Substantial damage assessment workbook

Structure value

Instructions: Select one source from the following to determine the structure value.

Source	Method	Findings
Optimal: Appraisal of the structure pre-damage	**Review the appraisal to make sure:** • It was done recently (within the past 5 years) – if the appraisal is older you will have to modify the value for depreciation • By a licensed appraiser • Only includes the subject structure (not sheds, accessory buildings, multiple homes, etc.) • Read the notes and methods on the appraisal to make sure you understand what the value you're looking at represents. **Does the appraisal show actual cash value of the structure separate from the land?** • If so, use that as the structure value for the Substantial Damage determination • If not, you will need to separate land value and structure value: – Use a rule of thumb by allocating 20% of the total value to the land and 80% to the structure **Does the appraisal show depreciation of the building?** • If not, you will need to calculate it. FEMA Substantial Damage Estimator Tool uses the following: – Above average: 13.4% – Average condition: 24.2% – Requires some repairs (so slightly below average): 38.8%	Actual cash value per recent appraisal: Actual cash value per outdated appraisal (modified by depreciation): Calculated value based on appraisal: Modifications include: ☐ Subtraction of estimated land value ☐ Depreciation ☐ Subtraction of buildings or other elements ☐ Other:

Source	Method	Findings
Optimal: State accepted valuation	State average home value per square foot, for example, the subject state would use a standard approach (using county or parish average and a floor of a statewide average): ($137[1]) x 0.80 (subtracting land value of 20%) = $110 $110 = proposed state minimum valuation per square foot of living area	Living area of home x $110 = Actual cash value per State accepted valuation Actual Cash Value:
Acceptable: SDE Tool Generated Value	Enter elements about the structure such as approximate construction date, condition, etc. to generate value. Best practice: standardize your assumptions (where practicable) within the jurisdiction.	Market value based on SDE Tool report ACV:
Least Optimal: Adjusted assessment value	Tax assessments are based on estimates of home value and are an acceptable method of valuation. Most assessments will indicate an assessed value, which may need to be converted to a market value. Contact your local Assessor's Office to ensure you are making the correct calculation.	Market value based on assessed value. Assessed value:

Cost to repair damage

Cost estimates should be prepared by a knowledgeable source based on current local material and labor costs but should not be a contracted scope of work. This estimate is a tool in a decision-making process, and the actual scope of work may differ significantly from an estimate for repair to pre-disaster condition.

Instructions: Use one of the three sources listed below to calculate the cost to repair damage. Verify your assumptions align with FEMA guidance using the Substantial Improvement / Substantial Damage Desk Reference

Source	Method	Findings
Contractor's estimate to repair **When to use this:** 1. When a homeowner works directly with a contractor or specialized trade contractor for cost estimating of repairs. 2. For use in a grant program.	Review estimate Ensure it includes all costs to repair disaster damage Exclude costs that don't count toward the SD analysis such as[2]: • Clean-up and trash removal • Costs to temporarily stabilize a building so that it is safe to enter to evaluate and identify required repairs • Costs to obtain or prepare plans and specifications	Estimate:

Source	Method	Findings
	• Land survey costs • Permit and inspection fees • Carpeting installed over finished flooring such as wood or tiling • Outside improvements, including landscaping, irrigation, sidewalks, driveways, fences, yard lights, swimming pools, pool enclosures, and detached accessory structures (e.g., garages, sheds, and gazebos) • Costs required for the minimum necessary work to correct existing violations of health, safety, and sanitary codes • Plug-in appliances such as washing machines, dryers, and stoves Attain a contractor's estimate affidavit[3] **Note:** Construction costs may become inflated following a disaster.	
SDE Tool Estimated Damage **When to use this:** 1. After a mass damage or disaster event.	**Use standard assumptions based on the damage event and housing stock.**	Cost to repair: % Damaged:
Homeowner's estimate (if work was completed without a contractor) **Note:** Many repair jobs require a licensed contractor or trade licensed professional per state law.	1. **Collect receipts for all materials, equipment, etc. for the repair** 2. **Collect invoices for all labor** 3. **If the labor was done by volunteers or by the homeowner, collect a written list of all hours of volunteer or homeowners' labor, then multiply by the standard skilled labor rate—for example, in Louisiana, you would use $20.67[4]**	Estimated cost:

Next steps:

- Take findings from structure value and cost-to-repair tables above.
- Divide the cost to repair by the structure value and then multiply by 100—this generates the % of damage.
- Percent damaged:

- If % damage is equal to or greater than 50% of the structure value, the structure is considered Substantially Damaged. Substantial Damage will likely trigger additional actions such as elevation, mitigation, or relocation in accordance with local, state, and federal regulations and ordinances. Use the following structure compliance tool to be best prepared to address elevation or other mitigation needs.

Structure compliance

Instructions: For each piece of information to determine structure compliance, identify the source of information (you only need one source for each), and document your findings from review of that source.

Information	Source	Findings
Current elevation of structure	☐ Elevation certificate completed within the past 5 years ☐ Elevation certificate older than 5 years Supplemented by LiDAR or other source? ☐ Yes Source: **Measurement from source:** ☐ No Used historic units and/or benchmarks? ☐ **Yes** (example: NGVD29, MSL, etc. if yes, must document the conversion to NAVD 88) ☐ No	Elevation measurement needed for compliance is: Measured at[5]: ☐ Lowest floor ☐ Bottom of lowest horizontal structural member ☐ Bottom of I-Beam ☐ 2nd floor (for enclosed crawlspace w/vents) Measurement shows current elevation of structure is:

Information	Source	Findings
Current effective BFE or ABFE **Note:** The most restrictive (highest) effective standard applies.	☐ Firm ☐ ABFE map or publication ☐ Local freeboard ☐ Local study ☐ USACE BFE study ☐ Developer-generated BFE ☐ Other:	Current elevation that the structure must be built to is:
Is the structure currently compliant with the required elevation?	Findings above:	Required elevation: Structure elevation: ☐ Compliant ☐ Non-compliant Add pre-FIRM, post-FIRM, and grant program freeboard requirements[6] here:

[1] This is an example of a state-wide minimum based on information from **Redfin.com**. Best practice would be to identify a state-wide average value per square foot and identify a regional or county/parish specific average value per square foot. If the regional/county/parish average is lower than the statewide average, use the statewide average to calculate building value, otherwise use the regional/county/parish average.
[2] https://www.fema.gov/sites/default/files/documents/fema_nfip_substantial-improvement-substantial-damage-desk-reference.pdf
[3] Samples are included in this resource.
[4] https://www.bls.gov/oes/current/oes472061.htm
[5] Different types of structures and flood zones require the elevation measurement to be taken at different points. Visit this page for details.
[6] Caution: If freeboard or other specific building construction requirements are required by the grant program but are not required by the permitting jurisdiction's building code or floodplain ordinance the local jurisdiction WILL NOT require these elements at permitting. Grant managers must ensure that they maintain sufficient project oversight to ensure these elements are included in the scope and final construction.

For additional information on Substantial Damage assessments, reach out to our Disaster Management experts:

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