

# BIG BLOCKS®

concrete retaining solutions



Retaining Wall Solutions



Covered Storage



Structures



Storage Bins

## Welcome

Thank you for considering BigBlocks™ concrete blocks for your retaining solution. Counties Ready Mix has been recycling its surplus concrete into concrete blocks since the company began in 1999. Recycling our concrete in this manor avoids waste concrete entering landfills and is a key part of our company's environmental responsibility.



Traffic Barriers



Covered



Options For Precast Lifting Inserts



# welcome



# our task



## Our task

Our task is to convert waste concrete into a valued product in a quality controlled manufacturing process.

Typically each concrete job has some surplus concrete left over. In fact The Auckland Ready Mixed Concrete produces approximately 40,000m<sup>3</sup> of surplus concrete every year.

By converting this waste material into our precast BigBlocks™ concrete blocks we are giving that waste material valued purpose and reducing our environmental impact.

Like all concrete structures exposed to the atmosphere, our BigBlocks™ concrete blocks absorb CO<sup>2</sup> in a process called recarbonation which wouldn't be possible if the concrete was dumped into landfills or treated in similar irresponsible ways. Counties Ready Mix are committed to having a minimal eco-footprint and these interlocking blocks are just a small part of our eco-friendly approach. We also manufacture eco-friendly concrete. Visit our main website [www.crml.co.nz](http://www.crml.co.nz) for more information.

Thank you for taking the time to consider BigBlocks™ concrete blocks for your project. If you choose to use our products, you can rest assured, you have made a wise choice.



# the range



Rural feed out bin built on a concrete slab

Available in three sizes (small, standard and large) these solid concrete blocks are solid, durable, economical and very fast to install. Each block positively locates above the other preventing block movement and speeding up installation.

The system's flexibility allows easy modification to cater for future needs, more blocks can be added to structures or whole structures can be quickly dismantled and rebuilt elsewhere.

Blocks can be supplied in a "Flat Top" configuration which is useful for the top layer on feed bins where a roof canopy is being installed.

Each block has a 80mm vertical reinforcement duct allowing reinforcement to pass through the blocks. When assembled the ducts are at 550mm ctrs.

Special blocks can be produced to suit your requirements if required.

## Estimating Quantities

To calculate the approximate number of blocks take the total lineal meters of wall and divide it by 1.1 (the length of a standard block) then multiply by the number of courses high.

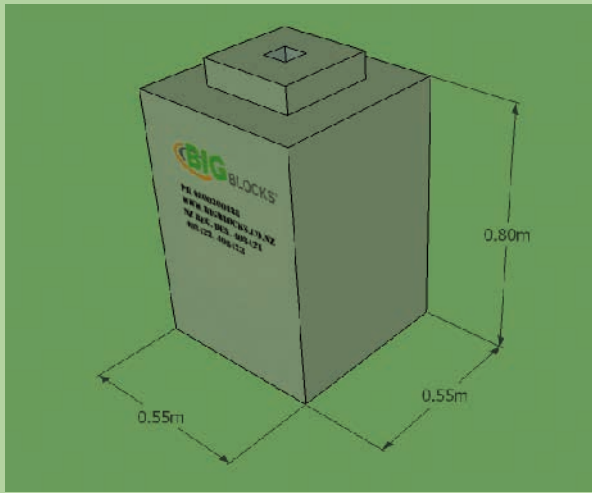
For example a "U" shaped bin 10m deep by 5m wide and 2.4m high has a total wall length of 25m (10 + 5 + 10) divided by 1.1 = 22.7 multiplied by three courses high (three blocks @ 800 high = 2.4) = 68 Standard blocks approximately.

We will gladly prepare a 3D layout showing each course of blocks and prepare a full schedule of quantities for you at no charge.



Firewood store bin constructed with standard and "special" blocks for ventilation



