

OCTOBER 16, 2002 - Trees and Sewer Leaks

Speaker: Gary Osborne, Osborne Consulting, Independent structural engineering consultant in Lewisville TX. Tel. 972-355-1122 Fax 972-724-2200

Mr. Osborne has a Master of Science in Construction Management and a Bachelor of Science in Civil Engineering. He is a licensed professional engineer in California, Texas, Arizona and Colorado.

PRESENTATION SUMMARY

Mr. Osborne gave a PowerPoint presentation to a room of 45 entitled "Trees and Sewer Leaks." He showed numerous statistics of more than 3000 residential foundations he inspected in the Dallas area since 1995. He plotted everything from the average age of the problems he was called to investigate to the number of foundation repair contractors in the yellow pages. In so doing, he was able to form many obvious conclusions without doing in-depth forensic investigations and the testing that normally goes with them.

Some interesting statistics presented by Mr. Osborne:

- The maximum differential elevations found for the 3000+ problem homes averaged 3.0 inches with the worse being as much as 15 inches.
- The average age of the houses he inspected was 20 years. However, there were a large number of problem homes (over 200 or 7 percent) that were 2 years old. He said these were almost always heave problems.
- The number of foundation repair contractors in the yellow pages of major cities across the country showed Texas cities taking the top places. Dallas and Houston were in the lead positions in the country, with Dallas showing 142 foundation contractors, and Houston 122. San Antonio and Austin were in 3rd and 4th place.
- San Antonio was found to have the highest density of foundation repair contractors with a little more than 5 contractors for 100,000 population.

Mr. Osborne also presented slides showing level distortion elevations of a couple dozen foundations. On each he showed the sewer leak locations, the high points, the low points, and the tree locations and sizes. By sheer numbers he was able to show where the trees were obviously pulling down some foundations and where poor drainage areas without trees were heaving others. He also showed foundations that had internal heave due to sewer leaks.

In conclusion, Mr. Osborne said that in doing under slab drain line leak detection, that he did not believe flow tests were valid unless they were done a week or more after the hydrotest was done. This was because the hydrotest temporarily put an abnormal amount of water into the soil, some of which could drain back into the pipe during the flow test.

[PAST PRESENTATIONS \(click here\)](#)