

Construction of concrete retaining block walls (CRB)

GENERAL INSTALLATION GUIDELINES FOR GARDEN WALLS (LESS THAN 1,2M HIGH)

Concrete retaining block (CRB) walls are becoming more and more popular throughout the world, because of the relatively low cost, the ease and speed of construction, the ability to conform to any contour and the suitability of the wall to greening and vegetation.

However, the success of all projects depends on the appropriate planning and the correct installation procedure. This leaflet gives a guideline to the correct installation of concrete retaining block walls less than 1,2m high.

GETTING STARTED

Setting out the foundations is crucial to the wall as it will determine the position of the top of the wall. Walls are generally built at a slope of 70° i.e. a setback of 0,36m per metre height of wall. The height and the estimated setback must be taken into account when setting out the foundations. Begin by excavating a shallow trench along the planned location of each new wall. The trench must be deep enough to accommodate a thin layer of compacted granular base material (eg. crushed rock or gravel) and the amount of base block required below grade to lock the wall in place. For walls up to 1,2m high, a 75mm deep by 300mm wide layer of compacted base will be sufficient. Plan to bury one tenth of the height of the wall. In figure 1, B should be at least one tenth of H.

BASE INSTALLATION

Place the proper amount of base material in the trench. Rake it smooth and level, and compact solidly. All walls should be constructed on stable, well-compacted ground to prevent major settling. Place the first row of blocks on the compacted base with the raised lip (if block has a lip) facing out. (Note. Some blocks have a lip on the back underside) Blocks can be laid open face i.e. with gaps between adjacent units, or closed face i.e. units laid tightly. See figure 2 alongside. Level each block from

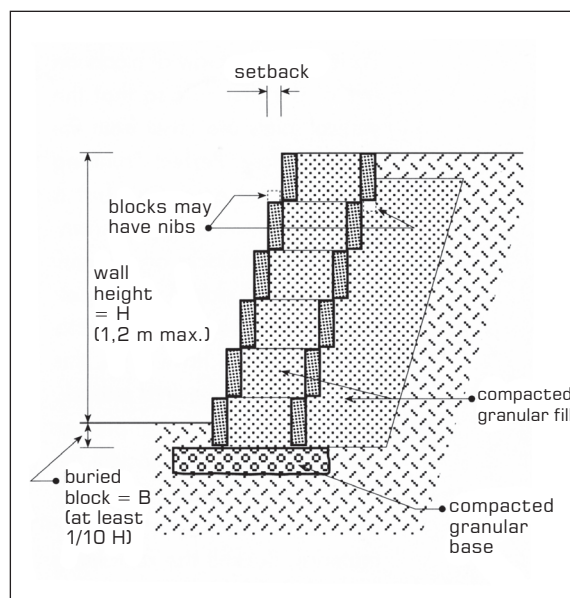


Figure 1 – Typical section through a concrete retaining block wall

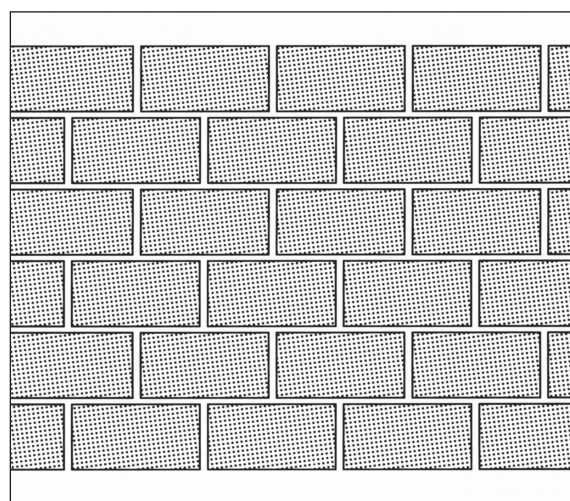


Figure 2a – Closed face configuration

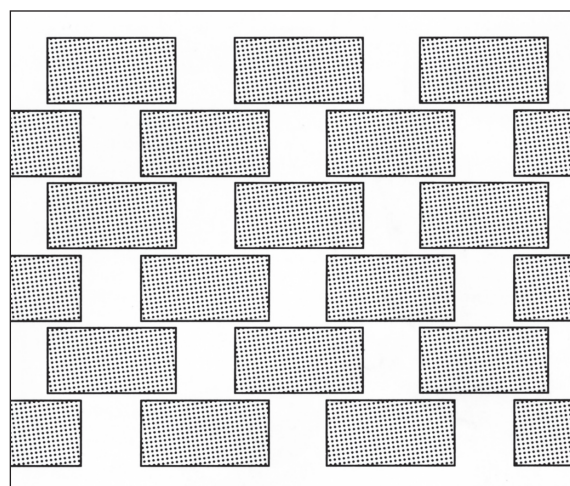


Figure 2b – Open face configuration

TECHNICAL NOTE (cont...)

side to side and front to back. Carefully backfill around the base block pockets with granular material and pack to lock in place. Check for level often and sight down the base course and smooth curves.

