

# LOC-A-BLOC™ GUIDE TO CONSTRUCTION

Typical construction methods used by experienced contractors. Please consult the designer or the engineer for specifics.

Should you require additional advice please contact a LOC-A-BLOC™ Australia Pty Ltd technical representative.

## **IMPORTANT NOTES**

Many authorities require retaining wall designs to be confirmed by a suitably qualified Engineer, thus this manual should be used as a guide only. Please consult the appropriate authority before commencing construction.

## **400 & 600 SERIES “PRECAST” LOC-A-BLOC™**

All components are hand made to your specific needs such as corners, double sides, curved, internal corners and arrive on site with no cutting required.

## **1800 SERIES “PRECAST” LOC-A-BLOC™**

Component availability 2006 – 1800 SSS (standard) & 1800 HSS (half)

## **400 SERIES “MASONRY” LOC-A-BLOC™**

The 400 SSS block can also be utilized to produce corners by mitreing on site, curves by shaving the rear and angled blocks by mitreing. These blocks that can be produced out of the 400 SSS can take the place of handcrafted half, corner and mitred blocks providing a cost effective alternative without compromise on the quality and finish of the retaining wall.

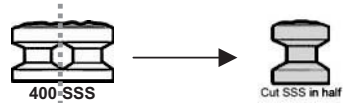
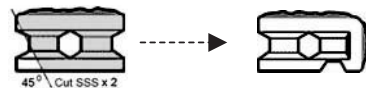
All these components can now be shaped on site to exacting requirements as you build using an angle grinder or more precise, a brick saw.

Precast components will still be available if cutting is not convenient.



The benefits of using the 400 SSS to produce these half, corner and curved blocks include:

- Convenience and simplicity of standard block ordering (400 SSS).
- Simplified stock handling and holding.
- Minor variations in sizes no longer exist.
- Shades, texture and contours are different from the precast 400s - high volume thus the lower cost.

The following examples demonstrate how the 400 SSS can be used to produce alternative components:

APPLICATION	METHOD	VISUAL
Straight Walls	Use 400 SSS (Single Sided Standard), cut block in half to produce a half block or order the handcrafted 405 HSS (Half Sided Standard) block.	
Right Angled Walls	Use 400 SSS (Single Sided Standard) and Mitre block to the required angle or order the handcrafted 400 CSS ( Corner Single Sided) block.	

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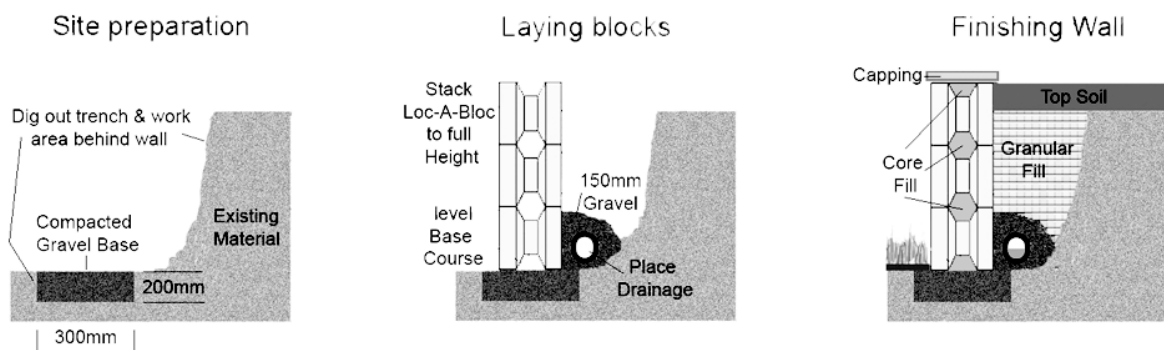
Convex Curved Walls	Use 400 SSS (Single Sided Standard) and miter the rear of block as required or order the handcrafted 400 SSC (Single Sided Convex) block.	
Drainage Block Walls	Use 400 SSS (Single Sided Standard) and drill required hole with 50mm core drill or order the 400 RSS (Relief Single Sided) block.	

## WALLS AND FOOTINGS – UNREINFORCED

**(MAXIMUM 3 COURSES)**

Prepare rammed gravel footings by filling the prepared trench with aggregate to a minimum thickness of 200 mm and a width of 400 mm for 400's / 600's – 300mm x 500mm width, then compact by a mechanical device. (1800's consult qualified Engineer)  
Follow steps 7, 8, 9, 10, 12 and 14 onwards as described in this section.

### Typical Wall Sections

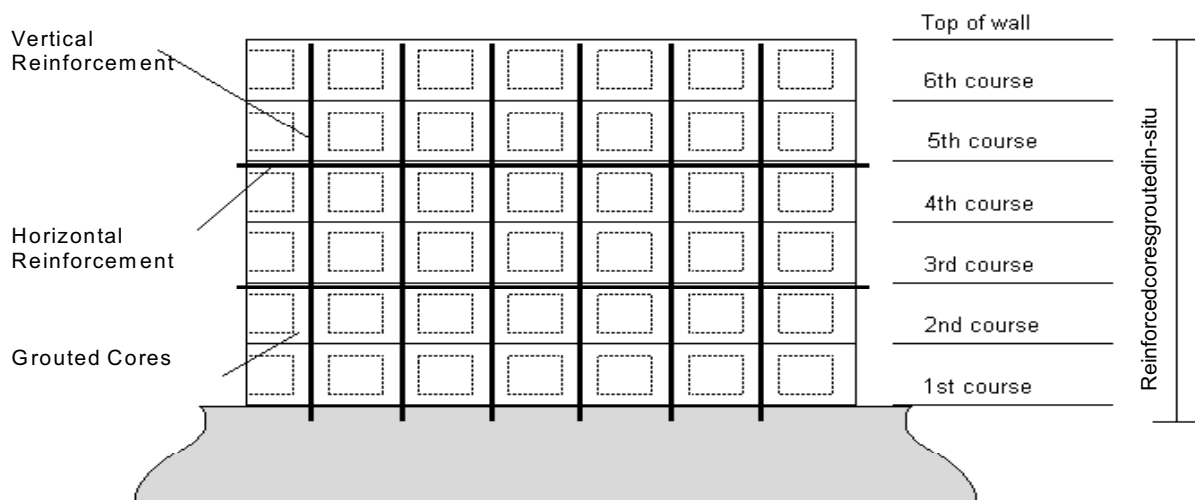


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## WALLS AND FOOTING – REINFORCED

