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MODEL SHORELINE PROTECTION ORDINANCE

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For The Houston-Galveston Area Council

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Draft Shoreline Protection Ordinance

1.0 Purpose, Scope and Authority

1.1_ Purpose

The purpose of this ordinance is to safeguard persons, protect property, prevent damage to the environment, and promote the public welfare, specifically as they relate to shoreline areas. The City of [] specifically recognizes the economic, aesthetic, recreational, and environmental value of shoreline areas and the need to protect shoreline areas.

1.2 Scope

This ordinance applies to all private and public land within the City's corporate limits and extraterritorial jurisdiction that lies within the Shoreline Protection Zone, as that term is defined in section 2.0 of this chapter.

2.0 Definitions

The following words and terms, when used in these regulations, shall have the meanings specified in this section, unless the context clearly indicates otherwise.

Agricultural activities means pasturing of livestock or use of land for planting, growing, cultivating, and harvesting crops for human or animal consumption.

Applicant means any person applying to the City for a permit under this Chapter.

Building permit is a permit issued by the City for the construction, erection, or alteration of a structure or building.

City means the City of [municipality].

Clearing means any activity that removes existing trees, shrubs, and/or vegetative ground cover.

Construction means causing or carrying out any building, bulkheading, filling, clearing, excavation, or substantial improvement to land or the size of any structure. "Building" includes, but is not limited to, all related site work and placement of construction materials on the site. "Filling" includes, but is not limited to, disposal of dredged materials. "Excavation" includes, but is not limited to, removal or alteration of dunes and dune vegetation and scraping, grading, or dredging a site. "Substantial improvements to land or the size of any structure" include, but are not limited to, creation of vehicular or pedestrian trails, landscape work that adversely affects dunes or dune vegetation, and increasing the size of any structure.

Degradation means any modifications, alterations, or effects on waters, associated wetlands, surface area, species composition, or usefulness for human or natural uses which are or may potentially be harmful or injurious to human health, welfare, safety, property, biological productivity, diversity, or stability or which unreasonably interfere with the reasonable use of property, including outdoor recreation. Degradation shall also include secondary or cumulative impacts.

Eroding area means a portion of the shoreline which is experiencing an historical erosion rate of greater than two (2) feet per year based on published data of the University of Texas at Austin, Bureau of Economic Geology, or if such data is not available from the Bureau of Economic Geology, based on any reliable method of measurement as determined by the City.

Erosion means the wearing away of land or the removal of beach and/or dune sediments by wave action, tidal currents, wave currents, drainage, or wind. Erosion includes, but is not limited to, horizontal recession and scour and can be induced or aggravated by human activities.

Erosion response structure means a hard or rigid structure built for shoreline stabilization which includes, but is not limited to, a jetty, retaining wall, groin, breakwater, bulkhead, seawall, riprap, rubble mound, revetment, or the foundation of a structure which is the functional equivalent of these specified structures.

Excavation means any act by which organic matter, earth, sand, gravel, rock or any other similar material is cut into, dug, quarried, uncovered, removed, displaced, relocated or bulldozed and shall include the conditions resulting therefrom.

FEMA means the United States Federal Emergency Management Agency, which administers the national flood insurance program and publishes the official flood insurance rate maps.

Fill means any act by which earth, sand, gravel, rock or any other material is deposited, placed, replaced, pushed, dumped, pulled, transported or moved by man, man-made device, or man-controlled device to a new location and shall include the conditions resulting therefrom.

Flood plains are lands which will be inundated by floods known to have occurred or that reasonably can be expected to occur from the overflow of inland or tidal waters and/or the accumulation of runoff of surface waters from rainfall. Flood plains include all areas subject to the 100-year flood.

Marina means a commercial waterfront facility whose principal use is the provision of publicly available services such as securing, launching, storing, fueling, servicing and repairing of watercraft.

Permittee means any person authorized to act under a permit or a certificate issued by the City.

Primary structure means any structure suitable for human habitation or use as an office space.

Reference line means:

For non-river natural fresh water bodies without artificial impoundments, the natural mean high water level.

For rivers, the ordinary high water mark. *Ordinary high water mark* means the line on the river bank, running parallel to the main stem of the river, established by fluctuations of water indicated by physical characteristics such as a clear, natural line impressed on the immediate bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

For artificially impounded fresh water bodies with established flowage rights, the limit of the flowage rights, and for water bodies without flowage rights, the waterline at full pond as determined by the elevation of the spillway crest.

For coastal waters, the highest observable tide line, which means a line defining the furthest landward limit of tidal flow, not including storm events, which can be recognized by indicators such as the presence of a strand line of flotsam and debris, the landward margin of salt tolerant vegetation, or a physical barrier that blocks further flow of the tide.

Removal means cutting vegetation to the ground or stumps, complete extraction, or killing by spraying.

