

DIVISION 3. - FLOOD-RESISTANT DEVELOPMENT

Sec. 26-90. - Building elevations.

- (a) The building elevations specified in this section apply in all areas of the city.
- (b) In flood hazard areas, the lowest floor (zone A) or bottom of lowest horizontal structural member of the lowest floor (zone V and coastal A zone) shall be at or above the higher of:
 - (1) The base flood elevation plus one foot,
 - (2) Eighteen inches above crown of nearest paved street or interior paved roadway system.
 - (3) Twenty-four inches above the crown of ungraded or unfinished road.
 - (4) The elevation required by the Florida Building Code.
- (c) In flood hazard areas, the elevation of dry floodproofing shall be at or above the elevation required by the Florida Building Code, except in coastal A zones the elevation of dry floodproofing shall be at or above the base flood elevation plus two feet.
- (d) Outside of flood hazard areas (zone X), the lowest floor shall be at or above:
 - (1) Eighteen inches above crown of nearest paved street or interior paved roadway system.
 - (2) Twenty-four inches above the crown of ungraded or unfinished road.
- (e) Within projects that have water management routing and storage facilities designed and built for a 25-year, three-day storm event in accordance with South Florida Water Management District's criteria, the lowest floor shall be at or above the higher of the elevation required by (b) or (c), as applicable, or the 100-year zero discharge elevation determined for the project.

(Ord. No. 20-04, § 2(Exh. A), 10-5-2020; Ord. No. 24-04, § 2(Exh. A), 1-22-2024)

Sec. 26-91. - Buildings and structures.

- (a) *Design and construction of buildings, structures and facilities exempt from the Florida Building Code.* Pursuant to subsection 26-34(b)(1) of this article, buildings, structures, and facilities that are exempt from the Florida Building Code, including substantial improvement or repair of substantial damage of such buildings, structures and facilities, shall be designed and constructed in accordance with the flood load and flood-resistant construction requirements of ASCE 24. Structures exempt from the Florida Building Code that are not walled and roofed buildings shall comply with the requirements of section 26-97 of this article.
- (b) *Buildings and structures seaward of the coastal construction control line.* If extending, in whole or in part, seaward of the coastal construction control line and also located, in whole or in part, in a flood hazard area:
 - (1)

Buildings and structures shall be designed and constructed to comply with the more restrictive applicable requirements of the Florida Building Code, Building Section 3109 and Section 1612 or Florida Building Code, Residential Section R322.

- (2) Minor structures and nonhabitable major structures as defined in F.S. § 161.54, shall be designed and constructed to comply with the intent and applicable provisions of this article and ASCE 24.
- (c) Accessory structures are permitted below the base flood elevation provided the accessory structures are used only for parking or storage and:
 - (1) If located in special flood hazard areas (zone A/AE) other than coastal high hazard areas, are one-story and not larger than 600 square feet.
 - (2) If located in special flood hazard areas (zone A/AE) other than coastal high hazard areas, have flood openings in accordance with Section R322.2 of the Florida Building Code, Residential.
 - (3) If located in coastal high hazard areas (zone V/VE), are not located below elevated buildings and are not larger than 100 square feet.
 - (4) Are anchored to resist flotation, collapse or lateral movement resulting from flood loads.
 - (5) Have flood damage-resistant materials used below the base flood elevation plus one foot.
 - (6) Have mechanical, plumbing and electrical systems, including plumbing fixtures, elevated to or above the base flood elevation plus one foot.
- (d) *Florida Building Codes, technical amendments.*
 - (1) The minimum elevation for buildings and structures shall be as specified in the Marco Island Code of Ordinances, section 26-90.
 - (2) Enclosed areas below the required elevation for dwellings in flood hazard areas shall have the minimum access necessary to allow for the parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the building (elevator or stairway with standard exterior door or one double door set for main entrance).
 - (3) The definitions for the term "substantial improvement" shall be as specified in the Marco Island Code of Ordinances, section 26-62.
 - (4) The definitions for the terms "substantial damage" and "substantial improvement" shall be as specified in the Marco Island Code of Ordinances, section 26-62.

