:

- (1) No CES will be permitted if the building to be protected is more than 20 years away from the top of the bank based on the long term average annual erosion rate. For example, if the annual erosion rate is two feet per year or more and the structure is 40 feet or less from the top of the bank, the Commission may consider permitting a CES where there are no feasible alternatives and other conditions had been met.
- (2) Where the applicant is unable to document the erosion rate, no CES shall be permitted where the building to be protected is more than 40 feet from the top of the bank or until monitoring the erosion shows an erosion rate that would expose the building foundation in 20 years or less.

I. Banks subject to erosion primarily from episodic storms:

- (1) Where the distance from the building foundation to the top of the bank is greater than 40 feet, only soft solutions will be permitted.
- (2) If the distance from the building foundation to the top of the bank is less than 40 feet, a CES may be allowed. However, the greater the distance the building is from the top of the bank, the lower the height of the CES should be. Notwithstanding the above, the height of the CES may be such that following storm induced bank erosion, or a slump above it, at least 30 feet should remain between the building foundation and the top of the bank.

J. Where a coastal bank is subject both to episodic storms and steady erosion from lunar cycle tides, protection may be approved for the more severe threat.

§ 196A-13. Staircases over coastal and inland banks.

A. Preamble.

- (1) Informal access over coastal and inland banks may cause erosion and destabilization. Where access improvement is permitted to avoid erosion problems, those improvements shall be minimal and as unobtrusive as is consonant with safe and environmentally sound access. Accessory structures such as recreational or storage decks will not be permitted, and the following guidelines must be observed.

- (a) A stairway or stairs is considered any single or set of steps, and any platform or landing connected thereto, connecting different levels to traverse a dune, bluff or coastal bank or other slope.

(b) The choice of whether stairs are to be designed to be “dug into the ground” or elevated is site specific and depends on factors such as the grade of slope, composition of the substrate, nature of vegetation. The benefits of “dug-in” stairs include their ability to allow vegetative cover, minimal visual impact, tendency to slow the erosion effects of rainfall, and their durability. Elevated stairs may at times be preferred to protect vegetation, or due to the steep slope of a bank.

(c) The stair structure should be located where it will have the least impact on or can improve a resource area. Unless vegetation and contour of slope dictate otherwise, a minimum setback of twenty-five feet from the property boundaries is preferred unless the stairway will be owned and used by two or more contiguous property owners. In such cases the setback requirement shall apply to the outermost boundaries of the two or more contiguous properties so that the stairway may be placed on a shared property line.

(d) In an ACEC the “no adverse effect” performance standard shall apply

(2) General Conditions.

(a) The stair structure shall be no more than four feet in overall width including but not limited to the supporting posts and hand rails, if any.

(b) The structure shall remain unpainted in order to preserve as far as possible the natural appearance of the bank. If non-wood materials are used they should be of a color that will blend in with the natural surroundings.

(c) Railings or handrails shall be allowed if deemed necessary or to conform to the applicable building code.

(d) The stairway must be at least 500 feet from another stairway to which the owner has or can reasonably obtain legal access.

B. Submerged (dug into ground) treads or risers:

(1) A staircase that is dug into the ground shall follow the slope profile. Treads or risers must be level to prevent erosion. The stairway may be straight or serpentine.

(2) Treads or risers that are not tied into stairway side supports may be permitted with adequate switch backs to prevent erosion.

(3) Use building materials that do not leach pollutants into the aquatic ecosystem are preferred over CCA treated lumber. Use of treated material is allowed because they minimize the incidence of rotting in structures. Creosote-treated lumber is prohibited.

(4) Where the Commission finds, due to the height or steepness of the bank, or other factors, that a resting landing is justified, that landing shall meet the above width requirement and shall seat no more than two individuals.

(5) Construction of the stairway must be capable of compliance with the Orders of Conditions issued by the Commission.

C. Elevated stairways:

(1) A staircase shall follow the slope profile as closely as possible provided, however, that with the exception of the supporting posts, no portion of the proposed stairway shall be closer than one foot from the ground. Plans submitted must show the contours and how compliance will be accomplished.

(2) The stairway shall have no risers and there shall be a minimum of one-half inch spacing between deck planks in order to permit light penetration and encourage vegetation.

(3) Any wood preservative must be non-toxic.

(4) Where the Commission finds, due to the height or steepness of the bank, or other factors, that a resting landing is justified, that landing shall meet the above width requirement and shall seat no more than two individuals.

(5) Construction of the stairway must be capable of compliance with the Orders of Conditions issued by the Commission.

ARTICLE V
Additional Regulations

§ 196A-14. Buildings in resource areas.

