

# Flood News for Michigan Floodplain Managers

A Newsletter of the  
Land and Water Management Division  
Michigan Department of Environmental Quality  
[www.michigan.gov/deq](http://www.michigan.gov/deq)

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# Michigan Stormwater-Floodplain Association

## 21<sup>st</sup> Annual Conference

*March 18-19, 2008 CFM Refresher & Exam  
March 19-21, 2008 Main Conference Program*

at

the Amway Grand Plaza Hotel  
Grand Rapids, Michigan

### Program Highlights

Continuing Education Credits  
Certified Floodplain Manager (CFM) Refresher Day  
CFM Certification Exam  
Flood Mitigation/Emergency Management  
Flood Mitigation Grant Info  
FEMA's Map Mod Update  
FEMA's Community Rating System (CRS)  
CRS Individual Consultation Sessions  
New CRS Community Perspective  
Rain Garden Concepts & Technology  
Floodplain Management 101 Workshop  
SEMCOG Stormwater Workshop  
Dam Removal Case Study  
Grand Rapids WWTP/Floodplain Case Study  
Flint Floodplain Management Case Study  
Flood Insurance Information  
MSFA Annual Business Meeting & Awards Banquet  
Exhibitor's Area and Receptions

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## Federal Flood Insurance Now Available in Three Communities

The Village of Mendon in St. Joseph County and the Townships of Genoa in Livingston County and Jefferson in Cass County have joined over 20,000 communities nationwide and over 750 communities in Michigan that are allowed to purchase federally backed flood insurance. This availability follows the communities' adoption and enforcement of ordinances to reduce flood losses and acceptance by the National Flood Insurance Program (NFIP).

The effective enrollment dates for the communities are:

Village of Mendon – July 6, 2007

Jefferson Township – June 21, 2007

Genoa Township – July 12, 2007

All three communities have been enrolled into the Emergency Phase of the NFIP allowing their citizens the opportunity to obtain flood insurance protection for single-family dwelling building

coverage of up to \$35,000 and contents coverage of up to \$10,000. Renters can also protect their belongings by purchasing contents coverage. For commercial properties, the building and contents coverage limits or both \$100,000. Higher limits of coverage will be available after the initial Emergency Phase and once the communities are transferred to the Regular Phase (when FEMA Flood Insurance Rate Maps become effective).

Lenders must require borrowers whose properties are located in a designated flood hazard area to purchase flood insurance as a condition of receiving a federally backed mortgage loan in accordance with the Federal Disaster Protection Act of 1973.

The NFIP is implemented through the Federal Emergency Management Agency. There are over 4 million flood insurance policies in more than 20,000 participating communities nationwide.

## SUBDIVISION AND CONDOMINIUM FLOODPLAIN REGULATORY AUTHORITY

By: Mario Fusco, Jr., and Roger S. Clark, MDEQ, LWMD,  
Subdivision Floodplain Program

You are a young engineer working for a consulting company, and a developer just stopped by your office. He looks very concerned, and he tells you he just bought a parcel of land that he plans to develop. He told you he made a very good deal for this piece of land, but now he has stopped by the township office and was told by the building official that the land may be in the river floodplain. He adds, the building official also said there is no FEMA Flood Insurance Map for the area, but he knows for a fact the area has been flooded periodically in the past, so he should check with the Michigan Department of Environmental Quality (MDEQ).

The building official also told him there are different sets of regulations if he was going to develop the land as a condominium or as a subdivision and, either way, no building permit could be issued without a state permit for any occupation of the floodplain. All of this is new for this developer, and he is very confused. It is the first time he has heard of floodplain, and he has no experience in dealing with the MDEQ. Now he is afraid of losing his investment. What a mess!

Does this situation sound familiar? He needs help, and he needs it now! You are his last hope. He would like to know if the land can be developed, and if so, he wants to learn more about the different regulations regarding condominiums and subdivisions before making his decision on which way to develop the land. The rewards of knowing what to tell him are immense. You can earn his trust, and your company maybe awarded with the engineering plans and the construction for the project. You cannot let your boss down. Do you know what to tell him? If you do, there is no need to read further. Pat yourself in the shoulder. If you don't, don't feel bad; you are not alone, and this article may have just been written to you.

