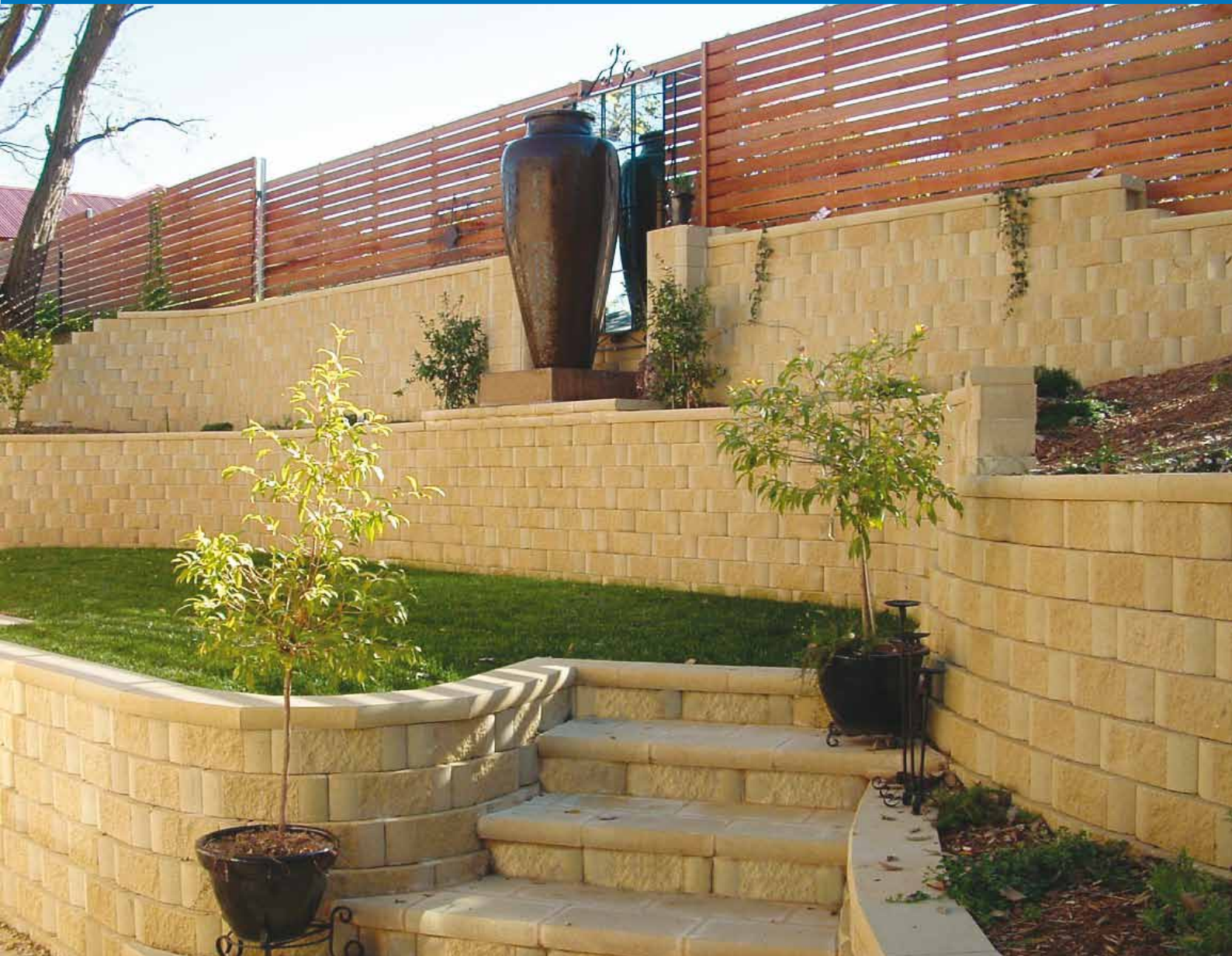




**Building  
Products**

# Retaining Wall Products



**BCP Building Products**

18 Kirkcaldy Street Bathurst NSW 2795

Phone 02 6331 2777

Fax 02 6331 6510

[sales@bcpbuildingproducts.com.au](mailto:sales@bcpbuildingproducts.com.au)

[www.bcpbuildingproducts.com.au](http://www.bcpbuildingproducts.com.au)

# Garden Lockstone

The Garden Lockstone retaining wall system is for general purpose use in situation up to 1.50m high. The advantage of Garden Lockstone is no mortar is required and can be used in straight or curved wall designs.

