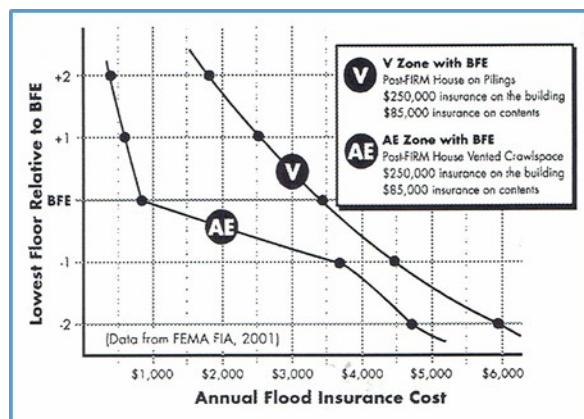


By Rebecca Quinn, CFM

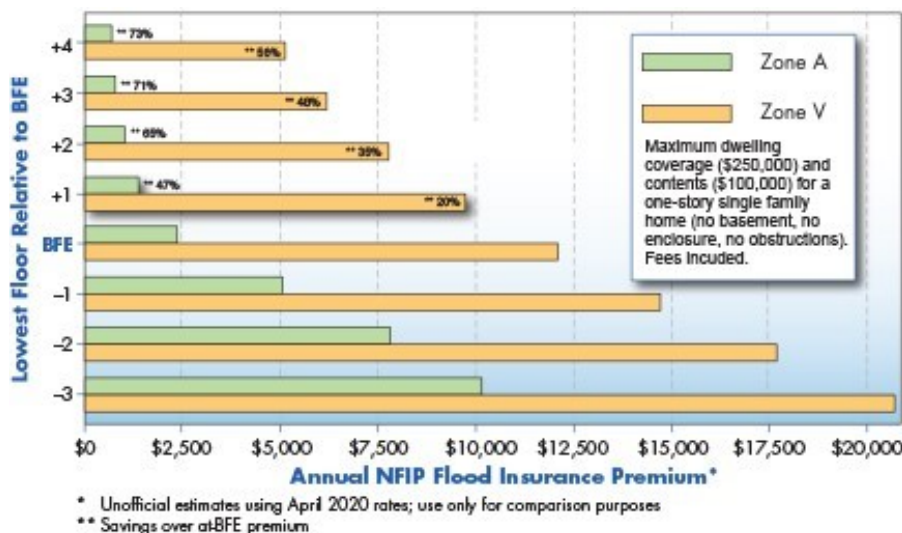
Time for another grab bag – three unrelated topics, and introducing the Market Value Supplement.

Freeboard – you've saved how much over 20 years?

I keep a file with notes about topics to consider for the Notebook. Recently, I thumbed all the way to the end, and there I found a relic. The first column in the current format ran in late 2011, but that wasn't the very first Notebook. In early 2000 and again in late 2001, I wrote short pieces about freeboard. Each had a simple line graphic to show savings when homes have their lowest floors above the base flood elevation and dramatically higher costs if floors are below the BFE. The oldest graphic doesn't scan well, so I'm showing the one from 2001, along with a bar chart with the April 2020 rates.



We all know the benefits of freeboard: reduced damage and lower NFIP flood insurance premiums. A report prepared as part of the 1996 NFIP Evaluation showed that freeboard "pays for itself" over a relatively short time based only on damage avoided (for most foundation types). Add in the annual insurance savings and the period over which the incremental construction cost to add one to four feet of freeboard is even shorter.



Given how much the NFIP has increased rates over the last 20 years, I wonder if the pay-back period is even shorter today. Answering that question would be a big effort because you'd have to know how construction costs have changed over two decades.

But we can guesstimate the insurance savings side of the equation using a very simple approach – determine the premiums for "at BFE" and "BFE +," calculate the average of the 2001 and 2020 premiums, multiply by 20 years, compare the 20-year totals, and see approximate savings over 20 years. Using rounded dollars, the table shows doing that for just BFE + 1 ft. Do the same for BFE + 2 ft, and the Zone AE savings for 20 years is \$20,000 and \$58,000 for Zone VE.

