

Kanawha County Floodplain Regulations Quick Guide & Overview



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Quick Guide: Floodplain Regulations for Kanawha County

Anchoring (Page 12)

- All buildings and structures shall be firmly anchored in accordance with accepted engineering practices.
- All air ducts, large pipes, and storage tanks located at or below the Base Flood Elevation shall be firmly anchored to resist flotation.

Directional Flow of Water, Placement of Structures (Page 11)

- Manufactured homes shall be placed parallel to the direction of flood flow.
- Structures shall be constructed with the longitudinal axis parallel to the direction of flood.
- Structures shall be placed approximately on the same flood-flow lines as those of adjoining structures.

Elevation Certificates (Page 3)

- A determination of elevations of the Base Flood, existing ground, proposed finished ground and lowest floor, certified by a registered professional engineer or licensed professional surveyor.

Elevation Certificates Based on Finished Construction (Page 13)

- An elevation certificate based on the finished construction must be prepared by a licensed professional surveyor.
- A Certificate of Compliance Will NOT be issued until an elevation certificate based on the finished construction is received.

Mobile Homes in Excess of 68" (Page 7)

- All manufactured homes that exceed 68" off of the ground must be placed on an engineered foundation when being sited within the identified flood hazard areas.

Flood Protection Setback of 50' (Page 12)

- A Flood Protection Setback equal to twice the width of the watercourse channel measuring from the top of one bank to the top of the opposite bank or 50 feet, whichever is less, shall be maintained from the top of the banks of all watercourses.

Flood Vents & Venting Requirements (Page 7 – 8)

- A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
- The bottom of all openings shall be no higher than one foot above grade.

- Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

Site Plans Must be Followed (Page 5)

- A site plan showing the size of the proposed structure and its relation to the lot where it is to be constructed shall be included in the application for work within the Floodplain Area.

Storage (Page 12)

- No materials that are buoyant, flammable, explosive, or in times of flooding could be injurious to human, animal or plant life, shall be stored below Base Flood Elevation.
- Storage of other material or equipment may be allowed if not subject to major damage by floods and firmly anchored to prevent flotation or readily removable from the area within the time available after flood warning.
- “fill” material shall not be considered “storage” material

Utility and Facility Requirements (Page 13)

- The lowest floor, ductwork and utilities including HVAC/heat pump shall be elevated two feet above the Base Flood Elevation

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An Overview of Floodplain Regulations for Kanawha County

UTILIZATION OF THE FLOODPLAIN AREA

Floodway (F1)

- A. Within any floodway area (F1), no encroachments, including fill, new construction, substantial improvements, repair of substantial damage, or other development shall be permitted unless it has been demonstrated through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that the proposed encroachment will not result in any increase in the Base Flood Elevation.
- B. Because floodways present increased risk to human life and property due to their relatively faster and deeper flowing waters the Floodway shall be preserved to the greatest extent possible.
 - 1. New development shall not be permitted in the floodway where reasonable alternatives exist elsewhere. In addition to the requirements below the applicant shall demonstrate that there are no reasonable alternatives other than the floodway encroachment before a permit is issued.
 - 2. When the floodway is the only reasonable alternative the applicant shall demonstrate that the floodway encroachment is the minimum necessary to accomplish the project.
 - 3. All permitted uses, activities, and development shall be undertaken in strict compliance with the flood proofing and related provisions contained herein, and in all other applicable codes, ordinances and regulations.

CRITERIA FOR BUILDING AND SITE PLAN APPROVAL

General

Permits are required in order to determine whether all new construction or substantial improvements are:

- A. Located in an identified Floodplain, Floodway or other flood hazard area.
- B. Designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
- C. Constructed with material and utility equipment resistant to flood damage as outlined in FEMA Technical Bulletin 2-93 (FIA-TB-2) or the most recent revision thereof.