## ***SUBDIVISION DEVELOPMENTS***

The development of subdivisions is regulated by the Land Division Act, Act 288 of 1967, as amended, commonly known as the Land Division Act or the Plat Act. Before a subdivision final plat is approved and recorded, the Act requires that the subdivision get preliminary plat approvals. The authority of the MDEQ is well defined in the Act in Sections 105, 116, and 117.

Section 105 of the Act states that the approval of a preliminary plat or final plat shall be conditioned upon compliance with, among others, the rules of the MDEQ for the determination and establishment of floodplain areas of rivers, streams, creeks, or lakes, as provided in this Act and as published in the State Administrative Code.

Section 116 states that copies of the preliminary plat shall be submitted to the MDEQ for information purposes, if the land proposed to be subdivided abuts a lake or stream or abuts an existing or proposed channel or lagoon affording access to a lake or stream where public rights may be affected. Section 116 also sets the time frame for response if the MDEQ has any objection or may furnish information to the proprietor, the governing body of the municipality, and the county plat board that may be helpful or necessary in its opinion to adequately plan the development and secure approval of the final plat.

Section 117 states that copies of the preliminary plat must be submitted to the MDEQ if any of the subdivision lies wholly or in part within the floodplain of a river, stream, creek, or lake. The MDEQ then within 30 days shall approve it, approve it subject to conditions, or reject it. Section 117(2) sets the fee of \$500 to cover administrative cost of the MDEQ's preliminary plat review and the additional charge of \$1,500, if the MDEQ determines that engineering computations are necessary to establish the limits of the floodplain on a preliminary plat.

The MDEQ rules for subdivisions limit the department authority to projects within a floodplain of a lake with surface area greater than 5 acres or within the floodplain of a watercourse with a drainage area greater than 2 square miles. Rule 560.302 prescribes field survey data required before submittal of a preliminary plat, and Rule 560.303 prescribes the methods to be used to define the floodplain limits on lakes and watercourses. Rule 560.303 also lists the approved federal flood insurance floodplain delineation reports that are adopted by reference in this rule. (Caution: the list in the rules is out of date and should not be used for determining a governmental unit participation in the National Flood Insurance Program (NFIP) or the existence of maps.)

What if a project lies within a floodplain of a watercourse or lake that has not had its floodplain delineation report approved by the MDEQ? Subrule 560.303(3) states that a qualified professional who is licensed in this state and who is practicing in the area of his or her expertise shall determine the 100-year floodplain using acceptable engineering practice, and that determination is subject to review and approval by the MDEQ.

Finally, Rule 560.304 prescribes the minimum standards for a new development for residential purposes and occupancy within or affected by a floodplain.

Subrule 304(2) states a proprietor shall file and record with the final plat restrictive deed covenants that state, in perpetuity, that no filling or occupation of the floodplain area will be allowed without approval of the Department of Environmental Quality and that any building used or capable of being used for residential purposes and occupancy within or affected by the floodplain shall comply with all of the requirements:

- 1) Be located on a lot having a minimum buildable site of 3,000 square feet of its area at its natural grade above the elevation of the line defining the floodplain limits. The buildable site shall exclude all setbacks and easements.
- 2) Be served by streets within the proposed subdivision having surfaces not lower than 1 foot below the elevation defining the floodplain limits.

- 3) Have lower floors, excluding basements, not lower than the elevation defining the floodplain limits.
- 4) Have openings into the basement not lower than the elevation defining the floodplain limits.
- 5) Have basement walls and floors, if below the elevation defining the floodplain limits, that are watertight and designed to withstand hydrostatic pressures from a water level equal to the elevation of the contour defining the floodplain limits following methods and procedures outlined in chapter 5 for type A construction and chapter 6 for class 1 loads found in the publication entitled "Flood Proofing Regulations", EP 1165 2 314, prepared by the Office of the Chief of Engineers, United States Army, Washington, DC, December 1995.
- 6) Be equipped with a positive means of preventing sewer backup from sewer lines and drains that serve the building.
- 7) Be properly anchored or weighted to prevent flotation.

