

# Administering Your Floodplain Management Ordinance

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*Adoption of an ordinance is relatively easy—  
administration is quite another matter.*

Old Proverb

## **Overview**

This unit covers a number of topics of importance to effectively administer the local floodplain management ordinance, including who is involved, the permit review process, and the importance of record keeping. It is the first of three units devoted to administration and enforcement of the local ordinance.

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## ***A. Introduction***

Sound and proper administration of the local floodplain management ordinance is vitally important to realizing the community's goals to protect human life, safety, and property. Consistent administration significantly contributes to compliance and support at the local level. Enforcement of the ordinance is also part of the community's agreement to participate in the National Flood Insurance Program.

Understanding and administering the floodplain management ordinance presents some uncommon challenges. First, the ordinance's purposes and goals are often not adequately understood and supported, both by local officials and the public they serve. Second, it deals with a specialized case of land use regulations that contain provisions or requirements to address the flood hazard. Technical data have to be understood and utilized. Finally, those that are responsible for administration of the ordinance may not receive applications for floodplain development with such regularity as to develop real expertise in where and how to apply the ordinance provisions.

The ordinance administrator's activities fall into two broad categories:

- 1) Helping developers and property owners understand and comply with ordinances so that their projects do not endanger lives, other property or natural resources
- 2) Providing local elected and appointed officials with facts, procedures and advice needed to make, review, and enforce decisions and to amend ordinances to accommodate changes

This unit, as well as the next two units, are intended and designed to help those responsible for administering the local floodplain management ordinance to carry out their responsibilities in a sound and consistent basis. They cover a lot of material considered important for the local administrator(s) to understand and employ. The next section starts the learning/refresher process with an overview of the elements of the local ordinance.

## ***B. Who Is Involved in Administering the Ordinance***

### ***Floodplain Management Administrator***

The floodplain management administrator is the local professional generally responsible for administering the local ordinance. Unit 3 outlined the typical responsibilities. They may include but are not limited to:

- Advising applicants of the ordinance provisions and development standards, issuing permits allowed by the ordinance, advising applicants of appeal rights and procedures
- Transmitting conditional permit and appeal forms and case records to the appropriate board, committee, or commission, and providing professional testimony on the case
- Inspecting development for compliance with the ordinance
- Reporting violations to the appropriate planning commission, zoning committee, and legal officer of the community, and following through to ensure the violation is corrected
- Issuing notices for public hearings
- Keeping complete records of resource data, permits issued, inspections made, and other official actions
- Notifying state and federal officials of actions
- Maintaining a complete set of community floodplain maps and the Flood Insurance Study for access by landowners and developers

### ***Boards of Appeal or Adjustment***

Zoning ordinances and floodplain management regulations cannot be written to anticipate every imaginable situation, and ambiguous language or misinterpretation can cause disagreements. This necessitates that a knowledgeable board of arbiters be set up.

Members of these local boards settle land use ordinance disputes and challenges to building code interpretations. If delegated by the local governing body, they consider conditional use permit applications. They are also assigned the statutory authority to consider requests for variances.

These boards apply or interpret ordinance provisions. They do not have authority to change the ordinance. The board of appeals is called upon in the following situations:

- Someone alleges an error in an administrator’s decision (an appeal).
- Someone feels that unique conditions warrant a variance.
- The ordinance expressly requires the board to decide on conditional uses or special exceptions. Other governmental bodies may also be designated to make these specific decisions.

Members of boards of appeal or adjustment are appointed by the local elected government body. In general, cities have appeals boards; counties have adjustment boards.

### ***Planning Committee, Commission or Agency***

These groups advise local elected bodies on community policy issues and prepare plans based on those policies. Planning committees advise on ordinance amendments and may decide on conditional uses (special exceptions) and/or variances. The members are partly elected officials, partly local administrators, and partly citizens.

### ***Legal Counsel***

County district attorneys or city attorneys are legal advisors to local administrator and officials. They are most commonly called upon to determine actions to be taken on violations and to advise on variance requests and appeals.

### ***Citizens***

Since floodplain management programs protect public interests—lives, property, and waterways—citizens have both the right and the responsibility to become involved in program decisions. Public involvement can begin with ordinance adoption or amendment and continue through proposal and review of individual projects. The local administrator and state staff have the responsibility to inform citizens of their role in local floodplain management and of opportunities to participate. Much of the time spent in early and frequent contact with

citizens and local interest groups can reduce time spent in disputes later on.

Citizens are involved in floodplain regulations in two ways, as project sponsors and as parties affected by projects. As project sponsors, citizens must provide complete and accurate information on their plans. Project sponsors should also understand the rationale for regulations; this can help them in project design. As affected parties, citizens may comment on proposed ordinances and amendments, appeal a decision to the board of adjustment or appeals, and report violations. There is a specified set of public notice procedures for floodplain regulatory programs. These formal notices can be supplemented with press releases, radio talk shows, local workshops, and other public information activities.

### ***State and Federal Agencies***



Many state and federal agencies have floodplain management responsibilities with the same goals as the community. In North Carolina, the Division of Emergency Management and the FEMA Regional IV Office in Atlanta have the capability and authority to help communities administer their floodplain management ordinance through the provision of both technical and planning assistance, whenever called upon.

### ***C. Development Permit Review Process***

Once the ordinance is in force, any development or change in use requires authorization. Generally, authorization means a permit from the local administrator or agency. The permit review and approval/denial process is the subject of this part of the unit.

#### ***When Is a Development Permit Required?***

A permit is required for almost any development-related change to the floodplain including, but not limited to:

- Construction of new structures
- Modifications or improvements to existing structures
- Excavation
- Filling

- Paving
- Drilling
- Driving of piles
- Mining
- Dredging
- Land clearing
- Grading
- Permanent storage of materials and/or equipment

Most communities have had a building permit system in operation for some time. However, most communities have not traditionally had a permit system for such a wide range of activities. Regulation of all development in floodplains is essential because fill or other material can obstruct flood flows just as structures can.

