JANUARY 2006 MEETING

Wednesday, January 11, 2006

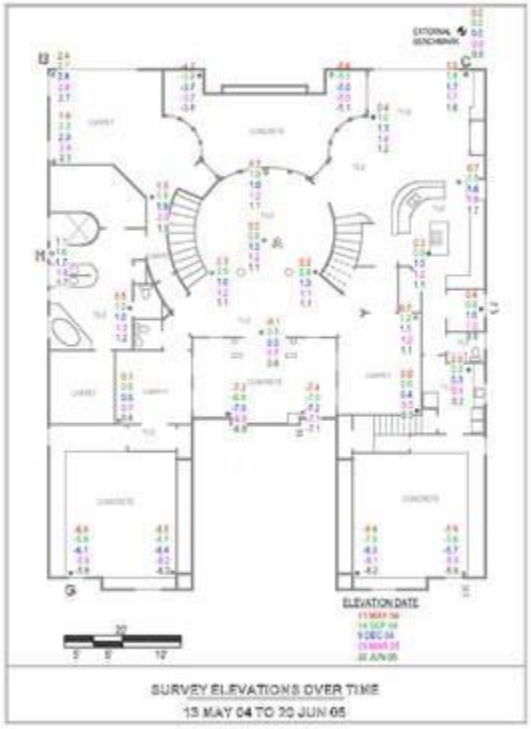
TECHNICAL PROGRAM

Guidelines for Evaluating Foundation Performance by Monitoring

Speaker: *Nicole Wylie, E.I.T.* FPA Member, FPA-SC-12 Subcommittee Chair with Forensic Engineers Inc., Houston TX, Tel. No. 713-468-8100

PRESENTATION SUMMARY

To a room of about 45, Ms. Wylie, a forensic consultant with a BSME degree from University of Houston and an MSME degree from Rice University presented the FPA's Paper No. FPA-SC-12, "Guidelines for Evaluating Foundation Performance by Monitoring." This project was sanctioned by the FPA's Structural Committee in October 2003 and Ms. Wylie chaired the subcommittee that was formed to write the paper. The paper successfully completed its FPA Peer Review and was published on January 9, 2006.



The paper that Ms. Wylie presented offers a procedure to follow while monitoring a foundation for excessive movement and provides criteria to be used in determining when the excessive movement has abated, so that repairs may be made with reduced risk that additional distress phenomena will reappear. The guideline is useful in:

- Determining when excessive foundation movement is occurring,
- Evaluating if foundation movement has likely ceased, and
- Understanding why movement occurred.

Ms. Wylie discussed heave, subsidence, and non-cyclical and cyclical movement and how to recognize each through monitoring. She stressed the importance of presenting the monitoring data on architectural plans in a way that can be used by other forensic engineers and consultants to perform monitoring. She also discussed the value of external deep benchmarks and how they are installed.

Ms. Wylie presented two case studies to show how monitoring had helped her in her business. The first was a residential heave case where the movement was caused by tree removal just prior to construction. A benchmark and moisture barriers had to be installed in this case. In addition, local rainfall data was helpful in diagnosing and monitoring the problem.

The other example Ms. Wylie presented was a residential cyclical subsidence case caused by mature trees. In this case, a large oak tree was removed as part of the initial repair, and the subsequent monitoring showed a 3" rebound (heave) in the part of the foundation where the tree was removed two years earlier.

To download a copy of the slide show presented by Ms. Wylie, click here.

To download the committee's Document No. FPA-SC-12-0, click here.

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