

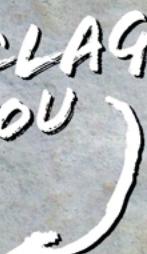


Brown's
CONCRETE PRODUCTS

SINCE
1907



MADE
IN
ONTARIO



BELVEDERE
PIT KIT
MANITOU

GRAND FLAG
MANITOU

RESOURCE GUIDE

THE **HARDSCAPES** ADVANTAGE

PRODUCT DESIGN

At Brown's Concrete Products, every product is designed with three key objectives: To solve a problem, to be aesthetically pleasing, and to facilitate seamless installation.

QUALITY MATERIALS

What differentiates Brown's Concrete is our steadfast commitment to quality, exemplified by the use of premium granite aggregate. This superior material forms the cornerstone of our products, providing unmatched durability and performance. Our rigorous focus on high-quality materials ensures that every Brown's product maintains its structural integrity over time, consistently delivering exceptional, long-lasting results in any hardscaping project.

MANUFACTURING PROCESS

Through our Total Quality Management (TQM) system, we strive to maintain the highest standards at every stage of production.

CUSTOMER SERVICE

Whether you're a dealer partner, contractor, or homeowner, Brown's Concrete offers customer service designed to make your experience exceptional. We strive to build lasting relationships by consistently delivering exceptional service and support, aiming to exceed your expectations with every interaction.

EXCEPTIONAL VALUE

At Brown's, we are committed to providing you with the best value for your hardscaping investment. We are dedicated to delivering the highest value through products that offer long-lasting beauty, durability, and functionality.





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GRAND LEDGE

WALL



Wall Stones



Specifications per pallet	Block 1	Block 2	Block 3	Block 4
Length	1,829 mm (72 in)	1,524 mm (60 in)	1,219 mm (48 in)	915 mm (36 in)
Height	305 mm (12 in)	305 mm (12 in)	305 mm (12 in)	305 mm (12 in)
Depth	508 mm (20 in)	508 mm (20 in)	508 mm (20 in)	508 mm (20 in)
Weight/stone	±1,401 lbs/±635 kg	±1,167 lbs/±529 kg	±934 lbs/±423 kg	±700 lbs/±317 kg
Units/pallet	1	1	1	1
Coverage/sq. ft.	18			
Weight/pallet	±4,202 lbs/±1,906 kg			

Corner Stones



Specifications per pallet	Block 1	Block 2	Block 3	Block 4
Length	1,283 mm (50.5 in)	1,168 mm (46 in)	1,086 mm (42.75 in)	895 mm (35.25 in)
Height	305 mm (12 in)	305 mm (12 in)	305 mm (12 in)	305 mm (12 in)
Depth	648 mm (25.5 in)	533 mm (21 in)	502 mm (19.75 in)	641 mm (24.25 in)
Weight/stone	±1,141 lbs/±517 kg	±1,039 lbs/±471 kg	±966 lbs/±438 kg	±796 lbs/±361 kg
Units/pallet	1	1	1	1
Coverage/sq. ft.	14			
Weight/pallet	±3,796 lbs/±1,722 kg			

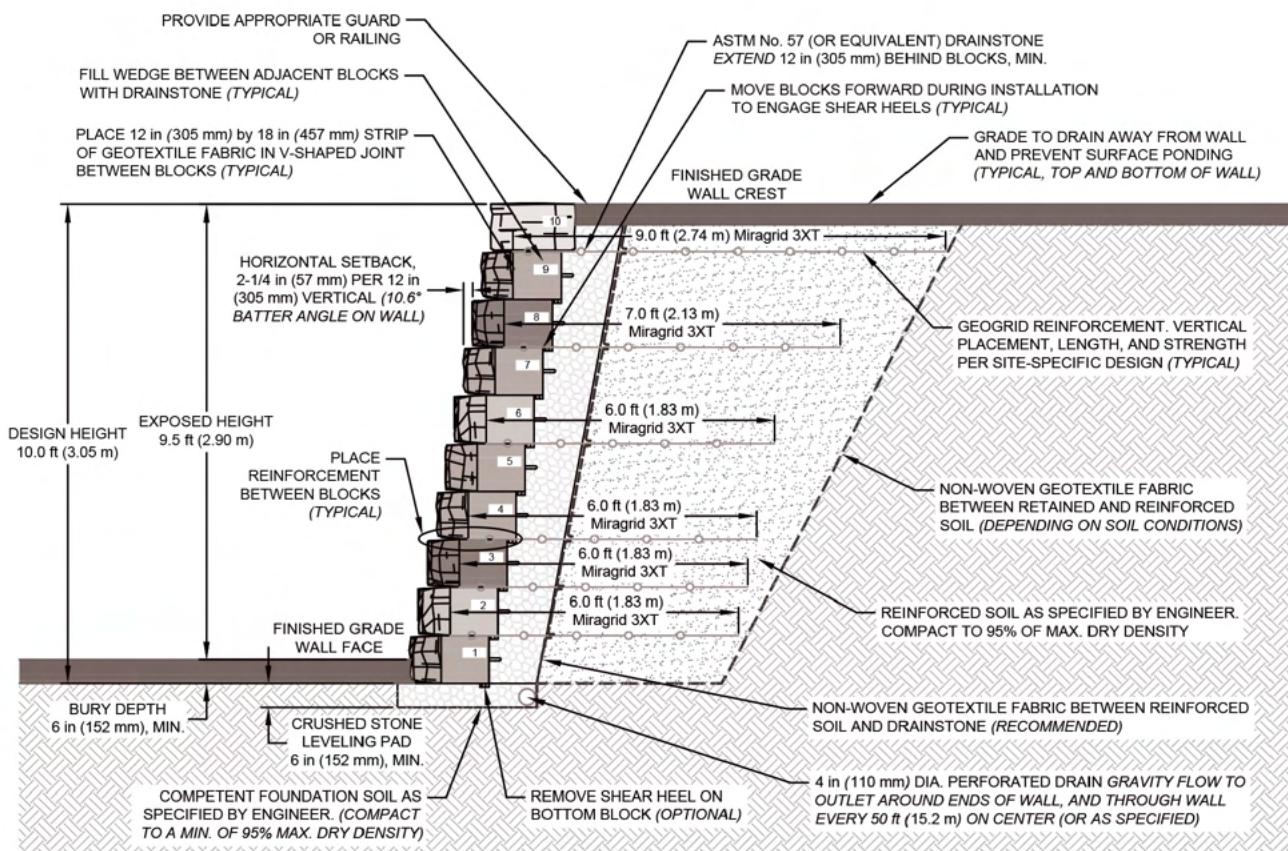
Coping Stones



Specifications per pallet	Block 1
Length	1,372 mm (54 in)
Height	305 mm (12 in)
Depth	508 mm (20 in)
Weight/stone	±996 lbs/±451 kg
Units/pallet	4
Coverage/sq. ft.	18
Weight/pallet	±3,983 lbs/±1,807 kg

STANDARD COLOURS

- Manitou
- Fond Du Lac





OUTCROPPING

RETAINING WALL



Pallet A



Specifications/pallet	Block 1	Block 2	Block 3	Block 4
Length	1,067 mm (42 in)	1,219 mm (48 in)	1,524 mm (60 in)	1,676 mm (66 in)
Height	305 mm (12 in)	305 mm (12 in)	305 mm (12 in)	305 mm (12 in)
Weight/stone	±743 lbs/±337 kg	±849 lbs/±385 kg	±1,061 lbs/±481 kg	±1,167 lbs/±529 kg
Units/pallet	1	1	1	1
Coverage/sq. ft	18			
Weight/pallet	±3,819 lbs/±1,732 kg			

Pallet B



Specifications/pallet	Block 1	Block 2	Block 3	Block 4	Block 5	Block 6
Length	610 mm (24 in)	915 mm (36 in)	915 mm (36 in)	1,219 mm (48 in)	1,372 mm (54 in)	1,829 mm (72 in)
Height	153 mm (6 in)	153 mm (6 in)	305 mm (12 in)	153 mm (6 in)	305 mm (12 in)	305 mm (12 in)
Weight/stone	±214 lbs ±97 kg	±321 lbs ±145 kg	±428 lbs ±194 kg	±642 lbs ±291 kg	±963 lbs ±436 kg	±1,284 lbs ±582 kg
Units/pallet	1	1	1	1	1	
Coverage/sq. ft	18					
Weight/pallet	±3,853 lbs/±1,748 kg					

STANDARD COLOURS

- Manitou
- Windsor

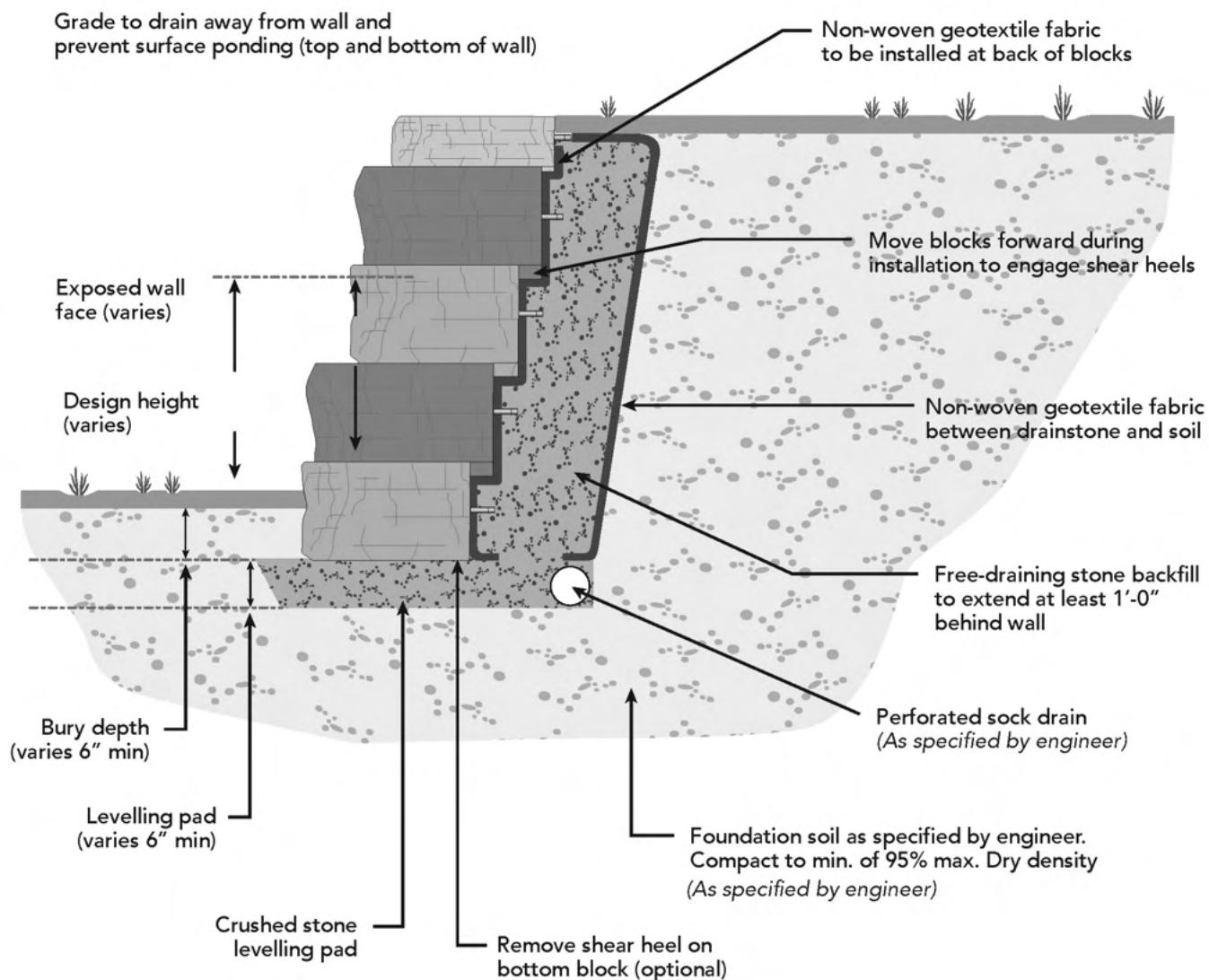


TYPICAL GRAVITY WALL SECTION

This page shows the typical construction details for gravity walls. These drawings are representative of the major components required in wall construction.

Specific details, including geotextile reinforcement layers, drainage details, soil requirements, etc., shall be per professionally-engineered design for wall.

For more cross-section and design options, please visit www.rosettahardscapes.com and click on "engineering."





FREESTANDING WALL



Pallet G



Specifications per pallet	Block 1	Block 2	Block 3
Length	1,829 mm (72 in)	914 mm (36 in)	914 mm (36 in)
Width	762 mm (30 in)	762 mm (30 in)	762 mm (30 in)
Height	305 mm (12 in)	305 mm (12 in)	152 mm (6 in)
Units/pallet	1	1	1
Weight/stone	±1,882 lbs/±853 kg	±941 lbs/±426 kg	±471 lbs/±213 kg
Coverage/sq. ft.	10.5		
Weight/pallet	±3,294 lbs/±1,495 kg		

Pallet H



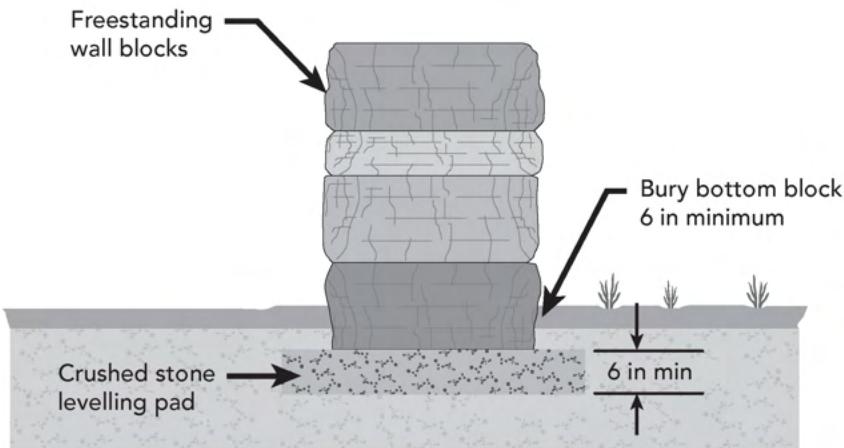
Specifications per pallet	Block 1	Block 2	Block 3
Length	1,524 mm (60 in)	1,219 mm (48 in)	1,219 mm (48 in)
Width	762 mm (30 in)	762 mm (30 in)	762 mm (30 in)
Height	305 mm (12 in)	305 mm (12 in)	152 mm (6 in)
Units/pallet	1	1	1
Weight/stone	±1,446 lbs/±655 kg	±1,156 lbs/±524 kg	±578 lbs/±262 kg
Coverage/sq. ft.	11		
Weight/pallet	±3,181 lbs/±1,443 kg		

STANDARD COLOURS

- Manitou
- Windsor

TYPICAL FREESTANDING WALL

This diagram shows typical construction details for Outcropping Freestanding walls, representative of standard components required in wall construction. Specific details including drainage details, soil requirements, etc., must be based upon professionally-engineered per-project.



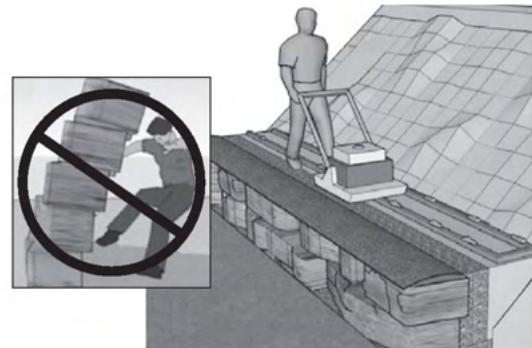
NOTE: Block size and placement shown are for reference only. Individual Brown's blocks will vary with installation pattern. Actual design must be performed by a licensed engineer.



NOTES FOR INSTALLATIONS REQUIRING GEOGRID

Visit www.rosettahardscapes.com for detailed cross-sections of geogrid reinforced Outcropping walls.