The permit official has some discretion to exempt obviously insignificant activities from the permit requirement (e.g., planting a garden, farming, putting up a mailbox or flagpole).



The state NFIP coordinating agency (Division of Emergency Management) and FEMA regional floodplain specialists can assist community officials in interpreting the applicability of this definition to different types of minor development, if any questions arise.

The key to successful local regulation of the floodplain is a well enforced permit system.

### ***Beginning of the Development Permit Review Process***

The submission of a development permit application marks the formal beginning of the permit process. Prior to submitting an application, the prospective applicant often will be in contact with the administrator to obtain a copy of the regulations, locate the proposed site in relation to the NFIP maps, determine flood elevations, or gather procedural and technical information needed to complete the application package. This informal part of the permit process can be very important in guiding the applicant to locate and design the development in compliance with local regulations. It also can help the applicant to prepare a complete application, avoiding unnecessary delays at the beginning of the process.

### ***Steps in the Development Permit Application Process***

Figure 8-1 provides an overview of the process involved in issuing floodplain development permits. Figure 8-2 (4 pages) is a sample permit application that contains all the required information for a permit. A local jurisdiction may have a different form, but the review process is still the same.

There are four major steps involved in the permit process.

- Step 1. Review the application package for completeness.
- Step 2. Review the application package for compliance with the technical requirements of the ordinance.
- Step 3. Approve or deny the application.
- Step 4. Inspect the site.

**Figure 8-1  
PERMIT PROCESS**

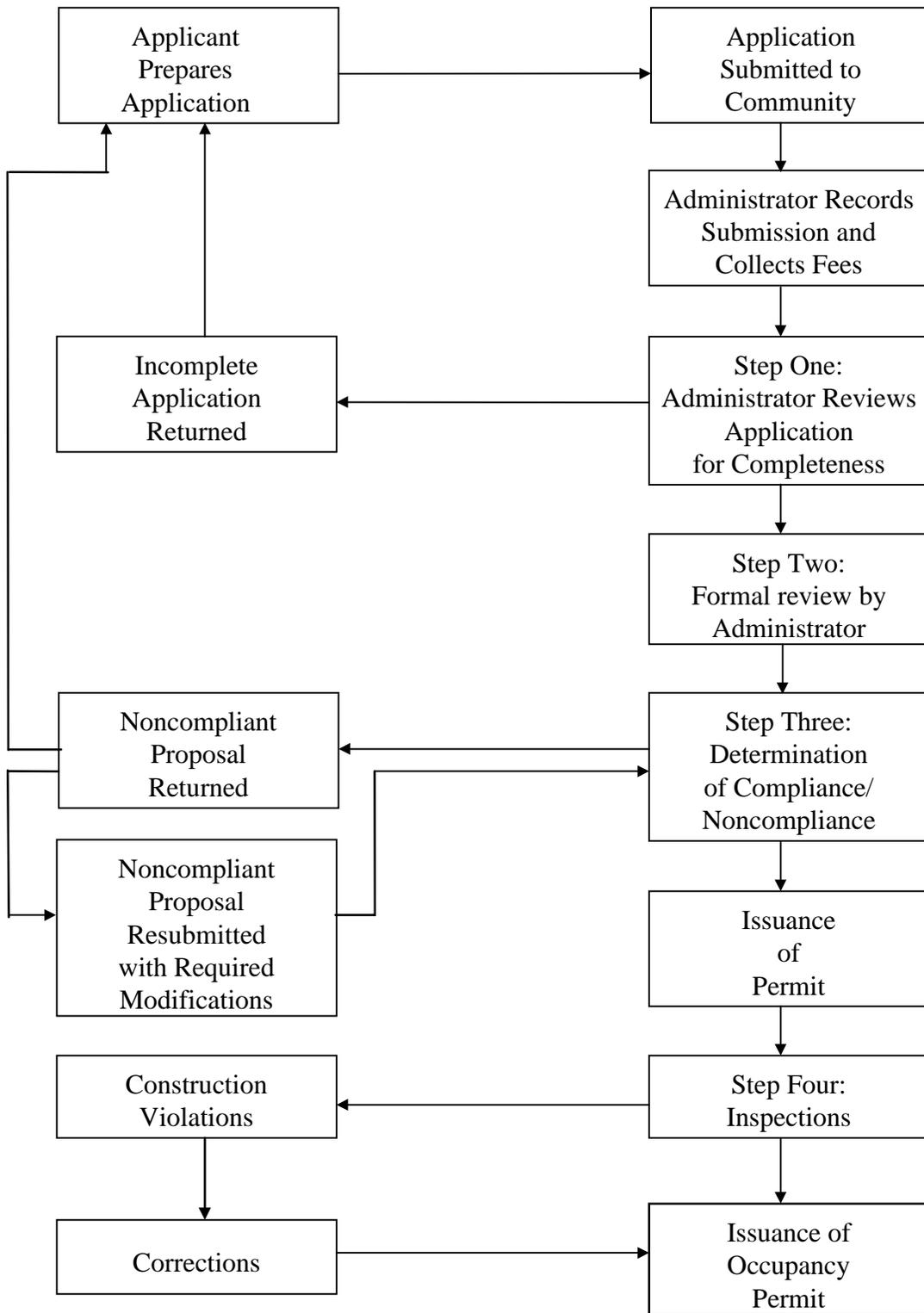


Figure 8-2

Application # \_\_\_\_\_

Page 1 of 4

**SAMPLE  
FLOODPLAIN DEVELOPMENT PERMIT APPLICATION**

This form is to be filled out in duplicate.