## **DEQ RULES**

You must be wondering about 3,000 square feet being a small area. But what happens if a lot does not have this minimum buildable area or if the area above the floodplain elevation is not the optimal location for the building envelope? What can we do? Subrule 304(3) states that this requirement may be waived if the building site is to be filled according to the requirements of section 194 (c) of the Land Act and the requirements of Part 31, Water Resources, Part 301 Inland Lakes and Streams, and Part 303, Wetland Protections of the Natural Resources and Protection Act, Act 451 of 1994, as amended, where applicable conditions are met and one of the following occurs:

- 1) The lowest floor, including basement, will be constructed above the 100-year elevation.
- 2) A licensed professional engineer schooled in the science of soil mechanics states all of the following:
  - a) That the building site has been filled with soil of a type and in a manner that hydrostatic pressures are not exerted upon the basement walls or floor while the watercourse is at or below the 100-year flood elevation.
  - b) That the placement of the fill will prevent settling of the building or buckling of floors or walls.
  - c) That the building is equipped with a positive means of preventing sewer backup from sewer lines and drains that serve the building.
- 3) A licensed professional engineer or architect certifies all of the following:
  - a) That the basement walls and floors are designed to be watertight and to withstand hydrostatic pressure from a water level equal to the 100-year flood elevation.
  - b) That the building is properly anchored or weighted to prevent flotation.
  - c) That the building is equipped with positive means of preventing sewer backup from sewer lines and drains that serve the building.

Finally, Subrule 304(4) states that if the natural floodplain area is altered through the placement of fill or the watercourse is relocated or enclosed and the community within which the subdivision is located is a participant in the National Flood Insurance Program (NFIP), then the developer shall apply for and receive a letter of map

revision based on fill (LOMR-F) from the Federal Emergency Management Agency (FEMA) before recording the final plat.

## **CONDOMINIUM DEVELOPMENTS**

The construction of condominiums is regulated by Act No. 59 of the Public Acts of 1978, as amended, known as the Condominium Act. Section 142 of the Act conferred authority to the Administrator (the Department of Consumer and Industry Services (CIS), now the Department of Labor and Economic Growth (DLEG)) to promulgate rules, forms, and orders as were necessary to implement the Act. Although the DLEG is designated as the administrator in the Act, the legislature repealed the Department's regulatory and enforcement responsibilities in 1983; therefore, the burden is on the applicant to comply with the requirements of the act.

Section 66 of the Condominium Act states that a condominium subdivision plan for each condominium project shall be prepared, signed, and sealed by an architect, land surveyor, or engineer. The plans should include among other items a floodplain plan, if the condominium lies within or abuts a floodplain area. Under the promulgated rules by CIS, Rule 401 (2) restates the requirements of Section 66 of the Act regarding the need of a floodplain plan, where applicable. Rule 402 (c) lists the contents of the floodplain plan and states under rule 402 (c) (ii) that the floodplain shall be shown within a contour line as established by the Department of Natural Resources (DNR). This was done by the Land and Water Management Division of the DNR, which is now part of the MDEQ after the DNR split in 1996.

Basically those are all the requirements of the Condominium Act. Please note that the Act and the rules do not specify a minimum size for the watershed or the size of a lake, as the MDEQ rules for the Land Division Act does.

