



**LEE COUNTY BOARD OF ADJUSTMENTS AND APPEALS  
Community Development/Public Works Center  
1500 Monroe Street, 3<sup>rd</sup> Floor Conf. Room 3C**

**Thursday, February 4, 2016  
10:30 A.M.**

**AGENDA**

CASE TO BE HEARD

Case #ADM2016-00001 Coves of Estero

KB Home Fort Myers LLC represented by Jason White of Quattrone & Assoc., Inc.

The applicant is requesting a variance from Sec. 1612.4 of the Florida Building Code and by reference ASCE 24 Section 2.3 elevation requirements.



Case #ADM ADM 2016-00001

LEE COUNTY BOARD OF ADJUSTMENTS AND APPEALS APPLICATION

Name: Jason White Representing Quattrone and Associates Inc.

Address: 4301 Veronica Shoemaker Blvd.

Phone #: 239-936-5222

Email: Jason@gainc.net / al@gainc.net

STRAP #: 12-46-24-38-0000A.00CE

Representing: KB Home Fort Myers LLC

IS THIS A  VARIANCE OR  APPEAL? (PLEASE SELECT ONE)

Please provide specific sections of the code or ordinance to which the variance or appeal applies:

BUILDING CODE CH.1612.4 Referencing ASCE 24 Section 2.3

COASTAL PLAIN MANAGEMENT \_\_\_\_\_

FIRE CODE \_\_\_\_\_

FLOOD PLAIN MANAGEMENT \_\_\_\_\_

LIFE SAFETY CODE \_\_\_\_\_

L.D.C. \_\_\_\_\_

MECHANICAL \_\_\_\_\_

PLUMBING \_\_\_\_\_

If this is an appeal of an administrative decision, please indicate the official who made the decision:

N/A

I Request that this matter be scheduled for a hearing before the Lee County Board of Adjustments and Appeals. My reason for this request is as follows: (Provide additional sheets if needed.)

See attached

I hereby certify that to the best of my knowledge, the information submitted for this hearing is true and correct.

Signature Authorization: \_\_\_\_\_

Date: 01/17/16

**NOTE:** Provide ten (10) copies of all backup information for BOAA members. If there are sealed plans/drawings for the project for which the appeal/variance is requested, the architect/engineer who sealed the plans or drawings **MUST** be present at the hearing.

The applicant's presence is required for a case to be heard by this board.  
Hearing dates are usually arranged for Thursday morning at 10:00 a.m.  
Applications must be received at least 10 WORKING DAYS before the hearing date.

FEE: \$100.00 - Make check payable to Lee County Board of County Commissioners  
This application must be submitted to the Lee County Community Development Permit Center.

