



July 19, 2023

RETAINING WALL POLICY

Introduction

All retaining walls are considered accessory structures, a residential building permit or building permit application shall be submitted and fees paid to Inspections@waxhaw.com.

Walls built without proper permitting approvals are subject to work stoppage, fines, or potential civil action for removal. Permits that are not closed out and expire after 6 months shall require reinspection and repayment of permit fee.

Commercial and Major Subdivisions

The 2018 North Carolina Building Code includes requirements for the design and construction of retaining walls. Specifically, Section 1807.2 states:

Retaining systems providing a cumulative vertical relief greater than 5 feet (1524 mm) in height within a horizontal distance of 50 feet (15 m) or less, including retaining walls or mechanically stabilized earth walls, shall be designed under the responsible charge of the registered design professional. Retaining systems shall meet the requirements of Section 1610. Testing and inspection reports shall comply with Section 1704.2.4 and shall verify:

1. Foundation support system is adequate for the intended site conditions;
2. Measurement of the quality of construction materials for conformance with specifications;
3. Determination of similarity of actual soil conditions to those anticipated in design; and
4. Examination of backfill materials and any drainage systems for compliance with plans and specifications.





Scope of Requirements

These requirements will apply to all developments and subdivisions, which include retaining walls and grades falling within the criteria described in Section 1807.2. In addition, the Town will apply the criteria to residential projects where retaining walls impact public use or access areas. Design and submittal requirements include:

Option 1:

Submit, as part of the site plan review drawing set, retaining wall drawings and grading plans, fully designed and detailed, and sealed by a North Carolina Licensed Professional Engineer.

As required by North Carolina Building Code section 1807.2.4, retaining systems less than 5 feet (1524 mm) in cumulative vertical relief and adjacent to a structure located closer than the vertical relief shall be designed under the responsible charge of a registered design professional.

Option 2:

Site plan review drawing set to include location and design criteria (wall height and schematic wall cross section) for retaining walls only, along with the following statements:

- “Design of all retaining walls is to be per North Carolina Building Code Section 1807.”
- “Detailed retaining wall design drawings and grading plans, sealed by a North Carolina Licensed Professional Engineer, will be submitted to the Town prior to construction.”
- “The registered design professional in responsible charge or engineer of record shall indicate in the project documents the required credentials of the special inspector. The special inspector or a North Carolina Licensed Professional Engineer must perform construction observation of the retaining wall. A letter sealed by a NC Licensed Professional Engineer will be submitted to the Town verifying that retaining walls are constructed per the approved engineered drawings.”





Construction Requirements

Construction of retaining walls may proceed only after detailed retaining wall design drawings, sealed by a North Carolina Licensed Professional Engineer, are approved by the Town. The North Carolina Licensed Professional Engineer of Record or the designated special inspector will perform construction oversight.

Upon completion of retaining wall construction, the Engineer of Record will submit 1) a sealed letter to the Town, verifying the retaining walls are constructed per the engineered drawings, in compliance with Section 1807 of the NC Building Code, and 2) a copy of all special inspections reports in accordance with Section 1704.2.4 of the NC Building Code.

Bonds will only be released, and final road acceptances be made after approval of the Engineer's sealed letter and copy of the special inspections' reports.

Residential

All retaining wall permit applications and grading plans will be directed to the Engineering Department for initial review. Engineering will review to determine if the proposed wall must be designed and certified by a professional engineer. Walls that:

- Retain 4 feet or greater of unbalanced fill,
- Cross adjacent property lines regardless of vertical height,
- Support buildings and their accessory structures or
- Encroach on existing easements

are subject to the additional design requirements. If upon inspection it is determined that engineering design and certification is required, the resident will be notified and a resubmittal of the retaining wall permit application with proper documentation will be required.

Wall applications submitted with complete certification documentation or where no certification is required, shall be routed through standard permitting procedures.





When a permit for construction is granted, it shall be the responsibility of the applicant to provide all documentation that a designed wall has been built as certified by a professional engineer. It shall be the responsibility of each applicant to request all required inspections including final inspection to close the existing permit.

Certificate of Occupancy or Certificates of Compliance will only be issued after receipt of an Engineer's sealed letter and copy of the special inspections' reports.