## **CONCLUSION**

You may be thinking it is much easier to develop a parcel of land as a condominium rather than as a subdivision, and you may be right. The process seems to be easier and the time frame, from planning to recording, seems to be shorter, at least with respect to the floodplain regulations. However, if there is a floodplain area at the condominium site and no floodplain elevation has been established for it, the developer still must establish the 100-year floodplain and submit it to the MDEQ for approval. If any construction will take place within the floodplain area, an MDEQ permit is still required under Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. An MDEQ Part 31 permit would not be issued separately from a Part 301 and Part 303, if any work is being proposed below the ordinary high water mark of the watercourse or if any wetland fill is being proposed. In this situation, the set of regulations would be practically the same for subdivisions and condominium projects. One exception would be that the Condominium Act and Part 31 do not prohibit the construction of residential buildings within the floodplain; therefore, the Subdivision Act is more protective of the floodplain. Part 31 allows the occupation of the floodplain for the construction of buildings on crawl space, as long as the first finished floor elevation is 1 foot above the line defining the floodplain elevation and the crawl space is constructed with flood vents.

Another exception is that the Condominium Act does not set any restriction on the roads serving the condominium site that could cause aggravating emergency situations during a flood.

## **Disclosure vs. Caveat Emptor**

The Caveat Emptor maxim, "let the buyer beware", is a rule of commerce conduct that seems to have less application than it used to, but its value

remains if used. As an early common law principle that was suited for buying and selling in the open marketplace environment, it represented and

continues to represent an understanding between a seller and buyer. They understand that without a warranty from the seller, the buyer assumes the risk of the item being unsuitable or defective for his or her needs. The buyer further accepts the responsibility to be knowledgeable about the item and responsible for evaluating the item's condition and quality before the purchase. Caveat Emptor is not intended to provide a mechanism for sellers to legally engage in fraud or bad faith to complete a transaction.

Also prevalent to protect buyers from fraud and bad faith is the Caveat Venditor maxim "let the seller beware". It is a principle for protecting the buyer where a legal presumption exists that a seller makes certain warranties unless the buyer and the seller agree otherwise. One such warranty is the implied warranty of merchantability. This essentially means that the item for sale will function as designed and as expected by the buyer unless the parties agree otherwise.

Acknowledging and accepting personal responsibility to be well informed on things that will influence our lives and affect our well being makes one wiser and better suited to make informed decisions as provided by Caveat Emptor. In a perfect world we would all take on this personal responsibility and be sufficiently informed to know all, thereby avoiding any adverse consequences. Obviously, no one is so knowledgeable about all things that they can avoid adverse consequences in all that they do. This is particularly so when dealing with another person that you may not be familiar with. This is where reliance on trusting that our fellow being will do what is fair, moral, and legal comes into action. This trust factor can be taken advantage of in real estate transactions when the buyer does not exercise Caveat Emptor and the seller can benefit. It has always been this way and to a certain extent will continue to be.

The increased complexity of the modern marketplace and fast-paced lifestyles can put buyers at a disadvantage. They find themselves having to rely more on the skill, judgment, and honesty of producers and sellers. Consumer protection efforts replace past reliance on Caveat Emptor and Caveat Venditor to facilitate fair, reasonable, and acceptable transactions. It has become a significant factor in our daily living which we rely upon to protect our interests in many of our actions and decisions that we make. Such reliance can easily cause us to become less responsible for

being well informed about that which decisions are being made on. For example, legislative actions across the country promulgating real estate disclosure laws can cause people to be more trusting that the potential problematic issues associated with real estate transactions will all be taken care of without having to become knowledgeable about them.

Statements and suggestions are often made that disclosure requirements will or should address various if not all possible issues that may exist with a piece of real estate such as whether floodplains are located or not located on the property. To a person in the right situation, the word "disclosure" can infuse a warm and fuzzy feeling that all is right with the world, because disclosure requirements were in effect and applied to the transaction. However, this is a situation where exercising Caveat Emptor can still have great value to an individual considering a real estate transaction. At least 24 states have real estate disclosure laws, but they will very likely not regulate to the full extent that any one person may expect them to. Therein lies the value in being well informed about the individual state disclosure law applicable to one's personal interests.