Revised 12/8/14

s:\committees\boaa\boaa.doc



**Engineers, Planners & Development Consultants**

**4301 Veronica Shoemaker Blvd. Fort Myers, FL 33916  
239.936.5222 | [QAINC.NET](http://QAINC.NET) | f 239.936.7228**

**Project: Coves Of Estero -Justification For Variance  
ASCE 24-05 FEMA Finished Floor Elevation**

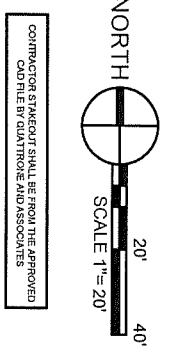
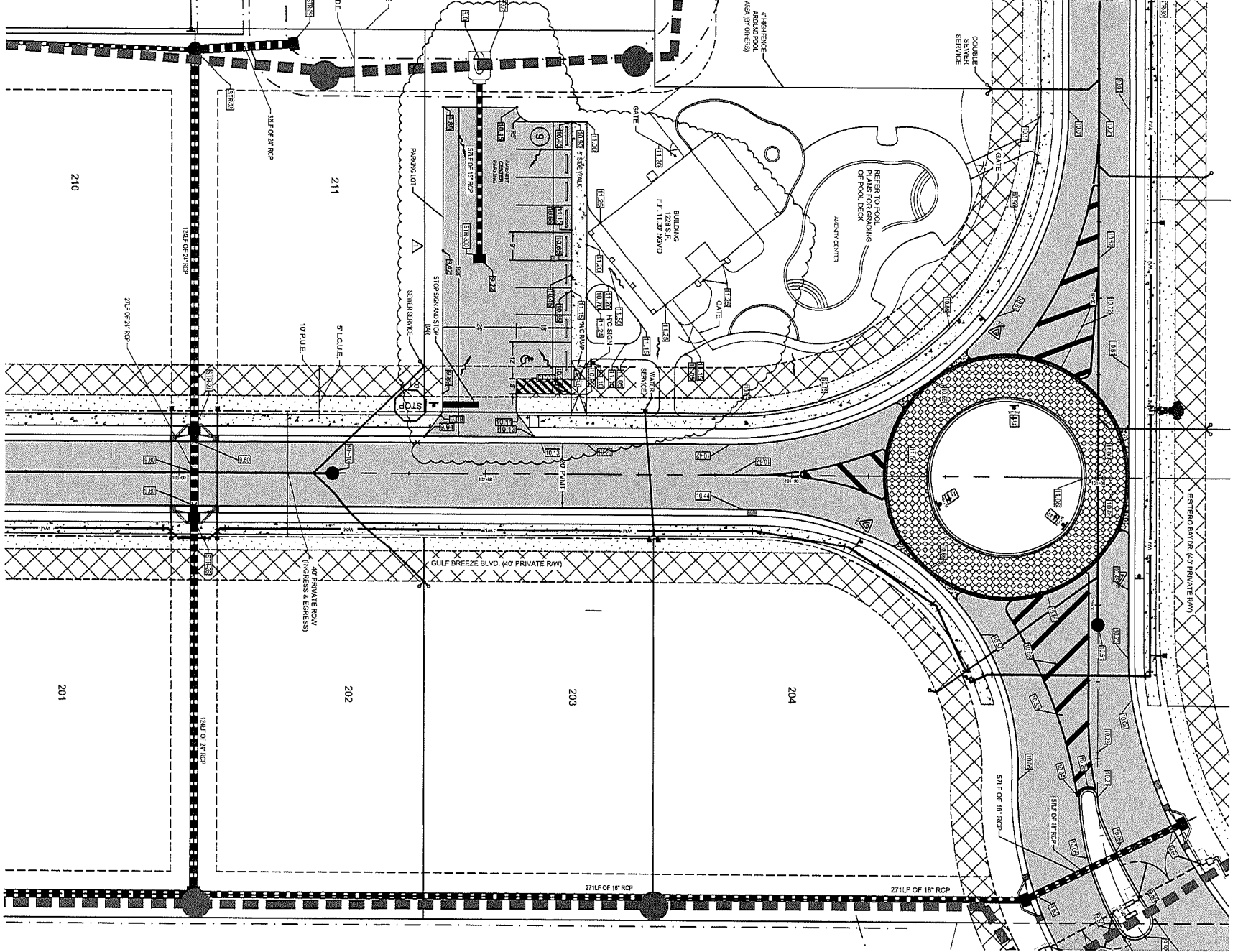
Seeking relief from ASCE-24-05 stating properties located within FEMA Flood Zones shall add an additional one foot of freeboard for all buildings built in flood zones. This property is located at 6409 Estero Bay Drive (Strap # 12-46-24-38-0000A.00CE) in Fort Myers and on FEMA Flood Map Community Panel 125124-0576 within Firm Zone AE-EL 10.0 ft. NAVD 88.

The existing average elevation of the property is 3.6 ft. NAVD. The finished floor elevation(FFE) is currently designed at 10.1 ft NAVD. The new regulation would require the finished floor elevation to be elevated to 11 ft NAVD. This would mean an increase in existing site elevation of 7.4 ft.

The site currently sits adjacent to an existing subdivisions called Royal Woods. Royal Woods FFE is around 5.3 ft. The elevation of Island Park Road is 5.6 feet. Therefore the designed site is already 4.5 feet above the existing roadways serving the property and the adjacent subdivision.

The engineering design plans have received an ERP permit from the South Florida Water Management District (Permit No. 36-05431-P) and a Development Order approval from Lee County Development Review (D.O. No. DOS2004-00155) for the current design utilizing the FFE of 11.30' NGVD (10.1'NAVD). The conversion for this area from NAVD to NGVD is 1.27'. The plans were permitted in NGVD through both SFWMD and Lee County Development Services.

