



CHAPTER 3

ENVIRONMENTAL AND RESOURCE PROTECTION

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3.00.00 **GENERALLY**

3.00.01 **Purpose and Intent**

The purpose of this chapter is to safeguard the public health, safety, and welfare by ensuring the long-term protection and preservation of natural resource systems. Application of the provisions of this chapter shall result in development that reduces the potential for adverse impacts on the functions of wetlands, natural systems, habitats, water quality, shorelines, marine life, and coastal resources.

3.00.02 **Applicability**

All new development and redevelopment shall be designed to ensure protection of areas such as dunes, floodplains, environmentally sensitive lands, wetlands, or wellfields. No permit for development shall be issued by the City that is not in full compliance with the provisions of this chapter and the technical manuals listed in 1.06.00 (C).

3.01.00 **COASTAL RESOURCE PROTECTION**

3.01.01 **Aquatic Preserve Protection**

- A. All new development and redevelopment within the boundaries of the Fort Clinch State Park Aquatic Preserve or abutting the boundaries of the Fort Clinch State Park shall be required to conform to the provisions of the Nassau River-St. Johns River Marshes and Fort Clinch State Park Aquatic Preserves Management Plan.
- B. All new development, redevelopment, construction, dredging, or filling requires all applicable permits from State, federal, and regional agencies with jurisdiction over the Fort Clinch State Park Aquatic Preserve.

3.01.02 **Coastal Areas and Shorelines**

- A. There is hereby established a Coastal Upland Protection Zone (CUPZ) which is an area extending 1,000 feet landward from the Coastal Construction Control Line (CCCL).
 - 1. All uses permitted by the underlying zoning classification and which have obtained all necessary and valid permits from State, Federal and Local government agencies having permitting jurisdiction within the CUPZ are allowable within the CUPZ;
 - 2. Development shall not adversely affect contours and topography within the CUPZ. Adversely affect is herein defined as any activity which:
 - a. Causes a measurable interference with the natural functioning of the dune structure;
 - b. Results in removal or destruction of native vegetation which will either destabilize a significant dune or cause a significant deleterious impact to the dune system due to increased erosion by wind or water;
 - c. Results in removal or disturbance of existing sandy soils of the dune system to such a degree that a significant deleterious impact to the dune system would result from either reducing the existing ability of the system to resist erosion during a storm or lowering existing levels of storm protection to upland properties and structures;
 - d. Disturbs topography or vegetation such that the system becomes unstable, or suffers catastrophic failure; or

- e. Causes a significant impact to endangered species, species of special concern, or threatened species, or their habitats.
3. All development activity seaward of the coastal construction control line (CCCL) shall comply with all requirements of Section 3.01.02 above and only where a Florida DEP permit has been issued for the specific activity.

3.01.03 Waterfront Planning

- A. Purpose and Intent: Protection of shorelines and waterfront lands ensures adequate and appropriate locations for water-dependent, water-related and water-enhanced uses.
- B. The following priority list shall be used in reviewing applications for shoreline uses, to provide increased priority for water-dependent uses. Uses listed first shall generally be given the highest priority of all uses that may be proposed along the shoreline, with other, uses listed in the order of declining priority. Uses listed under (6) shall be given the least preference for location along the shoreline.
 1. Water-dependent uses such as fish, and shellfish production;
 2. Water-dependent recreation and commercial uses such as ports, marina-type uses, and navigation, particularly those that provide public access;
 3. Water-related uses such as certain utilities and commercial;
 4. Water-enhanced uses such as certain recreational and commercial uses;
 5. Non-water dependent or related activities such as residential uses; and
 6. Non-water dependent and non-water enhanced uses which result in an irretrievable commitment of coastal resources, or in a proposed alteration to the FLUM series that would prohibit or remove the permitted use of water-dependent, water-related or water-enhanced uses.
- C. The City shall guide and direct the location of all future water-dependent and water-related uses according to the following criteria:
 1. Directing marinas to preferred locations, such as those adjacent to existing channels and passes, and in areas where little dredging and maintenance would be required;
 2. Directing the development of dry dock facilities to locations that are upland of marina sites;
 3. Requiring sewage pump-out facilities at all marinas and adequate fuel spill containment facilities measures at those facilities which sell petroleum products;
 4. Protecting shoreline and waterfront areas in order to provide locations for marine/estuarine related uses, such as commercial and recreational fishing, boating, and other water-dependent uses and activities;
 5. Prohibiting the construction of causeways within estuaries and requiring bridges with pilings instead, and
 6. Ensuring minimal environmental resource impacts or disruption
- D. Marina development standards are found in Chapter 6: Supplemental Standards.
- E. Special water dependent activities.
 1. *Examples.* Special water-dependent activities include, but are not limited to, the following uses:
 - a. Construction of docks or marinas.
 - b. Installation of new riprap or similar structures that protect the shoreline from erosion (not including seawalls, bulkheads, or the like).
 - c. Installation of buoys, aids to navigation, and signs.