Michigan is one of the states that have enacted real estate disclosure laws: the Sellers Disclosure Act, Act 92 of 1993. It requires certain disclosures in connection with the transfer of residential property. The act does not apply to all real estate transfers. It does not specifically require the disclosure that a floodplain exists or has been identified. It does not require the disclosure that flood insurance is required. It does not require the disclosure of existing effective FEMA flood hazard maps.

The Act does identify the type of real estate that it applies to when there is a transfer of interest. Specific to disclosure, it dictates the format and content of the disclosure form to be used, and specifically identifies and lists the individual items that information must be disclosed about for the property subject to the act. Three main item categories included on the statutorily required form are "Appliances/Systems/Services", "Property Conditions, Improvements and Additional Information", and "Other Items".

Included in the required form under the category of "Property Conditions, Improvements and Additional Information" are two questions related to the NFIP and to whether there is any evidence of water

problems that could be from flooding or other causes.

The first question is:

*Basement/crawl space: Has there been evidence of water? yes \_\_\_ no \_\_\_. If yes, please explain: \_\_\_.*

The second question is:

*Flood insurance: Do you have flood insurance on the property? Unknown \_\_\_ yes \_\_\_ no \_\_\_.*

Another question related to flooding is found in the "Other Item" category of the statutorially required form. It is question 5:

*Are you aware of any settling, flooding, drainage, structural, or grading problems? Unknown \_\_\_yes \_\_\_ no \_\_\_. If the answer is yes, please explain. \_\_\_.*

These questions are a start to providing disclosure information to an uninformed buyer about floodplain issues as they may pertain to the real estate being sold. However, they do not tell a complete floodplain/NFIP story. At the very best, they simply represent a clue for the buyer to begin to exercise the intent of Caveat Emptor. They are flags to ask more questions about the parcel, such as:

- ◆ Is it located in a floodplain area?
- ◆ Is the community covered by FEMA flood hazard maps?
- ◆ If so, what is the map panel # and effective date?
- ◆ Does the effective FEMA map identify the structure to be in a special flood hazard area?

- ◆ If so, when was the structure built compared to the date of the effective FEMA map?
- ◆ If so, what is the base flood elevation?
- ◆ If so, what is the elevation of the lowest floor of the structure?
- ◆ If so, is the structure compliant with the effective State Construction Code requirements for structures located in floodplains?

Answers to these questions and others about floodplains will make the buyer much more informed and able to make knowledgeable decisions about the potential real estate transaction.

The value in exercising Caveat Emptor is further recognized when it is used in a real estate transaction in concert with the disclosure act requirements, because the Seller's Disclosure Act contains a liability limitation. Section 5 of the Act makes a seller or the agent not liable for any error, inaccuracy, or omission in any information delivered pursuant to the Act if the error, inaccuracy, or omission was not within the personal knowledge of the seller or was based entirely on information provide by public agencies or provide by other persons and ordinary care was exercised in transmitting the information. It is also not a violation of the Act if one fails to disclose information that could be obtained only through inspection or observation of inaccessible portions of real estate or could be discovered only by a person with expertise in a science or trade beyond the knowledge of the seller.

So a moral of the story is, the more responsible you are in knowing about floodplains, floodplain management, floodplain regulations, and floodplain insurance, the better prepared you will personally be in dealing with flood hazard risks associated with where you are living or intend to live.

## Online Training Can Earn Credit

From FEMA's e-Watermark Newsletter

Flood insurance training for agents is an NFIP priority. In 2006, the NFIP Bureau and Statistical Agent held 339 NFIP workshops, attended by 12,174 agents. Although this is 12 percent greater than the number of those who attended NFIP workshops in 2005, there are thousands more insurance agents selling flood insurance policies who cannot easily attend the NFIP training offered throughout the country. One of the ways agents can learn the basics of the NFIP without leaving town is by taking the BAT, or Basic Agent Tutorial, a

web-based flood insurance training course for agents. The BAT is available free of charge on the NFIP Training Station website.

