



# 11 FLOOD DAMAGE PREVENTION

## 11.1 Flood Damage Prevention

The National Flood Insurance Program (NFIP) provides federally backed flood insurance within Lexington County. To qualify for the NFIP, the County has adopted and enforces a Flood Damage Prevention Ordinance to regulate development in flood hazard areas, protect human life and health, minimize property damage, and encourage appropriate construction practices to minimize the potential for flood damage to future development. Under the NFIP, Lexington County is required to regulate all land development activities within the identified Special Flood Hazard Area (SFHA), which are subject to a 1-percent annual chance of flooding, formerly called the 100-year floodplain. Development is defined by the Federal Emergency Management Agency (FEMA) as any man-made change to improved or unimproved property including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations.

Development and/or land uses permitted within the SFHA of Lexington County shall be in accordance with Lexington County's Flood Damage Prevention Ordinance and as summarized in the following sections of this manual. The Lexington County Floodplain Manager may also refer to the State of South Carolina and FEMA publications, policies and guidelines to assist in the implementation of these regulations.

## 11.2 Overview of Floodplains

The SFHA is comprised of the floodway and flood fringe (See Figures 11-1 and 11-2). The floodway is the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to pass the base flood discharge without increasing flood depths. The figures on the following page present the special flood hazard area in a cross-sectional view and on a sample Flood Insurance Rate Map. The "South Carolina Quick Guide for Riverine Floodplains, Development, and Maps" is a recommended source for basic information on watersheds and riverine floodplains. The Guide also provides an overview of the methods used to develop and maintain flood maps. The Guide is available for download from the South Carolina Department of Natural Resources website.

The SFHA for Lexington County is identified by FEMA in a scientific and engineering report entitled "Flood Insurance Study for Lexington County, South Carolina, and Incorporated Areas" with an accompanying Flood Insurance Rate Map (FIRM). The current Flood Insurance Study and the effective FIRM are available at FEMA's website, on the County's website, or at the Floodplain Manager's office at 212 South Lake Drive, Lexington, SC 29072.

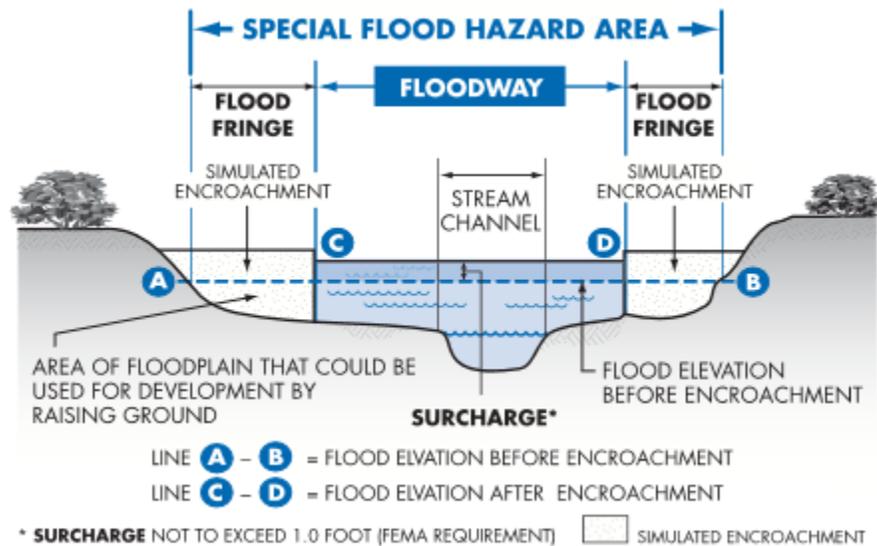


Figure 11-1. Cross Section of the Special Flood Hazard Area.  
(Source: SCDNR)