- D. Constructed by methods and practices that minimize flood damage.
- E. Constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

Basic Format

The basic format of the permit shall include the following:

- A. Name and address of applicant
- B. Name and address of owner of land on which proposed development is to occur.
- C. Names, addresses, and valid WV license numbers of all contractors working at the building site, or affidavits stating that work is being performed by individuals exempt from contractor licensing as set forth in Title 28, Series 2, section 3.9 (b) of the West Virginia Code of state regulations or the most recent revision thereof.
- D. A description of Site location sufficient to locate the project including tax map and parcel number.
- E. A standard site plan showing size and location of the proposed development as well as any existing buildings or structures. The site plan shall also show all adjacent roads and watercourses with direction of flow, the lowest adjacent grade to the proposed foundation and/or toe of fill, the Base Flood elevation and the location of the floodway boundary when applicable.
- F. An acknowledgement that the applicant agrees to pay any and all fees associated with the permitting process as set forth in Section 7.9 hereof.
- G. An acknowledgement that the applicant agrees to allow authorized representatives of floodplain management programs access to the development to inspect for compliance.
- H. The contract required by WV Code of State Regulations, Title 28, Series 4, and all addendums to the contract(s) shall be presented to the floodplain administrator for review within five (5) business days of contract signing. The community does not require and will not keep copies of the contracts or addendums. Failure to present contract or addendums for review shall void the permit. If a licensed contractor is not involved, or the work is of an aggregate value of less than ten thousand dollars including materials and labor, a brief written description of proposed work and the estimated value will suffice.

Elevation Certificate and Flood Proofing Information

All applicants are encouraged to exceed the minimum elevation requirements contained herein. Flood insurance rates can be lowered significantly by increasing the elevation of the lowest floor above the freeboard height required by this ordinance.

Depending on the type of structure involved, the following information shall also be included in the application for work within the Floodplain Area:

A. For structures to be elevated two feet above the Base Flood Elevation:

1. A plan showing the size of the proposed structure and its relation to the lot where it is to be constructed.
2. A determination of elevations of the Base Flood, existing ground, proposed finished ground and lowest floor, certified by a registered professional engineer or licensed professional surveyor.
3. Plans showing the method of elevating the proposed structure including details of proposed fills, pile structures, retaining walls, foundations, erosion protection measures, etc. When required by the Floodplain Administrator, a Registered Professional Engineer or Architect shall prepare these plans.
4. Plans showing the methods used to protect utilities (including sewer, water, telephone, electric, gas, etc.) from flooding to two feet above the Base Flood Elevation at the building site.
5. During the course of construction, as soon as the basic elements of the lowest floor are in place and before further vertical construction, it is highly recommended that the applicant check for error by obtaining elevation data completed by a registered professional engineer or licensed professional surveyor certifying the height of the lowest floor. If a mistake in elevation has been made this is the best time to correct the error.

B. For structures to be flood proofed to two feet above the Base Flood Elevation (nonresidential structures only):

All applicants are encouraged to exceed the minimum flood proofing requirements contained herein. Flood insurance rates can be lowered significantly by increasing the level of flood proofing above the height required by this ordinance. In order to obtain an “elevation credited” flood insurance rate on dry flood proofed buildings, flood proofing must extend at least one foot above the Base Flood Elevation.

1. Plans showing details of all flood proofing measures, prepared by a registered professional engineer, showing the size of the proposed structure and its relation to the lot where it is to be constructed.