- ❑ For Brown's Outcropping installations, do not overlap geogrid over top of blocks. Instead: Run the geogrid directly up to the back of the blocks.
- ❑ In addition to this reinforcement, a Paraweb strap must be installed through each lifting hook in the back of the Outcropping blocks. Please see standard details for Reinforced Outcropping Walls for further information.
- ❑ Place and compact drainstone and reinforced fill following the procedure used to set the bottom and upper courses of blocks. It is important to place and compact the stone and reinforced fill starting at the back of the retaining blocks and extending into the reinforced soil zone. This will help eliminate "bunching" of the geogrid reinforcement.
- ❑ Reinforced zone fill material is typically a sand or gravel with less than 5% "fines" (material passing the No. 200 sieve). This material is usually classified as a GW, GP, SW, or SP. It is very important that you only use the fill material specified in your project design drawings and specifications.
- ❑ Place retained soil immediately between the reinforced soil zone and the back of the excavation. Material should be placed in loose lifts of 200 mm (8 in) maximum and compacted to 95% maximum density as determined by a Standard Proctor test (ASTM D698).
- ❑ Bring the reinforced and retained soil up to grade at the same time. At no time should the elevation of the reinforced soil be more than one block higher than the retained soil.
- ❑ Tracked construction equipment should not be used directly on the geogrid. A minimum of 150 mm (6 in) of fill is required between tracked equipment and geogrid to prevent damage to the grid. Rubber-tired equipment may pass over the geogrid when travelling at low speeds of 5 mph (8 km/h) or less. Avoid any sudden stopping or turning of construction equipment in the reinforced fill zone to prevent moving or damaging the geogrid layers. Follow geogrid manufacturer's requirements, including requirements for vertical separation and overlap of geogrid.



NOTE: For all installations, never stack blocks more than one course above grade of backfill.

OUTCROPPING LIFTING DEVICE

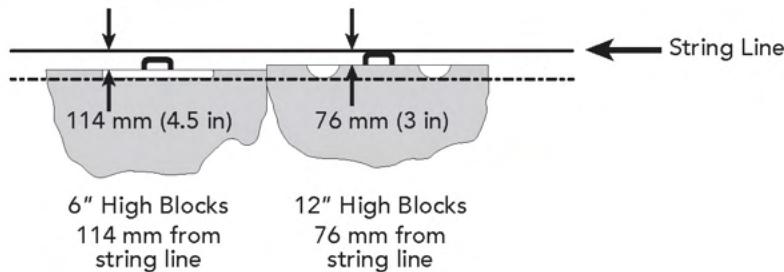
The outcropping lifting device is a required tool for any proper installation using the Outcropping System.



OUTCROPPING LAYOUT NOTES

- ❑ One of the unique features of the Brown's Outcropping system is multiple block heights. To provide a uniform wall batter with multiple height blocks, the setback of the blocks varies proportionally with the block height. This setback in blocks is achieved with shear heels which are cast into the Brown's blocks. For a 6 in high block, the shear heels are 3 in deep (1 x 3 in).
- ❑ To ensure proper wall alignment and to account for the multiple height blocks and varying setbacks, the bottom row of blocks must be adjusted based on their height.
- ❑ Set up a traditional string line for the back of the wall, then offset the blocks as per the figure pictured below.

BACK OF WALL STRING LINE (TOP VIEW)





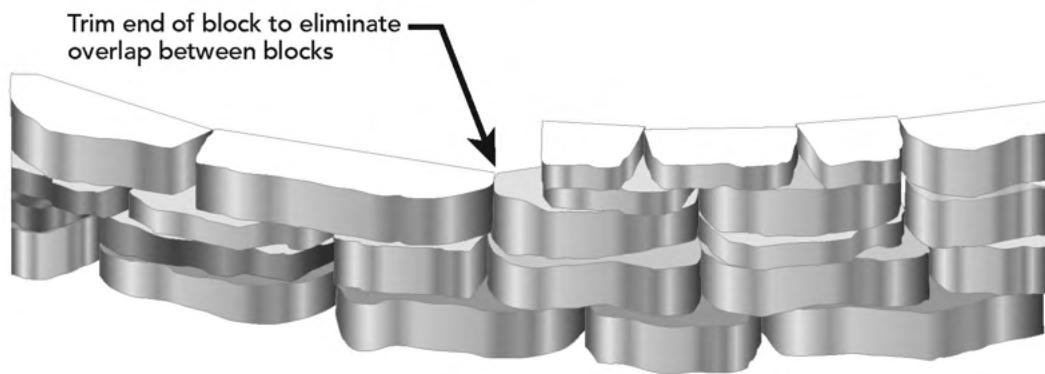
OUTCROPPING INSTALLATION CURVES



OUTSIDE (CONVEX) CURVE

If you are constructing an outside (convex) curve, the wall batter will cause the blocks higher in the wall to have a shorter radius around the curve than lower blocks. This will cause the higher blocks to “grow” in the wall layout pattern. (This is similar in concept to the inside lane of a race track that is shorter than the outside lane). The result is a potential overlap between some of the blocks in the wall.

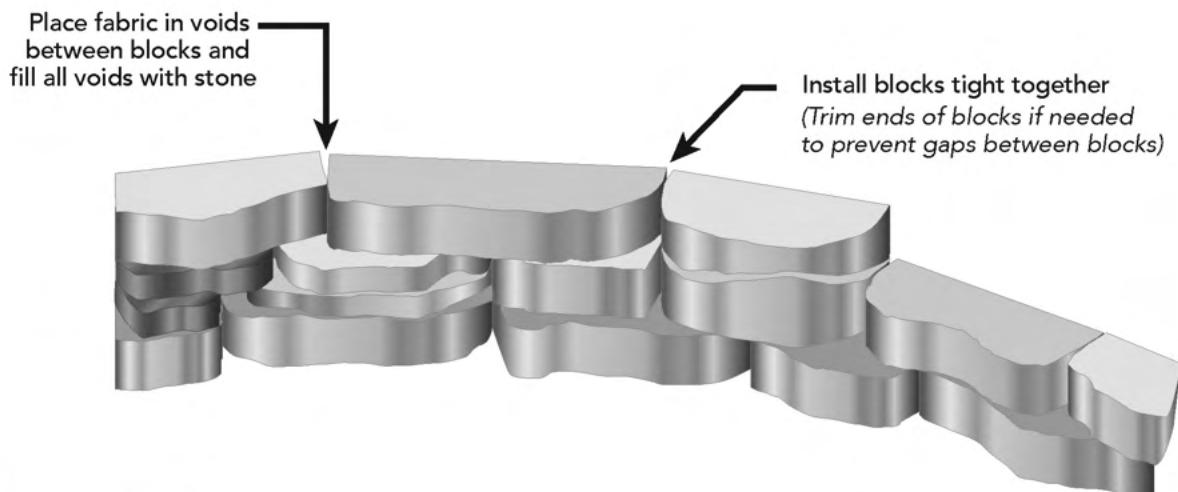
The best way to deal with this overlap is to saw cut the end of the smaller block, which allows the other blocks to fit tightly together. This will properly engage all of the shear heels. Saw cutting here is typically made on an angle to match the taper on the block you are abutting.



INSIDE (CONCAVE) CURVE

If you are constructing an inside (concave) curve, the wall batter will cause the block higher in the wall to have a longer radius around the curve than the lower blocks. The important step when constructing an inside curve is to keep all blocks fitted tightly together. In most cases, the blocks will touch somewhere along the sides of the blocks, not at the back of the blocks.

If needed, you can trim the ends off of some blocks to prevent gaps from opening up between blocks. When constructing a curve with a short radius, voids may form at the back of the wall where blocks meet. If this happens, simply fill the void areas with filter fabric and drainstone.





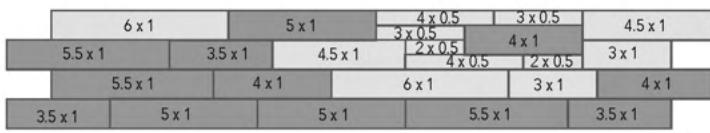
WALL SECTION SHOWN: 2' X 45'



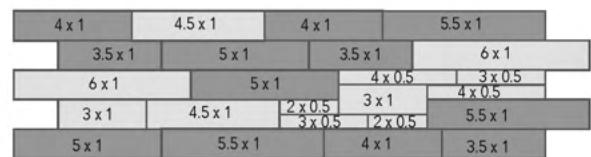
WALL SECTION SHOWN: 3' X 30'



WALL SECTION SHOWN: 4' X 22.5'



WALL SECTION SHOWN: 5' X 18'

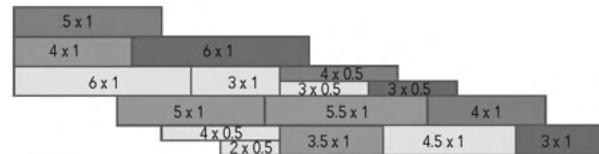


G & H USED AS COPING

Straight Coping

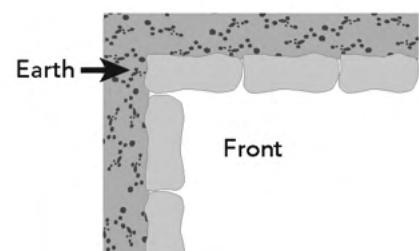
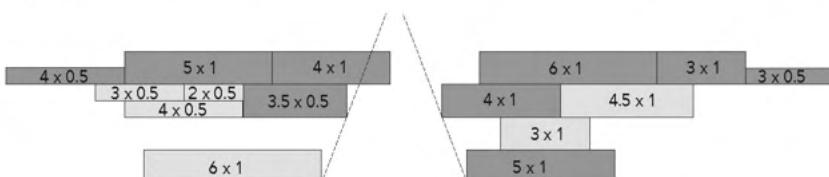


Steps down coping



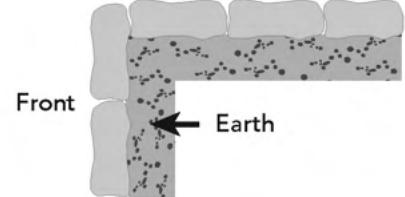
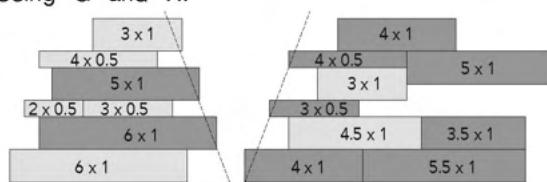
INSIDE CORNER

"Corner" units are not necessary as the units are not exposed. They would only possibly be required on the top for aesthetic purposes.



OUTSIDE CORNER

Using "G" and "H."





NORTHFACE

WALL



Specifications per pallet	Half Size	Full Size
Length	915 mm (36 in)	1,829 mm (72 in)
Height	457 mm (18 in)	457 mm (18 in)
Depth	610 mm (24 in)	610 mm (24 in)
Units/sq. ft.	4.5	9
Weight/pallet	1,322 lbs/600 kg	2,622 lbs/1,190 kg

Preliminary cross-sections available.

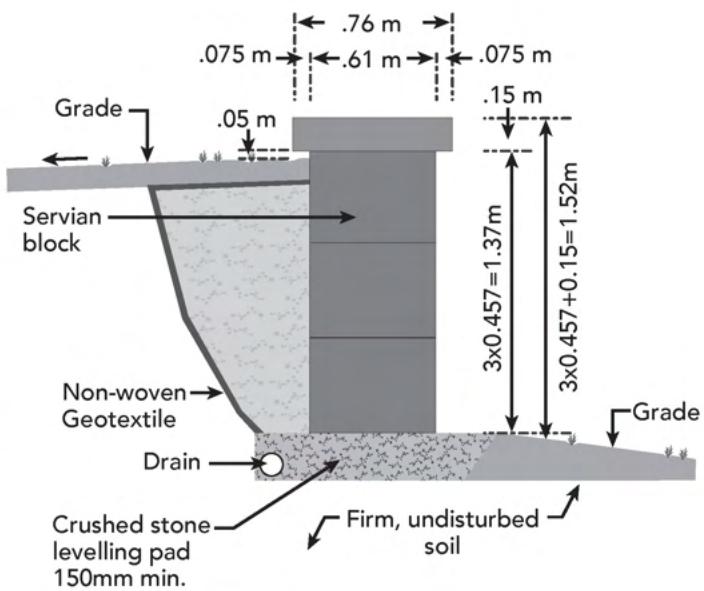
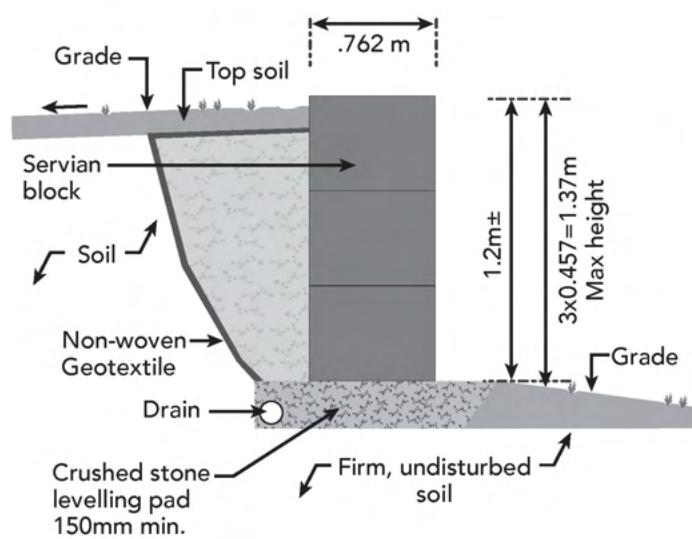
NORTHFACE COPING OPTIONS:

The 3' and 6' dimensional step can be used as a coping unit with the Northface wall.

STANDARD COLOURS

- Manitou

TYPICAL WALL CROSS-SECTION



NOTE: Northface wall can be designed to accommodate many varying heights. Please consult your local building department for more information.



Rockton
Wall



Specifications per pallet	Block 1	Block 2	Block 3	Block 4
Length	1,067 mm (42 in)	762 mm (30 in)	533 mm (21 in)	305 mm (12 in)
Height	152 mm (6 in)	152 mm (6 in)	152 mm (6 in)	152 mm (6 in)
Depth	267 mm (10.5 in)	267 mm (10.5 in)	267 mm (10.5 in)	267 mm (10.5 in)
Weight/stone	±204 lbs/±92 kg	±146 lbs/±66 kg	±102 lbs/±46 kg	±58 lbs/±26 kg
Units/pallet	6	3	6	3
Layer/sq. ft.	7			
Coverage/sq. ft.	21			
Weight/pallet	±2,453 lbs/±1,112 kg			

Rockton Wall Blocks are provided in four basic sizes. The blocks are finished on both the front and back faces of the wall blocks and they are tapered on each side (approximately 1.5 in) from the front to the back of the block.

There are multiple texture patterns for each basic block size to provide a more random look for your finished project. Average block weights of the different texture patterns are shown. Weights of individual blocks may vary.

Rockton
Corner



Specifications per pallet	Block 1
Length	533 mm (21 in)
Height	152 mm (6 in)
Depth	267 mm (10.5 in)
Weight/stone	±106 lbs/±48 kg
Units/pallet	24
Layer/sq. ft.	10.5
Coverage/sq. ft.	31.5
Weight/pallet	±2,542 lbs/±1,153 kg

STANDARD COLOURS

- Manitou
- Fond Du Lac

The Rockton Collection contains two corner blocks. These blocks are finished on three sides, and the fourth side is tapered to fit with the other retaining wall and freestanding wall blocks.

The corner blocks can be used to construct columns, provide a finished end on a freestanding wall, and make 90° corners.

There are multiple texture patterns for the faces of both corner blocks, thus providing a more random look for your finished project. Average block weights of the different texture patterns are shown.

NOTE: Each bundle contains 12 right and 12 left configured corners.
Preliminary cross sections available.