	AE(2001)	AE(2020)	Average	20-yr Total
BFE + 1 ft	\$600	\$1,300	\$950	\$19,000
BFE	\$800	\$2,400	\$1,600	\$32,000
	VE(2001)	VE(2020)	Average	20-yr Total
BFE + 1 ft	\$2,500	\$9,500	\$6,000	\$120,000
BFE	\$3,400	\$11,800	\$7,600	\$152,000

◀ \$13,000: 20-year savings over BFE

◀ \$32,000: 20-year savings over BFE

and \$58,000 for Zone VE. Add to the benefits of less damage when floods happen, there's a pretty good case for adopting two feet of freeboard.

(Continued on page 15)

(Continued from page 14)

Toilets in enclosures below elevated buildings?

Someone recently asked me about installing macerating toilets (also called “upflush” toilets) below the BFE with the vertical connection to the main sanitary drain above the BFE.

You should all be thinking the same thing – the NFIP regulations (and your floodplain management regulations and building codes) clearly state that enclosed areas below the lowest floor shall be “useable solely for parking of vehicles, building access, or storage.” Installing a toilet and other bathroom fixtures is not consistent with those uses, and therefore is not permitted when compliance is required (new construction, substantial improvements, repair of substantial damage). And remember, any work on a compliant building must maintain all aspects required for compliance, which means installing any type of toilet after the certificate of occupancy is issued would be a violation.

I pointed that out, and he followed up, lamenting that it would “be nice if FEMA could keep up with industry advances” because he’d read concerns that plumbing fixtures below BFE can allow sewage to flow out of the fixtures, or the fixtures could allow floodwater into the sewer system.

But is that really why bathrooms are not allowed below elevated buildings? Well, it may be one reason, but it’s not the main reason. It’s about not having habitable space subject to flooding. If someone’s garage gets wet, it’s not a big deal. Storage room? While you and I might not want saturated Christmas decorations, also not a big deal. Cleaning up a garage, storage, room, or stairwell after flooding wouldn’t delay reoccupancy. But tuck a toilet room in the corner of a garage and next thing you know, the garage is illegally converted to a bedroom or an accessory apartment. Then, the amount of damage is significantly higher and recovery takes longer.

Changing trends in determining market value?

The NFIP regulations don’t define the term “market value,” although it’s used in the NFIP definitions for “substantial improvement” and “substantial damage.” The *Substantial Improvement/Substantial Damage Desk Reference* (FEMA P-758), Section 4.5, describes four options to determine market value: professional property appraisals, adjusted assessed value, actual cash value (replacement cost minus depreciation), and qualified estimates. During the last year or so I’ve talked with more than a few local floodplain managers who have concerns with using professional property appraisals, even when they following the guidance in the Desk Reference about what they should look for when permit applicants submit appraisals.

In the May 2019 Notebook, Patricia Staebler, an appraiser from southwest Florida, shared her take on actual cash value (depreciated). In this issue, another Florida appraiser offers the first in a series of “market value supplements” to the Floodplain Managers Notebook, which follows on the next page.

Ray Carroll has owned and managed a private appraisal practice in Naples, FL since 1984. He holds the commercial (MAI) and residential (SRA) designations from the Appraisal Institute, and for several years was an institute instructor on the Uniform Standards of Professional Appraisal Practice. When his personal practice began to specialize in appraisals for SI/SD determinations, Ray qualified as a Certified Floodplain Manager. He developed the Appraisal Checklist for SI/SD Determinations and is an instructor for the Florida Floodplain Managers Association.

Submit your own items or suggestions for future topics to column editor Rebecca Quinn, CFM, at rcquinn@earthlink.net. Comments welcomed! Explore back issues of the [Floodplain Manager’s Notebook](#).



By Ray Carroll, MAI, SRA, CFM

Over the next several issues of the *Insider*, I'll write about the appraisal challenges associated with determining the market value for use in making NFIP-required substantial improvement and substantial damage determinations. Today, I want to focus on the adjusted assessment method. As the default method used most often, it deserves more than a passing glance.

Let's begin by understanding that ad valorem tax assessments were never intended to be used the way we use them for SI/SD determinations. This method is popular because it is quick, inexpensive, and manageable by community officials. For modest repairs or improvements, the method usually works.

All of the following conditions must be met when the adjusted assessment method is used:

- The building must be assessed (not all buildings are);
- You must know the assessment that applies to the "under-roof" portion of the building;
- You must know the assessment ratio; and
- You must make the adjustment mathematically correct.

