



PINELLAS COUNTY BUILDING DEPARTMENT

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PINELLAS COUNTY FLOOD DAMAGE PREVENTION MANUAL

Based on Ordinance 77-12 As Amended

PRODUCED BY PINELLAS COUNTY BUILDING DEPARTMENT

Pinellas County Ordinance 77-12 became effective June 3, 1977, and has been amended numerous times as of April, 1995. This publication is a consolidation of these ordinances and is not intended as an all inclusive design manual. Certain parentheticals and underlinings have been added, and some verbiage, reference numbers and diagrams have been added or deleted for the purpose of clarification and not as a representation of the contents of the actual ordinance.

The ordinance may be found in it's entirety in the Laws and Ordinances of Pinellas County, Chapter 13.

Section 1. STATUTORY AUTHORIZATION.

The Legislature of the State of Florida has, in Chapter 125 (Sections 125.001 - 125.59), State Statutes, delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety and general welfare of its citizenry. Therefore, the Board of County Commissioners of Pinellas County, Florida, does ordain as follows:

Section 2. FINDINGS OF FACT.

(1)The flood hazard areas of Pinellas County are subject to periodic inundation of flood waters which could result in loss of life, property damage, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which could adversely affect the public health, safety and general welfare.

(2)These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities, and by the occupancy in flood hazard areas by uses vulnerable to floods or hazardous to other lands which are inadequately elevated, floodproofed or otherwise protected from flood damages.

Section 3 STATEMENT OF PURPOSE.

It is the purpose of this ordinance to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- (1) Restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion or in flood heights or velocities.
- (2) Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.
- (3) Control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of floodwaters.
- (4) Control filling, grading, dredging and other development which may increase erosion or flood damage.
- (5) Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.
- (6) Direct population concentrations out of the coastal high hazard areas.

Section 4. OBJECTIVES.

The objectives of this ordinance are:

- (1) To protect human life, health and welfare;
- (2) To minimize expenditure of public money for costly flood control projects;
- (3) To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;
- (5) To minimize prolonged business interruptions;
- (6) To help maintain a stable tax base by providing for the sound use and development of flood-prone areas in such a manner as to minimize future flood blight areas; and
- (7) To ensure that potential home buyers are notified that property is in a flood area.

Section 5. DEFINITIONS.

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application: (see Webster's Ninth New Collegiate Dictionary)

A-Zone (see Zone)

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Administrator means the Federal Insurance Administrator, to whom the Director of the Federal Emergency Management Agency has delegated the administration of the program (34FR2680-81, February 27, 1969, as amended 39FR2787, January 24, 1974).

Appeal means a request for a review of the County Administrator's interpretation of any provision of this ordinance or request for a variance.

Area of Special Flood Hazard means the land in the floodplain within a community subject to a one (1) percent or greater chance of flooding in any given year.

Base Flood means the flood having a one (1) percent chance of being equaled or exceeded in any given year.

Base Flood Elevation (BFE) means the elevation measured in feet above mean sea level (MSL), as shown on the flood insurance rate map (FIRM).

Breakaway Walls means any type of walls, whether solid or lattice, and whether constructed of concrete, masonry, wood, metal, plastic, or any other suitable building materials which are not part of the structural support of the building and which are so designed as to break away, under abnormally high tides or wave action, without damage to the structural integrity of the building on which they are used or any buildings to which they might be carried by floodwaters. (see Sec. 9(5)(h))

Coastal High-Hazard Area (CHHA) means the area subject to high velocity waters, including but not limited to hurricane wave wash or tsunamis. The area is designated by the Federal Emergency Management Agency (FEMA) as Zone V1-V30. The CHHA incorporates all areas seaward of the Coastal Construction Control Line established by Florida Law and the Velocity Flood Hazard Area as established by the Federal Emergency Management (FEMA). This includes areas where public facilities have been damaged or undermined by coastal storms, and inlets which are not structurally controlled.

Connection means a continuous load path from rafter to foundation. Research has shown that buildings can survive wind loads when approved connectors are used. Buildings fail at connection joints. By using the proper size and type of connectors, damage from high-wind loads can be minimized.

The objective in design for wind resistant buildings is a continuous link from rafter to foundation using members in tension and fastening the joints with proper connectors. Use the loads to select the appropriately sized connectors for the wind/speed zone, 102 MPH (110 MPH in high-hazard coastal areas), of our area.

All framing members, i.e. rafters, studs, band joists, sill plates, etc., are to be fastened with timber connectors to resist the loads created by the force of high winds.

Masonry construction is typically of 8 in. block with a tie beam around the perimeter at each floor and roof level on exterior walls. Beam depth shall not be less than 8 in. with a minimum of one #5 rod continuous. Each corner cell shall be reinforced with at least one #5 rod, poured solid with concrete. This reinforcing shall be properly tied into the footing and tie beam. (see Sec. 1606, Standard Building Code)

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County Administrator is the chief executive officer of the County responsible to the Board of County Commissioners for the execution of this ordinance and the delegation of responsibilities for the individual tasks contained herein.

COE means the Corps of Engineers.

Curvilinear Line means the border on either a FHBM or FIRM that delineates the special flood, mudslide (i.e. mudflow) and/or flood-related erosion hazard areas and consists of a curved or contour line that follows the topography.

Development means any material man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations. The following activities or uses shall be taken for the purposes of this Ordinance to involve "development", as defined in this section:

- a) A reconstruction, alteration of the size, or change in the external appearance of a structure on land.
- b) A change in the intensity of use of land, such as an increase in the number of dwelling units in a structure or on land or an increase in the number of businesses, manufacturing establishments, offices or dwelling units in a structure or on land.
- c) Alteration of a shore or bank of a seacoast, river, stream, lake, pond, or canal, including any "coastal construction" as defined in s. 161.021.
- d) Commencement of drilling, except to obtain soil samples, mining, or excavation on a parcel of land.
- e) Demolition of a structure.
- f) Clearing of land as an adjunct of construction.
- g) Deposit of refuse, solid or liquid waste, or fill on a parcel of land.

Elevated building means a non-basement building built to have the lowest floor elevated above the ground level by means of fill, solid foundation perimeter walls, pilings, columns (posts and piers), shear walls, or breakaway walls.

Existing construction means any structure for which the "start of construction" commenced before June 3, 1977.

Existing Mobile Home Park or Mobile Home Subdivision means a mobile home park or subdivision for which the construction of facilities for servicing the lots on which the mobile homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads), is completed before June 3, 1977.

Expansion to an Existing Mobile Home Park or Mobile Home Subdivision means the preparation of additional sites by the construction of facilities for servicing lots on which the mobile homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or pouring of concrete pads).

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F.E.M.A. means Federal Emergency Management Agency, Region IV, 1371 Peachtree Street N.E., Suite 700, Atlanta, GA 30309, Ph. 404/853-4408.

F.I.R.M. means Federal Insurance Rate Map.

Flood or Flooding means a general and temporary condition of partial or complete inundation of normally dry land areas from overflow of inland or tidal waters or the unusual and rapid accumulation or runoff of surface waters from any source.

Flood Elevation Determination means a determination by the Administrator of the water surface elevations of the base flood, this is, the flood level that has a one (1) percent or greater chance of occurrence in any given year.