Specifications: Length 390mm x Height 130mm x Width 230mm. Coverage 19.72 blocks per square metre.

Check your local council for construction of retaining wall requirements. They might require engineer details.



## Laying Instructions

Construction is dependant on footing type and wall height. (please refer engineer's dwg)

Retaining wall can be constructed of all hollow blocks when max wall height is 1m.

Walls above 1m require a concrete footing and should be constructed entirely of solid blocks.

We recommend using a Capping Block to complete your project. Capping blocks are available in Bull Nose Cap, Split Face or Smooth Face.

### METHOD 1:

#### Sand footing

Recommended solid blocks be used on first course, hollow blocks for remaining courses, Capping course on top.

### METHOD 2:

#### Concrete footing

Recommended hollow blocks can be used on all courses, Capping course on top.

Choose footing type then calculate the number of solids, hollows and capping blocks required. End blocks (straight sides) are used at end of wall where exposed or at right angle corners. **Remember the first course is half buried below ground level.**

### Example:

A wall 15.6m in length and 910mm high.

15.6 divided by 0.39 = 40.

910 divided by 130mm = 7 courses plus cap.

	Hollows	Solids	Caps
Method 1	240	40	40
Method 2	280	N/A	40



# General Instructions

- Set out and mark wall position.  
Dig footing trench 350-400mm wide x 140-160mm deep.  
Make sure trench is level. For sloping sites trenching might require stepping.  
(stepping required at 390mm spacing and up or down 130mm increments to avoid cutting blocks)
- If concrete footing type used pour concrete approx 75mm deep and level off.  
While concrete wet lay first course of blocks with retaining lug down into concrete.  
Level each block (side to side and from back to front).

## IMPORTANT

**First course level to ensure remaining blocks position together correctly.**

- If sand footing clean out loose dirt then compact. Fill trench with course layer of sand material 80-100mm deep and level. Place first layer of blocks into sand lug down and bed down using a rubber mallet. Use string line along back of block to ensure alignment.

## IMPORTANT

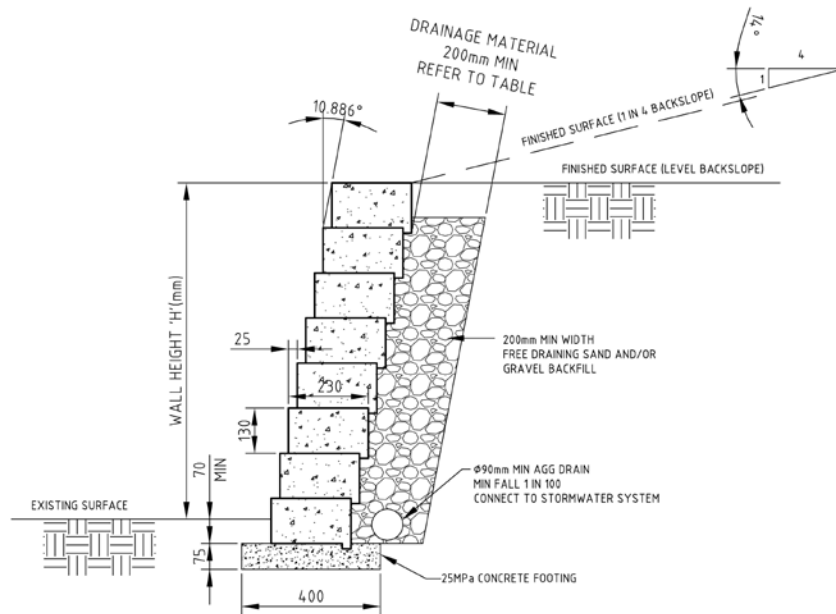
**First course level to ensure remaining blocks position together correctly.**