ROCKTON INSTALLATION WALL

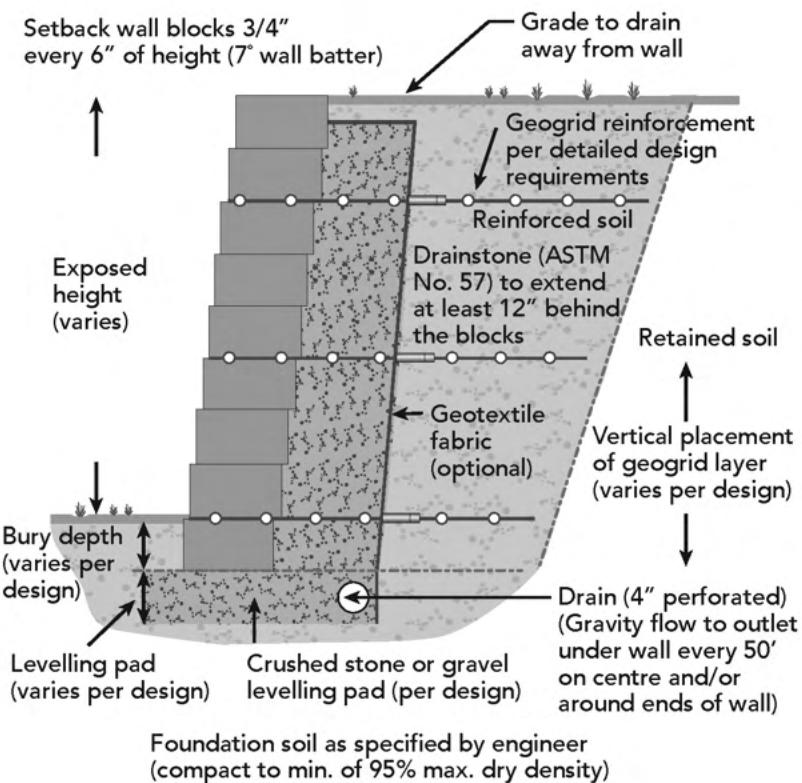


TYPICAL RETAINING WALL

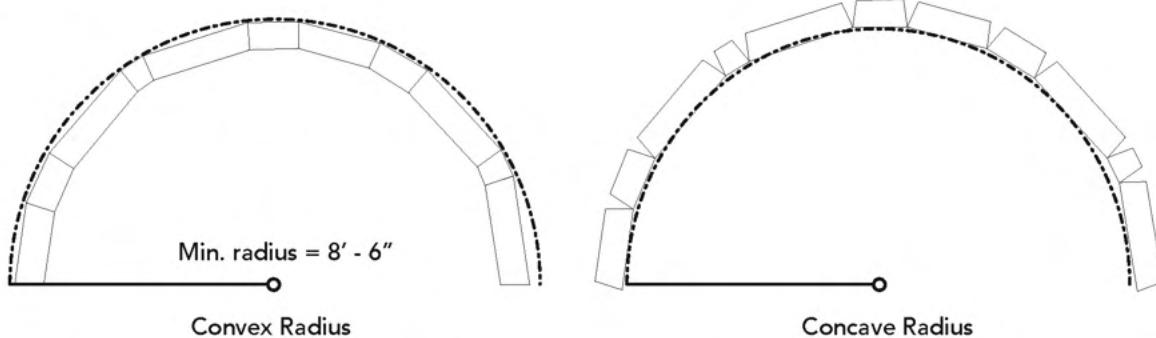
This page shows typical construction details for Rockton retaining walls. These drawings are representative of major components required in wall construction.

Specific details, including geotextile reinforcement layers, drainage details, soil requirements, etc., shall be per engineered design for wall.

- This drawing is for reference only.
- Final design for construction must be prepared by a registered professional engineer using the actual conditions of the proposed site.
- Final wall design must address both internal and external drainage and shall be evaluated by the professional engineer who is responsible for the wall design.



ROCKTON CURVED WALL



The taper side of Rockton blocks allow for construction of a wide range of curves in both retaining and freestanding walls.

1. Minimum radius curves (shown above) can be constructed without saw-cutting a significant number of blocks. Larger radius curves can be created by leaving a larger gap between blocks on the back side of the wall. The gaps must be filled with drainstone.
2. When retaining walls are constructed with batter, the radius on outside curves become smaller with each course due to the block setback. For proper construction, the radius of the bottom course must be larger than the minimum radius so upper courses will have sufficient room for construction.
3. When retaining walls are constructed with batter, the radius on inside curves becomes larger with each course due to the block setback.



Straight pallet



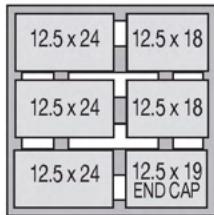
Specifications per pallet

	Block 1
Length	305 mm (12 in)
Height	25 mm (4 in)
Depth	208 mm (8 in)
Weight/stone	28 lbs/12.5 kg
Units/pallet	75
Coverage/sq. ft.	25
Weight/pallet	±2,223 lbs/±1,009 kg

STANDARD COLOURS

- Manitou
- Windsor

Coping pallet

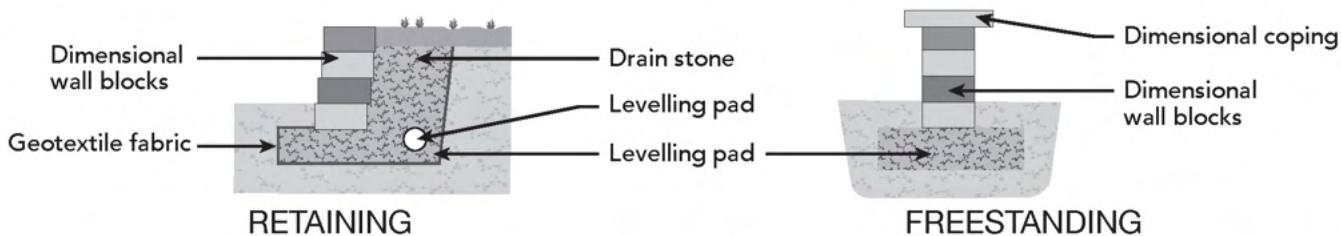


Specifications per pallet

	Block 1	Block 2	Coping End
Length	610 mm (24 in)	457 mm (18 in)	483 mm (19 in)
Height	64 mm (2.5 in)	64 mm (2.5 in)	64 mm (2.5 in)
Depth	318 mm (12.5 in)	318 mm (12.5 in)	318 mm (12.5 in)
Weight/stone	63 lbs/28.5 kg	47 lbs/21 kg	49 lbs/22 kg
Units/pallet	18	12	6
Coverage/sq. ft.	6 layers/pallet; 63 linear ft./pallet*		
Weight/pallet	±1,736 lbs/±788 kg		

*Pallet = 10.5 linear ft. per 1 layer

DIMENSIONAL RETAINING AND FREESTANDING WALL





BELVEDERE

WALL



Wall pallet



Specifications per pallet	Block 1	Block 2	Block 3	Block 4	Block 5	Block 6
Length	152 mm (6 in)	200 mm (12 in)	457 mm (18 in)	152 mm (6 in)	305 mm (12 in)	457 mm (18 in)
Height	76 mm (3 in)	76 mm (3 in)	152 mm (6 in)	152 mm (6 in)	152 mm (6 in)	152 mm (6 in)
Depth	229 mm (9 in)	229 mm (9 in)	229 mm (9 in)	229 mm (9 in)	229 mm (9 in)	229 mm (9 in)
Units/pallet	12	12	12	12	12	12
Weight/stone	±12 lbs/±5.4 kg	±23 lbs/±10 kg	±35 lbs/±15 kg	±23 lbs/±10 kg	±47 lbs/±21 kg	±70 lbs/±31 kg
Weight/pallet	±2,517 lbs/±1,142 kg					
Coverage/Sq. ft.	27 (retaining) 25 (freestanding)*					

*9 sq. ft. per two layers (one layer of 6" and one layer of 3")

The blocks are finished on both the front and back faces of the wall blocks and they are tapered on each side (approximately 1 in) from the front to the back of the block. Average block weights of the different texture patterns are shown. Weights of individual blocks may vary.

Corner pallet



Specifications per pallet	Block 1	Block 2
Length	381 mm (15 in)	381 mm (15 in)
Height	76 mm (3 in)	152 mm (6 in)
Depth	229 mm (9 in)	229 mm (9 in)
Units/pallet	16	16
Weight/stone	±30 lbs/±13 kg	±61 lbs/±27 kg
Weight/pallet	±1,457 lbs/±661 kg	
Coverage/Sq. ft.	24*	

*12 sq. ft. per two layers (one layer of 6 in and one layer of 3 in)

These blocks are finished on three sides and the fourth side is tapered to fit with the other retaining wall blocks. The corner blocks can be used to construct columns, provide a finished end on a freestanding wall, and make 90° corners. 50% right, 50% left configuration.



Coping pallet



Specifications per pallet	Block 1	Block 2	Block 3	Block 4	Block 5	Column Cap
Length	152 mm (6 in)	200 mm (12 in)	457 mm (18 in)	457 mm (18 in)	457 mm (18 in)	686 mm (27 in)
Height	57.2 mm (2.25 in)					
Depth	260 mm (10.25 in)	686 mm (27 in)				
Units/pallet	24	24	12	6	6	10
Weight/stone	±12 lbs ±5.4 kg	±24 lbs ±10 kg	±37 lbs ±16 kg	±37 lbs ±16 kg	±37 lbs ±16 kg	±154 lbs ±68 kg
Weight/pallet	±1,498 lbs/±679 kg					
Coverage/Sq. ft.	66					

Blocks are provided in five basic sizes. There are three standard coping blocks which are finished on the front, back, and top faces. The standard coping blocks are tapered approximately 1 in. on each side from the front to the back of the block. There are also two end units which are finished on the front, back, top, and one of the sides. The other side is tapered (approximately 1 in) from the front to the back of the block. The end units are useful for constructing corners and ends. Dimensional Coping is also an option for capping the Belvedere wall. Average block weights of the different face/texture patterns are shown. Weights of individual blocks may vary.

STANDARD COLOURS

- Manitou
- Windsor



BELVEDERE INSTRUCTIONS

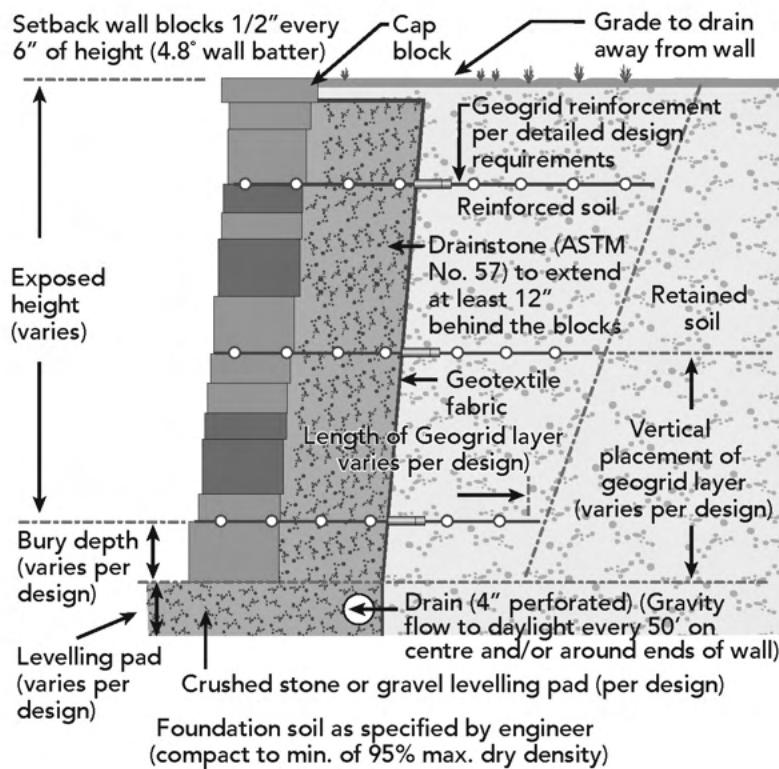
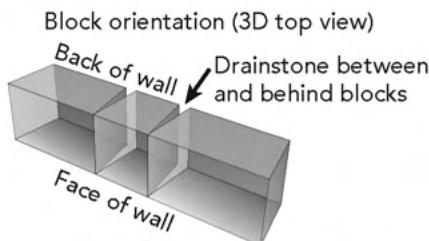
RETAINING AND FREESTANDING



TYPICAL RETAINING WALL

This page shows typical construction details for Belvedere retaining walls. These drawings are representative of major components required in wall construction. Specific details, including geotextile reinforcement layers, drainage details, soil requirements, etc., shall be per engineered design for wall.

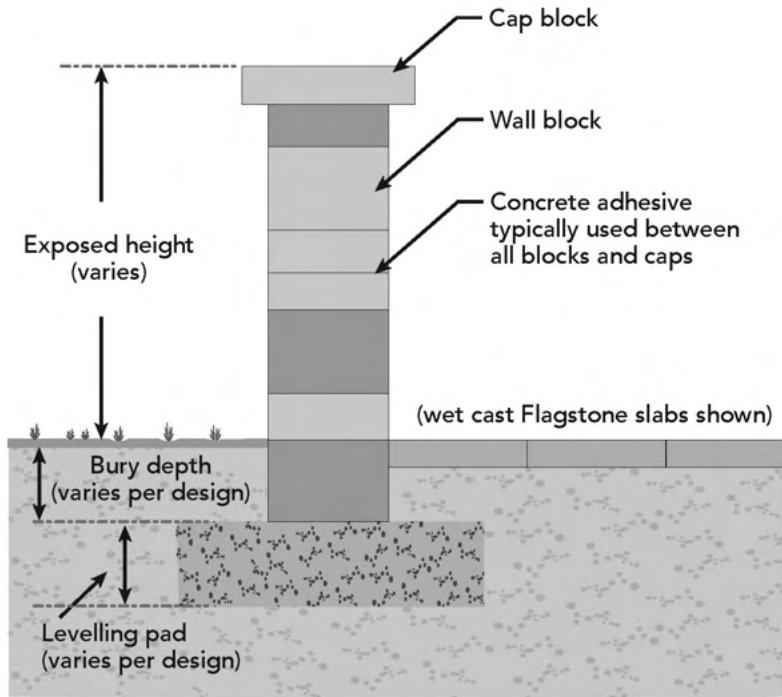
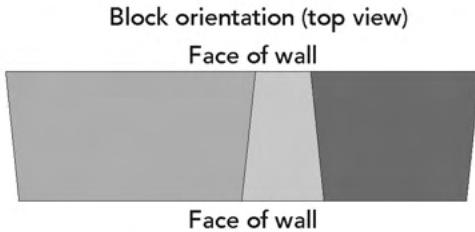
Final design for construction must be prepared by a registered professional engineer using the actual conditions of the proposed site that must address both internal and external drainage and shall be evaluated by the engineer who is responsible for the wall design.



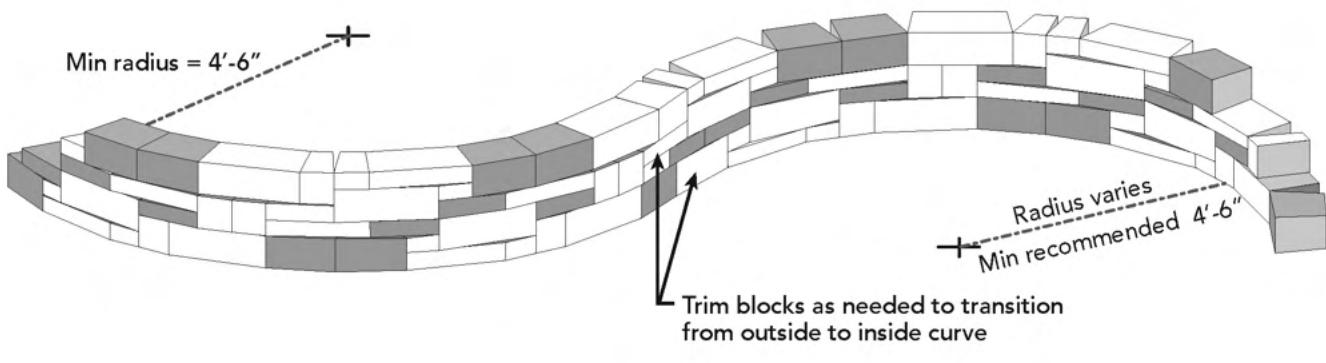
TYPICAL FREESTANDING WALL

Belvedere freestanding walls are intended to be low walls (24" or lower) used in a garden or patio setting. Taller walls — i.e. walls intended to act as railing or barriers, walls constructed in other settings, or walls subject to applied loads — will require project-specific engineering.