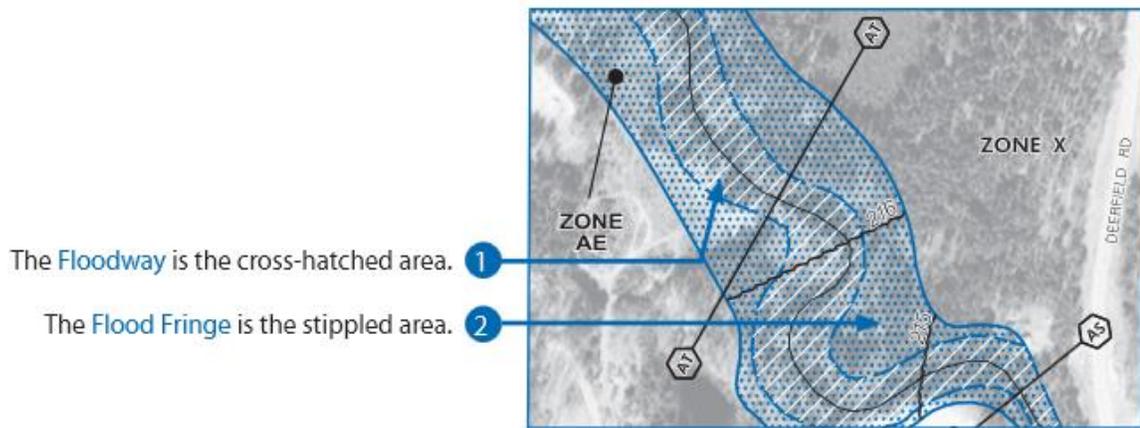


Figure 11-2. Special Flood Hazard Area.  
(Source: SCDNR)

### 11.3 Floodplain Development

Before construction or development begins within the SFHA, a building permit shall be attained by first submitting the application forms furnished by the Community Development Department. If the application or the construction documents indicate construction or development within the SFHA, the applicant shall be referred to the Lexington County Floodplain Manager within the Department of Public Works for further consultation.

The Lexington County Floodplain Manager will inform the applicant of the floodplain regulations and provide guidance on residential construction within the SFHA (see Appendix F). In addition to the building permit application, the Lexington County Floodplain Manager may require:



1. Plans drawn to scale (including dimensions) showing the nature, location, and elevation of the area in question; existing and proposed structure locations; fill, storage, or materials site; flood-proofing measures; mean sea level elevation of lowest floor including basement or crawl space of proposed structures; location of the channel.
2. A plan view of the proposed development indicating external dimensions of structures, street or road finished grade elevations, well locations, individual sewage treatment and disposal sites, excavation and/or fill quantity estimates, and site plan and/or construction plans.
3. Specifications for flood-proofing, filling, excavating, grading, rip-rapping, storage of materials, and location of utilities.
4. A professional engineer or registered architect design calculations and certification that the proposed activity has been designed to be in compliance with these regulations.

Based upon the information provided, the applicant may be required to obtain a floodplain permit.

## **11.4 Floodplain Regulations**

### **11.4.1 Development Standards within SFHA with Base Flood Elevations and Designated Floodways**

Specific standards for development and/or land uses within the SFHA where base flood elevations are provided are detailed in Lexington County's Flood Damage Prevention Ordinance. Critical elements of these provisions include, but are not limited to, the following requirements:

1. New construction and substantial improvement of any residential structure (including manufactured homes) shall have the lowest floor elevated at least two (2) feet above the base flood elevation.
2. New construction and substantial improvement of any commercial, industrial, or non-residential structure (including manufactured structures) shall have the lowest floor elevated at least two (2) feet above the level of the base flood elevation. Non-residential structures may instead be floodproofed with the submittal of an engineer's certification that the techniques meet all FEMA requirements for floodproofing.
3. No basements are permitted.
4. If fill is placed for a building pad and the floodplain line is moved, the ground shall be sloped from the pad down to the 1% annual chance flood elevation over a distance of 10 or more horizontal feet.
5. Should solid foundation perimeter walls be used to elevate a structure, flood openings sufficient to automatically equalize hydrostatic flood forces shall be provided based on the following criteria:



- a. Provide a minimum of 2 openings on at least 2 separate walls having a total net area of not less than 1 square-inch for every 1 square-foot of enclosed area.
  - b. The bottom of openings shall be no higher than 1 foot above grade.
  - c. Openings may be equipped with screens, louvers, valves, or other covering devices that permit the automatic flow of floodwater in both directions, provided they cannot be closed at any time.
6. Electrical, ventilation, plumbing, heating and air conditioning equipment (including ductwork), and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of the base flood plus 2 feet. This requirement does not preclude the installation of outdoor faucets for shower heads, sinks, hoses, etc., as long as cut off devices and back flow devices are installed to prevent contamination to the service components and thereby minimize any flood damages to the building.
  7. Fuel storage tanks located below the base flood elevation must be secured against flotation and lateral movement. This can be accomplished by anchoring the tank with tie down straps or anchor bolts onto a concrete slab or counterweight.
  8. Non-residential structures may be flood-proofed in lieu of elevation provided that all areas of the structure below the required elevation are watertight with walls substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered, professional engineer shall certify that the standards of this subsection are satisfied.
  9. All critical type developments shall be elevated to the 0.2%-annual chance flood (formerly called the 500 year flood) elevation or be elevated to the highest known historical flood elevation (where records are available), whichever is greater. Critical type developments are defined in Lexington County's Flood Damage Prevention Ordinance. If no data exists establishing the 0.2%-annual chance flood elevation or the highest known historical flood elevation, the applicant shall provide a hydrologic and hydraulic engineering analysis that generates the 0.2%-annual chance flood elevation data.

