

Flood News for Michigan Floodplain Managers

A Newsletter of the
Water Resources Division
Michigan Department of Environmental Quality
www.michigan.gov/deq

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2011 1st Edition

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2011 MSFA Conference – A Success

The changed venue for the March 8-11, 2011, Michigan Stormwater-Floodplain Conference from Bay City to Dearborn following the MSFA's practice of holding the conference in different locations, was found to be another success. There were attendees representing community, state, and federal officials, consultants, and vendors for various specialty services and product areas related to floodplain and stormwater management.

Twenty-five main conference presentations were given, covering subjects related to flood insurance, NFIP community rating system, stormwater-floodplain simulation, stormwater treatment FEMA's Risk Management initiative, stormwater management funding, hazard mitigation grants, low impact development, hydrology modeling, stream design restoration, and watershed planning.

During breaks and evening networking sessions, attendees had the opportunity to meet and visit with consultants and vendors providing services and products directly related to floodplain and stormwater management. The following companies and agencies were very important supporters of the conference through their vendor presence, sponsorship, or both of the conference:

Advanced Drainage Systems, Inc. (Vendor)
Applied Polymer Systems (Vendor)
Applied Science, Inc. (Vendor and Sponsor)
CSI Geoturf (Vendor)
Interface H2O, LLC (Vendor)
Presray Corporation (Vendor)
Price and Company, Inc. (Vendor)
Smart Vent Flood Vents (Vendor)
Spalding DeDecker Associates, Inc. (Vendor)
Spicer Group, Inc. (Vendor and Sponsor)
Stantec Consulting Michigan, Inc. (Vendor and Sponsor)
Storm Trap, LLC (Vendor)
Tetra Tech (Sponsor)
Michigan Department of Environmental Quality (Vendor and Sponsor)
Federal Emergency Management Agency (Vendor and Sponsor)
NOAA, National Weather Service (Vendor)

U.S. Geological Survey Michigan Water Science Center (Vendor)

Two building code-related workshops, covering essential laws, codes, safety standards, floodplain management, and related regulatory requirements were provided. Continuing education credits were awarded to building inspectors in attendance.

A third workshop coordinated by the MSFA outreach committee provided for discussion and exchange of ideas about building public support for floodplain management. It was well attended and found to be very productive by the participants. A similar workshop is very likely to be scheduled for the 2012 conference.

A one-day refresher course on floodplain management and the NFIP was provided as a preparation opportunity for persons signed up to take the Association of State Floodplain Managers' Certified Floodplain Manager's (CFM®) exam during the conference. The refresher course was attended by 22 persons, and 12 persons sat for the exam the following day. Six persons were honored at the general membership meeting luncheon for successfully passing the CFM® exam at the prior year's conference held in Bay City:

Keith Baker, AICP, CFM, of the City of Midland, Midland County
Peter Elam, AICP, CFM, of the Charter Township of Plainfield, Kent County
David Foote, CFM, of the City of Midland, Midland County
Max George, P.S., CFM, of Fleis & Vandenbrink Engineering
Younes Ishraidi, P.E., CFM, of Meridian Township, Ingham County
Brian McManus, P.E., CFM, of the City of Midland, Midland County

The DoubleTree Hotel Dearborn facilities were very accommodating to the MSFA and its needs for the conference and next year's 25th annual conference is scheduled at the same location February 29 – March 2, with preconference sessions on Tuesday, Feb 28.



Left to right: **George Hosek**, CFM, MSFA Executive; **David Foote**, CFM, City of Midland, Midland County; **Brian McManus**, P.E., CFM, City of Midland, Midland County; **Keith Baker**, AICP, CFM, City of Midland, Midland County; **Peter Elam**, AICP, CFM, Charter Township of Plainfield, Kent County

QUICK FACTS

September 3, 2010

National Flood Insurance Program (as of June 30, 2010)

- ◆ Flood policies in force: 5,560,906
- ◆ Top 5 states: Florida 2,106,796 California 274,419
Texas 666,868 New Jersey 228,089
Louisiana 478,487
- ◆ Loss and Loss Adjustment Expenses to date in FY 2010: \$912 million
Loss and Loss Adjustment Expenses in FY 2009: \$3.5 billion
Loss and Loss Adjustment Expenses since 1969: \$40.1 billion
- ◆ Outstanding Treasury borrowing: \$18.75 billion as of August 31, 2010
Total Interest paid on borrowing: \$2.13 billion (since Hurricane Katrina)
Cash-on-hand: \$817 million on August 31, 2010
Most recent repayment: \$250 million on December 31, 2009
Most recent borrowing: \$75 million on March 31, 2009
- ◆ Flood insurance is available in 20,532 participating communities nationwide
Regular Program: 19,899 Emergency Program: 633
- ◆ There are 1,138 communities participating in the Community Rating System (CRS), accounting for 66 percent of policies in force. The number of communities for each level of discount follows:

224 ... 5%
474 .. 10%
262 .. 15%
115 .. 20%
55 .. 25%
4 .. 30%
1 .. 35%
2 .. 40%
1 .. 45%
- ◆ 92 Insurance Companies writing flood insurance.
- ◆ For fiscal years 2008 – 2010, \$119.6 million in grants were awarded to mitigate 649 severe repetitive loss properties.
- ◆ FY 2010 Financial Highlights (as of June 30, 2010):
Insurance in Force \$1,215,107,798,600 Number of Losses Paid 26,692
Written Premium \$3,241,509,795 Average Paid Loss \$22,783
Average Premium \$583
Average Coverage \$218,509

Healthy Homes Production Program

Department of Housing and Urban Development

Application deadline: June 9, 2011

This program provides support for coordinated efforts to address a variety of high-priority environmental health and safety hazards, including the identification and remediation of multiple housing-related diseases and injuries, with a focus on units or buildings where children and elderly reside. Priority will be given to efforts that integrate healthy homes principles and practices into existing housing *rehabilitation, property maintenance, weatherization, energy efficiency improvements, and other housing improvement programs.*



HAS YOUR FLOOD INSURANCE PREMIUM RECENTLY INCREASED?

By David Schien, FEMA Region V

FEMA and its National Flood Insurance Program (NFIP) partners are getting many calls and messages from flood insurance policy holders complaining about recent increases in their premiums; in many cases the premiums have increased dramatically. There are two principal reasons this may occur.

The first, and most typical, reason is a change in the mortgage lenders' internal lending policy, switching from requiring flood insurance only on the outstanding mortgage balance amount to actual cash value or replacement cost amount. Federally regulated and insured lenders are being encouraged to do this by their federal regulators (FDIC, Federal Reserve, Comptroller of the Currency, Fannie Mae, etc.), and FEMA supports this policy. However, it is not a FEMA rule or requirement. The law imposing the mandatory flood insurance requirement on federal mortgage

lenders states that the amount of flood insurance must be the lesser of the outstanding loan balance, the maximum amount of flood insurance available, or full/replacement value. However, lenders have the right to impose higher amounts of flood insurance as a matter of sound lending practice, as stated in the mortgage casualty insurance clause in the lien. Your loan officer or mortgage lender insurance department should be able to explain this fully.

The second reason is a recent map change designating the insured building to be in a higher flood hazard risk zone. Greater risk exposure naturally means higher premiums. However, under certain situations, flood insurance costs can be "grandfathered" based on the previous risk zone allowing for substantial savings. Your insurance professional should be able to determine your eligibility to be "grandfathered."



"LOMA Out as Shown" – A User's Guide

Reprinted from News & Views June 2010 Vol. 22, No. 3. A publication of the association of State Floodplain Managers (ASFPM)

At the recent Flood Insurance Committee meeting at the ASFPM's annual conference in Oklahoma City, one of the points of discussion was the LOMA – Out As Shown (LOMA-OAS). This column summarizes that discussion for those who were unable to attend.

A recent survey by the National Flood Determination Association (NFDA) of its members confirms what many of us have suspected since the beginning of the Map Modernization process: when new federal insurance rate maps [FIRMs] become effective, about the same number of structures are being taken out of the mapped floodplain as are being included within the floodplain.

Good news for some, not so good for others. There are many options for property owners who believe that they have been incorrectly mapped in the Special Flood Hazard Area (SFHA), but perhaps the most effective—and least utilized—is the LOMA-Out as Shown (LOMA-OAS).

As many local officials will tell you, even though they have more accurate data that demonstrates that a property is out of the SFHA, many lenders will only accept official documents from FEMA for purposes of lifting the mandatory flood insurance purchase requirement.

A traditional LOMA (form MT-EZ) is certainly an acceptable method, since it establishes the actual lowest adjacent grade around a structure and is certified by a Registered Land Surveyor. For many properties, however, the time and expense involved with a traditional LOMA is not necessary. If the property owner or the community has reliable documentation clearly demonstrating that the structure (or building site) lies outside of the SFHA, the LOMA-OAS is in most cases the quickest and cheapest way to remove the mandatory purchase requirement.

The LOMA-OAS is a document issued by FEMA that officially shows that a property and/or structure is not located in the SFHA. To obtain a LOMA-OAS, the applicant must submit mapping and survey data for the property, much of which is available from the municipality in which the property is located (e.g., the City Hall, County Courthouse).