Final design for construction of walls subject to any loading must be prepared by a registered professional engineer.



NOTE: Drawings are for reference only. Block size and placement shown for reference only. Individual Belvedere blocks will vary with installation pattern.

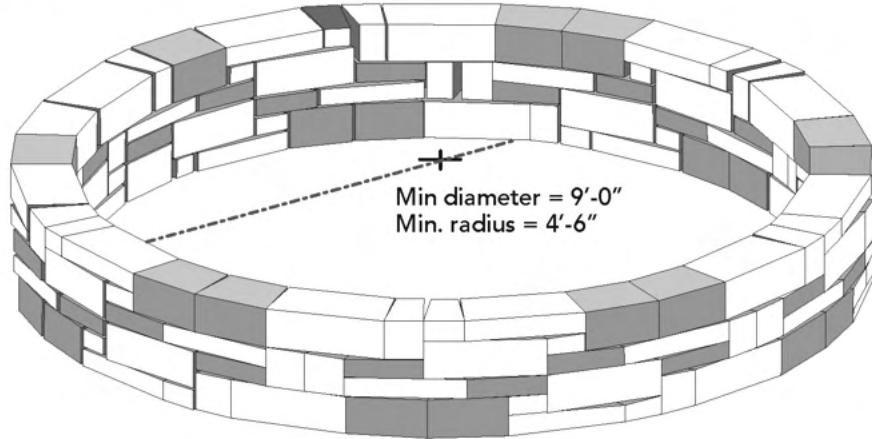


OUTSIDE CURVE

INSIDE CURVE

1. These details show curved retaining walls.
2. Minimum radius curves are shown which can be constructed without saw cutting a significant number of blocks. Larger radius curves can be created by leaving a larger gap between blocks on the backside of the wall. The gaps must be filled with drainstone.
3. When retaining walls are constructed with batter, the radius on the outside curves becomes smaller with each course due to the block setback. For proper construction, the radius of the bottom course must be larger than the minimum radius so that upper courses will have sufficient room for construction.
4. When retaining walls are constructed with a batter, the radius on the inside curves becomes larger with each course due to the block setback.

CURVED FREESTANDING WALL



PLANTER/TREE RING

Curved freestanding walls can also be built. Typically, the blocks have to be field-adjusted to make the desired curve. Front and back faces will alternate and blocks are trimmed as needed to provide a tight fit between blocks with no gaps on either side of the freestanding wall.

NOTE: Walls are shown without batter for clarity. Blocks in a retaining wall should be adjusted slightly in place and trimmed as needed to allow wall construction with a proper batter.



BELVEDERE INSTRUCTIONS

PILLARS

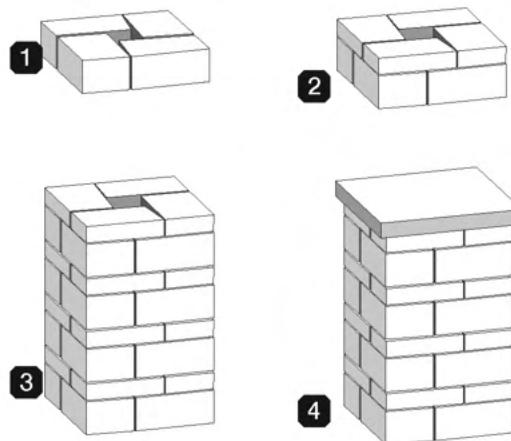


This page shows typical construction details for Belvedere pillars. Pillars make nice ends to Freestanding walls, formal stair openings, stand-alone monuments, and other areas to enhance your Belvedere project.

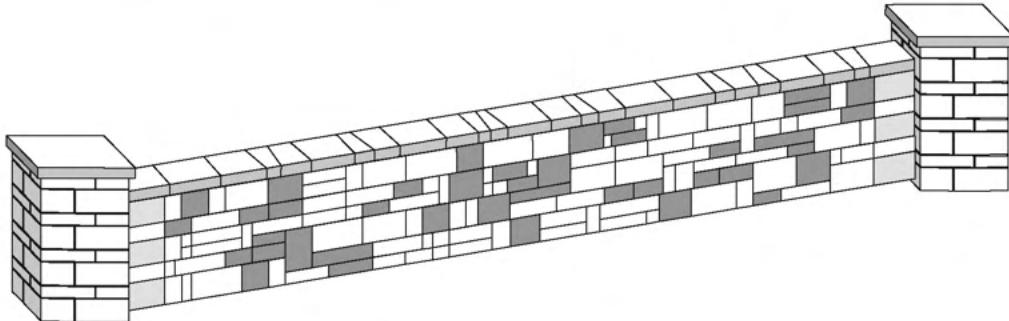
BASIC CONSTRUCTION STEPS

The basic steps of pillar construction are shown here. Feel free to expand on these ideas and bring your own creativity into creating a custom project.

1. Place four (4) 3" or 6" high corner blocks with the taper facing into the centre of the pillar.
2. Place the second row of four (4) of the corner blocks with the taper facing into the center of the pillar. Typically, if the first row is built with 6" corner blocks, the second row is built with 3" corner blocks.
3. Continue with subsequent rows to the desired pillar height. One pallet of corner blocks will make a 24" x 24" x 36" high column.
4. Place a column cap to finish the pillar. The column cap can be cored as needed for installation of a light.



This example shows a freestanding wall with pillars on each end. The wall can either be constructed flush with the pillars, or blocks trimmed to interlock the end of the wall with the pillar.

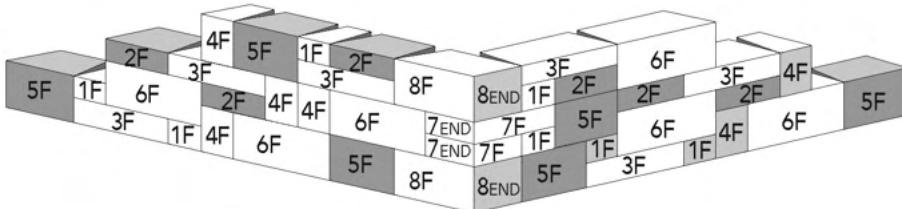


NOTE: Walls are shown without batter for clarity. Blocks in a retaining wall should be adjusted slightly in place and trimmed as needed to allow wall construction with proper batter.

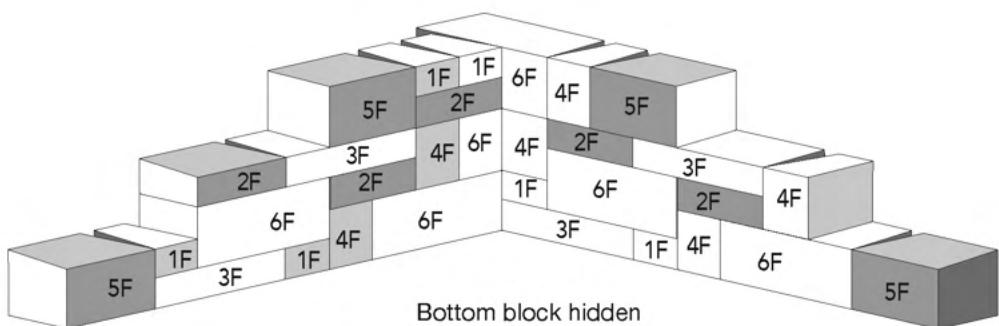


CORNER CONSTRUCTION DETAILS

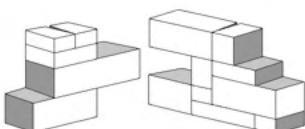
Some basic concepts are shown here. Plan to take some time to properly work corners into the larger retaining and freestanding wall patterns.



OUTSIDE CORNER



INSIDE CORNER



INTERLOCKING CORNER

Place block in an overlapping, interlocking pattern at corner for added wall stability

NOTE: Walls are shown without batter for clarity. Blocks in a retaining wall should be adjusted slightly in place and trimmed as needed to allow wall construction with proper batter.



WEDGESTONE™

WALLS | EDGING | FLOWER BEDS



Specifications per pallet

Block 1	
Length	225 mm (8.85 in)*
Height	100 mm (3.92 in)
Depth	200 mm (7.87 in)
Units/pallet	150
Sq. ft./unit	4.1-5
Sq. ft./pallet	30-36.5
Ln. ft./pallet	94
Resulting batter	0°
Max. exposed wall height	400 mm (15.75 in)
Max. total course	4 exposed, 1 buried
Weight/pallet	2,721 lbs/1,235 kg

*Length tapered to 150 mm (5.9 in)

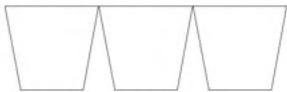
STANDARD COLOURS

- Blackwood
- Driftwood
- Nipissing
- Granite

FACE VIEW OPTIONS

There are two options. depending on how the stones are placed.

1.35 pcs per linear ft.



Top view



Front view

METHOD A – UNIFORM

1.6 pcs per linear ft.



Top view



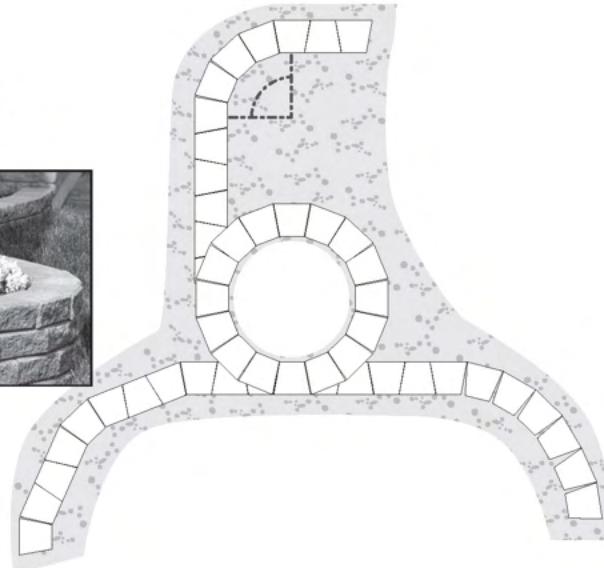
Front view

METHOD B – ALTERNATING FACES

CURVED WALL INSTALLATION

Curved or half-round steps can be created using Wedgestone. However, it is recommended that these stones be glued together, that 1.5 courses be buried, and that geogrid be incorporated, to prevent any movement.

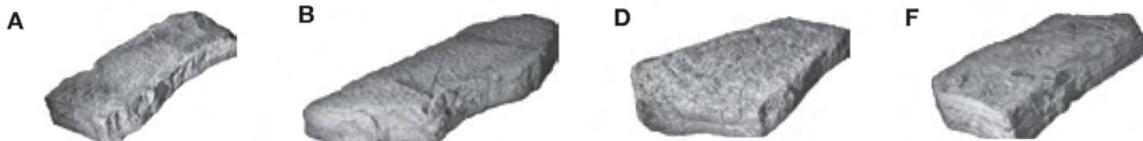
- Four (4) pieces construct a 90° curved corner with an inside radius of 400 mm (16 in).
- Only 16 pieces are required to construct a full circle with an inside radius of 400 mm (16 in).
- Solid straight wall sections are achieved by simply reversing alternate pieces.
- Curves can be created by staggering stones (left side) or keeping a gap at the back of the pieces (right side). Alternately, pieces can be cut as required.



NOTE: All pieces have texture on both sides.



RANDOM STEPS — 4 FT



Specifications	Step A	Step B	Step D	Step F
Length	1372 mm(54 in)	1524 mm(60 in)	1219 mm(48 in)	1219 mm(48 in)
Height	178 mm(7 in)	178 mm(7 in)	178 mm(7 in)	178 mm(7 in)
Depth	559 mm(22 in)	610 mm(24 in)	711 mm(28 in)	610 mm(24 in)
Unit/pallet	1	2	1	2
Weight/stone		±737 lbs/±334 kg	±698 lbs/±316 kg	±628 lbs/±284 kg
Weight/pallet	±3195 lbs/cube			

RANDOM STEPS — 6 FT



SNAPPED FACE

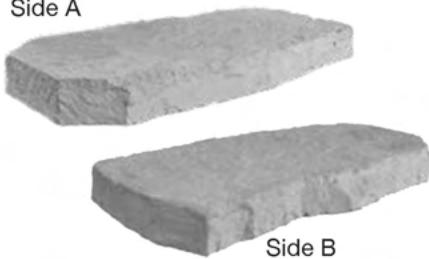


Dimensions	Length	Height	Depth	Units/pallet	Weight/unit	Weight/pallet
Full Pallet	1,829	-	-	3*		±3,733 lbs/±1,693 kg
Unit 1	1,829 mm (72 in)	178 mm (7 in)	762 mm (30 in)		±1,244 lbs/±564 kg	
Unit 2	1,829 mm (72 in)	178 mm (7 in)	762 mm (30 in)		±1,244 lbs/±564 kg	
Unit 3	1,829 mm (72 in)	178 mm (7 in)	762 mm (30 in)		±1,244 lbs/±564 kg	

*Three (3) random assortment.

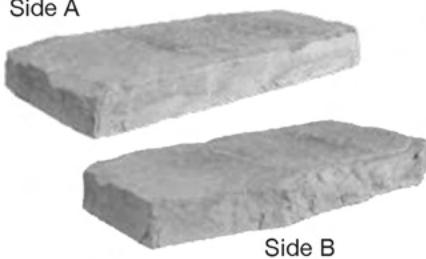
Unit 1

Side A



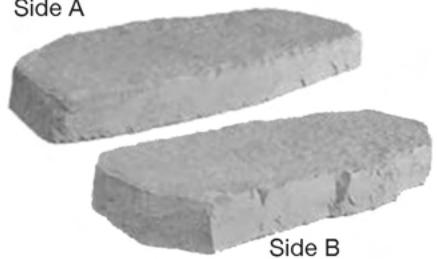
Unit 2

Side A



Unit 3

Side A



STANDARD COLOURS

- Manitou
- Windsor



CALCULATING TREAD WIDTH



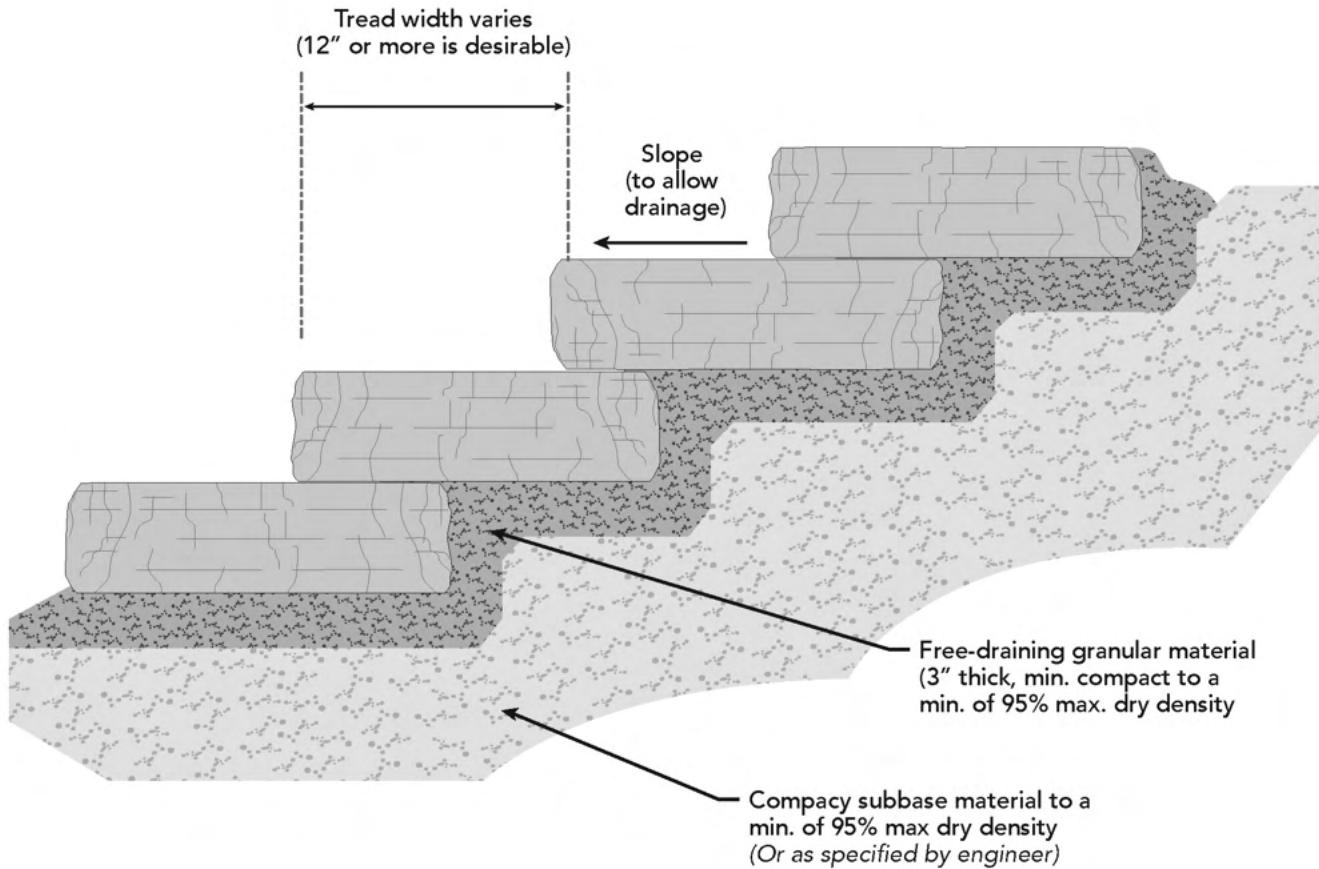
Generally, when the grade allows, a 12 inch or wider tread is desirable. To calculate the tread width, divide the total allowable horizontal run minus the width of the top step, by the number of steps minus one. The one less will account for the top step.