Retaining wall means a structure designed primarily to contain material and to prevent the sliding of land.

Seawall means an erosion response structure that is specifically designed to withstand wave forces.

Shoreline Protection Zone is all land located within two hundred fifty (250) feet of the reference line.

Stripping means any activity that removes vegetative surface cover including tree removal, clearing, and storage or removal of top soil.

Structure includes, without limitations, any building, combination of related components constructed in an ordered scheme that constitutes a work or improvement constructed on or affixed to land. The term includes, but is not limited to, anything built for the support,

shelter or enclosure of persons, animals, goods, property of any kind, as well as anything constructed or erected with a fixed location on or in the ground, exclusive of fences.

Wetlands means areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and than under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

U.S.D.A. means the United States Department of Agriculture.

3.0 Shoreline Protection Zone

3.1 Prohibited activities

3.1.1. The following activities, unless specifically excepted, shall be prohibited within the Shoreline Protection Zone:

- A. Construction of buildings and structures, except for: (1) structures for which the City has granted a permit in accordance with this Chapter; or (2) minor structures for which no permit is required as specified in Section 3.2.1.B.
- B. Establishment or expansion of:
 - 1. salt storage yards; or
 - 2. automobile junk yards.
- C. Removal or clearing of vegetation, except as specifically authorized in this Chapter.
- D. Planting of new vegetation, except for native, salt-resistant (if applicable) species suitable for erosion control. [At the option of the City, additional language may be included which states: “A list of native vegetation species is available from the City building permits office.”]
- E. Application of fertilizers, herbicides, or pesticides except as follows:
 - 1. Limestone may be used within twenty-five (25) feet of the reference line.
 - 2. Twenty-five (25) feet beyond the reference line, low phosphate, slow release nitrogen fertilizer or limestone, may be used on lawns or areas with grass.
- F. Disposal of all types of wastes.

- G. The storage of toxic or hazardous wastes or substances in outdoor containers not specifically designated and intended for storage of hazardous materials. Any storage of such wastes or substances shall be in sealed containers.
- H. Sand and gravel excavations and the processing of excavated materials.
- I. The generation, storage, transportation, or disposal of any solid waste or hazardous waste (as those terms are defined in 30 Texas Administrative Code chapter 335) that does not comply with the regulations of the Texas Natural Resource Conservation Commission.

3.2 Permitting

3.2.1 Permit requirements

- A. Except as otherwise provided in this ordinance, no person shall commence or perform any construction, clearing, grading, stripping, excavating, or filling of land which meets the following provisions without having first obtained a permit from the City.
 - 1. Any land disturbing activity (*i.e.*, clearing, grading, stripping, excavation, fill, or any combination thereof) that will affect an area within the Shoreline Protection Zone in excess of 5000 square feet;
 - 2. Any land disturbing activity that will affect an area in excess of 500 square feet if the activity is within 25 feet of a reference line;
 - 3. Excavation, fill, or any combination thereof within the Shoreline Protection Zone that will exceed 100 cubic yards; or
 - 4. Construction of any dock or marina.
- B. A permit shall not be required for any of the following, provided that the person responsible for any such development implements necessary erosion and sediment control measures.
 - 1. Excavation below final grade for the basement and footing of a single-family residence and appurtenant structures on a site in excess of two acres for which a building permit has been issued by the City;
 - 2. Any agricultural activities related to the implementation of conservation measures included in a farm conservation plan approved by a Soil and Water Conservation District;

3. Installation, renovation, or replacement of a septic system to serve an existing dwelling or structure;
 4. Scenic, historic, wildlife or scientific preserves;
 5. Minor maintenance or emergency repair to existing structures or improved areas;
 6. Cleared walking trails having no structural components;
 7. Timber catwalks and docks having four feet or less in width;
 8. Recreational fishing or hunting and creation and maintenance of temporary blinds; or
 9. Constructing fences where no fill activity is required and where navigational access will not be impaired by construction of the fence.
- C. The City permits office shall take into consideration the purpose of this Chapter, the design standards set forth in section 3.4, the construction standards set forth in section 3.5, and the marina and dock standards set forth in section 4.0 (as applicable), when evaluating a permit application submitted in accordance with this Chapter. All persons, whether or not a permit is required by this Chapter, are encouraged to follow the above standards when undertaking any construction activities within the Shoreline Protection Zone.

3.3 Permitting Process

3.3.1 Application Process

- A. Persons required to obtain a permit under this Chapter must apply to the office of the City that issues building permits. The applicant must supply information, using any forms designated by the City, which contains sufficient information to allow the City to verify that the requirements of this Chapter will be met.
- B. If possible, a permit issued under this Chapter should be issued as part of a building permit of the type issued by the City's building permits office.
- C. If a person plans to undertake construction activities, or phased construction activities, that will affect multiple lots within the Shoreline Protection Zone, that person must inform the permits staff of all anticipated construction activities, so that, if appropriate, a single permit may be issued to authorize and assure appropriate coordination of all planned construction activities.