Flood Hazard Boundary Map (FHBM) means an official map of a community, issued by the Federal Emergency Management Agency, where the boundaries of the area of special flood hazards have been designated as zone V, A, B, C, Dx and X.

Flood Insurance Rate Map (FIRM) means an official map of a community, on which the administrator has delineated both the special hazard areas and the risk premium zone applicable to the community (see FHBM).

Floodplain means the lateral extent of inundation by an event of given statistical frequency, such as a "100 year floodplain", as designated in the Pinellas County Stormwater Management Plan (SWMP).

Flood Prone Area means any land area susceptible to being inundated by water from any source. (see definition of "flooding")

Floodplain Management Regulations means zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a floodplain ordinance, grading ordinance, erosion control ordinance, etc.) and other applications of police powers. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

Floodproofing means any combination of structural and nonstructural additions, changes or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

Floodway means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.

Floor (Lowest Floor) means the top surface of an enclosed area in a structure (including basement), i.e., top of slab in concrete construction or top of wood flooring in wood frame construction. The term does not include the floor of a garage used solely for parking vehicles. The term does not include accessory storage areas which meet the following criteria:

- (a) Each storage area is no larger than one hundred (100) square feet with one (1) dimension not to exceed six (6) feet.
- (b) The storage area is not a structural component of the building.

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- (c) The materials used for the storage area shall be flood resistant, and unfinished except for protective paint.
- (d) The walls of the enclosed storage area below base flood elevation must be constructed in a manner to prevent flotation, collapse and lateral movement.
- (e) In A and V zones, the walls of the unfinished enclosed area, below the BFE, shall be constructed with openings to facilitate the unimposed movement of floodwaters. (1 sq. in. per every 1 sq. ft of floor area) (see Sec. 9(7)(a))
- (f) In V-zones, the walls of the enclosed space shall be of "breakaway" construction. (see Sec. 9(5)(h))
- (g) The storage area meets all other standards found in Pinellas County Ordinance No. 77-12, as amended, where applicable.
- (h) The storage area shall not be used for human habitation.
- (i) Only one (1) storage area per living unit shall be allowed.

Functionally Dependent Facility means a facility which cannot be used for its intended purpose unless it is located in close proximity to water, such as a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, ship repair or seafood processing facilities. The term does not include long-term storage, manufacture, sales or service facilities.

Highest adjacent grade means the highest natural elevation of the ground surface, prior to construction, next to the proposed walls of a building.

Historical structure means any structure that is:

- (a) Listed individually in the National Register of Historic Places (a listing maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- (b) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- (c) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or
- (d) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
 - (1) By an approved state program as determined by the Secretary of the Interior; or
 - (2) Directly by the Secretary of the interior in states without approved programs.

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Hurricane Evacuation Zones are established by the Pinellas County Emergency Services Agency. Evacuation Levels A, B, C, D and E, as identified in the most recent hurricane evacuation study, require the evacuation of successively more zones inland from the coast during a storm event.

Hurricane Scale means historical accounts that have characterized each hurricane as the worst ever, or greater than a specific previous storm. In an effort to better classify a storm, the National Weather Service uses the Saffir-Simpson Hurricane Scale to report storms. The scale is based on three storm variables - wind velocity, storm surge and barometric pressure.

SAFFIR-SIMPSON HURRICANE SCALE

Category (mph)	Wind (feet)	Storm Surge (inches)	Central Pressure	Damage
1	74-95	4-5	+28.94	Minimal
2	96-110	6-8	28.50-28.91	Moderate
3	111-130	9-12	27.91-28.47	Extensive
4	131-155	13-18	27.17-27.88	Extreme
5	155+	18+	-27.17	Catastrophic

All hurricanes making landfall cause damage, so no one should be misled by the hurricane scale. The wind may rapidly increase, or the coastal configuration may amplify the storm surge level. The scale should be used for the purpose it was developed - to classify hurricanes, all of which may cause extensive damage.

Lowest Floor means the same a "floor."

Lowest Horizontal Structural Member means the bottom of the lowest portion of the lowest horizontal structural member (excluding bracing, grade beams and nonstructural slabs.)

Mangrove Stand means an association of mangrove trees which are noted for development within the intertidal zone of marine shorelines and which contain one (1) or more of the following species: black mangrove (*Avicennia nitida*); red mangrove *Rhizophora mangle*); white mangrove (*Languncularia racemosa*); and buttonwood (*Conocarpus erecta*).

Manufactured Housing means the same as mobile home.

Map means the flood hazard boundary map (FHBM) or the flood insurance rate map (FIRM) for a community issued by the Federal Emergency Management Agency.

Mean Sea Level (MSL) means the average height of the sea for all stages of the tide. This is used as a reference for establishing elevations. For purposes of this ordinance, the term is synonymous with the National Geodetic Vertical Datum (NGVD).

Mobile Home means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term also includes park trailers, travel trailers and similar transportable structures placed on a site for one hundred eighty (180) days or longer and intended to be improved property. The term mobile home does not include a recreational vehicle.

Mobile Home Park or Subdivision means a parcel (or contiguous parcels) of land divided into two (2) or more mobile home lots for rent or sale.

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N.F.I.P. means National Flood Insurance Program.

National Geodetic Vertical Datum (NGVD) as corrected in 1929 is a vertical control used as a reference for establishing varying elevations within the floodplain.

New Construction means for the purposes of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For flood plain management purposes, "new construction" means structures for which the "start of construction" commenced on or after June 3, 1977.

New mobile home park or subdivision means a mobile home park or subdivision for which the construction of facilities for servicing the lots on which the mobile homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after June 3, 1977.

Obstruction See Sec. 9(5)(j) and (m)

One Percent (1%) means an area of flood hazard equaling 1% chance of occurrence per year.

Recreational Vehicle means a vehicle which is:

- (a) Built on a single chassis;
- (b) Four hundred (400) square feet or less when measured at the largest horizontal projection;
- (c) Designed to be self-propelled, or permanently towable, or a light-duty truck;
- (d) Designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

Sand Dunes means naturally occurring accumulations of sand in ridges or mounds landward of the beach.

Scientifically Incorrect The methodology(ies) and/or assumptions which have been utilized are inappropriate for the physical processes being evaluated or are otherwise erroneous.

Start of Construction (for other than new construction or substantial improvements under the Coastal Barrier Resources Act (P.L. (97-348)) includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition or improvement was within one hundred eight (180) days of the permit date.

The actual start means the first placement of permanent construction of a structure (including a mobile home) on a site, such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the stage of excavation or the placement of a mobile home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the Section5Con't

actual start of construction means the first alteration of any wall, ceiling, floor, or other structural parts of a building, whether or not that alteration affects the external dimensions of the building.

Structure means a walled and roofed building that is principally above ground, as well as a mobile home, a gas or liquid storage tank, or other man-made facilities or infrastructures.

Substantial Damage means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damage condition would equal or exceed fifty (50%) percent of the market value of the structure before the damage occurred.

Substantial Improvement means any reconstruction, rehabilitation, addition or other improvement of a structure, the cost of which equals or exceeds fifty (50%) percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either (1) any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local Code Enforcement official and which are the minimum necessary to assure living conditions, or (2) any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure."