As of July 12, 2007, insurance agents in 43 states can now earn 3 hours of Continuing Education Credit (CEC) for successful completion of the BAT. When agents register for the tutorial, they can view a list of states that grant CECs for the successful completion of the final exam. Since October 1, 2006, more than 18,500 agents have successfully completed the BAT and passed the mastery exam.

Agents who have used the BAT in the past are encouraged to complete it again as the tutorial recently was revised to include key provisions of the Flood Insurance Reform Act of 2004. Updates address the new materials designed to better inform policyholders about their coverage and claims processing.

## Question and Answer

**Q:** How is "flood" defined in the NFIP?

**A:** For the purpose of the NFIP, a flood is defined in part as a general and temporary condition of partial or complete inundation of normally dry land areas from: 1) the overflow of inland or tidal waters; or 2) the unusual and rapid accumulation or runoff of surface waters from any source (i.e., a fire hydrant).

**Q:** Is it safe to say that the FEMA Elevation Certificate (EC) photo requirements hold true when the EC is being used for insurance and LOMC purposes; however, the photo requirement would not be an absolute with local community officials and their use of the EC (even though it is easy to see the value in having the photos)?

**A:** That is correct. It is only required for insurance rating purposes!

## FEMA's Greatest Hits

From FEMA's e-Watermark Newsletter

Since FEMA's online Information Resource Library (IRL) was launched last summer, more than half of the 50 items most often viewed by visitors have been flood related. And, according to the most recent report, prepared at the end of January 2007, the most requested item in the library was the ***National Flood Insurance Program Flood Insurance Claims Handbook***.

What other NFIP publications have been popular with IRL visitors? The ***Summary of Coverage***, which, like the ***NFIP Flood Insurance Claims Handbook***, was developed as a result of the Flood Insurance Reform Act of 2004, was the library's

third most requested document according to the January report, and the ***National Flood Insurance Program Description*** was sixth.

The following table includes just the NFIP-related materials that made the IRL's list of top 50 items viewed. The table does not include materials about earthquakes, terrorism, or other hazards that received hundreds (or even thousands) of hits, also earning them places on the "Top 50 Records" list for January. Visit the "**View Most Downloaded Resources**" page on the IRL's site for information about the library's current 10 most popular resources accessed. And then check out what these materials can offer you!

## Top 50 Materials Viewed through FEMA's Information Resource Library

(Data as of January 31, 2007)

01: *National Flood Insurance Program Flood Insurance Claims Handbook*

- 03: *NFIP Summary of Coverage*
- 04: *FY 2007 Pre-Disaster Mitigation Program Guidance*
- 06: *National Flood Insurance Program Description*
- 07: *Building a Disaster-Resistant University*
- 08: *Recommended Residential Construction for the Gulf Coast: Building on Strong and Safe Foundations*
- 10: *Building Stronger and Safer: Hazard Mitigation Grant Program*
- 11: *Hazard Mitigation Grant Program Brochure-Desk Reference*
- 13: *Hurricane Katrina in the Gulf Coast: Mitigation Assessment Team Report, Building Performance Observations, Recommendations, and Technical Guidance*
- 15: *Coastal Construction Manual: Principles and Practices of Planning, Siting, Designing, Constructing, and Maintaining Residential Buildings in Coastal Areas (3rd ed.)*
- 17: *Fiscal Year 2007 Pre-Disaster Mitigation Program Overview*
- 18: *Fiscal Year 2007 Flood Mitigation Assistance Program Guidance*
- 19: *Guide to Flood Maps*
- 22: *Hazard Mitigation Grant Program Brochure*
- 23: *Are You Ready? An In-Depth Guide to Citizen Preparedness*
- 24: *Repairing Your Flooded Home*
- 26: *Sample Local Mitigation Plan Scope of Work for Mitigation Grant Application*
- 27: *Disaster Mitigation Act of 2000*
- 30: *Using HAZUS-MH for Risk Assessment: How-To Guide*
- 31: *Getting Started: Building Support for Mitigation Planning*
- 34: *Answers to Questions about the National Flood Insurance Program*
- 35: *Above the Flood: Elevating Your Flood Prone House*
- 36: *Design Guide for Improving School Safety in Earthquakes, Floods, and High Winds*
- 37: *Multi-Jurisdictional Mitigation Planning*
- 38: *Federal Guidelines for Dam Safety: Emergency Action Planning for Dam Owners*
- 39: *Multi-Hazard Mitigation Planning Guidance Under DMA 2000 (a.k.a. Mitigation Planning "Blue Book")*
- 40: *Why You Need Flood Insurance*
- 41: *Your Homeowners Insurance Doesn't Cover Floods*
- 42: *Top 10 Facts Every Lender Needs to Know About the NFIP*
- 45: *Understanding Your Risks: Identifying Hazards and Estimating Losses*
- 46: *Myths and Facts about the NFIP*
- 49: *Dam Safety and Security in the United States: A Progress Report on the National Dam Safety Program Fiscal Years 2004 and 2005*
- 50: *HAZUS-MH*

