

# Flood News for Michigan Floodplain Managers



A quarterly newsletter of the  
Land and Water Management Division  
Michigan Department of Environmental Quality  
[www.deq.state.mi.us/lwm](http://www.deq.state.mi.us/lwm)

Russell J. Harding, Director

John Engler, Governor

January 2002

## NEW FLOODPLAIN ELEVATION STANDARDS

(George Hosek, Land and Water Management Division,  
Michigan Department of Environmental Quality)

The requirement to elevate the lowest floor of structures built in floodplains to or above the base flood elevation (BFE) or 100-year flood elevation has been in effect for many years.

The minimum federal standard established by the National Flood Insurance Program (NFIP) requires the lowest floor, including basement, to be elevated to or above the 100-year flood elevation. The previously effective State Building Code carried a more restrictive standard requiring the "bottom of the lowest horizontal structural member supporting a floor to be at or above the 100-year flood elevation."

This building code standard applied only in communities that used the State Building Code. Communities using the Building Officials and Code Administrators (BOCA) Code only required the surface of the lowest floor, including basement, be at or above the 100-year flood elevation. The higher standard of the State Building Code resulted in structures having their lowest floor approximately one foot above the BFE. In addition to providing added protection against flood damage, this freeboard also reduced the cost of flood insurance on the structure. The problem with the State Building Code standard was that it caused confusion between builders and regulators as to what was the bottom of the lowest horizontal structure supporting a floor.

The new Michigan Building Code 2000 and Michigan Residential Code 2000 that took effect in all communities statewide on July 31, 2001, have a different elevation standard. This standard applies throughout the State without regard to whether or not a community is in the NFIP. This standard also exceeds the federal minimum standard and becomes the NFIP standard in Michigan.

The new elevation standard requires that the surface of the lowest floor shall be located one foot above the BFE, basement floor surfaces shall be located at or above the BFE. This ends the confusion surrounding the old standard but adds an additional requirement for those enforcing the codes, particularly in crawl space construction. Section R327.1.5 of the Michigan Residential Code states:

"Duct systems shall not be installed below the design flood elevation."

If forced air ducts are suspended from the floor joists in the crawl space, then the floor above the crawl space will have to be approximately two feet above the BFE to accommodate the heat duct requirement.

There are benefits to this requirement which accrue to the home purchaser. In addition to increased protection against flood damage, the cost of required flood insurance will be significantly reduced. The following chart illustrates the savings per year and over a 30-year period for the additional elevation for the purchase of \$100,000 of structural flood insurance coverage.

<u>Elevation of Lowest Floor Above BFE</u>	<u>Annual Premium</u>	<u>Cost Over 30-year Mortgage</u>
0 feet	\$372.50	\$11,175
1 foot	\$274.50	\$8,235
2 feet	\$215.00	\$6,450

If the surface of the floor was constructed only one foot above the BFE, a duct system installed below the floor joists would be in violation of the code. Moreover, their elevation would be used to establish the required flood insurance premium. When the heat ducts are one foot below the BFE, the annual premium for \$100,000 of structural coverage would be \$1243.50 or \$37,305 over the life of a 30-year mortgage.

It seems pretty straight-forward and cost effective—ELEVATE THE EXTRA FOOT!

## **ELEVATION CERTIFICATE WEB TRAINING**

(George Hosek, Land and Water Management Division,  
Michigan Department of Environmental Quality)

The Federal Emergency Management Agency's (FEMA's) Federal Insurance and Mitigation Administration (FIMA) have produced an Elevation Certificate (E.C.) Web-based Training Module for surveyors, engineers, and architects. While intended for those disciplines, it can provide valuable insights and training for local floodplain managers and building officials. The training module includes a video that briefly describes the process of establishing elevation points in order to complete the FEMA E.C.

The training module contains a section-by-section review of the E.C. and pictures of buildings that closely resemble each of the eight building diagrams. These examples provide clear instructions about where the elevations, applicable to the selected building diagram, should be taken.

The modules also include an electronic copy of the E.C. to provide surveyors the flexibility in completing the form digitally when they are in the field with a computer.

The training site can be accessed through the FEMA's homepage at: [www.fema.gov/nfip/](http://www.fema.gov/nfip/); then click on "surveyors" as the audience type.

The mandatory use of this E.C. began on October 1, 2000.