- (a) All costs of repair, reconstruction, or improvements must be counted in the calculation of the overall cost of the improvement. These costs include both decorative and structural.
- (b) Cost deductions for Code Violations - The term substantial improvement is not applicable to "any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions." In estimating the "cost of repair" for calculating substantial improvement, the costs of improvements required to remedy health, safety, and sanitary code violations are deductible under the definition of substantial improvement. However, there have been problems encountered in the interpretation of substantial improvement in terms of the conditions of the code requirements and the degree of improvements which qualify for these deductions.

Costs of improvements made as a result of code requirements qualify as deductible only if the code requirement:

- (i) Was initiated by the issuance of an order, citation, condemnation, or other directive from an appropriate regulatory official such as a building official, code enforcement officer, fire marshal, or health officer and
- (ii) This issuance occurred prior to the repair of improvement.

Costs associated with improvements made to a structure may be deducted from the overall costs of improvement only if the structure or specific items within the structure have been previously identified by the local code enforcement official as being substandard and in violation. If no official knowledge (i.e., an issued citation or condemnation) existed prior to the improvements, then the structure is assumed to have met all codes prior to the improvements. Thus, all costs of improvements would be counted toward substantial improvement. For any improvement required to meet health, sanitary, and safety codes, only the minimum necessary to assure safe living conditions shall be credited as being deductible from the cost of the overall

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improvement. Costs of improvements which are in excess of the "minimum necessary" for continued occupancy or use will be counted toward the cost of the overall improvement.

For example, if a certain feature of an item was in need of repairs to remedy a code violation, but the owner, of his own volition, chose to allocate additional funds to replace the entire item, then this additional cost would be counted toward substantial improvement and only the cost to perform the minimal necessary repairs would be deductible. The same principle applies when the owner chooses to use materials (or labor) that exceed the normal expense for materials (or labor) necessary to remedy the code violation; the additional cost associated with the excessively expensive materials or labor is counted toward substantial improvement. The underlying principle for counting the extra costs associated with more expensive materials, labor, or designs is the added real property that would be located in flood hazard areas and that would be at risk to flood damage.

- (c) The cost of repair, reconstruction, or improvements used in determining the cost of fair market value ratios, shall be equal to the combined value of materials and labor used in the repair, reconstruction and improvement of a structure, but in no case, shall it be less than the value of the materials and labor.

The value of material shall be equal or equivalent to the actual or estimated cost of all materials, to be used in the repair, reconstruction or improvement of the structure. Where materials or servicing equipment are donated or discounted below normal market value, the value should be adjusted to an amount which would be equivalent to that estimated chargeable through normal market transaction.

The value of labor shall be equal or equivalent to the actual or estimated labor charge for repair, reconstruction or improvement of the structure. Where non-reimbursed labor is involved (self or donated labor), the value of labor for the non-reimbursed portions shall be computed based on applicable minimum hour wage scales.

- (d) Sources for determining "cost" associated with repair, reconstruction, or improvements to a structure.
- (i) Code valuation tables such as that of the Standard Building Code, are commonly used as guide by local permit officials for comparing a contractor's estimate for improvements against the standardized costs (in the table) for a similar improvement. It is a way to substantiate an estimate and determine if its in a range of cost that is realistic for a particular type improvement.
 - (ii) In a case where decorative or superficial improvements, or excessively expensive labor or materials are used, the permit official must make adjustments to the average cost listed in the code table to account for architectural and structural extras. The Building Code Tables are based on average costs for comparative purposes, thus, for determining substantial improvement, the cost of more expensive materials, designs, etc. would require a detailed itemization.
 - (iii) Building cost information services such as Marshall and Swift, or Dow Building may be sources for itemized cost determinations.

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- (e) When any improvement, whether decorative or structural is part of a larger improvement that requires a permit, all costs are counted toward substantial improvement. This is because it represents additional real property exposed to flood damages.

- (f) Improvements can be either exterior or interior. In the case of an addition amounting to over 50 percent of the value of the structure in which the addition is added to the front, rear or either side, only the addition needs to comply with the NFIP regulations or elevating and construction criteria. Furthermore, the actuarial rates charged for insurance are based on the elevation of the lowest floor of the addition.
- (g) Another type of substantial improvement involves only interior renovations. Should this occur, there is not the option of elevating just the improvement since to do so is a physical impossibility. The entire structure, therefore, must be elevated.
- (h) Substantial improvement is also involved if the addition of 50 percent of the value of the structure is to be added above the existing structure. This situation would be treated the same as if the improvement were interior renovations. The entire structure would have to be elevated.
- (i) Determining the fair market value of a structure can be verified either by the County Tax Assessor or by a certified property appraiser.
- (j) Ultimately, it is the permit official's responsibility to assure that the estimated cost of improvements provided by the contractor are reasonable. As a general rule, when the level of improvement approaches 50 percent of the market value of the structure, greater care needs to be exercised in determining the "cost of improvement."

Technical Bulletin is a release from the Technical Standards Division of the Federal Emergency Management Agency.

Technically Incorrect The methodology(ies) utilized has been erroneously applied due to mathematical or measurement error, changed physical conditions, or insufficient quantity or quality or input data.

Variance is a grant of relief to a person from the requirements of this ordinance which permits construction in a manner otherwise prohibited by this ordinance where specific enforcement would result in unnecessary hardship.

V-Zone (see zone)

Water Surface Elevation means the projected heights in relation to mean sea level (MSL) reached by floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

These may be expressed by "curvilinear lines" on FHBM's or FIRM's and reflected as a border delineating the special flood hazard areas.

Zone means:

Zone V 1-30: Special flood hazard areas along coasts inundated by the 1% flood as determined by detailed methods, and that have additional hazards due to velocity (wave action) waters; base flood Section 5 Con't.

elevations are shown and zones subdivided according to flood hazard factors.

Zone A: Special flood hazard areas inundated by the 1% flood, determined by approximate methods; no base flood elevations are shown or flood hazard factors determined.

Zone AO: Special hazard areas inundated by the 1% shallow flooding where depths are between 1.0 and 3.0 feet; depths are shown, but no flood hazard factors determined.

Zone AH: Special flood hazard areas inundated by the 1% shallow flooding where depths are between 1.0 and 3.0 feet; base flood elevations are designated, but no flood hazard factors are determined.

Zone A 1-30: Special flood hazard areas inundated by the 1% flood, determined by detailed methods; base flood elevations are shown and zones subdivided according to flood hazard factors.

Zone A-99: Special flood hazard areas inundated by the 1% flood which will be affected by the flood protection system where adequate progress has been made toward completion; no base flood elevation are shown or flood hazard factors determined.

Zone B: Areas of moderate flood hazard.

Zone C: Areas of minimal flood hazard.

Zone D: Areas of undetermined by possible flood hazard.

Note: Insurance rates and floodplain management measures will vary depending on the zone.

Section 6. LANDS TO WHICH THIS ORDINANCE APPLIES.

- (1) This ordinance shall apply to all areas of special flood hazards within the jurisdiction of the unincorporated area of Pinellas County.
- (2) The areas of special flood hazard identified by the Federal Emergency Management Agency in its Flood Insurance Rate Map for the unincorporated area of Pinellas County, Community Panel No. 125139, 0001-0350, dated June 1, 1983, or any revisions thereto, are hereby adopted by reference and declared to be a part of this ordinance.

Section 7. COMPLIANCE AND PERMIT REQUIREMENT.