- Position agricultural drain behind first course being sure sufficient fall allowing water to flow from one end to the other. Cover drain with gravel or free draining sand to top of first course to width of 200-300mm (see engineer's dwg)
- Sweep off loose dirt from top of first course.  
You are now ready to lay next course.
- Place lug of second course behind the first course. To obtain bond pattern position ensure vertical joint of first course is centered on second course block. If wall is vertical at ends use solid end block. Cut solid end block into half for use every second course.
- After second course laid shovel gravel or free draining sand behind wall and compact.
- Repeat these steps until you are ready to lay capping block. Glue capping block down to final course with a construction adhesive.

## NOTE:

When building curves remove extreme of locking lug wing with a hammer.  
Use protective eye wear.

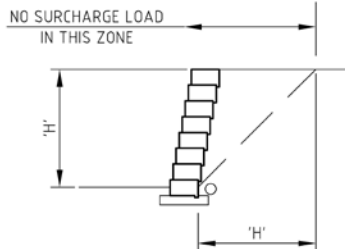




**TYPICAL SECTION (NO SETBACK)**

**DESIGN NOTES:**

1. NO SURCHARGE LOAD IS TO BE APPLIED TO WALL WITHIN THE ZONE SHOWN ON THE SKETCH BELOW.  
eg NO ADJACENT STRUCTURE OR DRIVEWAY.



2. WALL HEIGHTS OVER 1000mm REQUIRE ENGINEERS CERTIFICATION.
3. WALLS DETAILED IN THE TABLE BELOW SHALL BE CONSTRUCTED USING SOLID GARDEN LOCKSTONE BLOCKS.

SOIL TYPE 1: WEATHERED GRANITE  
UNIT WEIGHT 20 kN/m<sup>3</sup>  
FRICTION ANGLE DEGREES 40°  
COHESION kPa 0  
BEARING CAPACITY 200kPa

SOIL TYPE 2: GRANITE /STIFF CLAY MIX  
UNIT WEIGHT 20 kN/m<sup>3</sup>  
FRICTION ANGLE DEGREES 34°  
COHESION kPa 0  
BEARING CAPACITY 200kPa

SOIL TYPE 3: SOFT/FIRM CLAY  
UNIT WEIGHT 19 kN/m<sup>3</sup>  
FRICTION ANGLE DEGREES 27°  
COHESION kPa 10  
BEARING CAPACITY 150kPa

**SOLID GARDEN LOCKSTONES SELECTION GUIDELINES**

SOIL/BACKFILL TYPE	INTERNAL FRICTION ANGLE $\phi$	WALL HEIGHT LEVEL BACKSLOPE	WALL HEIGHT 1 IN 4 BACKSLOPE	DRAINAGE MATERIAL WIDTH (mm)
WEATHERED GRANITE	40°	1500mm	1200mm	200mm
GRANITE/STIFF CLAY MIX	34°	1300mm	1100mm	200mm
SOFT/FIRM CLAY	27°	1000mm	800mm	300mm

DWG. No.:  
S1

Drawn: PJM

Date: 19-10-05

JOB No.:  
05.723

Scales: N.T.S.

Approved:

SOLID LOCKSTONES RETAINING WALL  
TYPICAL DETAILS  
AND SPECIFICATION  
BATHURST CONCRETE PRODUCTS

**CALARE CIVIL Pty Ltd**  
CONSULTING ENGINEERS  
ACN 050 057 933  
86 BENTINCK ST., BATHURST, N.S.W. 2795  
Telephone: (02) 63323343



# Clipstone

Clipstone retaining wall is an interlocking system for general purpose applications up to 960mm in height. The advantage of Clipstone is no mortar is required and can be used in straight or curved wall designs.