2. A determination of elevations of the Base Flood, existing ground, proposed finished ground, lowest floor, and flood proofing limits; certified by a registered professional engineer or licensed professional surveyor.
 3. A Flood proofing Certificate, FEMA 81-65, as revised by FEMA, shall be prepared by the registered professional engineer who prepared the plans in (1) above, stating the structure in question, together with attendant utility and sanitary facilities is designed so that:
 - (i) The structure is water tight with walls substantially impermeable to the passage of water from the lowest structural element to two feet above the Base Flood Elevation.
 - (ii) The structure will withstand the hydrostatic, hydrodynamic, buoyant, impact, and other forces resulting from the flood depths, velocities, pressures, and other factors associated with the Base Flood.
- C. For structures constructed of flood resistant materials – used solely for parking of vehicles, or storage, (Appurtenant Structures only)
1. A site plan prepared by a licensed professional surveyor or others of demonstrated qualifications showing elevation of existing ground, proposed finished ground and lowest floor. The plan shall also show details of proposed flood resistant materials usage and the size of the proposed structure and its relation to the lot where it is to be constructed. The location of the floodway boundary shall be represented on the plan when a floodway is present on the site.
 2. An elevation report or certificate, based on finished construction, must be prepared by a licensed professional surveyor or others of demonstrated qualifications. This certificate or report must confirm that the structure in question, together with attendant utilities is designed so that:
 - (i) Flood resistant materials as detailed in FEMA Technical Bulletin 2-93 (FIA-TB-2) are used in the construction of the structure from the lowest structural element to two feet above the Base Flood Elevation and that all utilities are located at least two feet above the Base Flood Elevation.
 - (ii) Hydrostatic flood forces on exterior walls are equalized by allowing for automatic entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a Registered Professional Engineer or Architect or meet or exceed the following minimum criteria:
 - a) A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.

- b) The bottom of all openings shall be no higher than one foot above grade.
 - c) Openings may be equipped with screens, louvers, valves or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
3. In addition, the applicant shall sign a Non-conversion Agreement and notify prospective buyers of the existence of the agreement. It shall be the responsibility of the applicant to transfer the Non-conversion Agreement to any new owner at closing via notarized signature. A signed copy of the transferred Non-conversion Agreement shall be provided to the Floodplain Administrator. Failure to transfer the agreement and provide a signed copy to the Floodplain Administrator shall subject the violator to the penalties set forth in Section 8.3 of this ordinance.

Site Plan Criteria

The owner or developer of any proposed development, including Subdivisions and Manufactured Home Parks, shall submit a preliminary site plan to the Floodplain Administrator that includes the following information:

- A. Name of registered professional engineer, licensed professional surveyor or other qualified person responsible for providing the information required in this section.
- B. A map showing the location of the proposed subdivision and/or development with respect to the town's floodplain areas, proposed lots sites, and fills. In addition, it is required that all subdivision proposals and other proposed new developments which are proposed to take place either fully or partially within the approximated floodplain (F4) and which are greater than ten (10) lots or two (2) acres, whichever is the lesser, shall include base flood elevation data and shall delineate a floodway. If FEMA has completed a Flood Insurance Study (FIS), that data must be used to substantiate the base flood. Otherwise, the developer may submit data provided by an authoritative source, such as U.S. Army Corps of Engineers, U.S. Geological Survey, Natural Resources Conservation Service, state and local water resource departments, or technical data developed using detailed methodologies comparable to those contained in a Flood Insurance Study. This data shall be prepared and certified by a registered professional engineer, who shall certify that the technical methods used correctly reflect currently accepted technical concepts.
- C. Where the subdivision and/or development lies partially or completely in the floodplain areas, the plan map shall include detailed information giving the location and elevation of proposed roads, public utilities and building sites. All such maps shall also show contours at intervals of two (2) or five (5) feet depending upon the slope of the land and identify accurately the boundaries of the floodplain areas.

- D. Where the subdivision lies partially in the floodplain area and all proposed development will take place on natural grade a significant vertical distance above the floodplain area, development of detailed Base Flood Elevation data may not be necessary. In these cases the site plan for the proposed development must show contours at intervals of two (2) or five (5) feet and clearly delineate the area to be developed and the location of the floodplain areas as depicted on the FEMA map. A registered professional engineer, licensed professional surveyor or others of demonstrated qualifications must certify the site plan.

Restrictions to Subdivision of Land in Floodplain Areas

Subdivision of land in the floodplain area must result in lots that include a buildable portion outside of the identified flood hazard area and be served by streets within the proposed subdivision having surfaces not lower than 1 foot below the elevation of the line defining the floodplain limits. All new structures must be sited on the portion of the subdivided lot that is located outside of the identified flood hazard area.

SPECIFIC REQUIREMENTS

Design and Construction Standards

In order to prevent excessive damage to buildings, structures, and related utilities and facilities, the following restrictions apply to all development, subdivision proposals, manufactured home parks, new construction and to construction of substantial improvements, and the repair of substantial damage, to existing structures occurring in the Floodplain Area.

