Case Study: The House of Mold

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Abstract

This paper examines a single-family residential property that was damaged by mold and sold before the damage had been repaired. The appraisers needed to answer two questions: Is the depreciation physical deterioration, functional obsolescence, or economic obsolescence? How should a mass appraiser measure value loss for this type of problem?

As mass appraisers, we make value decisions every day based on what we observe from an exterior inspection of a property. However, to paraphrase a familiar saying, "What you see is not always what you get." For example, the subject property, a two-story, single-family residential structure located in Johnson County, Kansas, appears to be a typical residential property, but looks can be deceiving.

The subject property, located on approximately four acres of land, was built in 1998. The land was purchased in 1997 for $84,950, and the actual cost to construct the improvements was $900,000, according to the property owner. The $900,000 included $715,000 for the structure, $50,000 for a 20-foot-by-32-foot swimming pool, and $50,000 for a fence around the entire property. The improvement is brick construction with 3,852 square feet of living space, five bedrooms, six full baths, a 728-square-foot attached garage, and a full unfinished walkout basement. The structure was graded an A+. It has central air and a fireplace.

The county valued the subject property as of January 1, 1999, at $450,100, $84,990 for the land and $365,100 for the improvements. The owners appealed the property's value in the fall of 1999. In their appeal, the owners cited the fact that the house was full of mold, and the cost of repairing the problem exceeded the value of the home as appraised. As the appraiser, how would you value this property? Does the mold problem affect the property's market value? If you would recommend a valuation change, how would you justify it?

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Is Mold a Valuation Problem?

According to a recent article in *The Communicator* (Finigan 2001), mold "is the next asbestos—with a major difference. It doesn't have asbestos's thirty-year gestation period." The author goes on to say that "mold can absolutely have a significant impact on value!" He cites several court cases and some television specials to demonstrate that mold contamination does affect value. One of the television specials featured the

Ballard family of Austin, Texas, who became ill from mold contamination. In this instance the Ballard's mansion, located on seventy-two acres, "had to be evacuated and eventually bulldozed because of stachybotrys mold, which caused the family's illness."

So what is mold? Merriam-Webster's dictionary defines mold as "a superficial, often woolly growth produced on damp or decaying organic matter or on living organisms." There are several types of mold, such as penicillium, aspergillus, fusillarium, and stachybotrys. According to *The Communicator*, "these molds grow where there is moisture, warmth, and food. They like to grow on wood or cellulose. There is lots of cellulose in the middle of the walls. The molds also like to grow in ductwork when the right conditions are present."

The mold problem is not limited to older, poorly maintained homes. Mold can be present in any home, at any price range, that water has been allowed to penetrate. The negative effects of mold can include skin irritation, upper respiratory congestion, headache, lack of energy, and extreme symptoms like pulmonary hemorrhaging. The health effects of mold are not limited to a certain group of people. When inhaled, the mold toxins affect everyone to some degree. Those at greatest risk are individuals whose immune systems are compromised, such as infants, the elderly, or those recovering from pneumonia or flu.

In August 1999, the Children's Mercy Hospital, Kansas City, Missouri, compiled a report indicating that numerous ongoing water leaks had caused a variety of bacteria and microbes to grow on the subject property, including aspergillus, penicillium, bacteria rods, stachybotrys, cladospurium, stemphylium, and ascophyllum, all known health hazards. To remedy the problem, the "leaks must be fixed so that microbial growth does not reappear. Then, contaminated building materials in and behind interior walls need to be ripped out and replaced. No residents should be present during the remediation."

The Building and Codes Report

In December 1999, the Johnson County Building and Codes Department issued a report that stated the home "was found to have a health hazard existing in the structure." The codes department determined that the building was dangerous and issued an order to either "remediate the structure to provide a safe environment for its inhabitants or demolish the structure and remove all materials from the property to an approved landfill." They gave the owners 60 days to commence the repairs or demolition and 180 days to complete the project after issuance of the permit.

The Structural Report

In September 1999, a structural engineer conducted a review of the home. He wrote in his report, "It is my understanding that the veneer ties may not have been attached to the studs. Instead, they were nailed to the sheathing. This is not acceptable. If light-gauge corrugated metal ties were used, they are useless, in my opinion. The building is constructed so that water will get through the brick and no avenue has been provided for it to escape. The stud backup and sheathing will mildew and eventually will rot."

The structural engineer noted several other physical problems with the structure. The lateral load-resisting system appears to be nonexistent, at least for north/south wind loads. "The geometry and room layout of this structure are such that the conditions that permit the application of these provisions are simply not met," the engineer wrote. He also noted a lack of vertical control joints in the walls. In addition to the problems associated with expansion, it was the engineer's opinion that the backup for the brick (studs) was too limber to provide adequate support.

