



# Retaining Walls

A building permit is required for the construction of certain retaining walls.

## REGULATIONS:

- 1) Per sections R105.1 and .2 of the International Residential Code, sections 105.1 and 2. of the International Building Code, and section 15-146 of the DuPage County Countywide Stormwater and Flood Plain Ordinance adopted by the City of Warrenville, proposed plans and a completed permit application must be submitted to and a building permit obtained from the City of Warrenville Community Development Department prior to the construction of any retaining wall that either (i) has a exposed face of three feet (3') in height or more, (ii) will support a *surchage*, and/or (iii) will affect stormwater drainage and discharge.

*Surchage* is a vertical load imposed on the retained soil that may impose a lateral force in addition to the lateral earth pressure of the retained soil. Examples of surcharges are:

- Sloping retained soil
  - Structure footings supported by retained soil
  - Adjacent vehicle loads supported by retained soil
  - Solid fences attached or located directly adjacent to a retaining wall
- 2) The total permit fee is a combination of a \$30.00 plan review fee plus the applicable building permit fee. The building permit fee is based on the total value of construction. The total value of construction for wood retaining walls is calculated at \$9.00 per square foot of wall face. The total value of construction for a segmental block or rock wall is \$18.00 per square foot of wall face. Building permit fees are \$6.00 per \$1,000 (or fraction thereof) of total construction value with a minimum fee of \$30.00. Therefore, the total permit fees for any retaining wall project up to \$5,000 in value would be \$60.00.

It is also important to recognize that the City requires the submittal of a \$100.00 cash building bond for all single-family residential retaining wall permits and \$200.00 for all attached single-family, multiple-family, and non-residential retaining wall permits. The cash building bond is refunded upon completion of the retaining wall project and City approval of a Final Inspection in accordance with all applicable City of Warrenville Ordinances.

## SUBMITTAL DOCUMENTS:

- 1) A completed City of Warrenville building permit application must be submitted. If application is submitted by someone other than the property owner, **signed authorization by the property owner must be provided at time of application.**
- 1) Building Permit application forms are available either at the Community Development Department or online at: [http://www.warrenville.il.us/c\\_forms.aspx](http://www.warrenville.il.us/c_forms.aspx)

- 2) Three copies of the plat of survey or site plan for the property illustrating the location of the proposed retaining wall. This survey/plan should also show the location of driveways, sidewalks, patios, decks, pools and other structures or paving relative to the proposed retaining walls.
- 3) Three sets of building plans clearly showing the retaining wall material(s), design, height, and method of construction.
- 4) Three sets of a proposed grading plan may be required by the City if the construction of the proposed retaining wall has the potential of affecting stormwater drainage and discharge.
- 5) Per sections R106.1 of the International Residential Code and 106.1 of the International Building Code, proposed building and grading plans may need to be sealed by an Illinois licensed professional engineer or architect, depending on the size and complexity of the proposed project, if the wall supports a surcharge, and/or has the potential of affecting stormwater drainage and discharge. In general, most retaining walls with an exposed face height of four feet (4') or more will require sealed design plans. In some cases, the engineered and sealed design plans for the proposed retaining wall can be obtained from the material supplier.

#### REQUIRED INSPECTIONS:

All retaining walls that require a building permit will require one or more inspections. Since there are many different types of retaining walls and each project has its own unique set of circumstances, the specific type of inspections required will be determined by the Community Development Department as part of the permit review and issuance process. When the permit is issued, the applicant will be notified in writing of the specific inspections that are required for their retaining wall project. These inspections must be called in and work may not proceed to the next stage of construction until the inspector has approved each one.

For the most common type of retaining wall construction (concrete block), the following types of inspections may be required. It is common for some of these inspections to be combined depending on the scope and complexity of the proposed retaining wall.

- 1) **Footing:** After excavation and prior to setting of blocks.
- 2) **Drainage:** After drainage rock and drainpipe has been installed but before the area is backfilled. Inspector may also need to see any required filter fabric in place.
- 3) **Reinforcing Grid:** An inspection may be required of each layer of reinforcing grid. The number of inspections required is dictated by the design of the wall submitted with the permit application. Be sure to use the proper fill material behind the wall and compact it as specified in the approved design plans.
- 4) **Final Inspection:** A final inspection must be made when the wall is complete and all disturbed areas are restored. This inspection must be completed before the permit expiration date which is usually 6 months from the date the permit is issued. Failure to have this inspection performed may result in forfeiture of refundable building bond.

#### OTHER FACTORS THAT MAY AFFECT PERMIT ISSUANCE OR RETAINING WALL CONSTRUCTION:

Yes, there can be many other factors, probably too numerous to cover fully, but several of the more important factors that often require special consideration involve soil conditions, safety guardrails, and tiered wall design.

- 1) **Soil Conditions:** The City's Building Inspector may require a soils report at the time the application is reviewed or after actual soil conditions are observed in the field. Certain types of soils may require special considerations such as special drainage, backfill materials or compaction.
- 2) **Guards:** If there is a walking surface within two feet (2') of the top of a retaining wall, a guardrail designed in accordance with Sections R312 of the International Residential Code and 1013 of the International Building Code will be required.
- 3) **Tiered Wall Design:** Use of tiered retaining walls is a special condition where two or more short walls, horizontally offset from one another, are used in lieu of a single tall retaining wall. When tiered walls are not properly offset from each other, the upper wall may impose a surcharge condition on the lower wall. In order for the walls to be treated as separate retaining walls, a general rule of thumb is that tiered walls be horizontally offset by a minimum distance of two times the exposed height of the lower wall. For example, two tiered retaining walls each with an exposed wall height of slightly less than three feet (3'-) and level backfill, which are horizontally offset by a distance of two feet (2'), would be treated as a single tall wall. As a result, a building permit would be required.

Please contact the City's Building Inspector at (630) 393-9050 with any additional questions regarding permit requirements for retaining wall construction in the City of Warrenville.

Things to consider when hiring and working with contractor(s)...

When hiring a contractor it is a good idea to get a written estimate that includes the specific work to be performed, the time frame involved, and your cost. When making a payment request a detailed receipt of the work and materials you are paying for. It is also a good idea to request a waiver of lien in consideration for final and full payment. A final waiver of lien waives and releases the contractor's right to claim a lien for labor, services, or materials, furnished for the project.

Issuance of a permit does not exempt you from the rules and regulations of your Home Owners Association (HOA). If your HOA requires you to have their approval prior to filing for a permit and you have not done so, please contact them immediately before commencing work on this project.

[Application for Construction or Use \(Building Permit Application\)](#)

***- This pamphlet is to be used as a guide only.***

***There may be certain specific special requirements not indicated in this pamphlet. -***