



### **Communications ...**

There is an old joke about determining which structural engineers are outgoing. When talking with them, they are the ones that look at your shoes, rather than at their own. Sadly, there is some truth to this stereotype. Many engineers prefer to interact with other people through their computers and mobile devices, rather than in person. While there are notable exceptions, engineers typically are not great communicators.

Inadequate communications is a leading cause of construction litigation. Simply stated, key project information is neither conveyed nor understood as well as it needs to be. Here are three common examples.

**Verbal Agreements:** In today's litigious environment, it is incomprehensible that some projects lack written agreements. Yet verbal agreements persist. A structural engineer should never accept any assignment without written documentation of scope, schedule, and fees.

Without a written agreement, a structural engineer's scope of work can be expanded without limitation at the whim of the client. How many times must the engineer redesign a project to accommodate changes made by other parties? How often must the engineer attend meetings or visit the site during construction? Where are the boundaries between the responsibilities of the engineer and those of the other members of the design team? Similarly, without a written agreement, an engineer's schedule can become contentious. When are the engineer's final construction documents due? How much time is the engineer given to process shop drawings, RFIs, and other submittals? Finally, without a written agreement, an engineer might find that it is difficult or impossible to fully collect their professional fees.

**Unrealistic Expectations:** Inadequate communications often result in unrealistic expectations by clients. As the lead design professional on a building project, an architect is responsible for reaching consensus with the

owner on budget, layout, aesthetics, and much more. Usually working through the architect, a structural engineer is similarly responsible for reaching consensus with the owner on the structural system and its limitations.

An owner is upset when cracks appear in their structure. Before starting design, a structural engineer should have explained to the owner that concrete cracks for a variety of reasons, most cracks are not problematic, and preventing all cracks is economically prohibitive. Much of Texas has expansive clay soils that swell with increases in moisture. Geotechnical reports address this by offering specific alternatives to avoid or limit foundation heaving. For example, with certain subgrade treatments, slab-on-grade heaving might be limited to a specified value. Based on price, an owner often selects this option, expecting that no heaving will actually occur. Before starting design, an engineer should have obtained a written statement from the owner acknowledging the risks inherent in this option and accepting the potential heaving.

**Shortcuts:** Thirty years ago, nearly all project communications were documented in writing and transmitted by mail, courier, or facsimile. That ended with the arrival of the Internet. Most communications today are transmitted as emails and texts. Documents are shared electronically on ftp sites and cloud storage. All of this represents real progress and efficiency, but there is a downside.

Electronic tools have led to less formal and thorough communications. A culture has arisen wherein emails and texts are acceptable with abbreviations instead of words, phrases instead of sentences, and awful spelling and grammar. How useful is an email or text message that simply states "Okay, do that" without any context? Electronic tools have led to unprecedented speed, but the "We want it yesterday" mentality that now prevails has led to many poor habits justified by expediency. Perhaps our communications tools have evolved faster than our ability to effectively use them.