



THE CONSULTANTS PERSPECTIVE

A SUGAR PUBLICATION

FALL 1997

PROPERTY/CASUALTY EDITION



Providing Forensic Consulting and Technical Services

THINGS ARE NOT ALWAYS WHAT THEY SEEM IN PROPERTY DAMAGE CLAIMS

In the majority of property claims the cause of damage is readily apparent to the adjuster in the field. The insured files a claim, the adjuster examines the damage and resolves the claim. In some cases, though, the cause of the damage may not be apparent to even the most experienced adjuster or the cause may be the subject of dispute. The insured may feel that his damage was caused by one or more covered perils. This impression may arise from an the opinion given by an eager repair contractor or from the insured's own diagnosis. It is when the cause or causes are in dispute or are not known that professionals of various types are called upon to evaluate the situation and render an opinion to help settle the claim.

Frequently the professional is called upon to simply render a "yes" or "no" opinion. That is, he or she must answer only the question: "did or did not a certain peril cause the damage in question?" In those cases where the answer is "no" the next question that should be answered is "what really happened here?" Simply saying "no" without explaining why will generally not satisfy the insured. The following case studies briefly describe various claims of damage to residential structures where the cause of damage was not readily apparent to the adjuster, and where the final answer to the question: "what really happened here?" had to be determined to satisfy the insured or claimant.

BLASTING DAMAGE CLAIM

The first case study involves a claim of blasting damage to a residential structure. The house was approximately 25 years old located in a mountainous region of North Carolina. A new highway was under construction near the house and a significant amount of blasting was required to remove rock from the right-of-way. The insured filed a claim containing several sketches and a detailed list describing 54 individual damage items allegedly caused by the blasting. The list included exterior damage such as cracked brick veneer, loose window glass and glazing compound, cracks and loose flagstones in a sidewalk, and warped wood trim. Interior items included cracks and nail pops in gypsum board walls,

loose door casing and molding, and cracks in the grout in the bathroom tile.

Review of the blasting records indicated that the house was far enough away from the blasting to have sustained no damage due to ground vibrations. Examination of four nearby residences did not reveal any damage caused by blasting. One of these houses was only a few hundred yards from a location of significant blasting. At the request of the client, however, I proceeded to establish a most probable cause for each of the items enumerated by the insured. My report consisted of a one-for-one response to each of the "punchlist" items, all of which were determined to be the result of either lack of maintenance or of settlement of a typical 25 year-old residential structure.

- All of the cracks in the brick veneer were settlement cracks. There was an accumulation of debris in the cracks which indicated that the cracks were fairly old, pre-dating the blasting.
- The cracks and loose paving stones in the sidewalk were caused by periodic freezing of the ground. This resulted in small movements of the sidewalk stones relative to each other. The resulting cracks were not repaired and the deterioration accelerated.
- The loose window glass and glazing compound was the result of aging and weathering. The glass was held in place in the wood window frames by an oil-based putty applied to the inside of the window frames. During the winter months moisture condensed on the colder glass surfaces and dripped down to the bottom of the window panes. Repeated wetting and drying over the life of the house caused the putty to age and the oils evaporated out. As the putty became more brittle and shrank it drew away from the window frames and the glass became loose.

Note that these last two items were related to maintenance which could have been attended to by the homeowner.

In This Issue

Things Are Not Always What They Seem In Property Damage Claims	1
FORCON Opens Raleigh Office	3
Accident Reconstruction Training Seminar in North Carolina	4
FORCON Exhibits at Trucking Conference	4
A Little Humor	5

Similarly, the interior items were related to maintenance and settlement.

- The majority of the cracks were the result of the settlement of the foundations which also caused the brick veneer to crack.
- There was standing water in the crawlspace. The changes in moisture content brought about by the presence of this water would be sufficient to cause shrinkage and swelling of the wood framing members supporting the floors and walls. This would, of course, cause cracking in the drywall finishes in the living spaces above. This movement would also have caused trim boards and door casings to shift. Dramatic changes in the moisture content of the soil under the foundation would result in small movements and cause further distress to the interior finishes.
- Finally, the floor framing was not stiff enough to prevent the floors from sagging. This resulted in movements and cracking of walls and the tile and the bathroom.

