

Engineer Found Negligent for Not Verifying Product Data

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Executive Summary: Scott Jennings, P.E., M. ASCE, responds to an article published in ASCE's signature publication, Civil Engineering magazine. Kudos to the project owner for holding the engineer of record responsible for the engineering of the project when he was looking to others to be accountable for his mistake. The article is attached.

Opinion: Page 92 of the June 2016 issue of Civil Engineering magazine is a disappointment to me, and another example of the industry's downward spiral in engineering accountability. The article, *Engineer Found Negligent for Not Verifying Product Data*, discussed a legal case of a contractor installing an engineer-specified product (a rain tank), which later failed, causing financial damage to the project owner.

On this matter, both William H. Gordon Associates, Inc. (the engineer of record) and the ASCE should be ashamed of themselves.

The article presents a great overall summary of (1) the Virginia State Supreme Court's decision and (2) the related brief written by amici curiae (a legal term meaning a group of voluntary impartial advisers numerous professional ASCE. to the Court) composed of societies, one of which is the

Is this how we [the engineering community] exemplify competence and assure quality to the public - by squirming out of our duty to protect them via hiding behind soap scum stained curtains of insurance clauses and legal protections?

The article is factual and paragraph where the authors deceived into believing that breached its responsibilities. cheek with the rhetorical that whoever has the best no offense to these experts, case it didn't take much more than a junior engineer to make the case for the contractor and owner. Here's a partial list of the facts presented by the plaintiff against the engineer of record:

objective up until the final imply that the Court was the engineer of record The authors get tongue in question of "Does this mean expert wins?" Frankly, and but based on the facts of the

- The initial plans presented by the engineer to the County Reviewer were incomplete.
- Once approved by the County, the plans were never taken to a point where they were satisfactory for construction – they remained ambiguous.
- The rain tank product was explicitly specified by the engineer of record.
- The contractor's submittal package was complete and presented exactly what the engineer demanded.

Scott Jennings, P.E., is the President of SJ Construction Consulting, LLC, a member of ASCE, and has been serving as the ASCE Hawaii Chapter's Construction Committee Chairman for nearly a decade. He recently owned and operated a heavy/civil construction company and now provides cost estimating, litigation support, and efficiency advice to contractors. He is the founder of Runjob Software, Inc. Contact Scott at (808) 271-5150, sj@sjcivil.com, or www.sjcivil.com.

- The contractor noted in an RFI that the site conditions (groundwater table) may warrant further review of the application of this product to this specific site.
- The tank was installed per the manufacturer's requirements as recorded by the third party inspection firm.
- After product failure, the replacement rain tank system was replaced by a different product.

These facts are all quite damning against the engineer.

Regarding the authors' statement that the party with "...the best expert wins", I've got to ask why the briefs didn't have pages and pages of rebuttal against the plaintiffs' witnesses? My guess is that not a witness could be found to confidently and thoroughly bolster the defendant's position.

Early in ASCE's brief, the parties warn of potential increase in the cost of design services and the resultant discouragement of the use of cutting edge products since now engineer's will have to perform their own research on products prior to implementation. This is mere poppycock. As a contractor, all of our value engineering submittals always had to be stamped by a professional engineer; there is no reason why the engineer of record cannot adequately pass on the liability to the manufacturer by requiring them to either seal the drawings or to warrant their own product.

I am dumbfounded by the professional societies' statement in their brief that the contractor was "the party best positioned to anticipate and guard against the risks associated with manufacture and installation of the Rain Tank system". How does this make sense when the engineer of record explicitly stated he wanted this manufacturer and the installation was found to be satisfactory according to the third party testing agency? Product selection and incorporation into this specific site is what the Owner hired the engineer to do.

I give a miniscule amount of support to the appellant (the engineer of record) in their position that the contractor failed to hold up their obligation under the contract. The contract stated that the installer was to use a roller no heavier than 6 tons, and the contractor used a 17 ton roller. However, there was not immediate collapse of the tank upon installation caused by excessive weight on the system. The failure was three months later and the evidence pointed to the causal effect of collapse as being the presence of the existing groundwater table which (1) was seen by the naked eye during construction, (2) was documented prior to installation via RFI by the contractor, and (3) was outside the manufacturer's specifications.

As a contractor, I saw liability of this nature coming at us regularly, and as a professional engineer, it nauseates me. I cannot understand why the engineering community allows behavior like this. The facts reveal a misapplied "cut and paste" design at this site. This is a fundamental engineering mistake – especially in light of the fact that the contractor pointed it out!

What happened to our pride and respect in and of the profession? Did we all forget how our minds were trained to apply methods and superior knowledge in problem solving? Where was the application of that superior knowledge in this instance? My goodness, the first sentence on licensure on the NSPE website says "PE licensure is the engineering profession's highest standard of competence, a symbol of achievement and assurance of quality." Is this how we exemplify competence and assure quality to the public – by squirming out of our duty to protect them via hiding behind soap scum stained curtains of insurance clauses and legal protections?