- d. Installation of subaqueous transmission and distribution lines for water, wastewater, electricity, communication cables, oil or gas.
 - e. Restoration or repair of foot bridges and vehicular bridges.
 2. *Minimization of impacts.* The water dependent activity shall be designed, constructed, maintained and undertaken in a way that minimizes the adverse impacts on the beneficial functions of the adjacent areas.
 3. *Design standards:*
 - a. The development shall be designed to:
 1. Allow the movement of aquatic life requiring shall water;
 2. Maintain existing flood channel capacity;
 3. Ensure stable shoreline embankments; and
 4. Avoid impact to wildlife habitat
 - b. Residential, multifamily and commercial development
 1. Construction of docks shall be compliant with the standards of all permitting authorities. Docks shall be constructed within the limits of the principal structure side yard setback lines; the terminal platform shall not exceed 50 percent of the shoreline and comply with the standards required by the appropriate permitting authority.
 2. Installation of new riprap or similar structures that protect the shoreline from erosion (not including seawalls, bulkheads, or the like) along the shoreline and to stabilize vegetation shall be compliant with the standards of all permitting authorities. The structures shall comply with standards regarding wetlands found in Section 3.02.00 and shall be placed in a manner which will preserve existing trees and shrubs.
 3. Multifamily developments or condominiums shall be limited to one dock, unless approved and developed as a marina under supplemental standards found in Chapter 6.
 4. Outdoor lighting shall comply with standards for piers in 3.06.01.
 4. *Development standards for special water dependent uses on environmentally sensitive lands.* In addition to the standards listed in Section 3.01.03(F) and 3.05.04, the following standards apply to special uses allowed in the protected environmentally sensitive lands:
 - a. Where permissible, access roads, parking lots, and similar structures shall be located on upland sites.
 - b. Any permitted impacts to the site shall be restored consistent with permitting agency approvals.

3.01.04 SOIL EROSION AND SEDIMENTATION CONTROL

A. Applicability

1. In order to prevent both soil erosion and sedimentation, a soil erosion and sedimentation control plan shall be required as a part of an application for site plan review whenever a development will involve any clearing, grading, or other form of land disturbance by the movement of earth.
2. Soil erosion and sediment control strategies must be utilized during residential, multifamily and commercial new construction projects and substantial renovation/rehabilitation/addition projects.

B. Erosion control measures.

All measures necessary to minimize soil erosion and to control sedimentation in the disturbed land area shall be implemented, following Florida DEP Best Management Practices for Erosion and Sediment Control. The following protection shall be provided for all disturbed areas: minimize velocities of water runoff, maximize protection of disturbed areas from stormwater runoff, and retain sedimentation within the development site as early as possible following disturbances. A list of major problem areas for erosion and sedimentation control follows. For each one, the purpose(s) of requiring control is described. Soil erosion and sedimentation control measures for all such areas shall be provided with a view toward achieving the specific purpose listed below for which a control plan is required.

1. Erodible slopes. Prevent detachment and transportation of soil particles from slope.
2. Streams, stream beds, stream banks, bodies of water, lake shorelines. Prevent detachment and transportation of soil particles.
3. Drainageways. Prevent detachment and transportation of soil particles (which would otherwise deposit in streams, bodies of water, or wetlands); promote deposit or sediment loads (traversing these areas) before these reach bodies of water.
4. Land adjacent to streams, ponds, lakes, and wetlands. Prevent detachment and transportation of soil particles. The applicant shall not adversely impact aquatic vegetation within the sensitive transition zone separating wetlands and uplands.
5. Enclosed drainage structure. Prevent sedimentation in structure, erosion at outfall of system, and deposit of sediment loads within system or beyond it.
6. Large flat surface areas (unpaved). Prevent detachment of soil particles and their off-site transportation.
7. Impervious surfaces. Prevent the detachment and transportation of soil (in response to an increase in the rate and/or volume of runoff of the site or its concentration caused by impervious surfaces).
8. Borrow and stockpile areas. Divert runoff from face of slopes which are exposed in the excavation process; convey runoff in stabilized channels to stable disposal points; leave borrow areas and stockpiles in stable condition and plant native groundcover to assist such stabilization.
9. Adjacent properties. Prevent their erosion and/or being deposited with sediment.

- #### C. Landscape, Buffer and Tree Requirements as outlined in Chapter 4 shall be applicable to all clearing and grading activities and shall include specifications for management principles guiding the removal or placement of vegetation and landscaping design. All development activities must be implemented in conjunction with precautionary measures, where necessary, to avert destruction or damage to native vegetation.

3.02.00 ENVIRONMENTALLY SENSITIVE LANDS

3.02.01 Purpose

The purpose of this section is to protect land and water areas of the City that contain naturally occurring and relatively unaltered flora, fauna, or geologic conditions. Beneficial functions of these lands include:

- a. Maintaining water and storage capacity of watersheds.
- b. Maintaining recharge capacity of groundwater aquifers.
- c. Preserving fish and wildlife habitat, unique vegetation, and sites needed for education, scientific research and recreation.
- d. Protecting aesthetic and property values.
- e. Preventing and minimizing erosion.
- f. Minimizing flood and storm losses.
- g. Protecting shorelings.
- h. Preventing pollution

3.02.02 General Provisions

- A. In addition to meeting the requirements for environmentally sensitive lands included within this section, development plans shall comply with applicable federal, state and water management district regulations relating to environmentally sensitive lands.
- B. The Conservation and Coastal Management Element of the City's Comprehensive Plan as amended from time to time shall be used as a reference source to guide decisions regarding future development.
- C. A development footprint located in a Special Flood Hazard Area is not considered to be an Environmentally Sensitive Land unless, it also contains one or more of the characteristics described in Section 3.02.03.