**Specifications:** Length 390mm x Height 160mm x Width 190mm. Coverage 16.2 blocks per square meter

Check your local council for construction of retaining wall requirements. They might require engineer details.



## Laying Instructions

Construction is dependant on footing type and wall height (please refer engineer's dwg)

We recommend using a Capping Block to complete your project. Capping blocks are available in Bull Nose Cap, Split Face or Smooth Face.

### FOOTING TYPE

Sand footing - may be used on walls up to 800mm height (5 courses). Blocks may require sand fill please refer engineer's dwg. Capping course on top.

Concrete footing - hollow blocks can be used on all courses. Capping course on top.

Choose footing type then calculate number of blocks required. Remember the first course is half buried below ground level.

### Example:

A wall 19.5m in length and 640mm high.

$19.5 \text{ divided by } 0.39 = 50.640\text{m}$  divided by 160mm = 4 courses plus a cap.

The number of blocks required are 200 blocks and 50 caps.



# General Instructions

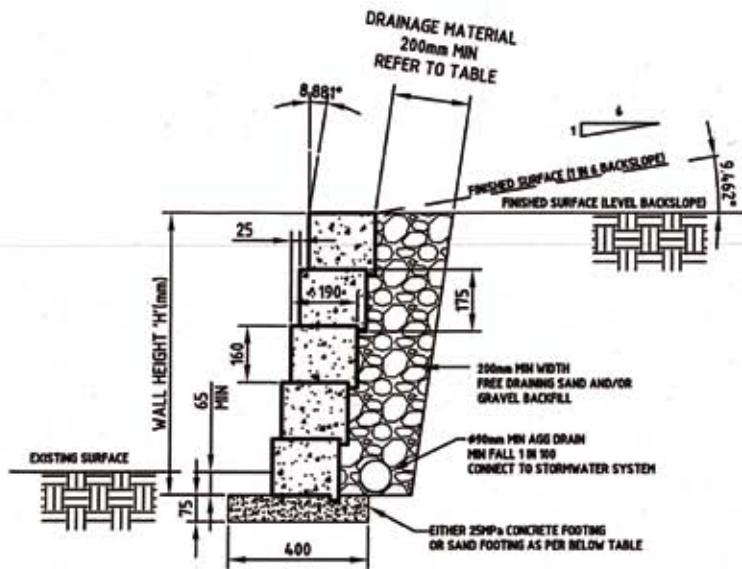
- Set out and mark wall position. Dig footing trench 300-400mm wide x 140-160mm deep. For sloping sites trenching might require stepping. (stepping required at 390mm spacing and up or down 160mm increments to avoid cutting blocks)
- If concrete footing type used pour concrete approx 75mm deep and level off. While concrete wet lay first course of blocks with retaining lug down into concrete. Level each block (side to side and from back to front). **IMPORTANT-** First course level to ensure remaining blocks position together correctly.
- If sand footing clean out loose dirt then compact. Fill trench with course layer of sand material 80-100mm deep and level. Place first layer of blocks into sand lug down and bed down using a rubber mallet. Use string line along back of block to ensure alignment.

## **IMPORTANT**

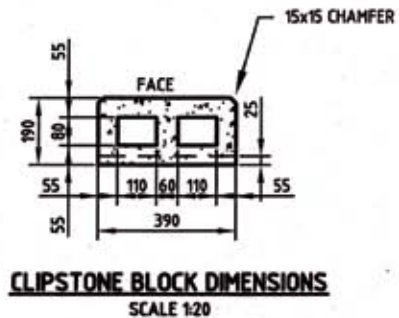
**First course level to ensure remaining blocks position together correctly.**

- Position agricultural drain behind first course being sure sufficient fall allowing water to flow from one end to the other. Cover drain with gravel or free draining sand to top of first course to width of 200-300mm (see engineer's dwg)
- Sweep off loose dirt from top of first course. You are now ready to lay next course.
- Place lug of second course behind the first course. To obtain bond pattern position ensure vertical joint of first course is centered on second course block. If wall is vertical at ends use solid end block. Cut solid end block into half for use every second course.
- After second course laid shovel gravel or free draining sand behind wall and compact.
- Repeat these steps until you are ready to lay capping block. Glue capping block down to final course with a construction adhesive.





