

Harford County, Maryland

FLOODPLAIN MANAGEMENT PROGRAM



Chapter 131 of the Harford County Code, as amended

Effective April 19, 2016
Amended thru July 15, 2024

DEPARTMENT OF PLANNING AND ZONING
Harford County, Maryland

**FLOODPLAIN MANAGEMENT PROGRAM
AMENDMENT INFORMATION:**

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Chapter 131. Floodplain Management Program

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- D. Utility inspection, upon installation of specified equipment and appliances, to determine appropriate location with respect to the base flood elevation.
- E. Final inspection prior to issuance of the Certificate of Occupancy.

§ 131-15. Submissions Required Prior to Final Inspection.

Pursuant to the Agreement to Submit an Elevation Certificate submitted with the application as required in Section 131-12A(9)(a), the permittee shall have an Elevation Certificate prepared and submitted prior to final inspection and issuance of a Certificate of Occupancy for elevated structures and manufactured homes, including new structures and manufactured homes, substantially-improved structures and manufactured homes, repetitive loss structures, and additions to structures and manufactured homes.

ARTICLE III. Requirements in All Flood Hazard Areas.

§ 131-16. Application of Requirements.

The general requirements of this section apply to all development proposed within all special flood hazard areas identified in Section 131-3.

§ 131-17. Subdivision Proposals and Development Proposals.

- A. In all flood zones:
 - (1) Subdivision proposals and development proposals shall be consistent with the need to minimize flood damage and are subject to all applicable standards in this Chapter.
 - (2) Subdivision proposals and development proposals shall have utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
 - (3) Subdivision proposals and development proposals shall have adequate drainage paths provided to reduce exposure to flood hazards and to guide floodwaters around and away from proposed structures.
 - (4) Subdivision proposals and development proposals containing at least 5 lots or at least 5 acres, whichever is the lesser, that are wholly or partially in flood hazard areas where base flood elevation data are not provided by the Floodplain Administrator or available from other sources, shall be supported by determinations of base flood elevations as required in Section 131-12 of this Chapter.
 - (5) Subdivision access roads shall have the driving surface at or above the base flood elevation.
- B. In special flood hazard areas of nontidal waters of the State:
 - (1) Subdivision proposals shall be laid out such that proposed building pads are located outside of the special flood hazard area and any portion of platted lots that include land areas that are below the base flood elevation shall be used for other purposes, deed restricted, or otherwise protected to preserve it as open space.

(2) Subdivision access roads shall have the driving surface at or above the base flood elevation.

§ 131-18. Protection of Water Supply and Sanitary Sewage Systems.

- A. New and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems.
- B. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into systems and discharges from systems into floodwaters.
- C. On-site sewage disposal systems, including septic tanks, cesspools, seepage pits, and drain fields, are prohibited in all floodplain zones.

§ 131-19. Buildings and Structures. [Amended by Bill 24-010]

New buildings and structures (including the placement and replacement of manufactured homes) and substantial improvement of existing structures (including manufactured homes) and repetitive loss structures, that are located, in whole or in part, in any special flood hazard area shall:

- A. Be designed (or modified) and constructed to safely support flood loads. The construction shall provide a complete load path capable of transferring all loads from their point of origin through the load-resisting elements to the foundation. Structures shall be designed, connected and anchored to resist flotation, collapse or permanent lateral movement due to structural loads and stresses, including hydrodynamic and hydrostatic loads and the effects of buoyancy, from flooding equal to the flood protection elevation or the elevation required by these provisions or the building code, whichever is higher.
- B. Be constructed by methods and practices that minimize flood damage.
- C. Use flood damage-resistant materials below the elevation of the lowest floor required in Section 131-31A or Section 131-32A (for A Zones) or Section 131-37B (for V Zones and Coastal A Zones).
- D. Have electrical systems, equipment and components, and mechanical, heating, ventilating, air conditioning, and plumbing appliances, plumbing fixtures, duct systems, and other service equipment located at or above the elevation of the lowest floor required in Section 131-31A or Section 131-32A (A Zones) or Section 131-37B (V Zones and Coastal A Zones). Electrical wiring systems are permitted to be located below elevation of the lowest floor provided they conform to the provisions of the electrical part of the building code for wet locations. If replaced as part of a substantial improvement, electrical systems, equipment and components, and heating, ventilation, air conditioning, and plumbing appliances, plumbing fixtures, duct systems, and other service equipment shall meet the requirements of this section.
- E. Have the electric panelboard elevated at least three (3) feet above the BFE.
- F. If located in flood hazard areas (A Zones) that are not identified as Coastal A Zones and coastal high hazard areas (V Zones), comply with the specific requirements of Article IV.

