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**HARWICH WETLAND
PROTECTION REGULATIONS
HARWICH CONSERVATION COMMISSION**

1.00 INTRODUCTION

These Wetland Protection Regulations (hereinafter referred to as WPR or Regulations) are promulgated by the Town of Harwich Conservation Commission, (hereinafter referred to as the Conservation Commission) pursuant to the authority granted under the Harwich Wetland Protection Bylaw as amended (hereinafter referred to as the Bylaw). These Regulations shall implement the Bylaw, and shall have the force of law upon their effective date.

1.01 PURPOSE

The Bylaw sets forth procedures and standards by which activities covered under the Bylaw are to be regulated in order to ensure protection of environmental interests and values (hereinafter collectively referred to as “interests”) including but not limited to:

- * Public or private water supply
- * Groundwater supply
- * Prevention of pollution
- * Flood control
- * Fisheries
- * Land containing shellfish
- * Storm damage prevention
- * Erosion control and Sedimentation Control
- * Protection of Water Quality
- * Protection of Rare Species Habitat
- * Protection of Rare Plant Species
- * Agriculture
- * Aquaculture
 - * Recreation
 - * Wildlife Habitat

The Bylaw also authorizes the Conservation Commission to promulgate regulations to effectuate its requirements and purposes.

1.02 JURISDICTION

The jurisdiction of the Conservation Commission under the Bylaw extends to specific types of activities in specific areas. The activities or area of jurisdiction covered under the Bylaw and the WPR may differ from those subject to the Massachusetts Wetlands Protection Act (G.L.c. 131 and 40) hereinafter referred to as the Act or State Regulations, and 310 CMR 10.00. This may result in situations where an applicant will have to submit a filing under the Bylaw and the WPR, but not under the State Act. Alternatively, there are areas covered by the State Act which are not subject to these regulations; for example, the State

Act has creates a new resource area called the “riverfront area” which extends 200 feet (25 feet in municipalities with large populations and in densely developed areas) on each side of perennial rivers and streams throughout the State. The Rivers Act does not prohibit activities near rivers. However, applicants proposing work in the riverfront area must obtain a permit and satisfy two performance standards prescribed in the State Act.

1.03 REGULATORY SCOPE; SUBJECT AREAS AND ACTIVITIES

1. GENERAL REGULATORY REQUIREMENTS AND STANDARDS

Except as permitted by the Conservation Commission under these Regulations, no person shall remove, fill, dredge, or alter any fresh water wetland or coastal wetland including: marshes; wet meadows; bogs; swamps; vernal pools; and vernal pool habitat; lands subject to flooding, both bordering and isolated; isolated wetlands greater than 5,000 square feet; banks; reservoirs; lakes; ponds greater than 5,000 square feet; rivers, including the riverfront area; streams and creeks, including intermittent streams; and the lands underneath lakes, ponds, streams and creeks; land under the ocean; designated port areas; coastal beaches; coastal dunes; barrier beaches; coastal banks; rocky intertidal shores; salt marshes; land under salt ponds; land containing shellfish and fishruns; lands subject to tidal action, coastal storm flowage or flooding; lands within 100 feet on any of the aforesaid resource areas, except for the riverfront area and vernal pool habitat.

In reviewing an activity proposed to be undertaken in an area subject to regulation, the Commission will consider whether that activity has a significant adverse impact on protected environmental interests in and of itself or cumulatively. “Cumulative adverse impact” means the effect of a subject activity which, when considered in isolation, may not have a significant impact on environmental interests but when considered in relation to other past, present or anticipated future activities in a given area can be expected to be significant in the aggregate.

Any person proposing to or undertaking any activity within an area specified in section 1.04 (2) must so notify the Conservation Commission, file an appropriate application with documentation, and receive Commission approval before proceeding with such activity.

2. DEPARTURES FROM STATE REGULATIONS

a. Preamble

State Regulations provide that nothing contained in those regulations “should be construed as preempting or precluding more stringent protection of wetlands or other natural resources by local bylaw, ordinance or regulation.” Pursuant to this State grant of authority and the Harwich Bylaw, these Regulations depart from the State Regulations with respect to certain wetland provisions discussed below. The result is to give broader protection to wetland resources than provided by State Regulations.

b. Wetlands, Resource “Bordering” Requirements

These Regulations specifically do not adopt the State requirement that in order to be subject to Commission jurisdiction the wetland resource must be “bordering on the ocean or any estuary, creek, river, stream, pond, or lake or any land under said water.” See MGL 131 s. 40 and 310 CMR 10.02. Thus, under these Regulations, resource areas are subject to Commission jurisdiction whether or not they are bordering.

Likewise, and for the same reasons, these Regulations do not adopt the State’s definition of “Bordering Vegetated Wetlands” found at 310 CMR 10.55 (2), and all references to “bordering vegetated wetlands” in 310 CMR 10.55 (2) and elsewhere in State Regulations shall be deemed to refer to both bordering and non-bordering vegetated wetlands. For the purpose of these Regulations, “vegetated wetlands” are freshwater wetlands which may or may not border on creeks, rivers, streams, ponds and lakes. They include wet meadows, marshes, swamps and bogs. Vegetated wetlands are areas where the topography is low and flat and where the soils are annually saturated. The ground and surface water regime and the vegetative community, which occur in each type of freshwater wetland, are specified in MGL 131 s. 40 and in these regulations.

c. Wetland Replication

To prevent wetland loss, the Commission shall require applicants to avoid wetlands alteration wherever feasible; shall minimize wetlands alteration; and, where alteration is unavoidable, shall require full mitigation. The commission may authorize or require replication of wetlands as a form of mitigation, but only with adequate security, professional design, and monitoring to assure success, because of the high likelihood of failure of replication.