3.3.2 Approval Process. The application approval, appeal, and variance processes utilized for building permits will apply to permits issued under this Chapter.

3.3.3 Termination of permit

- A. A permit is voidable if the City finds that:
 - 1. The permit is inconsistent with state or federal law, or this ordinance at the time the permit was issued;
 - 2. A material change occurs after the permit is issued; or
 - 3. A permittee fails to disclose any material fact in the application.
- B. "Material change" includes, in the opinion of the City, human or natural conditions which have adversely affected the Shoreline Protection Zone that either did not exist at the time of the original application, or were not considered by the City in making the permitting decision because the permittee did not provide information regarding the site condition in the original application.
- C. A permit automatically terminates if construction comes to lie within the boundaries of the public beach by artificial means or by natural causes

3.4 Design Standards

3.4.1 Natural vegetation buffer

- A. Natural vegetation buffers should be retained and protected wherever possible. Areas immediately adjacent to natural watercourses, lakes, ponds, and wetlands should be left undisturbed wherever possible. A minimum twenty-five (25) foot buffer strip of natural vegetation should be preserved along waterbodies and wetlands.
- B. If no natural vegetation buffer exists, strips of buffer vegetation shall be planted between development activities and the reference line. Buffers shall be a minimum of ten (10) feet wide and shall be composed of native species. Wider buffers may be required, if necessary to prevent significant adverse effects to the shoreline or areas within the Shoreline Protection Zone, at the sole discretion of the City. The City permits office is instructed to develop a list of native species to be made available to the public upon request.
- C. Where existing, a natural woodland buffer shall be maintained within one hundred fifty (150) feet of the reference line. The purpose of this buffer shall be to protect the quality of public waters by minimizing erosion, preventing siltation and turbidity, stabilizing soils, preventing excess nutrients and chemical pollution, maintaining natural water temperatures, maintaining a healthy tree canopy and understory, preserving fish, bird and wildlife habitat, and respecting the overall natural condition of the protected shoreline.

Within the natural woodland buffer of the protected shoreline, the following limitations shall apply:

1. Not more than a maximum of fifty (50) percent of the basal area trees, and a maximum of fifty (50) percent of the total number of saplings shall be removed for a twenty (20) year period. A healthy well-distributed stand of trees, saplings, shrubs, and ground covers and their living, undamaged root systems shall be left in place. Replacement planting with native or naturalized species may be permitted to maintain the fifty (50) percent level.
2. Trees, saplings, shrubs and ground cover which are removed to clear an opening for building construction, accessory structures, septic systems, roadways, pathways, and parking areas shall be excluded when computing the percentage limitations.
3. Dead, diseased, unsafe or fallen trees, saplings, shrubs, or ground cover may be removed. Their removal shall not be used in computing the percentage limitations.

4. Stumps and their root systems which are located within fifty (50) feet of the reference line shall be left intact in the ground, unless removal is specifically approved by the City.
 5. Dead and living trees that provide dens and nesting places for wildlife are encouraged to be left undisturbed.
 6. Planting efforts that are beneficial to wildlife are encouraged to be undertaken.
- F. Any development shall leave a minimum of twenty (20) percent of the basal number of trees, shrubs, or other natural vegetation, at a site, except that development may occur even if it will result in less than twenty (20) percent of the basal rate if replacement of existing trees, shrubs, or other natural vegetation occurs at a minimum ratio of two to one (2:1).

3.4.2 Setbacks

- A. No primary structure shall be located within fifty (50) feet of the reference line.
- B. Accessory structures such as storage sheds and gazebos but excluding automobile garages may be located within the fifty (50) foot setback as a special exception provided:
 1. The location and construction of the structure is consistent with the intent of the ordinance to maintain a vegetated buffer.
 2. The structure is usually customary and incidental to a legally authorized use located within the Shoreline Protection Zone.
 3. No solvents, paints, pesticides, or other household hazardous materials shall be stored in such structures.

3.4.3 Building height and placement

- A. Building heights. No structure within the Shoreline Protection Zone may exceed two (2) stories or thirty-five (35) feet in height as measured from average ground level around the structure to the highest point on the roof, excluding chimneys.
- B. Building placement. Buildings should be sited to minimize impact on habitat and the watershed.

3.4.4 Impervious material coverage

- A. Total impervious surface, including but not limited to buildings, houses, parking lots, garages, accessory buildings, driveways, pools and walkways, is limited to twenty-five (25) percent of the land area of the entire site located within the Shoreline Protection Zone.

