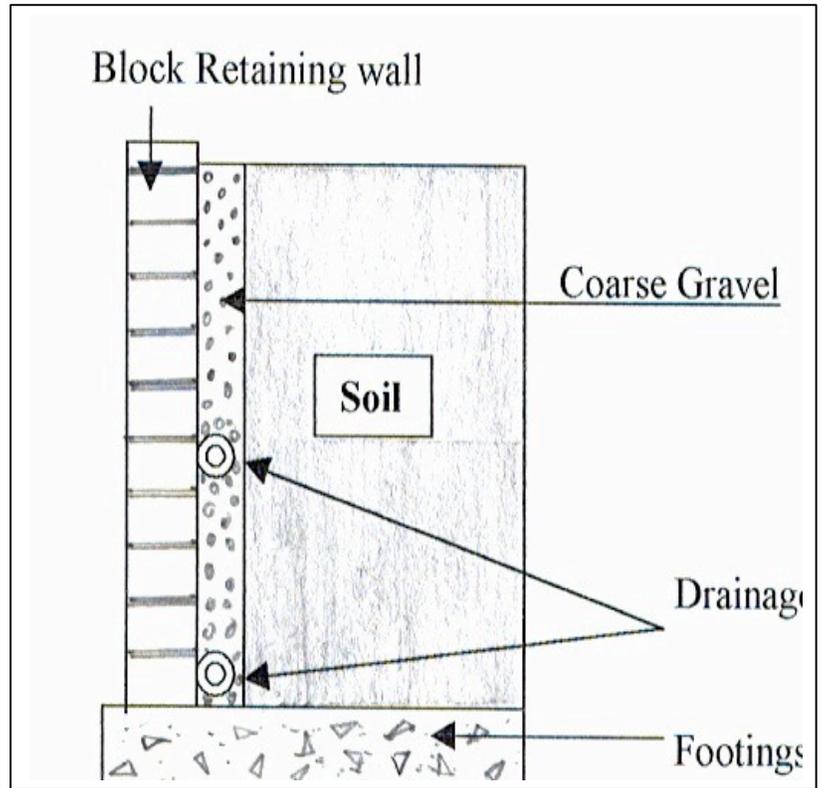


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Retaining Walls – A Coating Problem

At ROCKCOTE we are frequently asked to recommend a system for “waterproofing” the outside face of retaining walls. Most commonly these walls are concrete block construction and all too often have insufficient footings or are incorrectly anchored.

The first thing that needs to be understood is that retaining walls are not intended to retain water and are not designed to cater for hydrostatic pressure. Hydrostatic pressure exerts double the sideways pressure of an equivalent mass of soil and is a common cause for failure of retaining walls. Another problem is that moisture causes volumetric changes in clay soils and the cycle of swelling when wet and shrinking when drying out is a major factor in instability and movement of retaining walls (and other structures).



How this affects coating systems on the exterior of retaining walls is obvious. Hydrostatic pressure can move through and within the wall to “push off” exterior coatings. Cracks formed in the masonry through structural movement can rupture the coating and permit ingress of water, adding to the hydrostatic pressure.

Before even considering coating the outside surface of a retaining wall it is essential to ensure proper drainage. In fact the three rules of retaining wall design are drainage, drainage and drainage. It is necessary to backfill with well draining material such as gravel and install drainage pipes or channels to remove the permeating water.

If this has been carried out, there is a good chance that an exterior coating system with a cement render base will be successful as a decorative coating. A good option would be to also coat the inside of the retaining wall with a proprietary “water-proofing” product.

Where no drainage measures have been taken and the wall has been simply back filled with the soil it retains, it is probably too late and no conventional coating system can be recommended with confidence.

CORRECTLY DESIGNED RETAINING WALL

Reference (Text and Diagram): Mr Paul Fitzgerald, Cement and Concrete Association of Australia