1.04 RESOURCE PROTECTION AREAS

1. PREAMBLE

This section designates and defines protective buffer areas adjacent to a resource; i.e. the “buffer zone”, the “no-disturb zone” and the “vegetated buffer strip”, and provides guidance as to their respective purposes and uses. The overall intent of this section is to limit the potential adverse impact of any activity close to a protected resource on that resource. No invasive plants listed by the Natural Resource Conservation Service shall be allowed to be introduced within Commission jurisdiction.

The State of Massachusetts has recognized the value of delineating a border area adjacent to a protected resource within which activities are closely regulated in order to control environmental impact on that resource. State

Regulations establish such an area by providing for a 100-foot so-called “buffer zone” landward from the edge of any protected resource. See 310 CMR 10.02 (2)(b). The Town of Harwich adopts this 100-foot buffer zone but believes that a greater level of environmental protection is necessary within that area than that provided in the State Regulations. To that end, these Regulations, among other things, specifically require the maintenance of a 50-foot “no-disturb zone” landward from the edge of any protected resource. In certain instances, the Commission may also require the establishment of a “vegetated buffer strip” of specified width between the development activity and the protected resource.

These Regulations redefine the “no-disturb zone” as all of the area within 50 feet of any specific resources protected under the Harwich Wetland Protection Regulations. The purpose of the no-disturb zone is to give greater protection to the resource’s environmental interests by providing wildlife habitat and corridors, preserving or improving water quality and reducing pollution and erosion in the area closest to the protected resource. Therefore, in addition to the requirements that apply to the buffer zone generally, the no-disturb zone, by definition is subject to additional restrictions. In fact, few, if any, activities will be allowed within this zone. For example, no new structures of any kind, e.g. dwellings, pools, shed, will be permitted. The Commission intends to strictly apply and enforce all requirements applicable to the no-disturb zone.

Adverse impacts to protected resources can occur during construction, from the project as full developed, or both. Such impacts may include, but are not limited to, erosion, siltation, loss of groundwater recharge capability, contamination of waterbodies by surface runoff carrying heavy metals (such as lead, cadmium, copper, and/or zinc), hydrocarbons (such as gasoline and motor oil), pesticides and herbicides, pathogens (both bacteria and viruses), and sediments. Nutrient loading of waterbodies can occur from overuse of fertilizers as well as septic effluent traveling through groundwater. Development within buffer areas may disrupt important wildlife habitat or movement corridors.

Generally, an activity undertaken ninety-nine feet landward from the edge of a resource will not have the same impact on that resource as the same activity undertaken one foot from the resource. Therefore, the closer the proposed activity to the resource the greater the concern for adverse impact and, accordingly, the greater the level of scrutiny.

One way to protect resources is to mandate a “no-disturb zone” or require “vegetated buffer strips” between structures and the resource to be protected. Such buffers can filter or absorb many pollutants, encourage water recharge, prevent erosion and sedimentation, provide wildlife habitat, and help to preserve the natural shoreline.

2. BUFFER ZONE

The buffer zone is the area within one hundred (100) feet landward of the boundary of any fresh water wetland, bank, beach, dune, flat, marsh, wet meadow, bog, swamp, or any estuary, creek, stream, pond, or lake. Any activity within the buffer

zone is presumed to be significant to the protection of environmental interests. Therefore, such activity must minimize any adverse impacts on those interests. (See also section 104(5) below).

Within the buffer zone, tree cutting outside the footprint of any proposed structures shall be kept to an absolute minimum. When the removal of any trees is proposed, all such trees must be clearly tagged for the Commission's review. The Commission reserves the right to designate certain tagged trees for preservation. The removal of trees of 4 inches "diameter at breast height" (DBH) shall be evenly distributed to protect the canopy and overall environmental interests. (See also section 1.05 below).

Where any activity undertaken results in eroded or bare ground, the affected area must be re-vegetated as soon as practicable or be mulched immediately. Use of jute matting or similar stabilizing material may be required. Where there is new construction or other activity, a vegetated strip may be required landward of the resource.

The Commission may require that proposed turf lawns within the 100 foot buffer zone be eliminated or limited, and that existing lawns be reduced as mitigation of any proposed new activity in the zone. Generally, no irrigation systems shall be permitted in the buffer zone. However, the Commission may permit the use of irrigation, on a temporary basis, to assist in required plant material establishment. Mitigation may be required by the Commission for any alteration permitted within the buffer zone to compensate for any wildlife corridor or habitat disruption, tree or other vegetation removal, foot traffic impacts, etc.

3. NO-DISTURB ZONE

The no-disturb zone is the area within fifty(50) feet landward of the boundary of any fresh water wetland, bank, beach, dune, flat, marsh, wet meadow, bog, swamp, or any estuary, creek, stream, pond or lake. Except for those being built on the footprint of an existing structure, and those deemed necessary to protect the resource, no new structures will be permitted in the no-disturb zone. Other kinds of proposed activities in this zone will be closely scrutinized and regulated with very few activities permitted. These activities can have no adverse impact on environmental interests.

An access foot path of no more than four (4) feet in width may be permitted in the no-disturb zone if deemed necessary by the Commission. Docks may also be permitted in this zone if deemed appropriate and necessary by the Commission. However, such activity may be conditioned to minimize any adverse impacts on the protected environmental interests.

The Commission may require as a condition to the approval of any project that the applicant establishes a vegetated strip or in some different manner modify any previously legally or illegally altered part of the 50 foot zone.