3.4.5 Flood control

- A. General flood protection requirements
 - 1. Permittees shall:
 - a. Not engage in construction that does not comply with FEMA's regulations governing construction in flood hazard areas; and
 - b. Design construction so as to minimize impacts on natural hydrology. Construction shall not cause erosion to adjacent properties or the public beach.
- B. All applications for construction within a flood plain shall include an analysis sufficient to indicate that the proposed construction activity will not increase erosion hazards or flood heights off the site of the construction due to filling, grading, dredging, or other construction activities affecting manmade or natural flood plains. Efforts should be made to minimize alterations to natural flood plains. Design standards for construction within the 100-year flood plain shall apply as follows:
 - 1. Anchoring. All new construction and substantial improvements of existing construction shall be anchored to prevent flotation, collapse or lateral movement of the structure during a 100-year flood.
 - 2. Construction materials and methods. All new construction and substantial improvements of existing construction shall be constructed with materials and utility equipment resistant to flood damage, and using methods and practices that will minimize flood damage and prevent the pollution of surface waters during a 100-year flood.
 - 3. Service facilities and utilities.
 - a. Electrical, heating, ventilation, plumbing, air conditioning and other service facilities shall be designed or located to prevent water from entering or accumulating within the components during a 100-year flood.

- b. All new and replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate both infiltration of floodwaters into the systems and discharges from the systems into floodwaters.
 - c. On-site sanitary sewage systems shall be located and constructed to avoid impairment to them or contamination from them during flooding, and shall not be installed wholly or partially in a flood plain.
4. Residential structures.
- a. All new construction and substantial improvement of existing construction of residential structures shall be constructed with the lowest floor elevated to or above the flood protection elevation as delineated on the Federal Emergency Management Agency (FEMA) flood insurance rate maps (FIRM).
 - b. For all new construction and substantial improvements of existing construction, enclosed areas below the lowest floor that are subject to flooding shall be designed to equalize hydrostatic flood forces on exterior walls by allowing for automatic entry and exit of floodwater. Designs for meeting this requirement must either be certified as meeting this requirement by a registered professional engineer or architect, or must meet or exceed the following minimum standards:
 - (1) provide a minimum of two openings having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding;
 - (2) place the bottom of all openings no higher than one (1) foot above grade; and
 - (3) electrical, plumbing and other utility connections shall not be placed below the flood protection elevation.
5. Non-residential structures. New construction and substantial improvement of existing construction of nonresidential structures including attendant utility or sanitary facilities shall be constructed to meet the following minimum requirements:

- a. walls below the flood protection elevation shall be substantially impermeable to the passage of water;
 - b. structural components shall resist hydrostatic and hydrodynamic loads and effects of buoyancy; and
 - c. be certified as meeting the standards of this article by a registered professional engineer or architect.
6. Subdivisions.
- a. All preliminary subdivision proposals shall identify the area of special flood hazard, the elevation of the 100-year flood, and eroding areas.
 - b. All final subdivision plans shall identify the minimum flood plain elevation.
 - c. All public utilities and facilities in subdivisions shall be located and constructed to minimize flood damage, and shall be adequately drained to reduce exposure to flood hazards.
 - d. Each subdivision lot must include a site suitable for constructing a structure in conformity with the standards of these flood damage prevention regulations.
 - e. The requirements of this subsection should be considered during the review and approval of subdivision proposals submitted to the City. Nothing in this subsection is intended to affect the procedure or timing requirements applicable to subdivision proposal review and approach.
7. All agreements for deed, purchase agreements, leases, or other contracts for sale or exchange of real property within an area of special flood hazard must contain in prominent visibility the following flood hazard warning in the document:

FLOOD HAZARD WARNING

This property may be subject to flooding. You should contact local building and zoning officials to obtain information about flood elevations and restrictions before making plans for the use of this property.

3.4.6 Septic Systems

- A. Septic tanks shall not be located closer than one hundred fifty (150) feet from the reference line. Septic systems may not be installed if the total number of residential units using septic systems along any portion of the Shoreline Protection Zone exceeds one unit per one hundred fifty (150) feet of shoreline frontage.
- B. The following conditions, based on the characteristics of the receiving soils as they relate to U.S.D.A., Natural Resources Conservation Service drainage classes shall dictate the setback requirements for all new leaching portions of new subsurface wastewater disposal systems adjacent to ponds, lakes, estuaries and the open ocean, as follows:
 - 1. Where the receiving soil down gradient of the leaching portions of a subsurface wastewater disposal system is a porous sand and gravel material with a percolation rate equal to or faster than two (2) minutes per inch, the setback shall be at least one hundred twenty-five (125) feet from the reference line;
 - 2. For soils with restrictive layers within eighteen (18) inches of the natural soil surface, the setback shall be at least one hundred (100) feet from the reference line; and
 - 3. For all other soil conditions, the setback shall be no less than seventy-five (75) feet.
 - 4. Adjacent to rivers, the setback shall be no less than seventy-five (75) feet.
- C. The placement of all septic tanks and leaching portions of subsurface wastewater treatment systems for replacement systems are encouraged to comply with the requirements of this section to the maximum extent feasible.
- D. Regardless of any other provision in this Chapter, the design, placement, construction, and operation of all septic systems must comply with the requirements of the Texas Natural Resource Conservation Commission or any other federal, state, or local agency with jurisdiction over septic systems.