3.02.03 Identification of Environmentally Sensitive Lands

- A. Environmentally sensitive lands are:
 1. Lands included within Conservation Zoning and Future Land Use categories as designated on the most recent City zoning and land use maps.
 2. Properties within wetlands protection zones or wetlands transition areas.
 3. Habitat of federally or state-listed threatened or endangered species.
 4. All undisturbed properties within 150 feet of Fort Clinch State Park Aquatic Preserve, Fort Clinch State Park, and all navigable tributaries.
 5. As identified during development review process through wetland delineation requirements, biological surveys, etc.

3.02.04 Special Requirements for Environmentally Sensitive Lands

- A. Lands within the wetlands protection zones and habitat of federally or state-listed threatened or endangered species shall also follow requirements as outlined in Sections 3.03.00 and 3.06.00 of this chapter.
- B. Development proposals shall support the conservation and protection of Environmentally Sensitive Lands and minimize the impacts on terrestrial, wetland and marine ecological communities and associated wildlife habitat.

- C. Applications for development approval shall use innovative approaches to protect sensitive resources, such as clustering, conservation easements, and maximization of open space to protect identified Environmentally Sensitive Lands.
- D. Protective measures to prevent adverse effects on Environmentally Sensitive Lands shall be required. Protective measures include:
 - 1. Maintaining natural drainage patterns.
 - 2. Limiting removal of vegetation to minimum necessary to carry out development activity.
 - 3. Replanting areas denuded by human activity.
 - 4. Siltation, soil erosion and sedimentation control during construction through methods and techniques such as storage of removal of materials, equipment and debris; erosion control measures; measures to ensure revegetation and/or stabilization of disturbed areas; measures to protect existing natural vegetation and habitat and methods to prevent pollution of wetlands and groundwater. Specific requirements for siltation, soil erosion and sedimentation control are found in Section 3.01.04 of this chapter.
 - 5. Minimizing the amount of fill used in the development activity.
 - 6. Disposing of dredged spoil at specific locations that cause minimal environmental damage.
 - 7. Prohibiting construction of channels or ditches.
 - 8. Prohibiting dredging and filling of wetlands consistent with Section 3.03.00 of this chapter.
 - 9. Retaining habitat connections with adjacent parcels in order to serve as wildlife corridors.
 - 10. Using deed restrictions, easements, and/or other legal mechanisms to protect environmentally sensitive lands and maintain the development in compliance with the protective measures.
- E. Dedicating conservation easements for natural pedestrian or bicycle pathways between new developments and surrounding development, especially where there is a connection between commercial and activity centers, recreation centers and schools.
- F. Archaeological and historic sites on Environmentally Sensitive Lands are protected. Removal, alteration or destruction of archaeological or historic sites shall be addressed under state and local regulations. Any person discovering an archaeological or historic site shall immediately notify the Community Development Department.

3.02.05 Land Uses within Environmentally Sensitive Lands

- A. Exempted Uses within Environmentally Sensitive Lands
 - 1. The following uses and activities are presumed to have no adverse effect on Environmentally Sensitive Lands and are permitted consistent with existing regulations regarding wetlands, habitat protection of federally or state listed threatened or endangered species or floodplain management:
 - a. Land uses as allowed in Chapter 2 of the City's Land Development Code for applicable zoning.
 - b. Scenic, historic, wildlife, or scientific preserves.
 - c. Minor maintenance or emergency repair to existing structures or improved areas.

- d. Timber catwalks, docks and trail bridges that are less than or equal to four feet wide, provided that no filling, flooding, dredging, draining, ditching, tilling or excavating is necessary for installation of pilings.
 - e. Recreational fishing, picnicking, and hiking.
 - f. Constructing fences where no fill activity is required and where navigational access will not be impaired, nor will access to water, vegetation, or corridors be impaired for wildlife by construction of the fence.
 - g. Wetlands stormwater discharge facility or treatment in accordance with state permits and all other applicable state and federal regulations.
 - h. Maintaining existing channels in existence at the time of adoption of this chapter at the minimum depth and width necessary to achieve their intended purposes and designing them to prevent slumping and erosion and all revegetation of banks.
- B. Prohibited Primary Uses within Environmentally Sensitive Lands
1. Storage of Hazardous Materials;
 2. Commercial animal facilities, including veterinarian clinics;
 3. Mines;
 4. Wastewater treatment plants;
 5. Commercial activities that involve the bulk storage of Hazardous Materials such as, but not limited to, dry cleaning operations, auto repair and servicing, pool supply, gas stations, junkyards, and machine shops;
 6. Stormwater treatment facilities, including the use of drainage wells or sinkholes for stormwater disposal; and
 7. Human or animal cemeteries