4. VEGETATED BUFFER STRIP

A vegetated buffer strip within the buffer zone between the development activity and the protected resource may be deemed necessary, where none presently exists, to mitigate past, present or possible future activity impacts in the buffer zone. In the event that the Commission requires the establishment of a vegetated buffer strip of a given dimension as a condition to the approval of an activity, such strip shall consist of native or naturalized plant material listed in appendix

1.05 PRUNING, CUTTING AND CLEARING OF TREES AND OTHER VEGETATION

1. DEFINITIONS

- a. Clear Cutting - Removal, to the ground, of all woody vegetation, including mowing of understory brush down to a minimum height of two (2) inches.
- b. Cutting - The removal of vegetation.
- c. Lifting - Lifting of the canopy by removing lower limbs from the main trunk.
- d. Pruning - Removal of dead, diseased, obstructing and weak branches, as well as selective thinning of branches to lessen wind resistance.
- e. Selective Cutting - The removal of smaller, weaker trees and less desirable tree species, leaving the more vigorous trees, and the removal of dead trees.
- f. Selective Pruning - Limited pruning of tree branches and brush.
- g. Vista Pruning - The removal of vegetation that blocks a view.
- h. Flush Cutting - Cutting of a tree or bush to ground level while leaving roots.
- i. Stump Grinding - Mechanical grinding to a depth below ground surface.
- j. DBH - Diameter at breast height.

2. GENERAL; FILING

No cutting, pruning, lifting, clear cutting of any trees and/or other vegetation shall be undertaken anywhere in the resource, buffer strip or buffer zone unless an application has been filed with, and approved by, the Commission. The only cutting of trees and other vegetation permitted within the resource and buffer zone is vista pruning. Where pruning of shrubs or other such plants is permitted by the Commission, height may be maintained at staggered levels between 2 feet and 4 feet. Persons are encouraged to consult with the Conservation Commission before filing a Notice of Intent when planning projects that involve the removal and/or replacement of trees or other vegetation in the resource, buffer strip or buffer zone.

3. TREES AND OTHER VEGETATION

- a. All tree cutting and pruning shall be closely regulated and restricted. Property line-to-property line vista pruning and clear cutting are prohibited as is the topping of trees. The opening of specific windows of view is the preferred approach. As an alternative to tree removal, the Commission may require that thinning or window pruning first be attempted.
- b. When the pruning of trees is permitted, the removal of branches may include those on the main trunk as well as those inside the leaf area. However, all major branches to be removed that are four (4) inches or larger must be identified for review. (Class 4 pruning) Allowable canopy reductions will be assessed on a case-by-case basis. Too much canopy removal may increase the amount of invasive plant establishment, depending on existing ground cover. All herbaceous, shrub and hardwood pruning shall be done outside the typical nesting times, April first to August first.
- c. The removal of dead or diseased trees may be allowed at the discretion of the Commission if those trees are deemed to endanger life or property.
- d. (Existing regulation)
- e. In the event that re-vegetation is necessary, re-establishing canopy cover shall be one of the methods used to ascertain the replacement material required. Dense plantings may be needed to recover canopy characteristics. Future management may dictate transplanting or removal of planted material to maintain a healthy plant community. Diversity, in the sense of appropriate herbaceous, shrub and woody plant material shall be encouraged.
- f. When mitigation for any proposed alteration within the buffer zone is allowed or mandated by the Commission, replacement trees must be at least 36 inches tall.
- g. Nutrient Control and Management Protocol. All amendments (i.e. control material, fertility) that are to be utilized in either the establishment or maintenance of installed or existing plant material shall be submitted to the Commission for review. Natural slow release fertility material and controls shall be required where possible by the Commission within the buffer zone. All installed plant material required shall be monitored for a period of no less than 3 years. Annual reports shall be submitted accompanied by color photographs. The applicant shall replace any plant material required by the Commission, which does not survive, as soon as horticulturally appropriate.

1.06 LAWNS

Turf lawns may be a significant source of nutrients to wetlands, coastal embayments, and other bodies of water through surface runoff and leaching to the groundwater. Excessive nutrient loading of water bodies may lead to eutrophication. Eutrophication includes nuisance algal blooms, oxygen depletion, fish kills and foul odors.

Lawn fertilization is of concern because of possible overuse and the effects from a single house lot is extremely difficult to quantify.

To minimize potential contamination, the Conservation Commission may require that turf lawns be minimized or even eliminated from landscaping plans; particularly in lots adjoining surface water bodies and wetland resource areas. However, so as to reduce erosion and nutrient loading by sheet runoff, no new lawn may be planted immediately adjacent to a wetland resource area. The commission may prohibit turf lawns in the buffer zone. Buffer zones of native, non-invasive plants may be required to reduce surface runoff.

Additional factors the Commission will consider:

- A vegetated strip should be established between the lawn areas and the resource area. The buffer strip should contain a mix of native, non-invasive species or those recommended by the Conservation Administrator to provide both shallow and well developed root systems as well as a mix of canopy types and heights to enhance the wildlife habitat.
- A minimum of 6" of loam should underlie the lawn to minimize movement of phosphorus and nitrogen through the soil.
- A low-impact/minimum fertilizer plan shall be presented. Example:
 - * Fertilizer application should be "split"; spring & fall
 - * No more than one pound of nitrogen per 1,000 square feet for each application, 2 lbs/1,000 SF total/year
 - * Use slow release fertilizer
- Mow lawn to a height= \geq 2½ inches to promote a deeper root system to absorb nitrogen.
- Leave clippings on lawn.
- Irrigation should be minimized.
- Use of pesticides should be minimized.

Following the above discussions, the Commission may determine that a turf area will be detrimental to adjoining wetlands and require the use of native plant species and non-turf grasses and groundcovers in the landscaping plan instead of lawn area. A useful list of low maintenance trees, shrubs, and herbaceous plants beneficial to wildlife is set forth in these regulations in the Appendix.

1.07 EROSION CONTROL

1. PREAMBLE

Erosion of earth materials has several adverse effects on wetland resources including filling of water bodies and smothering of vegetation or bottom-living biota. Additionally, many contaminants adhere to soil particles and may reach wetlands and water bodies when these particles are eroded. Erosion in buffer zones is exacerbated through the removal of vegetation during construction and by changing runoff characteristics of the site.