**SECTION I: GENERAL PROVISIONS (APPLICANT to read and sign):**

1. No work of any kind may start until a permit is issued.
2. The permit may be revoked if any false statements are made herein.
3. If revoked, all work must cease until permit is re-issued.
4. Development shall not be used or occupied until a Certificate of Compliance is issued.
5. The permit will expire if no work is commenced within six months of issuance.
6. Applicant is hereby informed that other permits may be required to fulfill local, state, and federal regulatory requirements.
7. Applicant hereby gives consent to the Local Administrator or his/her representative to make reasonable inspections required to verify compliance.
8. THE APPLICANT, CERTIFY THAT ALL STATEMENTS HEREIN AND IN ATTACHMENTS TO THIS APPLICATION ARE, TO THE BEST OF MY KNOWLEDGE, TRUE AND ACCURATE.

(APPLICANT'S SIGNATURE) \_\_\_\_\_ DATE \_\_\_\_\_

**SECTION 2: PROPOSED DEVELOPMENT (To be completed by APPLICANT)**

NAME	ADDRESS	TELEPHONE
APPLICANT		
BUILDER		
ENGINEER		

**PROJECT LOCATION:**

To avoid delay in processing the application, please provide enough information to easily identify the project location. Provide the street address, lot number or legal description (attach) and, outside urban areas, the distance to the nearest intersecting road or well-known landmark. A sketch attached to this application showing the project location would be helpful.

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DESCRIPTION OF WORK (Check all applicable boxes):

Application # \_\_\_\_\_  
Page 2 of 4

A. STRUCTURAL DEVELOPMENT

ACTIVITY

STRUCTURE TYPE

- New Structure
- Addition
- Alteration
- Relocation
- Demolition
- Replacement

- Residential (1-4 Family)
- Residential (More than 4 Family)
- Non-residential (Floodproofing?  Yes)
- Combined Use (Residential & Commercial)
- Manufactured (Mobile) Home (In Manufactured Home Park?  Yes)

ESTIMATED COST OF PROJECT \$ \_\_\_\_\_

B. OTHER DEVELOPMENT ACTIVITIES

- Clearing
- Fill
- Mining
- Drilling
- Grading
- Excavation (Except for Structural Development Checked Above)
- Watercourse Alteration (Including Dredging and Channel Modifications)
- Drainage Improvements (Including Culvert Work)
- Road, Street or Bridge Construction
- Subdivision (New or Expansion)
- Individual Water or Sewer System
- Other (Please specify) \_\_\_\_\_

After completing SECTION 2, APPLICANT should submit form to the Local Administrator for review.

**SECTION 3: FLOODPLAIN DETERMINATION (To be completed by LOCAL ADMINISTRATOR)**

The proposed development is located on FIRM Panel No. \_\_\_\_\_, Dated \_\_\_\_\_.

The Proposed Development:

- Is NOT located in a Special Flood Hazard Area (Notify the applicant that the application review is complete and NO FLOODPLAIN DEVELOPMENT PERMIT IS REQUIRED).
- Is partially located in the SFHA, but building/development is not.
- Is located in a Special Flood Hazard Area  
FIRM zone designation is \_\_\_\_\_.  
"100-Year" flood elevation at the site is: \_\_\_\_\_ ft. NGVD (MSL)  
 Unavailable
- Is located in the floodway.  
FBFM Panel No. \_\_\_\_\_ Dated \_\_\_\_\_  
(if different from the FIRM panel and date)
- See Section 4 for additional instructions.

SIGNED \_\_\_\_\_ DATE \_\_\_\_\_



APPEALS:      Appealed to Board of Appeals?                       Yes       No  
                     Hearing date: \_\_\_\_\_  
                     Appeals Board Decision - Approved?                       Yes       No  
                     Reasons/Conditions: \_\_\_\_\_  
                     \_\_\_\_\_  
                     \_\_\_\_\_

**SECTION 6: AS-BUILT ELEVATIONS (To be submitted by APPLICANT before Certification of Compliance is issued)**

The following information must be provided for structures that are part of this application. This section must be completed by a registered professional engineer or a licensed land surveyor (or attach a certification to this application). Complete 1 and 2 below.

1.      Actual (As-Built) Elevation of the top of the lowest floor, including basement (in Coastal High Hazard Areas, bottom of lowest horizontal structural member of the lowest floor, excluding piling(s) and columns) is: \_\_\_\_\_ ft. NGVD (MSL).
2.      Actual (As-Built) Elevation of floodproofing protection is \_\_\_\_\_ ft. NGVD (MSL).

**SECTION 7: COMPLIANCE ACTION (To be completed by LOCAL ADMINISTRATOR)**

The LOCAL ADMINISTRATOR will complete this section as applicable based on inspection of the project to ensure compliance with the community’s local law for flood damage prevention.

INSPECTIONS	DATE _____	BY _____	DEFICIENCIES?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	DATE _____	BY _____	DEFICIENCIES?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	DATE _____	BY _____	DEFICIENCIES?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

**SECTION 8: CERTIFICATE OF COMPLIANCE (To be completed by LOCAL ADMINISTRATOR)**

Certificate of Compliance issued: DATE \_\_\_\_\_ BY \_\_\_\_\_

***Step One: Review Application for Completeness***

The application package should contain all the administrative forms, plans, blueprints, and technical documentation required for the

administrator to review the proposed project for regulatory compliance. The review should not be initiated if the application package is incomplete. The applicant should be advised of any missing documents and that the review will not start until the missing documents are submitted.

The local administrator has the responsibility to initiate the review of the package and to complete the review in a timely manner. The review should consist of the following procedures, as outlined below.