1. Excavate and grade the area for the first step. Steps should be placed on at least 3 inches of free draining soil, such as sand or pea-stone. Compact soil to a minimum of 95% standard proctor.
2. Place the first step with either forks or straps using a small excavator or skid-steer to lift the piece into place. Practice safe handling procedures during this process.
3. Fill behind each step with free draining soil and compact to 95% standard proctor. Remember to slope fill to allow for proper drainage when next step is placed. Continue placing steps in this manner until finish grade is reached.
4. Block size and placement shown are for reference only. Individual steps will vary with installation pattern.

EXAMPLE

Total rise	42"
Total horizontal run	96"
Width of top step	18"
Rise of steps	7"
Number of steps calculation	$42" \div 7"/\text{step} = 6 \text{ steps}$ Tread depth = $(96" - 18") \div (6-1)$ = 15.6" tread depth

INSTALLATION CROSS-SECTION



NOTE: This drawing is for reference only.



Specifications per pallet	3' long	4' long	6' long
Length	915 mm (36 in)	1,220 mm (48 in)	1,829 mm (72 in)
Height	178 mm (7 in)	178 mm (7 in)	178 mm (7 in)
Depth	762 mm (30 in)	457 mm (18 in)	762 mm (30 in)
Units/pallet	3	6	3
Weight/stone	±593 lbs/±268 kg	±496 lbs/±224 kg	±1,212 lbs/549 kg
Weight/pallet	±1,779 lbs/±807 kg	±2,977 lbs/±1,351 kg	±3,637 lbs/±1,650 kg

STANDARD COLOURS

- Manitou
- Fond Du Lac
- Windsor

Please note 3' step is only available in Manitou.



LEONA

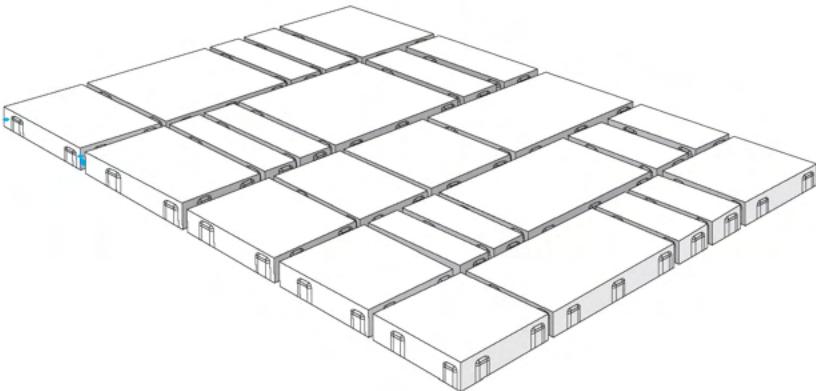


Specifications per pallet	Small Rectangle	Large Rectangle	Square
Length	230 mm (9.05 in)	345 mm (13.58 in)	230 mm (9.05 in)
Width	115 mm (4.52 in)	230 mm (9.05 in)	230 mm (9.05 in)
Thickness	60 mm (2.36 in)	60 mm (2.36 in)	60 mm (2.36 in)
Units/pallet	120	50	90
Units/layer	12	5	9
Weight/pallet	3,368 lbs/1,528 kg		
Sq. ft./pallet	127.8		
Stones/layer	26		
Sq. ft./layer	12.8		

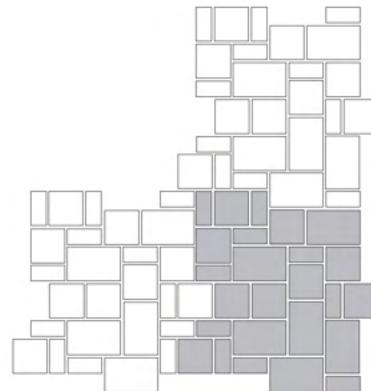
STANDARD COLOURS

- Titan Grey
- Mocha Tan
- Silver Shadow
- Island Shore

LEONA PALLET LAYER



RANDOM PATTERN



Linear patterns available.

A rubber pad must be used with a compactor. Snow removal without a poly (rubber) edge will scar/damage the product surface due to textured finish.

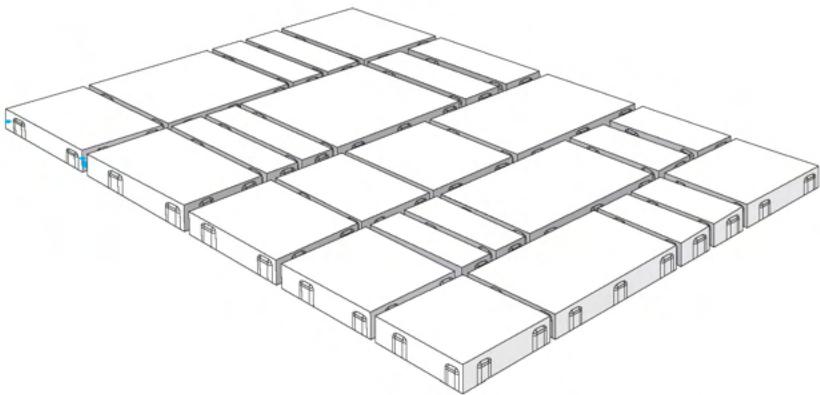


Specifications per pallet	Small Rectangle	Large Rectangle	Square
Length	230 mm (9.05 in)	345 mm (13.58 in)	230 mm (9.05 in)
Width	115 mm (4.52 in)	230 mm (9.05 in)	230 mm (9.05 in)
Thickness	60 mm (2.36 in)	60 mm (2.36 in)	60 mm (2.36 in)
Units/pallet	120	50	90
Units/layer	12	5	9
Weight/pallet	3,368 lbs/1,528 kg		
Sq. ft./pallet	127.8		
Stones/layer	26		
Sq. ft./layer	12.8		

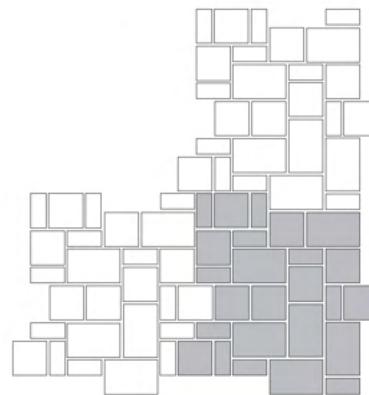
STANDARD COLOURS

- Blackwood
- Titan Grey
- Driftwood
- Mocha Tan
- Nipissing

AMBERLEY PALLET LAYER



RANDOM PATTERN



Linear patterns available.

A rubber pad must be used with a compactor. Snow removal without a poly (rubber) edge will scar/damage the product surface due to textured finish.



70 MM

50 MM

APPIAN STONE

70 | 50



Small rectangle



Square



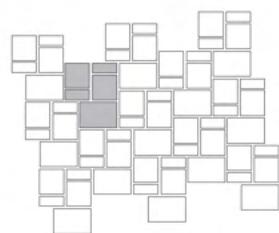
Large rectangle

Dimensions	Length	Width
Small rectangle	330 mm (13 in)	165 mm (6.5 in)
Square	330 mm (13 in)	330 mm (13 in)
Large rectangle	495 mm (19.5 in)	330 mm (13 in)

Appian 70 mm

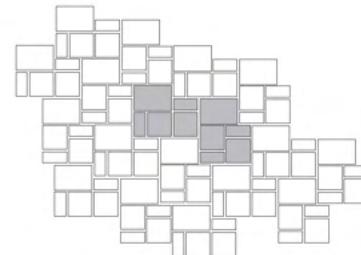
Specifications per pallet	Full cube	Small rectangle	Square	Large rectangle
Units/pallet	90	36	36	18
Weight/pallet	2,761 lbs/1,253 kg	-	-	-
Units/layer	-	4	4	2
Sq. ft./pallet	95.6	21	42.1	32.5
Stones/sq. ft.	-	1.7	0.85	0.56

LAYING PATTERNS FOR APPIAN STONES



Appian 50 mm

Specifications per pallet	Full cube	Small rectangle	Square	Large rectangle
Units/pallet	120	48	48	24
Weight/pallet	2,716 lbs/1,232 kg	-	-	-
Units/layer	-	4	4	2
Sq. ft./pallet	127.4	28.2	56.5	42.7
Stones/sq. ft.	-	1.7	0.85	0.56



Appian Soldier Pavers

Specifications per pallet	Appian Soldier Pavers 70 mm	Appian Soldier Pavers 50 mm
Weight/pallet	2,761 lbs/1,253 kg	2,653 lbs/1,203 kg
Layers/pallet	9	12
Sq. ft./pallet	95.6	127.4
Units/layer	18	18
Sq. ft./layer	10.62	10.62
Soldier/pallet (LF)	87.75	117
Sailor/pallet (LF)	175.5	234

Walkway 52" wide



STANDARD COLOURS

- Blackwood
- Titan Grey
- Driftwood
- Mocha Tan
- Nipissing
- Midnight Charcoal*

*Available only in
Appian 70mm & Appian
50mm Soldier.

A rubber pad must be used with a compactor. Snow removal without a poly (rubber) edge will scar/damage the product surface due to textured finish.


Appian 70 XL

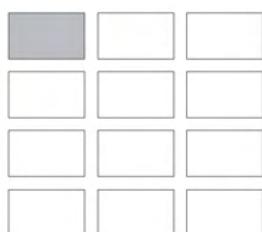
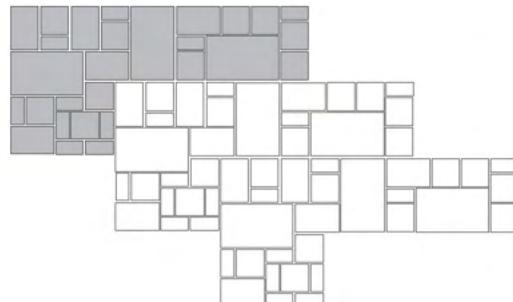
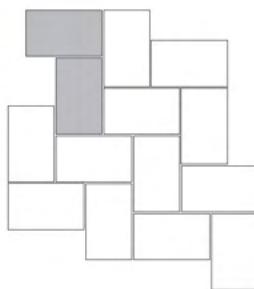
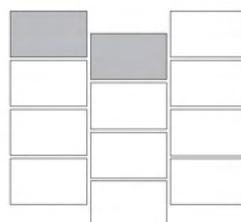
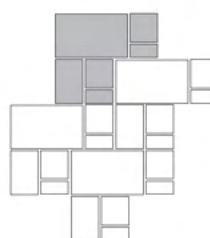
Specifications per pallet

Full cube	
Length	826 mm (32.5 in)
Width	495 mm (19.5 in)
Units/pallet	18
Layers/pallet	9
Weight/pallet	2,692 lbs/1,221 kg
Units/layer	2 pcs
Sq. ft./pallet	79.2
Stones/sq. ft.	0.23

STANDARD COLOURS

- Blackwood
- Nipissing

COMBO BUNDLE LAYING PATTERNS

 Open Permeable
100% XL

 Pattern B
33% XL, 67% Combo Bundle

 Herringbone
100% XL

 Soldier 1/2 Offset
100% XL

 Pattern A
45% XL, 55% Combo Bundle

 Sailor 1/3 Offset
100% XL

 Square Pattern
100% XL


A rubber pad must be used with a compactor. Snow removal without a poly (rubber) edge will scar/damage the product surface due to textured finish.



70 MM

50 MM

AZTEC STONE

70 | 50



Small rectangle



Square



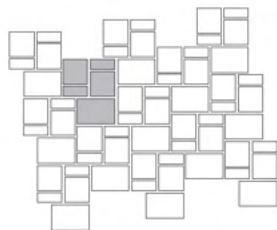
Large rectangle

Dimensions	Length	Width
Small rectangle	330 mm (13 in)	165 mm (6.5 in)
Square	330 mm (13 in)	330 mm (13 in)
Large rectangle	495 mm (19.5 in)	330 mm (13 in)

Aztec 70 mm

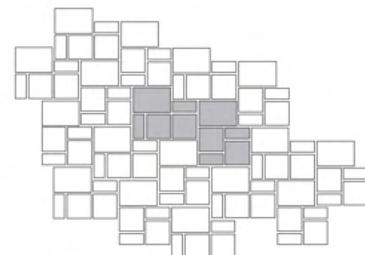
Specifications per pallet	Full cube	Small rectangle	Square	Large rectangle
Units/pallet	90	36	36	18
Weight/pallet	2,928 lbs/1,329 kg	-	-	-
Units/layer	-	4	4	2
Sq. ft./pallet	95.6	21	42.1	32.5
Stones/sq. ft.	-	1.7	0.85	0.56

LAYING PATTERNS FOR AZTEC STONES



Aztec 50 mm

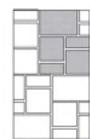
Specifications per pallet	Full cube	Small rectangle	Square	Large rectangle
Units/pallet	120	48	48	24
Weight/pallet	2,803 lbs/1,272 kg	-	-	-
Units/layer	-	4	4	2
Sq. ft./pallet	127.4	28.2	56.5	42.7
Stones/sq. ft.	-	1.7	0.85	0.56



Aztec Soldier Pavers

Specifications per pallet	Aztec Soldier 70 mm	Aztec Soldier 50 mm
Weight/pallet	2,928 lbs/1,328 kg	2,716 lbs/1,232 kg
Layers/pallet	9	12
Sq. ft./pallet	95.6	127.4
Units/layer	18	18
Sq. ft./layer	10.62	10.62
Soldier/pallet (LF)	87.75	117
Sailor/pallet (LF)	175.5	234

Walkway 52" wide



STANDARD COLOURS

- Blackwood
- Driftwood
- Nipissing
- Titan Grey
- Mocha Tan
- Midnight Charcoal*

*Available only in 50mm Soldier.

A rubber pad must be used with a compactor. Snow removal without a poly (rubber) edge will scar/damage the product surface due to textured finish.