Remember; only use this method if it is clear, visually, that the structure/building site is not in the SFHA.

Applying for a LOMA-OAS

To obtain a LOMA-OAS, the applicant must provide information to locate the property and/or structure on the FIRM. There is no fee for FEMA's review of a LOMA-OAS request, but the applicant is responsible for providing all of the information needed for FEMA's review.

The following items should be submitted in support of all LOMA-OAS applications.

1. A copy of a recorded plat map for the property or a copy of the recorded deed for the property and a copy of the local tax assessor's map of the neighborhood in question (or other map that shows property lines, local roads, and watercourses).
2. A completed MT-EZ application form with "out as shown" written at the top. This form is available on the FEMA website (<https://www.fema.gov/mt-ez-form-instructions>). Write in "OAS" after the word LOMA in the fourth box down from the top. In the next box down, answer question 1 as "No." Under question 2 write "See Attached." Under question 3 check the third box "A structure on your property? What is the date of construction?" and write "N/A LOMA-OAS" at the end of the question. Fill out the last box on page one of Section A. Write "OAS" after "Structure located on natural grade (LOMA)." Write "OAS" after "Legally recorded parcel of land or portion thereof (LOMA)." Fill out the rest of the form as appropriate.
3. A FIRMette, created at <http://www.msc.fema.gov>. For information on how to create one, click on "FIRMette Tutorial" at the bottom of the screen.

The issuance of a LOMA-OAS eliminates the federal flood insurance purchase REQUIREMENT as a condition of obtaining federal or federally backed financing. However, the mortgage lender retains the prerogative to require flood insurance as a condition of providing financing, regardless of the location of the structure. The

property owner also needs to be reminded that there is still a risk of the property's being flooded; it has been just reduced, NOT REMOVED.

If you have questions about the use of the LOMA-OAS form, you can call 1-800-FEMAMAP (877-336-2627). For an example of the easy procedures for completing a LOMA-OAS, we have placed on our Insurance Committee web page a copy of directions with illustrations that Steve Samuelson, CFM, and Alicia Benson (Kansas Department of Agriculture, Division of Water Resources) use to help applicants complete the form. If you have any comments that you would like to share about LOMA-OAS, please e-mail us at InsuranceCorner@floods.org.

—Your Humble Insurance Committee Co-Chairs

Gary Heinrichs and Bruce Bender

Posted by LISA JONES, CFM, Friday, June 18, 2010



FEMA ANNOUNCES COST SAVING FLOOD INSURANCE RATES IN NEWLY MAPPED FLOOD HAZARD AREAS

By Richard Roths

Property owners who are required by their lenders to purchase flood insurance due to new flood hazard identification in their area may be eligible for flood insurance discounts for the next two years. On Jan. 1, 2011, FEMA will introduce the Preferred Risk Policy (PRP) Extension, which is intended to offer savings to people with buildings in newly identified Special Flood Hazard Areas (SFHAs).

In July of 2010, the Acting Federal Insurance and Mitigation Administrator announced that FEMA would revise its Preferred Risk Policy (PRP) eligibility. On January 1, 2011, owners of buildings designated in a SFHAs dating back to Oct. 1, 2008, may be eligible for the lower cost PRP for two years following the effective date of the map change.

Several factors prompted FEMA to offer a reduced rate flood policy for a short term, one of which is the country's poor economic conditions. Other factors include a large number of counties nationwide receiving new flood hazard maps within a short time period, expanding floodplains due to de-accredited levees, and natural geographic changes that have resulted in new Base Flood Elevations and increased flood risk.

This means that property owners and renters who were formerly exempt from the mandatory flood insurance purchase requirements imposed by lenders may now be required to have flood insurance in place. The Preferred Risk Policy Extension eases the financial burden on affected property owners and allows them time to understand and plan for the financial implications of the requirement, while providing a lower cost policy for up to two years.

How Does the PRP Extension Work?

If a new Flood Insurance Rate Map (FIRM) is adopted by a community between Oct. 1, 2008, and Jan. 1, 2011, structures that were moved from a B, C, or X zone into an A or AE zone due to the map revision may be eligible for a PRP policy. Those who qualify and purchase a new policy in 2011 or renew a policy after January 1, 2011, can obtain a PRP Extension policy for two years. Once the two years are over, the determination for rating the policy will be based on the zone in which it was rated prior to the PRP Extension. The PRP Extension will also be available to participating communities undergoing map updates after January 1, 2011.