#### 11.4.2 Development Standards within SFHA without Base Flood Elevations and Designated Floodways

Specific standards for development and/or land uses within the SFHA without established base flood elevations and designated floodways are provided and detailed in Lexington County's Flood Damage Prevention Ordinance. Highlights of these provisions include the following requirements:

1. The applicant shall provide a hydrologic and hydraulic engineering analysis, in accordance with the FEMA map revision submittal process (See Section 11.6.2), that generates base flood elevations and designated floodways for all subdivision proposals and other proposed developments containing at least 50 lots or 5 acres, whichever is less. As each development is affected by a wide array of extenuating circumstances, the final decision for the scope of the flood study will be made by the County Floodplain Manager.



- a. If the site is less than 1,000 feet to the downstream detailed study area, then BFE and floodway must be established within the subject property and to the limits of the detailed study.
  - b. If the site is greater than 1,000 feet, but less than 3,000 feet from a downstream detailed study area, then BFEs must be established to the limits of the detailed study area and a floodway must be established within the subject property, only.
  - c. If the site is greater than 3,000 feet from a detailed study area, then BFEs and a floodway must be established within the subject property, only.
  - d. All floodway delineations that are created when converting an Approximate Zone (A) area to a detailed study area (AE) will be based on maximum 0.5 foot surcharge.
  - e. All floodway delineations that are created when converting an Approximate Zone (A) area to a detailed study area (AE) and that are located within new development may be deeded to a Homeowners or Property Owners Association, placed into a conservation easement, or the landowner may retain ownership of the delineated floodway provided there are deed restrictions filed that prohibit any activities or disturbance not in accordance with this chapter.
  - f. If the areas of special flood hazard are identified as an area of open space and is deeded as such then a hydrologic and hydraulic engineering analysis that generates base flood elevations for the subdivision proposal would not be required.
2. If the provisions noted above are satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions and shall be elevated or flood proofed in accordance with the elevations established.
  3. No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within 50 feet of the stream bank unless certification with supporting technical data by a registered, professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

#### 11.4.3 Development Standards within SHFA with Base Flood Elevations but without Designated Floodways

Specific standards for development and/or land uses within the SFHA with established base flood elevations but without designated floodways are provided and detailed in Lexington County's Flood Damage Prevention Ordinance. Highlights of these provisions include the following requirements:

1. No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within 50 feet of the stream bank unless certification with supporting technical data by a registered, professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
2. If the provision noted above is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions.



#### 11.4.4 Development Standards within Designated and Undesignated Floodways

Located within areas of special flood hazard are areas designated as floodways. The floodway is an extremely hazardous area due to the velocity of floodwaters that carry debris and potential projectiles. These areas have a high erosion potential and may not be shown on the Flood Insurance Rate Map. Specific standards for development and/or land uses within designated floodways are provided and detailed in Lexington County's Flood Damage Prevention Ordinance. Highlights of these provisions include the following requirements:

1. No encroachments, including fill, new construction, substantial improvements, or other development shall be permitted in the floodway. Floodways may or may not be shown on the Flood Insurance Rate Maps (FIRM). The following types of development may be allowed in the floodway with the proper documentation and permitting:
  - a. Critical development may be allowed where no other alternatives are available, providing a no rise certification is submitted and approved by the Floodplain Manager. The Floodplain Manager may request FEMA review and acceptance of the no rise certification.
  - b. Roadway crossings may be allowed with a no rise certification.
  - c. Temporary stream crossings may be allowed as follows:
    - i. For timber harvesting operations, the Forestry Best Management Practices (BMP) manual shall be followed.
    - ii. All other development types shall be allowed as permitted by the U.S. Army Corps of Engineers (USACE) and in accordance this manual.
2. No manufactured homes shall be permitted, except in an existing manufactured home park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring and the elevation standards are met.
3. Permissible uses within floodways may include: general farming, pasture, outdoor plant nurseries, horticulture, forestry, wildlife sanctuary, game farm, and other similar agricultural, wildlife, and related uses. Also, lawns, gardens, play areas, picnic grounds, and hiking and horseback riding trails are acceptable uses, provided that they do not include structures or fill. Substantial development of a permissible use may require a no-impact certification. The uses listed in this subsection are permissible only if and to the extent that they do not cause any increase in base flood elevations or changes to the floodway configuration.
4. All floodway delineations that are created when converting an Approximate Zone (A) area to a detailed study area (AE) will be based on maximum 0.5 foot surcharge.