3.02.06 Land Uses within Areas of Special Flood Hazard

- A. Exempted Uses within Areas of Special Flood Hazard
1. The following uses and activities are permitted consistent with existing Local, Regional, State and Federal regulations for floodplain management:
 - a. Land uses as allowed in Chapter 2 of the City's Land Development Code for applicable zoning and accessory uses which are operationally linked to a permissible primary use.
- B. Prohibited Primary Uses within Areas of Special Flood Hazard
1. Non-exempt industrial land uses that involve the bulk storage of Hazardous Material, unless the following standards are met:
 - a. All building and structures shall be subject to compliance with the City's Floodplain Management Ordinance, including the requirement to secure local permitting.
 - b. Hazardous Materials shall not be stored in the Coastal High Hazard Area (CHHA), except in compliance with the requirements of this Section 3.02.06(B)
 - c. Fixed tanks or vessels for the bulk storage of Hazardous Materials shall be designed or modified to adequately anchor to prevent, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including buoyancy meeting all requirements of the City's Floodplain Management Ordinance, as amended from time to time and the lowest extremity of such tank or vessel shall be located at least one (1) foot above the applicable 100 year base flood elevation, inclusive of tank inlets, outlets and vents.

2. Hospitals, nursing homes and housing likely to have occupants who may not be sufficiently mobile to avoid injury or death during a flood.
3. Police stations, fire stations, vehicle and equipment storage facilities, and emergency operations centers that are needed for flood response activities before, during and after a flood.
4. Wastewater treatment facilities, unless adequately mitigated through engineered solutions which meet the construction standards associated with the 100-year base flood as well as elevation of any fixed tanks or vessels for bulk storage of Hazardous Materials to one (1) foot above the 100-year base flood elevation.
5. Human or animal cemeteries.
6. Bulk Storage Yards, Solids or Bulk Storage Yards, Liquids of Hazardous Materials.

3.03.00 WETLAND PROTECTION

3.03.01 Applicability

The requirements of this section shall apply to all of the areas under the jurisdiction of the Florida DEP, the USACOE, and the SJRWMD, as well as those lands identified as "Conservation" on the FLUM and on the adopted zoning map. Exemptions to buffering requirements exist for resource-based recreational facilities such as trails, boardwalks, piers and boat ramps, and components of water-dependent commercial uses such as port facilities, marinas, fish camps, and commercial fishing operations.

3.03.02 Agency Coordination Required

All new development and redevelopment adjacent to jurisdictional wetlands shall be required to include coordination with the agencies with regulatory jurisdiction over wetlands, including the County, representatives of the Florida DEP, the USACOE, and the SJRWMD, for assistance and verification in identifying and delineating wetlands.

3.03.03 Development Within Wetlands

Except as expressly provided in this section, no development activity shall be permitted in a wetlands area, as defined in Section 3.03.01.

- A. Wetlands shall be preserved in their natural state. No fill shall be placed in a wetland, and the wetland shall not be altered.
- B. Buffering requirements for development adjacent to wetlands or natural water bodies:
 1. All new development and redevelopment adjacent to jurisdictional wetlands or surface water bodies shall be required to provide a buffer zone of native vegetation at least twenty-five (25) feet wide around wetlands and fifty (50) feet from natural water bodies to prevent erosion, retard runoff, and provide areas for habitat. All new construction that is a water dependent or water related use within the CRA and I-W zoning is exempt from the required buffers established by this Section; and
 2. This setback shall be required for any development, except docks or piers which have received a permit from the Florida DEP, SJRWMD, or the USACOE and are compliant with standards found in section 3.01.03

- C. Permitted activities within areas designated by the City, FDEP, SJRWMD, or the USACOE as wetlands protection zones or wetland transition areas:
1. Potentially allowable uses adjacent to wetlands protection zones or wetland transition areas are those principal and accessory uses included in the Conservation land use category on the FLUM provided that installation does not involve grading, fill, dredging, or draining, and provided that such structures are constructed on pilings so as to permit the unobstructed flow of water and light and preserve the natural contour of the wetlands. All pilings shall be driven into place; no jetting of pilings shall be allowed.
 2. Developing an area that no longer conforms to the determination of the SJRWMD as wetlands, except former wetlands that have been filled or altered in violation of any rule, regulation, statute, or this LDC. The developer shall demonstrate that the water regime has been permanently altered, either legally or naturally, in a manner so as to preclude the area from maintaining surface water or hydroperiodicity necessary to sustain wetlands structure and function. Adequate proof shall include statements from federal or State agencies having jurisdiction as well as technical evidence from registered hydraulics engineers or other certified experts;
 3. Development of a wetlands stormwater discharge facility or treatment wetlands in accordance with State permits received under currently relevant sections of the F.A.C.; and