## **MDEQ Congratulates the City of Vassar for Floodplain Management**

On July 9, the Michigan Department of Environmental Quality (MDEQ) presented a plaque to the City of Vassar, Tuscola County, on behalf of the Federal Emergency Management Agency (FEMA) in recognition of the City's participation in the National Flood Insurance Program's Community Rating System (CRS).

The CRS is a voluntary point-based system that recognizes exemplary floodplain management by offering discounted flood insurance within participating communities. Each community is given a rank according to the extent of the

community's floodplain management and flood hazard minimization.

The City of Vassar is the first community in Tuscola County to join the CRS. Through their efforts of floodplain management, they have entered the program with a rating of 6, the highest CRS rating in the state, along with the City of Midland. As a result of these efforts, the residents in Vassar now receive a 20 percent discount on flood insurance, and more importantly, the City's hard work will help reduce future flood damages.

Any community participating in the NFIP that is in good standing is eligible to join the CRS. The community must participate in a Community Assistance Visit with the MDEQ for a community flood management program review and then apply to the federal program.

To access more information on the NFIP and the CRS, please visit:  
<http://training.fema.gov/emiweb/crs/index.htm> .

## Controlling Flood Damage

From FEMA's e-Watermark Newsletter

The toolbox available to floodplain managers now encompasses much more than building dams and levees. A brief retrospective of flood control in the United States shows how floodplain management has changed to more effectively protect people and property in floodplains.

As defined by the Flood Control Acts of 1928 and 1936, the role of government agencies was to build massive flood control structures to control the great rivers, protect coastal areas, and prevent flash flooding. The 1936 Act alone authorized construction of some 250 projects for both flood control and relief work.

Until the 1960s, such structural flood control projects were seen as the primary way to reduce flood losses. Public policy emphasized that flood losses could be curbed by controlling floodwater with structures such as dams, levees, and floodwalls. But people began to question the effectiveness of this single solution. Disaster relief expenses were going up, making all taxpayers pay more to provide relief to those with property in floodplains. Studies during the 1960s concluded that flood losses were increasing, in spite of the number of flood control structures that had been built.

One of the main reasons structural flood control projects failed to reduce flood losses was that people continued to build in floodplains. In response, federal, state, and local agencies began to develop policies and programs with a "nonstructural" emphasis ones that did not prescribe projects to control or redirect the path of floods. Since the 1960s, floodplain management has evolved from heavy reliance on flood control, or structural measures, to use of a combination of many tools.

- The creation of the National Flood Insurance Program (NFIP) in 1968 was a landmark step in this evolution. The NFIP:

- Established an insurance program as an alternative to disaster relief.
- Distributed responsibility for floodplain management to all levels of government and the private sector.
- Set a national standard for regulating new development in floodplains.
- Began a comprehensive floodplain mapping program.

Also during the 1960s and 1970s, interest increased in protecting and restoring the environment, including the natural resources and functions of floodplains. Coordinating flood loss reduction programs with environmental protection and watershed management programs has since become a major goal of federal, state, and local programs.

