

Engineering Solutions



Published by Tony Huff and Associates



A WORD FROM Tony

Tony Huff, PE

2002, our 2nd full year of business, has been a great year for THA..... a few highlights:

- Continued growth - over 50 projects, many repeat clients, and new referrals.
- Added In-Depth Bridge Inspection and Bridge Design to the list of KYTC pre-quals.
- Attained licensure in Indiana.
- Am. Soc. of Civil Engrs. awarded Tony Huff with the Edmund Friedman Young Engineer Award for Professional Achvmt. at their National Convention in Washington, DC, in November.

As a new and exciting 2003 rings in, I have set 3 primary goals:

- 1) develop series of materials/presentations** to promote a better understanding of how engineers solve problems.
- 2) continue growth of business development** with specific effort to further diversify and expand service offerings and territory.
- 3) expand staff and associate base** to better position THA to offer highest level of service and to fulfill our mission to "help people, business, and industry solve problems with engineering solutions."

Thanks to family and friends and all that gave support and encouragement this year.

Merry Christmas
& Happy New Year !

Behind the Scenes

Forensic engineering is true problem solving, combining knowledge of math, science, and materials with skills of investigation and articulate explanation. The Anderson Bldg, a timber frame structure with exterior load-bearing masonry walls, is the oldest existing manufacturing building in Owensboro, KY.

The Anderson Building

During construction activity around the dock of the Anderson Building, workers got an unpleasant surprise when a 60 ft segment of a 2-story un-reinforced masonry wall partially collapsed as the footing beneath was accidentally disturbed.

Assessment

THA was called out by Sun Windows to help assess damage and to develop an action plan. Recognizing that the 2-story wall was failed beyond repair, but 2nd floor deck and roof were salvageable, our goal was to stabilize the structure for safe controlled demolition of the failed wall.

Stabilization

First, approximately 100 tons of rock were placed at the base of the wall for lateral stability. Then, temporary steel columns were placed beneath 2nd floor timber beams, carefully located at a safe distance to provide support and to allow room for reconstruction.

Finally, a second line of timber columns was placed directly above the steel columns to stabilize the roof.

Solutions

Just barely ahead of rain, the failed wall was taken down less than 3 days after our arrival. THA designed a new wall to replace failed sections of dock and masonry wall. The project was successfully completed within weeks.



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On the HORIZON

Please Visit
www.THA-Engineering.com

Jan. 2003 - Tony Huff will make a presentation on small business development at the National Academy of Forensic Engineers meeting in San Francisco, CA.

Announcing:

- Tony Huff has obtained PE licensure in Indiana.
- THA has obtained pre-qualification to do Bridge Design for the KY Trans. Cabinet. THA is also pre-qualified to do Structure Inspection, EIS Writing, Socio-Economic Analysis, Rural & Urban Roadway Design.



Tony Huff, PE with ASCE President H. Gerard Schwartz, Jr. at Annual Convention, Nov. 6, 2002 in Washington, DC.



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If your group or organization is interested in having THA make a presentation, please call us at 270-686-8525.

Next Issue:

FOCUS On...Foundations

FOCUS On... Forensic Engineering

My father has a philosophy that "to fix something that is broken, you must first know how it is supposed to work..." This sheds light on two distinct paths of engineering.... *from the notebook of Tony Huff:*

Traditional Engineering –

Solving a need – when designing and constructing a system or function that needs improvement or replacement or doesn't exist at all... i.e. a new road, bridge, or manufacturing system or process.

Forensic Engineering –

Solving a mystery – when there is a question with a system or function that exists, answering "what happened?" and "why?" with a corollary of "can you explain?" i.e. structural collapse or accident reconstruction.

These concepts are not mutually exclusive... in fact, they are very complimentary. Understanding basic design and engineering principles enhances the forensic engineer's ability to dissect a situation and deter-

mine what happened, how/why things fail. Understanding failures and why things don't work makes traditional design engineers better designers.

Forensic engineers apply the principles of math and science to analyze failures, reconstruct accidents, and to provide investigation, expertise, and legal testimony for a wide variety of engineering specialties. By definition, forensic engineers are truly "problem solvers" that help make our world a better place.