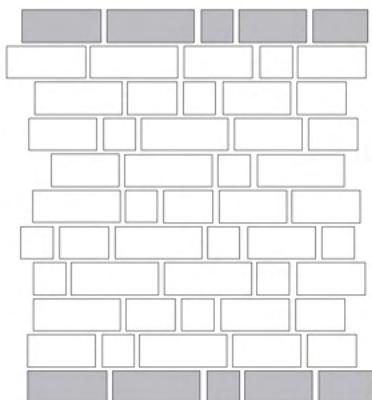
Specifications per pallet

Length	163 mm (6.42 in)	245 mm (9.65 in)	327 mm (12.87 in)	409 mm (16.10 in)
Width	163 mm (6.42 in)	163 mm (6.42 in)	163 mm (6.42 in)	163 mm (6.42 in)
Thickness	70 mm (2.76 in)	70 mm (2.76 in)	70 mm (2.76 in)	70 mm (2.76 in)
Weight/pallet	2,968 lbs/1,347 kg			
Layers/pallet	8			
Sq. ft./layer	12			
Sq. ft./pallet	96			

STANDARD COLOURS

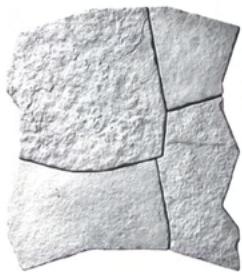
- Titan Grey
- Island Shore

LAYING PATTERN





GRAND FLAGSTONE



Layer 1

2/pallet



Layer 2

2/pallet



Layer 3

2/pallet

38"

—



Layer 4

2/pallet

42"

—



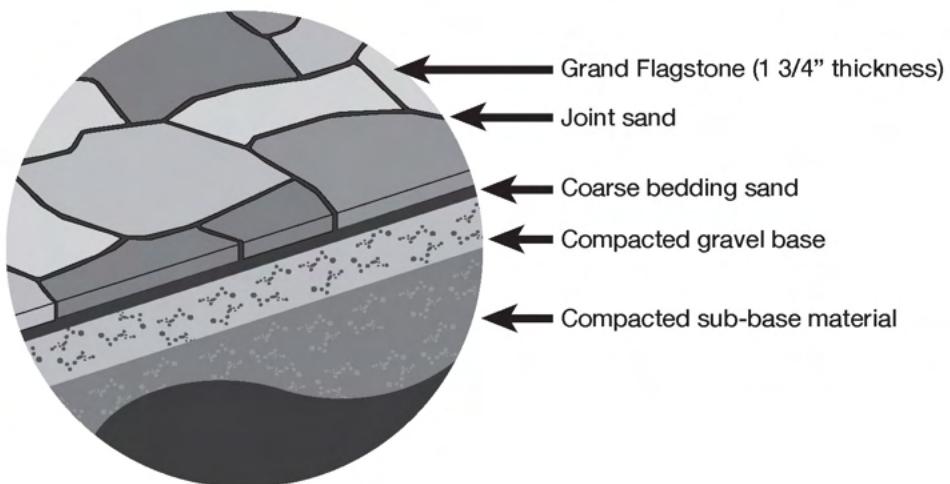
Specifications per pallet

Weight/pallet	±1,920 lbs/871 kg*
Layers/pallet	8
Coverage	90 sq. ft./pallet
Section coverage	11.25 sq. ft./layer

*Including the pallet.

STANDARD COLOURS

- Manitou



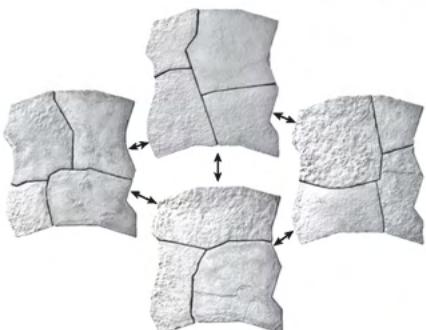


INTERLOCKING LAYERS

Grand Flagstone has been designed so that each layer of slabs on pallet is an interlocking set.

Each interlocking set, or layer, of slabs has been designed to interlock with all other layers.

COMMON POINTS FOR INTERLOCKING LAYERS



PROPERLY PLACED INTERLOCKING LAYERS



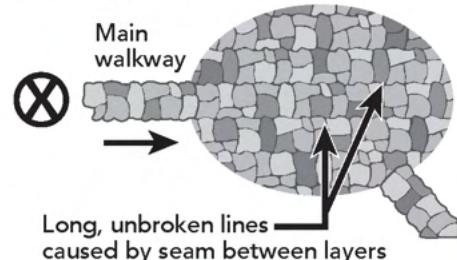
LAYOUT ORIENTATION

Layout orientation is important with Grand Flagstone. Due to the nature of the interlocking sets of slabs, there are long, unbroken joints between rows.

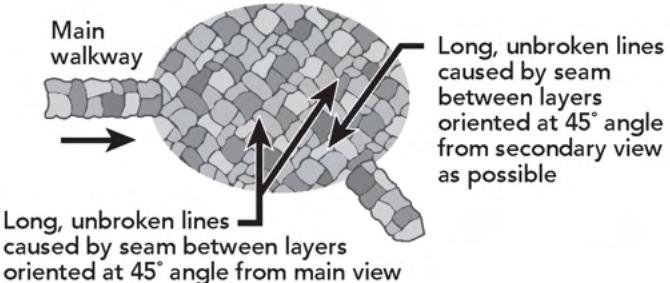
Often, the irregular nature of the Grand Flagstone limits how noticeable these unbroken joints are in the finished project. However, the lines become slightly more noticeable when you are looking parallel to the unbroken joints than when you are looking at them on an angle.

To limit this effect, Grand Flagstone layers should be laid at a 45° angle from the most common viewing angle. This viewing angle would most likely be a patio entrance or step location.

INCORRECT VIEW



CORRECT VIEW



INSTALLING CRACKED PIECES

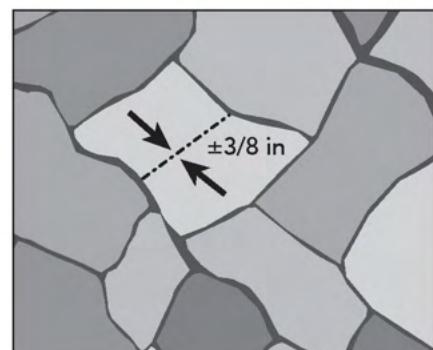
Individual pieces of Grand Flagstone can crack either during delivery to the job or during on-site handling prior to placement. Typically less than 5% of the pieces will crack. There are two methods to deal with cracked pieces.

The first method is to use the cracked pieces to fill in around the edges of the project where there is always a need for small pieces.

The second method is to use the cracked pieces to enhance the layout pattern.

Since Grand Flagstone is designed to create an irregular flagstone walking surface, an extra crack simply provides another joint line in the Grand Flagstone pattern. Place the cracked pieces next to each other with a 10 mm (3/8 in) joint between them. The joint is filled with polymeric jointing sand just like all other joints.

If necessary, the cracked pieces may need to be trimmed to create a smooth edge or provide a larger joint to match all the other joints in your project.



1. Trim broken edges if needed.
2. Install pieces with typical 10 mm (3/8 in) joint.



GRAND FLAGSTONE

INSTALLATION



Thank you for your interest in installing Brown's paving products. You will find that these products truly combine the look of natural stone with the efficiency and consistency of concrete pavers. The following guide lays out proper installation techniques for Brown's Grand Flagstone. For optimal colour blending, you must mix and install products from several different pallets simultaneously. We hope this provides helpful tips for a fast, enjoyable installation.

SAFETY

Make safety a top priority when installing Brown's paving products by the following points:

1. Contact your local utility marking service prior to excavating. Be sure to follow all governmental safety regulations.
2. Always wear the appropriate personal protective equipment (PPE). This may include gloves, steel-toed boots, safety glasses, hearing protection.
3. Flagstone slabs are heavy. Follow proper lifting techniques to avoid back injury. Also, use two people to set larger pieces.

PROJECT PLANNING

The first step in installing Brown's paving products is to plan your project. Paver layout and placement is important to ensure a functional and good-looking installation. Remember, Brown's flagstone products are suitable for pedestrian loading only (patios, walkways, etc.) and will not support the load of a vehicle.

EXCAVATION AND BASE PREPARATION

Once you are ready to start construction, you will need to lay out the project area:

1. Mark out the area of the installation with marking paint.
2. Mark a second line 305 mm (12 in) outside the first line that indicates the area to be excavated. This over-excavation will allow for proper base installation.
3. Excavate to the required depth and grade for the installation of the specific paving product you are installing (see cross-sections for minimum recommended excavation depths).
4. Once the excavation depth has been established, compact the sub-grade using a plate tamper. Brown's Concrete Products Limited recommends laying a woven geotextile down before applying any granular base materials.

PERMEABLE INSTALLATIONS

Unless specified, avoid compaction of existing sub-grade soils if installing a permeable pavement.

PLACE THE COMPACTED GRAVEL BASE

1. For standard paver and flagstone installations, begin by spreading half of the granular base material in the excavation.
2. Compact this first lift to 98% Standard Proctor density using a plate tamper and adding water as needed.
3. Add the second lift of granular material and compact it in the same manner as the first. For permeable paver installations, install open graded sub-base and base course material as specified in the project drawings.

NOTE: Lifts should not exceed 150 mm (6 in) thickness.

KEY POINT

When installing granular base materials, be sure to consider proper grades to prevent water from standing on the surface and make sure that water is directed away from building structures.

PAVER INSTALLATION

Bedding material requirements and paver installation vary by product type. Please see the following product-specific installation instructions and tips for more details on paver installation.



BEDDING SAND INSTALLATION

1. Using screed rails on the compacted granular base, apply bedding sand at a maximum thickness of 25 mm (1 in). By using a screed board along the top of the screed rails, the bedding sand will level evenly.
2. Bedding sand should be compacted since Grand Flagstone slabs should not be compacted after installation.

FLAGSTONE INSTALLATION

1. Begin by laying the individual pieces of Grand Flagstone on the screeded bedding material according to your details project plan.
2. Separate individual pieces approximately 10 mm (3/8 in) from each other. When units are set with a 10 mm (3/8 in) gap, a full pallet will produce 90 sq. ft. (8.36 sq. m.) coverage.
3. Cut units as needed to finish edges.

NOTE: To ensure proper colour distribution, mix layers from several bundles at one time.

JOINT SAND INSTALLATION

1. Once the flagstone pieces are installed, fill all joints with jointing sand suitable for large joints. Sweep the sand into the joints between flagstones until the joints are completely filled.
2. Follow the jointing sand manufacturer's recommendations for wetting the sand.

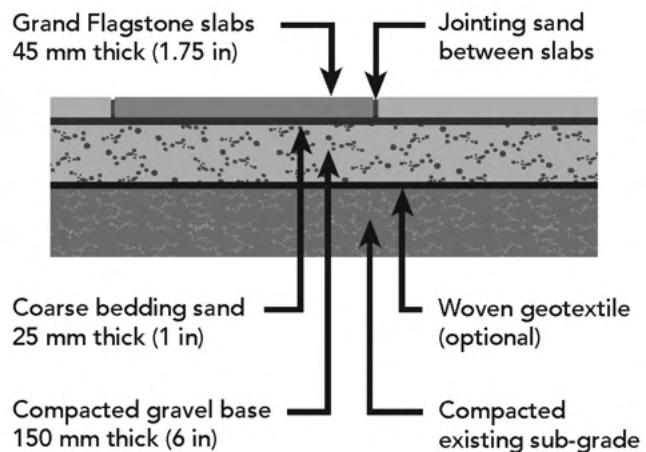
CAUTION: Grand Flagstone slabs should not be compacted after installation.

OTHER CONSIDERATIONS: SEALING

You may want to apply a sealer to protect the flagstone slabs from spills and stains. Always use a high-quality sealer specifically formulated for wet-cast concrete.

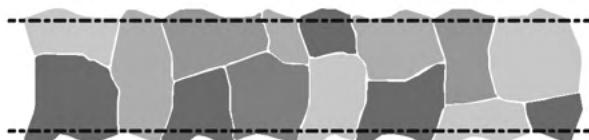
NOT SUITABLE for vehicular traffic.

TYPICAL CROSS-SECTION

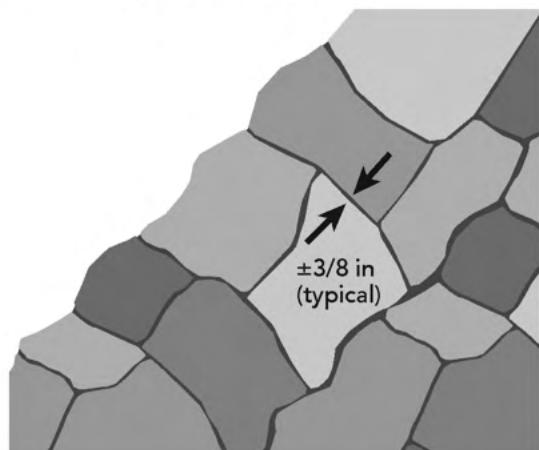


STRAIGHT WALKWAY INSTALLATION

Leave jagged edge or trim to provide smooth edge (optional).



PLACING GRAND FLAGSTONE





SUPERIOR STEPPERS

STONES



Specifications per pallet

Length	±686 mm (±27 in)
Width	533 mm (21 in)
Thickness	51 mm (2 in)
Weight/pallet	1,216 lbs/552 kg
Units/pallet	16
Sq. ft./unit	~3.25
Sq. ft./pallet	~52



STANDARD COLOURS

- Manitou
- Fond Du Lac



Specifications per pallet	Nordic 60	Nordic 80
Weight/pallet	2,757 lbs/1,251 kg	3,254 lbs/1,476 kg
Length	200 mm (7.91 in)	200 mm (7.91 in)
Width	100 mm (3.97 in)	100 mm (3.97 in)
Thickness	60 mm (2.36 in)	80 mm (3.15 in)
Sq. ft./pallet	106	93
Sections/pallet	6	
Units/section	81	
Sq. ft./section	17.67	
Full stone/sq. ft.	4.57	4.57
Full stones/bundle	477	416
Half stones/pallet	18	16
LN FT/pallet (Soldier)	156	139
LN FT/pallet (Sailor)	312	278

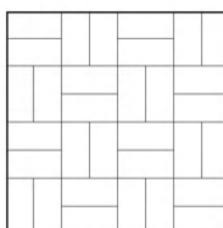
Nordic 80 mm is special order.

Available in a Herringbone configuration for easy machine installation. Please specify when placing your order.