2. STANDARDS DESIGNED TO MINIMIZE EROSION FROM THE BUFFER ZONE:

a. 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.

b. A fabric silt fence or a barrier of firmly staked bales of hay or straw, are temporary methods of protecting downside areas from erosion during the construction phase and serve to mark the limit of work. These erosion control methods must be shown on the submitted plan, and installed on the contour in order to prevent runoff and erosion. They must be maintained intact until the disturbed area is stabilized and re-vegetated.

c. Revegetation/Mulching

1. Any activity that denudes or bares 50 square feet or more of ground surface within 100 feet of a resource area requires immediate re-vegetation with indigenous species as specified by the Conservation Commission or stabilization with mulch, coir matting, or other appropriate materials through the second growing season.

2. Newly re-vegetated areas must be covered with a light mulch and/or erosion control matting to enhance germination and to assist in prevention of runoff.

3. Construction sites must have some method of erosion control to prevent sedimentation runoff into roadways.

4. Erosion control methods may also apply to certain areas outside the buffer zone if they have an impact on the resource, directly or indirectly.

5. All construction sites shall be required to have an adequate supply of erosion control material on site at all times during construction and site stabilization to repair failed erosion controls.

1.08 COASTAL BANK PROTECTION

1. PREAMBLE

Coastal banks are likely to be significant not only to the interests defined in the State Regulations (i.e. storm damage prevention, flood control and prevention of pollution as cited in 310 CMR 10.30) but also to other wetland protected interests including erosion control, protection of fisheries, protection of shellfish habitat and protection of wildlife habitat. While in some cases, efforts to control bank erosion may serve to enhance storm damage prevention and flood control, there are predictable, technically-supported adverse impacts on these other 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 is the loss or lowering of beaches seaward of the Coastal Erosion Structure (CES) caused by displaced wave energy as well as loss of beaches further removed from the revetment caused by deprivation of bank sediment which would normally be transported via littoral drift. Lowered land is now flooded at high tide thus limiting or destroying access along the shoreline. Fishing and passive and active recreational opportunities are thus adversely affected. Lowered beaches or dunes provide less protection, and retreating (eroding) shorelines may threaten buildings or reduce wildlife habitat. Wildlife habitat may also be destroyed or otherwise adversely affected when natural bank vegetation is replaced with rock, sandbags, wooden walls, or other impenetrable materials.

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 normally follow an eroding and retreating coastal bank are blocked by erosion control structures, and their continued growth and health are limited.

In addition, the interests of a private property owner in flood control and prevention of storm damage may be served by erosion control measures on that property. Adjacent properties are at increased risk from storm damage and flooding when their own coastal banks suffer "end scour" from the diversion of wave energy from the protected property and from the deprivation of sediment which builds beach levels and provides toe protection against high tides and storms.

2. DEFINITIONS

a. Building - A closed or partially enclosed structure, utilized for human habitation, domestic animals, commercial or industrial activities, of a size or design such that it could not easily be moved, including attached appurtenances such as decks and porches. This definition does not apply to recreational structures such as pools, tennis courts, or playing fields.

b. New Building - A new structure, or one of which over 25% of the structure, measured either 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 or after the date of the adoption of these regulations.

c. Coastal Engineered Structure (CES) - A hard structure such as, but not limited to, a rock revetment, bulkhead, seawall, groin, or gabions, utilized to limit coastal erosion or provide greater toe protection.

d. Distance From the Building to the Top of the Bank - That distance from the top of the bank to the foundation or footings of any building. If there are extensions (deck or porches), the measurement is to the edge of those extensions.

e. Reconstruction - Alteration and rebuilding of up to 25% of a building, measured by square footage of the foundation or cubic footage of the structure. Alteration and rebuilding of over 25% of the building shall be considered “new building”. This definition is applicable only to construction commenced on or after the date of the adoption of these regulations.

f. Soft Structure - An erosion control solution that stabilizes a bank primarily by reconstruction through re-grading and/or replenishment with like or compatible natural materials such as sand, clay, etc.; accompanied by stabilization of the toe by minimal use of fiber rolls, coir matting, or similar materials; and completed with plantings of indigenous vegetation such as beach grasses, virginia rose, beach plum, etc.

g. Top of Bank - The physical top of the bank at time of filing of a Request for Determination of Applicability or Notice of Intent. The definition of top of bank is provided by the DEP Division of Wetlands and Waterways Policy 92-1 (see Appendix).

3. STANDARDS

a. When a proposed project involves dredging, removing, filling, or altering a coastal bank, the Commission shall presume that the area is significant to the following interests: flood control, storm damage prevention, prevention of pollution, protection of shellfish habitat, protection of fisheries, protection of wildlife habitat, and erosion control. This presumption may be overcome by making a clear and convincing showing that the coastal bank in question does not play a significant role in the protection of these interests.

b. The Commission shall also presume that a coastal bank is significant to storm damage prevention and flood control both because it is a vertical buffer to storm waters and it supplies sediment to a coastal beach, coastal dune, or barrier beach. The presumption relating to either of these interests can be overcome only by a clear and convincing showing that the coastal bank in question does not play a role in the protection of these interests. This showing may include, but not be limited to, studies of bank composition, erosion rates, destination of eroded materials, and historical data.

1. 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 because it is both a vertical buffer to storm waters and it supplies sediment to a coastal beach, dune, or barrier beach; no new bulkhead, revetment, seawall, groin, or other ECS shall be permitted on that coastal bank. However, the Commission has the discretion to permit such a structure if, in its judgement, such a 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 Order of Conditions under which such reconstruction was performed contains a prohibition against construction of such a CES, including, but not limited to, a bulkhead, revetment, or seawall.

2. 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 storm waters, and the bank is not found to be significant to storm damage prevention or flood control because it supplies sediment to a coastal beach, dune, or barrier beach, the Commission may, but is not required to, permit construction of bulkheads, revetments, seawalls, groins, or other CES designed to alter wave, tidal, or sediment transport processes in order to protect inland or upland buildings from the effects of such processes.