- (1) No structure or land shall hereafter be located, extended, converted or structurally altered without full compliance with the terms of this ordinance and other applicable regulations.
- (2) Prior to the start of any proposed construction, or development, a building permit shall be required certifying that the proposed construction or development has been reviewed and complies with the requirements of this ordinance.
- (3) More restrictive requirements imposed by other local and state legislation currently in effect or as amended shall take precedence over the terms of this ordinance.

Section 8. PROVISIONS FOR FLOOD HAZARD REDUCTION, GENERAL STANDARDS.

In all areas of special flood hazards, the following provisions are required:

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- (1) All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure;
- (2) All new construction and substantial improvement shall be constructed with materials and utility equipment resistant to flood damage (see Sec.. 5);

- (3) All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;
- (4) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;
- (5) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters;
- (6) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding;
- (7) Any alteration, repair, reconstruction or improvements to a structure which is in compliance with the provisions of this ordinance, shall meet the requirements of "new construction" as contained in this ordinance; and
- (8) Electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities shall be designed and/or located so as to prevent floodwater from entering or accumulating within the components during conditions of flooding.
- (9) Pinellas County shall not approve any request to increase residential density above five (5.0) units per gross acre on areas within 100 year floodplains, Coastal High Hazard Areas, or Hurricane Evacuation Zones, Evacuation Level "A", as established by the Pinellas County Emergency Services Agency.
- (10) Mobile homes shall be anchored to prevent flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This standard shall be in addition to and consistent with applicable state requirements for resisting wind forces.

Section 9. SPECIFIC STANDARDS.

In all areas of special flood hazards where base flood elevation data has been provided as set forth in Sec. 6(2), the following provisions are required:

- (1) Residential construction: New construction or substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to or above base flood elevation. In a V zone the bottom of the lowest horizontal structural member shall meet or exceed the base flood elevation.
- (2) Nonresidential construction: New construction or substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to the level of the base flood elevation or, together with attendant utility and sanitary facilities, be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components

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having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. In a V zone the bottom of the lowest horizontal structural member shall meet or exceed the base flood elevation. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the official as set forth Sec.14 (3).

(3) Mobile Homes and Recreational Vehicles:

- (a) No mobile homes placed, or substantially improved, on individual lots or parcels, in expansions to existing mobile home parks or subdivisions, or in substantially improved mobile home parks or subdivisions, must meet all the requirements for new construction, including elevation and anchoring. No mobile home shall be placed in a floodway or coastal high hazard area, or hurricane evacuation zone, evacuation level "A," except in an existing mobile home park or existing mobile home subdivision.
- (b) All mobile homes placed or substantially improved in an existing mobile home park or subdivision must be elevated so that:
 - (i) The lowest floor of the mobile home is elevated no lower than the base flood elevation, or:
 - (ii) The mobile home chassis is supported by reinforced piers or other foundation elements of at least an equivalent strength, of no less than 36 inches in height above grade.
 - (iii) The mobile home must be securely anchored to the adequately anchored foundation system to resist flotation, collapse and lateral movement.
 - (a) Over-to-top ties be provided at each of the four (4) corners of the mobile home, with two (2) additional ties per side at intermediate locations, and mobile homes less than fifty (50) feet long requiring one (1) additional tie per side;
 - (b) Frame ties be provided to each corner of the home with five (5) additional ties per side at intermediate points and mobile homes less than fifty (50) feet long requiring four (4) additional ties per side;
 - (c) All components of the anchoring system be capable of carrying a force of forty-eight hundred (4,800) pounds; and
 - (d) Any additions to the mobile home be similarly anchored.
 - (iv) In an existing mobile home park or subdivision on which a mobile home has incurred "substantial damage" as the result of a flood, any mobile home placed or substantially improved must meet the standard of Section 9 (3)(b)(i) and (iii) above.
- (c) All recreational vehicles placed on sites must either:
 - (i) Be fully licensed and ready for highway use, or
 - (ii) The recreational vehicle must meet all the requirements for new construction, including anchoring and elevation requirements of Section 9(3)(a) and (b) above.

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A recreation vehicle is ready for highway use, if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices and has no permanently attached structures.

- (4) Floodways: When floodways are designated within areas of special flood hazard additional

criteria will be met. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles and erosion potential, the following provisions shall apply:

- (a) Prohibits encroachments, including fill, new construction, substantial improvements and other developments unless certification by a professional registered engineer or architect is provided demonstrating that encroachments shall not result in any increase in flood levels during occurrence of the base flood discharge.
 - (b) If Sec. 9(4)(a) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Sec. 8 and 9.
 - (c) Prohibit the placement of any mobile homes, except in an existing mobile home park or existing mobile home subdivision.
 - (d) Prohibits the construction of hospitals, nursing homes, adult congregate living facilities, or any group living homes and/or congregate care facilities within any floodway.
- (5) Coastal High-Hazard Area (V Zones): Located within the areas of special flood hazard established in Sec. 6(2) are areas designated as coastal high-hazard areas. All structures erected in coastal high hazard areas shall be supported on pilings and/or columns and adequately anchored to such supports to resist collapse and lateral movement from wind and velocity water pressures. Spread footings and fill shall not be used for structural support purposes. Foundations must be designed to transfer safely to the underlying soil all loads due to wind, water, dead load, live load, and other loads, including uplift due to wind and water. These areas have special flood hazards associated with high-velocity waters from tidal surge and hurricane wave wash; therefore, the following provisions shall apply:
- (a) All buildings or structures shall be located landwards of the reach of the mean high tide.
 - (b) All buildings or structures shall be elevated so that the bottom of the lowest supporting member is located no lower than the base flood elevation level, with all space below the lowest supporting member open so as not to impede the flow of water, except for breakaway walls as provided for in Sec. 9(5)(h).
 - (i) On "V" zones a survey must verify the "elevation of the bottom of the lowest horizontal structural member."
 - (c) All buildings or structures shall be securely anchored on/to pilings.
 - (d) Pilings or columns used as structural support shall be designed and anchored so as to withstand all applied loads of the base flood flow. Determining an appropriate embedment depth requires consideration of several factors; pile depth necessary to resist vertical, uplift, and horizontal loads; anticipated scour depth or elevation at the side; existing ground elevation; base flood elevation, etc.

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- (i) Pile Spacing: The design ratio of pile spacing to pile diameter shall not be less than (8)*:1 for individual piles; however this would not apply to pile clusters located below the design grade. The maximum center-to-center spacing of wood piles shall not be more than (12) feet on center under load bearing sills, beams, or girders.
- (ii) Pile Embedment: Pilings shall have adequate soil penetration (bearing capacity) to

resist the combined wave and wind loads (lateral and uplift) acting simultaneously with typical structure (live and dead) loads, and shall include consideration of decreased resistance capacity caused by erosion of soil strata surrounding the piles. The minimum penetration for foundation piles is to an elevation of (8) feet below mean sea level (msl) datum if the BFE is (10) feet msl or less, or to at least (10) feet below msl if the BFE is greater than (10) feet msl. Additional guidance on pile embedment, including load/embedment tables for different soil and pile types, is provided in the Coastal Construction Manual.

- (iii) Column Action: Pile foundation analysis shall also include consideration of piles in column action from the bottom of the structure to the stable soil elevation of the site. Pilings may be horizontally or diagonally braced to withstand wind and water forces.
- (iv) Pile Standards: The minimum acceptable sizes for timber piles are a tip diameter of (8) inches for round timber piles and (8) by (8) inches for timber piles. All wood piles must be treated in accordance with requirements of AWPA-C3 to minimize decay and damage from fungus.