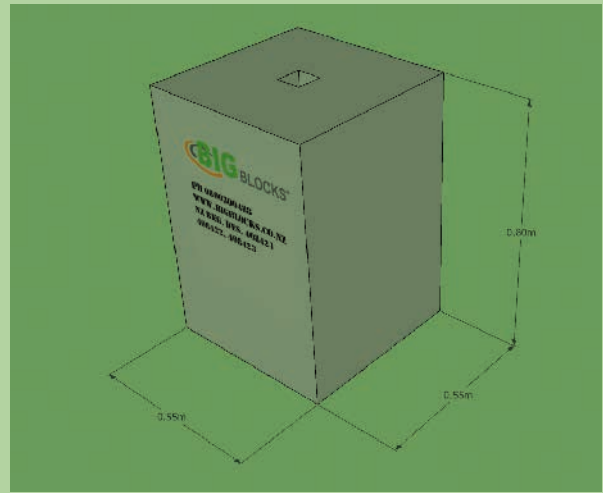


### Small Block

**Dimensions:** 550L x 800H x 550W

**Mass:** 550kg approximately

NZ Reg. Design 408421

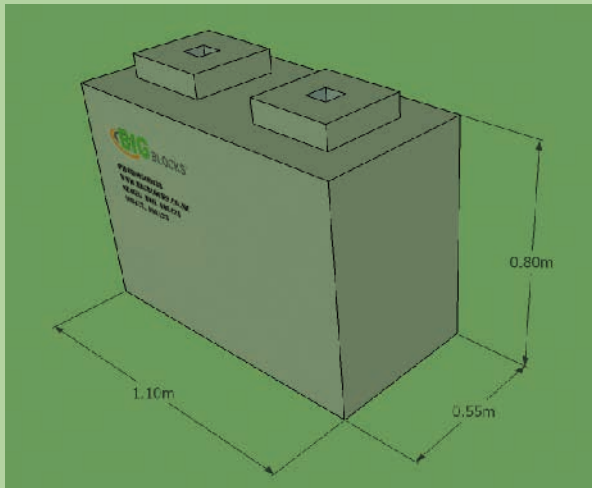


### Small Flat Top Block

**Dimensions:** 550L x 800H x 550W

**Mass:** 550kg approximately

NZ Reg. Design 408421

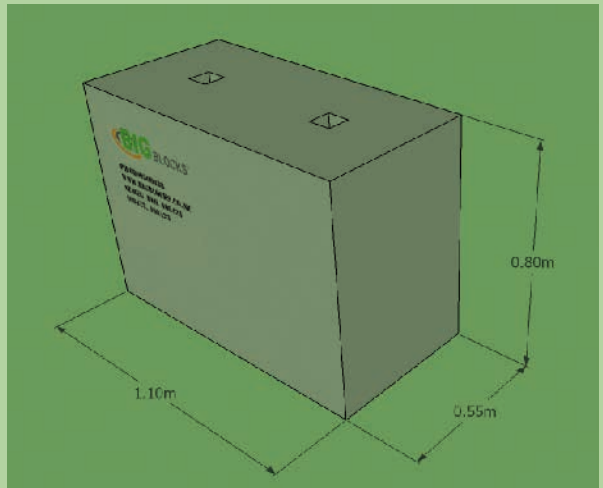


### Standard Block

**Dimensions:** 1100L x 800H x 550W

**Mass:** 1100kg approximately

NZ Reg. Design 408422



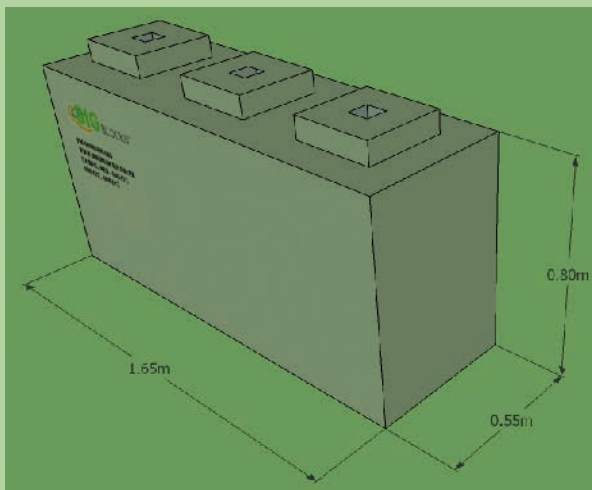
### Standard Flat Top Block

**Dimensions:** 1100L x 800H x 550W

**Mass:** 1100kg approximately

NZ Reg. Design 408422

Each block has a 80mm vertical reinforcement duct

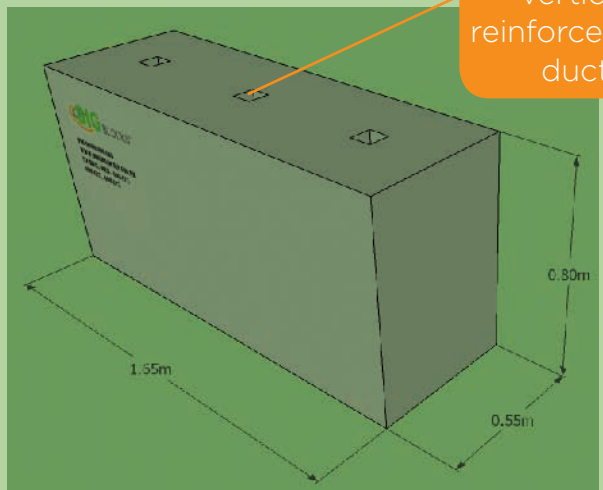


### Large Block

**Dimensions:** 1650L x 800H x 550W

**Mass:** 1650kg approximately

NZ Reg. Design 408423



### Large Flat Top Block

**Dimensions:** 1650L x 800H x 550W

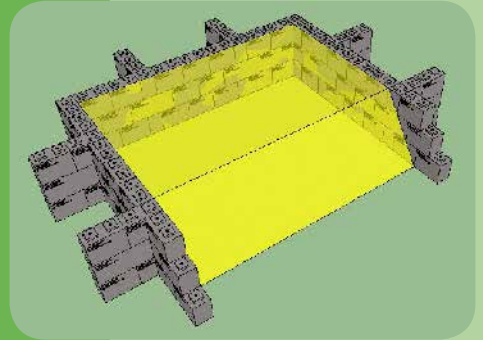
**Mass:** 1650kg approximately

NZ Reg. Design 408423

# engineered solutions

## Clever Thinking

The table on this page allows for Maize, Silage, PK and other retaining structures to be constructed without any foundation works at all. Our system employs buttress' at various centres along the wall to allow the block wall to support itself. Once the vegetation is cleared and some compacted base course has been installed, construction of the block wall can begin allowing very fast and very economical construction. Please ensure that your project complies with all local body authority bylaws and regulations. It is the customer's responsibility to ensure the design is suitable for their purpose. No surcharges or point loads have been allowed for in the design tables.