CLAIM OF UPLIFT FROM WIND LOADS

The next case is one in which a contractor told the insured homeowner that strong winds had lifted his house from its foundation and deposited it back just slightly out of its original position. The evidence cited was several brick piers which had shifted relative to the supporting structure of the house. At the time of my field observations the house was 30 years old and appeared to be in good condition.

Analysis of the affect of the possible wind loads revealed that it was not possible for the wind to lift the house from the foundation as claimed. This analysis further revealed that the roof joists would have been pulled off of the walls before the house would have moved from its foundation. I saw no such damage during my observations of the attic and roof framing.

The foundation consisted of brick piers at regular intervals. These piers rested on footings of stones bonded together with mortar with less than 12 inches of soil cover. A brick curtain wall had been added between the piers at some later date. (See Figure 1) Detailed observations revealed that the floor and wall framing actually rested on the top of the curtainwall and not on the original piers. My conclusion was, therefore, that the original footings had settled and the house came to rest on the curtainwalls. With the passage of time the stone footings shifted, causing the piers to settle further. Since the tops of the piers were not restrained they were able to move relative to the house.

I later had the opportunity to observe a house that sustained severe wind

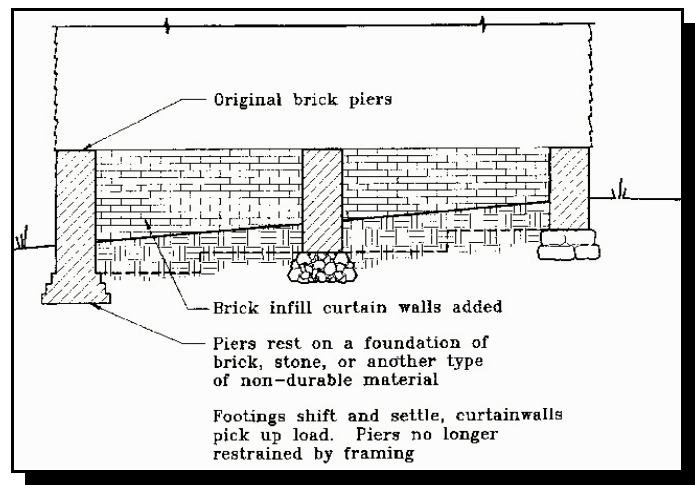


Figure 1. Masonry foundation piers with masonry curtainwall.

damage from a tornado which passed by at a distance of less than 100 yards. In this case the entire roof was lifted from the house and deposited upside-down on the ground nearby. I checked the floor framing to see if it had shifted during the storm. My observations revealed that even under these extreme wind loads the house did not shift on its foundation.

CLAIM OF DAMAGE TO BRICK VENEER DUE TO WIND LOADS

Hurricanes Bertha and Fran resulted in an large number of claims. After the storm, for the first time in years, homeowners took the time to look around at their property. Some homeowners saw cracks that, as far as they were concerned, had appeared since the storm and had therefore been caused by the high winds. This next case deals with cracks in the brick veneer of a small, well-cared for house which experienced both hurricanes. When I observed the cracks they were essentially horizontal and originated at two window heads at an end wall. (See Figure 2.) The interior structure of the house was such that this particular wall could not have deflected sufficiently to cause these cracks. Close observation revealed that the brick over each window opening was supported by a steel plate lintel. These lintels had corroded to the point that the steel had begun to separate into layers and expand. My research indicated that iron oxide, the corrosion product in rusted steel, occupies approximately 6 times the volume of iron. The corrosion and resulting expansion of the ends of these steel lintel plates initiated small cracks at the weakest point in the wall, the window heads. As the corrosion proceeded, the expansion proceeded, opening the cracks in the brick veneer wider.