Reinforced concrete piles shall be cast of concrete having a 28 day ultimate compressive strength of not less than 5,000 pounds per square inch, and shall be reinforced with a minimum of four longitudinal steel bars having a combined area of not less than 1 percent nor more than 4 percent of the gross concrete area. Reinforcement for precast piles shall have a concrete cover of not less than 1-1/4 inches for No. 5 bars and smaller and not less than 1-1/2 inches for No. 6 through No. 11 bars. Reinforcement for piles cast in the field shall have a concrete cover of not less than 2 inches.

*Values given in parentheses in this subsection are suggested, and subject to modification.

- (e) Compliance with provisions contained in section 9(5)(b), (c) and (d) shall be certified to by a registered professional engineer or architect.
- (f) There shall be no fill used as structural support. (See Sec. 3(4))
- (g) There shall be no alteration of sand dunes or mangrove stands which would increase potential flood damage.
- (h) Breakaway walls shall be allowed below the base flood elevation provided they are not part of the structural support of the building and are designed so as to breakaway, under abnormally high tides or wave action, without damage to the structural integrity of the building on which they are to be used and provided the following design specifications are met:

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- (i) Allow floodwaters to rise and flow freely under the structure.(opening = 1 sq. in. per every 1 sq. ft. of floor area)(see Sec. 9(7)(a))
- (ii) Not permit the infill walls themselves to become waterborne debris.
- (iii) Not cause the accumulation of waterborne debris.
- (iv) Design safe loading resistance of each wall shall be not less than ten (10) nor more

than twenty (20) pounds per square foot; or if more than twenty (20) pounds per square foot, a registered engineer or architect shall certify that the designed wall collapse would result from a water load less than that which would occur during the base flood event, and the elevated portion of the building and section supporting foundation system shall not be subject to collapse, displacement or other structural damage due to the effects of wind and water loads acting simultaneously on all building components during the base flood event. Maximum wind and water loading values to be used in this determination shall each have one per cent chance of being equaled or exceeded in any given year.

- (v) Window openings shall be limited to the minimum required for light and ventilation (maximum of 1/20 of the floor area served.)
- (vi) Walls shall be of Flood Resistant Materials. (see Sec. 5)
- (i) If breakaway walls are utilized, such enclosed space shall not be usable for human habitation but shall be designed to be usable only for parking of vehicles, building access or limited storage of maintenance equipment used in connection with the premises. (see Sec. 9(7))
- (j) Prior to construction, plans for any structure that will have breakaway walls must be submitted to the building department for approval.
- (k) Prohibit the placement of mobile homes, except in an existing mobile home park or existing mobile home subdivision.
- (l) Any alteration, repair, reconstruction or improvements to a structure started after the enactment of this ordinance shall not enclose the space below the lowest horizontal structural member unless breakaway walls are used as provided in Sec. 9(5)(h) and (i). This area may not be used a habitable space.
- (m) Construction of hospitals, nursing homes, adult congregate living facilities, or any group living homes and/or congregate care facilities is prohibited within an Coastal High Hazard Area or Hurricane Evacuation Zone, Evacuation Level "A".
- (n) Free of Obstruction Requirement in Coastal High Hazard Areas (V Zone)

Introduction: The National Flood Insurance Program (NFIP) was created by Congress in 1968 for two equally important reasons: first, to provide federally backed flood insurance coverage since it was generally unavailable from private insurance companies; and second, to reduce future flood losses by insuring that new development is adequately protected from flood damages. The NFIP is based on a mutual agreement with communities that have been identified as flood-prone. The Federal Emergency

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Management Agency (FEMA), which is the agency charged with administering the program, provides community-wide flood insurance provided that the community adopts and enforces adequate floodplain management regulations that meet or exceed the minimum requirements of the NFIP. This is accomplished through a local floodplain management ordinance which establishes design performance standards for buildings subject to flood damage.

For NFIP participating coastal communities, performance standards have been established for the design and construction of buildings located in areas subject to

velocity water and wave action. Areas subject to these conditions are classified as Coastal High Hazard areas and are identified on the community's Flood Insurance Rate Map (FIRM) as Zones V1-V30, VE, AND V.

The cornerstone of these requirements is NFIP, Sec. 60.3 (e)(4) and (5) (Pinellas County Ordinance 77-12, Sec. 9 (5)) which provide specific performance standards for coastal buildings.

The regulations state that all new construction and substantial improvements in Zones V1-V30, VE and V shall have the space below the lowest horizontal structural member either free of obstruction or constructed with non-supporting breakaway walls, open wood lattice-work, or insect screening intended to collapse under wind and water loads without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system. Specific criteria for the design of breakaway walls are contained in this section. In addition, use of this space below the lowest floor is restricted to the parking of vehicles, building access, or limited storage.

The free of obstruction requirement is critical to the proper functioning of a pile or column foundation system. As a foundation system, the pile or column supports not only elevate the building above damaging floodwaters, but minimize the amount of obstruction to velocity water and wave action. The result is floodwaters flow around the supports and transfer minimal forces to the foundation system. The velocity water and wave action associated with coastal flooding exert very strong hydrodynamic and hydrostatic forces. Most standard elevation techniques, such as solid foundation walls, obstruct the normal flow of floodwaters, redirect the flow into the elevated portion of the building, or into adjacent buildings, and eventually fail.

Enclosures, such as breakaway walls, open wood lattice-work, and insect screening, are permitted below the lowest horizontal structural member provided they meet certain criteria which ensure that the pile or column foundation system is free of obstruction and will therefore function as intended. If there is any type of lower area enclosure which obstructs the flow of velocity water and wave action, the result can be the flotation, collapse, lateral movement of the building and/or, if redirected, flotation collapse or lateral movement of an adjacent building.

- (i) Lower Area Obstructions: There exists a variety of design and construction practices undertaken in connection with the construction of a coastal building which, depending on the design, may represent an obstruction which results in damage to the building or adjacent properties. It is important to distinguish between that which is constructed beneath the building and that which is constructed outside of the perimeter walls of the building. NFIP Sec. 60.3(e)(5) restricts construction

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- (ii) beneath the lowest horizontal structural member of the building to breakaway walls, open wood lattice-work, or insect screening. Because of the restriction to the flow of floodwaters, any other construction beneath the lowest horizontal structural member of the building to breakaway walls, open wood lattice-work or insect screening. Because of the restriction to the flow of floodwaters, any other construction beneath the lowest horizontal structural member would be considered a lower area obstruction and would therefore be prohibited. This can be further clarified by discussing a number of lower area construction practices encountered in coastal buildings.