## **NEW REQUIRED INSPECTION FOR FLOODPLAIN CONSTRUCTION**

(George Hosek, Land and Water Management Division,  
Michigan Department of Environmental Quality)

The new Michigan Residential Code 2000 and Michigan Building Code 2000 have added a required inspection for building departments when the structure is located in a floodplain. This requirement is found in the Michigan Residential Code in Section R109, Inspections, and Section 109 of the Michigan Building Code.

The residential provision is quoted, as follows:

R109.1.3 Floodplain Inspections. For construction permitted in areas prone to flooding as established by table R301.2(1), upon placement of the lowest floor, including basement, and prior to further vertical construction, the building official shall require submission of a certification, prepared by a registered professional engineer or land surveyor, of the elevation of the lowest floor, including basement, required in Section R327.

This specific inspection requirement will help assure compliance with the code for floodplain construction and result in lower cost flood insurance for the building owner.

## **NEW DIRECTOR OF FEMA REGION V**

(Taken from the Illinois Association for Floodplain and Stormwater Management NEWS,  
Summer 2001 Issue)

Edward G. Buikema, Director of the Emergency Management Division of the Michigan State Police, has been appointed director of Region V for the FEMA. The FEMA's Region V is headquartered in Chicago, and oversees agency operations in Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin.

"Ed has worked closely with the FEMA for many years and will be able to hit the ground running as regional director," said FEMA Director Joe M. Allbaugh. "He has the knowledge of state needs and capabilities that will serve him well as my personal representative to the states in Region V."

In his position with the Michigan State Police, Buikema was responsible for the administration of the state's emergency management system and served as the state coordinating officer for presidential disaster declarations. Buikema has been an officer with the Michigan State Police for more than 25 years, with responsibilities ranging from law enforcement to public information to service as the Governor's representative at nine disasters.

Buikema holds a bachelor of art's degree in political science from Calvin College, in Grand Rapids, Michigan. He is also a graduate of the FBI National Academy, and has completed the FEMA's Professional Development Series of courses.

## **CERTIFIED FLOODPLAIN MANAGER EXAM TO BE OFFERED**

(George Hosek, Land and Water Management Division,  
Michigan Department of Environmental Quality)

Those wishing to take the nationwide Certified Floodplain Manager (CFM) examination are urged to register, pay the required fee, and start studying.

The exam will be offered the afternoon of April 11, 2002, which is the date of the Annual Conference of the Michigan Stormwater-Floodplain Association (Association). The conference and examination will be held at the Holiday Inn–West in Lansing.

You may register and get study material from the Association of State Floodplain Managers on-line at [www.floods.org](http://www.floods.org).

Remember, this is a national exam and is based on the minimum standards and regulations of the NFIP. In order to be admitted to the exam, you must have registered and paid your fees by March 28, 2002—no exceptions. No walk-ins allowed!

If you have any questions after visiting the Association's website, you may contact:

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### **CONFERENCE NOTICE**

The Annual Conference of the Michigan Stormwater-Floodplain Association is scheduled for April 11, 2002, at the Holiday Inn – West, in Lansing. Be sure to add it to your calendar today.

Conference details and registration information will be mailed in March.

### TECHNICAL BULLETIN

(George Hosek, Land and Water Management Division,  
Michigan Department of Environmental Quality)

The FEMA has released a new Technical Bulletin 11-01 titled “Crawl Space Construction for Buildings Located in Special Flood Hazard Areas.” It recognizes normal construction practices and, with some limitations, allows the interior grade of a crawl space to be up to two feet below exterior grade. Previously, the NFIP standard required the interior and exterior grade to be equal on at least one side of the structure located in a floodplain. If the interior grade was below the exterior grade on all sides of the structure, it was considered a basement and flood insurance regulations required using the crawl space floor for rating purposes. Moreover, it was considered a violation of the NFIP standards if the crawl space floor was below the 100-year flood elevation.

This Technical Bulletin will soon be available on the FEMA homepage. Please visit at [www.fema.gov/mit/technical](http://www.fema.gov/mit/technical); then click on “State and Local Officials,” then “Technical Bulletins,” and go to the bottom of the list.

### MEMBERSHIP RENEWAL TIME FOR MICHIGAN STORMWATER-FLOODPLAIN ASSOCIATION (MSFA)

(George Hosek, Land and Water Management Division,  
Michigan Department of Environmental Quality)

It’s time to renew your membership in the MSFA or join for the first time. The form is included with this issue of the newsletter, along with the registration form for the National Association of State Floodplain Managers (ASFPM). Chapter membership will not only reduce the cost of the Annual Conference, but will bring the additional benefits that go to Chapter members of the ASFPM. See ASFPM’s homepage at [www.flood.org](http://www.flood.org).

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