*A) Make sure all administrative forms are completed satisfactorily and properly signed.*

Scan the administrative forms to ensure that all questions have been answered. If important items are left blank or not addressed completely, these should be noted and brought to the attention of the applicant for completion. If there is inaccurate information, this should also be brought to the attention of the applicant. Application review should be halted until application deficiencies are corrected.

Forms are a valuable and necessary tool in reviewing development proposals for regulatory compliance. When designed properly, they can be the most efficient way to get the kind of information that is essential to an effective and thorough review. The forms should be revised periodically to remain current with changes in the floodplain management ordinance and to include pertinent information needs.

The forms should include a listing of the applicant information outlined in the administrative provisions of the ordinance. In addition, forms should reflect the technical provisions of the ordinance by requiring information relative to those provisions. A good administrative form can serve as a checklist for identifying the kinds of information that should accompany the application. It is recommended that the following two forms be included as a part of the application package:

- Elevation Certificate (Figure 8-3)
- Floodproofing Certificate (Figure 8-4)

- Insert Elevation Certificate page 1

Insert Elevation Certificate page 2

# FLOODPROOFING CERTIFICATE

FOR NON-RESIDENTIAL STRUCTURES

*The floodproofing of non-residential buildings may be permitted as an alternative to elevating to or above the Base Flood Elevation; whenever, a flood design certification is requires. This form is to be used for that certification. Floodproofing of a residential building does not alter a community's floodplain management elevation requirements or effect the insurance rating unless the community has been issued an exception by FEMA to allow floodproofed residential basements. The permitting of a floodproofed residential basement requires a separate certification specifying that the design complies with the local floodplain management ordinance.*

BUILDING OWNER'S NAME	FOR INSURANCE COMPANY USE POLICY NUMBER
STREET ADDRESS (Including Apt., Unit, Suite and/or Bldg. Number) OR P.O. ROUTE AND BOX NUMBER	COMPANY NAIC NUMBER
OTHER DESCRIPTION (Lot and Block Numbers, etc.)	
CITY	STATE
ZIP CODE	

### SECTION I FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Provide the following from the proper FIRM:

COMMUNITY NUMBER	PANEL NUMBER	SUFFIX	DATE OF FIRM INDEX	FIRM ZONE	BASE FLOOD ELEVATION (in AO Zones, use depths)

### SECTION II FLOODPROOFING INFORMATION (By a Registered Professional Engineer or Architect)

**Floodproofing Design Elevation Information:**

Building is floodproofed to a elevation of                                 feet NGVD. (Elevation datum used must be the same as that on the FIRM.)

Height of floodproofing on the building above the lowest adjacent grade is                 feet.

*(NOTE: for insurance rating purposes, the building's floodproofed design elevation must be at least one foot above the Base Flood Elevation to receive rating credit. If the building is floodproofed only to the Base Flood Elevation, then the building's insurance rating will result in a higher premium.)*

### SECTION III CERTIFICATION (By a Registered Professional Engineer or Architect)

**Non-Residential Floodproofed Construction Certifications:**

I certify that based upon development and/or review of structural design, specifications, and plans for construction that the design and methods of construction are in accordance with accepted standards of practice for meeting the following provisions:

The structure, together with attendant utilities and sanitary facilities, is watertight to the floodproofed design elevation indicated above, with walls that are substantially impermeable to the passage of water.

All structural components are capable of resisting hydrostatic and hydrodynamic flood forces, including the effects of buoyancy, and anticipated debris impact forces.

I certify that the information on this certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by the fine or imprisonment under 18 U.S. Code, Section 1001.

CERTIFIERS'S NAME	LICENSE NUMBER (or Affix Seal)		
TITLE	COMPANY NAME		
ADDRESS	CITY	STATE	ZIP CODE
SIGNATURE	DATE	PHONE	

**Copies should be made of this Certificate for: 1) community official, 2) insurance agent/company, and 3) building owner.**

The certificates provide the following information:

- The NFIP Elevation Certificate provides a record of the as-built elevation of the lowest floor (two copies, one when the floor is set and another for the completed building). *Where a BFE is available, only a registered land surveyor can prepare this certificate.*
- The NFIP Floodproofing Certificate provides a record of the height of floodproofing (used only as needed).

*B) Briefly review site plans, grading and excavation plans, and building design plans for completeness.*

Depending on the specificity or detail of the administrative forms, the various plans that accompany the application will provide the technical data required for a thorough review.

In the preliminary review, look for the following components:

- Existing and proposed topographic information, including spot elevations (to check accuracy of floodplain boundary shown on FIRM)
- The boundaries of the floodway and the floodplain
- In V zones, the line of the mean high tide and Zone V/Zone A boundary; if there is more than one Zone V on the lot, the BFE and boundary locations should be depicted on the plat map
- Proposed building elevations of all structures that are above or elevated to the level of the base flood elevation; also applies to existing lowest floor for substantially improved and substantially damaged structures
- Proposed obstructions in the floodway

When registered professional architects, engineers, or land surveyors prepare the plans, they should be stamped with the license seal to certify technical accuracy. If key items are missing on the plans, the applicant must obtain the information.

It is recommended that if a full-story enclosure is planned below the elevated lowest floor, that the local administrator require the applicant to sign a notarized acknowledgement of the limitations placed on the use of such area and have the acknowledgement recorded in the county deed records. This alerts future owners to the restriction on use of such area. Also acknowledge that flood insurance coverage, with minor exceptions, is not available to enclosures below the lowest elevated floor.

C) *Ensure that all necessary technical documents are included and properly certified.*

Based on the minimum NFIP requirements, there are four situations that would require the filing of certified documents.