The Preferred Risk Policy Extension should not be confused with the existing Preferred Risk Policy that is available only in B, C, or X zones to properties that have a very limited number of insurance claims or disaster assistance applications. Policyholders in the B, C, and X zones are not required to purchase flood insurance and can select the amount of coverage that best fits their needs. Whereas, federally insured or regulated lenders will require specific flood coverage that meet or exceed the mandatory purchase regulations spelled out in the Flood Disaster Protection Act of 1973 and amended by the National Flood Insurance Reform Act of 1994.

To determine whether a property is eligible for the PRP Extension, the underwriting insurance company or agent must verify the loss history of the building, identify the building on current and previous flood maps, and maintain documentation of the flood risk zone before and after the map change. FEMA is working with lenders and insurance providers to facilitate the implementation of the program.

How Do Local Officials Fit Into This Picture?

While many insurance providers will use the digital FIRMs available from the Map Information Exchange or use flood hazard determination FIRMs to determine flood zones' before and after map changes, others may direct their clients to go to their local communities to obtain the information needed to verify eligibility. Information can include:

- Requests for copies of Letters of Map Amendment (LOMAs), Letters of Map

Revision (LOMRs) and Letters of Determination Review (LODRs);

- Copies of the flood map with the property clearly marked;
- A community letter, indicating the policyholder's address and appropriate map information; or
- Copies of completed Elevation Certificates.

If the community provides a written response, it must:

- Be on community or department letterhead;
- Include name of property owner and property address;
- Include the type of building;
- Include the prior flood zone, prior map date and prior community number, and the map panel number and suffix; and
- Include the name and title of the official writing the letter, including signature, date signed, and contact information.

For additional information regarding the Preferred Risk Policy Extension, use the search engine on your computer and go to <http://www.floodsmart.gov>; type "Preferred Risk Policy Extension" in the search box in the upper right-hand corner of the page. If you have additional questions, you can also contact your National Flood Insurance Program (NFIP) State Coordinator's office, FEMA Region V Floodplain Management and Insurance Branch, or the NFIP Regional Program Manager's office at (312) 596-6728



Flood Insurance is a **Good** Thing CRS Communities can Encourage Purchase of Policies



By: Gary Heinrichs and Bruce Bender
Co-Chairs of the ASFPM Insurance Committee

Editor's Note: Communities that participate in the CRS can receive credit points for promoting flood insurance, but that's not the most important reason for supporting the purchase and maintenance of building and contents coverage. This article, excerpted from one that appeared in the Association of State Floodplain Managers' News & Views, reiterates the rationale for making flood insurance a priority in any community's flood mitigation approach.

Self-reliant, sustainable communities know that flood insurance is the only vehicle guaranteed to assure a smooth and complete recovery from a damaging flood. Experience has shown that an insured community recovers more quickly and more thoroughly than it would if no insurance were in place. Consider that:

- People without the needed financial resources may not be able to make full repairs to their homes after a flood and may move back into an unsafe or unsanitary structure – if they move back at all. In either circumstance, neighborhoods can be prone to deterioration over time, which tends to result in social problems and also undermines the tax base.
- One of out every four damaged businesses does not re-open after a disaster, because they are not financially prepared to do so, according to the Institute of Business and Home Safety. Business closures reverberate through the local economy and the community, as jobs are lost, tax revenues decline, and consumer spending is disrupted.
- Very few floods are declared federal disasters. No declaration means no federal grants, loans, or temporary housing funds for the people or for the local government. And even in the few cases in which there is a disaster declaration, the vast majority of federal assistance to households comes in the form of small, restricted grants and disaster loans.

The good news is that flood insurance can remedy these situations. Renters and homeowners with building and/or contents coverage are assured of quick financial help to recover and to repair or rebuild. Businesses with the proper flood insurance coverage can repair, reopen, and put their employees back to work faster. Further, insured properties are eligible for Increased Cost of Compliance (ICC) payments – an additional source of funding that helps in local redevelopment. All of these circumstances generate a sense of well-being and positive outlook in a flood-damaged community.

Local officials can help their communities get ready for the next flood by making flood insurance a high priority. Here are some ideas:

- Promote the advantages of flood insurance in town newsletter articles, public service announcements, town events, and other outreach projects.
- When residents apply for permits for projects in the floodplain, remind them that their homeowners' policy does not cover flooding, but they can purchase it through their own insurance agent.

