
OKLAHOMA

Oklahoma Water Resources Board

3800 N. Classen Boulevard
Oklahoma City, OK 73118
(405) 530-8800

www.owrb.ok.gov

Lawton Field Office

601 "C" Avenue, Ste. 101
P.O. Box 886
Lawton, OK 73502
(580) 248-7762

Tulsa Field Office

State Agencies Bldg., Rm. 2
440 S. Houston
Tulsa, OK 74127
(918) 581-2924

McAlester Field Office

321 S. 3rd Street, Ste. 5
McAlester, OK 74501
(918) 426-5435

Woodward Field Office

2411 Williams Ave., Ste. 116
Woodward, OK 73801
(580) 256-1014

Oklahoma Dept. of Emergency Management

P.O. Box 53365
Oklahoma City, OK 73152-3365
(405) 521-2481

FEDERAL

Federal Emergency Management Agency (FEMA)

Region VI
800 N. Loop 288
Denton, TX 76209-3606
(940) 898-5399

www.fema.gov/business/nfip

U.S. Army Corps of Engineers, Tulsa District

Floodplain Management Division
1645 S. 101st East Avenue
Tulsa, OK 74128
(918) 669-4919

**FLOODPLAIN MANAGEMENT
INFORMATION SERIES**



Permits for Development within Floodplains

Published by the
Oklahoma Water Resources Board



This bulletin was prepared as an account of work sponsored by an agency of the United States Government. The views and opinions expressed herein do not necessarily reflect those of the United States Government or any agency thereof.

This publication was developed by the Oklahoma Water Resources Board (OWRB) and published with funding from the Community Assistance Program under cooperative agreement No. EMT-2005-GR-0010 between the Federal Emergency Management Agency, State of Oklahoma Department of Civil Emergency Management and OWRB.

This publication, printed by the University of Oklahoma Printing Services, Norman, Oklahoma, is issued and published by the Oklahoma Water Resources Board. 5,000 copies have been prepared at a cost of \$2,465.



Summary

The Oklahoma Floodplain Management Act allows communities to establish county or municipal floodplain boards (Section 1604 and 1605). It also allows for the regulation of land use in the floodplain by authorizing floodplain boards to adopt, administer, and enforce floodplain management regulations. The review of all development by the local floodplain administrator is required to determine if the proposed development site is in the regulatory floodplain and/or reasonably safe from flooding.

Proper use and management of floodplains will reduce or eliminate personal hardships, loss of life, economic losses, and other casualties caused by flooding. A better understanding of the valuable natural benefits provided by floodplains, both to the environment and local community, will help ensure their protection for future generations.

Technical advice and assistance is readily available from the OWRB or FEMA's Region VI Headquarters in Houston, Texas.

written notification to the applicant that a project granted a variance is not exempt from the insurance requirements. In some instances, a variance could result in increased insurance premium rates as high as \$25 per \$100 of coverage and increased risk to life and property.

- Any floodplain board granting a variance must notify the Oklahoma Water Resources Board within 15 days of granting such a variance and maintain a record of all variance actions. This file record would include the justification for granting the variance, a record of the variance proceedings and a copy of the written notification.

In granting a variance, officials must follow criteria in Section 1615 of the Oklahoma Floodplain Management Act as well as federal criteria. A variance can only grant the minimum relief necessary and should never be granted if the structure is to be built below the BFE.

Observe Section 65.12 Provisions

Under the provisions of 44 CFR Chapter 1, Section 65.12, of NFIP regulations, a floodplain board may approve certain development in Zones A1-30, AE and AH, that will increase the water surface elevation of the base flood by more than one foot, provided that the floodplain board first applies to FEMA for conditional approval of such action.

Introduction

To participate in the National Flood Insurance Program (NFIP), communities are required to appoint a floodplain board to enact regulations that meet the minimum floodplain management requirements (NFIP regulations in 44 CFR) established by the Federal Emergency Management Agency (FEMA).



Communities must also comply with requirements of the Oklahoma Floodplain Management Act, 82 O.S.2001, §§1601-1618, as amended. This means a participating community must review all proposed development and substantial improvements within the community. This review ensures that the community has the opportunity to regulate proposed activities for compliance with any applicable floodplain management regulations. Some activities require a permit while others do not. Because permit requirements vary between communities, check with state and local authorities before proceeding with any activity in a floodplain.