- *Floodway Encroachment.* If any part of the proposed project is to be located in a designated floodway, the applicant must submit engineering certificate and documentation demonstrating that the proposed encroachment would not result in any increase in base flood heights (the No-Impact Certificate).
- *Watertight Floodproofing.* In the event a nonresidential structure is to be floodproofed according to NFIP standards, the applicant must submit a statement from a registered professional engineer or architect certifying that the design and methods of construction meet these standards. A second as-built certificate is required.
- *Enclosures Below the Lowest Floor.* When an applicant designs an enclosure below the lowest floor using an alternative to the minimum standard for openings prescribed in the NFIP requirements, a registered professional architect or engineer must certify the design.
- *V Zone Construction.* An applicant proposing to construct a building in a V zone must supply a statement from a registered professional architect or engineer certifying the design and method of construction of the elevated building and the design of breakaway walls (if load resistance exceeds 20 pounds per square foot). An as-built certificate is also recommended

The applicant must provide all completed certificates needed for the permit review.

D) *Review to ensure that all necessary federal and state permits are being obtained.*

The administrator must review the application package to determine whether federal and state permits are necessary. While ultimate responsibility to secure such approvals is with the applicant, it is important for the administrator to be familiar with federal and state regulatory programs and to direct the applicant to contact the appropriate agencies, as necessary.

When it will take a long period of time to obtain federal and state approval, the administrator may condition the issuance of a local permit on the applicant obtaining such permits later. The applicant should provide documentation to the administrator stating that the required federal and state permits have been applied for, and that the project will not proceed until those permits are issued.

For example, obtaining a Section 404 wetlands permit or Conditional Letter of Map Revision (CLOMR) may take several months, possibly more; under such circumstances the administrator may issue a local permit with the stipulation that the applicant must have all the required permits prior to beginning construction.

*E) Submit copies of complete application package to other municipal departments and possibly outside agencies for review.*

Depending on the type and size of the proposed development, and on the regulatory responsibilities of other departments or offices of the community, the applicant should submit a sufficient number of copies to allow for their review as well. This clearinghouse function may be a role of the Administrator, or of another agency in the community.

When certain aspects of the application warrant their review, the local administrator may wish to send copies to federal and state agencies such as the Division of Emergency Management, the U.S. Army Corps of Engineers, the Environmental Protection Agency, or the Natural Resources Conservation Service (formerly the Soil Conservation Service). Each agency has particular expertise in floodplain management and may be willing to assist the administrator in providing a technical review in their area of expertise. If the community does not have hydraulic engineering expertise available, the North Carolina DEM or FEMA regional office may be requested to evaluate a floodway no-impact submission.

If the project involves an alteration or relocation of a watercourse, it may require a federal and state permit before it can proceed. In any instance the administrator should notify adjacent municipalities and the state NFIP coordinating agency. The administrator may wish to send a copy of the plans and specifications for such a channel modification along with the notice to adjoining municipalities for their review and comment. A proposed change to a floodway delineation must be reviewed and approved by FEMA, as well as by the community. All plans and data should be submitted for FEMA's review and comment at the time of

original submission of the permit application, especially if action on the proposed development hinges on the map revision.

It is important that the permit application be complete and accurate before a technical review of the permit is started. If it is not, advise the applicant in writing of the necessary forms and documentation that must be submitted in order for the permit review process to begin..



Before moving on to Step Two of the development permit review process, please complete Learning Check # 1.



## ***Learning Check # 1***

***Purpose:*** To go over a few points about reviewing the application for completeness and accuracy.

***Directions:*** Answer the following questions.

1. Who is responsible for supplying missing information on the permit application?

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2. What are the two certificates that should be included as part of the application package?

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3. What are the four situations that require the filing of certified documents?

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4. Which of the following can certify that building designs meet NFIP requirements?

- a. engineer
- b. registered professional architect
- c. building contractor
- d. landscape designer

5. Where the BFE is available for a construction site, who of the following can prepare the elevation certificate?

- a. building owner or contractor
- b. local floodplain management official
- c. registered land surveyor
- d. registered professional engineer or architect
- e. local or community attorney

## ***Step Two: Review the Application Package for Compliance with the Technical Requirements of the Ordinance***

The following procedures are recommended.

### *A) Examine site information in detail.*

The site plan is a critical component of floodplain-related development proposals. Such plans should show the location of the property lines, streets, watercourses, existing and proposed structures, topographic information, and floodway and floodplain boundaries. Inspect the plan carefully and compare it with the Flood Insurance Study and floodplain maps.

To do this, locate the project site on the FIRM to determine whether it is in a Special Flood Hazard Area (SFHA) and in a floodway. If there is a separate FBFM, don't forget to pull out that set of maps to determine if the site is in a floodway. As mentioned earlier, the SFHA is the area of the floodplain that would be covered by the 100-year flood and is the area in which the floodplain regulations apply. A community may wish to have the applicant locate the property on the appropriate FIRM and/or FBFM and submit it as part of the application. In coastal areas, it will also be necessary to determine if the site is in a COBRA zone and so advise the applicant/property owner.

Some project sites may be located close to the boundaries of the SFHA and, because the map scale is small or it is difficult to pinpoint the project site, it may be hard to determine whether the project will be in or out of the SFHA. Make the best possible determination.

Remember a floodplain development permit is only required if the project is located within the SFHA. For example, the applicant's property may be located partially in the SFHA, but the location of the proposed structure is on the portion of the property that is outside the SFHA. In this case, no permit is needed and floodplain regulations do not apply. However, if clearing, grading, filling, or road or bridge construction associated with the structure's construction is located in the SFHA, a permit will be required.

If appropriate, check for rules that apply for floodways and coastal high hazard areas. Special development rules apply in these areas.

