



CITY OF ARNOLD BUILDING DIVISION

Residential Retaining Wall Permit Requirements

This guide is to provide the homeowner or contractor with basic information needed to apply for a permit to build a retaining wall. Within this guide are standard details that may be used as part of the required construction plans. A permit is not required if the wall is 3 feet or less in exposed height.

1. Complete and sign a permit application.
2. Pay permit fees at time of application. Fees are calculated as follows:
 - Sixty-five dollars (\$65.00) for the first one thousand dollars (\$1,000.00 of construction cost or part thereof.
 - Plus three-tenths of one (0.3) percent of construction costs exceeding one thousand dollars (\$1,000.00)
3. Submit two (2) copies of detailed construction plans drawn to scale containing the following:
 - a. A site plan, an example is contained in this brochure.
 - b. Indicate the perimeter control measures (silt fencing) required to ensure the siltation/erosion does not leave the construction site.
 - c. Site plans must show water run-off (use arrows to indicate flow of water). The location of the retaining wall cannot obstruct any swales or natural water run-off.
 - d. Indicate the height of the wall preferably by furnishing both the top of wall (T.W) and bottom of wall (B.W.) elevations at reasonable intervals along the length of the retaining wall. The bottom of wall elevation shall be the finished grade level on the lowest side.
 - e. Indicate which side of the wall is retaining soil. No part of a retaining wall may extend across a property line without a recorded Construction and Maintenance Easement.
 - f. Show location of all easements.
 - g. Show the location of the septic tank and field if applicable.
 - h. Refer to the attached example plot (site) plan for additional information.

- i. Plan view of the wall at a larger scale for serpentine and similar garden type walls.
 - j. Complete cross-sectional drawing of wall to scale.
 - k. Guardrail details if applicable. Retaining walls more than 4' in height are required to have a 42" guard rail or other approved protective measure when closer than 2' to a sidewalk, path, parking area or driveway on a high side. No openings are permitted in a the guardrail that will allow the passage of a 4" diameter sphere.
4. Modular Block walls may be used when being installed in conformity with the manufactures engineered and designed plans specific to their product. Provide two copies of the specific plans.

Common items that are generally represented on the site plan are:

- Top and bottom elevation of the wall at intervals along the length of the wall.
- Distance from property lines.
- Direction from property lines.
- Direction of water run off. The wall cannot interfere with storm water flow or impede swales or storm water structures.
- Easements.
- Show the location of the septic tank and field if applicable.

Plans for residential retaining walls complying with the design criteria below may be drawn by the homeowner/contractor: (Note: The walls shall not be subject to any surcharge loading from steep slopes, driveways, swimming pools and other structures, etc.)

Refer to the attached "Standard Construction Detail and Specifications" retaining wall designs and additional drawings for more information that needs to be included on the retaining wall construction plans.

Retaining walls of greater heights, having greater surcharge loading and walls of different materials or designs than those specified above must be designed by a Missouri Licensed Professional Engineer. One copy of the structural analysis addressing the wall design, bearing, overturning and sliding must be included with the plan submittal. The cover sheet of each set of the construction plans for the wall and the cover sheet of the structural calculations must have the original seal and signature of the professional. The balance of the sheets within the plans may have mechanically reproduced professional seals.

The preceding requirements apply to most simple retaining wall projects, however, the Plan Reviewer may determine the unusual circumstance dictates the need for additional information on any particular project.

A permit will be required for any retaining walls that fall under the following:

- 1) A wall that exceeds 3' in height. Height is measured from the top of the grade on the non-retained side of the wall to the top of the wall.
- 2) The wall that exceeds 2' in height and supports a surcharge load (driveway, pool, or similar structure).
- 3) The wall that is located less than or equal to its height from the property line.
- 4) The wall has fence or guardrail on top of the wall and the total height of the wall from the lowest grade to the top of the fence/guardrail exceeds 6'.

Note: Retaining Walls (including walls that do not require a building permit) shall not block or affect an existing swale or drainage path in a manner to cause damming and ponding.

This brochure applies to most basic types of wall designs. On more complicated designs the review may indicate the need for additional information. The plan examiner will communicate this to the applicant usually by letter.