A detailed directory of floodplain officials is available on the Oklahoma Water Resources Board’s Web site at www.owrb.state.ok.us or a hard copy may be obtained upon request.

Floodplain Administrator

Communities that join the National Flood Insurance Program are required to appoint a floodplain administrator to manage the local program. The Oklahoma Floodplain Management Act defines *floodplain administrator* as:

...a person accredited by the OWRB and designated by a local floodplain board to administer and implement laws and regulations relating to the management of floodplains.

Before a floodplain administrator is appointed, proper training must be acquired. Contact the OWRB for training opportunities that will help the local floodplain administrator obtain the required accreditation.



4. Approve a variance. A variance is a waiver of one or more of the specific standards required in floodplain regulations. Variance requests should be considered very carefully.

A variance represents a floodplain board's approval to set aside floodplain regulations that were adopted to reduce loss of life and property damages due to flood. While the impact of a single variance on a flood hazard may not be significant, the cumulative result of several variances may be severe.

If the developer requests a variance, the floodplain board should have a consistent and fair policy to deal with such requests. Generally, variances may be granted in accordance with the following provisions:

- showing of good and sufficient cause;
- determination that failure to grant a variance would result in exceptional hardship to the applicant;
- determination that the granting of the variance will not result in increased flood hazards elsewhere;
- determination that the land/lot construction site falls within the regulatory floodplain; and
- determination that a variance is warranted due to the physical site constraints.

The floodplain board must give notice and hold a hearing in order to grant or deny a variance request. Regarding variances, NFIP regulations list two important documentation requirements:

- The granting of a variance does not lessen or waive any insurance premium rates. Consequently, when a variance is granted, the local administrator must provide

Board Action on Permit Application

When the permit application is completed, the floodplain administrator refers it to the floodplain board for consideration. The floodplain board has four options for action:

1. Approve the permit application. If a permit application describes a development that will be built in compliance with the floodplain regulation, the floodplain board may give its approval by issuing the development permit.
2. Require additional information. If the permit application describes a development that would be in violation of the floodplain regulation, the local administrator may ask the applicant for additional information.

In cases where simple modification will bring an application into compliance with the regulation, the local floodplain board should work with the applicant to iron out problems with the development.

3. Deny the permit. When a permit application is in violation of the floodplain regulation, the local administrator must deny the permit and explain to the applicant why it was denied. If an applicant is denied a permit, there are three options:

- Redesign the development so that it meets NFIP standards;
- Appeal the decision to the local board of adjustment, or if none, the local governing body if the applicant feels the administrator is in error; or
- Request a variance to the regulation if the applicant feels the regulation placed an undue hardship on the applicant's property.



Special Flood Hazard Area

The Special Flood Hazard Area (SFHA) is the area in a regulatory floodplain where permits are required for any type of development. This area can be referred to as Zone A, AE, AO, or AH and is defined as the area that has a 1% or greater chance of being flooded in any given year. Base flood elevations (BFEs) are determined for Zone AE. Some communities go above and beyond minimum NFIP requirements and regulate areas extending above the 1% chance floodplain.

Local floodplain boards often issue development permits only if the construction will not raise the base flood elevation more than one foot. Minimum NFIP standards allow a one foot rise before a map revision is required. A flood map will help determine if a site is located in a floodplain.

Each year, the South Central NFIP Regional Office in Houston, Texas, offers classes in Oklahoma on reading Flood Insurance Rate Maps (FIRMs). For more information on class times and locations, call (281) 829-6880. Education and training resources are also available on FEMA's Web site.

Development within Floodplains

FEMA broadly defines *development* as:

... any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation, drilling operations, and the storage of equipment and supplies.

Because the definition is so broad, in addition to buildings and other structures, *development* also applies to all land development activities, including the following:

- grading and paving roads and installing water and sewer service and related facilities;
- drilling water wells and oil wells;
- site preparation activities, such as the placement of fill and excavation work, including the installation of on-lot sewage systems;
- construction of roads, bridges, tin horns, culverts, and dikes;
- mining operations for the extraction of natural resources, such as sand and gravel, limestone, gas, oil, coal, and other minerals;
- some types of channel improvement, but not regular channel maintenance; and
- the storage of equipment, supplies, or materials.

system. Before a certificate can be issued in the flood hazard area, a statement must be submitted by a registered engineer, architect or surveyor verifying the lowest floor or flood-proofing elevation.

