

**Article V — Technical Provisions**

§ 24-501	In General.....	24-19
§ 24-502	Special Requirements for FW, FE, and FA Areas.....	24-19
	(a) FW Area.....	24-19
	(b) FA Area.....	24-19
	(c) FE Area.....	24-20
§ 24-503	Elevation and Floodproofing Requirements.....	24-20
	(a) Residential Structures.....	24-20
	(b) Nonresidential Structures.....	24-20
	(1) In General.....	24-20
	(2) Elevations Lower Than Regulatory Flood Elevation.....	24-20
	(c) Space Below the Lowest Floor.....	24-20
	(1) Fully Enclosed Space.....	24-20
	(2) Partially Enclosed Space.....	24-20
	(d) Accessory Structures.....	24-21
§ 24-504	Design and Construction Standards.....	24-21
	(a) Fill.....	24-21
	(b) Drainage Facilities.....	24-22
	(c) Water and Sanitary Sewer Facilities and Systems.....	24-22
	(d) Other Utilities.....	24-22
	(e) Streets.....	24-22
	(f) Storage.....	24-22
	(g) Placement of Buildings and Structures.....	24-22
	(h) Anchoring.....	24-22
	(i) Floors, Walls, and Ceilings.....	24-23
	(j) Paints and Adhesives.....	24-23
	(k) Electrical Components.....	24-23
	(l) Equipment.....	24-23
	(m) Fuel Supply Systems.....	24-23
§ 24-505	Development Which May Endanger Human Life.....	24-23
	(a) Applicability.....	24-23
	(b) Dangerous Materials and Substances.....	24-24
	(c) FW Areas.....	24-24
	(d) FA and FE Areas.....	24-24
	(e) Other Restrictions.....	24-25
§ 24-506	Special Requirements for Manufactured Homes.....	24-25
	(a) FW Areas.....	24-25
	(b) FA and FE Areas.....	24-25
	(c) Other Restrictions.....	24-25
§ 24-507	Prohibited Activities.....	24-25
	(a) Restrictive Facilities.....	24-25
	(b) Manufactured Home Parks and Subdivisions.....	24-25

## Article V — Technical Provisions

### § 24-501 In General.

Any new construction, development, uses, or activities allowed within any identified floodplain area shall be undertaken in strict compliance with the provisions of this Chapter and any other applicable codes, ordinances, and regulations.

### § 24-502 Special Requirements for FW, FE, and FA Areas.

(a) **FW Area.** The following requirements apply within any FW—Floodway Area:

(1) Any new construction, development, use, activity, or encroachment that would cause any increase in flood heights shall be prohibited.

(2) No new construction or development shall be allowed unless a permit is obtained from the Pennsylvania Department of Environmental Protection, Bureau of Dams, Waterways and Wetlands.

(b) **FA Area.** The following requirements apply within any FA—General Floodplain Area:

(1) No new construction or development shall be located within the area measured fifty feet (50') landward from the top-of-bank of any watercourse, unless a permit is obtained

from the Pennsylvania Department of Environmental Protection, Bureau of Dams, Waterways and Wetlands.

(2) Any new construction or development which would cause any increase in flood heights shall be prohibited within any floodway area.

(c) **FE Area.** The following requirements apply within any FE—Special Floodplain Area:

(1) No new construction or development shall be allowed unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the elevation of the one hundred (100) year flood by more than one foot (1') at any point.

(2) The requirements set forth in subsection (b)(1) and (2).

## **§ 24-503 Elevation and Floodproofing Requirements.**

(a) **Residential Structures.** Within any identified floodplain area, any new construction or substantial improvement of a residential structure shall have the lowest floor (including basement) elevated up to or above the regulatory flood elevation.

(b) **Nonresidential Structures.**

(1) **In General.** Within any identified floodplain area, any new construction or substantial improvement of a nonresidential structure shall have the lowest floor (including basement) elevated up to or above the regulatory flood elevation, or be designed and constructed so that the space enclosed by such structure shall remain either completely dry or essentially dry during any flood up to that height.

(2) **Elevations Lower Than Regulatory Flood Elevation.** Any nonresidential structure, or part thereof, having a lowest floor which is not elevated to at least the regulatory flood elevation shall be floodproofed in a completely dry or essentially dry manner in accordance with the W1 or W2 space classification standards contained in the publication entitled "Flood-Proofing Regulations" published by the U.S. Army Corps of Engineers (June 1972, as amended March 1992) or with some other equivalent standard. All plans and specifications for such floodproofing shall be accompanied by a statement certified by a registered professional engineer or architect which states that the proposed design and methods of construction are in conformance with the above-referenced standards.

(c) **Space Below the Lowest Floor.**

(1) **Fully Enclosed Space.** Fully enclosed space below the lowest floor (including basement) is prohibited.