3.5 Construction/Development Standards

3.5.1 General

- A. All persons who undertake construction activity shall completely restore any portion of a Shoreline Protection Zone damaged during construction that is not paved, bulkheaded, or otherwise covered as a consequence of the construction. Complete restoration means that the damaged area shall, within five (5) years, be operating as effectively as the natural system did prior to being destroyed. This provision applies to all persons who undertake construction activities, regardless of whether a permit is required under this Chapter.
- B. Bulkheads shall be designed so that bulkheading does not result in erosion of adjacent shoreline areas not protected by bulkhead construction.
- C. Other reasonable protective measures necessary to prevent significant adverse effects in a Shoreline Protection Zone may be required. Protective measures may include, but are not limited to:
 - 1. Maintaining natural drainage patterns.
 - 2. Limiting the normal removal of vegetation to the minimum necessary to carry out the development activity.
 - 3. Expeditiously replanting denuded areas.
 - 4. Stabilizing banks and other unvegetated areas by siltation and erosion control measures.
 - 5. Minimizing the amount of fill used in the development activity.
 - 6. Disposing of dredged spoil at specified locations in a manner causing minimal environmental damage.
 - 7. Constructing channels at the minimum depth and width necessary to achieve their intended purposes and designing them to prevent slumping and erosion and allow revegetation of banks.
 - 8. Dredging wetlands at times of minimum biological activity to avoid periods of fish migration and spawning and other cycles and activities of wildlife.
 - 9. Designing, locating, constructing and maintaining all development in a manner that minimizes environmental damage.
 - 10. Prohibiting septic tanks or locating them away from high groundwater areas and peaty soils.

11. Requiring the person undertaking construction activity and successor to record deed restrictions and other legal mechanisms to protect the environmentally sensitive areas and maintain the development.
- C. Land disturbance activities on the waterward side of any reference line shall be avoided, where possible. If disturbance activities are unavoidable, the following requirements shall be met:
1. Construction vehicles shall be kept out of water bodies and off of any land on the waterward side of a reference line to the maximum extent practicable. Where construction crossings are necessary, temporary crossings shall be constructed of non-erosive material, such as riprap or gravel.
 2. The time and area of disturbance of water bodies and any land on the waterward side of any reference line shall be kept to a minimum. The water body channel, including beds and banks, shall be restabilized within forty-eight (48) hours after channel disturbance is completed, interrupted, or stopped.
 3. Whenever channel relocation is necessary, the new channel shall be constructed in the dry and fully stabilized before flow is diverted.

3.5.2 Erosion Controls

- A. General erosion protection requirements
1. Permittees shall:
 - a. Locate all construction sufficiently landward so as not to become an encroachment on the public beach;
 - b. Not engage in any construction which may aggravate erosion;
 - c. Not construct any new erosion response structure, except a retaining wall located greater than two hundred (200) feet landward of the reference line;
 - d. Not maintain or repair an existing erosion response structure located on a public beach;
 - e. Not maintain or repair an existing erosion response structure located less than two hundred (200) feet landward

of the reference line that is more than fifty (50) percent damaged, except:

(1) When failure to repair the damaged structure will cause unreasonable hazard to a public building, public road, public water supply, public sewer system, or other public facility immediately landward of the structure; or

(2) When failure to repair the damaged structure will cause unreasonable flood hazard to habitable structures because adjacent erosion response structures will channel floodwaters to the habitable structure; and

f. Not enlarge or improve an existing erosion response structure located less than two hundred (200) feet landward of the reference line.

B. Special requirements for eroding areas

1. In addition to the other requirements of these regulations, in eroding areas, permittees shall:

a. Construct structures in eroding areas in accordance with FEMA minimum standards and elevations.

b. Design structures located on property adjacent to the public beach so that the structures can be relocated; and

c. Not pave or alter the ground below the lowest habitable floor, except for stabilization of driveways using gravel or crushed limestone.

2. If there is any conflict between the requirements of this section and the requirements of any other provision of these regulations, this section controls.

3.5.3 Sediment controls

A. On-site sediment control measures, as specified by the following criteria, shall be constructed and functional prior to initiating clearing, grading, stripping, excavating or fill activities on the site.