- G. If located in Coastal A Zone, comply with the specific requirements of:
 - (1) Article V (new construction and placement of new manufactured homes); or
 - (2) Article IV (substantial improvements (including repair of substantial damage) and replacement manufactured homes).
- H. If located in coastal high hazard areas (V Zones), comply with the specific requirements of Article V.
- I. Comply with the requirements of the most restrictive designation if located on a site that has more than one flood zone designation (A Zone, designated floodway, Coastal A Zone, V Zone).

§ 131-20. Placement of Fill.

- A. Disposal of fill, including but not limited to earthen soils, rock, rubble, construction debris, woody debris, and trash, shall not be permitted in special flood hazard areas.
- B. Fill shall not be placed in Coastal A Zones or coastal high hazard areas (V Zones) except as provided in Section 131-36.
- C. Fill proposed to be placed to elevate structures in flood hazard areas (A Zones) that are not Coastal A Zones or coastal high hazard areas (V Zones) shall comply with the floodways requirements in Section 131-30A, Section 131-30B, and Section 131-30C and the limitations of Section 131-31B.

§ 131-21. Historic Structures.

Repair, alteration, addition, rehabilitation, or other improvement of historic structures shall be subject to the requirements of these provisions if the proposed work is determined to be a substantial improvement, unless a determination is made that the proposed work will not preclude the structure's continued designation as a historic structure. The Floodplain Administrator may require documentation of a structure's continued eligibility and designation as a historic structure.

§ 131-22. Manufactured Homes.

- A. New manufactured homes shall not be placed or installed in floodways or coastal high hazard areas (V Zones).
- B. For the purpose of these provisions, the lowest floor of a manufactured home is the bottom of the lowest horizontal supporting member (longitudinal chassis frame beam).
- C. New manufactured homes located outside of floodways and coastal high hazard areas (V Zones), replacement manufactured homes in any flood hazard areas, repetitive loss structures, and substantial improvement (including repair of substantial damage) of existing manufactured homes in all flood hazard area, shall:
 - (1) Be elevated on a permanent, reinforced foundation in accordance with Article IV or Article V, as applicable to the flood zone;
 - (2) Be installed in accordance with the anchor and tie-down requirements of the building code or the manufacturer's written installation instructions and specifications; and

(3) Have enclosures below the lowest floor of the elevated manufactured home, if any, including enclosures that are surrounded by rigid skirting or other material that is attached to the frame or foundation, that comply with the requirements of Article IV or Article V, as applicable to the flood zone.

[Note: See "Protecting Manufactured Homes from Floods and Other Hazards: A Multi-Hazard Foundation and Installation Guide" (FEMA P-85).]

§ 131-23. Recreational Vehicles.

Recreational vehicles shall:

- A. Meet the requirements for manufactured homes in Section 131-22; or
- B. Be fully licensed and ready for highway use; or
- C. Be on a site for less than 180 consecutive days.

§ 131-24. Critical and Essential Facilities.

Critical and essential facilities shall:

- A. Not be located in coastal high hazard areas (V Zones), Coastal A Zones or floodways.
- B. If located in flood hazard areas other than coastal high hazard areas, Coastal A Zones and floodways, be elevated to the higher of elevation required by these regulations plus one (1) foot, the elevation required by the building code, or the elevation of the 0.2 percent chance (500-year) flood.

§ 131-25. Temporary Structures and Temporary Storage.

In addition to the application requirements of Section 131-12, applications for the placement or erection of temporary structures and the temporary storage of any goods, materials, and equipment, shall specify the duration of the temporary use. Temporary structures and temporary storage in floodways shall meet the limitations of Section 131-30A of these provisions. In addition:

- A. Temporary structures shall:
 - (1) Be designed and constructed to prevent flotation, collapse or lateral movement resulting from hydrodynamic loads and hydrostatic loads during conditions of the base flood;
 - (2) Have electric service installed in compliance with the electric code; and
 - (3) Comply with all other requirements of the applicable State and local permit authorities.
- B. Temporary storage shall not include hazardous materials.

§ 131-26. Gas or Liquid Storage Tanks .