Section 1617 of the Oklahoma Floodplain Management Act states that no new structure, fill, excavation or other floodplain use that is unreasonably hazardous to the public or that unduly restricts the capacity of the floodway to carry and discharge the regional flood shall be permitted without securing written authorization from the floodplain board in which the floodplain is located. It further states that any person convicted of violating the provisions of this section shall be guilty of a misdemeanor.

If a local floodplain administrator becomes aware that development is occurring in a floodplain without a permit or contrary to the permitted plans, the floodplain board and the community's attorney should be consulted. Together, they should try to persuade the developer to comply with the floodplain regulation. If the developer refuses to comply, the community must take legal action.

Enforcement of the floodplain regulation must not be taken lightly. Floodplain boards that do not strictly maintain a permit system, grant variances regularly, or are lax in their enforcement responsibilities violate their agreement with the National Flood Insurance Program and State of Oklahoma.

Regulate Floodway

When a regulatory floodway has not been designated, the floodplain board must require that no new construction, substantial improvements, or other development (including fill) be permitted within Zones A1-30 and AE as indicated on the community's FIRM. An exception may be granted if the developer can demonstrate that the cumulative effect when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

Monitor and Enforce Compliance

A floodplain regulation cannot effectively reduce the severity of flood damages unless it is properly enforced. Adequate, uniform and fair enforcement requires that:

- All new development or substantial improvements to existing development have a permit; and
- All development with a permit must be built to NFIP, Oklahoma, and local standards.

Communities need to establish a procedure to ensure these two requirements are met. Requiring the local floodplain administrator to make periodic inspections during construction will ensure the development is built to proper standards. Inspections should be documented in the project file. Some floodplain boards choose a two-tier system in which a foundation certificate verifies that elevation requirements are satisfied before construction proceeds.

To prohibit anyone from occupying a new structure without it first being inspected for compliance with all community building codes and the floodplain regulations, floodplain boards may also establish a "Certificate of Occupancy"

Permit Exceptions

The general intent of NFIP regulations and local floodplain management regulations is to reduce future flood damages. According to FEMA, *functional dependent uses* are exempt from obtaining a floodplain development permit. A functional dependent use is defined as a use that cannot perform its purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

In Oklahoma, in accordance with the Oklahoma Floodplain Management Act as previously cited, the following exceptions and conditions apply:

1. Section 1608— The regulations of a floodplain board shall not apply to the use of farm buildings for agriculture purposes, the planting of agricultural crops or the construction of farm ponds.
2. Section 1613— Any use that exists prior to May 13, 1980, which does not meet the minimum standards set forth within the Act, may continue. However, unless brought into compliance with the minimum standards set forth in regulations adopted pursuant to the Act, those uses may not be substantially altered, enlarged or added to.
3. Section 1614— The Board, in promulgating guidelines pursuant to Section 1606 of the Act, and floodplain boards, in preparing floodplain management regulations, shall give due consideration to the needs of an industry, including agriculture, whose business requires that it be located within a floodplain.

4. Section 1615—Variances are allowed if compliance with the Act would result in an arbitrary and unreasonable taking of property without sufficient benefit or advantage to the people. However, the issuance of a variance cannot unreasonably create flood hazards.

Structures such as basements and storm cellars are not exempt.

Judgment and Discretion

While some distinctions can be made concerning different types of construction and development and the need for permits, it is difficult to identify and classify every possible situation. There will be instances where the local floodplain administrator will have to use discretion in deciding whether or not a permit is required. Basically, permits are required if an activity can affect flooding conditions or other structures can be damaged by flooding. Issuance of a permit will primarily be determined by two factors: location and requirements of local floodplain regulations. The chance of any activity affecting flood heights is much greater in the floodway than anywhere else in the floodplain, so it may be necessary to require permits for activities in the floodway that otherwise would be exempt in the floodplain.

The floodplain administrator should be familiar with local regulations that limit or otherwise establish minimum criteria for requiring permits. The administrator should also be aware of federal permit requirements. Some activities in the floodway require approval from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act.

Interpret Boundaries

Where interpretation is needed to determine the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be conflict between a mapped boundary and actual field conditions), the floodplain administrator must make the necessary interpretation.

Notify Neighbors and Agencies

In riverine situations, notify adjacent communities and the State Coordinating Agency (OWRB) prior to any alteration or relocation of a watercourse, and submit evidence of such notification to FEMA Region VI.

Maintain Carrying Capacity

Assure that the flood-carrying capacity within an altered or relocated portion of a watercourse is maintained.