(2) **Partially Enclosed Space.** Partially enclosed space below the lowest floor (including basement) which will be used solely for the parking of a vehicle, building access, and/or incidental storage in an area other than a basement shall be designed and constructed to allow for the automatic entry and exit of flood waters for the purpose of equalizing hydrostatic forces on exterior walls. The term "partially enclosed space" also includes crawl spaces. De-

signs for meeting the requirement of this paragraph (2) must either be certified by a registered professional engineer or architect, or meet or exceed the following minimum criteria:

(A) a minimum of two (2) openings having a net total area of not less than one (1) square inch for every square foot of enclosed space;

(B) the bottom of all openings shall be no higher than one (1) foot above grade.

(C) openings may be equipped with screens, louvers, or other coverings or devices *provided* that they permit the automatic entry and exit of floodwaters.

**(d) Accessory Structures.** Structures accessory to a principal building need not be elevated or floodproofed to remain dry, but shall comply, at a minimum, with the following requirements:

(1) the structure shall not be designed or used for human habitation, but shall be limited to the parking of vehicles and/or the storage of tools, material, and equipment related to the principal use or activity;

(2) floor area shall not exceed six hundred (600) square feet;

(3) the structure must have a low damage potential;

(4) the structure shall be located on the site so as to cause the least obstruction to the flow of flood waters;

(5) power lines, wiring, and outlets shall be at least one and one-half feet (1.5') above the one hundred (100) year flood elevation;

(6) permanently affixed utility equipment and appliances, such as furnaces, heaters, washers, and dryers, are prohibited;

(7) sanitary facilities are prohibited;

(8) the structure shall be adequately anchored to prevent flotation or movement, and shall be designed to automatically provide for the entry and exit of floodwater for the purpose of equalizing hydrostatic forces on the walls. Designs for meeting the requirement of this paragraph (8) must either be certified by a registered professional engineer or architect, or meet or exceed the minimum criteria set forth in subsection (c)(2)(A), (B), and (C).

## **§ 24-504 Design and Construction Standards.**

The following minimum standards shall apply for all construction and development proposed within any identified floodplain area:

**(a) Fill.** If fill is use, it shall:

(1) extend laterally at least fifteen feet (15') beyond the building line from all points;

(2) consist of soil or small rock materials only. Sanitary landfills shall not be permitted;

(3) be compacted to provide the necessary permeability and resistance to erosion, scouring, or settling;

(4) be no steeper than one (1) vertical to two (2) horizontal feet, unless substantiated data justifying steeper slopes are submitted to, and approved by, the Building Permit Officer; and

(5) be used only to the extent to which it does not adversely affect adjacent properties.

**(b) Drainage Facilities.** Storm drainage facilities shall be designed to convey the flow of storm water runoff in a safe and efficient manner. The system shall insure proper drainage along streets, and provide positive drainage away from buildings. The system shall also be designed to prevent the discharge of excess runoff onto adjacent properties.

**(c) Water and Sanitary Sewer Facilities and Systems.**

(1) All new or replacement water and sanitary sewer facilities and systems shall be located, designed, and constructed to minimize or eliminate flood damages and the infiltration of flood waters.

(2) Sanitary sewer facilities and systems shall be designed to prevent the discharge of untreated sewage into flood waters.

(3) No part of any on-site sewage system shall be located within any identified floodplain area except in strict compliance with all state and local regulations for such systems. If any such system is permitted, it shall be located so as to avoid impairment to it, or contamination from it, during a flood.

**(d) Other Utilities.** All other utilities, such as gas lines and electrical, telephone, and cable television systems, shall be located, elevated (where possible), and constructed to minimize the chance of impairment during a flood.

**(e) Streets.** The finished elevation of all new streets shall be no more than one foot (1') below the regulatory flood elevation.

**(f) Storage.** All materials that are buoyant, flammable, explosive, or, in times of flooding, could be injurious to human, animal, or plant life, and are not listed in § 24-505 (relating to development which may endanger human life), shall be stored at or above the regulatory flood elevation and/or floodproofed to the maximum extent possible.

**(g) Placement of Buildings and Structures.** All buildings and structures shall be designed, located, and constructed so as to offer the minimum obstruction to the flow of water, and shall be designed to have a minimum effect upon the flow and height of flood water.

**(h) Anchoring.**

(1) All buildings and structures shall be firmly anchored in accordance with accepted engineering practices to prevent flotation, collapse, or lateral movement.

(2) All air ducts, large pipes, storage tanks, and other similar objects or components located below the regulatory flood elevation shall be securely anchored or affixed to prevent flotation.

**(i) Floors, Walls, and Ceilings.**

(1) Wood flooring used at or below the regulatory flood elevation shall be installed to accommodate a lateral expansion of the flooring, perpendicular to the flooring grain, without causing structural damage to the building.

(2) Plywood used at or below the regulatory flood elevation shall be of a “marine” or “water-resistant” variety.

(3) Walls and ceilings at or below the regulatory flood elevation shall be designed and constructed of materials that are “water resistant” and will withstand inundation.