The proposed variance will not result in increased flood heights, additional threats to public safety or extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing regulations or ordinances; and does not adversely impact surrounding land uses, public health, safety or general welfare of the public.



130320 PLAN SET 1-3.DWG

**SD05**  
SHEET  
05 OF 38

NOT APPROVED FOR CONSTRUCTION UNLESS STAMPED APPROVED BY PERMITTING AGENCY

**Quattrone & Associates, Inc.**  
Engineers, Planners, & Development Consultants  
4301 Veronica Shoemaker Blvd - Fort Myers, Florida 33916 - 239-936-5222  
Certificate of Authorization Number: 9465

JASON WHITE, P.E.  
FL REG #70920  
PLANNER/DESIGNER

PLOTTED BY: GARY  
DATE: 05/29/2015 09:29 AM

**COVES OF ESTERO BAY  
AMENITY CENTER SITE PLAN**  
KB HOME FORT MYERS, LLC  
LEE COUNTY, FLORIDA

RI	DATE	DESCRIPTION
1	04/20/15	REVISED AMENITY CENTER ELEV PER CLIENTS COMMENT
2		
3		
4		
5		
6		
7		
8		



Commercial - Ino  
Mult. Family  
Assembly

Permanent construction does not include land preparation (such as clearing, excavation, grading or filling), the installation of streets or walkways, excavation for a basement, footings, piers or foundations, the erection of temporary forms or the installation of accessory buildings such as garages or sheds not occupied as *dwelling units* or not part of the main building. For a substantial improvement, the actual "start of construction" means the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

**SUBSTANTIAL DAMAGE.** Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

**SUBSTANTIAL IMPROVEMENT.** Any repair, reconstruction, rehabilitation, addition or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the actual repair work performed. The term does not, however, include either:

1. Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the *building official* and that are the minimum necessary to assure safe living conditions.
2. Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

**1612.3 Establishment of flood hazard areas.** To establish flood hazard areas, the applicable governing authority shall, by local floodplain management ordinance, adopt a flood hazard map and supporting data. The flood hazard map shall include, at a minimum, areas of special flood hazard as identified by the Federal Emergency Management Agency in an engineering report entitled "The Flood Insurance Study for [INSERT NAME OF JURISDICTION]," dated [INSERT DATE OF ISSUANCE], as amended or revised with the accompanying Flood Insurance Rate Map (FIRM) and Flood Boundary and Floodway Map (FBFM) and related supporting data along with any revisions thereto. The adopted flood hazard map and supporting data are hereby adopted by reference and declared to be part of this Section.

**1612.3.1 Design flood elevations.** Where design flood elevations are not included in the *flood hazard areas* established in Section 1612.3, or where floodways are not designated, the *building official* is authorized to require the applicant to:

1. Obtain and reasonably utilize any design flood elevation and floodway data available from a federal, state or other source; or
2. Determine the design flood elevation and/or floodway in accordance with accepted hydrologic and hydraulic engineering practices used to define special flood hazard areas. Determinations shall be undertaken by a *registered design professional* who

shall document that the technical methods used reflect currently accepted engineering practice.

**1612.3.2 Determination of impacts.** In riverine *flood hazard areas* where design flood elevations are specified but floodways have not been designated, the applicant shall provide a floodway analysis that demonstrates that the proposed work will not increase the design flood elevation more than 1 foot (305 mm) at any point within the jurisdiction of the applicable governing authority.

**1612.4 Design and construction.** The design and construction of buildings and structures located in *flood hazard areas*, including flood hazard areas subject to high-velocity wave action, shall be in accordance with Chapter 5 of ASCE 7 and with ASCE 24.