3.03.04 Design Requirements

- A. All new development and redevelopment adjacent to jurisdictional wetlands, wetland protection zones and wetland transition areas shall be designed, constructed, maintained, and undertaken in a way that minimizes the adverse impacts on the functions of the affected environmentally sensitive zone.
- B. In addition to any standards required by federal, State, or local agencies and any other section within this LDC, the following standards shall apply to uses found to be permissible in or adjacent to wetlands:
1. The use shall allow the movement of aquatic life requiring shallow water;
 2. Existing flood channel capacity shall be maintained;
 3. Stable shoreline embankments shall be ensured on unstable shorelines where water depths are inadequate, to eliminate the need for offshore or foreshore channel construction dredging, maintenance dredging, spoil disposal, filling, beach feeding, and other river, lake, and channel maintenance activities;
 4. Uses in areas where there is inadequate water mixing and flushing shall be eliminated or stringently limited as provided in Section 3.03.00;
 5. Uses shall be prevented in areas which have been identified as hazardous due to high winds or flooding;
 6. Access roads, parking lots, and similar structures shall be limited to locations on properly zoned uplands;
 7. Any wetlands shown on the site plan to remain undisturbed that become damaged during construction shall be completely restored. Complete restoration means that the restored area shall function equivalently to the wetland prior to damage;
 8. Accessory uses shall be limited to those which are water dependent; and
 9. Fill shall not be placed in waters or wetlands to create usable land space.

3.04.00 WATER QUALITY & WELLFIELD PROTECTION

3.04.01 Purpose and Intent

The purpose and intent of this section is to safeguard the public health, safety, and welfare by ensuring the protection of the principal source of water from potential contamination and to control development in and adjacent to designated wellheads and surrounding wellfield areas to protect water supplies from potential contamination.

3.04.02 Wellfield Protection Area

- A. A wellfield protection area is hereby established to include all land within a 500-foot radius from a public potable water wellhead.
- B. The following uses shall be prohibited within the wellfield protection area:
 1. All regulated industries by the Florida DEP as defined in Rule 62-521, F.A.C.;
 2. Activities that require the storage, use, or transportation of restricted substances, agricultural chemicals, hazardous toxic waste, medical waste, and petroleum products;
 3. Commercial animal facilities, including veterinarian clinics;
 4. Mines;
 5. Industrial land uses;
 6. Wastewater treatment plants;
 7. Commercial activities that involve the use of hazardous chemicals such as, but not limited to, dry cleaning operations, auto repair and servicing, pool supply, gas stations, junkyards, and machine shops;
 8. Injection wells, irrigation wells, and domestic and commercial wells less than six (6) inches in diameter;
 9. Stormwater facilities, including the use of drainage wells or sinkholes for stormwater disposal; and
 10. Human or animal cemeteries.

3.05.00 REQUIREMENTS REGARDING DRAINAGE AND STORMWATER MANAGEMENT

3.05.01 Generally

- A. The purpose of the stormwater management requirements set forth in this section is to minimize the detrimental effects of stormwater runoff and to provide for mitigation of stormwater impacts from new development and redevelopment.
- B. The regulations in this section are intended to:
 1. Provide maximum water quality and habitat benefits;
 2. Provide retention/detention of stormwater runoff to maintain surface water quality, ensure percolation, and reduce contamination to drainage canals, surface water, and groundwater;
 3. Prevent any development activity that would endanger lives and harm property, water quality, or environmental systems;
 4. Preserve natural lakes, creeks, other water courses, and natural drainage features;
 5. Encourage the use of stormwater management systems for urban landscape irrigation; and
 6. Prevent creation of flood hazards due to new developmentThe requirements of this LDC do not supersede those of other State, Federal, or Regional agencies.

3.05.02 Applicability and Exemptions

- A. All proposed development, except as specifically described in this section, must comply with the standards and criteria set forth in Section 3.05.00.
- B. No drainage system, whether natural or manmade, must be altered, designed, constructed, abandoned, restricted, or removed without prior written approval of the City and all appropriate State and federal agencies.
- C. The following activities may alter or disrupt existing stormwater runoff patterns, and unless specifically exempted under Section 3.05.02(D) below, must be authorized only through issuance of a site work permit prior to initiation of development:
 1. Clearing and/or drainage of land prior to construction of a project;
 2. Altering the shoreline or bank or any surface water body; or
 3. Altering any ditches, dikes, terraces, berms, swales, or other water management facilities.
- D. The following development activities are exempt from the requirements of this section:
 1. Single-family dwellings and associated accessory structures, provided they are within a subdivision having a valid stormwater management permit and properly operating stormwater management systems designed and sealed by an engineer;
 2. Additions, accessory structures, and single-family homes under 625 square feet; and
 3. Emergencies requiring immediate action to prevent material harm or danger to persons, when obtaining a permit is impractical and would cause undue hardship in protection of property from fire, violent storms, hurricanes, or other hazards. A report of the emergency shall be made to the City Manager as soon as practicable

3.05.03 Standards for Stormwater Management

- A. All development must comply with the specifications, standards of design, and detailed technical requirements provided in the manuals adopted by reference in Chapter 1.
- B. No subdivision must be platted, nor must construction commence for any single-family, multi-family, commercial, industrial, or institutional project, until the drainage design for such project has been approved by the City, and proof of permit from the SJRWMD, and the USACOE, if applicable, has been provided to the City.
- C. The drainage design plans for the project must be prepared, signed, and sealed by a Florida registered professional engineer.
- D. All drainage facilities and easements must be documented to ensure the City that capacity and right-of-way are adequate from the source, through the development, to the receiving body of water, without adversely affecting upstream or downstream properties. Any improvements or increase in capacity of those facilities required to keep the project in compliance with all applicable regulations must be made at the expense of the applicant.
- E. Design Basis
 1. All subdivisions and multi-family, commercial, industrial, and institutional projects must provide for retention or detention of stormwater within the boundaries of the project.