4. GENERAL GUIDELINES

- a. In instances where any bank stabilization efforts are permissible, soft structure solutions are preferred.
- b. In instances where they are allowable, CES will be permitted only after the applicant has shown that there are no feasible alternatives. The applicant may be required to show that soft structure alternatives have been tried and failed. Even when a CES is proven to be essential, the Commission may require small low walls that provide protection from chronic erosion but will be overtopped by storm waves during catastrophic events.
- c. All coastal engineered structures will be designed to have minimal impact on beaches or other seaward resource areas.
- d. Beach re-nourishment to maintain the beach profile will be required when coastal banks are armored.
- e. A “return” must be designed to avoid end scour on neighboring properties. The return shall be set back not less than 15 feet from the applicant’s lot line to prevent accelerated erosion on abutting properties.
- f. The purpose of 310 CMR 10.30 and these Regulations is to offer protection, where appropriate, to existing buildings. A proposal to armor vacant land will only be considered if submitted jointly with abutting applicants to form a “coastal system” and where there is clear and convincing evidence that erosion endangers buildings on adjacent properties eligible for protection under 310 CMR 10.30 and these regulations. In all such cases, soft solutions will be the preferred alternative.

g. Where a joint, linked project is submitted to protect several abutting properties, these guidelines will be applied as closely as feasible. So that the project may be properly conditioned, a separate Notice of Intent will be required for each property.

g. Because Harwich beaches are littered with chinkstone from previously constructed revetments, the Commission has determined that chink stone may be permitted only where the applicant can provide clear and convincing evidence that the stone will remain in place for a period of ten years and/or two major storms. The property owner will be responsible for removal of any stone scattered on the beach as a result of failure of a structure permitted under the provisions of these regulations.

5. FACTORS DETERMINING WHETHER COASTAL ENGINEERED STRUCTURES WILL BE PERMITTED

a. Soft solutions will be preferred.

b. In determining what sort of CES, if any, may be permitted, the Commission shall consider the following:

1. The success or failure of historical efforts to control erosion on the applicant's property, in the vicinity of the proposed project, or in similar situations;

2. The state of vegetative cover on the bank;

3. The location of mean high tide and spring high tide in relation to the base of the proposed CES;

4. The distance of the building from the top of the bank

c. No CES will be permitted if the building is more than 40 feet from the top of the bank, or is more than 20 years from the top of the bank based on long-term annual erosion rates. The Commission will use the MCZM data on shoreline change dated April, 2002 when evaluating a CES.

d. If the building qualifies for protection by a CES under the regulations above, and there are no feasible alternatives, the allowable height and design of the CES shall be based on the location of the building relative to the top of the bank, and whether the bank is subject to wave action from typical lunar, non-storm conditions (chronic erosion) or primarily from episodic storms. In addition, potential adverse effects on abutting and down-drift properties will be considered.

1.09 STAIRCASES OVER COASTAL AND INLAND BANKS

1. PREAMBLE

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.

2. ELEVATED STAIRWAYS

- a. A staircase shall follow the land contours as closely as possible providing, however that, with the exception of the supporting posts, no portion of the proposed stairway shall be closer than 18 inches to the ground. Plans submitted must show the contours and how compliance will be accomplished.
- b. 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.
- c. The stair structure shall be no more than four feet in overall width including but not limited to the supporting posts and handrails.
- d. No arsenic, dopper, or chromium preservative treatment for any wood touching the ground will be allowed.
- e. 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.
- f. Construction techniques for the stairway may be stipulated in the Order of Conditions for the project.

3. TREADS OR RISERS: (DUG INTO GROUND)

Stairways dug into the ground may be permitted with adequate switchbacks and drainage to control erosion.

4. STAIRS BUILT INTO ROCK REVETMENTS

The Commission strongly encourages the building of stone stairs into approved rock revetments at the time of construction. In some cases, it may be required to provide beach access if the applicant does not own the beach fronting the property.

1.10 WATER DEPENDENT STRUCTURES - TIDAL WATERS

1. PREAMBLE

Any water dependent structure such as a wharf, float, pier, dock, or similar structure as hereafter defined, constructed seaward of Mean High Water in any tidal waters of the Town after the effective date of the By-law shall be subject to the provisions hereof and be in conformity hereto. Any water-dependent structure constructed within areas of Pleasant Bay where structures are allowed shall also be subject to the provisions of the Pleasant Bay Management Plan's Guidelines and Performance Standards for Docks and Piers.

2. DEFINITIONS

- a. Deck – The surface of a water-dependent structure designed as the walkway for persons using the same.
- b. Float – A floating structure anchored in position by pilings chain or otherwise, which is designed to rise and fall with the tide, used in conjunction with a wharf, pier or dock to moor and give access to a vessel.
- c. Gangway – A ramp or platform used to provide access between a float or vessel and a pier, dock or wharf.
- d. Deep Water Channel – The area of a water body wherein the depth of water is three feet or more at mean low water.
- e. Mean High Water - The elevation in feet above NGVD (National Geodetic Vertical Datum) established by the present arithmetic mean of the water heights observed at high tide over a specific 19-year Metonic Cycle (the National Tidal Datum Epoch) as shown on the New England Coastline Tidal Flood Survey – Tidal Flood Profile No. 9 Barnstable to Chatham, MA by the New England Division, Corps of Engineers. Where salt marsh occurs, the mean high tide will be that point where spartina alterniflora gives way to spartina patens. Walkways over salt marshes that extend beyond this intersection will be regulated under the provisions of this By-law.
- f. Piling – A column constructed from any material used to support the deck or other structural member of a wharf, pier or dock or to serve as a mooring spar or dolphin for vessels or floats.
- g. Water Dependent Structure - Any structure, or combination of structures, built adjacent to or at an angle from the shore and extending seaward beyond the mean high water mark so that vessels may lie alongside to receive and discharge passengers or cargo or for use as a promenade and shall include structures commonly referred to as floats, docks, piers, or wharves.

