



Checklist for Retaining Wall Submission and Inspection Requirements



Version 2009-12-12

1. Definitions:

- a. **Wall Height:** Wall height is the measurement from the grade level in front of the wall at a given location to the grade level behind the wall at the same cross section. In the case of a tiered wall system, this measurement is from the grade level in front of the lowest wall to the highest wall at a given cross section.
- b. **Tiered Wall:** When several small height walls are constructed to replace one high wall along a given cross section, these walls will be considered to act together as one wall if the horizontal distance between adjacent walls is less than two times the height of the wall at the lower elevation.
Note: If the spacing between the walls is greater than two times the height of the wall at the lower elevation, each wall will be considered to act independently and will be treated as a separate wall and a separate permit shall be obtained for each wall.
- c. **Surcharge:** Load transmitted to a retaining wall either from a slope steeper than 3H:1V or from parking areas, roadways, or building foundations.

2. Separate building permits are required for each retaining wall higher than 2 feet.

3. Retaining walls shall require a structural design, signed and sealed by a design professional registered in the Commonwealth of Virginia, to be submitted for plan review approval and issuance of a building permit. The following are two exceptions to this requirement:

- a. A retaining wall that does not support a surcharge and is no more than 4 feet in height will generally be a walk through process.
- b. The structural design for a retaining wall with a wall height equal to or less than 6 feet and not associated with any surcharge does not require the seal and signature of a design professional.

4. Provide two copies of a site plan showing the location of the retaining walls. Indicate on the site plan surface drainage behind and in front of the wall, the location of all structures within the vicinity of the retaining walls, and the surcharge loads on the walls. Also, indicate the location of property lines and any existing or proposed utility lines and their associated easements.

5. Provide two copies of construction plans. Construction plans shall show the following:

- a. Wall elevations and multiple cross sections of each retaining wall. Show the actual ground slope at the top and the toe of the retaining wall.
- b. Method of subsurface drainage behind the wall.
- c. Guardrail location and details for retaining wall systems in excess of 48 inches elevation to protect pedestrian traffic (see [Policy 1.12 Retaining Wall Safety Devices](#)).
- d. Specifications for the construction materials.
- e. Specifications for the backfill material and compaction requirements.
- f. Structural details and dimensions of the retaining wall.
- g. Bearing capacity of the foundation soil.

6. Provide two copies of structural design calculations. Calculations shall address the effect of surcharges on the walls.
7. Provide two copies of the geotechnical engineering report and global stability analysis for retaining walls that are greater than 8 feet in height. A global stability analysis may also be required for walls 8 feet or less in height if subjected to surcharge.
8. Walls with height greater than 8 feet or walls higher than 4 feet carrying surcharge shall require special inspections.
9. The following minimum factors of safety shall be met:
 Sliding = 1.5
 Overturning = 1.5
 Global Stability = 1.5 in the absence of a complete Geotechnical Engineering Soils Report, or = 1.3 with a complete Geotechnical Engineering Soils Report.

Table showing Summary for Requirements.

WALL CONDITION	WALL HEIGHT				REQUIREMENTS
	2 FEET OR LESS	GREATER 2 TO 4 FEET	GREATER THAN 4 FEET TO LESS THAN 8 FEET	8 FEET OR MORE	
NO SURCHARGE	NR	BP	BP, IS, TP	BP, IS, GS, SI	REQUIREMENTS
SURCHARGE	NR	BP, IS	BP, IS, SI	BP, IS, GS, SI	
CATEGORY II OR III SOILS	NR	BP, IS, GS, GR	BP, IS, GS, SI, GR	BP, IS, GS, SI, GR	

BP = Building Permit Required

IS = Internal Stability Analysis, Signed and Sealed by a Registered Design Professional in the State of Virginia

GS = Global Stability Analysis Required

SI = Special Inspection Required

GR = Geotechnical Report Required; Letter Report for Category II Soils and Detailed Report for Category III Soils

NR = Not Required

TP = Mandatory Third Party Inspections Managed by Special Inspections Section

When a wall is crossing (or influencing) multiple lots, one Permit is sufficient to build the wall; however, all addresses must be attached to the BLD case during Building Plan Intake and Code 39 is to be added to each BLD case by the Residential Plan Reviewer.

The following Codes may apply to a Single Family Dwelling (SFD) permit with or without a Retaining Wall:

- Code 1 SFD
- Code 39 SFD with Retaining Wall on lot or within an area of influence
- Code 33 Retaining Wall only

PRINCE WILLIAM COUNTY RETAINING WALL INSPECTION REQUIREMENTS

NOTE: PLEASE CALL 703-792-6112 TO SCHEDULE A MEETING FOR ALL PROJECTS THAT FALL UNDER SPECIAL INSPECTIONS.

No permit or inspections are required for retaining walls less than 2 feet high. The following schedule of inspections will be required on all other retaining walls proposed for construction in the County. Inspections of Items A shall be performed by a County Inspector or, if the owner chooses, by an [approved third party engineer](#). Inspection of item B shall be [mandatory third party inspections managed by the Special Inspections Section](#). Item B inspections will be performed by an approved third party engineer. Item C inspections shall be under the [Special Inspections Program](#) and shall be performed by a Special Inspections Inspector. The County shall issue the final certificate of use and occupancy only after the approved third party engineer submits the [Retaining Wall Inspection Certification](#), and final inspections by the County.

A. Greater than 2 feet to 4 feet high walls:

1. Footing Sub-Grade Inspection (101)*
2. Drainage System and Back Fill (104)*
3. Final Inspection (118)*

* The numbers in parentheses are inspection codes.

B. Greater than 4 feet to less than 8 feet high walls (require Mandatory Third Party Inspections Managed by Special Inspections Section):

1. Footing (Sub-Grade)
2. Drainage System
3. Controlled Fill
4. Structural Components
5. Guardrail
6. Layout
7. Final Inspection.

C. 8 feet and higher walls or walls categorized as complex structures (Special Inspections required), e.g., 4 feet and higher walls with up-slope and/or down-slope steeper than 1:3 or carrying any other surcharge:

1. Footing (Sub-Grade)
2. Drainage System
3. Controlled Fill
4. Structural Components
5. Guardrail
6. Layout
7. Final Inspection.