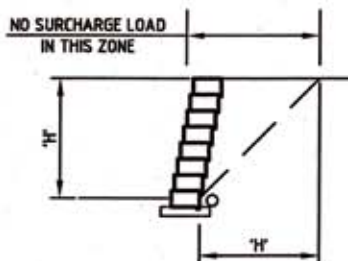
**TYPICAL SECTION (NO SETBACK)**  
SCALE 1:20



**CLIPSTONE BLOCK DIMENSIONS**  
SCALE 1:20

**DESIGN NOTES:**

1. NO SURCHARGE LOAD IS TO BE APPLIED TO WALL WITHIN THE ZONE SHOWN ON THE SKETCH BELOW.  
eg NO ADJACENT STRUCTURE OR DRIVEWAY.



2. WALL HEIGHTS OVER 1000mm REQUIRE ENGINEERS CERTIFICATION.

**SOIL TYPE:** STIFF CLAY  
UNIT WEIGHT 20 kN/m<sup>3</sup>  
FRICTION ANGLE DEGREES 36°  
COHESION kPa 0  
BEARING CAPACITY 200kPa

**CLIPSTONE RETAINING WALL SELECTION GUIDELINES**

SOIL/BACKFILL TYPE	INTERNAL FRICTION ANGLE $\phi$	WALL HEIGHT LEVEL BACKSLOPE	WALL HEIGHT 1 IN 6 BACKSLOPE	WALL HEIGHT LEVEL BACKSLOPE	WALL HEIGHT 1 IN 6 BACKSLOPE	DRAINAGE MATERIAL WIDTH (mm)
		ALL CORES UNFILLED		ALL CORES FILLED ALL VOIDS FILLED WITH COMPACTED SAND		
STIFF CLAY	36°	800mm (5 courses) 75mm CONC. FOOTING	640mm (4 courses) 75mm CONC. FOOTING	960mm (6 courses) 75mm CONC. FOOTING	960mm (6 courses) 75mm CONC. FOOTING	200mm
STIFF CLAY	36°	640mm (4 courses) SAND FOOTING	640mm (4 courses) SAND FOOTING	800mm (5 courses) SAND FOOTING	800mm (5 courses) SAND FOOTING	200mm

DWG. No.: S1	Rev.: C	Drawn: PJM
JOB No.: 10.484		Date: 12-7-10
		Scales: N.T.S.
		Approved:

CLIPSTONE RETAINING WALL  
TYPICAL DETAILS  
AND SPECIFICATION  
BATHURST CONCRETE PRODUCTS

**CALARECMI**  
CONSULTING ENGINEERS

170 RANKIN STREET,  
BATHURST, N.S.W. 2795  
Tel: (02) 63323343 Fax: (02) 63318210

# Retaining Wall Interlocking Block 20-746

Interlocking retaining wall system remains the most economical and ideal in gardening/landscaping situations. Block spacing allows the use of planting providing colour and cascading greenery. Ideal for the free flowing retaining wall design.