#### 11.4.5 Development Standards outside the SFHA

Encroachment upon all natural channels, creeks or rivers draining more than 300 acres and the adjacent overflow land shall be avoided as much as possible. All unavoidable improvements such



as culverts or bridges along these channels shall be designed to carry a flow resulting from 1%-annual chance storm event. If there are no detailed flood studies with base flood elevations available in these areas, the applicant shall provide a detailed flood study delineating the 1%-annual chance floodplain and floodway and show it on the engineering plans and final plat if applicable.

Where base flood elevation data is not available, the structure, shall have the lowest floor, including basement, elevated at least three (3) feet above the highest adjacent natural grade or the crown of the nearest street, whichever is higher.

### **11.5 Damage to Structures in the Floodplain**

Every effort is made to prevent or reduce impacts from disasters to new structures built based upon the current floodplain standards and building codes. However, development that predated current regulations and/or current flood mapping may be subject to flooding and damage. If a structure is located within a SFHA and is damaged by any disaster (not just flooding), the following procedures must be followed to repair the damage or reconstruct the structure:

1. The County Floodplain Manager or Community Development Department must be notified of any damages to the structure prior to initiating the repairs or reconstruction.
2. Once notified, the County will perform a damage assessment of the structure to determine the extent of damage. This assessment will be based upon the structure only (not the land), the market value before the damage occurred, and the anticipated repairs/reconstruction costs.
3. The County will also review building permit records for the previous 5 year period to determine the cumulative damages and improvements to the structure (called “cumulative damages”).
4. After the damage assessment and cumulative damages research have been completed, the County will notify the property owner of the options for repair/reconstruction.
  - a. Properties that have cumulative damages/improvements of 50% or greater are considered substantially damaged and may obtain a building permit only if the repairs/reconstruction meet the criteria established in the current floodplain ordinance.
  - b. Properties that the County has determined to have between 35% and 50% cumulative damage/improvement must submit a contractors itemized quote to complete the repairs/reconstruction.
    - i. If the cumulative damage with the contractor’s quote is 50% or greater, the structure is considered substantially damaged, and a building permit may be obtained only if the repairs/reconstruction meet the criteria established in the current floodplain ordinance.
    - ii. If the cumulative damage with the contractor’s quote is less than 50%, a floodplain permit will be issued and building permits may be obtained for repair/reconstruction without bringing it into compliance with the current



floodplain ordinance. Flood proofing and flood prevention construction techniques should be strongly considered with repairs/reconstruction.

5. Properties that have cumulative damages/improvements of less than 35% will be issued a floodplain permit, and building permits may be obtained for repair/reconstruction without bringing it into compliance with the current floodplain ordinance. Flood proofing and flood prevention construction techniques should be strongly considered with repairs/reconstruction.
6. If an owner disagrees with the County's damage assessment or cumulative damages, an appeal may be filed. See section 11.8 for more information on appeals.

## 11.6 Floodplain Modeling

### 11.6.1 Hydraulic Analysis

Floodplain modeling may be required to demonstrate that a proposed development project does not impact the floodway or cause an unacceptable flow depth or condition. The standard program for computing water surface profiles is the U.S. Army Corps of Engineers (USACE) Hydrologic Engineering Center's River Analysis System (HEC-RAS). This program supersedes the USACE's HEC-2 program which was widely used in the preparation of Flood Insurance Studies. FEMA has adopted the guidance that hydraulic analyses should be conducted using HEC-RAS instead of HEC-2. Additional models meeting the minimum requirement of the NFIP can be found on FEMA's website.

### 11.6.2 Dam Breach Analysis

Within Lexington County, development downstream of any dam requires a dam breach analysis with the subsequent inundation zones determined by a dam breach hydrograph and flood routings. The dam breach analysis method shall be the "sunny day" failure scenario for complete dam failure while the impoundment level is at the principal spillway crest. The dam breach hydrograph must be developed using BREACH, HEC- HMS or HEC-RAS (unsteady flow), DAMBRK software programs, or an approved equal. Flood routings must be performed using HEC-RAS (unsteady flow), FLDWAV and DAMBRK. The applicant shall be responsible for determining the dam breach parameters so a breach outflow hydrograph can be developed and that resultant hydrograph routed downstream through the area of new development.

The dam breach inundation zones within the new development will be treated as floodways under the Lexington County Stormwater Management Ordinance and all development in these areas must meet the criteria established for development in a floodway and a floodplain. Each downstream development will have to be determined on a case-by-case basis by the Lexington County Floodplain Manager and/or the Plan Review Engineer. A preliminary breach routing analysis may be required to determine if the development will be effected by the breach.