1. For disturbed areas draining less than one (1) acre, filter barriers (including filter fences, straw bales, or equivalent control

measures) shall be constructed to control all offsite runoff. Vegetated filter strips, with a minimum width of twenty-five (25) feet, may be used as an alternative only where runoff in sheet flow is expected.

2. For disturbed areas draining more than one (1) but less than five (5) acres, a sediment trap or equivalent control measure shall be constructed at the downslope point of the disturbed area.
 3. For disturbed areas draining more than five (5) acres, a sediment basin or equivalent control measure shall be constructed at the downslope point of the disturbed area.
 4. Sediment basins and sediment trap designs shall provide for both detention storage and sediment storage. The detention storage shall be composed of equal volumes of “wet” detention storage and “dry” detention storage and each shall be sized for the two (2) year, twenty-four (24) hour runoff from the site under maximum runoff conditions during construction. The release rate of the basin shall be that rate required to achieve minimum detention times of at least ten (10) hours. The elevation of the outlet structure shall be placed such that it only drains the dry detention storage.
 5. The sediment storage shall be sized to store the estimated sediment load generated from the site over the duration of the construction period with a minimum storage equivalent to the volume of sediment generated in one year.
 6. All temporary sediment control measures shall be disposed of within thirty (30) days after final site stabilization is achieved with permanent soil stabilization measures. Trapped sediment and other disturbed soils resulting from the disposition of temporary measures should be permanently stabilized to prevent further erosion and sedimentation.
- B. Each site shall have graveled (or equivalent) entrance roads, access drives, and parking areas of sufficient length and width to prevent sediment from being tracked onto public or private roadways. Any sediment reaching a public or private road shall be removed by shoveling or street cleaning (not flushing) before the end of each workday and transported to a controlled sediment disposal area.
- C. Disturbed areas shall be stabilized with temporary or permanent measures within seven (7) calendar days following the end of active disturbance, or redisturbance, consistent with the following criteria:

1. Appropriate temporary or permanent stabilization measures shall include seeding, mulching, sodding, and/or non-vegetative measures.
 2. Areas having slopes greater than twelve (12) percent shall be stabilized with sod, mat or blanket in combination with seeding, or equivalent.
- D. Soil storage piles containing more than ten (10) cubic yards of material shall not be located with a downslope drainage length of less than twenty-five (25) feet to a roadway or drainage channel. Filter barriers, including straw bales, filter fence, or equivalent, shall be installed immediately on the downslope side of the piles.

3.5.4 Dredging activities

- A. Any dredging shall be conducted at times of minimum biological activity to avoid fish migration and spawning, and other cycles and activities of wildlife.
- B. Any soils that results from dredging shall be disposed of at upland sites and stabilized within thirty (30) days, unless the spoil is causing turbidity or other problems, in which case the soils must be stabilized immediately.
- C. If dredging changes the littoral drift processes and causes adjacent shores to erode, the developer shall periodically replenish these shores with the appropriate quantity and quality of aggregate (sand).

3.5.5 Storm water

- A. Storm water conveyance channels, including ditches, swales, and diversions, and the outlets of all channels and pipes shall be designed and constructed to withstand the expected flow velocity from the ten (10) year frequency storm without erosion. All constructed or modified channels shall be stabilized within forty-eight (48) hours, consistent with the following standards:
 1. For grades up to four (4) percent, seeding in combination with mulch, erosion blanket, or an equivalent control measure shall be applied. Sod or erosion blanket or mat shall be applied to the bottom of the channel.
 2. For grades of four (4) to eight (8) percent, sod or an equivalent control measure shall be applied in the channel.

3. For grades greater than eight (8) percent, rock, riprap, or an equivalent control measure shall be applied, or the grade shall be effectively reduced using drop structures.
- B. Any channels constructed shall be of a minimum depth and width capable of achieving the intended purposes. Sides of channels shall reflect an equilibrium shape to prevent slumping and erosion and to allow revegetation.
- C. Storm sewer inlets and culverts shall be protected by sediment traps or filter barriers meeting accepted design standards and specifications.
- D. If dewatering devices are used, discharge locations shall be protected from erosion. All pumped discharges shall be routed through appropriately designed sediment traps or basins, or equivalent.

4.0 Water-Related Uses

4.1. Marinas and Docks

- 4.1.1. No person shall construct or add to an existing dock, seawall, erosion response structure, mooring or piling, modify an existing submerged land lease, or conditions thereto, or conduct dredge or fill operations in, or contiguous to any water body without first obtaining any required authorizations from appropriate federal, state and city agencies.
- 4.1.2. No fish carcasses and debris shall be discharged into any water bodies.
- 4.1.3. No person who maintains or operates a dock shall allow or permit the disposal of fish carcasses, litter, sewage from boats, waste petroleum products or other pollutants into a body of water. Trash disposal receptacles shall be anchored to each dock to ensure compliance with the provisions of this article.
- 4.1.4. No fuel or oil shall be willfully or knowingly discharged into a body of water. No dock which sells fuel or oil shall be constructed, operated or maintained in a body of water unless an oil abatement plan, in accordance with Coast Guard guidelines, is available at each dock. A copy of the oil abatement plan must be filed with the City permits office:
 - A. Within 90 days after the effective date of this Chapter for existing facilities; or
 - B. Prior to operation, for new facilities.
- 4.1.5. No new or existing dock shall be constructed or modified such that the length of any pier as completed is greater than 20 percent of the width of the body of water

in question at the place where the pier is located, or out 200 feet, whichever is less.

