

# Anatomy of Construction Litigation

## Part III - Preparing a Repair Scope

By Derek Hodgin, RBEC, RRO, PE, CCCA;  
and John C. Wylie, REWC, RRO, PE

*EDITOR'S NOTE: This is part three of a four-part series about construction litigation. For purposes of completeness, and so that each part can make sense individually, the disclaimer and a large portion of the background are repeated. Please see the August 2019 issue of Interface to read Part I and the February 2020 issue to read Part II.*

### DISCLAIMER

The issues described in this paper are considered to represent the realities of construction litigation. The opinions expressed are not intended to offend any particular participant of this process. Rather, it is the authors' intent to promote open discussion and/or debate among participants regarding improving on the "defective" (but sometimes necessary) process of construction litigation. Additionally, the issues discussed in this paper should serve to promote self-evaluation of participants to determine whether we are truly fulfilling the ethical and professional standards that we have all agreed to meet. In the end, it is the authors' opinion that those most offended by the content of this paper are likely those who are guilty of the abuses that it serves to expose. Perhaps by acknowledging the shortcomings in the process, the participants can collectively work toward needed improvements.

### BACKGROUND

No matter how tough the economy may be, the business of construction litigation seems to be active. Each claim typically has at least one real problem that serves as the

mode of discovery for the building owner. However, when this problem is investigated, the investigator (typically a professional engineer or licensed architect) is asked to provide a list of any other issues that may represent deviations from the project plans and specifications, applicable building codes, accepted industry standards, or manufacturer instructions (collectively referred to as contractor's instructions).<sup>1</sup> After all, the plaintiff only gets one opportunity to provide a list of alleged defects to which the defendants will respond. This scenario often causes unsuspecting building owners (who may have thought they only had a leaky patio door—the one real problem that initiated the process) to face a myriad of alleged defects that essentially require the building to be reconstructed from the framing out. It is common for plaintiff reports and associated repair scopes to require complete removal and replacement of roof coverings, exterior cladding (e.g., brick veneer, siding, stucco), windows, doors, balcony waterproofing systems, and even the reconstruction of concrete driveways, patios, and sidewalks.

Could the construction of new buildings

really be that bad? The fact is (and anyone who provides an honest evaluation of constructed buildings should agree), many of the alleged defects simply represent deviations from the contractor's instructions. Some deviations actually have a consequence such that a repair is warranted, while many do not. This paper will discuss the third element of a typical construction litigation case, the repair scope, and it will provide commentary based on direct involvement in numerous cases in which the author has provided expert services to both plaintiff and defense parties. Parts I and II of this series discussed the identification of defects and the expert report, respectively. Part IV will discuss the testimony aspects of construction litigation.

### THE PURPOSE OF THE REPAIR SCOPE

While possibly viewed differently by the various parties in a construction case, the true purpose of a repair scope should be to provide sufficient specifications for fixing a building that has documented problems. The intent of a repair scope is to provide reasonable durability and safety that is completed in a manner that meets and/

or exceeds the applicable building code requirements. A reasonable and valid repair scope will not falsely influence the value of a litigation case by raising the costs due to unnecessary repairs or reduce the cost by minimizing the extent of damages and/or defects by limiting needed repairs.

The claimant (typically the building owner/plaintiff) scope of repair should be an honest and objective evaluation of identified issues and provide the necessary and reasonable repair scope to address these issues. The plaintiff repair scope is typically the most conservative and should be considered as the worst-case scenario.<sup>2</sup> In most cases, the plaintiff repair scope is more comprehensive and may include design upgrades, replacement of existing components (that may or may not be damaged), and improved components that would serve to enhance the long-term performance/durability of the subject building.

When a repair scope goes above and beyond what was required to be delivered or expected at the time of original construction, a betterment issue may exist.<sup>3</sup> It is not unusual for a repair scope to include construction materials and/or details that are an improvement from what was originally provided. The reasoning seems to be that if the original construction worked, there would not be damage and/or defects to repair. However, any betterment issues should be readily acknowledged by both the plaintiff and defense parties when reviewing the repair scope. It will be up to the attorneys to argue about how much of the scope is actually owed to the plaintiff and how much would be needed for the betterment.