## 11.7 Revisions to Mapped Floodplain and Floodway

### 11.7.1 Development Proposals

All development proposals that modify the FEMA designated floodplains and floodways are required to submit a map revision request to FEMA. These development proposals include, but are not limited to:

1. Approved floodway encroachments, where allowed;
2. Fill sites to be used for the placement of proposed structures where the applicant desires to remove the site from the special flood hazard area;
3. Alteration of watercourses that result in a relocation or elimination of the special flood hazard area, including the placement of culverts;
4. Subdivision or large scale development proposals requiring the establishment of base flood elevations.

Depending on the type and extent of proposed modifications, the applicant can submit a request for one or more of the following FEMA map revisions:

1. Conditional Letter of Map Amendment (CLOMA) – A letter from FEMA stating that a proposed structure that is not to be elevated by fill would not be inundated by the base flood if built as proposed. (FEMA Form MT-1)
2. Letter of Map Amendment (LOMA) – A letter from FEMA stating that an existing structure or parcel of land that has not been elevated by fill would not be inundated by the base flood. The LOMA is used to amend the effective flood map by letter and establishes a property's location in relation to the SFHA based on detailed elevation surveying and/or topographic mapping of natural conditions. (FEMA Form MT-1)
3. Conditional Letter of Map Revision based on Fill (CLOMR-F) – A letter from FEMA stating that a parcel of land or proposed structure that is to be elevated by fill would not be inundated by the base flood if fill is placed on the parcel as proposed or the structure is built as proposed. FEMA can determine whether the proposed fill would be sufficient to elevate and remove the desired structures or areas from the floodplain. Once FEMA approves the CLOMR-F, and the fill is constructed, a follow-up LOMR-F would be submitted to FEMA. The LOMR-F contains as-built information and elevations, which should be consistent with the grading shown in the initial CLOMR-F submittal. (FEMA Form MT-1)
4. Letter of Map Revision based on Fill (LOMR-F) – A letter from FEMA stating that an existing structure or parcel of land that has been elevated by fill would not be inundated by the base flood. When fill has been placed on the property to raise the lot or building site to an elevation that is above the BFE, FEMA can revise the FIRM by letter to remove the



raised area from the SFHA. This is a man-made change to the floodplain. (FEMA Form MT-1)

5. Conditional Letter of Map Revision (CLOMR) – A letter from FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision or proposed hydrology changes. The CLOMR is FEMA’s comment on a proposed project that would affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, base flood elevations, or limits of the Special Flood Hazard Area. The Lexington County Floodplain Manager may also require processing of a CLOMR for other projects when it is important to ensure that the Special Flood Hazard Area will be revised, based on a proposed project or the use of better data. (FEMA Form MT-2)
6. Letter of Map Revision (LOMR) – A letter from FEMA officially revising the current NFIP map to show changes to floodplains, floodways, or flood elevations. (FEMA form MT-2)

Note that more information on the process for revising or modifying maps as well as all of the referenced FEMA forms can be found on FEMA’s website.

#### 11.7.2 Submittal Process for Development Proposals

The applicant submitting the development proposal is required to fill out and submit to FEMA the appropriate map revision forms and is responsible for the associated review/processing fee. Application forms, instructions, and certificates can be downloaded from the FEMA website.

Application forms and certificates must also be submitted to Lexington County as part of the plans review process prior to submittal to FEMA. The following list summarizes the FEMA map revision submittal process.

1. A CLOMA, CLOMR-F, or CLOMR report should be submitted to Lexington County for review and comment. The Conditional Letter of Map Revision (CLOMR) shall be prepared by the applicant for:
  - a. Proposed floodway encroachments that increase or decrease the base flood elevation; and
  - b. Proposed development which increases the base flood elevation by more than 0.5 foot in areas where FEMA has provided base flood elevations but no floodway.
2. Once the application has been reviewed by Lexington County, the applicant should submit the conditional map revision request report to FEMA along with the required FEMA review/processing fee and forms.
3. Once the application has been reviewed and approved by FEMA, a CLOMA, CLOMR-F, or CLOMR will be issued by FEMA for the proposed project.



4. The applicant should design and construct the necessary drainage improvement facilities and prepare “as-built” drawings. Within sixty (60) days of completion of construction, it is the responsibility of the applicant to have technical data and as-built drawings prepared in a format required for a Letter of Map Revision, and submitted to FEMA. Submittal and processing fees for these map revisions shall also be the responsibility of the applicant.
5. In order to insure the project is built in compliance with the CLOMA, CLOMR-F, or CLOMR, the applicant must provide a Map Revision agreement for 100% of the costs to obtain the LOMR.
6. Repeat steps “1” though “3” to obtain a LOMA, LOMR-F or LOMR from FEMA to officially remove the property from the FEMA SFHA.

