City of Brevard

September 3, 2024

Geotechnical and Site Cost Implications

Brevard Davidson River Presbyterian Church

UNC SCHOOL OF GOVERNMENT Development Finance Initiative



DEVELOPMENT FINANCE INITIATIVE

Discussion Goals

1. Provide an overview of the geotechnical findings for affordable housing development on the Brevard Davidson River Presbyterian Church property.
2. Discuss the implications of the geotechnical findings and next steps to determine a pathway to affordable rental housing on the Church property.

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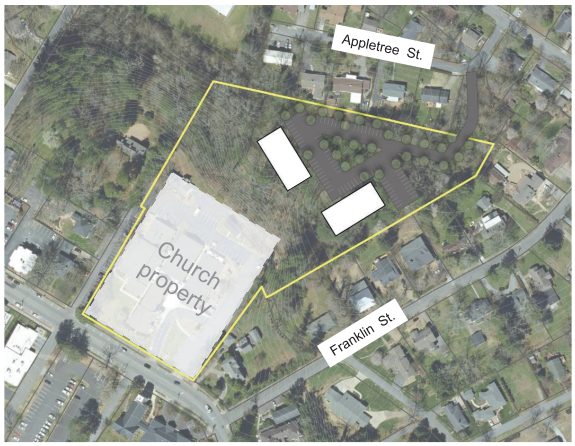
Primary geotechnical assessment findings:

Solid Ground NC was hired to complete a geotechnical assessment in August 2024. This assessment included a subsurface exploration via 8 soil borings to a depth of 25 feet across the Church's undeveloped land.

Through this assessment, the City and the Church learned:

1. Based on a preliminary review of historical aerial photos and topographic maps, the wooded portion of the property has been undeveloped since at least the early 1900s.
2. The site is covered with a layer of silty organic topsoil, and the underlying soil is a mix of unconsolidated (soft) soil consisting of sandy clays, sandy silt, and silty sands and approximately 15 to 18 feet deep.
3. To develop the site, the unconsolidated (soft) soil would need to be undercut and regraded with structural fill to stabilize each building area. Alternatively, ground improvement with aggregated piers could be used to stabilize future building areas and a retaining wall.

Medium density, multi-story development



Note: This image is a high-level visualization only.

Scenario includes 50 multifamily units on approximately 3.3 acres of the Church property.

	Church Site	Average WNC Site
Total Estimated Sitework Cost	$4.1M	$1.3M
Cost per Acre	*$1.2M*	*$0.4M*

Source: Solid Ground NC assessment.

Summary takeaways and next steps:

1. Due to soil challenges, significant ground improvements are required to allow for the development of affordable rental housing.
2. This assessment incorporates data from 8 soil borings as well as construction contingency costs, however the Solid Ground NC estimate for sitework does not account for any other major site unknowns.
3. Next Step: DFI will conduct interviews with active WNC developers to determine a path for affordable housing development on this site.