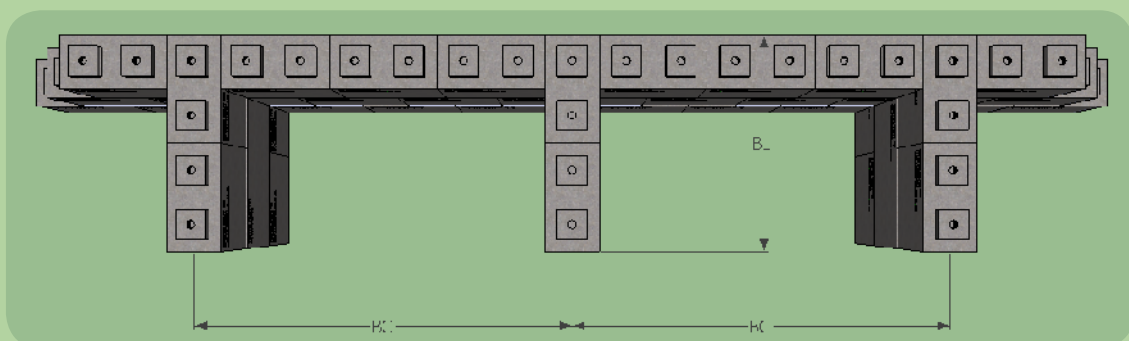
Number Of Blocks High	Wall Height (mm)	Buttress Max. Ctrs. (mm)	Buttress Length For Wall Between Two Buttress' Only "BL" (mm)	Buttress Length For Wall Continuous For More Than Two Buttress' "BL" (mm)	Reinforcement** Requirements In Wall (But Not Tied To Footing)
1	800	Not Required	Not Required	Not Required	Not Required
2	1600*	Not Required	Not Required	Not Required	Not Required
3	2400	6050	2200	3300	D16 @ 550 Ctrs.
3	2400	3850	1650	2200	D16 @ 550 Ctrs.
3	2400	2750	1650	2200	D16 @ 550 Ctrs.
3	2400	2200	1650	1650	D16 @ 550 Ctrs.
4	3200	3850	3300	3850	D16 @ 550 Ctrs.
4	3200	2750	2200	2750	D16 @ 550 Ctrs.
4	3200	2200	2200	2750	D16 @ 550 Ctrs.

\*Wall may only be retained to a maximum height of 1450mm

\*\*All reinforcement to be deformed 16mm diameter grade 300 mild steel solid grouted with 17.5MPa grout or 50mm PE Galv pipe full height of wall

### General Notes

- Wall designed for soil loading only, higher loadings will require specific design
- Blocks to be installed on 20mm well compacted fines on min 100mm well compacted GAP65 (to extend 600 min beyond the extent of the block wall) on clean good bearing ground with all vegetation removed
- Reduce BC to a maximum of 70% of the stated BC where Buttress are replaced with 90 deg wall returns
- Tractor wheels must not be driven closer than 1500mm to the top of the wall unless the wall is equally loaded by soil or fill on both sides of the wall