Floodplain development proposals approved by the Lexington County Floodplain Manager shall be conditioned upon the applicant obtaining a Letter of Map Revision from FEMA for any development proposal that modifies the FEMA designated floodplains and floodways.

### 11.7.3 Floodplain Studies

All floodplain studies shall follow the guidelines and procedures as set forth by the National Flood Insurance Program (NFIP) and Lexington County. The general criteria and requirements have been established to help clarify the procedures related to performing floodplain studies in Lexington County are as follows:

1. The project must be consistent with applicable State and Federal regulations.
2. A professional engineer registered in the State of South Carolina shall prepare all studies.
3. All hydraulic computer models acceptable by FEMA for use in floodplain studies can be used.
4. The floodplain analysis shall include the 10-, 50-, 100-, and 500-year, 24-hour storm events.
5. All floodway delineations that are created when converting an Approximate Zone (A) area to a detailed study area (AE) will be based on maximum 0.5 foot surcharge.
6. Backwater conditions, local obstructions, bridges, culverts, and stormwater conveyance systems shall be considered.
7. Digital data shall have the following characteristics:
  - a. Horizontal datum: NAD83 (1986) or referenced to the datum contained on the current effective FIRM;
  - b. Coordinate system: UTM Zone 17;
  - c. Vertical datum: NAVD88; and
  - d. Units: international feet.



8. Data capture methods must result in new data meeting State and FEMA horizontal and vertical accuracy standards. See the current edition of FEMA's "Guidelines and Specifications for Study Contractors" for more information.
9. Calculated flood boundaries shall be submitted in a digital format that is compatible with Lexington County's GIS data.
10. Submitted information must include:
  - a. FIRM panel number(s) that cover the project area and their latest date(s) and whether any portion of the project lies within a Special Flood Hazard Area;
  - b. The application must be signed and stamped by a South Carolina Registered Engineer, Surveyor, or other qualified Federal Government employees and the applicant must sign the application;
  - c. Hydrologic and hydraulic analyses must be contained in a report describing the study methodology, a listing of all assumptions (e.g., rationale for Manning's 'n' values, reasons for revising hydrology, source of topographic information and land use), bridge and cross section data, and a brief description of the project; and
  - d. All projects being submitted to FEMA must have a completed FEMA MT-1 or MT-2 form as appropriate. These forms can be obtained from FEMA's website or from the SCDNR website.

## 11.8 Appeals and Variances

As noted previously, the County must maintain compliance with the floodplain ordinance to be eligible for federally-backed flood insurance for Lexington County. The following sections outline the processes for filing appeals of and requesting variances from the floodplain ordinance. It also outlines the circumstances under which appeals and variances may be granted. Note that failure to follow FEMA's NFIP requirements may make disaster recovery funding unavailable for the County and make property owners in the County ineligible for flood insurance at reduced rates.

### 11.8.1 Appeals

Appeals of the decision of the Lexington County Floodplain Manager may be taken to the Stormwater Advisory Board (Board). The procedures and requirements for the filing of appeals and variance requests are set forth in Lexington County's Flood Damage Prevention Ordinance. In reviewing such applications, the Board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this Manual and Ordinances and:

1. The danger that materials may be swept onto other lands to the injury of others;
2. The danger to life and property due to flooding or erosion damage, and the safety of access to the property in times of flood for ordinary and emergency vehicles;
3. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;



4. The importance of the services provided by the proposed facility to the community;
5. The necessity to the facility of a waterfront location, where applicable;
6. The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
7. The compatibility of the proposed use with existing and anticipated development;
8. The relationship of the proposed use to the Lexington County Comprehensive Plan;
9. The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site;
10. The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.

#### 11.8.2 Appeal of Damage Assessment

If a property owner disagrees with the damage assessment or cumulative damages/improvement value for a structure after it has been damaged, the owner may file an appeal. The following steps outline the appeal process:

1. Submit to the County Floodplain Manager a signed, written estimate from a licensed contractor to repair all damages sustained in the disaster. The estimate must be itemized to address all damaged components and cannot be a "lump sum" estimate.
2. Submit a written estimate from your flood insurance adjuster.

These documents will be reviewed and assessed by a third party for final determination. The County will notify the landowner of the findings of the third party determination and next steps.

