

## ► 12.0 STRUCTURE INSPECTION PROCEDURE

### INSPECTION PROCEDURE

This outline provides a general approach to inspecting structures. You may have to modify this, based on field conditions.

#### 1. Before You Start

- Control* • Remind yourself that you must be in control of the inspection process. Do not allow yourself to be distracted.
- Neighborhood* • You should know what to expect from the area.  
 • What type of construction is common in the area?  
 • Are the houses low, medium or high quality?  
 • Is the area subject to chronic flooding?  
 • Are expansive soils a problem?  
 • Are unstable ravines an issue?  
 • Is the area built on fill?  
 • Are termites or other wood boring insects common?  
 • Does the climate lend itself to concealed rot of wood structural members?

#### 2. What Are You Looking At?

- Construction Type* Identify the type of structure and identify the foundation/footing system, as well as the floor, wall and roof construction.
- Materials* Look at the construction materials. Are they what you would expect?
- Access* How much of the structure is accessible?
- Additions And Modifications* Look for such things as additions, porches which have been enclosed, or other building modifications. Compare to neighboring houses to look for changes that may have been made.
- Construction Sequence* Envision the construction sequence. In what order were things put together? These can help identify problems.
- What's Missing?* Are all the pieces there? This is one of the most difficult things to observe.



### 3. What To Look For

<i>Inside And Outside</i>	The structural inspection involves looking at both the inside and outside of the building. It does not matter where you start but you should be prepared to back-track. Many inspectors are reluctant to go back and take a second look at the outside,
<i>Backtracking Is Okay</i>	for example, if they have already toured it. However, new information that you learn on the inside of the building often demands that you go back outside. You do not have to apologize for backtracking. Many inspectors use a double tour approach to all inspection items.
<i>Movement</i>	Good structures do not move. You are looking for movement. Structural reports often include words like <b>lean, sag, bow, crack</b> and <b>heave</b> .
<i>Common Conditions</i>	You should know the proper installation methods and common conditions for each material and component. Look for conditions suggesting present or future non-performance. However, do not focus on individual components in isolation. There is a relationship that must be considered. For example, if the floors are not level, this means that the foundations may have moved, joists may have deflected, or beams and columns may have moved. With structural issues there is a cause and effect relationship between various components. It is unusual for one structural component to move in isolation.
<i>Related Movement</i>	
<i>Landscape And Close-up Views</i>	Use a <b>macroscopic</b> and <b>microscopic</b> approach. With structures, this is particularly important. When you are two feet from a wall, it is tough to pick up a subtle lean or bulge. When you are fifty feet from a wall, it is tough to pick up hairline cracks.
<i>Weak Points</i>	Pay particular attention to weak points such as connections, points where additions join original construction, porches that have been closed to form living quarters, evidence of fire damage, evidence of substantial re-arrangement of the structure, inaccessible crawlspaces, mudsills, wood/soil contact, etc.
<i>What's Missing?</i>	Remember to look for what is not there, but should be.
<i>Assembling Clues</i>	When looking at the structure, you are usually adding up a series of clues. <ul style="list-style-type: none"> <li>• Does each new piece of information reinforce or contradict your initial impression? Do not reject any point that does not fit your theory as a <b>red herring</b>. Consider all of the information before forming a conclusion.</li> <li>• What do the majority of the clues suggest?</li> <li>• What could have caused the inconsistent clues to appear and still fit the description? As you zero in on the most probable scenario, take a step back and see what else may have caused it.</li> <li>• Is your theory the only possible one?</li> </ul>



*Analyzing Cracks* When looking at cracks some inspectors sketch the problems and then ask themselves a series of questions. The process goes like this:

- 1) Make a sketch of all the movement you noted
- 2) Note these things:
  - Length
  - Continuous through components?,
  - Orientation and shape (horizontal, vertical, diagonal or random)
  - What has moved ?
  - In what direction?
  - Are there other related conditions (e.g., leaning)?
  - Is it still moving?
  - Why did it move?

*Implications* Once you have concluded what has happened, then you have to answer the “So what?” question.

- What are the implications of the movement that you have seen?
- Is it typical settlement?
- Is the house about to collapse?
- Is it somewhere in between?

*Details And Big Picture* As a general strategy, you have to look for and at specific items, but you must also take a more passive look at the house and let it tell you its story. Do not make the house fit the parameters of your first impression. You need to be open-minded in the truest sense. It is one of the challenges of being a home inspector. You must be both –

- meticulous and detail-oriented
- conceptual and big-picture oriented.

*Deduction Versus Observations Results In Opinion Versus Fact* Recognize that in most cases you can’t see everything. Most of your analysis is going to be by deduction rather than direct observation. Therefore, an element of doubt is built in. Make it clear to your client where you are not reporting a fact, but offering an opinion based on indirect and incomplete evidence.

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#### 4. Conclusions and Reporting

*Evaluate Performance* Is the structure doing its job? Is it **staying put**?

*Your Suspicions* Which of the materials or methods are suspect?

*Recommendations* What needs to be done – replace, repair, investigate further, monitor, or is no action recommended?

*Priority* If improvements are necessary, are they urgent?  
Is there a life safety issue?



*Cost Estimates* If you provide estimates of cost, what are these likely to be? Where there is a possibility that what you see is the tip of a much larger iceberg, say so.

*Limitations*

- What restricted your inspection?
- Was there limited access?
- Were items concealed?
- Has recent decorating eliminated some of the historical clues that are available?
- Did storage and furnishings get in the way?
- Were roof joists, ceiling joists, etc. concealed by insulation?
- Did insulation above the top of ceiling joists prevent you from making your way through the entire attic?

Let your client know in writing how you inspected various areas. Did you crawl through crawlspaces and attics or simply look at them from the access hatch?

*Last Look* After you finish your structural inspection, ask yourself, “What did I miss?” Take one last macroscopic look at the house to make sure everything fits what you have already seen.