- a. For projects within areas designated for zero discharge, storage must accommodate a ten (10) year, twenty-four (24) hour storm event.
 - b. For all other areas, retention must accommodate the greater of the first one-half (1/2) inch of storm flow from all roofs, sidewalks, paved surfaces, and parking areas (at 100 percent runoff), whether paved or not.
 - c. The project must also provide detention for all stormwater flows.
 - d. Detention must prevent peak flows after development from exceeding the peak flow prior to development.
 - e. Retention or detention areas for multi-family, commercial, industrial, and institutional projects must not be located in public road rights-of-way or within single-family zoning districts.
2. All floor slab elevations must be constructed in accordance with City of Fernandina Beach Floodplain ordinance requirements.
 - a. Unless the drainage master plan dictates higher levels, in areas where the floodplain has been established under the requirements of the FEMA or the National Flood Insurance Program, the level must comply with such requirements.
 - b. In all other areas, floor slab levels must be constructed to the elevations specified in the engineer of record's approved drainage plan.
 - c. If no drainage plan exists, or if the plan predates this chapter, the floor level must be at least eighteen (18) inches above the roadway unless otherwise approved by the City.
 3. Where a development includes a retention basin in the drainage system, the basin must be located in such a manner as to minimize damage when the design storm is exceeded.
 - a. A minimum of twenty (20) feet of drainage right-of-way must be set aside to allow for ingress and egress, and a continuous maintenance berm must be provided around the perimeter of the retention basin.
- F. Rainfall and runoff criteria
1. The system or project must be designed for design floods resulting from rainstorms of the following expected frequencies or greater:
 - a. Ten (10) year, twenty-four (24) hour intervals for all drainage except floodways, street inlets, and cross drains.
 - b. Floodway and receiving body of water flood conditions as shown for 100 years' duration storm in the FEMA flood insurance study, latest edition.
 - c. Five (5) year, twenty (20) minute intervals for street inlets and cross drains.
 2. Ultimate land usage must be assumed for selection of proper runoff coefficients within the basins involved. Weighted runoff coefficients must be applied where different coefficients apply within the areas comprising the basin.
- G. Drainage map for all subdivisions and multi-family, commercial, industrial, and institutional projects:
1. The project engineer must include in the construction plans a master drainage map showing all existing and proposed features. Where projects are located within an Area of Special Flood Hazard, the engineer must prepare plans as consistent with the requirements of the City's Floodplain

Management Ordinance. The map must be prepared on a scale not to exceed one (1) inch equals 200 feet. As a minimum, it must include:

- a. The limits of the drainage basin or sub-basin;
 - b. Topography of the project;
 - c. Topography between the project and the receiving body of water, or the receiving City-, County- or State-owned drainage facility;
 - d. Topography of adjacent property as necessary to establish flow patterns;
 - e. Existing points of entry of water from adjacent property;
 - f. Points of discharge of water from the project;
 - g. Limits of fill required to construct facilities;
 - h. Finished floor slab elevations and minimum elevation of the bottom of floor framing for each structure to accommodate the 100-year flood elevation;
 - i. Location of National Flood Insurance Program rate map flood zones; and
 - j. Soil profiles, using the USDA soil classification method, to be performed on sufficient areas throughout the project to provide adequate information on the overall suitability of the proposed drainage plan.
2. With respect sections 3.05.03(F)(1)(a),(c) and (d), if a project fronts on an approved public or private road and the applicant can demonstrate to the satisfaction of the City that no drainage will be discharged from the project onto any adjacent property, these items may be waived. No waiver of any kind will relieve the applicant of responsibility or liability from damage caused by increased runoff from his project.
- H. All single-family home projects that are not part of a subdivision with a designed stormwater system must provide for retention or detention of stormwater within the boundaries of the project.
1. Projects that are located outside of a subdivision, but in an area with an available engineered stormwater system must ensure that stormwater is properly routed to the stormwater structures.
 2. Design options for single-family home new construction and additions over 625 square feet:
 - a. Provide engineered solution as completed by an engineer, and/or
 - b. Utilize low impact development (LID) techniques such as rainwater harvesting, roof downspout disconnection, rain gardens, green roofs, trenches and chambers, bioretention, vegetated filter strips, permeable pavement, enhanced grass swales, dry swales, and perforated pipe systems.
- I. Drainage during construction
1. All off-site drainage entering the property prior to the commencement of construction must be maintained through the construction period.
 2. Approved silt barriers in compliance with Section 3.01.04 must be placed to prevent silt, erosion, or other pollutants from leaving the site. If off-site siltation occurs, it must be halted immediately, or all work must cease until the silting is stopped.
- J. Maintenance of drainage facilities after construction
1. All private drainage facilities within an approved subdivision, multi-family, commercial, industrial, or institutional project must be continuously and properly maintained by a required homeowners' association, the

- developer, or another entity approved by the City in an enforceable development order and designated in the construction permit application.
2. Drainage facilities for private single-family residential properties must be continuously and properly maintained by the property owner. Such maintenance must continue for the life of the property as developed under this section even upon transfer of ownership.
- K. Where feasible, stormwater management systems must be designed to provide landscape irrigation for the development.