#### 11.8.3 Conditions for Variances



1. Variances may be issued for the repair or rehabilitation of historic structures upon the determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.
2. Variances may be issued to wet flood proof an agricultural structure in accordance with Technical Bulletin 7-93, Wet Flood proofing Requirements for Structures Located in Special Flood Hazard Areas in accordance with the National Flood Insurance Program.
3. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result unless a CLOMR is obtained prior to issuance of the variance. In order to insure the project is built in compliance with the CLOMR for which the variance is granted the applicant must provide a Map Revision agreement for 100% of the costs to obtain the LOMR.
4. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
5. Variances shall only be issued upon:
  - a. A showing of good and sufficient cause;
  - b. A determination that failure to grant the variance would result in exceptional hardship to the applicant; and
  - c. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expenses, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

ENACTED this 26<sup>th</sup> day of July, 2016

LEXINGTON COUNTY, SOUTH CAROLINA

By: M. Todd Cullum  
M. Todd Cullum, Chairman  
Lexington County Council

Attest:

By: Diana W. Burnett  
Diana W. Burnett  
Clerk to Council

## **Appendix F – Flood Damage Prevention Forms**

- Application Instructions for Residential Construction in Special Flood Hazard Areas
- Lexington County Floodplain Development Permit Application



## COUNTY OF LEXINGTON, SOUTH CAROLINA

### Public Works Floodplain Management

212 South Lake Drive

Lexington, SC 29072

Phone: (803) 785-8121 Fax: (803) 785-5186

### APPLICATION INSTRUCTION FOR CONSTRUCTION IN SFHA

If your property lies within the special flood hazard area (SFHA), a Residential Building Permit Application and a floodplain permit may be required for the following types of work:

- Construction, reconstruction, or placement of a building;
- Additions to existing buildings;
- Renovation;
- Remodeling;
- Manufactured homes;
- Filling or regrading;
- Excavation;
- Construction or erection of levees, dams or walls;
- Storage of materials in floodplain (including gas or liquid tanks); and
- Any other activity that might change the direction, height, or velocity of floodwaters.

Residential Building Permit Applications are available from the Community Development Department's Building Inspections and Safety Division or downloaded from the Community Development Building Permits website:

Lexington County Administration Building  
Fourth Floor  
212 South Lake Drive  
Lexington, SC 29072

<http://www.lex-co.sc.gov/departments/DeptAH/communitydevelopment/Pages/buildingpermits.aspx>

### **Residential Building Permit Applications shall require the following:**

1. Identify and describe the work to be covered by the permit for which application is made.
2. Describe the land on which the proposed work is to be done by legal description, street address, or similar description that will readily identify and definitely locate the proposed building or work.
3. Indicate the use and occupancy for which the proposed work is intended.
4. Be accompanied by construction documents and other information as required in Section 6.1 of the Building Code Ordinance.
5. State the valuation of the proposed work if applicable.

6. Be signed by the applicant, or the applicant's authorized agent.
7. Give such other data and information as required by the Building Official.
8. A floodplain permit will be required at the time of permit application if it can be determined at that time the activity for which the permit is being pulled is located within the Special Flood Hazard Area. If the location of the activity cannot be positively determined at that time a floodplain permit may be required when such a determination can be made.

A floodplain permit application can be found in Appendix F of the Land Development Manual. Additional information about floodplain permits can be found in Chapter 11 of the Land Development Manual or from the Lexington County Floodplain Manager.

**Compliance with the Lexington County Flood Damage Prevention Ordinance shall require the following:**

**A. Single Family Construction (New Construction) in Flood Zones with Base Flood Elevations (BFEs) including Lake Murray.**

1. A foundation survey stamped and signed by a South Carolina Registered Land Surveyor. The 1-percent annual chance flood must be shown along with ground elevations taken at each corner of the structure. This must be done within 30 days of the approved footing inspection. A hold will be put on the rough-in inspection until this is satisfied.
2. **If the entire footprint of the structure is located outside of the 1-percent annual chance flood no further flood certification is required.**
3. If the foundation survey determines the footprint of the structure falls within the 1-percent annual chance flood line, the following construction requirements will apply:
  - a. The lowest floor must be elevated at least 2 feet above the designated BFE.
  - b. All mechanical, utility, HVAC units and ductwork, hot water heaters, washers, dryers, and all similar equipment and their operating components must be elevated to at least 2 feet above the designated BFE.
  - c. Fuel storage tanks located below the BFE must be secured against flotation and lateral movement. This can be accomplished by anchoring the tank with tie down straps or anchor bolts onto a concrete slab or counterweight.
  - d. Flood vents must be installed in the foundation based on the following criteria:
    - Provide a minimum of 2 openings on at least 2 separate walls having a total area of 1 square-inch for every 1 square-foot of enclosed area.
    - The bottom of openings shall be no higher than 1 foot above grade.
    - Openings may be equipped with screens, louvers, valves or other coverings or devices provided they cannot be closed at any time and permit the automatic flow of floodwater in both directions.
  - e. An as-built elevation certificate must be submitted at **finished construction** signed and stamped by a South Carolina Registered Land Surveyor to verify floor elevations, flood vents, and elevation of machinery and equipment.
  - f. A site inspection will be performed by the Floodplain Manager to verify the as-built elevation certificate.

