

Introduction to Constructing Residential Buildings in Flood-Prone Areas in Houston and Harris County, Texas

This quick reference guide serves as a summary of the HIRL TechNote for constructing a home within a flood zone with minimal restrictions on insulation materials. The primary strategy for achieving this goal is to raise the elevation of the conditioned space enclosure, including the insulation, above specific flood

elevations for your location. For more information review the Home Innovation Research Lab's (HIRL) TechNote titled [Residential Buildings in Flood-Prone Areas: Selecting Materials for Constructing an Elevated Conditioned Space Enclosure](#) or speak with your local code office.

01. Determine Your Flood Zone Designation

Talk to your local code office or visit FEMA's [website](#) to find the flood zone designation for your address.

02. Verify Your Minimum Elevation Requirements

To provide an added level of protection against damage from future floods, the City of Houston and Harris County, Texas have established elevation requirements for homes constructed in flood-prone areas. Table 1 from the HIRL's TechNote outlines the elevation requirements for each FEMA Flood Zone for the city of Houston and Harris County. Build at or above the design flood elevation (DFE) to keep your material choices unrestricted. Homes that include conditioned spaces that are not above the required elevations are subject to restrictions in material requirements in accordance with FEMA Technical Bulletin 2 (FEMA TB-2, 8/2008).

Flood Zones	City of Houston	Harris County
Floodways	New construction not permitted	Lowest Horizontal Structural Member (LHSM) at DFE (500 yr. flood) plus 3 ft.
A Zones	Top of Lowest Floor at DFE (500 yr. flood) plus 2 ft. ^a	Top of Lowest Finished Floor at DFE (500 yr.) plus 2 ft.
AO Zones	Top of Lowest Floor at average depth plus 2 ft. OR plus 3 ft. above highest adjacent grade	Top of the Lowest Finished Floor is a FIRM-specified average depth ^b plus 3 ft.
V Zones	LHSM at DFE (500 yr. flood) plus 2 ft.	LHSM at DFE (500 yr. flood) plus 3 ft.
X Zone Shaded	Top of Lowest Floor at DFE (500 yr. flood) plus 2ft. ^a	Finished floor elevation at DFE (500 yr. flood), or if lowest adjacent grade (LAG) below base flood elevation (BFE) – Class II permit ^b
X Zone Unshaded	N/A	Finished floor elevation at least 12 in. above adjacent ground

a. As an exception in A Zone and X Zone only, the City of Houston allows a minimum elevation of DFE plus 1 foot for additions of 33% or less.
 b. Refer to Harris County Regulations for Flood Plain Management for defining average depth and adjacent grade reference point.

03. Review Permitted Foundation Options

Based on flood zone designation for your address, there may be a limitation on which foundation types can be constructed. See Table 2 from the HIRL TechNote for more detail on which foundation types are permitted (below).

Flood Zones	Type I: Slab-on-Fill		Type II: Perimeter Well		Type III: Piers, Posts, Columns		Type IV: Piles	
	Harris County	City of Houston	Harris County	City of Houston	Harris County	City of Houston	Harris County	City of Houston
X Zones	☑	☑	☑	☑	☑	☑	☑	☑
A Zones	☒	☑	☑	☑	☑	☑	☑	☑
V Zones	☒	☒	☒	☒	☑	☑	☑	☑
Flood Way	☒	☒	☒	☒	☑	☒	☑	☒

This guidance is offered for informational purposes only. It does not purport to be an exhaustive analysis of building requirements in flood prone areas in the City of Houston and Harris County, Texas or provide advice on how to comply with city or county regulations. Always consult local authorities to ensure compliance.