Obtain Base Flood Elevation (BFE)

If the local floodplain administrator has a Flood Insurance Study, Base Flood Elevation (BFE) data for the development site are readily available. If the FIS has not supplied the community with detailed technical data on the flood hazard, NFIP regulations state that the local administrator must use best available information to review permit applications.

When base flood elevation data has not been provided in accordance with Article 3, Section B of NFIP requirements, the floodplain administrator shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source in order to administer the provisions of Article V of the standard regulations, "Provisions for Flood Hazard Reduction."

heights so it requires a permit. A small picket fence is unlikely to affect flooding and would not require a permit unless it was placed across a stream or creek.

3. Determine if the application is complete. Make sure the application has a thorough description of the proposed development--the elevation of any structures, certification of any flood-proofing methods, and BFE data for each lot for subdivisions of five acres or 50 lots or more.

Facilitate Additional Permits

Additional state, local, or federal permits for the proposed project, if applicable, may include those required by the Corps of Engineers (under Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334) for the discharge of dredged or fill materials into rivers and adjacent wetlands. A Section 10 permit is required for any project that may affect the course, location or the navigable capacity of a water body.

The OWRB issues permits for development on state- owned or -operated lands if the development would occur in the regulatory floodplain. Other permits or clearances may be required for activities associated with but not limited to the following:

- mining (Oklahoma Department of Mines);
- hazardous and solid waste sites (ODEQ);
- municipal and county sanitary landfills (ODEQ);
- public water supply (ODEQ);
- sewage treatment systems (ODEQ);
- stormwater run off (ODEQ);
- historical or archaeological sites (State Historic Preservation Office and/or Oklahoma Archaeological Survey); and
- dam construction/safety (OWRB).

The purpose of the permit system is to promote safe development of the floodplain and to give communities an opportunity to review construction and development proposals for compliance with local floodplain management regulations. If the need for a permit is questionable, it is usually better for all parties involved to err on the side of caution. The safest and best procedure is to require permits for any development in the 1% chance floodplain, including fill, fencing, retaining walls, or other development that may obstruct flood flows.

Getting the Word Out

While most individuals understand the need for permits, some are simply not aware that they may be required. Resolving compliance problems after a structure or project is underway or completed is costly and time-consuming. Periodic efforts to inform community officials of permit requirements can help reduce unauthorized activities.

A common means of informing the general public about the requirement for floodplain development permits is to include a floodplain clearance section on all building or zoning permit applications.

Some communities periodically place press releases in local newspapers to inform the community of the existence of floodplain management regulations and the need for permits. Others include a notice with monthly water or sewage bills to get the information directly in the hands of property owners.

Filing a Permit Application

Anyone wishing to develop in the floodplain must complete a permit application form, obtained from the local floodplain administrator, and submit it for approval before any development begins. Local floodplain boards evaluate the permit application

and vote whether to issue the development permit. Communities may adapt their existing permit systems to meet NFIP requirements. Regardless of the form used, the following information must be supplied on a permit application for floodplain development:

- A complete description of the proposed activity. Enough information must be included so that the local administrator can determine if the proposed activity will be safe from flooding or increase flood hazards elsewhere. At a minimum, plans should be drawn to scale, showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures; fill or storage of materials in drainage facilities; or any other landscape alterations.
- The National Geodetic Vertical Datum (NGVD) of 1929 elevation of the lowest floor (including the basement) of all proposed structures.
- The NGVD elevation to which any proposed nonresidential structures will be flood-proofed.
- The North American Vertical Datum (NAVD) of 1988 of the base flood.
- Certification by a registered professional engineer or architect that the flood-proofing method to be used meets NFIP criteria.
- Base Flood Elevation data for subdivision plats, where determined.
- A description of the extent to which a watercourse (stream, river, drainage ditch, etc.) will be altered or relocated.

All new construction and/or substantial improvement of nonresidential structures shall either have the lowest floor (including basement) elevated to or above the identified BFE or be designed so that the area below the BFE is watertight with walls that are substantially impermeable to water and are capable of withstanding hydrostatic and hydrodynamic pressures.

Encroachments—including fill, new construction, substantial improvements, substantial restoration and other development—are prohibited within an adopted regulatory floodway if it is determined that the encroachment would result in any increase in flood levels within the community during the 1% chance flood.

The concept of *development* goes beyond the traditional building permit. The development permit includes buildings as well as alterations to landscape (such as excavation or use of fill) that would affect drainage patterns or the flood carrying capacity of the watercourse.

