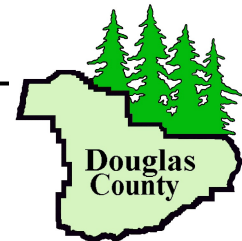
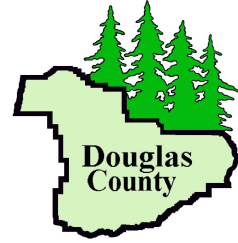


Building in the Floodplain
Protecting Yourself from Higher Insurance Premiums



- 1) **New construction with a crawlspace:**
Foundation footings should be dug in or filled to raise the crawlspace level. At least part of the crawlspace must be higher than (or equal in height to) the finished lowest adjacent grade. Below-grade crawlspaces will result in significantly higher insurance premiums.
- 2) **Crawlspace height:**
Crawlspace height must be no greater than 4' at any point. FEMA considers a crawlspace higher than 4' to be a basement, which is not allowed in the floodplain. Insurance rates will increase accordingly.
- 3) **Flood Opening Formula**
1 square inch of opening is required per every square foot of enclosed area. Example: For a 1000 square foot crawlspace, the foundation walls must have a minimum of 1000 square inches of flood openings. Openings are required on at least 2 sides, and may not be covered. Insurance rates increase with insufficient openings.
- 4) **Flood Opening Height**
Flood openings need to be kept low in the stem walls. The bottom of the opening must be within 12" of exterior or interior grade to be counted as a flood opening. An insufficient amount of flood openings will cause higher flood insurance rates.
- 5) **Flood Opening Area**
Only the free area of the opening or vent may be counted. Do not count the size of the opening in which the vent is placed. Some styles of vents have very limited actual free area in relation to the size of the original area. Engineered openings may be an option. See FEMA Technical Bulletin 1: *Openings in Foundation Walls and Walls of Enclosures*.
- 6) **A Door is Not a Flood Opening**
But a flood opening may be placed into a door.
- 7) **Equipment Servicing the Building**
Equipment servicing the building must be elevated to or above the Base Flood Elevation. This includes heat pumps, water heaters, storage tanks, ductwork, and utilities. Equipment below Base Flood Elevation will cause higher insurance rates.
- 8) **Structures with floor below Base Flood Elevation will have higher flood insurance rates.**
Elevating the floor at least 1 foot above the Base Flood Elevation can reduce flood insurance premiums. Elevating even higher could qualify for further reductions.

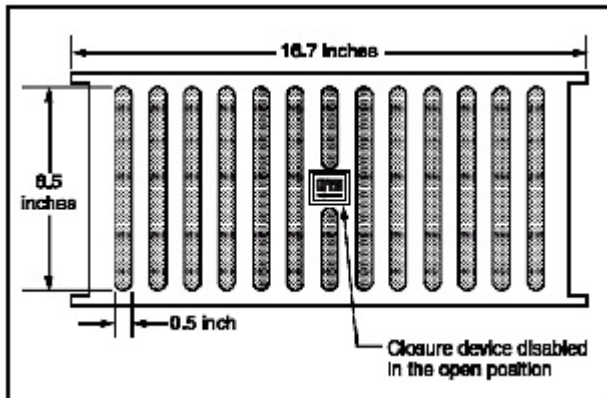
Summary



Some steps to remember when building in the Floodplain are:

1. Keep crawlspace equal to or higher than outside grade.
2. Keep crawlspace less than 4' high.
3. One square inch of opening is required per each square foot of enclosed area.
4. Bottom of flood openings must be within 12" of grade.
5. Only the free area of a vent is counted for flood opening space.
6. A door is not a flood opening.
7. Equipment servicing the building must be elevated to or above the Base Flood Elevation.
8. Keep the floor above the Base Flood Elevation.

Keeping these suggestions in mind could significantly lower flood insurance premium rates. Talk to your insurance agent before building in the floodplain.



Typical standard air vent faceplate: this example provides only 42 square inches of net open area, not 108 square inches.



Elevate all utilities servicing building, and keep flood openings within 12" of grade.