Let's assume we're considering a proposal to improve someone's house, with a detached two-car garage and an attached swimming pool and pool enclosure. Elsewhere on the property is a boat dock, a paved driveway, and a tool shed. Assessments are developed using a computer model that starts with a land value estimate. When there are improvements, their replacement costs are estimated and deductions are made for depreciation. In this case, the house and its attached pool and pool enclosure would have the costs grouped together, and separate costs would be estimated for the rest of the improvements. When you're evaluating an application to improve the residence, only the value of that building applies. That's why it's important to ask for the assessment that applies to the under-roof portion of the building you're interested in.

Most assessment information available online is not in a useable format. That means we need to do more work, because it's our job to get the right information. Here's how to do that:

1. Before you do anything else, contact the local tax assessor's office and ask to talk to someone about the assessment ratio. The data processing division is a good place to start. Explain how you're using the assessment information and then ask, "What is the assessment ratio for XYZ County?" Most assessments are set at a fraction of market value. This is to avoid overassessment and resulting lawsuits. Usually there is a targeted assessment percentage set by statute. Sometimes a state agency that audits assessments will require local tax assessors to file a formal report setting forth the assessment percentage for a given jurisdiction. Once you learn how things are done in your jurisdiction, get a copy of whatever document certifies the assessment percentage. It should be a public document, and you'll only need to ask for it once a year when the new tax roll is certified.
2. Develop a personal contact at the local tax assessor's office who you can talk to or email regularly. I say "develop" because you're likely to have to explain what you want and what you're doing. If

Tax Assessor: Sometimes referred to as the tax appraiser, county appraiser, or auditor.

Ad valorem assessment: Literally, an assessment "according to value." It is the job of the tax assessor to periodically appraise all property in his/her jurisdiction.

Assessment ratio: The ratio of a property's assessment to its 100% market value. If assessments are supposed to be 85% of market value, then the assessment ratio is 0.85.

(Continued on page 17)

(Continued from page 16)

you're patient, and you take time to develop a relationship, then it will save you time later when you email other requests.

3. When you make a request for assessment information, identify the property (probably using a property tax ID #) and ask for "the assessment that applies to the under-roof portion of the building." This is the only way to be sure you have the correct assessment.
4. Once you know the assessment ratio and you have the correct assessment information, it's just easy math to use the adjusted assessment method. You divide the building assessment by the assessment ratio. Here's how the math works:

Assume the building assessment is \$85,000 and the assessment ratio is 0.85:

$\$85,000 \div 0.85 = \$100,000$, which is the building value.

[Careful! Don't multiply by the assessment ratio! For this example, that yields

$\$85,000 \times 0.85 = \$72,250$.]

For as often as this method is used, we should use it properly and have confidence in the results. Though the adjusted assessment method is simple and easy to use, we should be aware that it has some major drawbacks:

- It is common across the country to find places where assessments are set at very low percentages. Assessment ratios as low as 30% or 35% are not uncommon. The lower the ratio, the more sensitive the adjustment process becomes, and the less reliable is the outcome.
- Assessments always lag the actual market because there must be a supply of recent sales activity for the assessor to build the assessment database. In jurisdictions that reappraise annually, it is possible that assessment information is as much as 18 months old, but many communities don't reappraise annually. Some reappraise no more often than every five years. That means you'd be working with an assessed value that is more than five years old.
- Not all buildings are assessed. For example, condominium units are assessed individually, and the assessment does not separate the land value. Neither does it separate other common-element improvements all of which are included in each unit's assessment. The adjusted assessment method should never be applied to condominium ownership situations. Other buildings, especially if they are exempt from property taxes, are sometimes not assessed with the same attention to detail as tax-paying property. This is especially true of government buildings. There are some buildings that aren't separately assessed because they are part of a larger whole. A good example is the clubhouse in a packaged golf community.

Fun Fact: Los Angeles saw an increase of more than 2,000 jobs from its \$166 million investment in nature-based solutions from 2012-2014. The best part about this job growth is that many of these jobs are local, providing an extra boost to the local economy

Source: Building Community Resilience with Nature-based Solutions: A Guide for Local Communities