



By Rebecca Quinn, CFM

With some regularity I'm asked about agricultural buildings and structures. Many states have laws that explicitly exclude farm buildings from state building codes. Indeed, some states have attempted to explicitly prohibit any and all local regulation of agricultural buildings, including farm buildings in flood hazard areas. That'll get you in trouble with the National Flood Insurance Program every time.

We know the NFIP requires participating communities to regulate all development – and that term is very broadly defined: “*Development* means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.” There are no exemptions, no exceptions. All development must be regulated.

Let me qualify that a bit. Sometimes I get asked whether the act of working the land is a “man-made change.” Cultivating the land, whether on a commercial farm operation or in your back yard vegetable garden, does not create a significant, permanent alteration of the landform, such that the flow of floodwater over it would be affected. However, if someone proposes grading that changes the landform through cut and fill, then you need to pay attention, especially if the work will be done in a floodway. A floodway encroachment analysis would need to be prepared to show the potential impact. There are other aspects to examine, but floodway development is not the topic for today.

Back to agriculture buildings. Definitions may vary. One state has a broad definition, “... a structure used solely in conjunction with agriculture use, and not for human occupancy.” Another state's definition is detailed, “...any temporary or permanent building or support structure on a farm or that is used primarily for agricultural purposes, is located on land that is an integral part of a farm operation or is classified as agricultural land, and is not intended to be used as a residential dwelling. The term may include, but is not limited to, a barn, greenhouse, shade house, farm office, storage building, or poultry house.”

Every now and then we hear FEMA weighs in if a state's Legislature contemplates giving agricultural buildings or other types of buildings special protection from regulation. The most recent example was fish or hunt “camps” (described to me as often several times larger than the modest home I raised my kids in and likely much nicer). That state's Legislature did exempt such camps from building code, but explicitly stated that camps located in Special Flood Hazard Areas were not exempt.

States certainly have the right to exempt certain buildings from the state's building code. But communities that join the NFIP agree to regulate all development in SFHAs – and a state's building code exemption doesn't relieve them of that obligation. Instead of using a building permit to authorize non-building development and buildings exempt from the building code, the most common permit type or approval I've seen is a Floodplain Development Permit.

Now let's take a look at regulating agriculture buildings in SFHAs. For convenience, let's consider there are two general types: those that are walled and roofed and those that aren't. I call the latter “non-building

structures” or structures that aren’t buildings. Note that non-building structures are within the scope of building codes (unless specifically exempted, see previous discussion).

Walled and roofed agriculture buildings. These farm buildings should be required to meet the elevation and other requirements that apply to all other buildings. My very first meeting with floodplain management staff in FEMA headquarters was during my second or third month on the job as Maryland’s NFIP state coordinator. My staff member who handled NFIP responsibilities arranged a meeting to talk about chicken houses. Our agency was getting a lot of political pressure to help commercial chicken farmers avoid the elevation requirement (if I recall correctly, Frank Purdue was making huge moves in the industry). Mind you, this was about 1986 – and even then these structures cost upwards of half a million dollars! But a significant part of the argument against elevation had to do with the fact that the NFIP doesn’t insure chickens. About the same time I heard Midwest states were getting pressure to avoid elevating hog barns, but the argument was about the weight loss associated with walking up ramps!

That day I heard one of the most memorable statements in my 30-plus-year career: we do floodplain management because it’s the right thing to do to protect people and property; we don’t do it because something is or isn’t insured by the NFIP.¹ How many times have you had someone argue that they shouldn’t be subject to the rules because they promise they’ll never, ever get a flood insurance policy? My favorite story is the Pizza Hut developer who made that promise and more, trying to avoid elevating because, he claimed, people on the sidewalk wouldn’t smell the enticing aromas from an elevated building. Nope, sorry, not a good enough reason.