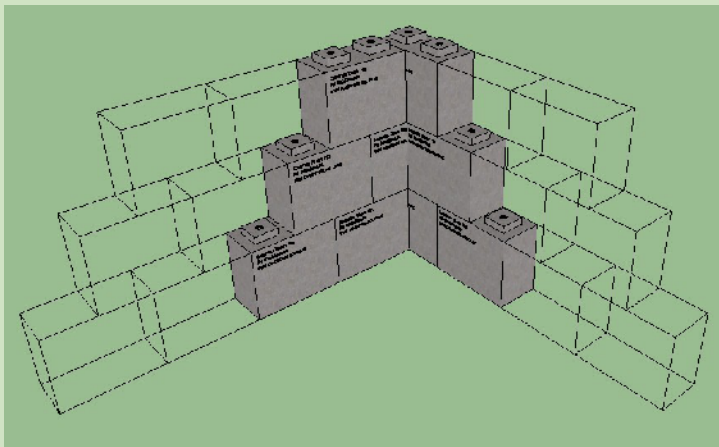


# helpful info

## Installation Tips

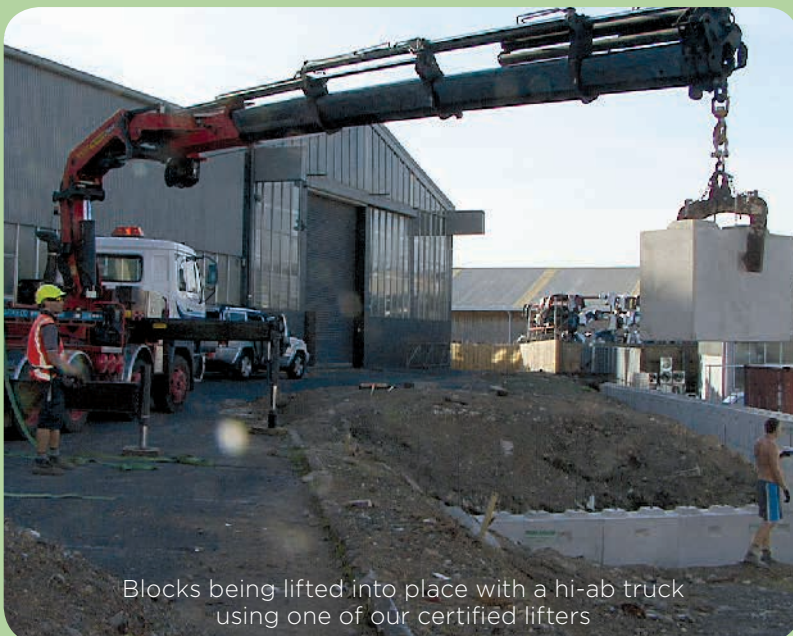
### Where do I begin?

When you begin to construct your wall start in one corner/end and build the wall up to the full height. From there work along the wall continuing to build the wall up to full height. If you place all the bottom course blocks first, then the second course, you might find it difficult to accommodate any 'creep'.



### Do I need to allow for any 'creep' when I build my wall?

If you are building a wall and any creep is critical (i.e. reinforcing starters protruding from foundations) our experience shows that allowing 0.3% creep is best practice.



Blocks being lifted into place with a hi-ab truck using one of our certified lifters

## Frequently Asked Questions

### What strength is the concrete?

*Because the blocks are cast from surplus concrete from our ready mixed concrete operation we can't provide any specific concrete strength for the blocks however lab tests indicate an average strength of 18MPa.*

### Will the blocks all be delivered in the same colour?

*To keep the cost of the blocks to a minimum we recycle all surplus concrete into our blocks. Sometimes we cast blocks from coloured concrete in which case we paint the blocks to match the colour of plain concrete as best we can.*

### How do I get the blocks delivered and installed?

*If you don't have a freight solution, we can request prices for transport on your behalf. Usually flat deck truck and trailers are best (or hi-ab for smaller jobs). Most people install the blocks themselves or we can suggest a contractor to undertake the job for you.*

### How many blocks can be delivered on a truck & trailer?

*Typically 22 - 24 standard blocks can be delivered on a flat deck truck and trailer unit.*

### How do I lift and place the blocks?

*We will provide a certified lifting device for you to use for the duration of the project. Because the concrete used in the blocks is surplus concrete which can't be certified it is unsafe to use a 'swift lift' insert. We will provide a "Safe Handling Procedure" to ensure optimum safety during installation.*

### Can I borrow a lifter to move my blocks later on?

*Yes, just call or email to make arrangements.*

### Can blocks be supplied with swift lifts?

*Yes, swift lifters can be installed in the blocks providing certified (non surplus) concrete is used.*