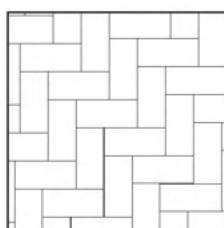
STANDARD COLOURS

- Blackwood
- Charcoal
- Granite
- Fairbanks
- Midnight Charcoal
- Nipissing

LAYING PATTERNS FOR NORDIC STONES



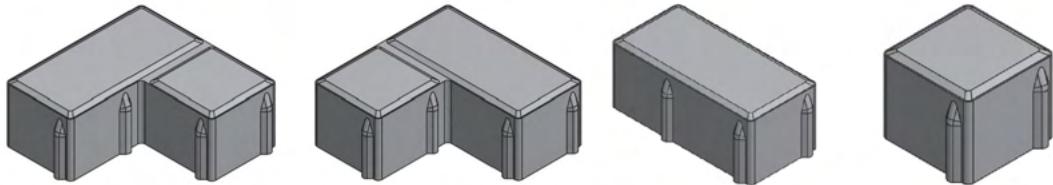
Parquet



90° Herringbone

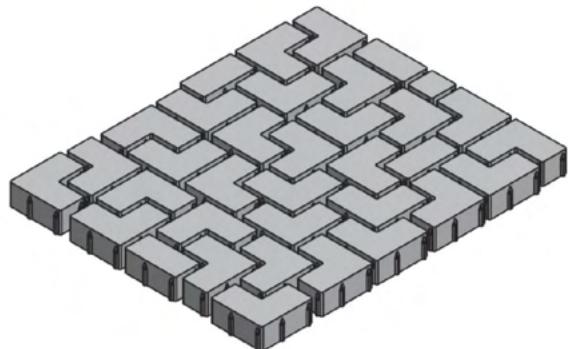


ACQUAVIA 80 PERMEABLE PAVER SYSTEM



Specifications per pallet	Block 1	Block 2	Block 3	Block 4
Length	193 mm (7.6 in)	193 mm (7.6 in)	93 mm (3.7 in)	93 mm (3.7 in)
End of "L"	93 mm (3.7 in)	93 mm (3.7 in)		
Width	193 mm (7.6 in)	193 mm (7.6 in)	193 mm (7.6 in)	93 mm (3.7 in)
Thickness	80 mm (2.76 in)	80 mm (2.76 in)	80 mm (2.76 in)	80 mm (2.76 in)
Weight/pallet	2,603lbs/1,085 kg			
Layers/pallet	7			
Sq. ft./layer	10.5			
Sq. ft./pallet	73.5			

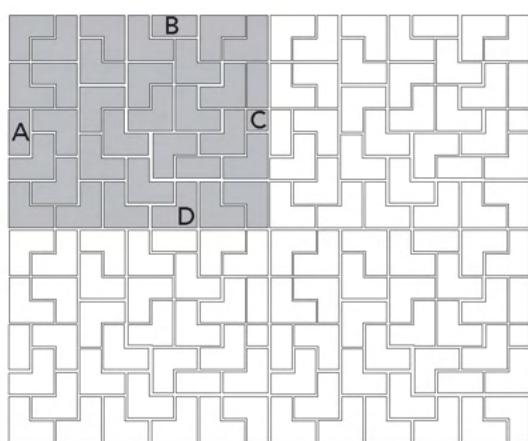
- Permeable product
- Designed for mechanical and manual installation
- 6% void space
- For standard application, use wide joint permeable jointing material
- For permeable application, use a clean washed stone chip as specified by designer



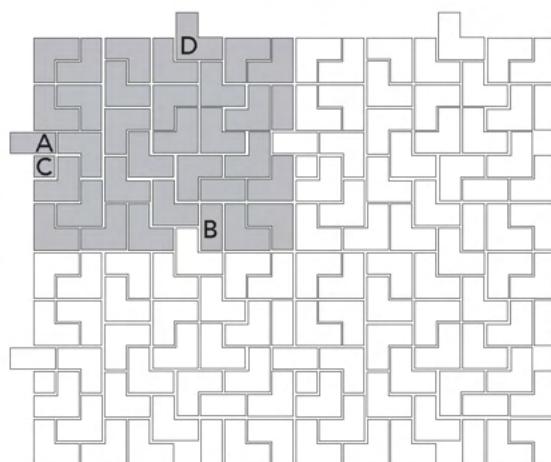
STANDARD COLOUR

- Granite

Laying Pattern A
— without layer interlocking



Laying Pattern B
— with layer interlocking





Specifications per pallet	Belgium 6x9	Belgium 12x12
Length	225 mm (8.9 in)	300 mm (11.8 in)
Width	150 mm (5.9in)	300 mm (11.8 in)
Thickness	60 mm (2.36 in)	60 mm (2.36 in)
Units/pallet	280	120
Weight/pallet	2,673 lbs/1,213 kg	3,081 lbs/1,398 kg
Sq. ft./pallet	105	117
Sections/pallet	7	4
Units/section	40	30
Sq. ft./section	15	29.3
Stone/sq. ft.	2.67	1.03
LN FT/section	23.6	29.3
LN FT/pallet	165.2	117.2

STANDARD COLOURS

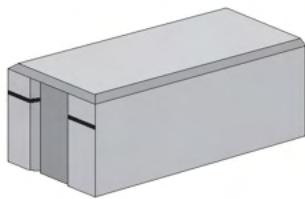
- Blackwood
- Nipissing
- Midnight Charcoal (6x9 size only)

Belgium 12 x 12 not recommended for heavy vehicle applications.



AQUAPAVE

PERMEABLE PAVER SYSTEM



Specifications per pallet

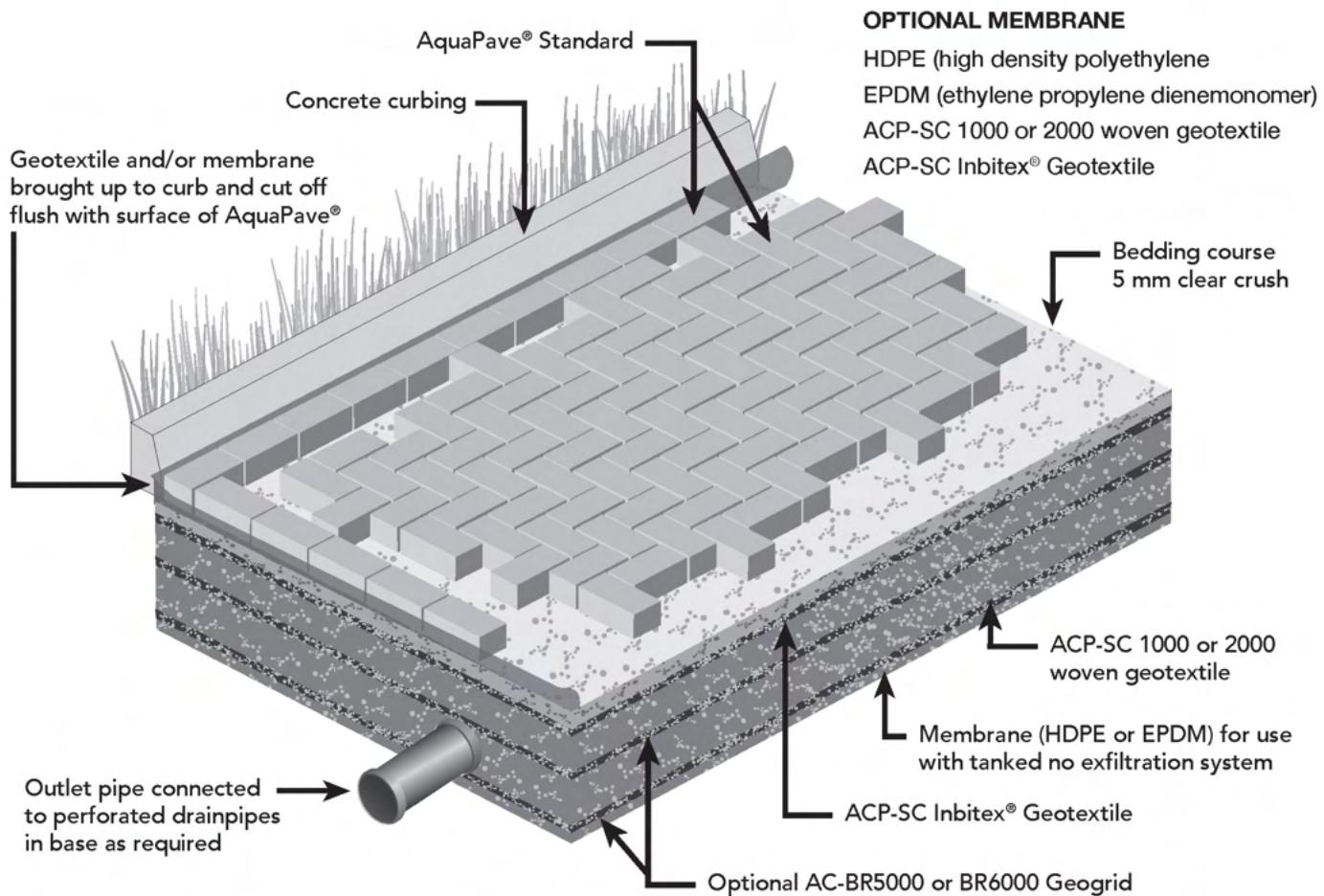
Length	200 mm (7.9 in)
Width	100 mm (3.9 in)
Thickness	80 mm (3.15 in)
Weight/pallet	2,560 lbs/1,162 kg
Units/pallet	336 (8 rows)
Sq. ft./pallet	73.5
Stones/sq. ft.	4.57

SPECIAL ORDER

- Colour selected at time of order.
- Minimum order is required.

ON-SITE STORMWATER SOURCE CONTROL SYSTEM SCHEMATIC VIEW

Refer to AquaPave® Technical Manual for additional details.



NOTE: Be sure to determine design requirements, if any, by appropriate government agencies.

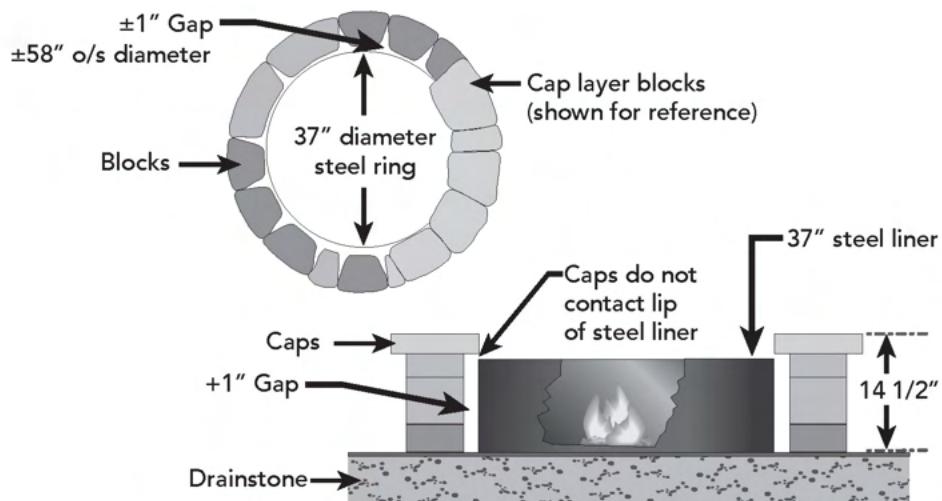


Specifications

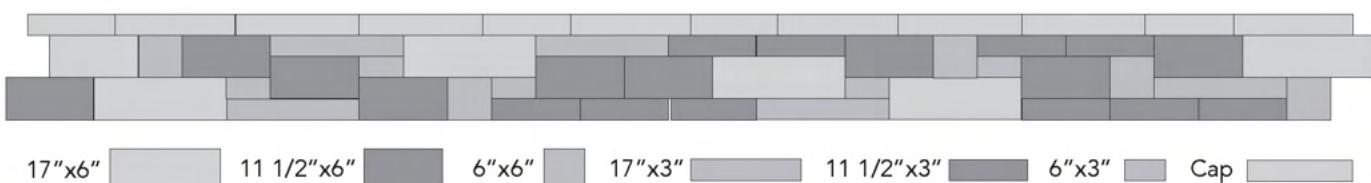
Pallet weight	±1,275 lbs/578 kg
Kit Weight	±1,306 lbs/592 kg
Measurements	1,474 x 368 mm (57 x 14.5 in)
Metal liner	940 x 368 mm (37 x 14.5 in)

STANDARD COLOURS

- Manitou
- Windsor



PATTERN BLOCK LAYOUT



NOTE: Fire pit metal insert may vary from images above. Not suitable for large fires. Fire size should not allow flame to contact caps on round fire pit. Gas conversion kits available.



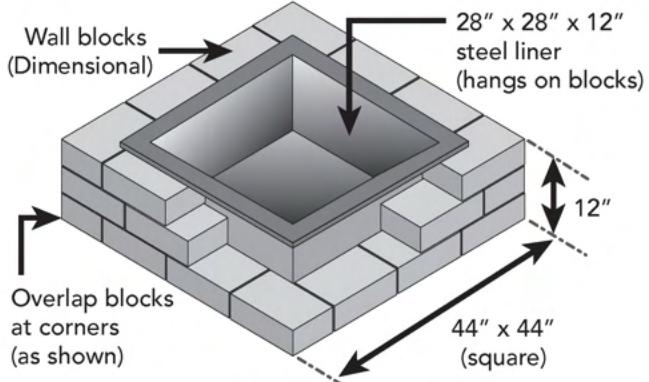
FIRE PIT KIT

DIMENSIONAL



Specifications

Pallet weight	$\pm 1,067$ lbs/484 kg
Kit Weight	$\pm 1,105$ lbs/501 kg
Measurements	1,118 x 1,118 x 305 mm (44 x 44 x 12 in)
Metal liner	711 x 711 x 305 mm (28 x 28 x 12 in)



STANDARD COLOURS

- Manitou
- Windsor



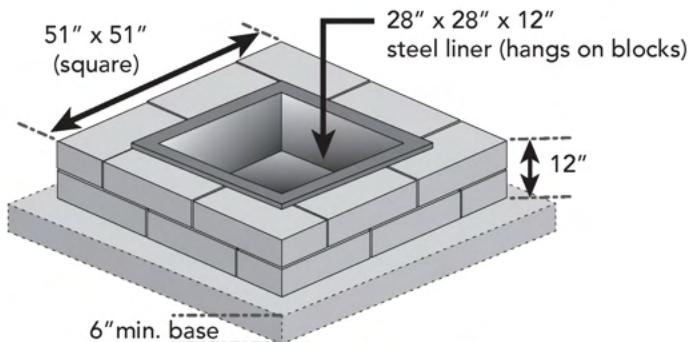
FIRE PIT KIT

ROCKTON



Specifications

Pallet weight	$\pm 1,700$ lbs/771 kg
Kit Weight	$\pm 1,735$ lbs/786 kg
Measurements	1,295 x 1,295 x 305 mm (51 x 51 x 12 in)
Metal liner	711 x 711 x 305 mm (28 x 28 x 12 in)



STANDARD COLOURS

- Manitou
- Fond Du Lac

NOTE: Fire pit metal insert may vary from images above. Not suitable for large fires. Fire size should not allow flame to contact caps on round fire pit. Gas conversion kits available.



Specifications

Pallet weight	937 lbs/425 kg
Kit Weight	±934.4 lbs/424 kg
Measurements	1,168 x 305 mm (46 x 12 in)
Metal liner	711 x 305 mm (28 x 12 in)

STANDARD COLOURS

- Blackwood
- Driftwood
- Nipissing
- Granite

NOTE: Fire pit metal insert may vary from images above. Not suitable for large fires. Fire size should not allow flame to contact caps on round fire pit. Gas conversion kits available.

OXFORD PIT INSTALLATION INSTRUCTIONS

1. Set the ring on a flat even surface.
2. Lay out the first course of 16 blocks around the ring insert.
3. Make sure the gap between the ring and blocks are even all around, and that the ring can be removed with ease.
4. Remove the ring insert and set it aside.
5. Lay out the next two courses keeping the joints staggered.*
6. Fill the inside with the three bags of sand and spread it out evenly.
7. Set the ring back inside the fire pit and press it down to set it in the sand. It should sit just below the rim of the fire pit blocks.

*Fire Resistant Masonry adhesive should be applied between layers, securing them in place permanently.