Kudos to the state of Virginia for instilling confidence in the public that engineers should be accountable for engineering, and that contractors and clients can count on that as well. The trial court's decision injects certainty in the construction industry generally.

The public, and even the Plaintiff, can forgive a mistake, but the lack of accountability exemplified by the engineer of record and further supported by our professional societies is untenable. The right thing to do was to admit the mistake, fix it, and move on.

Engineer Found Negligent for Not Verifying Product Data

LEGAL QUESTIONS that go to the heart of liability issues concerning architects and engineers are rarely considered by state supreme courts. However, the highest court in Virginia recently dove into the following two issues: (1) whether a contract between a contractor and an owner can absolve an engineer of liability and (2) the evidence required to establish a breach of the standard of care on the part of a professional engineer. These issues were of such significance to the architecture and engineering community that ASCE, the National Society of Professional Engineers, the American Council of Engineering Companies, and other associations filed amicus curiae briefs to support the engineer's position. In the end, the Supreme Court of Virginia found against the engineer on both issues.

In *William H. Gordon Associates, Inc. v. Heritage Fellowship, United Church of Christ*, a church contracted with an engineering firm (Gordon) to design final site plans, including a rain tank system. According to Gordon's plans, the rain tank was to be buried beneath 10 ft of soil and paved over for use as a parking lot. The church then engaged a contractor to build the rain tank, the parking lot, and a new sanctuary. The tank's design plan was signed and sealed by Gordon and approved by the permitting agency.

During construction the contractor submitted a request for information, raising concerns about the tank's location in light of a high water table. Gordon responded by referring the contractor to information in the manufacturer's drawings; it did not modify or reevaluate the tank system. Two months after the tank was installed, the tank and the parking lot above it collapsed. The problem was ultimately addressed by a

different stormwater management design. The cost and delay were considerable, prompting litigation to determine responsibility.

At trial, the owner's and the contractor's experts testified that Gordon breached its standard of care by failing to conduct due diligence regarding the suitability of the tank design for the site in question, incorporating specifications from nonengineers into its own plans without verification of those specifications, providing ambiguous plans, and failing to respond appropriately to questions during construction. Gordon defended itself by arguing, among other points, that the prime contract shifted the risk of any failures in the rain tank from it to the contractor. It also argued that it met its standard of care by relying on information from the tank manufacturer.

The trial court ruled against Gordon, finding that "the sole proximate cause of the damages was the failure of Gordon to meet the minimum standard of care as an engineer required of it by its contract with the church." The Supreme Court of Virginia examined the evidence before the trial court and concluded that this decision should be upheld.

The high court rejected Gordon's argument that the construction contract shifted the risk of design defects to the contractor, citing evidence that the contract left no design discretion to the contractor and that Gordon's plans were "prescriptive specifications," as opposed to "performance specifications." Because the contractor was obligated to adhere to Gordon's plans, it could not be made liable for defective design.

Gordon argued that it met the standard of care by relying on information from the tank manufacturer. Its contract, it noted, included a provision stating that the engineer "shall be entitled to rely on the accuracy and completeness of... information supplied by third parties." The high court rejected this argument as well, citing substantial expert testimony presented to the trial court that the tank's design was not suitable for the water table at the site.

This testimony included opinions that Gordon violated the standard of

care when it relied on the manufacturer's recommendations without first tailoring the design to the location and then failed to reexamine its design and conduct its own review of the product when the contractor submitted a request for information about the suitability and performance of the tank. The decision noted evidence that Gordon relied on information from standard manufacturing literature to respond to the contractor's performance concerns instead of conducting its own review of the product and the situation at the site.

Gordon and the professional associations unsuccessfully argued that the contractor's work on the tank was defective and that this should have shifted liability for the failure to the contractor. The trial court concluded that any deviations by the contractor from the plans were immaterial and did not contribute to the collapse. The high court's opinion cited expert testimony that the primary cause of the failure was the excessive depth of the tank. Other experts opined that Gordon's plan was not "clear, constructible, or very likely to serve its purpose because it did not provide specifications, drawings, and a design that was clearly understood by the contractor." The high court concluded that the trial court did not err in finding that Gordon's negligence proximately caused the tank collapse.

It is clear that experts persuaded the trial court that Gordon breached its responsibilities and that this evidence was used by the Supreme Court of Virginia to uphold the trial court's decision. Does this mean that whoever has the best expert wins? Perhaps. But remember that experts need facts to support their opinions. Gordon's conduct enabled the opposing experts to create the impression that Gordon blindly relied on the tank manufacturer's representations even after the contractor raised questions about the product's suitability given the site conditions. **CE**

Michael C. Loulakis (mloulakis@cp-strategies.com), President and Chief Executive Officer, Capital Project Strategies, LLC, Reston, Virginia; Lauren P. McLaughlin (lmcLaughlin@briglialaw.com), Attorney, Briglia McLaughlin, PLLC, Vienna, Virginia.