(Ord. No. 12-05, § 2(301), 6-18-2012; Ord. No. 20-04, § 2(Exh. A), 10-5-2020; Ord. No. 24-04, § 2(Exh. A), 1-22-2024)

Sec. 26-92. - Subdivisions.

- (a) *Minimum requirements.* Subdivision proposals, including proposals for manufactured home parks and subdivisions, shall be reviewed to determine that:
 - (1) Such proposals are consistent with the need to minimize flood damage and will be reasonably safe from flooding;
 - (2) All public utilities and facilities such as sewer, gas, electric, communications, and water systems are located and constructed to minimize or eliminate flood damage; and
 - (3) Adequate drainage is provided to reduce exposure to flood hazards.
- (b) *Subdivision plats.* Where any portion of proposed subdivisions, including manufactured home parks and subdivisions, lies within a flood hazard area, the following shall be required:
 - (1) Delineation of flood hazard areas and flood zones, and design flood elevations, as appropriate, shall be shown on preliminary plats; and
 - (2) Compliance with the site improvement and utilities requirements of section 26-93 of this ordinance.

(Ord. No. 12-05, § 2(302), 6-18-2012; Ord. No. 20-04, § 2(Exh. A), 10-5-2020)

Sec. 26-93. - Site improvements, utilities and limitations.

- (a) *Minimum requirements.* All proposed new development shall be reviewed to determine that:
 - (1) Such proposals are consistent with the need to minimize flood damage and will be reasonably safe from flooding;
 - (2) All public utilities and facilities such as sewer, gas, electric, communications, and water systems are located and constructed to minimize or eliminate flood damage; and
 - (3) Adequate drainage is provided to reduce exposure to flood hazards.
- (b) *Sanitary sewage facilities.* All new and replacement sanitary sewage facilities, private sewage treatment plants (including all pumping stations and collector systems), and on-site waste disposal systems shall be designed in accordance with the standards for onsite sewage treatment and disposal systems in Chapter 64E-6, F.A.C. and ASCE 24 Chapter 7 to minimize or eliminate infiltration of floodwaters into the facilities and discharge from the facilities into floodwaters, and impairment of the facilities and systems.
- (c) *Water supply facilities.* All new and replacement water supply facilities shall be designed in accordance with the water well construction standards in Chapter 62-532.500, F.A.C. and ASCE 24 Chapter 7 to minimize or eliminate infiltration of floodwaters into the systems.
- (d) Reserved.
- (e)

Limitations on placement of fill. Subject to the limitations of this article, fill shall be designed to be stable under conditions of flooding including rapid rise and rapid drawdown of floodwaters, prolonged inundation, and protection against flood-related erosion and scour. In addition to these requirements, if intended to support buildings and structures (zone A only), fill shall comply with the requirements of the Florida Building Code.

- (f) *Limitations on alteration of sand dunes and mangrove stands.* The alteration of sand dunes and mangrove stands shall be permitted only if such alteration is approved by the Florida Department of Environmental Protection and only if the engineering analysis required by subsection 26-35(c) of this article demonstrates that the proposed alteration will not increase the potential for flood damage. Construction or restoration of dunes under or around elevated buildings and structures shall comply with subsection 26-97(e) of this article.

(Ord. No. 12-05, § 2(303), 6-18-2012; Ord. No. 20-04, § 2(Exh. A), 10-5-2020; Ord. No. 24-04, § 2(Exh. A), 1-22-2024)

Sec. 26-94. - Manufactured homes.

- (a) *General.* All manufactured homes installed in flood hazard areas shall be installed by an installer that is licensed pursuant to F.S. § 320.8249, and shall comply with the requirements of Chapter 15C-1, F.A.C. and the requirements of this ordinance. If located seaward of the coastal construction control line, manufactured homes shall comply with the more restrictive of the applicable requirements.
- (b) *Foundations.* All new manufactured homes and replacement manufactured homes installed in flood hazard areas shall be installed on permanent, reinforced foundations that:
 - (1) In flood hazards areas (zone A) other than coastal high hazard areas, are designed in accordance with the foundation requirements of the Florida Building Code, Residential Section R322.2 and this ordinance.
 - (2) In coastal high hazard areas (zone V), are designed in accordance with the foundation requirements of the Florida Building Code, Residential Section R322.3 and this ordinance.
- (c) *Anchoring.* All new manufactured homes and replacement manufactured homes shall be installed using methods and practices which minimize flood damage and shall be securely anchored to an adequately anchored foundation system to resist flotation, collapse or lateral movement. Methods of anchoring include, but are not limited to, use of over-the-top or frame ties to ground anchors. This anchoring requirement is in addition to applicable state and local anchoring requirements for wind resistance.
- (d) *Elevation.* Manufactured homes that are placed, replaced, or substantially improved shall be elevated such that the bottom of the frame is at or above the elevation required, as applicable to the flood hazard area, in the Florida Building Code, Residential Section R322.3 (Zone A) or Section