CLAIM OF DAMAGE TO BRICK VENEER DUE TO LIGHTNING STRIKE

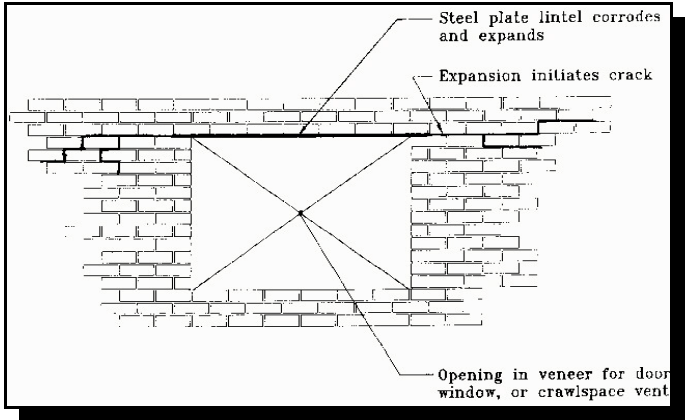


Figure 2. Steel lintels over openings in brick veneer wall.

This case is very similar to the preceding case in that it also involved a horizontal crack in brick veneer. The insured in this case claimed that lightning struck a tree in the front yard of his house, traveled along a buried water line and struck the house, producing a crack extending horizontally all the way around the perimeter of the foundation wall. The house in question was approximately 30 years old and was covered with brick veneer. It appeared to be in generally good condition. I observed extensive minor settlement cracking of the brick veneer on all of the walls. This did not explain the presence of the horizontal crack. Upon closer examination I observed that this crack ran along the top of the crawlspace vents. When I looked at the wall from the crawlspace I saw that steel

lintel plates had been installed over the vents and that all of these plates were heavily corroded. This corrosion had caused the plates to expand and crack the brick veneer similar to the previous case.

CLAIM OF DAMAGE TO FLOOR FRAMING DUE TO WORK DONE BY TELEPHONE COMPANY

In this case a telephone company technician drilled a hole in the floor of an existing house to run a telephone line. The house was about 15 years old and was in good condition. The technician was unfortunate enough to drill completely through the end of a floor joist. When informed of this incident, the owner filed a claim against the telephone company for damages to his house. In his claim he stated that the floor of the room in which the hole had been drilled was sagging. (See Figure 3.) He attributed this sagging to the hole drilled at the end of one single floor joist. While pursuing his claim the owner attempted various elaborate repairs to shore up the floor. The owner's claim eventually included the cost of these repairs. After almost a year of negotiations with the owner, the telephone company called upon me to establish the cause of the claimed damage.

During my conversations with the insured I discovered two interesting

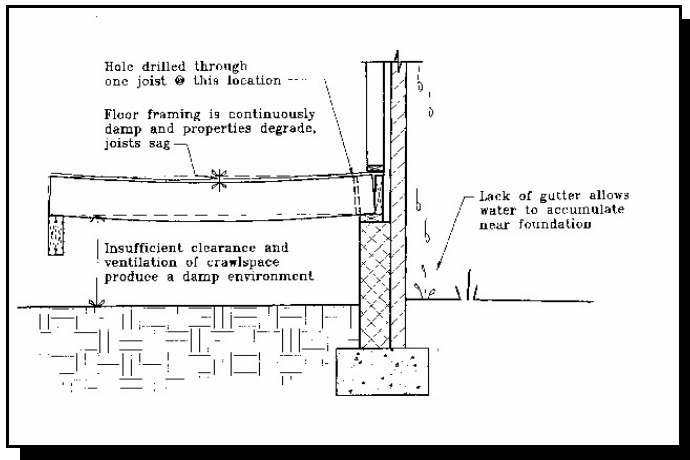


Figure 3. Soft or rotted floor framing.

facts. The first was that he had contracted to have almost 20 large pine trees removed from his property within the past 12 months. The second was that the house had no gutters until just prior to the technician's work. My observations revealed that the bottoms of the floor joists were soft but not rotted. I also observed that there was an insufficient amount of crawlspace ventilation. From a theoretical point of view I knew that a small hole drilled through the end of a single floor joist could not cause the entire floor system to sag as claimed. The task now became one of establishing the actual cause of the deflection of the floor.