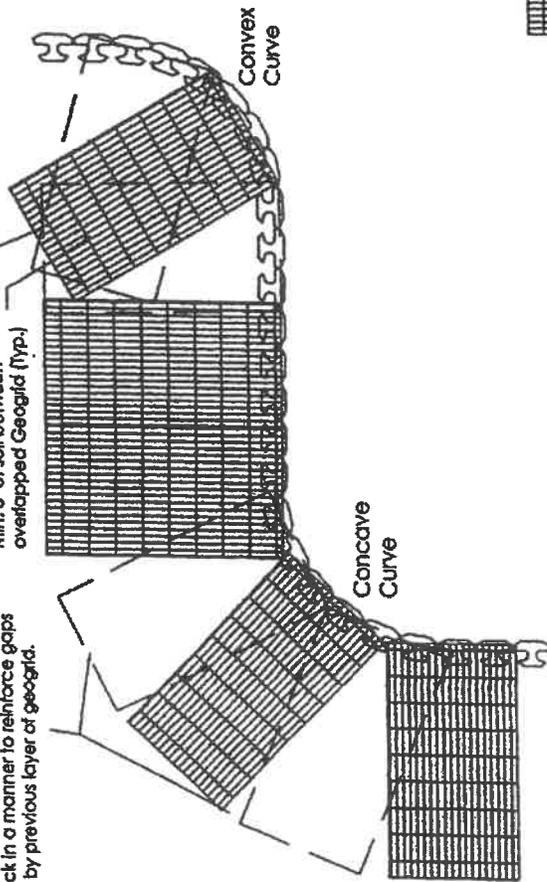
EXAMPLE

Geogrid Details Classic. with PCS

Place geogrid in next 8' layer of block in a manner to reinforce gaps left by previous layer of geogrid.

Min. 3" of soil between overlapped Geogrid (Typ.)

Place geogrid in next layer of block with the main reinforcement running 90° to the previous direction below. Place within curve only.



Additional Geogrid overlap extend wall height / 4

H/4

Inside Corner

Place Geogrid in next layer of block with the main reinforcement running 90° to the previous direction below.

Outside Corner



This seal refers to this masterplan only and does not refer to any other plan or design relating to a specific project.

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TYPICAL CONSTRUCTION
DETAILS
GEOGRID DETAILS

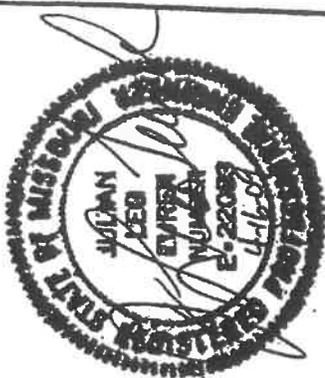
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REVISION:



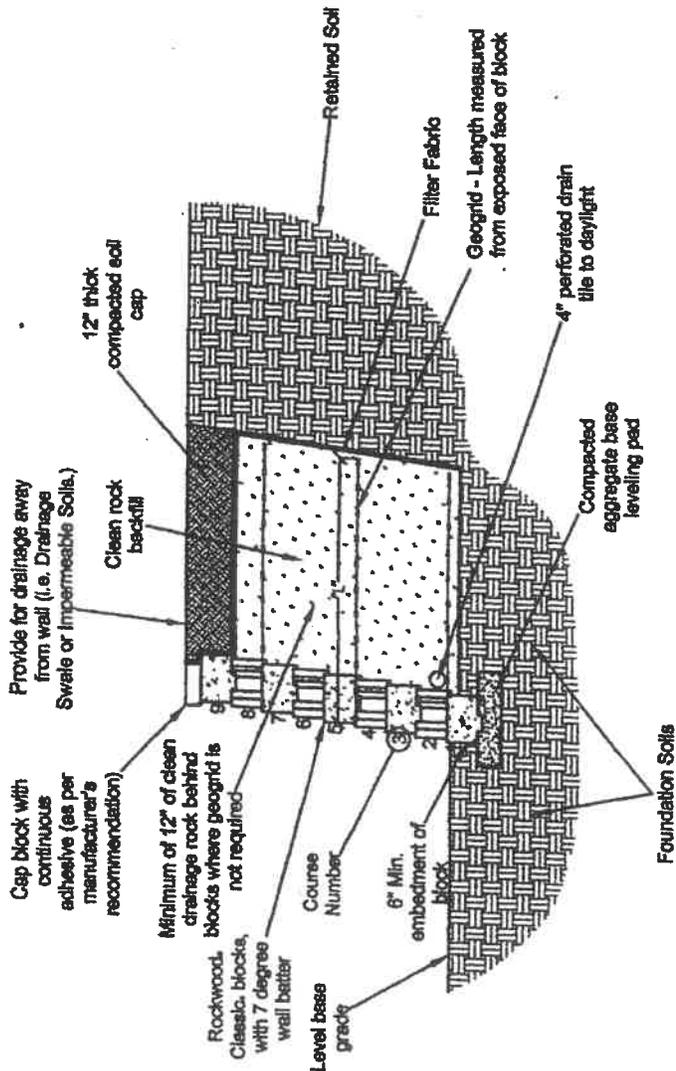
ROCKWOOD
RETAINING WALLS

ROCKWOOD CLASSIC MASTERPLAN



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EXAMPLE



Geogrid Table - Level Clean Rock Backfill, No Surcharge**

Exposed Wall Height (feet)	Rockwood, Classic, 8"		Rockwood, Classic, 6"	
	# of Geogrid Layers	Geogrid Length (ft) (On Top of Course Numbers Shown Below)	Geogrid Location	Geogrid Length (ft) (On Top of Course Numbers Shown Below)
2	No Geogrid Required			
3	1	2.75	2	2.75
4	2	3.5	2	3.5
5	2	4.25	2	4.25
6	3	4.75	3	4.75

**Note: Level = Min. 2% slope for drainage to a Max. 20% slope (5 min. horizontal : 1 vertical).

Refer to Specifications Sheets 2 through 4, and Construction Details Sheets 14 and 15 for additional requirements.



