



KANSAS



FLOODPLAIN MANAGEMENT NEWSLETTER

March 2010



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Floodplain Model by Ward's Natural Science

The floodplain management team has purchased a floodplain model. The model is in a clear acrylic tank. It has a fiberglass floodplain featuring a stream, hills, and bypass channel. The model uses simple gravity feed. Water is poured in at the upstream end and collected at the lower end. The model comes with inserts to simulate the effects of encroachments in the floodplain. Trays with holes in them allow water to flow through at different rates to demonstrate a light rain or heavy rain event. There is a wetland model made of sponges to demonstrate how open areas act as a natural sponge. There is a storm water detention pond that inserts into the model. One of the inserts looks like a parking lot complete with toy cars. The parking lot demonstrates what happens when there is an increase in the amount of impervious surface. Modeling putty and toy houses can be used to show how levees work or why they fail. There are an almost unlimited number of uses for this flood model.

The floodplain management staff is willing to loan this model to floodplain managers across Kansas. This model would make an excellent display at a floodplain management booth at a county fair, open house, or school demonstration. Outreach is a key to gaining public support for floodplain management programs.

Anyone who borrows the model will be required to arrange transportation for the model. DWR floodplain management team can help with the transportation of the model if one of us traveling for another purpose. At 48"L x 16"W x 9"D this model will fit in the back seat of many kinds of vehicles. To borrow this model call Steve Samuelson at 785-296-4622.

Photo of petroleum tanks in Kansas



**FEMA
National Flood Insurance Program
Interim Technical Guidance on Drilling Oil and Gas Wells in Special
Flood Hazard Areas (SFHA)**

(Reprinted from FEMA's *Protecting Building Utilities from Flood Damage*)

A floodplain development permit from the community is required for drilling oil and gas wells in a Special Flood Hazard Area (SFHA). The application for a permit should include a detailed set of plans and specifications. The following guidance is on National Flood Insurance Program (NFIP) minimum requirements. Some communities may have more restrictive requirements in their floodplain management ordinances.

If the site is in zones A or AE on the community's Flood Insurance Rate Map (FIRM), the community will review the application to determine if the development is compliant with their floodplain management ordinance. For areas designated as zone AE the Flood Insurance Rate Map (FIRM) base flood elevations (BFE) are provided and usually a floodway is mapped. The floodway includes the channel of the river or stream and the adjacent areas of the floodplain, which must be left unobstructed to carry floodwaters. For areas as Zone A on the FIRM only a floodplain boundary is provided and the community will use what ever flood information is available to determine a base flood elevation.
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Floodways: If the drilling site is in the floodway portion of the floodplain, the developer (i.e. petroleum company) will have to demonstrate through an engineering study that there will be no increase in flood stages during the discharge of the 100-year flood caused by the development. Sometimes actions can be taken to compensate for an increase if one does occur.

Buildings and other Structures: Any buildings and other structures (including fuel storage tanks) in the floodplain will either have to be elevated to above the BFE or floodproofed (made watertight) to that elevation. If the building is floodproofed, a registered engineer or architect will have to certify the design of the floodproofing measures. Any storage tanks and any equipment at the site that could be damaged by floodwaters will have to be elevated above the BFE or made watertight and anchored to resist floatation, collapse and lateral movement. One of the biggest problems after most floods has been the finding and retrieving fuel storage tanks that have been dislodged and floated away during the flood. FEMA guidance on anchoring fuel storage tanks and protecting other mechanical and utility equipment can be found in FEMA 348 *Protecting Building Utilities from Flood Damage* which is available on the FEMA website at www.FEMA.GOV.

Electrical and Mechanical Equipment: Any electrical and mechanical equipment must be elevated or floodproofed to the BFE or movable from the site in case of an imminent flood event.

Hazardous and Explosive Materials: Any material stored on the site that is highly volatile, flammable, explosive, toxic or water reactive should be protected to at least the level of the 500-year flood. If the site will have a slush pit, the berm should be at least 1 foot above BFE, have 3 to 1 side slopes, and be compacted. To determine what may be hazardous and explosive compared to a propane tank, the local fire marshal's office may need to be contacted.

Other Permits: The community must also ensure that the developer has obtained any other required Federal, state and local permits prior to issuance of a floodplain development permit. This includes a permit from the state agency that regulates oil and gas activities and a Spill Prevention and Counter Measure Plan. The developer may need a Section 404 permit from the U.S. Army Corps of Engineers if the development impacts on a wetland.