3.06.00 OUTDOOR LIGHTING

3.06.01 Generally

- A. It is the policy of the City to minimize the use of artificial light to illuminate the beaches. No artificial public or private light source shall directly illuminate areas seaward of the primary dune (called "beach areas") where it may deter adult female sea turtles from nesting or disorient hatchlings.
- B. The following activities involving direct illumination of portions of the beach shall be prohibited on the beach at nighttime during the nesting season (May 1 to October 31 of each year) for the protection of nesting females, nests, and hatchling marine turtles:
 1. The operation of all motorized vehicles, except emergency and law enforcement vehicles or those permitted on the beach for marine turtle conservation or research; and
 2. The building of campfires or bonfires.

3.06.02 Outdoor Lighting in Beach Areas

- A. The following standards shall be applicable to all new construction, reconstruction, or development activities:
 1. Controlled use, design, and positioning of lights:
 - a. The use of lighting for decorative and accent purposes, such as that emanating from spotlights or floodlights, is prohibited.
 - b. The use of lights for safety and security purposes shall be limited to the minimum number required to achieve their functional role. The use of motion detector switches that keep lights off except when approached and that switch lights on for the minimum duration possible is required.
 - c. Fixture lights shall be designed and positioned so that they do not cause direct or indirect illumination of areas seaward of the primary dune.
 - d. Wall-mounted fixtures, landscape lighting, and other sources of lighting shall be designed and positioned so that such light does not directly illuminate areas seaward of the primary dune, nor is directly visible from the beach.
 - e. All lights on balconies shall be shielded from the beach.
 - f. Lighting in parking lots within line of sight of the beach shall be positioned and shielded so that only deflected light may be visible from the ground level of the beach.
 - g. The use of red, yellow, or orange lights is permitted where security or safety is a concern, shielding is impracticable, or visibility from the beach cannot be prevented.
 - h. Exterior artificial light fixtures within direct line-of-sight of the beach shall include completely shielded downlight-only fixtures or recessed fixtures having low wattage (i.e. fifty (50) watts or less) "bug" type bulbs and nonreflective interior surfaces. Other fixtures that have appropriate shields, louvers, or cut-

- off features may also be used if they are in compliance with Section 3.05.02(A)(1)(a), (b), and (c) above;
- i. Exterior artificial light fixtures within direct line-of-sight of the beach shall be mounted as low in elevation as possible through use of low-mounted wall fixtures, low bollards, and ground-level fixtures.
 - j. Only low intensity lighting shall be used in parking areas within line-of-sight of the beach. Such lighting shall be set on a base which raises the source of light no higher than forty-eight (48) inches off the ground and shall be positioned or shielded so that the light is cast downward, the source of light or any reflective surface of the light fixture is not visible from the beach, and the light does not directly or indirectly illuminate the beach.
 - k. Parking areas and roadways, including any paved or unpaved areas upon which motorized vehicles will park or operate, shall be designed and located to prevent vehicular headlights from directly or indirectly illuminating the beach.
 - l. Vehicular lighting, parking area lighting, and roadway lighting shall be shielded from the beach through the use of ground-level barriers. Ground level barriers shall not interfere with marine turtle nesting or hatchling emergence, or cause short- or long- term damage to the beach/dune system.
 - m. Tinted glass or film shall be installed on all windows and glass doors of single- or multi-story structures within line-of-sight of the beach. Use of appropriately shielded low-pressure sodium vapor lamps and fixtures shall be preferred for high-intensity lighting applications, such as lighting parking areas and roadways, providing security, and similar applications.
 - n. Temporary lighting of construction sites during the marine turtle nesting season shall be restricted to the minimal amount necessary and shall incorporate all of the standards of this section.
2. Lighting for pedestrian traffic
 - a. Beach access points, dune crossovers, beach walkways, piers or any other structure on or seaward of the primary dune designed for pedestrian traffic shall use the minimum amount of light necessary to ensure safety.
 - b. Pedestrian lighting shall be of low wattage and recessed or shielded so that only deflected light may be directly visible from the beach.
 3. Prior to the issuance of a certificate of occupancy, compliance with the beachfront lighting standards as set out in this section shall be demonstrated as follows:
 - a. Upon completion of the construction activities, a registered Florida architect or Florida registered professional engineer shall conduct a site inspection, which includes a night survey with all the beachfront lighting turned on.
 - b. The inspector shall provide a written report of the inspection findings, identifying the date and time of the initial inspection, the extent of compliance with this section, all areas of potential and observed noncompliance with this section, any action taken to remedy observed noncompliance, if applicable, and the dates and times of remedial inspections, if applicable.
 - c. The inspector shall sign and seal the inspection report, which shall include a certification that the beachfront lighting has been constructed in substantial accordance with the terms of this section, the beachfront lighting does not illuminate areas seaward of the primary dune at the time of night inspection, and the beachfront light sources are positioned so that only deflected light may be visible from the beach at the time of the night inspection.