**1612.5 Flood hazard documentation.** The following documentation shall be prepared and sealed by a registered design professional and shall be submitted to the building official:

1. For construction in flood hazard areas not subject to high-velocity wave action:
  - 1.1 The elevation of the lowest floor, including basement, as required by the foundation inspection and the final inspection in Section 110.3.
  - 1.2. For fully enclosed areas below the design flood elevation where provisions to allow for the automatic entry and exit of floodwaters do not meet the minimum requirements in Section 2.6.2.1, ASCE 24, construction documents shall include a statement that the design will provide for equalization of hydrostatic flood forces in accordance with Section 2.6.2.2 of ASCE 24.
  - 1.3. For dry floodproofed nonresidential buildings, construction documents shall include a statement that the dry floodproofing is designed in accordance with ASCE 24.
2. For construction in flood hazard areas subject to high-velocity wave action:
  - 2.1 The elevation of the bottom of the lowest horizontal structural member as required by the foundation inspection and the final inspection in Section 110.3.
  - 2.2 Construction documents shall include a statement that the building is designed in accordance with ASCE 24, including that the pile or column foundation and building or structure to be attached thereto is designed to be anchored to resist flotation, collapse and lateral movement due to the effects of wind and flood loads acting simultaneously on all building components, and other load requirements of Chapter 16.
  - 2.3 For breakaway walls designed to resist a nominal load of less than 10 psf (0.48 kN/m<sup>2</sup>) or more than 20 psf (0.96 kN/m<sup>2</sup>), construction documents shall include a statement that the breakaway wall is designed in accordance with ASCE 24.



**TABLE 1-1. Classification of Structures for Flood-Resistant Design and Construction**  
(Classification same as ASCE 7, Ref. [1])

Nature of Occupancy	Category
<p>Buildings and other structures that represent a low hazard to human life in the event of failure including, but not limited to:</p> <ul style="list-style-type: none"> <li>• Agricultural facilities<sup>a</sup></li> <li>• Certain temporary facilities</li> <li>• Minor storage facilities<sup>b</sup></li> </ul>	I
<p>All buildings and other structures except those listed in Categories I, III, and IV <i>SFR, duplex, Town House</i></p>	II <i>Other Commercial</i>
<p>Buildings and other structures that represent a substantial hazard to human life in the event of failure including, but not limited to:</p> <ul style="list-style-type: none"> <li>• Buildings and other structures where more than 300 people congregate in one area <i>large assembly</i></li> <li>• Buildings and other structures with day-care facilities with capacity greater than 150</li> <li>• Buildings and other structures with elementary school or secondary school facilities with capacity greater than 250</li> <li>• Buildings and other structures with a capacity greater than 500 for colleges or adult education facilities</li> <li>• <b>Health care facilities</b> with a capacity of 50 or more resident patients but not having surgery or emergency treatment facilities</li> <li>• Jails and detention facilities</li> <li>• Power generating stations and other public utility facilities not included in Category IV</li> </ul> <p>Buildings and other structures not included in Category IV (including, but not limited to, facilities that manufacture, process, handle, store, use, or dispose of such substances as hazardous fuels, hazardous chemicals, hazardous waste, or explosives) containing sufficient quantities of hazardous materials considered to be dangerous to the public if released.</p> <p>Buildings and other structures containing hazardous materials shall be eligible for classification as Category II structures if it can be demonstrated to the satisfaction of the authority having jurisdiction by a hazard assessment as described in Section 1.5.2<sup>c</sup> that a release of the hazardous material does not pose a threat to the public.</p>	III <i>Structure</i>
<p>Buildings and other structures designated as essential facilities including, but not limited to:</p> <ul style="list-style-type: none"> <li>• Hospitals and other health care facilities having surgery or emergency treatment facilities</li> <li>• Fire, rescue, ambulance, and police stations and emergency vehicle garages</li> <li>• <b>Designated earthquake, hurricane, or other emergency shelters</b></li> <li>• Designated emergency preparedness, communication, and operation centers and other facilities required for emergency response</li> <li>• Power generating stations and other public utility facilities required in an emergency</li> <li>• Ancillary structures (including, but not limited to, communication towers, fuel storage tanks, cooling towers, electrical substation structures, fire water storage tanks or other structures housing or supporting water, or other fire-suppression material or equipment) required for operation of Category IV structures during an emergency</li> <li>• Aviation control towers, air traffic control centers, and emergency aircraft hangars</li> <li>• Water storage facilities and pump structures required to maintain water pressure for fire suppression</li> <li>• Buildings and other structures having critical national defense functions</li> </ul> <p>Buildings and other structures (including, but not limited to, facilities that manufacture, process, handle, store, use, or dispose of such substances as hazardous fuels, hazardous chemicals, hazardous waste, or explosives) containing extremely hazardous materials where the quantity of the material exceeds a threshold quantity established by the authority having jurisdiction.</p> <p>Buildings and other structures containing extremely hazardous materials shall be eligible for classification as Category II structures if it can be demonstrated to the satisfaction of the authority having jurisdiction by a hazard assessment as described in Section 1.5.2<sup>c</sup> that a release of the extremely hazardous material does not pose a threat to the public. This reduced classification shall not be permitted if the buildings or other structures also function as essential facilities.</p>	IV