Specifications: Length 390mm x Width 190mm x Height 190mm

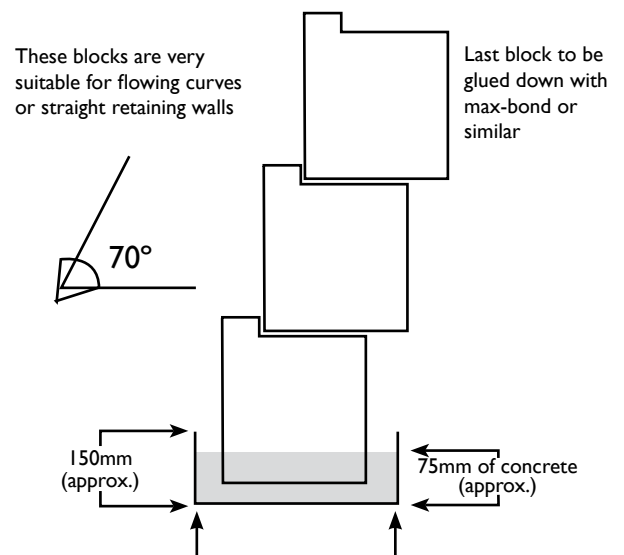


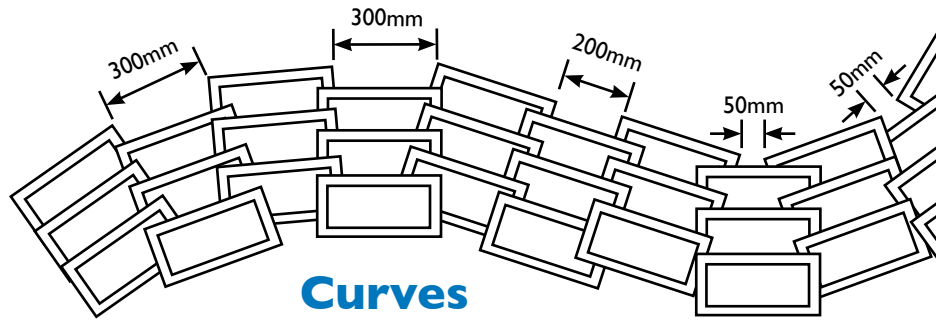
Wall Height	Number of Courses High	Length of Wall													
		2.36	2.95	3.54	4.13	4.72	5.31	5.90	6.49	7.08	7.67	8.26	8.85	9.44	10.3
256	2	8	10	12	14	16	18	20	22	24	26	28	30	32	34
424	3	12	15	18	21	24	27	30	33	36	39	42	45	48	51
592	4	16	20	24	28	32	36	40	44	48	52	56	60	64	68
760	5	20	25	30	35	40	45	50	55	60	65	70	75	80	85
928	6	24	30	36	42	48	54	60	66	72	78	84	90	96	102
1096	7	28	35	42	49	56	63	70	77	84	91	98	105	112	119
1264	8	32	40	48	56	64	72	80	88	96	104	112	120	128	136
1432	9	36	45	54	63	72	81	90	99	108	117	126	135	144	153

Engineering advice is required if the wall is to be more than nine courses high • The above Matrix has allowed for 200mm gaps between blocks

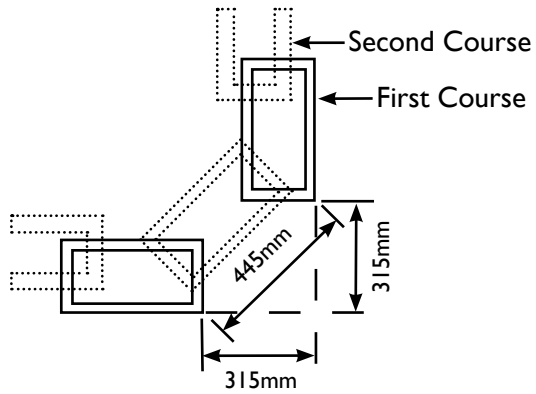
## Laying Instructions

- Set out and mark wall position.  
Dig foundation trench 250mm wide x 150mm deep.  
Sloping sites trenching might require stepping  
(stepping required at 190mm spacing and up or down  
190mm increments to avoid cutting blocks)
- Fill trench with concrete approx 75mm deep and level off.  
While concrete wet lay first course of blocks lug up pressing  
blocks firmly into footing. Ensure 200mm spacing between each block.
- After concrete has hardened remaining courses are ready to build.
- After every second course shovel soil into and behind wall  
compacting as you go.  
Use of sand or gravel as backfill is not advised.
- Once complete plant flowers or creepers into wall gaps and cavities.