- B. All public or private buildings and other improvements existing prior to July 18, 2000 shall comply with the following standards:
1. Existing artificial light sources that are essential for safety or security shall be repositioned, modified, or replaced with modern alternatives so that only deflected light may be visible at ground level from the beach, and light does not directly illuminate areas seaward of the primary dune.
 2. Existing artificial light fixtures shall be repositioned, modified, or removed so that:
 - a. The point source of light or any reflective surface of the light fixture is not directly visible from the beach;
 - b. Areas seaward of the frontal dune are not directly or indirectly illuminated; and
 - c. Areas seaward of the frontal dune are not cumulatively illuminated.
 3. The following measures shall be taken to reduce or eliminate the negative effects of existing exterior artificial lighting:
 - a. Reposition fixtures so that the point source of light or any reflective surface of the light fixture is no longer visible from the beach;
 - b. Replace fixtures having an exposed light source with fixtures containing recessed light sources or shields;
 - c. Replace traditional light bulbs with yellow "bug" type bulbs not exceeding fifty (50) watts;
 - d. Replace non-directional fixtures with directional fixtures that point down and away from the beach;
 - e. Replace fixtures having transparent or translucent coverings with fixtures having opaque shields covering an arc of at least 180 degrees and extending an appropriate distance below the bottom edge of the fixture on the seaward side so that the light source or any reflective surface of the light fixture is not visible from the beach;
 - f. Replace pole lamps with low-profile, low-level luminaries so that the light source or any reflective surface of the light fixture is not visible from the beach;
 - g. Replace incandescent, fluorescent, and high intensity lighting with the lowest wattage low pressure sodium vapor lighting possible for the specific application;
 - h. Plant or improve vegetation buffers between the light source and the beach to screen light from the beach; and
 - i. Construct a ground level barrier to shield light sources from the beach. Ground-level barriers shall not interfere with marine turtle nesting or hatchling emergence or cause short- or long- term damage to the beach/dune system.
 4. The following measures shall be taken to reduce or eliminate the negative effects of interior light emanating from doors and windows within line-of-sight of the beach:
 - a. Apply window tint or film that meets the standards for tinted glass;
 - b. Rearrange lamps and other moveable fixtures away from windows;
 - c. Use window treatments (e.g., blinds, curtains) to shield interior lights from the beach; or
 - d. Turn off unnecessary lights.
 5. Light sources within line of sight of the beach that cannot be repositioned, modified, or replaced, for whatever reason, shall be turned off from sunset each night until sunrise each morning during the nesting season.

3.06.03 Habitat Protection of Federally or State Listed Species

- A. A professionally prepared biological survey to document the presence of endangered, threatened, or species of special concern shall be submitted with applications for development when the development is:
 - 1. In excess of two (2) acres on previously undisturbed properties; or located on environmentally sensitive lands.
- B. Environmentally sensitive lands for which a survey is required regardless of acreage are those found in 3.02.03(A)
- C. Biological surveys shall:
 - 1. Follow the standards and criteria adopted by the Florida Fish and Wildlife Conservation Commission and U.S. Fish and Wildlife Service; or
 - 2. Include a preliminary report consisting of pedestrian surveys of 200-foot transects through a minimum of twenty-five percent (25%) of each habitat on site. Within twenty-one (21) days of the preliminary report, the City Manager shall (1) render a finding of whether a second, more intensive survey is needed, based on the information provided by the Florida Fish and Wildlife Conservation Commission and U.S. Fish and Wildlife Service, and (2) shall describe the parameters it will follow for such an intensive survey, if required.

If the field biological inventory indicates the presence of federally or state listed species:

- A. The survey shall be forwarded to the Florida Fish and Wildlife Conservation Commission and U.S. Fish and Wildlife Service; and
- B. The applicant shall follow the recommendations of the Florida Fish and Wildlife Conservation Commission and U.S. Fish and Wildlife Service for mitigating loss of habitat; or
- C. A habitat plan shall be prepared by a qualified ecologist, biologist, or other related professional and shall include, at a minimum, the following:
 - 1. An analysis of the likelihood of the species surviving on the proposed development site as a viable population, assuming that the proposed development would not occur and taking into account the quality and quantity of habitat needed to maintain members of the species;
 - 2. An analysis of existing viable habitat on adjacent property for the species;
 - 3. The land needs of the species that may be met on the development site; and
 - 4. Measures that shall be taken to protect the habitat of the species on the property, if the species would likely remain a viable population, in the absence of the proposed project

Prohibited activities:

- A. No protected species of wildlife or freshwater fish or their nests, eggs, young, homes, or dens, shall be taken, transported, stored, served bought, sold, or possessed in any manner or quantity at any time, except as specifically permitted by the provisions of State law.
- B. No person shall kill, wound, pursue, molest harm, harass, capture, or possesses any protected species or parts thereof or their nests, eggs, young, homes, or dens, except as authorized by specific permit, issued by the Florida DEP, the Florida Fish and Wildlife Conservation Commission, and any other applicable State or Federal agency.
- C. Development proposed adjacent to Outstanding Florida Waters, aquatic preserves, wildlife sanctuaries, wildlife refuges, state preserves, forests, parks, gardens, and wildlife management areas shall be environmentally compatible in order to conserve wildlife populations and habitat.