<sup>a</sup>Certain agricultural structures may be exempt from some of the provisions of this standard—see Section C1.4.3.

<sup>b</sup>For the purposes of this standard, minor storage facilities do not include commercial storage facilities.

<sup>c</sup>Section 1.5.2 reference is made to ASCE Standard 7-05, not this standard.



## FLOOD RESISTANT DESIGN AND CONSTRUCTION

If the design flood elevation has been determined and a floodway has not been designated, structures and fill shall not be constructed or placed unless it has been demonstrated that the cumulative effect of proposed structures and fill, combined with all other existing and anticipated development, will not increase the base flood elevation more than 1 ft.

### 2.3 ELEVATION REQUIREMENTS

Structures shall have the lowest floor (including basements) elevated to or above the Design Flood Elevation (DFE) in conformance with the requirements of Table 2-1. Enclosed areas used solely for parking, building access, or storage that comply with Section 2.5 are allowed below elevated buildings. Elevation requirements for other building components are found in Sections 5, 6, and 7.

**A Zones**

**TABLE 2-1. Minimum Elevation of the Top of Lowest Floor Relative to Base Flood Elevation (BFE) or Design Flood Elevation (DFE)—Flood Hazard Areas Other Than Coastal High Hazard Areas,<sup>a</sup> Coastal A Zones,<sup>a</sup> and High Risk Flood Hazard Areas<sup>a</sup>**

Structure Category <sup>b</sup>	Minimum Elevation of Lowest Floor
I	DFE
II <sup>c</sup> NOT SFR Duplex Town House (see RES Bldg Code)	BFE + 1 ft or DFE, whichever is higher
III <sup>c</sup>	BFE + 1 ft or DFE, whichever is higher
IV <sup>c</sup>	BFE + 2 ft or DFE, whichever is higher

<sup>a</sup>Minimum elevations shown in Table 2-1 do not apply to Coastal High Hazard Areas and Coastal A Zones (see Table 4-1). Minimum elevations shown in Table 2-1 apply to other High Risk Flood Hazard Areas unless specific elevation requirements are given in Section 3 of this standard.

<sup>b</sup>See Table 1-1 for structure category descriptions.

<sup>c</sup>For nonresidential buildings and nonresidential portions of mixed-use buildings, the lowest floor shall be allowed below the minimum elevation if the structure meets the floodproofing requirements of Section 6.

**Exception:** Nonresidential structures with the lowest floor below the minimum elevation specified in Table 2-1 and nonresidential portions of mixed-use structures with the lowest floor below the minimum elevation specified by Table 2-1 shall be allowed in conformance with the floodproofing requirements of Section 6.

### 2.4 USE OF FILL

Structural fill, and nonstructural fill, shall not be placed in floodway areas unless in compliance with the requirements of Section 2.2.

#### 2.4.1 Structural Fill

Structural fill shall not be used unless design and construction of the structural fill account for

1. Consolidation of the underlying soil under the weight of the fill and the structure;
2. Differential settlement due to variations in fill composition and characteristics; and
3. Slope stability and erosion control.

Fill used for structural support or protection shall be suitable for its intended use. Fill used to support or protect a structure shall be placed in lifts of not more than 12-in. loose thickness, with each lift compacted to at least 95% of its maximum Standard Proctor density (see Ref. [5]) or 90% of its maximum modified Proctor density (see Ref. [6]), unless a soils engineering report approved by the authority having jurisdiction specifies otherwise.