- A. Underground tanks in flood hazard areas shall be anchored to prevent flotation, collapse or lateral movement resulting from hydrostatic loads, including the effects of buoyancy, during conditions of the base flood.

- B. Above-ground tanks in flood hazard areas shall be anchored to a supporting structure and elevated to or above the base flood elevation, or shall be anchored or otherwise designed and constructed to prevent flotation, collapse, or lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the base flood.
- C. In flood hazard areas, tank inlets, fill openings, outlets and vents shall be:
 - (1) At or above the base flood elevation or fitted with covers designed to prevent the inflow of floodwater or outflow of the contents of the tanks during conditions of the base flood; and
 - (2) Anchored to prevent lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the base flood.

§ 131-27. Functionally Dependent Uses.

Applications for functionally dependent uses that do not conform to the requirements of these regulations shall be approved only by variances issued pursuant to Article VI. If approved, functionally dependent uses shall be protected by methods that minimize flood damage during the base flood, including measures to allow floodwaters to enter and exit, use of flood damage-resistant materials, and elevation of electric service and equipment to the extent practical given the use of the building.

ARTICLE IV. Requirements in Flood Hazard Areas (A Zones) That Are Not Coastal High Hazard Areas (V Zones) or Coastal A Zones

§ 131-28. General Requirements.

In addition to the general requirements of Article III, the requirements of this section shall:

- A. Apply in flood hazard areas that are not identified as coastal high hazard areas (V Zones) and Coastal A Zones. These flood hazard areas, referred to collectively as "A Zones," include special flood hazard areas along nontidal waters of the State, landward of coastal high hazard areas (V Zones), and landward of Coastal A Zones (if delineated).
- B. Apply to all development, new construction, substantial improvements (including repair of substantial damage), repetitive loss structures and placement, replacement, and substantial improvement (including repair of substantial damage) of manufactured homes.

§ 131-29. Flood Protection Setbacks.

Within areas defined by flood protection setbacks along nontidal waters of the State:

- A. No new buildings, structures, or other development shall be permitted unless the applicant demonstrates that the site cannot be developed without such encroachment into the flood protection setback and the encroachment is the minimum necessary after consideration of varying other siting standards such as side, front, and back lot line setbacks.

- B. Disturbance of natural vegetation shall be minimized and any disturbance allowed shall be vegetatively stabilized.
- C. Utilities and temporary construction may be permitted.

§ 131-30. Development that Affects Flood-Carrying Capacity of Nontidal Waters of the State.

A. Development in Designated Floodways

- (1) For proposed development that will encroach into a designated floodway, Section 131-12A(7) requires the applicant to submit an evaluation of alternatives to such encroachment, including different uses of the site or the portion of the site within the floodway, and minimization of such encroachment. This requirement does not apply to fences that do not block the flow of floodwaters or trap debris.

Proposed development in a designated floodway may be permitted only if:

- (a) The applicant has been issued a permit by MDE; and
- (b) The applicant has developed hydrologic and hydraulic engineering analyses and technical data prepared by a licensed professional engineer reflecting such changes, and the analyses, which shall be submitted to the Floodplain Administrator, demonstrate that the proposed activity will not result in any increase in the base flood elevation; or
- (c) If the analyses demonstrate that the proposed activities will result in an increase in the base flood elevation, the applicant has obtained a Conditional Letter of Map Revision and a Letter of Map Revision from FEMA upon completion of the project. Submittal requirements and fees shall be the responsibility of the applicant.

B. Development that Includes the Placement of Fill in Nontidal Waters of the State

For proposed development that includes the placement of fill in nontidal waters of the State, other than development that is subject to paragraph (D), a hydraulically-equivalent volume of excavation is required. Such excavations shall be designed to drain freely.

C. Development in Areas with Base Flood Elevations but No Designated Floodways

For development in special flood hazard areas of nontidal waters of the State with base flood elevations but no designated floodways:

- (1) The applicant shall develop hydrologic and hydraulic engineering analyses and technical data reflecting the proposed activity and shall submit such technical data to the Floodplain Administrator as required in Section 131-12A.(6). The analyses shall be prepared by a licensed professional engineer in a format required by FEMA for a Conditional Letter of Map Revision and a Letter of Map Revision upon completion of the project. Submittal requirements and fees shall be the responsibility of the applicant.
- (2) The proposed development may be permitted if the applicant has received a permit by MDE and if the analyses demonstrate that the cumulative effect of the proposed development, when combined with all other existing and potential

flood hazard area encroachments will not increase the base flood elevation more than 1.0 foot at any point.