#### BE REASONABLE

One of the most important qualities of an effective construction expert is the ability to prepare a repair scope that is reasonable. Contrary to numerous plaintiff repair scopes reviewed over the years, it is not always necessary for a building to require complete reconstruction of the exterior envelope (e.g., roof, exterior walls, balconies, fenestrations), although such a case may exist. At the other end of the spectrum, it is typically unreasonable to suggest that identified issues are primarily an owner maintenance issue and minor repairs will suffice, although this case may exist as well. In most situations, the reasonable and necessary repair scope lies between these two extremes. Producing unreasonable repair scopes is typically what causes the huge

“gap” in the value of a litigation case perceived by the various parties. Reasonable repair scopes can serve to bridge the gap and facilitate an acceptable resolution.

A construction expert should not exaggerate or minimize the extent of damages. Avoiding this type of methodology will help lessen the discrepancy between the two extreme scopes of repair. The construction expert should use allowances/quantities based on the damages documented during destructive testing and not limit the allowances/quantities to areas of known damage. It is reasonable to assume that damages documented in one area will be repeated in other areas with similar details and exposure, especially in cases where the same contractor repeated the work during original construction. If the extent of damages is questionable, additional destructive testing should be performed, if possible. If additional destructive testing is not made available, the expert will need to work with the available data and apply professional judgment regarding the extent of additional damages and the associated allowances/quantities needed for a proper repair. There is no substitute for professional and/or contractor experience with similar repair projects.

A construction expert should use like or in-kind materials when possible. In most cases, using upgrades could be perceived as being unreasonable. However, if the failure that is being repaired is associated with a product or material issue, switching to a more durable design specification would likely be justified. If the most appropriate repair scope includes design and/or product upgrades, openly acknowledge the improved construction as a betterment.

#### BE CONSISTENT

The repair scope should be based on the facts of the case, and not which client has retained the consultant. While there are reasonable differences that can exist between plaintiff and defense repair scopes, the basics should be consistent. Similar to the objectivity tests described for written reports (Part II of this series), a repair scope should be reviewed from various perspectives. Specifically, does the repair scope fairly represent the interests of both the building owner(s) and the contractor? If you were the building owner, would you be satisfied with the repair scope? Is the repair scope adequate to address all of the identified issues? If you were the contractor, would you find the scope to be reasonable?

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Does the repair scope go above and beyond the original intent of the construction documents? These are all relevant questions that should be considered before a repair scope is finalized and released for pricing.

### HONOR YOUR PROFESSION

When preparing a repair scope, think about the building(s) as your client and forget about who retained your services. This simple exercise will help you disconnect from the interests of your client, reduce the potential for bias, and help you do your best work to solve the issues that have been identified.

Be prepared to take responsibility for the repair scope. If you have prepared a reasonable repair scope, you should have no trouble agreeing to execute and stand behind it. In the case of a licensed professional (i.e., engineer or architect), you should be willing to sign and seal a reasonable scope of repair outside the confines of construction litigation. This is relatively easy for a more conservative and comprehensive repair scope. However, if your defense scope is less conservative and/or comprehensive, you should be able to confidently support it if asked to do so. The credibility of an expert can be damaged if he or she is unwilling to stand behind his or

her own repair scope. The same “smell test” applies to the qualified contractor that you select to price your repair scope. A contractor who only prices a repair scope for purposes of construction litigation, but is unable or unwilling to perform the work, will likely be perceived as less than credible.

### DRIVING THE REPAIR COSTS UP

The following issues are commonly used to drive up repair costs, but are not always applicable:

#### Total Roof Replacement

While there are some roof issues that can only be addressed by removal and replacement, most issues simply do not rise to that level. The most common example of this is to suggest that a shingle roof needs to be removed and replaced because of improper nail placement and/or quantity. These issues with shingle roofs are common and do not typically justify complete roof replacement. In most cases, localized repairs are sufficient to

address shingle roof defects.

At the other end of the spectrum, a standing-seam metal roof with inadequate attachment via concealed clips can only be addressed by removal and replacement (Figure 1). There are no good ways to deal with this issue that eliminate the need for removing the existing metal roof. Any attempts to through-fasten metal panels would likely result in additional problems such as “oil canning” caused by thermal expansion/contraction, other attachment issues, and aesthetic issues.

