

EXPERIENCE – REFERENCE PROJECTS

State:	Kentucky
Agency / Client:	Ward Pedley Concrete Construction for Dr. C. Mark Fort, DMD
Project and/or Route Name:	<u>New Construction Site Development – Owensboro, KY</u>
Dates:	2005
Type of Improvement:	Structural Foundation Plan/ Site Development and Drainage Study
Firm's Project Manager:	Tony Huff, PE – THA Engineering Solutions

The Problem

Dr. C. Mark Fort, a local dentist wanted to relocate his Dental Practice in Owensboro. Dr. Fort would need a site plan and drainage study as well as a structural foundation plan to address the needs of the site and proposed office building.

The Assessment

Pre-Construction conditions of the site were grassy and undeveloped. Furthermore, it was determined that soil testing would be needed for design of the basement walls and footings. MACTEC was hired to do soil borings and soil testing to assess soils and site conditions for the basement structure of the proposed office.



Engineering Solutions

THA Engineering was hired to do the following:

1. Prepare a Site Development Plan for Permit Acquisition submittal to Owensboro Metropolitan Planning & Zoning (OMPC).
2. Prepare Drainage Study for submittal to Owensboro City Engineer to determine need for on-site storm water Retention and to specify method and manner of storm water retention.
3. Design and Detail Construction Plans for the Foundation Structure.

Replacing a grassy area with rooftop and parking will increase the storm water runoff from the site. OMPC / City of Owensboro guidelines specify that Post-Development storm water discharge of a 100-yr design storm not be increased by more than 1 cfs. THA prepared contour grading plans for the site to utilize the rear parking area for on-site retention of storm water. The outlet pipe of the grated drop-inlet structure was undersized to purposely cause water to “back-up” in the rear parking area during a heavy rain. A curb-cut was carefully located to provide a “way out” for the water to minimize the maximum depth of water, while meeting the hold-back requirement. This resulted in a slight reduction of the peak discharge from the parking area.

THA also designed and detailed foundation construction plans that featured a 10-ft basement wall with cantilevered design and strategically located buttresses for proper support.