A. An increase in the size of a building in a resource area will be considered to be an increased use in the resource area. If an existing building is located within a resource area any alteration to the building which results in an increase in the footprint, the square footage or the cubic volume, will be presumed to have a significant adverse impact on the resource area. Resource areas include all

areas specified under 196A-2 Statement of jurisdiction, A. (1), (2), (3), (5), and (6)

- B. If more than 25% of the footprint, the square footage, or cubic volume of the building is altered, the building will be considered new construction.
- C. Alteration of more than 25% of a building located in a dune area must take into consideration the effects of the increase in velocity of the blowing sand by the building. In no instances shall two buildings be built that would increase the velocity of the blowing sand between them and cause additional scour. Buildings in dunes should be built on pilings to allow the dune to migrate under them and at minimum the height of land subject to coastal storm flowage. There should be no storage or utilities under the building. An increase in decks and walkways including roof decks and additional structures such as boat racks should only be considered when they can be shown to be a benefit to the resource area.
- D. Alteration of more than 25% of a building located in Land Under the Ocean or an Estuary, Land Under Water Bodies and Waterways and Land Under Salt Ponds must take into consideration the effects of construction as well as the effects of the permanent structure on that water body. In no instance shall there be an increase in square footage of the building. In instances of storm damage according to Zoning Regulations only a certain percentage of the building maybe rebuilt at one time. Replacement of decks or walkways will only be considered when they can be shown to be a benefit to the resource area or a safety issue. Construction materials shall not be disposed of in the water body.
- E. Alteration of more than 25% of a building on a coastal bank must take into consideration the function and stability of that bank. Coastal Banks serve to protect inland areas from storm surge and also contribute sediment to the marsh system. The vegetation on a Coastal Bank provides erosion and sedimentation control, wild life habitat and aesthetic value. In no instance may a building be altered in such a way as to disrupt these functions of the bank. Buildings within Land Subject to Coastal Storm Flowage should be built on pilings to a minimum height of the 100-year storm surge or otherwise follow the Zoning Regulations.

§ 196A-15. Regulations for hiring outside consultants under m.g.l. ch. 44 §53g

A. Purpose

As provided by M.G.L. Ch. 44 §53G, the Orleans Conservation Commission may impose reasonable fees for the employment of outside consultants, engaged by the Conservation Commission, for specific expert services. Such services shall be deemed necessary by the Commission to come to a final decision on an application submitted to the Conservation Commission pursuant to the requirements of: the Wetlands Protection Act (M.G.L. Ch. 131 §40 and 310 CMR 10.00), the Town of Orleans Wetland By-law (Chapter 160), the Town of Orleans Wetland Protection Regulations (Chapter 196A), Conservation Commission Act (M.G.L. Ch. 40 §8C), or any other state or municipal statute, bylaw or regulation, as they may be amended or enacted from time to time. The Conservation Commission may also impose fees for other consultant services, related to application review, or permit conditioning or monitoring, under any of the above-referenced laws or regulations.

B. Special Account.

Funds received pursuant to these rules shall be deposited with the Town of Orleans treasurer who shall establish a special account for this purpose. Expenditures from this special account may be made at the direction of the Conservation Commission without further appropriation as provided in M.G.L. Ch. 44 §53G. Expenditures from this account shall be made only in connection with a specific project or projects for which a consultant fee has been collected from the applicant. Expenditures of accrued interest may also be made for these purposes.

C. Consultant Services.

Specific consultant services may include but are not limited to resource area survey and delineation, analysis of resource area values, hydrogeologic and drainage analysis, impacts on municipal conservation lands, and environmental or land use law. Services may also include on-site monitoring during construction, or other services related to the project deemed necessary by the Commission. The consultant shall be chosen by, and report only to, the Commission and/or its administrator.

D. Notice.

The Conservation Commission shall give written notice to the applicant of the selection of an outside consultant. Such notice shall state the identity of the consultant, the amount of the fee to be charged to the applicant, and a request for payment of said fee in its entirety. Such notice shall be deemed to have been given on the date it is mailed or delivered. No such costs or expenses shall be incurred by the applicant if the application or request is withdrawn within five days of the date notice is given.

E. Payment of Fee.

The fee must be received prior to the initiation of consulting services. The Commission may request additional consultant fees if necessary review requires a larger expenditure than originally anticipated or new information requires additional consultant services. Failure by the applicant to pay the consultant fee specified by the Commission within ten (10) business days of the request for payment, or refusal of payment, shall be cause for the Commission to deny the application based on lack of sufficient information to evaluate whether the project meets applicable performance standards in 310 CMR 10.00 and the Town of Orleans Wetland Bylaw or its regulations. An appeal stops the clock on the above deadline; the countdown resumes on the first business day after the appeal is either denied or upheld. A denial for lack of information may be based solely on the lack of the third party consultant review identified as necessary by the Commission. The Commission shall specify in its denial the nature of the information lacking which its chosen consultant would provide, e.g. the questions it needs answered.

F. Appeals.

The applicant may appeal the selection of the outside consultant to the Orleans Board of Selectmen, who may only disqualify the outside consultant selected on the grounds that the consultant has a conflict of interest or does not possess the minimum required qualifications. The minimum qualifications shall consist of either an educational degree or three or more years of practice in the field at issue or a related field. Such an appeal must be in writing and received by the Orleans Board of Selectmen and a copy received by the Conservation Commission, so as to be received within ten (10) days of the date consultant fees were requested by the Conservation Commission. The required time limits for action upon the application shall be extended by the duration of the administrative appeal.

G. Return of Unspent Fees.

When the Commission's review of a project is completed and an Order of Conditions issued, any balance in the special account attributable to that project shall be returned within 30 days. The excess amount, including interest, shall be repaid to the applicant or the applicant's successor in interest. For the purpose of this regulation, any person or entity claiming to be an applicant's successor in interest shall provide the Commission with appropriate documentation. A final report of said account shall be made available to the applicant or applicant's successor in interest.