A permit is required when building or enlarging a structure; placing a manufactured home; mining, dredging, filling, grading, paving, excavating, or drilling; or storing of equipment or materials within flood hazard areas. In other words, any structural or nonstructural activity that may affect flooding or flood damage must have a permit.

All structural projects, such as buildings, manufactured homes, storage facilities, dams, dikes, etc. need a permit. There is some latitude for nonstructural activities depending on their type, magnitude, and location. For example, a clearing or grading project that removes vegetation or pushes soil into the river may alter normal channel flow or increase flood

Review Permit Applications

Reviewing the permit application is the most important responsibility of the local administrator. Local administrators may use the Permit Review Checklist in the Floodplain Manager’s Guidebook to help them determine if the proposed project meets the criteria of the floodplain regulation. Several factors must be considered when reviewing permit applications that apply to all situations. In addition, depending on the location of a project, special considerations must be included in the review procedure. Items a local administrator must consider for all cases are outlined here:

1. Locate the development. The initial determination the local administrator must make is whether or not the proposed development would be in the special flood hazard area.
2. Classify the development. All new construction, substantial improvement, or restoration to substantially damaged residential structures shall have the lowest floor (including basement) elevated to or above the identified BFE. “Substantial damage” means damage of any origin sustained by a structure where the cost of restoring the structure to its previous condition would equal or exceed 50 percent of the market value of the structure before the damage. “Substantial improvement” means any reconstruction, rehabilitation, addition or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the start of construction of the improvement. This term includes structures that have incurred substantial damage, regardless of the actual repair work performed.

Floodplain Administrator Duties

NFIP regulations, in Section 59.22 (b) (1), require a local floodplain board to designate an official with the responsibility, authority, and means to implement the regulations they have adopted in compliance with the NFIP. The designation of a floodplain administrator is incorporated into the text of the local floodplain management regulation.

Fair and equitable administration is the key to a successful permit system. The person selected as the administrator should be technically qualified (with some knowledge of construction) and should understand the NFIP.

In small communities the position of floodplain administrator is often part-time and duties are added to the responsibilities of another official, such as the building inspector, zoning administrator, auditor, or clerk. The floodplain board must ensure that the floodplain administrator has the cooperation and support of all other community officials and departments in implementing floodplain regulations.

The floodplain administrator should assist and work closely with those seeking to develop within the floodplain throughout the process of completing the permit application. The floodplain board will determine whether the development permit should be issued or rejected.

Some specific duties of the local floodplain administrator include the following:

- maintain records;
- review permit applications;
- facilitate additional permits;
- interpret boundaries;
- notify neighbors and agencies;
- maintain carrying capacity;

- obtain Base Flood Elevation when not provided;
- regulate the floodway; and
- monitor and enforce compliance

Maintain Records

The floodplain administrator must keep the following records on file and open for public use:

1. A complete and up-to-date copy of the floodplain regulation, Flood Hazard Boundary Map (FHBM) or Flood Insurance Rate Map (FIRM), and the Flood Insurance Study (FIS). If a FIS has not been completed, the community should obtain and maintain the best flood hazard data available for the area and use it in regulating floodplain development.
2. NFIP regulations specifically require that communities establish and maintain the elevation of the lowest floor (including the basement) of all new or substantially improved structures in the Special Flood Hazard Area. For flood-proofed structures, the elevation to which they have been flood-proofed must be obtained and recorded. Local floodplain administrators must require developers to obtain a certificate of elevation.
3. A project file should be kept for each development permit application:

This file should contain:

- an assigned floodplain permit application number;
- a copy of the permit application;
- a copy of the permit and permit review checklist;
- copies of all pertinent correspondence relating to the project;

- documentation of inspections of the development;
 - base flood elevation data for subdivisions of five acres, 50 lots or larger; and
 - pre- and post-construction certification forms for flood-proofing and post-construction certification forms indicating the lowest floor elevation of all structures.
4. A file should be kept for Biennial Reports that must be submitted to FEMA every other year. The local floodplain administrator may want to keep the following information in this file:
 - copies of reports from previous years;
 - running total of permits granted in the flood hazard area;
 - maps of new annexations or other boundary changes (submit to FEMA);
 - census data; and
 - records of any major natural or man-made changes affecting flooding patterns.

The community's required Biennial Report will be easy to complete if this information is maintained and readily available.