During my investigation I established that the floor framing was weak and had probably been sagging for a fairly long time. The reason for this sagging was the fact that the floor framing, up until recently, was in a constant atmosphere of high humidity. This state of high humidity was due to the fact that there were no gutters to prevent water from accumulating on the ground around the house. The pine trees, only recently cut down, effectively prevented the ground from drying and the accumulated ground water migrated to the crawlspace. Once inside the crawlspace this groundwater produced excessive humidity which could not be dissipated by the inadequate crawlspace ventilation. Water vapor condensed on the surfaces of the floor joists, causing degradation of the

wood. As the wood degraded it sagged.

CLOSING THOUGHTS

A common thread through all of these cases is that the damage claimed by the insured was almost always due to lack of maintenance. In many cases homeowners either don't observe, or don't deal with problems when they first appear and the solutions are the least expensive. Just because a homeowner only notices some property damage after a storm or some other significant occurrence doesn't mean that the damage wasn't there before the occurrence. A thorough investigation by a qualified professional should answer the question "What really happened here?"

Gregory A. Robinson, P.E.

ABOUT THE AUTHOR

Greg Robinson received a Bachelor of Science in Civil Engineering degree from North Carolina State University in 1981 and a Master of Civil Engineering degree from North Carolina State University in 1983. Since receiving these degrees he has practiced engineering with several prominent Raleigh engineering firms until 1991 when he started his own engineering consulting firm. Greg also has 21 years of active and reserve service in the U.S. Navy Civil Engineering Corps. He is a registered professional engineer in North Carolina, South Carolina, Virginia and Georgia.

Since starting his own consulting firm, Greg has conducted numerous forensic investigations involving various types of property damage claims to residential and commercial structures. As a FORCON consultant for the past four years, Greg has been extensively involved in claims associated with EIFS problems, as well as claims generated by Hurricanes Bertha and Fran.

As the next article indicates, Greg is also now the manager of FORCON's new Raleigh office.

FORCON OPENS RALEIGH OFFICE

FORCON International is pleased to announce the opening of our office in Raleigh, North Carolina. The Raleigh office manager is Greg Robinson, P.E. a structural engineer with over 15 years of engineering experience including extensive forensic investigation experience. Greg has been working as a FORCON consultant for the past 4 years.

In addition to Greg the FORCON Raleigh team currently includes:

- | | | |
|---------------------|---|-------------------------------|
| John Willers, P.E. | - | Roofing |
| Joel Hobby, P.E. | - | Mechanical |
| John Harris, P.E. | - | Civil |
| Bob Holsinger, P.E. | - | Highway & Traffic Engineering |
| Joyce Noxon | - | Administrative Assistant |

FORCON EXHIBITS AT TRUCKING CONFERENCE

Bill Ver Eecke and Steve Chewning staffed an exhibit of FORCON's accident reconstruction services at the American Trucking Associations Safety Management Council National Meeting and Exhibition in Indianapolis on September 29th through October 1st. The meeting was attended by some 350 key safety personnel from large and small motor carriers nationwide.

Part of FORCON's new Raleigh, North Carolina team:
Joel Hobby, Greg Robinson, Joyce Noxon, John Willers, John Harris

Steve Chewning, accident reconstruction coordinator for all of FORCON's offices is also part of the Raleigh team. Steve is based in the Richmond, Virginia office. He will be conducting an accident reconstruction training seminar for claims professionals in North Carolina in the spring of 1998. (See next article)

FORCON's Raleigh office is located at 609 St. Mary's Street and our phone and fax numbers are 919-834-5190 and 919-755-9794. Property/Casualty assignments for the Raleigh office can be made by contacting Greg in Raleigh, or by contacting Bill Ver Eecke in Atlanta at 800-390-0980.

ACCIDENT RECONSTRUCTION TRAINING SEMINAR IN NORTH CAROLINA

FORCON International and the law firm of Smith, Helms, Mullis & Moore are planning to conduct a training seminar entitled: Accident Reconstruction-A Primer for the Insurance Claims Professional. This seminar will be similar to the seminar which FORCON has conducted for the past three years in Atlanta. The Atlanta seminar was approved for Continuing Education Unit credits for adjusters by the Georgia Insurance Department and similar accreditation is being sought from the North Carolina Department of Insurance.