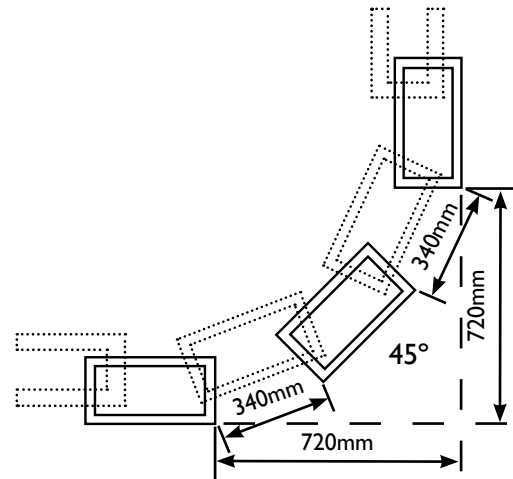


### Right Angled Corner



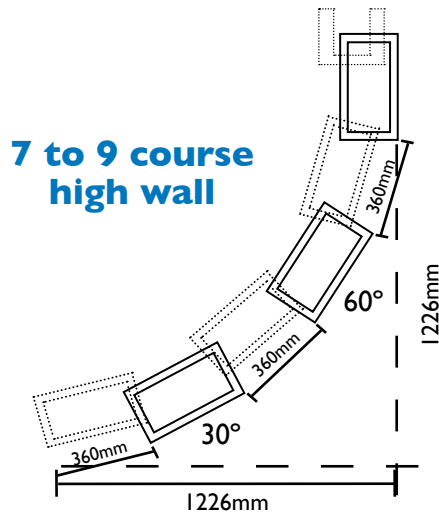
up to 3 course high wall

### Sharp Corner



4-6 course high wall

### Round Corner



7 to 9 course high wall

# Garden Edgestone

Garden Edgestone retaining wall is designed for garden edging or retaining walls up to 400mm in height. They require no mortar they are light and easy to handle. Garden Edgestone are ideal for application in straight or curved wall design

**Specifications:** Length 200mm x Height 110mm x Width 140mm. Coverage 45.45 blocks per square meter.



## Laying Instructions

- Set out and mark wall position. Dig foundation trench 220mm wide x 110mm deep. Sloping sites trenching might require stepping (stepping required at 200mm spacing and up or down 110mm increments to avoid cutting blocks)
- If concrete footing type used pour concrete approx 60mm deep and level off. While concrete wet lay first course of blocks with retaining lug down into concrete. Level each block (side to side and from back to front). **IMPORTANT-** First course level to ensure remaining blocks position together correctly.
- If sand footing clean out loose dirt then compact. Fill trench with course layer of sand material 60mm deep and level. Place first layer of blocks into sand lug down and bed down using a rubber mallet. Use string line along back of block to ensure alignment.

### **IMPORTANT**

**First course level to ensure remaining blocks position together correctly.**

- Place lug of second course behind the first course. To obtain bond pattern position ensure vertical joint of first course is centered on second course block. If wall finishes Vertical at each end cut block and use every second course.
- Repeat these steps until ready to lay final course. Glue final course down using general construction adhesive. Alternatively a capping course can be used to finish off. Glue capping course down using general construction adhesive.
- Backfill Edgestone wall with soil material.



# Colours

All of our products are available in these colours:



## BCP Building Products

18 Kirkcaldy Street Bathurst NSW 2795

Phone 02 6331 2777

Fax 02 6331 6510

[sales@bcpbldgproducts.com.au](mailto:sales@bcpbldgproducts.com.au)

[www.bcpbuildingproducts.com.au](http://www.bcpbuildingproducts.com.au)



**WE DELIVER TO ALL AREAS**