3. STANDARDS AND REQUIREMENTS

- a. No water dependent structure shall hereafter be constructed without a permit to do so issued by the Conservation Commission. The applicant shall first seek review of any dock and pier application by the Waterways Commission and/or the Harbormaster. Such comments shall be included with the application to the Commission.

b. No permit to construct a water-dependent structure shall be issued unless the following standards are complied with:

1. No structure or its related appurtenances, including floats, shall extend more than eighty (80) feet seaward of the mean high water mark; nor farther than fifty (50) feet into the deep water channel; nor be allowed to encroach upon the deep water channel so as to reduce the usable width thereof to less than fifty (50) feet; and no vessel shall be moored thereto so as to encroach upon the fifty (50) foot minimum, nor shall it extend so as to interfere with any designated vessel mooring areas or established shellfish beds. In areas of Pleasant Bay where structures are allowed, all water-dependent structures shall meet the recommended 50 foot setback from navigational channels and mooring areas

2. No new structure, or any vessel moored thereto, shall be allowed closer than sixty-five (65) feet to an adjacent structure. In areas of Pleasant Bay where structures are allowed, the separation between structures shall be no less than 250 feet. Additionally, "shared use" proposals (i.e. a single structure to be jointly owned and used by two or more shorefront property owners) are encouraged to preserve access by shore front property owners while reducing the number of structures that might otherwise be permitted.

3. Structures shall be constructed as closely as possible to the perpendicular from the shoreline, excepting shared docks located on a property line. In areas of Pleasant Bay where structures are allowed, all water-dependent structures shall be a minimum of 50 feet from property lines and associated riparian lines unless the structure will be owned and used by two or more contiguous shorefront property owners. In such cases, the 50 foot setback requirement shall apply to the outermost boundaries of the two or more contiguous properties so that the structure may be placed on a shared property line.

4. No structure (except floats) shall exceed four (4) feet of walkway width.

5. No float or combinations thereof shall exceed two hundred (200) square feet of surface area nor shall any float be allowed landward of mean low water. Preferred float configuration shall be "T" shaped in order to encourage use of the float at its deepest end. No permanent "T" or "L" shaped docks or piers are allowed.

6. In order to protect the foreshore, all structures (except floats) shall be supported by pilings. Decks shall have a minimum ½" inch spacing between deck planks and shall be at an elevation equal to the width of the deck above mean high water or, in areas of marsh, above the marsh vegetation, whichever is higher. Notwithstanding the forgoing, in all areas where the foreshore is passable on foot, a flight of stairs on either side of the deck shall be provided to allow persons to lawfully use the

foreshore. A directional sign shall be placed indicating permission to cross the structure.

7. Any structure proposed for siting in a salt marsh, or in a body of water adjacent to a salt marsh, shall not destroy any portion of the salt marsh or its substratum, nor have any adverse impact on the productivity of the salt marsh. Additionally, the structure should be oriented to minimize the effect of vessels using the structure on the adjacent salt marsh and in its substratum.

8. No structures shall be located within 50 feet of an existing eelgrass bed nor within a shellfish area defined by the Town Bylaws or Town Shellfish Warden. The presence or absence of shellfish at a proposed site must be determined by a shellfish survey submitted by the applicant. The 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 which may indicate the capacity of the area to support commercially important species. The survey shall also include a description of shell fragments, if feasible, and references, if available, to historical information regarding the presence or absence of shellfish species. Within the Pleasant Bay ACEC, relocation of shellfish encountered during construction of a project is not acceptable mitigation (except when the project is part of a Town or State-sponsored shellfish relay program, and then only if it can be clearly shown that the productivity of that shellfish bed would not be diminished by its relocation).

9. Any structure proposed for siting within a Fish Run or within 100 feet of a Fish Run shall not have any adverse impact on the fish run by impeding or obstructing the migration of fish or by impairing the capacity of spawning or nursery habitats necessary to sustain the life stages of the fish. Construction or maintenance of structures shall not occur between 15 March and 15 June without specific written permission from the Division of Marine Fisheries.

10. In order to provide the underlying seabed full exposure to sunlight during six months of the year, all proposed structures shall be seasonal – with six months maximum use. Off season storage plans shall be submitted for review and approval by the Conservation Commission.

11. The Commission shall deny a permit in any case where a proposed structure or combination of structures, otherwise complying herewith, would not extend to a point where at mean low water, a water depth of at least two and one half (2½) feet is maintained; no vessel shall be aground at mean low water.

c. No permit shall be issued for construction of a new, private water dependent structure in the area of Round Cove of Pleasant Bay. This area includes all contiguous parcels beginning with the northerly boundary of the property (Map & Parcel Number 115-S1-3) and extending southerly along the shore to the

southerly boundary of the property (Map & Parcel Number 109-B1-5), and all shorefront parcels between these two properties including Round Cove. This prohibition does not apply to existing, licensed structures or to the maintenance of existing, licensed structures.

1:11 WATER DEPENDENT STRUCTURES – FRESH WATER

1. PREAMBLE

Any water dependent structure or water dependent accessory structure constructed in a freshwater pond or river shall be subject to the provisions hereof and be in conformity hereto. Any structure constructed in the waters of a great pond will also be subject to the provisions of a MA Chapter 91 License.

2. DEFINITIONS

- a. Dock – The end of the pier which provides for a wider space to moor a boat.
- b. Pier – The structure designed as the walk-way on pilings over the water to access the dock.
- c. Walkway – Any structure designed to provide access over a marsh or other wetland area to get to and from a pier.
- d. Pilings – A column constructed to support the pier or dock.
- e. Decks – Structures designed for use on inland bands or Bordering Vegetated Wetland to serve as a platform to launch kayaks, canoes, etc.
- f. Great Pond – Any freshwater pond over 10 acres in size.
- g. Shared Use – A single pier/dock to be jointly owned and used to two or more shorefront property owners.