- 4.1.6. No piling(s) shall be added to the waterward end of any pier which piling(s) would make the total length of the dock more than 200 feet.
- 4.1.7. Where wet moorage is offered for rent, boats which have holding facilities for sewage, or where other recreational vehicles are allowed to stay overnight, then pump-out, holding or treatment facilities shall be provided by the developer for sewage and other wastes contained on vessels and vehicles. The facilities shall be conveniently available to all vessels and/or vehicles.
- 4.1.8. No discharge of water shall contain phosphorous or any other substance likely to cause a violation of the water quality standards.
- 4.1.9. No dock shall unreasonably interfere with the riparian rights of others.
- 4.1.10. No electrical or water service upon any dock shall be installed unless a permit is obtained from the City for that service.
- 4.1.11. No lot, or multi-contiguous lots, with less than fifty (50) feet of waterfront footage shall be allowed individual docks. Except as otherwise prohibited, lots may be combined with neighboring lots to meet the fifty (50) feet requirement.
- 4.1.12. Marinas shall be developed in accordance with the following:
 - A. Minimum shoreline frontage shall be three hundred (300) feet with an additional twenty-five (25) feet of shore frontage for each slip.
 - B. Off street parking shall be provided at a rate of five hundred (500) square feet per boat slip.
 - C. Submission of an environmental impact plan to the City permits office which indicates mitigation measures to minimize potential negative impact on the waters including, but not limited to:
 1. Measures to be taken to prevent leakage or spills of fuels, lubricants, waste products or other potential pollutants into the waters.
 2. Assurances that impacts on wetlands and related sensitive areas and habitats will be avoided.

4.2 Boating Activities

- 4.2.1. Watercraft being operated within a distance of three hundred feet from the water's edge shall be operated at speeds not to exceed 8 miles per hour.
- 4.2.2 No boat or vessel shall operate at such speed that would create a wake that endangers other boats or vessels, swimmers or other persons within the water, or would contribute to any adjacent land erosion.
- 4.2.3 Any person who violates this subsection shall be liable to the City and any affected landowner for the value of damage caused through erosion of land and loss of natural resources. This remedy is addition to, and not in lieu of, any other remedies available under this Chapter.

5.0 Mitigation and Conservation

5.1 Mitigation

Mitigation procedures must be followed in any case where development degrades estuaries, wetlands, bayous, harbors or other natural resources.

5.1.1 General

- A. Compensatory mitigation, by which environmentally sensitive lands are purchased, created, enhanced and/or restored to compensate for the loss of such lands, is required whenever required by the state or federal government in connection with development activities.
- B. The purchased, created, enhanced or restored environmentally sensitive land must be of the same type as that destroyed or degraded, and must be located within the Galveston Bay Estuary System.
- C. Compensatory mitigation shall not be the basis for approving a project that could not otherwise be approved.
- D. A developer of a compensatory mitigation plan shall grant a conservation easement on the newly purchased, created, enhanced or restored environmentally sensitive lands to protect them from future development.

5.1.2 Determination of adequate mitigation

- A. Development projects reviewed and approved by appropriate state or federal agencies shall be deemed to comply with the city's mitigation provisions and standards.
- B. Any permit, authorization or statement by the regulatory agency of no jurisdiction due to the absence of such resource at the project site shall be acceptable to the city.

- C. The applicant for development approval shall submit to the city copies of any permit, authorization or statement prior to receiving any permit from the city if activities conducted pursuant to such city-issued permit would impact any natural resource requiring mitigation under this section.
- D. Violations of any conditions of any wetland or dredge and fill permits issued by state and federal agencies shall also be violations of this chapter and may be independently enforced by the City.

5.2 Conservation

Protection of shoreline intrinsically provides for the conservation of affected resources. Conservation also extends to the preservation of air quality, the protection of historical resources, and the protection of endangered species of plants and animals. This subsection provides regulatory controls intended to conserve these resources.

5.2.1 Fauna

Where development activity may threaten endangered wildlife, the following regulatory conditions apply:

- A. In areas known to be important to animal species designated by the United States Fish and Wildlife Service as endangered or threatened, reproduction, feeding or nesting of such species, all construction activities must comply with any relevant federal or state statutes or regulations. A violation of such statutes or regulations shall also be considered to be a violation of this Chapter and may be independently enforced by the City.