The site plan submitted with the application should answer the following questions:

- Is the plan clear and understandable?
- Are the flood-related delineations consistent with the FIS/FIRM data?
- What regulations may apply based on the location of the proposed development?
- Is all proposed development shown on the plan (clearing, filling, structure location, etc.)?

*B) Assess the elevation data provided in the application.*

Ground elevation data may be in the form of topographic contour lines, spot elevations on the site plan, the base flood and lowest floor elevations on the building design plans, or on the permit application form. The administrator should scrutinize the elevations using the elevation data contained in the FIS and other available local data. Questionable data should be noted and clarification sought from the applicant.

If it is determined that the project site is in an SFHA, protection to the 100-year flood elevation or higher should be required, as set forth in the ordinance. The plans for the structure should show that the proposed lowest floor, including basement, will be elevated to or above the required flood protection level. In the case of a non-residential structure being floodproofed, the plans should indicate that the floodproofing will be at least one foot higher than the 100-year flood level. If these criteria are not met, the application should be rejected.

According to NFIP requirements, the lowest floor elevations must be recorded. The Elevation Certificate can be used for this purpose.

*C) Review building design plans.*

While site plans are vital in determining what regulations may apply based on the location of the development within the flood hazard area, building plans provide the basis for determining which regulations apply to the placement and construction of the proposed building. Building design plans should reveal:

- The reference level of the lowest floor

- The type of foundation system
- The existence of an enclosure below the lowest floor; information, including electrical and plumbing plans, regarding use of the area, location of openings, materials proposed for use in below-BFE enclosure
- The proposed elevation of the lowest floor in relation to the BFE
- The kind and potential use of the structure
- The height to which a non-residential structure is to be dry floodproofed and the complete list of floodproofing techniques to be used, described in writing with detailed drawings

Any conflict or inconsistency with the applicable regulations will necessitate structural adjustments to the building plans.

*D) Have engineering documents been reviewed by the community's engineer?*

There are at least five separate engineering documents linked to the NFIP requirements, depending on the type of structure being proposed and the location:

- Hydrologic and hydraulic calculations concerning any proposed floodway encroachments
- Loading calculations and methods of construction relative to floodproofing
- Alternative designs for meeting the minimum opening requirements for enclosures below the lowest floor
- Design and methods of construction and anchoring for structures in V zones
- Design and methods of construction for breakaway walls that exceed standard load resistance of 20 pounds per square foot

In communities with a municipal engineer on staff or a consulting engineer available to perform reviews, all engineering documents should be examined by that official to ensure that acceptable technical standards were used and that the calculations are correct. If a community does not have a staff engineer, the state NFIP coordinating agency or FEMA regional office can review the data.

A sample Permit Review Checklist is shown in Figure 8-5. A reproducible form for possible use during the review can be found in Appendix I.

### ***Step Three: Approve or Deny the Permit Application***

After review of the permit for completeness and technical compliance with the ordinance, a decision should be made on the application.

*If the proposed development is in compliance with the regulations, issue the permit.* The permit becomes the official authorization from the community allowing the applicant to proceed based on the information submitted in the application package (see sample permit, Figure 8-6).

Relative to the NFIP, the date a permit is issued becomes the date of the “start of construction” provided construction begins within 180 days following the issuance of the permit. For insurance purposes, this date will be used to determine whether a structure should be rated as pre-FIRM construction or new construction.

For regulatory purposes, a permit may be effective or valid for a certain period of time, according to local regulations. If at the end of this period the project is not complete, the permit technically expires. However, ordinances routinely provide for the permit officer to issue written extensions to allow completion of the development under the conditions of the original permit.

*When the application is substantially not in compliance with the local regulations, the permit should be denied.* The applicant can then do one of the following:

- Withdraw the permit application
- Redesign the project to bring it into compliance with regulations
- Apply to the community’s Board of Appeals for a variance to the regulations

While the administrator may not be formally required to disclose the reasons for rejection, it is good policy to do so in writing because:

- It is helpful to the applicant to have the major areas(s) of non-compliance pointed out so that if he or she wishes to resubmit the application, the appropriate correction can be made to the plans.

- Clarifying the deficiencies to the applicant can also help reduce the number of unnecessary appeals to administrative and regulatory decisions made by the administrator.

<b>Permit Review Checklist</b>	
_____	Are all administrative forms completed and signed?
_____	Is the project in the Special Flood Hazard Area?
_____	Has the elevation data been checked against the Flood Insurance Study and floodplain maps?
_____	If any of the following conditions apply, is there certified documentation of:  <div style="margin-left: 40px;">                     Floodway encroachments (the No-Impact Certificate)                      Watertight floodproofing                      Enclosures below the lowest floor                      Zone V construction                 </div>
_____	Does the project include any construction or improvement to a building or placement of a manufactured home?
_____	Are any special federal or state permits required? If so, are such requirements stipulated?
_____	Have the building design plans been reviewed?
_____	Have engineering-related documents been reviewed by the community's engineer?
_____	Are there special ordinance requirements that should be checked?
_____	Are there requirements that should be reviewed by other municipal departments or agencies (such as a floodway delineation or floodplain boundary or other local ordinance compliance)?
_____	At what stages in the development project will you make inspections?  <div style="margin-left: 40px;">                     _____      _____      _____                 </div>

**Figure 8-5**

No. \_\_\_\_\_

# FLOODPLAIN DEVELOPMENT PERMIT

Specify for what purpose the permit is issued—  
New construction, alterations, fill, excavation, other

ISSUED TO: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PROJECT ADDRESS: \_\_\_\_\_  
(if different from permittee's address)

ISSUED BY: \_\_\_\_\_  
Floodplain Management Administrator

DATE: \_\_\_\_\_  
(good for 180 days or whatever is the applicable time frame)

THIS PERMIT MUST BE POSTED ON THE PREMISES IN A CONSPICUOUS PLACE SO AS TO BE  
SEEN FROM THE STREET OR ROAD ON WHICH THE STRUCTURE FACES.