- Check the amount—and distribution—of flood insurance coverage in your community to see if some areas need to be targeted for receiving additional information. (CRS communities get a list of local flood insurance policies from FEMA once every year).
- Supply elevation certificates from your building permit files to insurance agents, real estate agents, and property owners.
- Let the insurance agents in your community know that training in flood insurance is available. Better yet, arrange training sessions for them.
- Don't forget to explain the Preferred Risk Policy in all your promotional work.
- Buy flood insurance for community-owned buildings. This sets a good example and also ensures that the community will have financial resources for repair and rebuilding. Remember, even if a federal disaster is declared, the amount of assistance provided for flood-damaged public property will be reduced by the amount of insurance coverage the community should have had.

Article reprinted from the NFIP/CRS Update August - September 2010 [excerpted from ASFPM's News & Views 22(5) 2010, pp. 8-9]

Statement of Purpose

The NFIP/CRS Update is a publication of the National Flood Insurance Program's Community Rating System. Its purpose is to provide local officials and others interested in the CRS with news they can use.

The NFIP/CRS Update is produced in alternate months. It is distributed electronically, at no cost, to local and state officials, consultants, and others who want to be on the mailing list. Communities are encouraged to copy and/or circulate the NFIP/CRS Update and to reprint its articles in their own local, state, or regional newsletters. No special permission is needed.

To become a subscriber or to suggest a topic that you would like addressed, contact
 NFIP/CRS Update, P.O. Box 501016, Indianapolis, IN 46250-1016
 (317) 848-2898 fax: (201) 748-1936 NFIPCRS@iso.com



NGVD vs NAVD?

March 30, 2007

From FEMA library website

Regulatory floodplains are defined by the elevation of the base flood in relation to the elevation of the ground. Base flood elevations are used to determine the required elevation of new buildings in the floodplain. Floodplain management will not succeed without accurate measurements of flood elevations, ground elevations, and building elevations. Needless to say, if flood elevations are based on one system and ground or building elevations are based on another, things won't work.

"NGVD 29" stands for National Geodetic Vertical Datum of 1929. It is a system that has been used by surveyors and engineers for most of the 20th century. It has been the basis for relating ground and flood elevations, but it has been replaced by the more accurate North American Vertical Datum of 1988 (NAVD 88). Because it has such an impact on floodplain management, it is important for local officials to understand what's happening.

First, what is a datum? If we say that a flood will rise to 100 feet, one must ask, “100 feet above what?” The starting point for measuring elevations is our datum. We need a consistent starting point so we can compare flood and ground elevations. In most cases we mean “above sea level.” But some inland communities’ elevation records were developed in relation to some other starting point. For example, Chicago City Datum started from the level of Lake Michigan.

The National Geodetic Survey (NGS), the government people responsible for mapping, needed a common, consistent national datum to map the whole country. During the 1920s, NGS established a network of 26 tidal gauges in the United States and Canada. Maps were prepared with elevations based on “mean Sea Level Datum of 1929.” In the 1970’s, the name was changed to the National Geodetic Vertical Datum (NGVD) of 1929.

One of the reasons for the name change was that it was found that the sea is actually not level. There are local variations caused by currents, wind, barometric pressures, temperature, topography of the sea bed, and salinity differences. NGS ran more surveys around the country and had trouble making the numbers fit, because mean sea level at one location was higher or lower than mean sea level elsewhere. This leveling work also found that ground elevations had risen or fallen due to earthquakes, subsidence, and rebounding of the earth that has continued since the glaciers left. New satellite technology has discovered distortions in surveyed elevations caused by gravity. Because of these shortcomings, the NGS has established a new system to base elevation measurements. The North American Vertical Datum of 1988 corrects many of the problems with NGVD 29. It is also based on satellite systems that account for differences in gravitational forces in different areas.

Effective floodplain management depends on accurate surveying. One can readily convert elevations in one datum to those based on another. For example, zero in the Chicago City Datum is 579.48 feet above zero (“mean sea level”) in NGVD 29. If one tries to compare a ground elevation in CCD to a flood elevation in NGVD 29, the 579 foot difference will make it readily apparent that

something is off. A simple formula can convert elevations from one datum to the other.



It’s not so easy converting to NAVD 88, though. The North American Vertical Datum is the product of thousands of corrections in elevation data. In the Rocky Mountains (where gravitational forces caused a lot of distortion to traditional surveys), the difference can be three feet or more. In other areas, the difference may be inches. It takes a computer program called VERTCON to relate the two systems at any one point. However, it must be noted that VERTCON 2.0 is not to be considered reliable beyond the boundaries of the lower 48 United States.

Up until recently, most FEMA Flood Insurance Rate Maps used NGVD 29. However, FEMA’s new maps are now using NAVD 88 as the basis for published flood elevations. If local surveyors or your community have not made the switch, errors will arise unless elevations in NGVD 29 or a local datum are converted to NAVD 88.