The seminar is presently scheduled for Monday, March 2, 1998 at the Embassy Suites Hotel in Greensboro starting at 9:00 a.m. and concluding at 4:30 p.m. Lunch will be provided and there will be an attendance fee to cover the cost of the meeting room, lunch and seminar materials. For further information or to reserve spaces at the seminar please contact either our Raleigh or Atlanta office.

If you have any change of address,
please mail corrections to:

FORCON International Corporation
1216 Oakfield Drive
Brandon, FL 33511

FORCON International Offices Providing Forensic Consulting and Technical Services:

Atlanta, GA	(770) 390-0980
Avon, CT	(860) 674-8101
Morristown, NJ	(201) 326-8822
Raleigh, NC	(919) 834-5190
Richmond, VA	(804) 285-7870
Tampa, FL	(813) 684-7686
Washington D.C.	(301) 670-1262

E-Mail Us at
(Tampa) FICTPA@aol.com
(Atlanta) FICATL@aol.com

A Little Humor ...

This is a bricklayer's accident report that was printed in the newsletter of the English equivalent of the Workers Compensation Board.

Here is the bricklayer's report:

Dear Sir:

I am writing in response to your request for additional information in Block # 3 of the accident reporting form. I put "poor planning" as the cause of my accident. You asked for a fuller explanation and I trust the following details will be sufficient.

I am a bricklayer by trade. On the day of the accident, I was working alone on the roof of a new six-story building. When I completed my work, I found I had some bricks left over which when weighed later were found to weigh 240 lbs. Rather than carry the bricks down by hand, I decided to lower them in a barrel by using a pulley which was attached to the side of the building on the sixth floor.

Securing the rope at the ground level, I went up to the roof, swung the barrel out and loaded the bricks into it. Then I went down and untied the rope, holding it tightly to insure a slow descent of the 240 lbs. of bricks. You will note on the accident reporting form that my weight is 135 lbs.

Due to my surprise at being jerked off the ground so suddenly, I lost my presence of mind and forgot to let go of the rope. Needless to say, I proceeded at a rapid rate up the side of the building.

In the vicinity of the third floor, I met the barrel which was now proceeding downward at an equally impressive speed. This explains the fractured skull, minor abrasions and the broken collarbone, as listed in Section 3 of the accident reporting form.

Slowed only slightly, I continued my rapid ascent, not stopping until the fingers on my right hand were two knuckles deep into the pulley which I mentioned in Paragraph 2 of this correspondence. Fortunately by this time, I had regained my presence of mind and was able to hold tightly to the rope, in spite of the excruciating pain I was now beginning to experience.

At approximately the same time however, the barrel of bricks hit the ground, and the bottom fell out of the barrel. Now devoid of the weight of the bricks, the barrel weighed approximately 50 lbs. I refer again to my weight.

As you might imagine, I began a rapid descent down the side of the building. In the vicinity of the third floor, I met the barrel coming up. This accounts for the two fractured ankles, broken tooth and severe lacerations of my legs and lower body.

Here my luck began to change slightly. The encounter with the barrel seemed to slow me enough to lessen my injuries when I fell into the pile of bricks and fortunately only three vertebrae were cracked.

I am sorry to report, however, as I lay there on the pile of bricks, in pain, unable to move and watching the empty barrel six stories above me, I again lost my composure and presence of mind and let go of the rope.

FORCON INTERNATIONAL CORP.
PRESENTS
THE CONSULTANTS PERSPECTIVE
IN THIS ISSUE ! - AN ARTICLE ON
*Things Are Not Always What They Seem in Property Damage
Claims.*
**FORCON OPENS RALEIGH OFFICE
AND MORE !**

FORCON INTERNATIONAL CORPORATION
1216 Oakfield Drive
Brandon, Florida 33511

BULK RATE
US POSTAGE
PAID
PERMIT No. 116
BRANDON, FL