**A. Single Family Construction (Additions) in Flood Zones with Base Flood Elevations (BFEs) including Lake Murray.**

1. Before a Residential Building Permit may be issued, the applicant must submit a survey with ground elevations taken at the corners of the existing residence, ground elevations taken at the proposed corners of the addition, and finished floor elevations of the existing residence and proposed addition.
2. If the elevations of the existing residence and proposed addition are above the Base Flood Elevation (BFE), a hold will be put on the rough-in inspection and the Lexington County Floodplain Administrator will verify the proposed addition based upon the submitted survey. If the addition is built according to the submitted survey the hold will be lifted from the permit.
3. If any elevations of the existing residence or proposed addition are below the Base Flood Elevation the addition will have to be built according to the above specifications for structures located in a flood zone.
4. If the addition is deemed to be a **substantial improvement** the existing residence will have to be brought into compliance with Lexington County Floodplain Management regulations as well.

**B. Single Family Construction (New Construction) in Flood Zones with no established BFE.**

1. A survey must be submitted by a South Carolina Registered Land Surveyor showing the location of the structure and the scaled location of the 1-percent annual chance flood. If the structure is located outside the scaled limits of the 1-percent annual chance flood, no further flood certification is needed.
2. If the structure is determined to be inside the 1-percent annual chance flood, the regulations for single-family construction in flood zones with designated BFE will apply. The BFE for this property will be determined by the Lexington County Floodplain Administrator or by some other approved method.

**C. Manufactured Homes**

Manufactured homes are subject to the same floodplain management regulations as described for single-family construction in flood zones. In addition the manufactured home must be anchored to a foundation system to resist flotation, collapse, and lateral movement. Flood vents will be required if the manufactured home rests on a solid foundation.

Note the requirements listed above provide a general summary of the Flood Damage Prevention Ordinance requirements. Please see the full Floodplain Ordinance and Chapter 11 of the Land Development Manual for additional information. Or contact the Lexington Floodplain Administrator at (803) 785-8121 for further information and prior to undertaking any activity within the floodplain.



# LEXINGTON COUNTY FLOODPLAIN DEVELOPMENT PERMIT APPLICATION

Issued in: Enter community (Community)      Permit #: Enter permit #

**Issued to:**

Name: Enter name  
Street or P.O. Box: Enter Street or P.O. Box  
City: Enter City      State: Enter State      Zip: Enter zip code

**Project Location:**

FIRM Panel: Enter FIRM Panel  
Parcel ID #: Enter Parcel ID #  
Project Address: Enter project address

The proposed development is in the: Floodway AE A

The Base Flood Elevation at the project site is:  
Enter elevationft NAVD, Enter elevationft NGVD

Source Documents: Enter source documents

**For structures requiring elevation certification:**

MSL Elevation to which lowest floor is to be elevated: Enter MSL ElevationMSL  
MSL Elevation to which structure is to be flood proofed: Enter MSL ElevationMSL

**Brief description and purpose of the project:**

Description/purpose: Enter brief description and purpose  
Who is performing the work?  
Homeowner Contractor Other: Please describe  
If performed by a contractor please provide their license #: Enter license #  
Have you had a Substantial Damage Estimate? Yes      No      NA  
If yes, what is the percent damaged? Enter percent%

**Note that this permit is only valid for improvements to this structure up to \$Enter amount.**  
If improvements exceed this value, the structure may be required to be reconstructed in accordance with the existing floodplain ordinance, which may require that the structure be elevated to 2' above the base flood elevation (BFE).

**Action Taken:**

- The proposed development is in partial conformance with the applicable Floodplain Management Standards. **A conditional approval is granted, conditions attached.**
- The plan and materials submitted in support of the proposed development are in compliance with applicable Floodplain Management Standards. **Permit is approved.**

**Conditions:** Enter conditions

*In accepting this permit, the applicant understands that all conditions of the permit must be met, all other regulatory permits have been obtained, an elevation certificate may be required once project is completed, and agrees to allow on-site inspections, as needed during or after construction, to determine compliance with this permit.*

Applicant: \_\_\_\_\_

Local Floodplain Administrator: \_\_\_\_\_

*I understand that the County is required to track improvements/damages to this property cumulatively for a period of 5 years. When the improvements/damages within a 5 year period exceed 50% of the market value of the house (minus the land value), I may be required to bring my house into compliance with the existing floodplain regulations. Compliance with the existing floodplain regulations may include but not be limited to elevating the finished floor to 2-feet above the 100 year flood elevation.*

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

Printed name: \_\_\_\_\_

Date: \_\_\_\_\_