(4) Windows, doors, and other components at or below the regulatory flood elevation shall be made of metal or other “water-resistant” material.

**(j) Paints and Adhesives.**

(1) Paints and other finishes used at or below the regulatory flood elevation shall be of “marine” or “water-resistant” quality.

(2) Adhesives used at or below the regulatory flood elevation shall be of a “marine” or “water-resistant” variety.

(3) All wooden components (doors, trim, cabinets, etc.) shall be finished with a “marine” or “water-resistant” paint or other finishing material.

**(k) Electrical Components.**

(1) Electrical distribution panels shall be at least three (3) feet above the one hundred (100) year flood elevation.

(2) Separate electrical circuits shall serve lower levels and shall be dropped from above.

**(l) Equipment.** Water heaters, furnaces, air conditioning and ventilating units, and other electrical, mechanical, or utility equipment or apparatus shall not be located below the regulatory flood elevation.

**(m) Fuel Supply Systems.** All gas and oil supply systems shall be designed to prevent the infiltration of flood waters into the system and discharges from the system into flood waters. Additional provisions shall be made for the drainage of these systems in the event that flood water infiltration occurs.

**§ 24-505 Development Which May Endanger Human Life.**

**(a) Applicability.** The provisions of this section shall apply to any new or substantially improved structure which—

(1) will be used for the production or storage of any of the dangerous materials or substances listed in subsection (b);

(2) will be used for any activity requiring the maintenance on the premises of a supply of more than five hundred fifty (550) gallons, or other comparable volume, of any of the dangerous materials or substances listed in subsection (b); or

(3) will involve the production, storage, or use of any amount of radioactive substances.

These provisions shall be interpreted in accordance with the Pennsylvania Flood Plain Management Act and the regulations adopted thereunder by the Department of Community and Economic Development, and shall be in addition to all other applicable requirements of federal, state, and local law, regulations, or ordinances.

**(b) Dangerous Materials and Substances.** The following materials and substances are considered dangerous to human life:

- (1) acetone;
- (2) ammonia;
- (3) benzene;
- (4) calcium carbide;
- (5) carbon disulfide;
- (6) celluloid;
- (7) chlorine;
- (8) hydrochloric acid;
- (9) hydrocyanic acid;
- (10) magnesium;
- (11) nitric acid and oxides of nitrogen;
- (12) petroleum products (gasoline, fuel oil, etc.);
- (13) phosphorus;
- (14) potassium;
- (15) sodium;
- (16) sulphur and sulphur products;
- (17) pesticides (including insecticides, fungicides, and rodenticides);
- (18) radioactive substances, insofar as such substances are not otherwise regulated.

**(c) FW Areas.** Within any FW—Floodway Area, any structure of the kind described in subsection (a) is prohibited.

**(d) FA and FE Areas.** Within any FA—General Floodplain Area or FE—Special Floodplain Area, any structure of the kind described in subsection (a) is prohibited within the area measured fifty (50) feet landward from the top-of-bank of any watercourse.

(e) **Other Restrictions.** Where a structure of the kind described in subsection A is permitted within any floodplain area—

(1) the structure shall be elevated or designed and constructed to remain completely dry up to at least the regulatory flood elevation;

(2) the structure shall be designed to prevent pollution from the structure or activity during the course of a one hundred (100) year flood; and

(3) any part of the structure that will be built below the regulatory flood elevation shall be designed and constructed in accordance with the standards for completely dry floodproofing contained in the document “Flood-Proofing Regulations” published by the U.S. Army Corps of Engineers (June 1972, as amended March 1992) or with some other equivalent watertight standard.

## **§ 24-506 Special Requirements for Manufactured Homes.**

(a) **FW Areas.** Manufactured homes are prohibited within any FW—Floodway Area.

(b) **FA and FE Areas.** Within any FA—General Floodplain Area or FE—Special Floodplain Area, manufactured homes are prohibited within the area measured fifty (50) feet landward from the top-of-bank of any watercourse.

(c) **Other Restrictions.** Where permitted within any floodplain area, all manufactured homes and any improvements thereto shall be—

(1) placed on a permanent foundation;

(2) elevated so that the lowest floor of the manufactured home is above the regulatory flood elevation; and

(3) anchored to resist flotation, collapse, or lateral movement.

## **§ 24-507 Prohibited Activities.**

The following activities are prohibited within any identified floodplain area:

(a) **Restrictive Facilities.** The commencement of any of the following activities, or the construction, enlargement, or expansion of any structure used, or intended to be used, for any of the following activities:

(1) hospitals;

(2) nursing homes or assisted care facilities; or

(3) jails or prisons.

(b) **Manufactured Home Parks and Subdivisions.** The commencement of, or any construction of, a new manufactured home park or manufactured home subdivision, or substantial improvement to an existing manufactured home park or manufactured home subdivision.