1. Construct footings or a levelling pad as specified by an Engineer.
2. Place and tie starter bars to footing steel at 302 mm or 604 mm centres when using 600 Series and at 201 mm or 402 mm centres when using 400 Series components.
3. Alternatively, starter bars may be epoxy fastened into holes drilled in the footing after the concrete has set. (Consult Engineer)
4. All reinforcing steel used in a marine environment must be hot dip galvanised or stainless steel.
5. When pouring concrete footings, ensure the surface of the footing is level, flat and smooth, finishing with wood or steel float.
6. All starter bars must protrude vertically from the footing by a minimum of 600 mm.
7. Always start wall construction at the lowest or most critical end, and continue with that course to the step-up or end of wall. Do not start construction from middle or both ends of the wall.
8. The base course will normally require some components incorporating a relief pipe (600 RSS or 400 RSS). Ensure that these are in place as specified.
9. Check to ensure that the first row is laid straight and level with the aid of a string line and spirit level. Use shims as required to achieve level. (fibrous material)
10. When each course is completed, check straightness with a string line. Do not apply string line to the rear face of the course. Blocks may be aligned using a rubber mallet or pinch bar. As Loc-A-Bloc walls are “dry laid” there is no mortar joint. It is therefore important that blocks are laid tightly together. “Cleanout” channels are not required.
11. Place reinforcing steel as specified or indicated on drawings. (Refer to Figure 7)

## CROSS SECTION ELEVATION – REINFORCEMENT LAYOUT

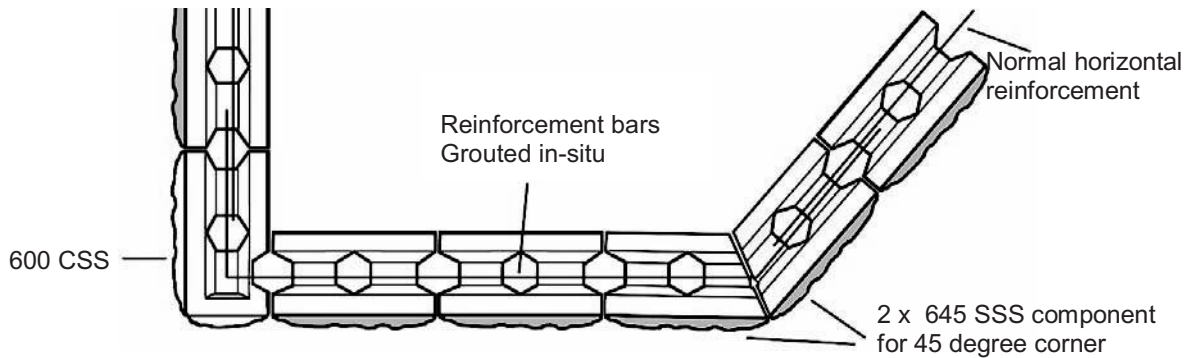


12. Stretcher bond design is important for structural strength, therefore ensure that second and subsequent courses are laid so that the hexagonal vertical cores correspond to the ones in the course below. (Refer to Figure 8 below)

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## PLAN OF CORNER DETAILS

FIGURE 8



13. When building corners or angles, punch out the thin concrete wall at the top and bottom of each block to allow the placement of reinforcing steel and for correct core filling to occur.

## CORE FILLING OR GROUTING\*

14. Prior to core filling, thoroughly wet internal hexagonal channels to aid the flow of the grouting material.
15. Always use 32 Mpa grout, ash free, with 10mm aggregate and 150 mm slump or as specification. Consult your Loc-A-Bloc representative or Customer Service on 1800 027 070 for premix concrete core fill suppliers and their design codes.
16. Always start pouring core fill from one end of wall and fill to the top before proceeding along the length of the wall.
17. Do not core fill to a height greater than 1.5 metres in one pour.
18. Ensure proper filling of cavities by adequate "rodding". Top up where necessary.
19. When placing steel, make sure that all joints overlap by a minimum of 600 mm.
20. Hose off any seepage, spillage or splashing from the face of the wall immediately it occurs, so as not to detract from the finished appearance of the wall.
21. Scrape off any cement residue from the top of the final course to ensure a flat surface for capping.

## FINISHING

22. Finish wall with selected matching capping set in colour-matched mortar or use a good quality epoxy adhesive.
23. Immediately sponge off any cement marking and residue from cutting if using a brick saw.
24. Any damage to the face of the wall can be easily rectified by either bolsting or by using a detailing mix supplied by the manufacturer.

### \*Core filling approximate quantities as follows:

- 600 Series – 1 cubic metre per 10 square face metres.
- 400 Series – 1 cubic metre per 20 square face metres.

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## PRACTICAL EXAMPLES



**HAND RAIL FIXING**



**POSTS IN-SITU**



**FINISHING WITH CAPS**



**GEOGRID CONNECTION**



**BLOCKS TIGHTLY TOGETHER**



**SOIL RE-INFORCED WALL**