



OSAGE COUNTY EMERGENCY MANAGEMENT AGENCY

FLOODPLAIN MANAGEMENT FACT SHEET

(BATHROOMS IN THE FLOODPLAIN)

Are there any restrictions for building restroom facilities in the Special Flood Hazard Area (SFHA)?

From the National Flood Insurance Program (NFIP) point of view this is an allowable development in the SFHA. As usual, a Floodplain Development Permit (FPDP) is required prior to beginning the construction activities in the SFHA. But more importantly in this case, other regulatory agencies may have jurisdiction, over this type of development. So it is essential to check with the Osage County Department of Health and the State of Missouri Department of Natural Resources to see if they have any restrictions or additional requirements for the proposed development activity. Typically restroom facilities in the floodplain need to ensure waste materials are not released during a flooding event.

What are the NFIP Requirements for this type of development?

Because this development will be a “non-habitable” development it will not have to meet the elevation requirements of the Osage County floodplain ordinance. However, it will still have to comply with the other requirements of the Osage County floodplain ordinance. Basically it will be required to meet the floodplain management criteria for an enclosed structure built below the Base Flood Elevation (BFE). This is not the same criteria that is required for dry-floodproofing non-residential structures and is sometimes referred to as “wet-floodproofing”. Essentially a restroom in a SFHA will be considered an accessory structure and will have to comply with the ordinance requirements for such a development.

So what are the NFIP Requirements for Enclosed Areas?

First of all, since it will be built at ground level, there must be the appropriate size and number of flood vent openings to allow flood waters to enter and exit the interior of the structure. The building and restroom appliances must be constructed of flood resistance material and any utilities servicing the building must be protected from flood damage. Typically electrical utilities will still need to be elevated above the BFE or floodproofed within a watertight enclosure capable of resisting flood damage, or meet the floodproofing development standards in FEMA Publication 348, Sections 3.3.4 and 3.3.5 specified on pages 3.3-7 to 3.3-11. Additional requirements associated with floodproofing of electrical equipment by this method are discussed in the “*Non-Structural Development Activities*” fact sheet. As a rule of thumb, flood resistance materials can be thought of as materials that resist damage during the flood and then power washed after the flood event has occurred. Stainless steel is often used as a material for the washbasin and toilet in these situations. Also the elevation of electrical systems is better than floodproofing since floodproofed electrical components will need to be replaced after being submerged by flood waters.

Another important aspect of this type of development is to ensure it meets the floodplain management ordinance requirements for floatation, collapse, lateral movement and overturning (certification provided by a design professional). Not only would these requirements apply to the restroom facility structure itself, but also to any underground waste holding tanks. They must not float during the flooding event since damage can occur to downstream objects if they were to break free.

What if we want to use our bathroom for storage also?

As long as the other additional uses of the accessory structure are allowable under the floodplain management ordinance (parking or limited storage e.g.) then that should be okay. These additional uses would be evaluated during the variance process. If the bathroom building is going to be used for other purposes and there will be a separate room inside the accessory structure, flood vent openings will also be required in the interior walls also, to ensure the interior room does not collapse during the flooding event and damage the main structure. A minimum of two openings would be required in any interior room and on at least two different sides. This is the same requirement for the exterior walls of the main structure and additional information can be found in FEMA's Technical Bulletin 1-08 titled "*Openings in Foundation Walls and Walls of Enclosures*".

What if the proposed location is also within a Regulatory Floodway?

Then like any other type of development within the regulatory floodway it would also need to have a "No-Rise" analysis performed and certification provided to the County prior to issuing the Floodplain Development Permit (FPDP). (See the fact sheet titled "*Development in the Regulatory Floodway*" for more information on this process and certification).

Additional Sources of Information

Information about the flood resistant material requirements can be found in FEMA's Technical Bulletin 2-08 titled "*Flood Damage-Resistant Material Requirements*".

For information about wet floodproofing of an enclosure, FEMA has created Technical Bulletin 7-93 titled "*Wet Floodproofing Requirements for Structures Located in Special Flood Hazard Areas*", that address the certifying requirements.

For information about flood openings, FEMA has created Technical Bulletin 11-01 titled "*Crawlspace Construction for Buildings Located in Special Flood Hazard Areas*", that address the requirements for openings located in an enclosed area below the BFE.

To assist with the protection of the building utilities so that they also comply with the floodplain ordinance, FEMA Publication 348 titled "*Protecting Building Utilities from Flood Damage – Principals and Practices for the Design and Construction of Flood Resistant Building Utility Systems*" dated November 1999 was created.

Two fact sheets created by FEMA titled "*Building with Flood Damage Resistant Materials*" and "*Raise Electrical System Components*" will also assist those who choose to wet-floodproof an enclosed area.

All of these documents can be found at the FEMA.gov website or at:

www.osagecountyma.com/pages/floodprogram.htm