Figure 8-6. Sample Floodplain Development Permit



Before moving on to Step Four of the development permit review process, please complete Learning Check # 2.



## *Learning Check # 2*

**Purpose:** To provide practice in processing a permit application.

**Directions:** Answer the following questions.

1. Under what conditions should a permit application be approved?

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2. What recourse does the applicant have when the permit is denied?

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The following are two typical situations that could be encountered during review of a permit application. Read each situation and answer the questions that follow.

3. The local administrator has just received a floodplain permit application from Harry Houseman. The application was reviewed and it is complete and filled out accurately. When the location of the proposed project on the FIS and associated maps are checked, it is discovered that Harry's property is located partially in the SFHA, but that the proposed home is on the portion outside of the SFHA. What needs to be done next?

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4. You've reviewed Mary Miller's site plan and determined that it is in an SFHA, in a riverine floodplain. The 100-year flood level for the proposed location is 112 feet above sea level.

The elevation data that accompanied Mary's permit stated that the structure will be elevated or floodproofed to 112 feet. When you checked the local ordinance, you found that for riverine floodplains, the applicant should elevate or floodproof to at least one foot above the 100-year level. Everything else on Mary's permit application is accurate and all of the remaining building designs and site plans meet the minimum requirements and do not violate the ordinance. What should you do?

- a. Tell Mary that she needs to seek special permission to build.
- b. Inform Mary that her application is rejected.
- c. Tell Mary that she will have to submit a revised building plan.
- d. Approve the application.

## ***Step Four: Inspect the Site/Work***

After approval of the permit, follow-up is important to ensure that the applicant adheres to the requirements outlined in the permit. To assume that construction and development will proceed as spelled out in the approved application is overly optimistic. Taking a hands-off attitude toward the actual construction of projects can lead to a multitude of problems for both the project's owner and community.

Thus, it is important to make sure that construction is carried out as proposed and that any changes do not violate the community's floodplain regulations and standards.

The most effective method of ensuring compliance is to inspect the construction frequently while it is ongoing. This is particularly important in the early phases of work on a structure because at this time, errors in the elevation of the lowest floor or the floodproofing level can be determined and corrections made.

The objective of an inspection program is to ensure that the construction proceeds in compliance with the approved plans. Inspections give the community an opportunity to intervene when construction begins to vary from the plans. Perhaps the most significant effect of an inspection program is to put builders, developers, and property owners on notice that the community is interested in seeing that projects are, in fact, completed in compliance with local regulations.

Inspections in regard to compliance with local floodplain regulations need not be difficult or complicated. At the very minimum, a community can institute a three-phase inspection program.

### **Inspection One**

With plans in hand, the administrator should go to the project site to:

- Determine that the site as identified on the proposed plans is consistent with actual ground conditions
- Check setback distances and take measurements, if necessary
- Verify the location of the floodplain and floodway boundaries, if applicable
- Check for floodway encroachments, if applicable

This site inspection may occur during the permit review process to help in determining compliance. If not, it should take place prior to actual development of the site. Ideally, the site visit should coincide with the beginning of development when the site is staked out to allow the administrator to check the plans in relation to the physical layout. Remember that it is not uncommon for actual construction to be different from the site plan.

## **Inspection Two**

For a proposal involving an elevated structure, an inspection should be scheduled just prior to the placement of the lowest floor of the building. This will occur sometime after the completion of the foundation. The purpose of this inspection is to determine whether the lowest floor will be situated to the height stipulated in the permit application, and ensure that the type of foundation constructed is the type specified in the plans. *An elevation certificate is recommended at this stage.*

This is particularly important when it comes to V Zone construction and manufactured home installation in regard to ordinance requirements for foundations. Floodway encroachments should also be checked, if applicable.

The primary objective of the ordinance requirements is to reduce flood damage risks, to new and substantially improved structures. The most direct and often easiest way of accomplishing this is through elevation of the lowest floor.

Making sure a structure is properly elevated is the key to the entire regulatory process. If this is not achieved, the effort made in the permit process is negated. Therefore, an inspection at the point of initial construction, where changes to the height of the foundation can be made without major difficulty, is best.

To help during the inspection, an elevation reference mark should be placed on a stationary object such as a tree or telephone pole near the structure signifying the height to which the lowest floor should be elevated. Using the temporary elevation reference mark, the local administrator should determine whether the lowest floor will reach the regulatory height given the height of the foundation and the type of floor system to be installed.

If a nonresidential structure is to be floodproofed, a different inspection process will have to be applied. Since floodproofing is a highly technical procedure involving many potential methods and designs, the administrator will need the assistance of the community's engineer. *An as-built floodproofing certificate is also necessary for the design professional to certify the floodproofing was constructed to specifications.*

### **Inspection Three**

At or near completion of the development would be an appropriate time to conduct a final inspection. The purpose of this visit would be to:

- Determine whether the placement of fill, if used, meets the necessary compaction, slope, and protection standards contained in local regulations
- Inspect enclosures below the lowest floors to ensure adequately sized openings exist
- Check breakaway walls in V zones
- Check for floodway encroachments, if applicable
- Check anchoring system utilized in securing manufactured homes

Some communities may issue occupancy permits (certificate of occupancy, certification of compliance, etc.) as a condition of using or inhabiting a newly constructed building or addition. If this is the case, the final inspection will coincide with this process. *A second elevation certificate is recommended at this stage.*

### **Future Inspections**

Once a structure is completed and certified for occupancy, the permit process ends. However, the property must remain in compliance with floodplain management regulations and the conditions for which the permit was originally issued.