Now let’s get back to requirements for the design and construction of agriculture buildings in SFHAs. Must they all be elevated? NFIP Technical Bulletin 7, [Wet Floodproofing Requirements](#), is a good place to start if someone doesn’t want to fully elevate a walled and roofed farm building. But just like all FEMA guidance publications, you need to read the whole thing to understand what those requirements are and the circumstances where wet floodproofing can be used. There’s no way to shorten the guidance and still preserve all the important content – and you should understand that there are some insurance implications (just as there are any time someone gets a variance to allow buildings without elevation):

Certain Agricultural Structures: FEMA recognizes that wet floodproofing may be appropriate for certain types of agricultural structures located in wide, expansive floodplains. A variance may be issued only if the structure is used solely for agricultural purposes in which the use is exclusively in connection with the production, harvesting, storage, drying, or raising of agricultural commodities, including the raising of livestock. Only in circumstances when it can be demonstrated that agricultural structures can be designed in such a manner that results in minimal damage to the structure and its contents and will create no additional threats to public safety, may a variance be issued. Because the wet floodproofing of a new agricultural structure with the lowest floor below the BFE is not in conformance with NFIP requirements, any variance issued must address both the nonconform-

¹ The old-timers out there won’t be surprised to learn that Mike Robinson, at the time a floodplain management specialist with FEMA HQ, not only set me straight that day, but helped shape my commitment to “doing the right thing” throughout my career in floodplain management. He was a force at FEMA, from the early days of the NFIP to his untimely passing in 2007. He is missed every day.

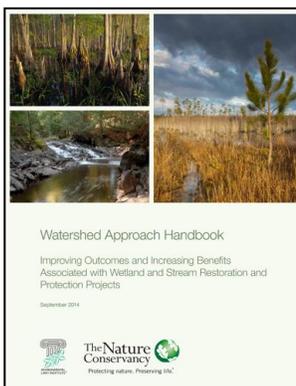
ing flood protection technique and the restriction of use to the above-described agricultural purposes. Types of agricultural structures that may be wet flood-proofed following the issuance of a variance are: farm storage structures used exclusively for the storage of farm machinery and equipment (e.g., pole and pre-fabricated metal frame structures with open or closed sides); grain bins; corn cribs; and general purpose barns for temporary feeding of livestock, provided they remain open on at least one side.

Non-building structures. Examples of non-building structures include towers, gazebos, viewing stands, detached decks, and the like. They are not walled and roofed and don't have a "lowest floor" (read the definition again to see why). The NFIP elevation requirements refer to the elevation of the lowest floor (or bottom of the lowest horizontal structural member of the lowest floor). If a non-building structure doesn't have a lowest floor, then the elevation requirements don't apply. What's left? All local floodplain management regulations have general performance statements for development in SFHAs. The requirements often take the following form:

- (1) Be located and constructed to minimize flood damage;
- (2) If located in a floodway, meet the limitations of [the section that requires floodway encroachment analyses];
- (3) Be anchored to prevent flotation, collapse or lateral movement resulting from hydrostatic loads, including the effects of buoyancy, during conditions of the design flood;
- (4) Be constructed of flood damage-resistant materials; and
- (5) Have mechanical, plumbing, and electrical systems above the design flood elevation, except that minimum electric service required to address life safety and electric code requirements is permitted below the design flood elevation provided it conforms to the provisions of the electrical part of building code for wet locations.

Submit your own items or suggestions for future topics to column editor Rebecca Quinn, CFM, at rcquinn@earthlink.net. Comments welcomed!

Improving Outcomes and Increasing Benefits Associated with Wetland and Stream Restoration Projects



The [Environmental Law Institute](#) and [The Nature Conservancy](#) released a new handbook to advance the use of a watershed approach in the selection, design, and siting of wetland and stream restoration and protection projects, including projects required as compensatory mitigation for permitted activities. The joint report, "[*Watershed Approach Handbook: Improving Outcomes and Increasing Benefits Associated with Wetland and Stream Restoration Projects*](#)," demonstrates how using a watershed approach can help ensure that these projects also contribute to goals of improved water quality, increased flood mitigation, improved quality and quantity of habitat, and increases in other ecological services and benefits.