Emergency Plan: If a drilling site is located in the floodplain, the developer should have an emergency action plan in place to move all vehicles and movable equipment out of the floodplain and install any floodproofing measures in case of an imminent flood event. The plan should take into account the amount of warning time available prior to flood.

This information was provided to Division of Water Resources by FEMA. Additional information can be found on the FEMA website. At www.FEMA.GOV. The book FEMA 348 *Protecting Building Utilities from Flood Damage* can be ordered for free by calling 1-800-480-2520. The DVD FEMA 481 *Anchoring Home Fuel Tanks* also has some useful information on this topic. It can be ordered at the same toll free number.

Training Opportunities

The Floodplain Management Program will host the following training sessions throughout Kansas. If you are interested in any of the no-cost training opportunities, please contact Tom Morey at (785) 296-5440 or Steve Samuelson at (785) 296-4622.

Basics of the National Flood Insurance Program

This is for officials responsible for administering their local floodplain management ordinance. The focus is on the NFIP and concepts of floodplain management, maps and studies, ordinance administration, and the relationship between floodplain management and flood insurance. Limited to 20.

Belleville-April 6, 2010, 8:30am-12:30pm

Residential Substantial Damage Estimation

FEMA Region VII has agreed to teach a free RSDE class in Lyons in May. FEMA has developed a software for use in making substantial damage estimations. This is a valuable tool for any floodplain management official to know and understand. It is a requirement that the community's Floodplain Manager make substantial damage determinations after a disaster. This class will be in two parts. In the morning there will be a classroom session to review terms and regulations related to substantial damage. In the afternoon there will be a field trip to a property to practice damage estimation. Limited to 25.

Lyons-May 6, 2009, 9:00am-4:00pm

How To Read A Flood Map

This training opportunity is for insurance professionals and local officials. The focus is on the National Flood Insurance Program, using the different types of flood maps, the FIRMette, letters of map change, and the relationship between flood map changes and flood insurance.

Bonner Springs-May 13, 12:30am

The Division of Water Resources newsletter "Currents" can be read on line at:

http://www.ksda.gov/appropriation/mailling_list/id/68

Mark your calendar. The Kansas Association for Floodplain Management 2010 conference will be September 1 and 2 in Wichita. More information can be found at the website www.ekafm.org. Registration should be paid through Jon Bristor, Treasurer, 110 E. 10th Street, Wellington, KS 67152. Jon's phone is (620) 326-2207.

Kansas Department of Agriculture
Division of Water Resources
Floodplain Program
Training Registration Form

Name _____

Title _____

Organization _____

Address _____

City _____ State _____ Zip _____

Telephone _____ Fax _____

E-mail _____

Name, date and location of training you will attend _____

*Please share this invitation with anyone else who could benefit from the training.

**Classroom locations will be sent to registered participants one week before the training.

Please mail or fax your registration to:

KANSAS DEPARTMENT OF AGRICULTURE
FLOODPLAIN MANAGEMENT PROGRAM
109 SW 9th STREET, 2nd FLOOR
TOPEKA, KS 66612-1283
Fax to: (785) 296-4835

If you have questions about training, please contact Steve Samuelson at steve.samuelson@kda.ks.gov or (785) 296-4622, or Tom Morey at tom.morey@kda.ks.gov or (785) 296-5440.

Please help us keep our records current. If the name that appears on this newsletter is for an individual no longer with your organization, please call (785) 296-7769, or send an e-mail to sherry.fergel@kda.ks.gov

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Kansas Department of Agriculture
Division of Water Resources
Floodplain Management
109 SW 9th Street 2nd Floor
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ASFPM 2010 National Conference in Oklahoma

The 2010 Association of State Floodplain Managers National Conference will be May 16-21, 2010 in Oklahoma City, OK. This conference is an excellent opportunity for Kansas floodplain managers to receive premier training on mapping technologies, adopting new flood hazard maps, and to discuss topics directly related to flood mapping and RISK Map. The conference will be attended by over 1,300 floodplain management professionals and officials.

The last three ASFPM conferences were held in Florida, Nevada, and Virginia. The Oklahoma City conference is as close as this conference will be to floodplain managers in Kansas for some time. It is suggested that you attend this conference if you can. It is an excellent learning and networking opportunity.

KDA/DWR Water Structures Floodplain Program Staff

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