What is most important is that the same datum be used consistently. Since the base flood elevations used by the NFIP are on the FIRM, the FIRM datum must be used for the FEMA Elevation Certificate, LOMAs, LOMRs and other insurance-related purposes. Accurate elevation surveying starts from a dependable elevation reference mark.

A community and the surveyors in the community may normally use NAVD 88 for most purposes, but if the community’s FIRM uses NGVD 29, then NGVD 29 must be used for all flood, ground, and

building elevations on Elevation Certificates and other NFIP applications.

It is basically the responsibility of the professional surveyor, engineer, or architect to use the appropriate datum on FEMA documents. However, the community must be aware of the potential for errors if the datums are mixed. You don't need to know the conversion factor between two datums, but you do need to ensure that the same datum is used for all elevations on the same document. In time, that datum will be NAVD 88 for just about

every community. Meanwhile, local officials should review their bench marks and other elevation reference marks to ensure that they state which datum they reference and that they are consistent with any code requirements.

For more information on datums and their use in FEMA, Elevation Certificates must have flood, ground, and building elevations based on the same datum mapping. See <https://www.fema.gov/engineers-surveyors-and-architects-frequently-asked-questions>

U.S. DEPARTMENT OF HOMELAND SECURITY
Federal Emergency Management Agency
National Flood Insurance Program

ELEVATION CERTIFICATE

OMB No. 1563-0008
Expires February 28, 2008

Important: Read the instructions on pages 1-8.

SECTION A - PROPERTY INFORMATION

A1. Building Owner's Name: William Smith For Insurance Company Use
Policy Number

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 3802 Woodbridge Road Company NAIC Number

City: Floodville State: ST ZIP Code: 98765

A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.):
Lot 2, Block 4, Foster Creek Addition

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.): Residential

A5. Latitude/Longitude: Lat. _____ Long. _____ Horizontal Datum: NAD 1983 NAD 1983

A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.

A7. Building Diagram Number: 1

A8. For a building with a crawl space or enclosure(s), provide:
a) Square footage of crawl space or enclosure(s) _____ sq ft
b) No. of permanent flood openings in the crawl space or enclosure(s) walls within 1.0 foot above adjacent grade _____ sq ft
c) Total net area of flood openings in A8.b) _____ sq ft

A9. For a building with an attached garage, provide:
a) Square footage of attached garage _____ sq ft
b) No. of permanent flood openings in the attached garage walls within 1.0 foot above adjacent grade _____ sq ft
c) Total net area of flood openings in A8.b) _____ sq ft

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. ZIP Community Name & Community Number: Floodville 123456 B2. County Name: Isler B3. State: ST

B4. Map/FIRM Number: <u>123456 0001</u>	B5. Date: <u>B</u>	B6. FIRM Issue Date: <u>5/15/00</u>	B7. FIRM Flood Effective/Revised Date: <u>5/15/00</u>	B8. Flood Zone(s): <u>A15</u>	B9. Base Flood Elevation(s) (Date AG, use base flood depth): <u>1142.8</u>
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B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in item B9.
 FIRM Profile FIRM Community Colored Other (Describe)

B11. Indicate elevation datum used for BFE in item B9: NAVD 1988 NAVD 1983 Other (Describe)

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Other Special Protected Area (OSPAA)?
Designated Date: _____ CBRS OSPAA Yes No

SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: Construction Drawings* Building Under Construction* Finished Construction
*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations - Zones A1-A30, AE, AH, & (with SFE), VE, V1-V98, V (with SFE), AR, AR3, AR30, AR31-A30, AR31, AR30. Complete items C3-e-g below according to the building diagram specified in item A7.
Benchmark (if used): NA83 14-21 Vertical Datum: ANGVD 29

Comments/Remarks: AGL

Check the measurement used.

a) Top of bottom floor (including basement, crawl space, or enclosure floor)	<u>1145</u>	<input checked="" type="checkbox"/> 1st	<input type="checkbox"/> meters (Photo: Rice only)
b) Top of the next higher floor	<u>AGL</u>	<input type="checkbox"/> 1st	<input type="checkbox"/> meters (Photo: Rice only)
c) Bottom of the lowest horizontal structural member (V Zones only)	<u>AGL</u>	<input type="checkbox"/> 1st	<input type="checkbox"/> meters (Photo: Rice only)
d) Attached garage (top of wall)	<u>1150</u>	<input checked="" type="checkbox"/> 1st	<input type="checkbox"/> meters (Photo: Rice only)
e) Lowest elevation of machinery or equipment serving the building (Describe type of equipment in Comments)	<u>1148</u>	<input checked="" type="checkbox"/> 1st	<input type="checkbox"/> meters (Photo: Rice only)
f) Lowest adjacent (finished) grade (LAG)	<u>1144</u>	<input checked="" type="checkbox"/> 1st	<input type="checkbox"/> meters (Photo: Rice only)
g) Highest adjacent (finished) grade (HAG)	<u>1142.8</u>	<input checked="" type="checkbox"/> 1st	<input type="checkbox"/> meters (Photo: Rice only)

SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information. I certify that the information on this Certificate represents my best efforts to inspect the site accurately, understand that any false statement may be punishable by the or imprisonment under 18 U.S. Code, Section 1001:

Check here if comments are provided on back of form.