The administrator should periodically check to ensure that the property continues to remain in compliance over time. Later inspections are particularly important when a structure contains an enclosure below the lowest floor. Such areas can be easily modified and made into habitable spaces in violation of the regulations. For this and other potential

problems, the administrator should monitor floodplain development on a continuing basis. If state law precludes reinspection of enclosed areas once the certification for occupancy is issued, the community should be encouraged to limit the size of the enclosure and/or only allow enclosure with wood lattice or screening that may be more easily inspected.



Before proceeding to the next topic, complete Learning Check # 3.



### *Learning Check # 3*

**Purpose:** To review important points about inspecting the worksite.

**Directions:** Answer the following questions.

1. What is the most effective method to ensure compliance with the requirements outlined in the permit?

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2. When should an inspection be scheduled for a project that involves an elevated structure?

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3. What is the purpose of the final inspection?

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4. What is your community's policy on inspections?

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## ***D. Record Keeping***

*Record keeping is an important aspect of administering the community's floodplain management program. The community floodplain permit records consist of:*

- An annual floodplain permit log
- A permit filing system that is keyed to a geographical identifier (not just a building permit number) such as: street address, lot and block number, township, section and range, or county appraiser's property ID number
- A file for each permit
- Some indicator on the file to show that it is a floodplain permit (different color file folder or file label)

A file should be set up for each permit application that is received. Files should contain copies of the following items, as appropriate:

- The permit application, including site plan
- Documentation of the "as-built" lowest floor elevation of all new and substantially improved structures
- Documentation of the elevation to which any non-residential structure has been floodproofed
- Engineer's certification of the design and methods of construction of any floodproofed structures
- All correspondence pertinent to the project
- Document inspection of the project while under construction
- Engineering analyses of floodway encroachments and watercourse alterations
- 100-year flood data developed for subdivisions and other projects
- Special engineering designs for enclosures below the BFE
- In coastal high hazard areas, engineering certifications of designs and construction methods of new and substantially improved structures

- In coastal high hazard areas, certification of specially designed breakaway walls
- Any variances or appeals proceedings
- Certificates of compliance
- Certificates of occupancy

The NFIP requires that local officials record the number of permits granted and the number of variances granted in designated special flood hazard areas, as well as:

- Any follow-up actions
- Preceding and subsequent permits issued for the same property (cross references)—especially critical if the community adopts a cumulative substantial improvement provision in the ordinance

## ***Answers to the Learning Checks***

### ***Answers to Learning Check # 1***

1. Who is responsible for supplying missing information on the permit application?

***The applicant***

2. What are the two certificates that should be included as part of the application package?

***NFIP Elevation Certificate***

***NFIP Floodproofing Certificate***

3. What are the four situations that require the filing of certified documents?

***Floodway encroachment***

***Watertight floodproofing***

***Enclosures below the lowest floor***

***V zone construction***

4. Which of the following can certify that building designs meet NFIP requirements?

***a. engineers***

***b. registered professional architects***

c. building contractors

d. landscape designers

5. Where the BFE is available for a construction site, who of the following can prepare the elevation certificate?

a. building owner or contractor

b. local floodplain management official

***c. registered land surveyor***

d. registered professional engineer or architect

e. local or community attorney

## ***Answers to Learning Check # 2***

1. Under what conditions should you approve a permit application?

***If the proposed development is in compliance with the regulations, you can issue the permit.***

2. What recourse does the applicant have when the permit is denied?

***The applicant can do one of the following:***

- a. ***Terminate the project***
  - b. ***Re-design the project to bring it into compliance with the regulations***
  - c. ***Apply to the community's Board of Appeals for a variance.***
3. You've just received a floodplain permit application from Harry Houseman. You reviewed the application and found that it is complete and filled out accurately. When you checked the location of the proposed project on the FIS and associated maps, you found that Harry's property is located partially in the SFHA, but that the proposed home is on the portion outside of the SFHA. What do you need to do next?

***Keep application for permit and site plan. Document structure is outside of SFHA. Inform Harry that no special flood damage reduction standards apply to his development. The lending institution may still require that flood insurance be obtained.***

4. You've reviewed Mary Miller's site plan and determined that it is in an SFHA, in a riverine floodplain. The 100-year flood level for the proposed location is 112 feet above sea level. The elevation data that accompanied Mary's permit stated that the property will be elevated or floodproofed to 112 feet. When you checked the local ordinance requirements, you found that for riverine floodplains, the applicant should elevate or floodproof to at least one foot above the 100-year level. Everything else on Mary's permit application is accurate and all of the remaining building designs and site plans meet the minimum requirements and do not violate the ordinance. What should you do?
  - a. Tell Mary that she needs to seek special permission to build.
  - b. Inform Mary that her application is rejected.
  - c. ***Tell Mary that she will have to submit a revised building plan (because she needs to elevate the building to one foot above the 100-year level, to at least 113 feet).***
  - d. Approve the application.

## ***Answers to Learning Check # 3***

1. What is the most effective method to ensure compliance with the requirements outlined in the permit?

***Inspect the construction while it is ongoing.***

2. When should an inspection be scheduled for a project that involves an elevated structure?

***An inspection should be scheduled just prior to the placement of the lowest floor of the building.***

3. What is the purpose of the final inspection?

***The purpose of the final inspection is to:***

- a. Determine whether the placement of fill, if used, meets the necessary slope and protection standards contained in local regulations.***
- b. Inspect enclosures below the lowest floors to ensure adequately sized openings exist***
- c. Check breakaway walls in V zones***
- d. Check for floodway encroachments, if applicable,***
- e. Check anchoring system utilized in securing manufactured homes.***

4. What is your community's policy on inspections?

***Your answers will vary.***