The Renovators' Report

In December 1999, the property owner hired two separate renovators to review the structure and provide cost estimates to repair the damage and fix the structure. One report stated that the amount of structural damage to the home was substantial. "The water leakage into the exterior walls has produced mold growth in many areas of the home," the report said and went on to state, "It is our opinion that this home can be returned to some degree of plumb and level. However, it will be impossible to restore this home to the standards that a home of this quality and price range should possess." The renovator estimated the cost to repair the subject property at $680,000. The second renovator inspected the property and also provided an estimate to repair the damage. The estimate from the second renovator was $700,000.

Appraisal Questions

Given such a situation, the appraiser needs to ask: What type of depreciation must be dealt with? How should a mass appraiser measure value loss for this type of problem?

First, let's look at the type of depreciation in the subject property. The types of depreciation we typically deal with are physical deterioration, functional obsolescence, and economic obsolescence. We can eliminate economic obsolescence because the value loss in this property is not "the result of impairment in utility and desirability caused by factors outside the property's boundaries" (IAAO 1997).

Functional obsolescence is defined as "loss in value of a property resulting from changes in tastes, preferences, technical innovations, or market standards" (IAAO 1997). Functional obsolescence is also a reduction in utility (value) due to items and characteristics directly related to a structure that preclude the structure's ability to perform, fully and efficiently, the function for which it was designed (IAAO 1996). One cause of that loss in utility could be poor workmanship. Functional obsolescence can be either curable or incurable. To be curable, the cost to cure must be less than the anticipated increase in value or utility due to the replacement.

Physical deterioration is "the loss in value due to wear and tear and the forces of nature" (IAAO 1990). Physical deterioration can be curable or incurable. Curable physical deterioration occurs "when the value added by repair equals or exceeds the cost of repair" (IAAO 1990). Typically, curable items are conditions such as broken windows, leaking plumbing, worn-out floor coverings, or a leaking roof. This type of depreciation is measured by the cost to cure the problem.

Incurable physical deterioration is that which, "as of the date of the appraisal, is not economical to repair or replace, that is, the cost of repair exceeds the gain in value" (IAAO 1990). Items likely to suffer incurable physical deterioration are physical components not easily seen, such as the structural framework, foundation, subflooring, and ceiling. To measure value loss from incurable physical deterioration, we would use the observed condition method, which uses the age-life method to estimate the amount of depreciation. In the age-life method, the depreciation percentage equals the effective age divided by the total economic life of the subject property. The amount of depreciation would be the depreciation percent multiplied by the replacement cost new.

This brings us to our second question, "How do we measure the value loss for the subject property?" Based on the structural report and the report from the renovators, it would appear that the problem is incurable. However, if we are considering incurable physical deterioration, and because we are dealing with only a three-year-old dwelling, the actual loss in value using the age-life method would be minimal and would not reflect the estimated loss as reported in the renovators' report. One possible way to measure the value loss would be the cost to cure the problem. Remember, however, that the cost to cure is the method used to measure curable physical deterioration. Is this really curable physical deterioration? We can also use the cost to cure as a way to measure curable functional obsolescence.

How the County Handled the Problem

During the appeal hearing, the county determined that, because of the mold problem, the structure was unlivable. The property owners vacated the property in September 1999. The county, in making its valuation decision following the appeal by the property owner, relied on a prior decision from a case before the Kansas State Board of Tax Appeals' small claims division. In that case, which involved bacterial contamination, the small claims officer ruled that the improvement should be valued at salvage value, or 20 percent good. Using the cost approach, the county revalued the subject property at $181,000, which broke down as follows: land, $85,000; pool, $18,000; structure, $78,000.

The Rest of the Story

The property sold for $450,000 in December 2000. At the time of the sale, the mold problem still existed. The replacement cost new of the structure, without any mold damage, on January 1, 2001, according to the county's cost tables, was $772,700. The appraiser used the sales comparison method (abstraction method) to calculate depreciation. Based on a land value of $85,000 and a pool value of $41,000, the value of the structure abstracted from the sale price was $324,000. The accrued depreciation on the subject property was $448,700 ($772,700 – $324,000), or 58 percent ($448,700/$772,700).

Accrued depreciation is loss in value from all causes (physical deterioration, functional obsolescence, and economic obsolescence). The county noted that, because there was no economic obsolescence, the accrued depreciation in this case would be physical deterioration and functional obsolescence. The effective age of the property as of January 1, 2001, was estimated at three years, and the total economic life of the property at sixty years. Using the age-life

method, the normal physical deterioration percentage for the subject property would have been 5 percent (3/60). This would indicate that the depreciation attributable to the mold problem would be 53 percent (58 percent minus 5 percent).

Conclusion

The loss in value appears to be a functional obsolescence problem caused by a defect in workmanship, namely, poor moisture abatement. Based on the sale of the subject property, the market demonstrates that poor moisture abatement is a curable problem, even though the renovators' reports indicate that it is incurable. Therefore, we conclude that we are dealing with curable functional obsolescence. As we cautioned at the beginning of this case study, "What you see is not always what you get."

References

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