#### Total Strip and Reclad of the Exterior Walls

This is not typically necessary when only local-



*Figure 2 – View of repairs adjacent to an existing window.*

ized issues exist. A total strip and reclad is most commonly recommended when attachment issues are identified with fiber-cement or vinyl siding, or localized damages exist behind stucco or brick veneer. In the absence of widespread underlying issues, a total reclad is rarely justified. In most cases, cladding defects and/or damages can be dealt with in discreet areas that extend over affected wall areas without removing every square foot of exterior cladding. However, there are cases where a total removal and replacement of the exterior cladding is jus-

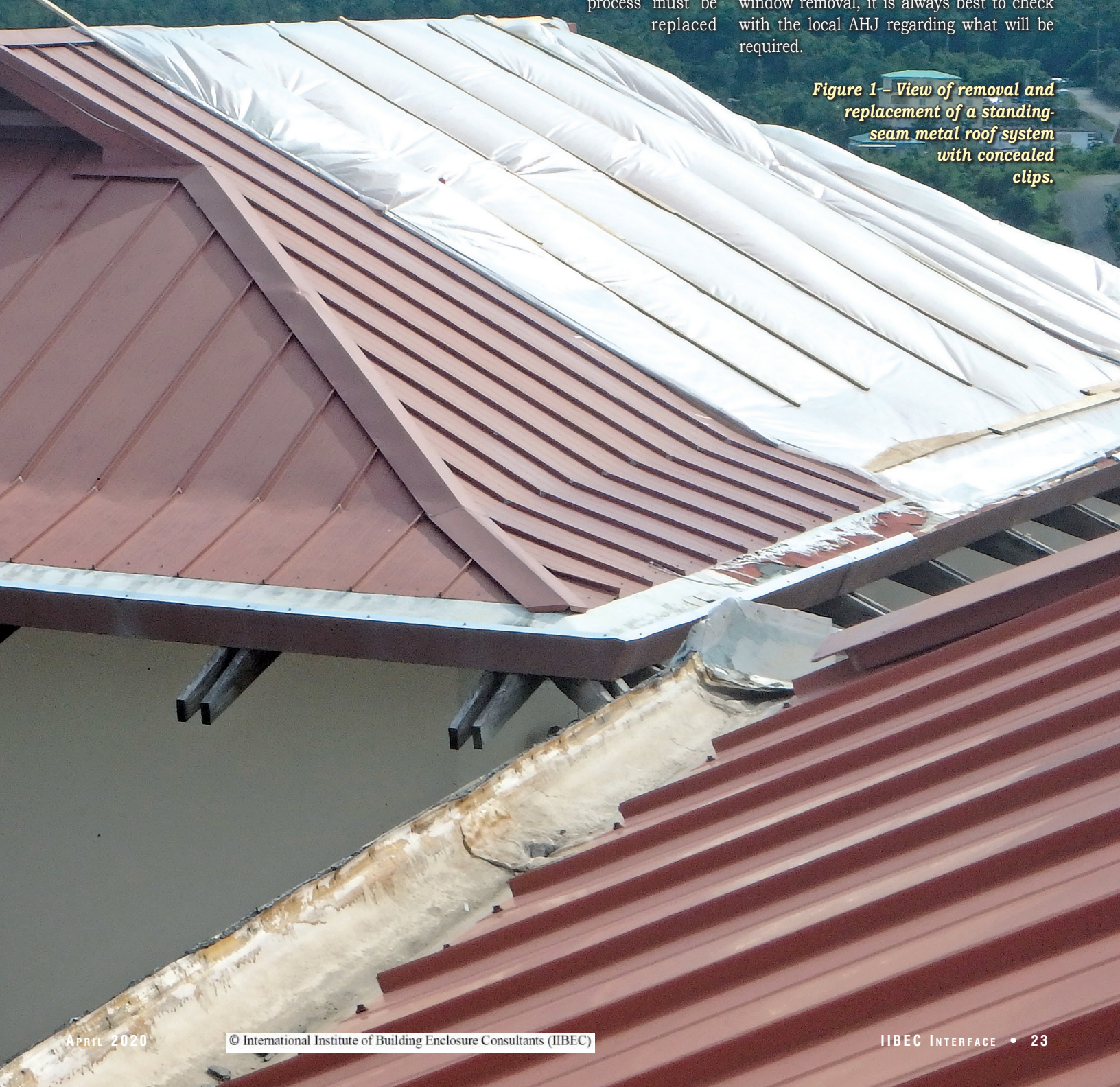
tified due to significant damage within the field of a wall (in areas away from fenestrations). Additionally, depending on the area of an exterior cladding, localized repairs may involve the removal of significant sections to the extent that a complete reclad may be justified.