5.2.2 Air quality

Any development with point source emissions that may degrade air quality must comply with all applicable federal and state regulations regarding emission control.

5.2.3 Open burning

Open burning shall comply with 30 Texas Administrative Code Chapter 111. In addition, burn permits must be obtained from the City Fire Department prior to undertaking any planned outdoor burning activity in the Shoreline Protection Zone.

6.0 Consistency with the Texas Coastal Management Program

6.1 Coastal Management Program Boundary

6.1.1 The following areas are within the CMP boundary and are subject to CMP consistency review: area that is seaward from FM Road 2004 to the junction of Interstate Highway (IH) 45 between Dickinson and La Marque, thence northwestward along IH 45 to the junction of IH 610 in Houston, thence east and northward along IH 610 to the junction of IH 10 in Houston, thence eastward along IH 10 to the Louisiana State line. The following areas are also included:

- A. Clear Creek from IH 45 to a point 110 yards upstream of FM Road 528 in Galveston /Harris County;
- B. Buffalo Bayou (Houston Ship Channel) from IH 610 to a point 440 yards upstream of Shepherd Drive in Harris County; and
- C. San Jacinto River from IH 10 upstream to the Lake Houston dam in Harris County.

6.1.2 This Chapter incorporates by reference the General Land Offices requirements for CNRA's contained in 31 Texas Administrative Code chapter 16. A violation of these requirements will be considered to be a violation of this Chapter and may be independently enforced by the City.

7.0 Incorporation of Corps of Engineers Wetland Regulations

7.1

- A. The following Corps of Engineers Regulations are incorporated by reference:

33 Code of Federal Regulations § 322 - Permits for Structures or Work in or Affecting Navigable Waters of the United States

33 Code of Federal Regulations § 323 - Permits for Discharges of Dredged or Fill Material into Waters of the United States

33 Code of Federal Regulations § 324 - Permits for Ocean Dumping of Dredged Material

33 Code of Federal Regulations § 325 - Processing of Department of the Army Permits

33 Code of Federal Regulations § 326 - Enforcement

33 Code of Federal Regulations § 327 - Public Hearings

33 Code of Federal Regulations § 328 - Definition of Waters of the United States

33 Code of Federal Regulations § 329 - Definition of Navigable Waters of the United States

33 Code of Federal Regulations § 330 - Nationwide Permit Program

- B. A violation of the Corps of Engineers regulations set forth above will also be considered to be a violation of this Chapter and may be independently enforced by the City.

8.0 Stormwater Permitting Regulations

8.1

- A. The stormwater permitting regulations contained in 40 Code of Federal Regulations § 122.26 and all general stormwater permits adopted by Region VI of the Environmental Protection Agency pursuant to those regulations are adopted by reference.
- B. A violation of the above regulations or general permits will also be considered to be a violation of this chapter and may be independently enforced by the City.

9.0 Subsidence

9.1

- A. The rules and regulations of the Houston/Galveston Coastal Subsidence District are adopted by reference.
- B. A violation of the rules or regulations of the Houston/Galveston Coastal Subsidence District will also be considered to be a violation of this Chapter and may be independently enforced.

10.0 Grandfather Protection for Existing Structures/Uses

10.1 Non-conforming structures

10.1.1 Unless expressly stated otherwise in this Chapter, existing non-conforming structures are not required to meet the standards in this Chapter or obtain a permit pursuant to this Chapter. However:

- A. No change in such a structure is permitted which would result in increasing the non-conformity with this Chapter in any way.
- B. An expansion that increases the sewerage load to an on-site wastewater treatment system (*e.g.*, additional bedrooms) shall require approval by the City.

- C. Between the non-conforming structure and the reference line, no alteration shall extend the structure closer to the water.
- D. Any repair or maintenance work to an existing, non-conforming structure that costs more than 50% of the cost that would be required to build a new structure will be considered construction of a new structure, which will be subject to the permitting and other standards of this Chapter.

10.2 Non-conforming uses

- 10.2.1 Existing uses which are non-conforming under this ordinance may continue until the use ceases to be active or is discontinued for a period of one year.
- 10.2.2 An existing non-conforming use may not be changed to another non-conforming use.
- 10.2.3 Existing non-conforming uses are encouraged to meet the standards set forth in this Chapter.

11.0 Enforcement

11.1 Penalties

- A. Any person found in violation of this ordinance shall be punished for each offense by a fine not exceeding \$1,000.00 or imprisoned for a term not exceeding sixty (60) days or both such fine and imprisonment. Each day any violation of any provision of this ordinance continues shall constitute a separate offense.
- B. In addition, the City may obtain injunctive relief for any violation of the provisions of this ordinance.