ROCKWOOD
RETAINING WALLS
ROCKWOOD, CLASSIC, MASTERPLAN



PREPARED FOR
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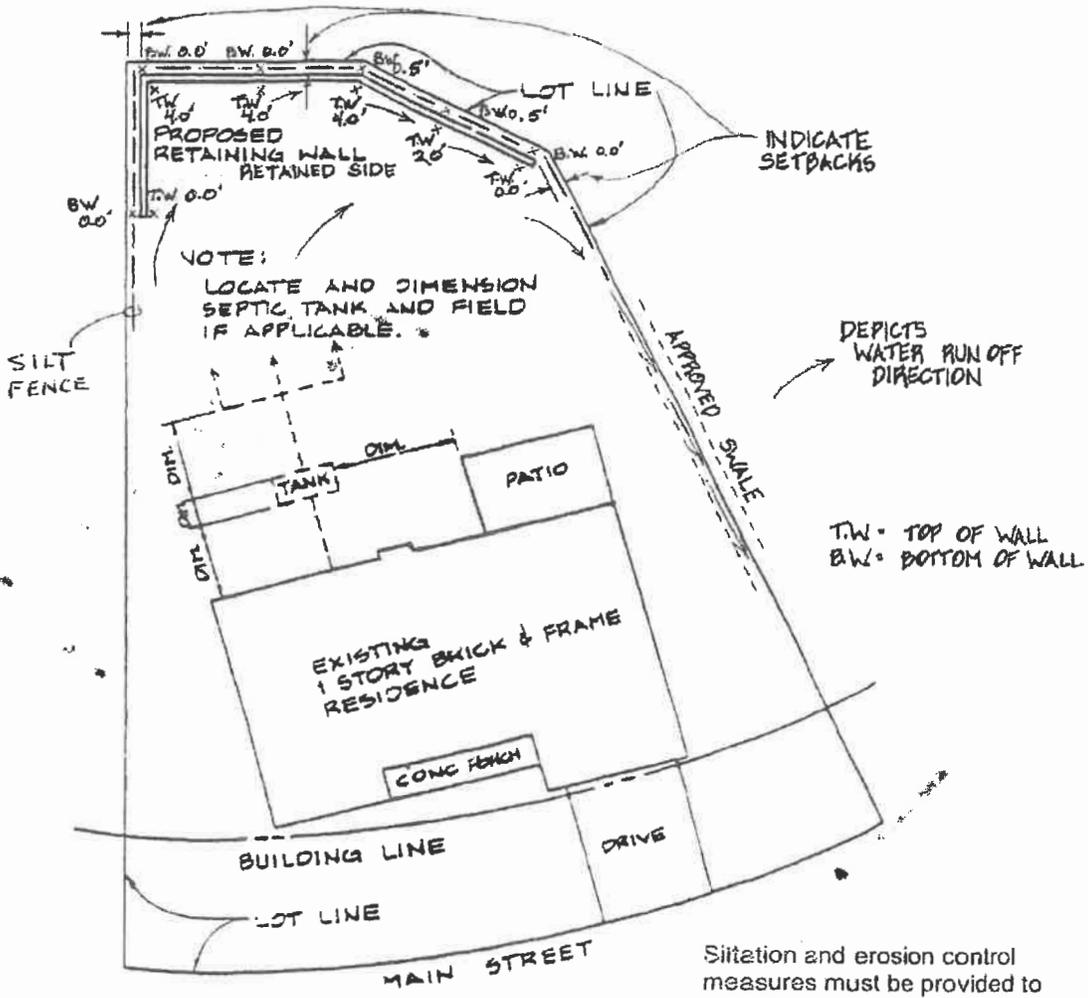
TYPICAL CROSS SECTION
LEVEL - CLEAN ROCK BACKFILL,
NO SURCHARGE

NOTE

DATE: _____

EXAMPLE

OWNER _____
 ADDRESS _____
 SUBDIVISION _____ LOT No. _____



T.W. = TOP OF WALL
 B.W. = BOTTOM OF WALL

Siltation and erosion control measures must be provided to prevent siltation/erosion from leaving the construction site.



TYPICAL PLOT PLAN FOR A RETAINING WALL
 SCALE: 1" = 20'-0"
 EXAMPLE DEPICTS 4'-0" HIGH WALL