

FOOTINGS/FOUNDATIONS



Building a retainer wall does take a degree of expertise. If you have never built a brick planter box or similar structure, you will not be ready to tackle this project. See project sheet 1. However if you're building a low wall (300 mm to 600 mm) to use as a border to a garden path, raised lawn area or a flowerbed then read on. PS: Don't be put off building serious retainer walls just get some B.I.Y. experience behind you, consult the experts and council first. Remember good planning is the key to a successful project. See diagrams 1, 2 & 3. **Hint:** Sloping sites should be divided into sections to minimise the height of each retainer wall required and the load it bears. See diagram 2 & 3. **HAPPY BUILDING!**



TIP 1:

Your finished wall will only be as good as the footings/foundation it stands on. Take the time to build it right and it should last a lifetime.

Footings must be constructed on a level, firm compacted base and should be made to run the full length of the finished wall and be twice its overall width.

Example: If your wall is one brick thick (230 mm), 1000 mm tall your footings should be a minimum of 460 mm - 500 mm wide and 300 mm thick, double reinforced with steel mesh along its full length.

STEP 1:

Once you've made an executive decision as to where your retainer wall is to be constructed, it's time to excavate!

Hint: Before digging consult your local authorities or council. It's always easier to start with a small project first, save the building project, "the great retainer wall of China" for Ronnie. "Later-Ron-nie".

The foundation trench needs to be excavated to a total depth of 400 mm. 300 mm concrete + 100 mm (3 standard bricks) below original ground level. See diagram 4.

Hint: Move all excavated soil away from trench area to facilitate easy access to your working area.

STEP 2:

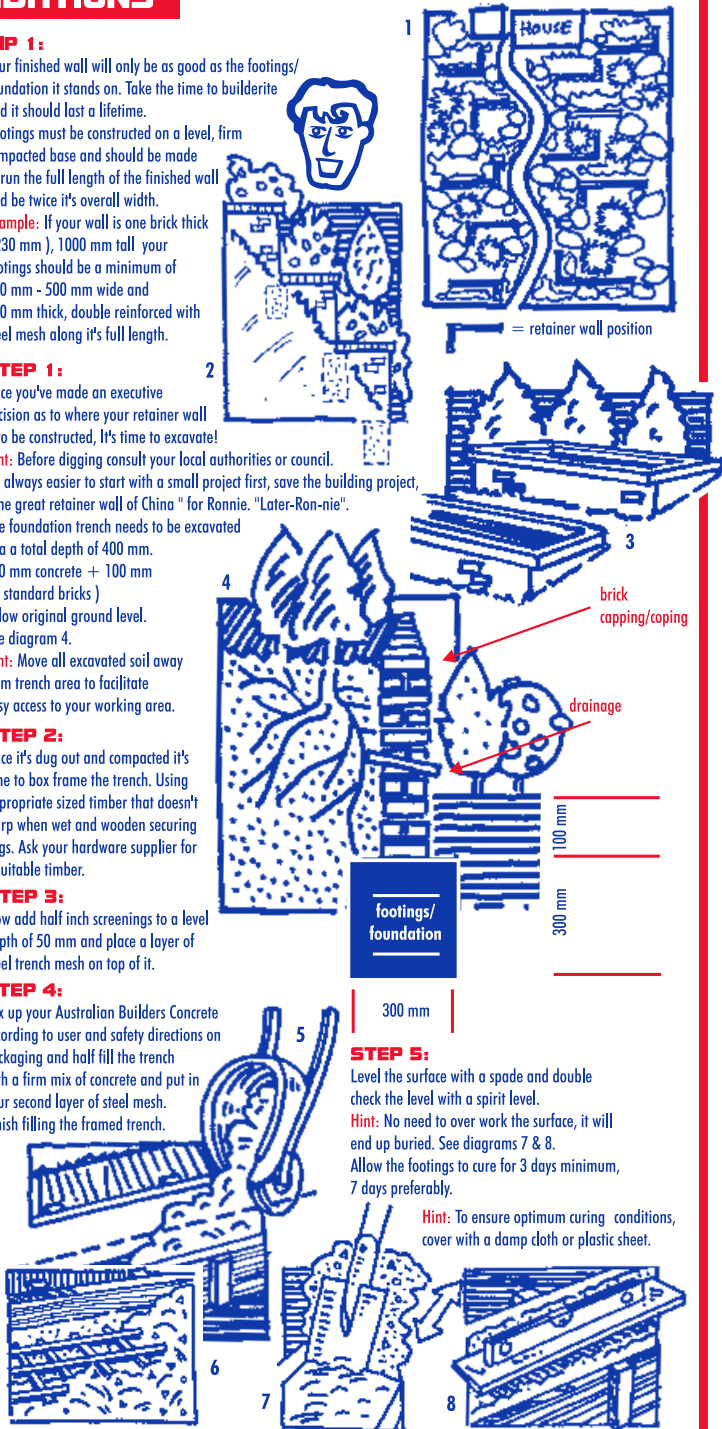
Once it's dug out and compacted it's time to box frame the trench. Using appropriate sized timber that doesn't warp when wet and wooden securing pegs. Ask your hardware supplier for a suitable timber.