1. Bracing: Bracing, which is intended to provide additional lateral support to a foundation, are structural members above grade which tie together the pile or column supports. Bracing may to some degree obstruct flow. However, the added lateral support provided by the bracing should more than compensate for any minimal obstruction caused by the bracing itself.
2. Bulkheads: Bulkheads for individual coastal buildings, which are used primarily for protection of a coastal building against erosion, have shown to have limited success in protecting against larger flood events. Increased scour and erosion at the toe and end points of the bulkhead and the redirection of floodwaters are principle concerns with bulkheads. Any bulkhead beneath a coastal building or beneath a coastal building and attached to the foundation system is an obstruction and would therefore be prohibited. The potential exists for redirecting velocity water and wave action into the elevated portion of the building. A bulkhead which is attached to the pile supports will transfer the velocity water and wave forces directly to the foundation system in addition to directing the floodwaters into the elevated portion of the building.
3. Concrete Slabs: A concrete slab is used as a surface for parking automobiles, access stairs, or storage beneath a coastal building. It is usually the at-grade surface for some type of lower area enclosure. A slab is not considered an obstruction provided it is constructed at natural grade. A common construction technique is to elevate the concrete slab on fill beneath the building. Because this will restrict the flow to some degree, the use of fill to elevate a slab is considered an obstruction and would therefore be prohibited.
4. Fill: Fill is commonly placed beneath a coastal building for a variety of reasons. For aesthetic purposes, fill is frequently used to modify the appearance of a building elevated on piles or columns. As stated above another common use of fill is to elevate a concrete slab to a desired elevation beneath the building. For whatever reason fill is used, it represents an obstruction and would therefore be prohibited. In addition NFIP Sec. 60.3.(e)(6) prohibits the use of fill for structural support of buildings within Zones V 1-30, VE, and V.
5. Grade beams: Grade beams are structural members of the foundation which are at-grade and tie together the perimeter pile or column supports. The purpose of the grade beam is to provide additional lateral support to the pile or column supports. A common construction technique is to incorporate a perimeter grade beam into a concrete slab. The nature of this construction practice necessitates that grade beams be constructed at natural grade. Grade beams would not be considered an obstruction.

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6. Swimming Pools: If a swimming pool is placed beneath a coastal building above natural grade it is an obstruction and would therefore be prohibited. However, the placement of a swimming pool at natural grade beneath a coastal building raises several concerns in regards to the potential effect on the building during a coastal flood event. During a coastal flood the velocity water and wave action will result in the liquefaction of the sand to a certain depth or scour zone. Any large object below natural grade beneath a coastal building would be subjected to considerable forces and may increase the turbulence of the floodwaters resulting in an increase in the potential scour around the pile supports. This is a major concern if the pile supports are weakened by increased scour and erosion or by wave debris impact forces resulting from the location of the pool. In compliance

with the certification requirement in NFIP, Sec. 60.3(e)(4), a professional engineer or architect must review the design specifications, and plans to ensure the building is anchored to resist flotation, collapse and lateral movement. The pool may alter the physical characteristics of flooding or significantly increase wave or debris impact forces affecting the foundation and elevated portion of the building. This must be considered by the design professional both in the design of the building and in the review process leading to the certification.

- (ii) Obstructions Outside the Perimeter of the Coastal Building: For the purpose of examining potential obstructions outside of the perimeter of the coastal building, the performance requirements contained in NFIP, Sec. 60.3(e)(4) would be section applicable. The building must be anchored to resist flotation, collapse, and lateral movement due to the combined effects of wind and water loads.

Any obstruction outside of the perimeter of the coastal building may result in significant alterations to the physical characteristics of the site, which may alter the magnitude and direction of flood forces, debris impact potential, or the potential for scour and erosion at the site. These physical changes may also effect adjacent sites and it should be the responsibility of both the design professional and the community to ensure that adjacent structures are not adversely affected by any obstructions.

The following is a list of common construction practices outside of the perimeter of the coastal building which should be considered in terms of any potential adverse impacts on the building and adjacent buildings:

Accessory Structures/Detached Garages: Unless properly elevated on piles or columns in accordance with NFIP, Sec. 60.3(e)(4), accessory structures and detached garages in coastal high hazard areas should be limited to low value structures such as small metal or wooden sheds are "disposable." If a low cost structure is placed on a site, consideration

1. must be given to the effects the debris from the structure may have on the building. Generally if the structure is of significant size and strength to create either a debris impact problem or flow diversion problem, it should be elevated in accordance with NFIP Sec. 60.3(e)(4).
2. Bulkheads/Seawalls: As indicated above, bulkheads and seawalls are commonly used to protect coastal buildings and property from erosion. A bulkhead may be designed to protect a single property or several adjoining properties from erosion. Although effective for smaller

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flood events, concerns are raised about the effect of these structural measures during larger flood events on conditions at the site and importantly on any adjacent sites which are just outside the bulkheaded area. It is the responsibility of the community and the design professional to consider these effects before construction is initiated. This should be an important part of the review process prior to certification by the design professional.

3. Fill: Fill is used on a coastal building site for a variety of reasons such as landscaping design for aesthetic purposes, elevating driveways and parking areas, etc. The concern is whether the fill alters the site conditions such that excessive loading forces, ramping effects, or wave deflection will result prior to the loss of the material due to scour and erosion. (See Sec. 3(4))

4. Decks/Patios: Decks and patios are typically incorporated into a landscape design of a coastal building. These types of construction items are a concern if the physical conditions of the site are altered to a point that flood conditions adversely affect the building or adjacent buildings. Care must be taken that floodwaters are not diverted into the elevated structure or into adjacent structures or that debris from destroyed decks or patios does not damage the foundation supports of the building or adjacent buildings. These improvements, whether they are landscaped fill, decks, patios, or any combination of these items, must be considered in terms of altering the physical site conditions. (See Sec. 3(5))
5. Swimming pools: Swimming pools are commonly located between the coastal building and the source of flooding. Pools, which may be built at natural grade or elevated on fill or some type of structural foundation, have the potential for significantly altering the physical conditions of the site due to the size of the obstruction and location.
 - (iii) Obstructions Attached To But Outside the Building Perimeter: Any construction items such as a swimming pool, garage, accessory structure, patio, or deck which is attached to a coastal building is considered a part of that building and would have to meet the requirements. Generally if any of these items are attached and located below the lowest horizontal structural member of the building they would be considered an obstruction and would be prohibited. Access stairs to and from a deck or patio would be excluded from this requirement.
 - (iv) An engineer or architect shall review the obstruction(s) for compliance with the above requirements and all sections of the Federal Emergency Management Agency (FEMA), National Flood Insurance Program and Related Regulations and shall issue a statement such as: "I certify the storm surge water forces which might be created or diverted due to the installation of (pool, spa, retaining wall, fence, deck, etc.) will not jeopardize the structural integrity of the host structure and/or adjacent property."
 - (n) The entire plan must be sealed by an architect or engineer and contain the statement, "I certify I have read Ordinance 77-12 as amended and the plans submitted are in compliance. I further certify they are designed to be securely anchored to adequately anchored pilings or columns in order to withstand velocity waters and hurricane wave wash to the base flood elevation." Plans must be of professional drafting quality.
 - (o) Prior to final, certification an engineer or architect must be submitted which states, "I certify that the structure is securely anchored to adequately anchored piles or columns

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in order to withstand velocity waters and hurricane wave wash to the base flood elevation."

- (i) The bottom of the lowest horizontal structural member of the lowest floor (excluding piles or columns) is elevated to or above the base flood level and
- (ii) The pile or column foundation and the structure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the combined effects of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a one percent chance of being equaled or exceeded in any given year (100-year mean recurrence interval). A registered professional

engineer or architect shall develop or review the structural design, specifications and plans for the construction, and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting Pinellas County Ord. 77-1, Sec. 9(5).