Certifier's Name: N.G. Nears License Number: 70501

Title: Registered Land Surveyor Company Name: Nears & Co.

Address: 4305 W. St. Paul City: Floodville State: ST ZIP Code: 98765

Signature: N.G. Nears Date: 8/1/04 Telephone: 101/555-0204



FEMA Form 81-21, February 2008 See reverse side for continuation. Replaces all previous editions.

Questions and Answers

Q. Are parking garages/structures insurable structures under the NFIP? Case in point: structure has partial walls and services a convention center.

A: Assuming this is a typical parking structure that is open on first floor at grade with support pillars or “walls”:

An insurable structure (building) as defined by the NFIP as having two or more outside rigid walls, and a fully secured roof that is affixed to a permanent site. If there are not two or more outside rigid walls, the structure is not insurable. We do not define whether the walls must reach from the roof to the ground (two or more ‘partial’ outside rigid walls may qualify if otherwise eligible).

Additionally, the building must resist flotation, collapse, and lateral movement, and at least 51 percent of the actual cash value of the building, including machinery and equipment, which are part of the building, must be above ground level (unless the lowest level is at or above BFE, and is below ground by reason of earth having been used as insulation material in conjunction with energy efficient building techniques).

Joe Cecil
Insurance Examiner
DHS/FEMA
Mitigation Directorate

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1800 South Bell St. Rm 523
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Q: How much staffing, budgeting, and administrative work does NFIP participation require of a community?

A: First of all, there is no fee at all for a community to submit to FEMA for enrollment and participation in the National Flood Insurance Program (NFIP).

Once a community begins to consider enrollment, the above question is a very legitimate question for a community to evaluate and determine. It is not a question that can be easily responded to with hard and fast expenditure quotes and rates that would apply to each and every community. Real costs depend upon many factors that can be difficult to clearly define and assign costs to.

Following are minimum NFIP requirements which a participating community will need to be able to ensure it is compliant with to FEMA. These requirements are broken down into four program areas. They can be reviewed and used to assist the community in evaluating real costs for NFIP participation. Some, if not many, of the items which are task-oriented may already be funded items under planning, zoning, and construction code programs currently being administered in the community. Others may not be and would need additional fund allocation consideration.

Program Area I: Enabling Authority and Community Commitment

Community must have:

1. Enabling statutory authority to regulate land use.
2. Enabling authority to manage and regulate floodplain building development through the state construction code.
3. A designated enforcing agent (building Inspector) to administer the state construction code.
4. A designated floodplain manager or similar position responsible for monitoring/managing all floodplain related development activities.

5. Adopted current effective Federal Emergency Management Agency (FEMA) flood maps and the enforcing agent uses them to identify flood hazard prone areas to determine proper application of floodplain development criteria; or
6. If FEMA flood maps are not available, utilize flood elevation data from other federal, state, or other sources to identify flood hazard-prone areas to know what development must have floodplain development criteria applied.
7. An up-to-date floodplain ordinance to identify new FEMA Flood Insurance Studies and new flood maps prior to whenever they become effective.
8. Enforcement authority for its regulations effecting floodplain development.
9. A consolidated/coordinated property development permit review process established so related programs (e.g. building, planning and zoning) have opportunity to review all development proposals for their respective program regulatory jurisdictions.

Program Area II: Administrative/Staffing Support

Community must have:

1. An administrator familiar with the community land use and zoning regulations and the state construction code.
2. An administrator as a point of contact for citizens needing information, guidance, and explanation about property development issues related to their parcels and structures.
3. A state construction code enforcing agent responsible for enforcing the state construction code.
4. An established construction/development review permitting program (e.g. building/zoning permits) where some type of process exists in which floodplain impact concerns are reviewed and applicable construction criteria are appropriately applied by an approval/permitting action.
5. An administrator that reviews all proposed construction/development (defined by the NFIP, CFR 44, Part 59.1 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, or drilling operations or storage of equipment or materials) to determine whether such development is proposed within flood-prone areas identified by effective FEMA flood maps or any other best available floodplain data.
6. Notify FEMA of any increase or decrease resulting from physical changes affecting flooding conditions by submitting technical or scientific data. This should be done as soon as practicable, but not later than six months after the date such information becomes available.

