

CEE 595F – Geotechnical Seminar – ONLINE

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Risk Management and Critical Thinking for “Routine” Foundations in a Dense Urban Environment

Louisville, Kentucky

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Abstract: The Beecher Terrace redevelopment project is the third in a series of Louisville Metro Housing Authority projects in which old, bunker-style public housing units have been torn down and replaced with mixed-use developments. Although the buildings and corresponding loads are relatively light, the subsurface contains the remnants of two previous generations of development dating back over 150 years, in addition to miscellaneous unknown structures associated with the bunker-style buildings. All of these subsurface features are cast into an alluvial matrix that varies in composition over short horizontal distances.

Determining foundation design and construction processes for lightweight foundations might seem routine but designing a template for multiple foundation systems spanning inconsistent and sometimes anomalous subgrade conditions is extremely difficult. Doing this under tight budget constraints and providing a process for construction-phase acceptance and adjustment only increases the level of difficulty. This presentation will describe the subsurface conditions and walk through the thought process that took place to allow effective, efficient foundations to be constructed within budget and in a manner that facilitated good communication between all members of the development team.