A. Basements and Lowest Floors

1. Residential Structures - All new construction, relocation, substantial improvements, including repair of substantial damage, of residential structures must have the lowest floor, including basement, ductwork and utilities, elevated to two feet above the Base Flood Elevation.
2. Non-residential Structures - All new construction, relocation, substantial improvements, including repair of substantial damage, of nonresidential structures must have the lowest floor, including basement, ductwork and utilities, elevated to two feet above the Base Flood Elevation; or, together with attendant utility and sanitary facilities, be designed so that the structure is water tight with walls substantially impermeable to the passage of water from the lowest structural element to two feet above the Base Flood Elevation.

3. **OPENINGS** - For all new construction, relocation, substantial improvements, and repair of substantial damage, those fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a Registered Professional Engineer or meet or exceed the following minimum criteria:
 - a) A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
 - b) The bottom of all openings shall be no higher than one foot above grade.
 - c) Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

B. Manufactured Home Placement

All manufactured homes shall be placed on the lot so as to offer the minimum obstruction to the flow of water and shall be designed to have a minimum obstruction effect upon the flow and height of floodwater. Whenever possible, manufactured homes shall be placed parallel to the direction of flood flow. All manufactured homes that exceed 68” off of the ground must be placed on an engineered foundation when being sited within the identified flood hazard areas.

1. All manufactured homes to be sited within the identified flood hazard areas of Kanawha County shall be installed by a contractor possessing a valid WV Manufactured Home Installer's license. The installer shall use an installation design engineered to withstand flood hazards specific to the particular home site. Manufactured homes to be placed or substantially improved within the flood hazard areas shall be installed in accordance with the following standards:
 - a. The lowest floor, ductwork and utilities including HVAC/heat pump shall be elevated two feet above the Base Flood Elevation
 - b. Elevation shall be on reinforced piers on a permanent foundation or other foundation elements of at least equivalent strength engineered for use in a flood hazard area. Installation designs incorporating dry stacked block piers shall not be used in flood hazard areas.

- c. All manufactured homes shall be securely anchored to an adequately anchored foundation system in compliance with the requirements of 42 West Virginia Code of State Regulations, Series 19, Sections 10.1, 10.2, and 10b as authorized by West Virginia Code § 21-9-4. The anchoring shall be adequate to resist flotation, collapse, or lateral movement. Methods of anchoring may include but are not limited to the over-the-top and frame ties, attached to permanent foundation elements. Ground anchors may not be adequate to satisfy flood specific anchoring requirements. This requirement is in addition to applicable State and local anchoring requirements for resisting wind forces.
 - d. Permanently attached rigid skirts and perimeter wall skirts of brick or block must have openings; this type of skirting can be collapsed by floodwaters and compromise supporting piers. The openings must be designed to automatically equalize hydrostatic flood forces by allowing for entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a Registered Professional Engineer or meet or exceed the following minimum criteria:
 - (i) A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
 - (ii) The bottom of all openings shall be no higher than one foot above grade.
 - (iii) Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
 - e. Any additions to a manufactured home shall be similarly anchored and vented.
2. The licensed WV Manufactured Home Installer placing the unit shall perform a site inspection and certify in writing that the manufactured home has been installed to the standards set forth in this ordinance.

C. Appurtenant Structures

- 1. Except as provided in subsection 2 below, appurtenant structures shall be located out of the floodplain area or elevated to two feet above the Base Flood Elevation.
- 2. Where appurtenant structures not connected to the principal structure are to be located on sites below the Base Flood Elevation, the following flood damage reduction provisions apply:
 - a. Structures shall be no more than 600 square feet in size and valued at less than \$10,000.00.