As a result of this evolution, we no longer depend solely on structural projects to control floodwater. U.S. floodplain policies are now multipurpose and result in a mix of solutions to suit many situations. Consequently, floodplain managers like you have several nonstructural flood protection measures at their disposal. These measures include:

- Regulations to prohibit development in high hazard areas.
- Building codes requiring flood-resistant construction for new buildings in floodprone areas.
- Acquisition and relocation of buildings in high hazard areas.
- Modifying or retrofitting existing buildings.
- Installing flood warning systems.
- Controlling stormwater runoff.
- Providing self-help advice to property owners.

*This article is based on information from*  
**Floodplain Management Requirements: A Study Guide and Desk Reference for Local Officials.**

## Resource Links

Subject	Website Address
Association of State Floodplain Managers	<a href="http://www.floods.org">http://www.floods.org</a>
FEMA Map Adoption Model Documents	<a href="http://michigan.gov/deg/0,1607,7-135-3313_3684_3725-122959--00.html">http://michigan.gov/deg/0,1607,7-135-3313_3684_3725-122959--00.html</a>
FEMA's Elevation Certificate	<a href="http://www.fema.gov/media-library/assets/documents/160?id=1383">http://www.fema.gov/media-library/assets/documents/160?id=1383</a>
FEMA's Letter of Map Change Info. (LOMA's, LOMR's etc.)	<a href="http://www.fema.gov/letter-map-changes">http://www.fema.gov/letter-map-changes</a>
FEMA's National Flood Insurance Program	<a href="http://www.fema.gov/business/nfip/">http://www.fema.gov/business/nfip/</a>
FEMA's NFIP Community Status Book Site	<a href="http://www.fema.gov/national-flood-insurance-program/national-flood-insurance-program-community-status-book">http://www.fema.gov/national-flood-insurance-program/national-flood-insurance-program-community-status-book</a>
Map Service Center Information	<a href="https://msc.fema.gov/portal">https://msc.fema.gov/portal</a>
MDEQ Water Management	<a href="http://michigan.gov/deg/0,1607,7-135-3313_3684---00.html">http://michigan.gov/deg/0,1607,7-135-3313_3684---00.html</a>
Michigan Association of County Drain Commissioners	<a href="http://www.macdc.net/">http://www.macdc.net/</a>
Michigan Bureau of Construction Codes	<a href="http://www.michigan.gov/lara/0,1607,7-154-10575---00.html">http://www.michigan.gov/lara/0,1607,7-154-10575---00.html</a>
Michigan Stormwater-Floodplain Association	<a href="http://mi.floods.org">http://mi.floods.org</a>
NFIP Watermark Newsletters	<a href="http://www.fema.gov/watermark">http://www.fema.gov/watermark</a>
NOAA's National Weather Service	<a href="http://www.weather.gov/">http://www.weather.gov/</a> .
Online Request for Floodplain Elevation Determinations	<a href="http://www.michigan.gov/deg/0,4561,7-135-3313_3684_3725-343719--00.html">http://www.michigan.gov/deg/0,4561,7-135-3313_3684_3725-343719--00.html</a>
The Michigan Committee for Severe Weather Awareness	<a href="http://mcswa.org/default.aspx">http://mcswa.org/default.aspx</a>
US Army Corps of Engineers	<a href="http://www.usace.army.mil/">http://www.usace.army.mil/</a>

# CHAPTER MEMBERSHIP MICHIGAN STORMWATER-FLOODPLAIN ASSOCIATION MEMBERSHIP FORM

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**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, 517-335-3184 or msfatreas@hotmail.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          LWMD          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, LWMD, 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> <p>Total Number of Copies          Printed: 2,800          Cost Per Copy: \$ .56          Total Cost: \$1,560.00</p> <p style="text-align: right;"><b>EQC2760</b></p>
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Land and Water Management Division  
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## **Flood News for Michigan Floodplain Managers**

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