



Iowa Department of Natural Resources
Flood Plain Management Program

Buildings

Use this guidance to ensure that your flood plain application is complete. To view a complete version of the state's flood plain management and dam safety criteria, visit <http://floodplain.iowadnr.gov>.

Technical Assistance Help Line: 866-849-0321

Residential Structures

Buildings and residential structures (including the basement) must be protected to 1 foot above the 100 year flood elevation. The 100 year flood elevation can be calculated for your site by request. Fill out a [request form](#) and email to BFERequest@dnr.iowa.gov.

Check with your city or county to determine if any local building permits are required. In some areas basements may not be allowed.

Two options for elevating your building to 1 foot above the 100 year flood elevation are to:

- ✓ Elevate on fill with a slab on grade type construction or
- ✓ Elevate on stilts, piers, or pilings with an area below the elevated building remaining open.

Flood Protection for Attached Garages and Storage Space

These types of structures may be constructed below the 100 year flood elevation without flood proofing if all electrical circuit boxes, furnaces, and hot water heaters are located 1 foot above the 100 year flood elevation.

Sanitary Sewer Drains

Sanitary sewer drains below the 100 year flood elevation shall be provided with automatic closure valves to prevent backflow.

Flood Protection for Basements

If you plan to construct a basement below the 100 year flood elevation, a professional engineer must certify the design. Basement walls and floors below the 100 year flood elevation shall be structurally designed and constructed to be flood proof and able to withstand hydrostatic pressure and buoyant forces associated with a water table elevation equivalent to 1 foot above the 100 year flood elevation.

Residential Structures with Lower Enclosed Areas

The floor of the lower enclosed area must be at or above the lowest ground elevation at the exterior of the building otherwise the area would be considered a basement. The lower enclosed area must satisfy all of the criteria listed below. **Include the number and size of flood vents as well as the plans and elevations for your structure.**

- ✓ The enclosed area shall be designed to equalize hydrostatic pressure during floods by providing a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding. The openings may be equipped with screens, louvers, valves, or other coverings or devices provided they permit the automatic entry and exit of floodwaters. Windows and doors are not considered acceptable openings under this requirement because they require manual operation.
- ✓ The bottom of all openings shall be no higher than one foot above the adjacent grade.
- ✓ The enclosed area must remain unfinished and used solely for low damage potential uses such as building access, parking or storage.
- ✓ Hot water heaters, furnaces, electrical services in the crawl space shall be at least 1 foot above the 100 year flood level.