R322.3 (Zone V and Coastal A Zone).

- (e) *Enclosures.* Fully-enclosed areas below elevated manufactured homes shall comply with the requirements of the Florida Building Code, Residential Section R322.2 or R322.3 for such enclosed areas, as applicable to the flood hazard area.
- (f) *Utility equipment.* Utility equipment that serves manufactured homes, including electric, heating, ventilation, plumbing, and air conditioning equipment and other service facilities, shall comply with the requirements of the Florida Building Code, Residential Section R322, as applicable to the flood hazard area.

(Ord. No. 12-05, § 2(304), 6-18-2012; Ord. No. 20-04, § 2(Exh. A), 10-5-2020)

Sec. 26-95. - Recreational vehicles and park trailers.

- (a) *Temporary placement.* Recreational vehicles and park trailers placed temporarily in flood hazard areas shall:
 - (1) Be on the site for fewer than 180 consecutive days; or
 - (2) Be fully licensed and ready for highway use, which means the recreational vehicle or park model is on wheels or jacking system, is attached to the site only by quick-disconnect-type utilities and security devices, and has no permanent attachments such as additions, rooms, stairs, decks and porches.
- (b) *Permanent placement.* Recreational vehicles and park trailers that do not meet the limitations in subsection 26-95(a) of this ordinance for temporary placement shall meet the requirements of section 26-94 of this ordinance for manufactured homes.

(Ord. No. 12-05, § 2(305), 6-18-2012)

Sec. 26-96. - Tanks.

- (a) *Underground tanks.* Underground tanks in flood hazard areas shall be anchored to prevent flotation, collapse or lateral movement resulting from hydrodynamic and hydrostatic loads during conditions of the design flood, including the effects of buoyancy assuming the tank is empty.
- (b) *Above-ground tanks, not elevated.* Above-ground tanks that do not meet the elevation requirements of subsection 26-96(c) of this ordinance shall:
 - (1) Be permitted in flood hazard areas (zone A) other than coastal high hazard areas, provided the tanks are anchored or otherwise designed and constructed to prevent flotation, collapse or lateral movement resulting from hydrodynamic and hydrostatic loads during conditions of the design flood, including the effects of buoyancy assuming the tank is empty and the effects of flood-borne debris.
 - (2) Not be permitted in coastal high hazard areas (zone V).

- (c) *Above-ground tanks, elevated.* Above-ground tanks in flood hazard areas shall be attached to and elevated to or above the design flood elevation on a supporting structure that is designed to prevent flotation, collapse or lateral movement during conditions of the design flood. Tank-supporting structures shall meet the foundation requirements of the applicable flood hazard area.
- (d) *Tank inlets and vents.* Tank inlets, fill openings, outlets and vents shall be:
 - (1) At or above the design flood elevation or fitted with covers designed to prevent the inflow of floodwater or outflow of the contents of the tanks during conditions of the design flood; and
 - (2) Anchored to prevent lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the design flood.

(Ord. No. 12-05, § 2(306), 6-18-2012)

Sec. 26-97. - Other development.