Program Area III: Permitting

The community must:

1. Have a community official, i.e. floodplain manager, zoning/planning official, or building inspector, review all proposed construction/development (defined by the NFIP, CFR 44, Part 59.1 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, or drilling operations or storage of equipment or materials) to determine whether such development is proposed within a flood-prone area identified by effective FEMA flood maps or any other best available floodplain data.
2. Ensure that all state construction code permit applications are reviewed for building locations to determine whether the proposed buildings are located in a flood hazard prone area and whether they will be reasonably safe from flooding.

3. Not issue a permit for floodplain construction without first receiving an MDEQ floodplain permit or notice of no state floodplain authority.
4. For all proposed structural construction determined to be located in a flood hazard prone area, the state construction code agent shall require compliance with all applicable flood resistant construction criteria of the effective state construction code (Michigan Residential Code, the Michigan Building Code, and the American Society of Civil Engineers "Flood Resistant Design and Construction" standards), especially requiring compliance with, but not limited to, the following as applicable:
 - Lowest floor elevation requirements confirmed with elevation certificates.
 - Floodproofing requirements.
 - Flood resistant materials usage.
 - Crawl space venting and grade elevation requirements confirmed with elevation certificates.
5. Address substantial improvement and damage in its application of the state construction code to all building construction especially during post flood disaster actions.

Program Area IV: Record Keeping and Public Information

The community must:

1. Make current effective FEMA flood maps available for public viewing at an identified community office during regular business hours.
2. Have an established central file system to accurately and thoroughly maintain records on each flood hazard-prone parcel and its structures and future developments as they are proposed and reviewed.
3. Maintain a file on each structure/parcel located in identified high risk floodplain areas.
4. Each file must contain an elevation certificate for its existing structures.
5. Each file must contain copies of any governmental (federal, state, or local) permits, denials, or letters of no jurisdiction for development on the parcel.
6. Letters of map changes issued by FEMA need to be filed in the respective files.



CHAPTER MEMBERSHIP MICHIGAN STORMWATER-FLOODPLAIN ASSOCIATION MEMBERSHIP FORM

Name _____ Representing _____
 Address _____ City/State/Zip _____
 Telephone () _____ E-mail _____ New ____ Renewal ____

MICHIGAN STORMWATER-FLOODPLAIN ASSOCIATION CHAPTER RENEWAL = \$35.00 per calendar year.
 Please complete this portion for state association membership. The state association has no provision for accepting credit cards. Questions may be directed to Roger S. Clark, MSFA Treasurer, 517-853-0221 or msfatreas@yahoo.com . Please mail this form and your check to P.O. Box 14265, Lansing, MI 48901-4265.

<p>Editor: Les Thomas Articles are by the Editor unless noted otherwise.</p> <p>For questions, comments, or information, contact:</p> <p>Les Thomas MDEQ WRD P.O. Box 30458 Lansing, MI 48909-7958 Telephone: 517-335-3448 Fax: 517-373-6917 e-mail: thomasl@michigan.gov</p>	<p>The MDEQ will not discriminate against any individual or group on the basis of race, sex, religion, age, national origin, color, marital status, disability, or political beliefs. Questions or concerns should be directed to:</p> <p>MDEQ Office of Personnel Services P.O. Box 30473 Lansing, MI 48909</p>	<p>This newsletter is supported by funding under a Cooperative Agreement with the Federal Emergency Management Agency. The substance and findings are dedicated to the public. The MDEQ, WRD, is solely responsible for the accuracy of the statements and interpretations contained in this publication. Such interpretations do not necessarily reflect the views of the federal government.</p>	<p>Printed by Authority of Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.</p> <table style="width: 100%; border: none;"> <tr> <td>Total Number of Copies</td> <td></td> </tr> <tr> <td>Printed</td> <td style="text-align: right;">3,000</td> </tr> <tr> <td>Cost Per Copy:</td> <td style="text-align: right;">\$.95</td> </tr> <tr> <td>Total Cost:</td> <td style="text-align: right;">\$2,860.64</td> </tr> </table> <p style="text-align: right;">EQC2760</p>	Total Number of Copies		Printed	3,000	Cost Per Copy:	\$.95	Total Cost:	\$2,860.64
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Flood News for Michigan Floodplain Managers

**A Newsletter of the
Water Resources Division
Michigan Department of Environmental Quality**