

RETAINING WALL REQUIREMENTS

A permit and stamped engineered design is required for any retaining wall in the City of Columbia City over four feet in height as measured from the bottom of the footing or supporting a surcharge.

Please Note: Construction plan approval of site plans does not relieve the applicant of the permit requirements for retaining walls. Construction plan approval of site plans only takes into account general information about the retaining structures. Further, approved wall plans may be required for construction plan approval of site plans depending on loading, location, and other factors.

1. Please fill out and sign an application for a building permit.
2. Submit two (2) separate copies of standard site plans showing the following:
 - Show distances to property lines
 - Show distances to any existing structures
 - Show perimeter control measures (silt fence)
 - Show water run-off (use arrow to indicate flow of water)
 - Show height of the wall by the top of the wall elevation (T.W.) and bottom of the wall elevation (B.W.)
 - Show which side of the wall is retaining soil
 - Show location of all easements
 - Show setback lines
 - Show the location of utility lines (sanitary sewer, water, underground electric and communication cables)
3. Submit two (2) separate sets of detailed retaining wall construction plans drawn to scale containing the following information:
 - Provide an introductory discussion about the project and retaining wall(s). Include discussion about the loads used in the designs and impact/vibration consideration. Mention any loads imparted by other structures and how they affect the design.
 - Provide a site plan showing the subject walls with them numbered and with station numbers for each wall. Provide profiles for all walls showing station numbers, elevations (existing and proposed), and any locations where utilities penetrate or go under a wall, etc. Plans must be sealed by a professional Engineer registered in Tennessee.
 - Provide a set of design calculations for each wall. The calculations should include soil parameters (for footing/leveling pad, backfill behind the walls or any other use), safety factors (names, required value and calculated value), slope conditions both sides of the walls, design loads, etc. Calculations must be sealed by a Professional Engineer registered in Tennessee.

- Provide typical sections. Show wall batter, drainage aggregate or geotextile behind the wall, swale behind the wall for storm water drainage, footing or leveling pad, stabilization details downstream of a storm pipe penetration where the effluent is released at the wall, etc.
 - Provide details/specifications for the wall blocks, features which retain the wall blocks in place (pins, lips, etc.), geogrid, system to insure proper tensioning of the geogrid, grout for sealing wall penetration areas, etc.
 - State construction sequences for unusual/unique situations such as where geo-grid extends under a structure or must go around a storm pipe and/or its related structure.
 - Clearly identify on the plans the limits for guard rails atop or immediately behind walls. Guards shall be located along open-sided walking surfaces, including mezzanines, equipment platforms, stairs, ramps and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Guards shall be adequate in strength and attachment in accordance with IBC Section 1607.8.
 - Guards shall be required on walls that the department deems a reasonable hazard to health and human safety. Additionally, opening restrictions may be required.
 - Maximum slopes adjacent to retaining walls should be 3:1.
 - Retaining walls with guards shall have a landing not to exceed a 10:1 slope at the top of the wall extending 48" perpendicular from the guard.
 - Maximum allowable height for retaining walls in the City of Columbia shall be reviewed and approved by the city. The City of Columbia may require walls over a certain height to be stepped or terraced.
 - No geogrids will be acceptable within any right-of-way limit nor within any drainage or sanitary sewer easement.
 - Provide a narrative and design for any ground water anticipated behind the retaining wall. Water on the front side of the wall will require special engineering design.
 - If trees fall within 10 feet of the retaining wall foundation then special steps must be shown by the design engineer to ensure that the trees will not impact the foundation.
 - A special design will be required if the existence of irrigation, storm drains or water lines are within the reinforced zone behind the retaining wall.
4. All retaining walls (to include modular) are to be built under the supervision of a Professional Engineer registered in Tennessee (preferably the engineer that sealed the design plans and calculations) who will certify to the City of Columbia Development Services Department that the walls were built per approved plans.

The preceding requirements apply to most simple retaining wall projects; however, the City of Columbia may determine that unusual circumstances dictate the need for additional information on any particular project.



ENGINEER'S CERTIFICATION OF RETAINING WALL CONSTRUCTION

GENERAL INFORMATION

BUILDING PERMIT NO.	
CONTRACTOR	

DESIGN ENGINEER INFORMATION

NAME	
LICENSE NO	
FIRM	

CERTIFYING ENGINEER INFORMATION

NAME		LICENSE NO.	
FIRM		PHONE	
EMAIL			
ADDRESS			

I _____ (*print name*), registered Professional Engineer in the State of Tennessee, hereby certify with my signature and seal that in my opinion, the described retaining wall was adequately designed, and subsequently constructed, in accordance within the design to support the dead and live loads applied upon the structure.

This letter is to certify that the above retaining wall has been designed and constructed in accordance with all the applicable standards and regulations.

 PRINT NAME

 SIGNATURE

 DATE