City of Brevard

December 2, 2024

Geotechnical and Site Cost Implications

Brevard Davidson River Presbyterian Church

UNC | SCHOOL OF GOVERNMENT
Development Finance Initiative



Discussion Goals

1. Provide an overview of the geotechnical findings for affordable housing development on the Brevard Davidson River Presbyterian Church site.
2. Discuss the implications of the geotechnical findings on the financial feasibility of developing affordable housing on the Church site in the near term.

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. Ground improvement options may include aggregated piers to stabilize future building areas and a retaining wall.

Cost Impact of Soils

The following scenario is based on a high-level site analysis financial modeling. This preliminary assessment was conducted to understand the potential impact of the soil challenges on the feasibility of developing affordable rental housing units.

Medium density, multi-family development

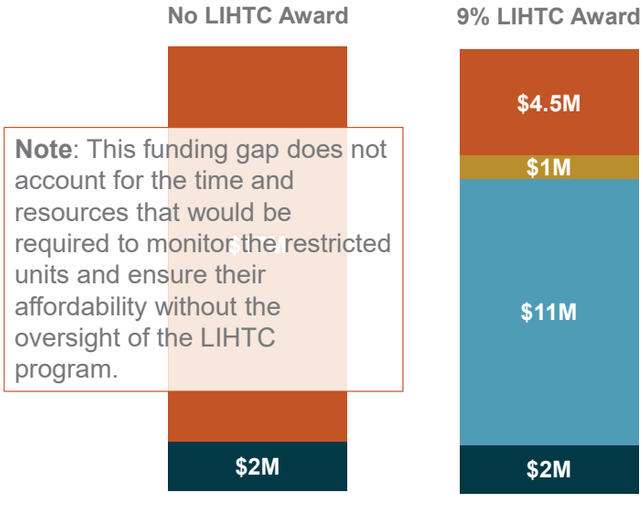


Note: This image is a high-level visualization only.

Development Scenario	
Est. Units	50
Est. Acreage	3.5
Est. Total Sitework Cost	$4.3 M
Sitework cost per acre	*$1.2 M*
Est. Total Development Costs	$19.0 M

Sitework cost estimates provided by Solid Ground NC

The funding gap could range between $4.5M and $17M based on a potential LIHTC award.



Note: This funding gap does not account for the time and resources that would be required to monitor the restricted units and ensure their affordability without the oversight of the LIHTC program.

Funding Gap
- Public or charitable funds

Rental Production Program Loan
- Long-term financing accessed via LIHTC program

LIHTC Equity
- 9% tax credit equity

Private Equity and Loans
- For LIHTC projects, loans are typically federally-guaranteed loans with below market terms

Note: All estimates represent a rounded range and are based on high-level site information and current cost conditions. Detailed architectural work and engineering required to refine the actual cost.

Barriers to securing a 9% LIHTC award

- North Carolina Housing Finance Agency (NCHFA) attempts to maximize the number of units awarded tax credits while distributing them as evenly as possible across the state.
  - Additional sitework costs increase the total cost per unit, therefore limiting the ability to leverage LIHTC credits.
- Limited pool of qualified developers:
  - Developer fees are calculated on a per unit basis, and developers are incentivized to pursue larger projects with less complexity.
  - WNC developers expressed concern about the existing site challenges, site unknowns, and the resulting additional financial investment that would be required to accomplish a development project.

Summary Takeaways

1. If the site receives a 9% LIHTC award, the estimated minimum funding gap for a 50-unit development on the Church site is $4.5M ($90k per unit).
   - Any additional units would increase this estimated funding gap.
2. Soil challenges and overall site constraints may lower the site's competitiveness for a 9% LIHTC award, and as a result, the financial gap may be as high as $17M ($340k per unit).
3. This assessment incorporates data from 8 soil borings as well as construction contingency costs, however the estimated funding gap does not account for any other major site unknowns.

Next Step Considerations

- Prioritize and pursue sites with the greatest near-term LIHTC competitiveness and financial feasibility.
- Coordinate with the Church to determine how best to proceed with the current ground lease agreement.