#### Window Replacement

Windows are a common component included in construction litigation. In some jurisdictions, it is required that components removed from a building during a repair process must be replaced

with new, code-compliant components (Figure 2). Window replacement—particularly in coastal environments that may require high design pressure (DP) ratings and impact-resistant glazing—can be very expensive. The 2015 International Existing Building Code (2015 IEBC)<sup>4</sup> has attempted to clarify this issue with Section 602.1 – Existing Building Materials (Figure 3). However, ultimately, it is the local authority having jurisdiction (AHJ) that interprets the code, and AHJs are not always consistent. When specifying repairs that require window removal, it is always best to check with the local AHJ regarding what will be required.

**Figure 1** – View of removal and replacement of a standing-seam metal roof system with concealed clips.



**602.1 Existing building materials.** Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the *code official* to render the building or structure unsafe or *dangerous* as defined in Chapter 2.

Figure 3 – Section 602.1 – Existing building materials section of the 2015 IEBC.

**KEEPING THE REPAIR COSTS DOWN**

The following issues are commonly used to keep the repair costs down, but are not always applicable.

**Localized Repairs**

Consider whether localized repairs could be effective in addressing the identified defects and/or damage. If so, be reasonable about the extent of the repair area so that there is not a “patchwork quilt” of repairs that serve to compromise the appearance of the subject building(s). Often it is desirable to extend a repair area from corner to corner to fully encapsulate an entire wall section. At the very least, the wall section where the localized repair was performed may need to be refinished/painted to result in a uniform appearance that makes the repair area not easily detected.

**Protected Areas**

Are there areas on the subject building(s) that are protected or not exposed such that construction defects would be of no consequence? In most cases, it is recommended that all identified defects be repaired. However, what if the defect is protected from

weather and has no consequence? Protected windows and doors (e.g., located beneath extended roofs, breezeways, etc.) that may have improper flashing details are a good example of an area that could be considered for elimination from a repair scope. Figure 4 shows the 2018 International Building Code (IBC)<sup>5</sup> definition of weather-protected areas.

**Allowances Based on Available Data**

Because the actual extent of damages will only be discovered during a repair

process, it is necessary to establish an allowance for the unknown damages. It is unreasonable to perform destructive tests in the most vulnerable areas for damage and extrapolate that observation over the entire project. Similarly, it is not reasonable to suggest that the only damages that exist are those that have been exposed during the limited destructive testing process. Anyone experienced with comprehensive repairs on an existing building can tell you where the predictable areas of damage exist and, together with the destructive testing information, make informed decisions regarding allowances.

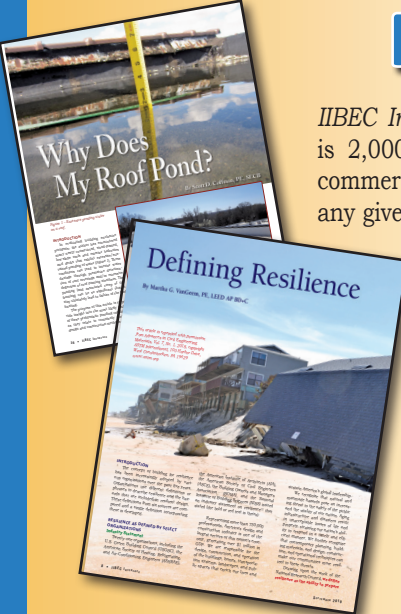
**BE WILLING TO EXECUTE**

One of the most effective ways to support and validate a repair scope is for a consultant to be willing to execute the scope

**[BF] Weather-exposed surfaces.** Surfaces of walls, ceilings, floors, roofs, soffits and similar surfaces exposed to the weather except the following:

1. Ceilings and roof soffits enclosed by walls, fascia, bulkheads or beams that extend not less than 12 inches (305 mm) below such ceiling or roof soffits.
2. Walls or portions of walls beneath an unenclosed roof area, where located a horizontal distance from an open exterior opening equal to not less than twice the height of the opening.
3. Ceiling and roof soffits located a minimum horizontal distance of 10 feet (3048 mm) from the outer edges of the ceiling or roof soffits.