- (a) *General requirements for other development.* All development, including manmade changes to improved or unimproved real estate for which specific provisions are not specified in this ordinance or the Florida Building Code, shall:
 - (1) Be located and constructed to minimize flood damage;
 - (2) Reserved.
 - (3) Be anchored to prevent flotation, collapse or lateral movement resulting from hydrostatic loads, including the effects of buoyancy, during conditions of the design flood;
 - (4) Be constructed of flood damage-resistant materials; and
 - (5) Have mechanical, plumbing, and electrical systems above the design flood elevation or meet the requirements of ASCE 24, whichever is greater, except that minimum electric service required to address life safety and electric code requirements is permitted below the design flood elevation provided it conforms to the provisions of the electrical part of building code for wet locations.
- (b) *Concrete slabs used as parking pads, enclosure floors, landings, decks, walkways, patios and similar nonstructural uses in coastal high hazard areas (zone V).* In coastal high hazard areas, concrete slabs used as parking pads, enclosure floors, landings, decks, walkways, patios and similar nonstructural uses are permitted beneath or adjacent to buildings and structures provided the concrete slabs are designed and constructed to be:
 - (1) Structurally independent of the foundation system of the building or structure;
 - (2) Frangible and not reinforced, so as to minimize debris during flooding that is capable of causing significant damage to any structure; and
 - (3) Have a maximum slab thickness of not more than four inches.

- (c) *Decks and patios in coastal high hazard areas (zone V).* In addition to the requirements of the Florida Building Code, in coastal high hazard areas decks and patios shall be located, designed, and constructed in compliance with the following:
- (1) A deck that is structurally attached to a building or structure shall have the bottom of the lowest horizontal structural member at or above the design flood elevation and any supporting members that extend below the design flood elevation shall comply with the foundation requirements that apply to the building or structure, which shall be designed to accommodate any increased loads resulting from the attached deck.
 - (2) A deck or patio that is located below the design flood elevation shall be structurally independent from buildings or structures and their foundation systems, and shall be designed and constructed either to remain intact and in place during design flood conditions or to break apart into small pieces to minimize debris during flooding that is capable of causing structural damage to the building or structure or to adjacent buildings and structures.
 - (3) A deck or patio that has a vertical thickness of more than 12 inches or that is constructed with more than the minimum amount of fill necessary for site drainage shall not be approved unless an analysis prepared by a qualified registered design professional demonstrates no harmful diversion of floodwaters or wave run-up and wave reflection that would increase damage to the building or structure or to adjacent buildings and structures.
 - (4) A deck or patio that has a vertical thickness of 12 inches or less and that is at natural grade or on nonstructural fill material that is similar to and compatible with local soils and is the minimum amount necessary for site drainage may be approved without requiring analysis of the impact on diversion of floodwaters or wave run-up and wave reflection.
- (d) *Other development in coastal high hazard areas (zone V).* In coastal high hazard areas, development activities other than buildings and structures shall be permitted only if also authorized by the appropriate federal, state or local authority; if located outside the footprint of, and not structurally attached to, buildings and structures; and if analyses prepared by qualified registered design professionals demonstrate no harmful diversion of floodwaters or wave run-up and wave reflection that would increase damage to adjacent buildings and structures. Such other development activities include, but are not limited to:
- (1) Bulkheads, seawalls, retaining walls, revetments, and similar erosion control structures;
 - (2) Solid fences and privacy walls, and fences prone to trapping debris, unless designed and constructed to fail under flood conditions less than the design flood or otherwise function to avoid obstruction of floodwaters; and
 - (3) On-site sewage treatment and disposal systems defined in 64E-6.002, F.A.C., as filled systems or mound systems.
- (e) *Nonstructural fill in coastal high hazard areas (zone V).* In coastal high hazard areas:

- (1) Minor grading and the placement of minor quantities of nonstructural fill shall be permitted for landscaping and for drainage purposes under and around buildings.
- (2) Nonstructural fill with finished slopes that are steeper than one unit vertical to five units horizontal shall be permitted only if an analysis prepared by a qualified registered design professional demonstrates no harmful diversion of floodwaters or wave run-up and wave reflection that would increase damage to adjacent buildings and structures.
- (3) Where authorized by the Florida Department of Environmental Protection or applicable local approval, sand dune construction and restoration of sand dunes under or around elevated buildings are permitted without additional engineering analysis or certification of the diversion of floodwater or wave run-up and wave reflection if the scale and location of the dune work is consistent with local beach-dune morphology and the vertical clearance is maintained between the top of the sand dune and the lowest horizontal structural member of the building.

(Ord. No. 12-05, § 2(307), 6-18-2012; Ord. No. 20-04, § 2(Exh. A), 10-5-2020)

Secs. 26-98—26-130. - Reserved.