STEP 3:

Now add half inch screenings to a level depth of 50 mm and place a layer of steel trench mesh on top of it.

STEP 4:

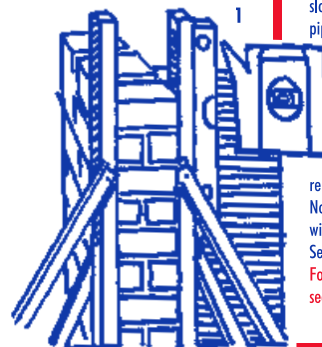
Mix up your Australian Builders Concrete according to user and safety directions on packaging and half fill the trench with a firm mix of concrete and put in your second layer of steel mesh. Finish filling the framed trench.



RETAINER WALLS



There are many little tricks you learn along the way when you're a Build-it-yourselfer! Build-it-yourselfers are always looking for ways to make the job easier & quicker. **Hint:** A sure way to speed up bricklaying is to grab a few lengths of straight edged timber. Place them at each corner of your job, secure them so they are free standing with a couple of pieces of scrap wood & pegs. Vertically align them with a spirit level. See diagram 1. You can also run your string line level from them. It's the only way to go! Have a think about how you can make the job easier for yourself! **HAPPY BUILDING!**



Important: In loose or sandy soil, or where there is the possibility the wall could move forward under pressure from the earth it's retaining, you may have to increase the width of the footings and also incorporate a "key". This is the addition of the concrete footing that projects downwards at the outer edge of the strip. See diagram 2. If in doubt consult a specialist trades person or relative council authority. To build this type of footing follow footing construction guide on previous page and dig an additional trough at the front edge of your footings (300 mm x 300 mm as a guide).

STEP 1:

When your footings have cured, you can begin the process of brick laying.

Hint: When selecting your bricks, ensure they are recommended by the manufacturer for the purpose you are intending to use them.

For example: Extruded or lightweight common bricks are generally too porous and are easily damaged. Whereas "special quality" and "engineered" bricks are durable, strong and impervious to water, making them an ideal but more expensive option. Consult with your brick supplier on this one.

With so many various styles and colours of bricks available, why not bring a selection of the ones you most prefer home and sit them down in your garden to see which one best suits your requirements.

STEP 2:

Now you've got your bricks selected & delivered.

It's time to start brick laying.

Mix up a batch of Australian Builders Mortar according to user and safety directions on the packaging. Start constructing the wall using alternating courses of bricks for each level.

When the wall reaches ground level begin to form drainage holes in it, by simply leaving gaps (or weep holes) between the bricks at roughly 1 metre intervals. Alternatively insert short lengths of plastic pipe in the wall at the same intervals, but angled downwards a little, towards the outside of the wall, to assist in the water run off. See diagram 4 on previous page.

STEP 3:

Keep building the wall up, constantly checking that it's level and straight with your spirit level, until you reach the desired height. See diagram 4.

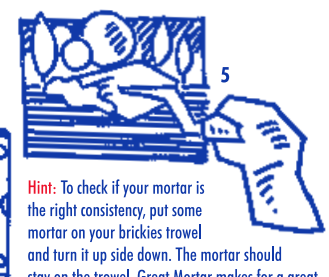
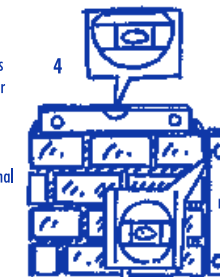
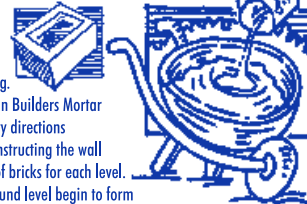
Hint: Finish it off with a final "soldier" course of bricks, which is a full course of bricks laid on their side.

STEP 4:

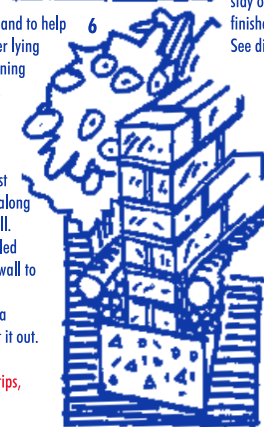
To assist with water drainage and to help reduce the impact of any water lying behind or in front of the retaining wall, place a length of plastic, slotted agricultural drainage pipe in a 15cm to 20cm thick layer of gravel or screenings. Place this just above the footings and along the full length of the wall. This pipe should be angled away to one end of the wall to remove any excess water.

Now you can back fill this area with soil and prepare to plant it out. See diagram 6.

For more handy brick laying tips, see project sheets 1 & 5.



Hint: To check if your mortar is the right consistency, put some mortar on your brickies trowel and turn it up side down. The mortar should stay on the trowel. Great Mortar makes for a great finished job. Less clean up and waste. See diagram 5.



Hint: To help prevent water absorption into porous brick surface, secure a heavy duty plastic sheet to inside surface of retainer wall or alternatively liberally paint with a water proofing solution. Ask your specialist paint retailer.