The side slopes of structural fill shall be no steeper than 1 on 1.5 (vertical/horizontal). Structural fill, including side slopes, shall be protected from scouring and erosion under flood conditions up to and including the design flood.

### 2.5 SLABS-ON-GRADE AND FOOTINGS

#### 2.5.1 Use of Slabs-on-Grade

Use of slabs-on-grade is acceptable if the slab is installed on structural fill that is placed in conformance with Section 2.4 or is installed on undisturbed soil of adequate bearing capacity. The top of the slab shall be at or above the DFE as specified in Table 2-1. If turned down to act as footings, the bottom of the turned-down edges of the slab shall be installed at or below the depth of expected scour.



**TABLE 4-1. Minimum Elevation of Bottom of Lowest Supporting Horizontal Structural Member of Lowest Floor Relative to Base Flood Elevation (BFE) or Design Flood Elevation (DFE)—Coastal High Hazard Areas and Coastal A Zones**

Structure Category <sup>a</sup>	Member Orientation Relative to the Direction of Wave Approach	
	Parallel <sup>b</sup>	Perpendicular <sup>b</sup>
I	DFE	DFE
II	DFE	BFE + 1 ft or DFE, whichever is higher
III	BFE + 1 ft or DFE, whichever is higher	BFE + 2 ft or DFE, whichever is higher
IV	BFE + 1 ft or DFE, whichever is higher	BFE + 2 ft or DFE, whichever is higher

<sup>a</sup>See Table 1-1 for structure category descriptions.

<sup>b</sup>Orientation of lowest horizontal structural member relative to the general direction of wave approach; parallel shall mean less than or equal to +20 degrees from the direction of approach; perpendicular shall mean greater than +20 degrees from the direction of approach.

systems shall be free of obstructions and attachments that will transfer flood forces to the structural system or that will restrict or eliminate free passage of high velocity flood waters and waves during design flood conditions.

Structures shall be supported on piles, columns, or walls serving as shear walls. Spread footing, mat, or raft foundations shall not be used unless the top of the spread footing, mat, or raft foundation is below the eroded ground elevation. Piles shall extend upward to a point at or above the DFE, as required by Table 4-1. Columns shall be connected to and extend upward from the spread footing, mat, or raft foundation to a point at or above the DFE, as required by Table 4-1. Shear walls shall comply with the requirements of Section 4.5.11.

Where surface or subsurface conditions consist of nonerodible soil that prevents the use of pile or deeply embedded column foundations, spread footing or mat foundations shall be permitted provided they are anchored, if necessary to prevent sliding, uplift, or overturning, to nonerodible soil with sufficient strength to withstand forces from the combination of loads in Section 1.6.2.

#### 4.5.2 Special Geotechnical Considerations

In addition to the requirements of Section 1.5.3, foundation design shall account for instability and decreased structural capacity associated with erosion due to wind, waves, currents, local scour, storm-induced erosion, and shoreline movement.

#### 4.5.3 Foundation Depth

The foundation shall extend to a depth sufficient to provide the support required in Section 1.5.3, taking into account the erosion and scour of the supporting soil during the design flood, and shoreline movement, as predicted by an erosion analysis.

#### 4.5.4 Use of Fill

Fill material used for structural support shall not be permitted in Coastal High Hazard Areas and Coastal A Zones. Placement of nonstructural fill for minimal site grading and landscaping, and to meet local drainage requirements, shall be permitted. Placement of nonstructural fill under and around a structure for dune construction or reconstruction shall be permitted if the fill will not result in wave runup, ramping, or deflection of floodwaters that cause damage to structures.

#### 4.5.5 Pile Foundations

Except as provided for under Section 4.5.1, all foundations constructed in erodible soils shall be founded on piles. Piles that are jettied or installed in an augured excavation shall be seated by driving.

In erodible soils, pile tip penetration shall be to a minimum depth of 10 ft below mean water level (-10 ft MWL), unless the design demonstrates that pile penetration to a shallower depth will provide the support and stability required by Section 4.5.3. In the event that unexpected conditions are encountered during construction and refusal or design friction capacity

V ZONES