- b. Floors shall be at or above grade on at least one side.
 - c. Structures shall be located, oriented and constructed to minimize flood damage.
 - d. Structures shall be designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
 - e. Flood resistant materials as detailed in FEMA Technical Bulletin 2-93 (FIA-TB-2) shall be used in the construction of the structure from the lowest structural element to two feet above the Base Flood Elevation.
 - f. Machinery, electric devices or appliances, and all utilities shall be located at least two feet above the Base Flood Elevation.
 - g. The venting requirements contained in Section 6.1 (A) are applicable and shall be strictly adhered to.
3. A Nonconversion Agreement shall be signed by the applicant stating that the use of the appurtenant structure or detached or attached garage shall not be changed from the use permitted, acknowledging that the structure may be subject to greater flood risk and that higher flood insurance premiums may be possible, and that a change in use may require full compliance with this ordinance. The applicant agrees to notify prospective buyers of the existence of this agreement. It shall be the responsibility of the applicant to transfer the agreement at closing to the new owner via notarized signature, a copy of all new agreements shall be provided to the floodplain administrator. Failure to transfer the agreement and provide a signed copy to the Floodplain Administrator shall subject the violator to the penalties set forth in Section 8.3 of this ordinance.

D. Recreational Vehicle Placement

- 1. Recreational vehicles to be placed within any floodplain area shall either:
 - a. Be on site for fewer than 180 consecutive days. Or,
 - b. Be fully licensed and ready for highway use. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect utilities and security devices, and has no permanently attached additions. Or,
 - c. Be installed in accordance with the Manufactured Home Placement requirements and all other flood reduction requirements contained in this ordinance.

E. Fill

The Kanawha County Commission officially recognizes the beneficial functions the floodplain serves in storage and transportation of water during floods placement of fill in floodplains has undesirable and detrimental effects on velocity, erosion and sedimentation rates causing increased flooding.

No fill shall be permitted in the floodway.

Placement of fill in the floodplain is restricted to functional purposes such as elevating a structure. Placement of fill to dispose of spoil from excavation or to elevate yards, parking lots, or fields will not generally be considered a functional purpose. The floodplain administrator may require the developer to provide compensatory storage before permitting fill. No fill shall be permitted unless it meets the requirements of Section 4.1 of this ordinance. All fill placed in the floodplain area shall meet or exceed the following standards:

1. Fill shall be used only to the extent to which it does not adversely affect adjacent properties. The Kanawha County Commission may require the applicant to demonstrate through engineering reports that proposed fill would not adversely affect adjacent properties. When required, Hydrologic and hydraulic analyses shall be undertaken only by professional engineers who shall certify that the technical methods used correctly reflect currently accepted technical concepts. The resultant study shall include a cover letter, signed and sealed by the responsible professional, providing a statement of findings in basic terms. In addition, studies, analyses, computations, etc., shall be submitted in sufficient detail to allow a thorough technical review by the Kanawha County Commission. During permit review the community shall consider the following issues that have the potential to cause adverse impact to adjacent properties:
 - a. Unacceptable increases in flood heights.
 - b. Blocking drainage from adjacent property.
 - c. Deflection of floodwaters onto adjacent existing structures.
 - d. Increases to stream velocity initiating or exacerbating erosion problems.
 - e. Other unique site conditions may be considered when determining whether fill will cause adverse impact to adjacent property including, but not limited to, subsidence areas, karst topography, stream blockages, and steep topography adjacent to the channel.
2. Fill shall be used only to the extent to which it does not adversely affect the capacity of channels or floodways of any tributary to the main stream, drainage ditch, or any other drainage facility or system.