3. STANDARDS AND REQUIREMENTS

a. Performance criteria for proposed new pier/dock structures should be used by applicants to assess the feasibility of obtaining a permit prior to application preparation. Shared use proposals are encouraged as a way of preserving access by shorefront owners while reducing the number of docks and piers. A number of setback regulations are intended to encourage two or more shorefront property owners to develop joint proposals. A proposed pier/dock shall not encroach upon designated or customary navigation lanes, mooring areas or upon areas used for sailing, pleasure boating or public swimming areas. The deep water end of the dock shall be sufficiently distant from the heretofore areas. The facility shall be no longer in dimension than necessary to carry on the activity and be consistent with existing conditions, use and character of the area.

b. No permit to construct a water dependent freshwater structure shall be issued unless the following standards are complied with:

- 1. In order to increase sunlight penetration, the planking of the dock/pier will be spaced a minimum of ½ inch. The maximum dock size shall be 100 SF and the configuration shall be “T” or “L” shaped. The pier shall be perpendicular to the shoreline.
- 2. Piers shall have an adequate minimum distance of 50 feet from the nearest pier and existing moorings to protect against excess density and encourage shared use.

3. The length of the pier and dock shall be dependent on characteristics of the pond and property use. Under no circumstances shall a pier and dock exceed 80 feet. To avoid any propeller dredging the dock end shall maintain a 2.5 foot depth. The pier shall have a maximum width of 4 feet. No utilities or lighting shall be allowed on the dock/pier.
4. Non-leaching treated materials shall be preferred for stub pilings or support legs in the water.
5. All freshwater docks and piers shall be approved for seasonal use only (6 months/year) to give underlying vegetation and water full exposure to sunlight the remaining six months. Off-season storage shall not be allowed on any wetland resource area.

1.12 VARIANCES

The Commission at its discretion, may grant variances from the specific stipulations of one or more of these regulations pursuant to the provisions of this section. Such variances shall be granted only where relief for a property owner may be warranted and said relief will not adversely affect the environmental values protected by the Bylaw. Variances shall be granted on a case-by-case basis and only under the provisions of this section, and in no way shall be deemed to, set a precedent.

A variance may be granted for the following reasons and upon the following conditions:

The 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 by 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 Commission with any and all information in writing which the Commission may request. 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.

The 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 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.

The Commission may consider hardship as part of its deliberations on a variance. Hardship is considered to be the occasion when a literal enforcement of the provisions of these regulations would involve a substantial hardship, financial or otherwise, to the applicant. The hardship may be due 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.

Desirable relief may be granted if there is neither a substantial detriment to the public good, nor nullification or substantial derogation from the intent or purpose of the Bylaw.

1.13 PROCEDURES

1. FILING REQUIREMENTS

LIST OF REQUIRED SITE PLAN FEATURES

Title Block With:

- Site Plan Name
- Date of Plan Creation
- Revision Dates
- Scale
- Company Name, Address and Phone Number

North Arrow

Road Names Adjacent to Site

All Resource Areas Depicted

All Required Setback Lines From Resource Area

All Pertinent Site Features Including:

- Existing Buildings, Decks, Walls, etc.
- Proposed Buildings, Additions, Decks, etc.
- Existing Landscaping Layout
- Contour Lines at 2-foot intervals (or spot elevations if appropriate) (NGVD datum)
- Septic System Component Locations
- Erosion Controls with Cross Sections for Installation
- Distances from resource areas (50 foot and 100 foot lines)
- Mean Sea Level Delineation
- Delineation of Shellfish Areas
- Docks, Piers, Groins, Bulkheads and Jetties (provide engineer's computations)
- Cross Sections for Piers, Groins, Bulkheads and Jetties (Provide test borings or soil info)
- Chapter 91 License Numbers for Docks, Piers, Groins, and Jetties (if available)
- Tidal flow and ebb Directions
- Walkways in Resource Areas or Setback Areas
- Cross Sections of Walkways and Paths
- Driveways and Type of Finish (pavement, gravel or dirt) Provide runoff and drainage computation
- Location of Trees that will be Disturbed
- Construction Notes

Size of Resource Area if below 5,000 SF

Landscaping Plan Showing:

- Location of Plants, Trees, Shrubs and Grass
- Location of Planting Beds and Depiction of Plants
- List of Plants

REGISTERED ENGINEER'S , REGISTERED LAND SURVEYOR'S OR REGISTERED
SANITARIAN'S STAMP – Signed and Dated

2. PROCEDURAL BURDENS

a. Burden of Proof:

The applicant shall have the burden of proving that :

1. The work proposed by the applicant is not significant to the protection of the interests identified in Section 1.01.
2. The proposed work will contribute to the protection of those interests by complying with the performance standards established for that particular resource area.
3. The activity proposed will not have a significant adverse impact of either an immediate or cumulative nature upon the interests of the Bylaw.

b. Burden of Going Forward:

The applicant shall have the burden of going forward to prove all matters asserted by the applicant.

1.14 FILING FEES

Applications or requests for some Conservation Commission action, will be assessed a filing fee to defray the costs, including advertising, to the Town of Harwich associated with processing and disposition of such application. The types of applications or requests for which a fee will be assessed and the schedule of fees are set forth below. Except for emergency applications or requests, the fees for after-the-fact filings are double those that would normally be assessed. All fees assessed by the Conservation Commission are in addition to any applicable Massachusetts Department of Environmental Protection (DEP) fees and charges.