Figure 4 – 2018 IBC definition for weather-protected areas.



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Figure 5 – View of improper horizontal on-center fastener spacing.

and stand behind it. While this is easier to do with a more conservative plaintiff scope, it can be very effective to endorse a scope to gain trust and confidence from the opposing side. This also helps you to produce a reasonable scope—one that will adequately address the defects and/or damages identified on the subject building(s).

## CASE STUDIES

### Fiber-Cement Board Siding

Common alleged construction defects in litigation cases are related to the attachment of fiber-cement board siding. In a recent litigation case, the plaintiff expert opined that the fiber-cement board siding was inadequately attached to the building as a result of insufficient fastener on-center spacing (Figure 5). Due to this condition, the plaintiff scope of repair recommended a complete removal and replacement of the

entire fiber-cement board cladding based on deviation from the manufacturer installation instructions.

The defense expert agreed with the plaintiff expert that the fiber-cement board siding was inadequately attached; however, he respectfully disagreed that a complete removal and replacement would be considered necessary. Specifically, the defense expert showed—through a preliminary engineering analysis and relying on an industry standard—that supplemental fastening at a maximum on-center spacing would meet or exceed the prescribed building code wind pressures.

### Weather-Protected Windows

If an issue is observed and shown to be replicated at several windows, that issue is typically extrapolated to include all windows. In a litigation case involving several

condominium buildings, the plaintiff expert opined that the weather-resistive barrier (WRB) and flashing elements were improperly integrated at the head of the windows, based on several destructive tests that displayed the same condition. Accordingly, the plaintiff scope of repair included localized removal of the exterior cladding and repairs at all of the windows.

The defense expert agreed with the plaintiff expert that improper integration of the WRB and flashing existed; however, he respectfully disagreed that the repair should include all of the windows. Specifically, the defense expert opined that though a technical violation of the applicable building code and manufacturer installation instructions existed, windows located in front breezeways and covered balconies (i.e., weather-protected areas) should not be included as part of the scope of repair because there is



Figure 6 – View of cracking in a reinforced concrete slab-on-grade foundation.

little to no significant consequence due to the environmental conditions. To further strengthen the point, the defense expert performed destructive testing at windows located in weather-protected areas and showed an absence of water intrusion.

### Foundation Repair

Cracking in a reinforced concrete slab-on-grade foundation does not always indicate a structural issue (Figure 6). Further investigation into the location, propagation, width, and depth of cracks can be useful in identifying the type of cracking. In a litigation case involving a commercial building, the plaintiff expert opined that the observed cracking was structural in nature and caused by improper spacing of control joints, improper depth of control joints, and improper thickness of the slab. Due to the relative location and frequency of cracking, the plaintiff's scope of repair included the removal and replacement of the commercial reinforced concrete slab-on-grade foundation. The scope of repair included the removal of all items within the commercial space and temporary storage during the repair process.

The defense expert respectfully disagreed with the plaintiff expert that the observed cracking was structural but was the result of shrinkage cracking caused during the curing process. Though the spacing and depth of the control joints was inadequate, the defense expert performed material testing to verify the structural

properties of the concrete, in addition to performing soil testing to verify adequate compaction. Based on the results of the testing, the concrete slab and soil exceeded the specified minimum requirements. The defense scope of repair included the installation of supplemental control joints and installation of an epoxy grouting into the observed cracks.

### CLOSING

As described throughout this article, the purpose of a repair scope should be to provide sufficient specifications and details for fixing a building that has documented prob-



Derek A. Hodgin

*Derek A. Hodgin, of Construction Science and Engineering (CSE) in Westminster, SC, has over 25 years of experience as an engineering consultant. He is responsible for facility condition inspections, failure analysis, damage assess-*


*ments, and forensic engineering investigations of all types of structures. A large part of his projects have included analysis of deficient construction cases, including roofs, exterior walls, windows, doors, structural framing, civil site work, and building code review.*



John C. Wylie

*John C. Wylie, with CSE, has 11 years of experience as a licensed engineer and consultant—primarily in the areas of deficient construction, structural analysis, and collapse/damage investigations. He is responsible for the inspection and*

*structural analysis of a wide variety of building enclosure and framing systems, including roof, wall, and guardrail systems that have been subjected to damage caused by hurricanes, floods, tornados, hail, wind, ice, and fire.*

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