(6) Standards for subdivision proposals:

- (a) All subdivision proposals shall be consistent with the need to minimize flood damage.
- (b) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.
- (c) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards.
- (d) Base flood elevation data shall be provided for subdivision proposals and other proposed development (including mobile home parks and subdivisions).

(7) Elevated Buildings. New construction or substantial improvements of elevated buildings that include fully enclosed areas formed by foundation and other exterior walls below the base flood elevation shall be designed to preclude finished living space and designed to allow for the entry and exit of floodwaters to automatically equalize hydrostatic flood forces on exterior walls.

- (a) Designs for complying with the requirement must either be certified by a professional engineer or architect or meet the following minimum criteria:
 - (i) Provide a minimum of two (2) openings having a total net area of not less than one square inch for every one (1) square foot of enclosed area subject to flooding;
 - (ii) The bottom of all openings shall be no higher than one foot above grade; and,
 - (iii) Openings may be equipped with screens, louvers, valves or other coverings or devices, provided they permit the automatic flow of floodwaters in the both directions.
 - (iv) Window openings shall be limited to minimum required for light and ventilation (maximum of 1/10 of the floor area served).
 - (v) Walls shall be of Flood Resistant Materials (see Sec. 5)
- (b) Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or elevator); and

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- (c) The interior portion of such enclosed area shall not be partitioned or finished into separate rooms, except in the manner provided in the Sec. 5 definition of "Floor" relating to accessory storage.

(8) Survey Requirements: All zones except "V" zones the survey must contain the elevation of the lowest floor. The wording on the survey must be lowest floor. On "V" zones the survey must verify the elevation of the bottom of the lowest horizontal structural member. OTHER WORDING IS UNACCEPTABLE.

Section 10. ADMINISTRATION; DESIGNATION OF THE COUNTY ADMINISTRATOR.

- (1) Appointment: The County Administrator is hereby appointed to administer and implement the provisions of this ordinance.
- (2) Duties and Responsibilities of the County Administrator: Duties of the County Administrator shall include but not be limited to:
 - (a) Review all development permits to assure that the permit requirements of this ordinance have been satisfied.
 - (b) Review permits for proposed development to assure that all necessary permits have been obtained from those federal, state or local governmental agencies from which prior approval is required.
 - (c) Notify adjacent communities and the Department of Community Affairs, State of Florida, prior to any alteration or relocation of a watercourse, and shall submit evidence of such notification to the Federal Emergency Management Agency.
 - (d) Assure that maintenance is provided within the altered or relocate portion of said watercourse so that the flood-carrying capacity is not diminished.
 - (e) Verify and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) or the bottom of the lowest horizontal structural member of all new and substantially improved structures.
 - (f) Verify and record the actual elevation (in relation to mean sea level) to which the new or substantially improved structures have been floodproofed. see Sec. 10(2)(1))
 - (g) In coastal high-hazard areas, certification shall be obtained from a registered professional engineer or architect that the structure is securely anchored to adequately anchored pilings or columns in order to withstand velocity waters and hurricane wave wash. The statement shall read: "I certify that the structure is securely anchored to adequately anchored piles or columns in order to withstand velocity waters and hurricane wave wash to the base flood elevation."
 - (h) In coastal high-hazard areas, the County Administrator shall review plans for the adequacy of breakaway walls in accordance with section 9(5)(e).
 - (i) When floodproofing is utilized for a particular structure, the County Administrator shall obtain certification from a registered professional engineer or architect. (Dry floodproofing must be one foot (1 ft.) above the required NGVD)(see Sec. 14(5)).

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- (j) Where interpretation is needed as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the County Administrator shall make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this ordinance.
- (k) All records pertaining to the provisions of this ordinance shall be maintained in the office

of the County Administrator and shall be open for public inspection.

- (l) In coastal high hazard areas, plans shall be reviewed for adequacy of breakaway walls in accordance with Sec. 9(5)(e).
- (m) When base flood elevation data or floodway data have not been provided in accordance with Sec. 6(2), then the County Administrator shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source in order to administer the provisions of this ordinance.

Section 11. STANDARDS FOR AREAS OF SHALLOW FLOODING (A ZONES).

Located within the areas of special flood hazard established in Sec. 6(2) are areas designated as shallow flooding. These areas have special flood hazards associated with base flood depths of one (1) to three (3) feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate; therefore, the following provisions apply:

- (1) All new construction and substantial improvements of residential structures shall:
 - (a) Have the lowest floor, including basement, elevated to a minimum of the depth number specified on the flood insurance rate map, in feet, above mean sea level; or
 - (b) If no depth number is specified, the lowest floor, including basement, shall be elevated, at least twelve (12) inches above the highest adjacent grade or (18) inches above the crown of the road, whichever is greater;
 - (c) If this elevation is a problem, check with the Pinellas County Engineering Dept. for an assigned elevation before the construction of the lowest floor.
- (2) All new construction and substantial improvements of nonresidential structures shall:
 - (a) Have the lowest floor, including basement, elevated to the depth number specified on the flood insurance rate map, in feet, above the mean sea level; or
 - (b) Together with attendant utility and sanitary facilities be completely floodproofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. (This must be one (1) foot above the required elevation.)
 - (c) If no depth number is specified, the lowest floor, including basement, shall be elevated at

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least twelve (12) inches above the highest adjacent grade or (18) inches above the crown of the road, whichever is greater; or

- (d) If this elevation is a problem, check with the Pinellas County Engineering Dept. for an assigned elevation before the construction of the floodproofed area.

Section 12. STANDARDS FOR STREAMS WITHOUT ESTABLISHED BASE FLOOD ELEVATIONS AND/OR FLOODWAYS.

Located within the areas of special flood hazard established in Sec. 6(1) and (2), where small streams exist but where no base flood data has been provided or where no floodways have been

provided, the following provisions apply:

- (1) No encroachments, including fill material or structures, shall be located within a distance of the stream bank equal to three (3) times the width of the stream at the top of bank or twenty (20) feet on each side from top of bank, whichever is greater, unless certification by a registered professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
- (2) New construction or substantial improvements of structures shall be elevated or floodproofed in accordance with elevations established in accordance with Sec. 9(1), (2), (3), (4) and (5).

Section 13. VARIANCE PROCEDURES.

- (1) The board of adjustment as established by the Pinellas County Board of County Commissioners shall hear and decide appeals and requests for variances from requirements of this ordinance.
- (2) The board of adjustment shall hear and decide appeals when it is alleged there is an error in any requirement, decision or determination made by the County Administrator in the enforcement or administration of this ordinance.
- (3) Any person aggrieved by the decision of the board of adjustment, or any taxpayer may appeal such decision to the circuit court, as provided in chapter 163, Florida State Statutes.
- (4) Variances may be issued for the repair or rehabilitation of historic structures upon a determination that:
 - (a) The proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and;
 - (b) The variance is the minimum necessary to preserve the historic character and design of the structure.
- (5) In passing upon such applications, the board of adjustment shall consider all technical evaluations, all relevant factors, standards specified in other sections of this ordinance and:
 - (a) The danger that materials may be swept onto other lands to the injury of others;
 - (b) The danger to life and property due to flooding or erosion damage;

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- (c) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
- (d) The importance of the services provided by the proposed facility to the community;
- (e) The necessity of the facility to a waterfront location, in the case of a functionally dependent facility;
- (f) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
- (g) The compatibility of the proposed use with existing and anticipated development;

- (h) The relationship of the proposed use to the comprehensive plan and floodplain management program for the area;
- (i) The safety of access to the property in times of flood for ordinary and emergency vehicles;
- (j) The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site, and
- (k) The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.

Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing items (a) - (k) in this section have been fully considered. As the lot size increases beyond one-half acre, the technical justification required for issuing the variance increases.

- (6) Upon consideration of the factors listed above and the purposes of this ordinance, the board of adjustment may attach such conditions to the granting of variances as it deems necessary to further the purposes of this ordinance.
- (7) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- (8) Conditions for Variances:
 - (a) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
 - (b) Variances shall only be issued upon:
 - (i) A showing of good and sufficient cause;
 - (ii) A determination that failure to grant the variance would result in exceptional hardship to the applicant; and
 - (iii) A determination that the granting of a variance will not result in increased flood heights,

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additional threats to public safety, (or) extraordinary public expense; create nuisances; cause fraud on or victimization of the public, or conflict with existing local ordinances.

- (c) Any applicant, to whom a variance is granted, shall be given written notice that when a structure is permitted to be built with the lowest floor elevation below the base flood elevation the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.
- (d) The County Administrator shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration (Emergency Management Agency)

upon request.

Section 14. PERMIT PROCEDURES.

Application for a development permit shall be made to the County Administrator on forms furnished by him and may include but not be limited to the following: plans in duplicate drawn to scale, showing the nature, location, dimensions and elevations of the area in question of existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing. Specifically, the following information is required:

- (1) Elevation in relation to mean sea level (MSL), of the lowest floor, (including basement) of all structures (include the bottom of the lowest horizontal structural member in a V-Zone).
- (2) Elevation in relation to mean sea level (MSL) to which any non-residential structure has been floodproofed (wet or dry).
- (3) Provide a certificate from a registered professional engineer or architect that the nonresidential floodproofed structure meets the floodproofing criteria of Sec. 9(2).
- (4) Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.
- (5) Provide a floor elevation or floodproofing certification after the lowest floor is completed, or in instances where the structure is subject to the regulations applicable to coastal high-hazard areas, after placement of the lowest horizontal structural members of the lowest floor. Within twenty-one (21) calendar days of establishment of the lowest floor elevation, or floodproofing by whatever construction means, or upon placement of the lowest horizontal structural members of the lowest floor, whichever is applicable, it shall be the duty of the permit holder to submit to the County Administrator a certification of the elevation of the lowest floor, floodproofed elevation, or the elevation of the bottom of the lowest horizontal structural member portion of the structure, whichever is applicable, as built, in relation to mean sea level (MSL). Said certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same. When floodproofing is utilized for a particular building, said certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. This elevation must be one (1) foot above the required flood elevation. Any work done within the twenty-one-day calendar period and prior to submission of the certification shall be at the permit holder's risk. The County Administrator, or his designee, shall review the floor elevation survey data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the survey or failure to make said corrections required

Section 14 Con't

hereby shall be cause to issue a stop-work order for the project.

- (6) In "V"-Zones the entire plan must be sealed by an architect or engineer and contain the statement,

"I certify I have read Ordinance 77-12 as amended and the plans submitted are in compliance. I further certify they are designed to be securely anchored to adequately anchored pilings or columns in order to withstand velocity water and hurricane wave wash to the base flood elevation." Plans must be of professional drafting quality.

- (7) Requirements to determine substantial improvement (see Sec. 5): Existing elevations, existing footprint and floor plan along with the new construction plans. A signed contract by both parties showing a total project price with no change for change orders after permitting without prior approval from this office. Contract prices will be compared with the area average cost of similar construction.

If contract prices vary more than 15% of area average cost, a cost break-down must be submitted. This break-down and the contract must be signed and notarized. (see Sec. 5, Substantial Improvement)

- (8) Additional information may be required for clarification on an individual basis. A pre-inspection may be required.
- (9) Application for Construction in Flood Zone must be completed and if in V-Zone, it must be certified/sealed by an engineer or architect.

Section 15. ABROGATION AND GREATER RESTRICTIONS; INTERPRETATION; DISCLAIMER.

- (1) This ordinance is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this ordinance and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.
- (2) In the interpretation and application of this ordinance, all provisions shall be: considered as minimum requirements, liberally construed in favor of the governing body, and deemed neither to limit nor repeal any other powers granted under state statutes.
- (3) The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of Pinellas County or by any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made thereunder.

Section 16. ENFORCEMENT; PENALTIES.

- (1) The owner(s) of property subject to this ordinance shall be responsible for compliance with this ordinance with respect to their property. Enforcement action taken by the County or State may be brought against the owner(s) and or persons or entities in control of the property, including a contractor working on the property.
- (2) Any person, firm, partnership, corporation, or any other entity which violates any provision of this ordinance shall be deemed guilty of an infraction of a County ordinance and upon conviction thereof, shall be punishable by a fine not to exceed five hundred dollars (\$500.00) or by imprisonment in the County jail not to exceed sixty (60) days or by both such fine and imprisonment. Each day a violation continues to exist constitutes a separate offense. Nothing contained in this Section shall prohibit the County of State from bringing an appropriate civil action to insure compliance with the ordinance.
- (3) In addition to the criminal penalties provided in this section (2), power is hereby authorized to institute any appropriate action or proceeding including suit for relief in order to prevent or abate violations of this ordinance.

- (4) Any person or agency in violation of the provisions of this Ordinance may be required to restore land to its undisturbed condition and may be held responsible for any damages occurring as a result of the violation.

Section 17. SEVERABILITY.

It is declared to be in the intent of the Board of County Commissioners that if any section, subsection, sentence, clause, phrase or provision of this ordinance is held invalid or unconstitutional, such invalidation or unconstitutionality shall not be so construed as to render invalid or unconstitutional the remaining provisions of this ordinance.

Section 18. EFFECTIVE DATE.

- (1) This ordinance shall take effect upon receipt of acknowledgment from the Secretary of State of Florida. (Check each amendment for effect date)
- (2) A certified copy of this ordinance shall be filed, upon adoption, with the Secretary of State, with the attachments hereto to be filed with the Clerk of the Circuit Court.
- (3) Any site plan or building permit accepted for review by Pinellas County on or before the effective date of this ordinance shall not be required to comply with the provisions of this ordinance.

Section 19. REFERENCE PUBLICATIONS:

Coastal Construction Manual (FEMA-55)

Coastal Flood Hazard and the National Flood Insurance Program

Federal Emergency Management Agency (FEMA)

FEMA Region IV Office

1371 Peachtree St. NE

Atlanta, GA 30309, Ph. 404/853-4408

Federal Emergency Management Agency Technical Standard Divisions

Flood Damage Prevention Ordinance 77-12 as amended by 83-9, 85-20, 87-34, 87-68, 90-15, 90-58

Floodproofing Non-Residential Structures

Flood Insurance Rate Map

Flood-Proofing Regulations

Florida Hurricane Resistant Construction Manual

Manufactured Home Installation in Flood Hazard Areas

National Electric Code*

National Flood Insurance Program and Related Regulations

Questions and Answers on the National Flood Insurance Program

Retrofitting Flood-Prone Residential Structures

Standard Building Code*

Southern Building Code Congress International Inc.

Standard Mechanical Code*

Standard Plumbing Code*

*Edition in effect as per Pinellas County Construction Licensing Board

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