D. Construction of Roads, Bridges, Culverts, Dams and In-Stream Ponds

Construction of roads, bridges, culverts, dams, and in-stream ponds in nontidal waters of the State shall not be approved unless they comply with this section and the applicant has received a permit from MDE.

E. Alteration of a Watercourse

- (1) For any proposed development that involves alteration of a watercourse not subject to paragraph (C), unless waived by MDE, the applicant shall develop hydrologic and hydraulic engineering analyses and technical data reflecting such changes, including the floodway analysis required in Section 131-12A., and submit such technical data to the Floodplain Administrator and to FEMA. The analyses shall be prepared by a licensed professional engineer in a format required by MDE and by FEMA for a Conditional Letter of Map Revision and a Letter of Map Revision upon completion of the project. Submittal requirements and fees shall be the responsibility of the applicant.
- (2) Alteration of a watercourse may be permitted only upon submission, by the applicant, of the following:
 - (a) A description of the extent to which the watercourse will be altered or relocated;
 - (b) A certification by a licensed professional engineer that the flood-carrying capacity of the watercourse will not be diminished;
 - (c) Evidence that adjacent communities, the U.S. Army Corps of Engineers, and MDE have been notified of the proposal, and evidence that such notifications have been submitted to FEMA; and
 - (d) Evidence that the applicant shall be responsible for providing the necessary maintenance for the altered or relocated portion of the watercourse so that the flood carrying capacity will not be diminished. The Floodplain Administrator may require the applicant to enter into an agreement with Harford County specifying the maintenance responsibilities; if an agreement is required, the permit shall be conditioned to require that the agreement be recorded on the deed of the property which shall be binding on future owners.

§ 131-31. Residential Structures and Residential Portions of Mixed Use Structures.

New residential structures and residential portions of mixed use structures, and substantial improvement (including repair of substantial damage) of existing residential structures, repetitive loss structures and residential portions of mixed use structures shall comply with the applicable requirements of Article III and this section. See Section 131-33 for requirements for horizontal additions.

A. Elevation Requirements

- (1) Lowest floors shall be elevated to or above the flood protection elevation.

- (2) In areas of shallow flooding (Zone AO), the lowest floor (including basement) shall be elevated at least as high above the highest adjacent grade as the depth number specified in feet on the FIRM plus two (2) feet, or at least four (4) feet if a depth number is not specified.

- (3) Enclosures below the lowest floor shall meet the requirements of paragraph (C).

B. Limitations on Use of Fill to Elevate Structures

Unless otherwise restricted by these regulations, especially by the limitations in Section 131-30A., Section 131-30B., and Section 131-30C., fill placed for the purpose of raising the ground level to support a building or structure shall:

- (1) Consist of earthen soil or rock materials only.
- (2) Extend laterally from the building footprint to provide for adequate access as a function of use; the Floodplain Administrator may seek advice from the State Fire Marshal's Office and/or the local fire services agency;
- (3) Comply with the requirements of the building code and be placed and compacted to provide for stability under conditions of rising and falling floodwaters and resistance to erosion, scour, and settling;
- (4) Be sloped no steeper than one (1) vertical to two (2) horizontal, unless approved by the Floodplain Administrator;
- (5) Be protected from erosion associated with expected velocities during the occurrence of the base flood; unless approved by the Floodplain Administrator, fill slopes shall be protected by vegetation if the expected velocity is less than five feet per second, and by other means if the expected velocity is five feet per second or more; and
- (6) Be designed with provisions for adequate drainage and no adverse effect on adjacent properties.

C. Enclosures Below the Lowest Floor

- (1) Enclosures below the lowest floor shall be used solely for parking of vehicles, building access, crawl/underfloor spaces, or limited storage.
- (2) Enclosures below the lowest floor shall be constructed using flood damage-resistant materials.
- (3) Enclosures below the lowest floor shall be provided with flood openings which shall meet the following criteria: [Note: See NFIP Technical Bulletin #1, "Openings in Foundation Walls and Walls of Enclosures."]
 - (a) There shall be a minimum of two flood openings on different sides of each enclosed area; if a building has more than one enclosure below the lowest floor, each such enclosure shall have flood openings on exterior walls.