Notice of Intent \$125

Abbreviated Notice of Intent \$100

Abbreviated Notice of Resource Area Delineation \$100

Request for Determination of Applicability \$75

Extension Permit Request \$50

Certificate of Compliance \$50

Amended Order of Conditions \$125

Administrative Review \$50
Copies of Wetland Regulations \$10
Reissue of any document \$25

FEES FOR ALL AFTER-THE-FACT FILINGS WILL BE DOUBLE THOSE NORMALLY CHARGED WITH THE EXCEPTION OF EMERGENCY ACTIVITIES.

Any application or request not accompanied by the applicable filing fee will be returned without further action by the Commission.

Fees may be paid by check or money order made payable to the "Town of Harwich".

1.15 SECURITY AND ENFORCEMENT

1. POSTING OF SECURITY

As part of a permit issued under this Bylaw, in addition to any security required by any other municipal or state board, agency, or official, the Commission may require that the performance and observance of the conditions imposed thereunder (including conditions requiring mitigation work) be secured wholly or in part by one or more of the methods described below:

- a. By a proper bond or deposit of money or negotiable securities or other undertaking of financial responsibility which is sufficient in the opinion of the Commission to secure the obligations of the applicant to undertake the activities so authorized pursuant to the conditions contained in the permit. Said security shall be released in whole or in part upon issuance of a Certificate of Compliance upon completion of the work performed pursuant to a permit.
- b. By accepting a covenant enforceable in a court of law, executed and duly recorded by the owner of record, running with the land to the benefit of this municipality whereby the permit conditions shall be performed and observed before any lot may be conveyed other than by mortgage deed. This method shall be used only with the consent of the applicant.

2. ENFORCEMENT

- a. No person shall remove, fill, dredge, build upon, degrade or otherwise alter resource areas protected by these Regulations, or cause, suffer, or allow such activity, or leave in place unauthorized fill, or otherwise fail to restore illegally altered land to its original condition, or fail to comply with a permit or an enforcement order issued pursuant to these Regulations.
- b. Any person who violates any provision of these Regulations or permits or administrative orders issued thereunder, may be punished by a fine of not more than \$200.00. Each day or portion thereof during which a violation continues, or unauthorized fill or other alteration remains in place, shall constitute a

separate offense, and each provision of the Regulations, permit or administrative orders violated shall constitute a separate offense.

c. Municipal boards and officers, including any police officer or other officer having police powers, shall have authority to assist the Commission in enforcement of these Regulations.

d. Upon request of the Commission, the Board of Selectmen and the Town Counsel may take legal action for enforcement under civil law. Upon request of the Commission, the Harwich Chief of Police may take legal action for enforcement under criminal law.

e. The Commission may issue citations under the non-criminal disposition procedure set forth in M.G.L. Ch. 40 21D, which has been adopted by the Town in Article VIII, Section 101-103 of the General Bylaws. The penalty for any violation under non-criminal disposition shall be \$50.00 for each offense. Members of the Commission, its agent, or any police officer shall have enforcement powers to issue non-criminal disposition citations.

f. The Commission, its agents, officers, and employees shall have authority to enter upon privately owned land for the purpose of performing their duties under these Regulations and may make or cause to be made such examinations, surveys, or sampling as the Commission deems necessary, subject to the constitutions and laws of the United States and the Commonwealth.

1.16 GENERAL PROVISIONS

1. INCORPORATION

a. General Provisions: The procedures, requirements and definitions set forth in the State Act (MGL 131 s. 40) and 310 CMR 10.00 et seq are hereby incorporated and made a part of these Regulations subject to the following:

1. Where they differ from or depart from these Regulations or the Harwich Bylaw, the Bylaw or the Regulations shall apply.
2. Where the language of the Bylaw or these Regulations is more definitive or protective, the language of the Bylaw or these regulations shall prevail.
3. Where the State 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 Harwich Bylaw and Regulations.
4. Unless otherwise defined in the Bylaw or these Regulations, those definitions found in the State Act or State Regulations promulgated thereunder, in effect at the time of the adoption of these Regulations shall be incorporated.

2. CONTINUING LIABILITY FOR COMPLIANCE WITH REGULATIONS

Any person who purchases, inherits or otherwise acquires real estate upon which work has been done in violation of the provisions of these Regulations or State Regulations at MGL 131 s. 40 or in violation of any order issued under such Regulations shall forthwith comply with any such order or restore such real estate to its conditions 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.

3. TITLE 5: STATE SANITARY CODE:

In all cases where projects are also subject to the provisions of Title 5 of the State Sanitary Code and any Town of Harwich regulation related to Title 5, all State and Town regulations will be followed with the exception that non-bordering wetlands will be subject to the same levels of regulations as bordering wetlands (see HWR 1.03 (2) (b)).

4. RESERVATION

These Regulations should not be construed to limit the authority of the Conservation Commission under the Harwich Wetland Protection Bylaw. The Conservation Commission reserves the right to act in a manner consistent with the Bylaw upon any matter within its jurisdiction and may impose such additional requirements as are necessary to protect the environmental values cited in the Bylaw.

5. AMENDMENTS

Amendments to these regulations shall be made in the same manner set forth in Article 7 of the Harwich Wetland Protection Bylaw.

6. 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.

1.17 APPENDIX – Available for review at the Conservation Office and the Town Clerk’s Office

APPENDIX CONTENTS

1. Town of Harwich Wetland Protection Bylaw
2. MGL 131 s40
3. 310 CMR 10.00 Massachusetts Wetland Protection Act
4. Department of Environmental Protection Filing Requirements and Forms
5. Department of Environmental Protection Fee Structure

6. Local Filing Forms and Instructions – Administrative Review – Required Site Plan Features
7. Plant Lists: “Native Plant Guide for Planting Along Streams and Ponds”; and “Native Plants for Coastal Planting”
8. Department of Environmental Protection Policy 92-1 Coastal Banks
9. MCZM on Shoreline Change April 2002