3. Filled site must be contoured to drain properly (avoid ponding)
4. Fill shall extend beyond a structure for a sufficient distance to provide acceptable access. For residential structures, fill shall extend laterally fifteen (15) feet beyond the building line from all points before the start of sloping required in following subsection. For nonresidential structures, fill shall be placed to provide access acceptable for intended use. At grade access, with fill extending laterally fifteen (15) feet beyond the building line shall be provided to a minimum of twenty-five (25) percent of the perimeter of a nonresidential structure.
5. Fill shall consist of soil or rock material only. Sanitary landfills shall not be permitted; no trash or woody debris shall be buried on site.
6. Fill material shall be compacted to provide the necessary stability and resistance to erosion, scouring or settling. Fill compaction standards must be appropriate to proposed post fill use, particular attention is necessary when fill is being used to elevate a structure.
7. Fill slopes shall be no steeper than one (1) vertical on two (2) horizontal, unless substantiating data justifying steeper slopes are submitted to and approved by the Floodplain Administrator.
8. Fill site and fill must be protected from erosion.
 - a. Fill slopes exposed to flood waters with expected velocities during the occurrence of the base flood of five feet per second or less must be protected from erosion by covering them with grass, vines, weeds, or similar vegetative undergrowth.
 - b. Fill slopes exposed to flood waters with expected velocities during the occurrence of the base flood of greater than five feet per second must be protected from erosion by armoring them with stone or rock slope protection.
9. The applicant must submit any maps, computations or other material required by the Federal Emergency Management Agency (FEMA) to revise the Flood Insurance Study and/or Flood Insurance Rate Maps, when notified by the Floodplain Administrator, and must pay any fees or other costs assessed by FEMA for this purpose.

F. Placement of Structures

1. All buildings and structures shall be constructed and placed on the lot so as to offer the minimum obstruction to the flow of water and shall be designed to have a minimum obstruction effect upon the flow and height of floodwater.

- i. Whenever possible, structures shall be constructed with the longitudinal axis parallel to the direction of flood flow and,
- ii. So far as practicable, structures shall be placed approximately on the same flood-flow lines as those of adjoining structures.

G. Anchoring

1. All buildings and structures shall be firmly anchored in accordance with accepted engineering practices to prevent flotation, collapse, and lateral movement, thus reducing the threat to life and property and decreasing the possibility of the blockage of bridge openings and other restricted sections of the watercourse.
2. All air ducts, large pipes, and storage tanks located at or below the Base Flood Elevation shall be firmly anchored to resist flotation.

H. Flood Protection Setback

1. A Flood Protection Setback equal to twice the width of the watercourse channel measuring from the top of one bank to the top of the opposite bank or 50 feet, whichever is less, shall be maintained from the top of the banks of all watercourses. To reduce erosion, natural vegetation shall be maintained in this area. Where natural vegetation does not exist along the watercourse and conditions for replanting are suitable, high priority shall be given to planting vegetation in the setback area to stabilize banks and enhance aquatic resources.
2. Necessary public works and temporary construction may be exempted from this subsection.
3. The Floodplain Administrator may consider an appeal to the Flood Protection Setback requirement if the applicant demonstrates that it is impossible to allow any development without encroachment into the Flood Protection Setback area. The appeal conditions shall be the minimum necessary and shall be made only after due consideration is given to varying other siting standards, such as side, front and back lot line setbacks.

I. Storage

1. No materials that are buoyant, flammable, explosive, or in times of flooding could be injurious to human, animal or plant life, shall be stored below Base Flood Elevation.
2. Storage of other material or equipment may be allowed if not subject to major damage by floods and firmly anchored to prevent flotation or readily removable from the area within the time available after flood warning.

3. Due to the potential of masking the natural elevation and making it more difficult to enforce this ordinance, material that resembles “fill” material shall not be considered “storage” material for purposes of this subsection.

J. Utility and Facility Requirements

1. All new or replacement water systems whether public or private, shall be designed to minimize or eliminate infiltration of floodwaters into the systems.
2. All new or replacement sanitary disposal systems, whether public or private, shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters.
3. All other new or replacement public and/or private utilities and facilities shall be located and constructed to minimize or eliminate flood damage.
4. Onsite waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

K. Drainage

Adequate drainage shall be provided to reduce exposure to flood hazard.

L. Backflow Preventers

Back flow prevention valves should be used for all enclosed structures with sewage or drainage facilities located in the floodplain.

Certificate of Compliance & Finished Construction Elevation Certificates

In areas of flood hazard, as when required as a condition of permit approval, the issuance of the Certificate of Compliance shall be based upon the completion of the finished construction elevation certificate and the inspections conducted as prescribed in the ordinance.

When an elevation certificate is required as a condition of permit approval, a Certificate of Compliance Will NOT be issued until the Floodplain Administrator receives the finished construction elevation certificate.

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