ADDITIONAL COURSES

Sweep the excess material from the tops of the first row of blocks. Position the new row of blocks on top of the first row so that the vertical joints are offset from the blocks below. Perfect "running bond" is not essential, but a 75mm minimum offset is recommended. The blocks on the new row should be placed with a "setback" relative to the blocks below. If blocks have a lip, this will provide the required setback. Check each block for proper alignment and level. Backfill the block cavities and immediately behind the block with granular material. Backfill the remaining space behind the second course with on site soils and compact. Lay up each subsequent course in like manner until the wall is complete. Level top terrace and if required, plant seeds/bulbs in the blocks.

NOTE

For the installation of concrete retaining block walls exceeding 1,2m in height, refer to the CMA's "Concrete Retaining Block installation manual."

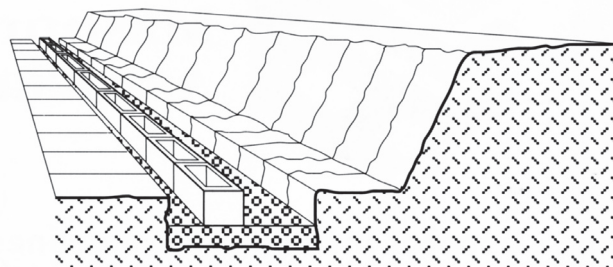


Figure 3a – Installation of base layer

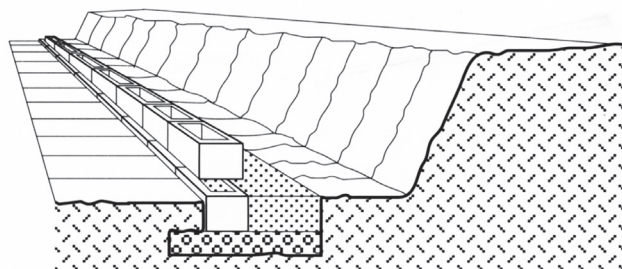


Figure 3b – Installation of additional layer

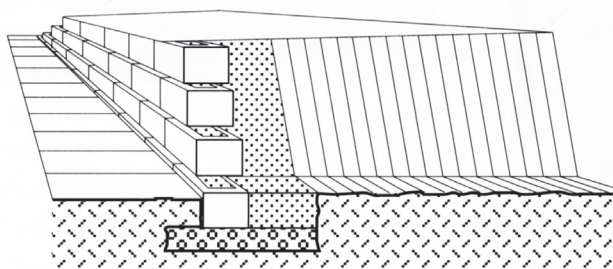


Figure 3c – Completed retaining wall

CRB Producer Membership List (April 2008)

ARW Concrete	(011) 460 0921
Cape Brick	(021) 511 2006
Columbia DBL	(021) 905 1665
Concor Technicrete	(011) 495 2200
Concor Technicrete (Mpumalanga)	(013) 758 1203
Concor Technicrete (Mpumalanga)	(017) 689 2100
Concor Technicrete (Mpumalanga)	(013) 696 1153
Concor Technicrete (Free State)	(057) 391 4200
Concor Technicrete (North West)	(018) 790 4380
Concor Technicrete (Limpopo)	(015) 293 8083
Concor Technicrete (Gauteng)	(011) 203 7700
Concor Technicrete (North West)	(018) 484 6234
Corobrik	(031) 560 3911
Deranco Blocks	(041) 463 3338
Inca Masonry Products	(043) 745 1215

Infrasat (Gauteng)	(012) 652 0000
Infrasat (KZN)	(031) 569 6900
Klapmuts Concrete	(021) 875 5151
KuluCrete South Coast	(039) 685 4165
Neat Contech	(046) 624 3377 Sales (046) 648 1359 Factory
ReMaCon Products	(011) 393 5504
Vanstone Precast	(012) 541 2056
White River Cement	(013) 750 1271

CRB Contractor Membership List (April 2008)

Decorton Retaining Systems	(021) 875 5155
Friction Retaining Structures	(011) 608 4321
Kalode Construction	(011) 781 3841
Mondo Paving & Retaining Walls	(011) 467 7111
Valcal International	(011) 867 2471