CURBS

DRIVEWAY | STONE EDGE | MILLSTONE



Specifications per pallet	Driveway Curb	Stone Edge Curb	Millstone Curb
Length	1,000 mm (39 in)	915 mm (36 in)	610 mm (24 in)
Height	150 mm (6 in)	152 mm (6 in)	120 mm (4.72 in)
Depth	150 mm (6 in)	178 mm (7 in)	100 mm (3.94 in)
Weight/pallet	2,193 lbs/995 kg	2,797 lbs/1,268 kg	2,981 lbs/1,353 kg
Units/pallet	20	20	80
Linear ft/pallet	65	60	160

Standard colours	Driveway Curb	Stone Edge Curb	Millstone Curb
	Charcoal	Ebony	Charcoal
	Granite	Granite	Granite



SPECIALTY CAPS

MONTANA | RIVIERA



Specifications per pallet	Montana Coping	Montana Pier Cap	Riviera Cap
Length	540 mm (21.3 in)	600 mm (23.6 in)	600 mm (23.6 in)
Height	50 mm (2 in)	75 mm (2.95 in)	60 mm (2.36 in)
Depth	270 mm (10.6 in)	600 mm (23.6 in)	300 mm (11.8 in)
Units/pallet	22	8	18
Ln. ft./pallet	38.9	-	35.4
Units/Ln. ft.	1.77	-	1.97
Weight/pallet	773 lbs/351 kg	825.04 lbs/374 kg	914 lbs/414 kg

STANDARD COLOURS

- Ebony
- Granite



STANDARD CONCRETE BLOCKS

CUBE SIZES AND WEIGHTS



	Specifications	10 cm (4 in)	15 cm (6 in)	20 cm (8 in)	25 cm (10 in)	30 cm (12 in)
Stretcher	Dimensions	90x190x390 mm	140x190x390 mm	190x190x390 mm	240x190x390 mm	290x190x390 mm
	Units/cube	120	100	75	67	55
	Weight	3,120 lbs/1,415 kg	3,200 lbs/1,452 kg	3,000 lbs/1,361 kg	3,149 lbs/1,429 kg	3,025 lbs/1,373 kg
Solid	Dimensions	90x190x390 mm	140x190x390 mm	190x190x390 mm	240x190x390 mm	290x190x390 mm
	Units/cube	120	80	60	39	30
	Weight	4,320 lbs/1,960 kg	4,000 lbs/1,815 kg	4,200 lbs/1,905 kg	3,276 lbs/1,486 kg	3,150 lbs/1,429 kg
Semi-Solid	Dimensions	-	140x190x390 mm	190x190x390 mm	240x190x390 mm	290x190x390 mm
	Units/cube		100	75	65	50
	Weight		3,900 lbs/1,769 kg	3,750 lbs/1,701 kg	4,160 lbs/1,887 kg	3,600 lbs/1,633 kg
75% Solid	Dimensions	90x190x390 mm	140x190x390 mm	190x190x390 mm	240x190x390 mm	290x190x390 mm
	Units/cube	120	100	75	52	45
	Weight	4,320 lbs/1,960 kg	4,200 lbs/1,905 kg	4,200 lbs/1,905 kg	3,640 lbs/1,651 kg	3,330 lbs/1,511 kg
60% Solid (2 hr fire rating)	Dimensions	-	-	190x190x390 mm	-	-
	Units/cube			75		
	Weight			3,375 lbs/1,531 kg		
Pier	Dimensions	-	-	190x190x390 mm	240x190x390 mm	290x190x390 mm
	Units/cube			75	67	55
	Weight			3,375 lbs/1,531 kg	3,685 lbs/1,672 kg	3,575 lbs/1,622 kg
Half	Dimensions	90x190x190 mm	140x190x190 mm	190x190x190 mm	240x190x190 mm	290x190x190 mm
	Units/cube	240	200	150	130	100
	Weight	3,360 lbs/1,524 kg	3,200 lbs/1,452 kg	3,000 lbs/1,497 kg	2,925 lbs/1,327 kg	2,850 lbs/1,292 kg
Ashlar	Dimensions	90x90x390 mm	140x90x390 mm	190x90x390 mm	240x90x390 mm	290x90x390 mm
	Units/cube	240	200	150	130	100
	Weight	3,120 lbs/1,415 kg	3,200 lbs/1,452 kg	2,850 lbs/1,293 kg	3,120 lbs/1,415 kg	2,600 lbs/1,180 kg
Single/Double Bullnose	Dimensions	90x190x390 mm	140x190x390 mm	190x190x390 mm	240x190x390 mm	290x190x390 mm
	Units/cube	120	100	75	67	55
	Weight	3,120 lbs/1,415 kg	3,200 lbs/1,452 kg	3,000 lbs/1,361 kg	3,149 lbs/1,429 kg	3,025 lbs/1,373 kg
Half Single/ Double Bullnose	Dimensions	-	140x190x190 mm	190x190x190 mm	240x190x190 mm	290x190x190 mm
	Units/cube	-	200	150	130	100
	Weight	-	3,200 lbs/1,452 kg	3,000 lbs/1,293 kg	2,925 lbs/1,327 kg	2,850 lbs/1,292 kg

NOTE: Weight per pallet does not include pallet weight of 50 lbs each.

www.brownsconcrete.com 43



STANDARD CONCRETE BLOCKS

CUBE SIZES AND WEIGHTS



	Specifications	10 cm (4 in)	15 cm (6 in)	20 cm (8 in)	25 cm (10 in)	30 cm (12 in)
Bondbeam 	Dimensions	-	140x190x390 mm	190x190x390 mm	240x190x390 mm	290x190x390 mm
	Units/cube	100	75	65	50	
	Weight	3,600 lbs/1,632 kg	3,300 lbs/1,496 kg	3,705 lbs/1,680 kg	3,150 lbs/1,429 kg	
Knock-out 	Dimensions	-	140x190x390 mm	190x190x390 mm	240x190x390 mm	290x190x390 mm
	Units/cube	100	75	65	50	
	Weight	2,800 lbs/1,270 kg	2,700 lbs/1,259 kg	2,990 lbs/1,356 kg	2,700 lbs/1,225 kg	
Knock-out Bondbeam 	Dimensions	-	-	190x190x390 mm	240x190x390 mm	290x190x390 mm
	Units/cube			75	50	50
	Weight			2,700 lbs/1,225 kg	2,730 lbs/1,238 kg	2,700 lbs/1,225 kg
Return Corner 	Dimensions	90x190x390 mm*	140x190x390 mm*	-	240x190x390 mm	290x190x390 mm
	Units/cube	96	85		65	60
	Weight	3,936 lbs/1,786 kg	3,910 lbs/1,774 kg		3,185 lbs/1,445 kg	3,420 lbs/1,552 kg
Bullnose L-Corner 	Dimensions	90x190x390 mm*	140x190x390 mm*	-	-	-
	Units/cube	96	85			
	Weight	3,936 lbs/1,786 kg	3,910 lbs/1,774 kg			
5 cm Solids 	Dimensions	40x190x390 mm	-	-	-	-
	Units/cube	180				
	Weight	2,700 lbs/1,225 kg				
Quad Bullnose  (30 cm x 30 cm)	Dimensions	290x190x290 mm	-	-	-	-
	Units/cube	60				
	Weight	2,700 lbs/1,225 kg				
7.5 cm Solid 	Dimensions	65x190x390 mm	-	-	-	-
	Units/cube	180				
	Weight	4,320 lbs/1,960 kg				
Back Up Brick 	Dimensions	90x60x190 mm	-	-	-	-
	Units/cube	600				
	Weight	3,060 lbs/1,388 kg				

*Return - 190 mm

NOTE: Weight per pallet does not include pallet weight of 50 lbs each.
Not all items are stock items, call our office for availability.

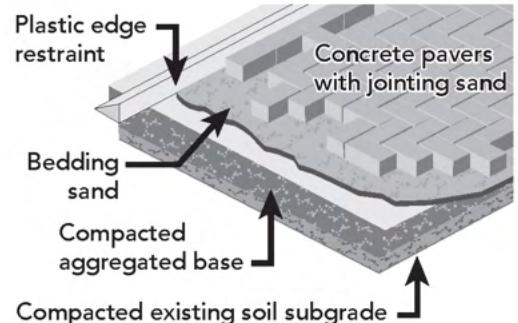


PLANNING

1. Outline the proposed area of construction and then park vehicles (for driveways) or place furniture (for patios) in the area to ensure that the final design is adequately sized.
2. Once everything looks fine, transfer the information on paper.

EXCAVATION AND BASE PREPARATION

1. The depth of excavation will depend upon the project and soil conditions; a driveway excavation is typically 400-600 mm (16-24 in) in depth, while a walkway or patio excavation is normally 200-250 mm (8-10 in).
2. To provide a secure base in which to install the edge restraint, the area of excavation needs to be larger than the area being paved; the rule of thumb is to extend the excavation outwards in all directions equal to the total depth of the excavation.
3. Prior to starting the work, place stakes at each end of the job and run string lines between them to represent the desired final grade; ensure a minimum slope of 1 mm per 100 mm (1/8 in per 12 in) for proper drainage away from your home. While excavating, use a measuring tape to verify depths of the string lines. When excavating is completed, remove any debris and then compact the native material with a minimum 7,000 lbf tamper.
4. Spread the backfill material in loose layers of no greater than 150 mm (6 in), wet the material with water (helps increase in compaction) and compact into place. Continue this process until within 85 mm (3 1/3 in) of final proposed grade. Run a 3 mm long straight edge over the compacted area to detect any high/low spots.



EDGE RESTRAINTS

1. Lay a row of pavers from one side of the area to the other and then position your curbs accordingly to avoid unnecessary cuts. For concrete curbs, dig a trench to the required depth (subject to final placement level of curb), place the curbs and then backfill to original base grade. For plastic edging, the sections are positioned directly on top of the base and then staked into place using 250 mm (10 in) spikes.

BEDDING SAND

1. The key is to ensure a consistent thickness for the loose sand. The easiest way to do this is to use 25 mm (1 in) diameter Schedule 80 PVC pipe for guard rails (the outside diameter is 35 mm). Spread the sand loosely between a pair of pipes, then pull a straightedge along the top to level sand out. Avoid disturbing the sand once in place.

LAYING THE PAVERS

1. The laying pattern used is subject to personal preference; however, herringbone patterns are recommended for traffic areas. Place chalk lines on the sand at 2 m (6 ft) intervals to provide straight line guides during installation. Always start laying at the lowest point so that stones cannot separate; place hand tight. Use a rubber mallet as required to adjust stones. While laying, mix pavers from at least four different cubes at a time so that any colour variations between cubes are blended in.
2. Cut pavers to fill gaps along edges and around obstacles as required using cantilever splitters or masonry saws. For curves, place pavers beyond the final edge, mark off the desired curve, and then using a masonry saw cut the pavers in place. Ensure that area is washed down after cutting as the residue can create stains.

COMPACTING AND FINISHING

1. After all pavers are in position (or at the end of each day), sweep off the surface completely and then compact the pavers into the bedding sand using a 5,000 lbf plate tamper.
2. Spread dry jointing sand and sweep into joints until full. Clean off surface and vibrate the jointing sand into spaces using the tamper. Repeat until joints are completely full.

NOTE: For more advanced installation details, scan the QR code above or go to www.brownsconcrete.com/resources.



RETAINING WALL INSTALLATION



PLANNING

1. The height and purpose of the wall, as well as the existing soil types, groundwater conditions, and surrounding land uses, all play a part in the design of a retaining wall. That is why we recommend that you consult with your local supplier to verify which wall system will work for your given project.
2. Remember to incorporate a drainage system into your design so that water does not become trapped behind your wall.

EXCAVATION AND BASE PREPARATION

1. Mark off the front and back of the wall, and then the front and back of the excavation; off-set at the front of the wall is typically 100-150 mm (4-6 in) while the offset at the back of the wall is 150 mm (6 in) for low walls (<27 in) and 300 mm (12 in) for higher walls.
2. Where the excavation is cutting into a slope, grade the back of the excavation at the angle at which the native soil can be safely left without collapsing. To prevent the wall from sliding forward, it is common practice to bury at a minimum one full course of wall stones. The depth of the excavation also needs to allow for a 150 mm (6 in) thick layer of base material.
3. Once the excavation is completed, remove any debris and then thoroughly compact the native soil. Spread the backfill material in loose layers of no greater than 75 mm (3 in), wet the soil with water (helps increase compaction) and compact into place. Leave a V-notch at the back of the excavation for the drain pipe. Set the string level to verify the final grade. Ensure the base is level front to back and side to side as this will minimize the leveling of individual blocks and will ensure straight lines and smooth arcs.
4. Lay the geotextile starting directly under the back of the wall and up the back slope of the trench.
5. Remember to leave adequate material at the top of the slope for the fold back, and to overlap the separate pieces a minimum of 150 mm (6 in). Use the sand bags or similar to keep the geotextile in place as required.

LAYING THE BASE COURSE

1. Select the starting point for the wall. If the base of the wall is stepped up, start at the lowest point and work up; remember to adjust for the natural batter in the wall between steps. If there is an outside corner, start with the corner unit (to potentially avoid having to cut stones later on to fit). Set a string level to mark the back of the first course. Use a level to ensure the blocks are level front to back and side to side.

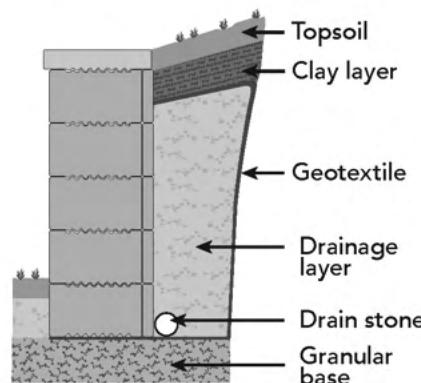
REMAINING COURSES

1. Sweep the top course prior to proceeding. Place the next course of units in a running bond pattern so that the middle of the unit is approximately above the joint between the underlying blocks. NEVER ALIGN BLOCKS VERTICALLY.
2. After laying a course, backfill behind wall to the same elevation as the top of the just placed units.

COPING AND GRADING

1. Where coping is required, sweep the top of the underlying course prior to proceeding.
2. Place a line of landscape adhesive on both sides of the tongue. Place the coping unit on top and apply some pressure to secure. Prior to back-filling behind the coping and last wall unit, pull filter cloth towards back of wall and tuck in place.
3. Fill to final grade to suit desired conditions; ensure final slopes allow for proper drainage away from the wall.

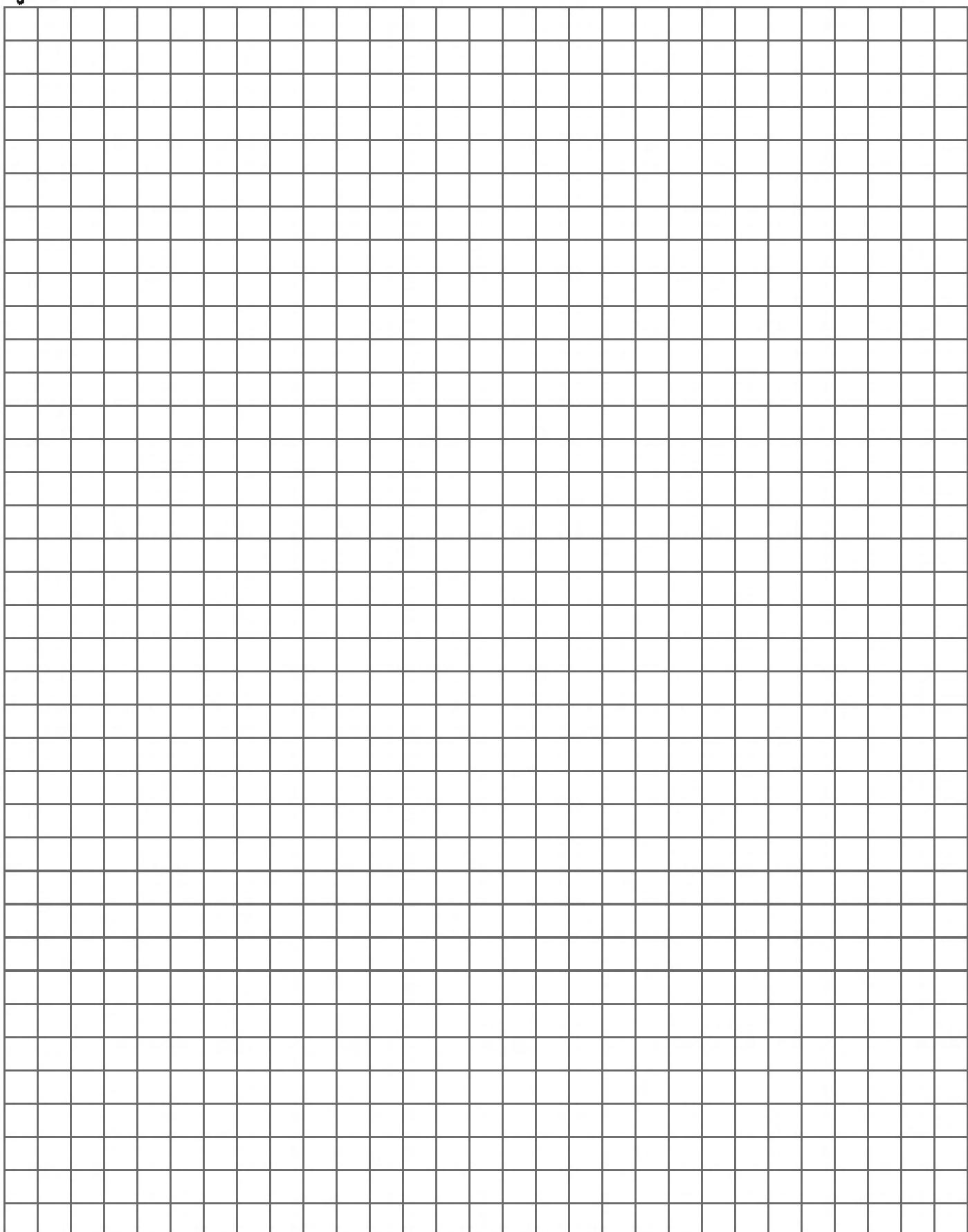
CROSS-SECTION



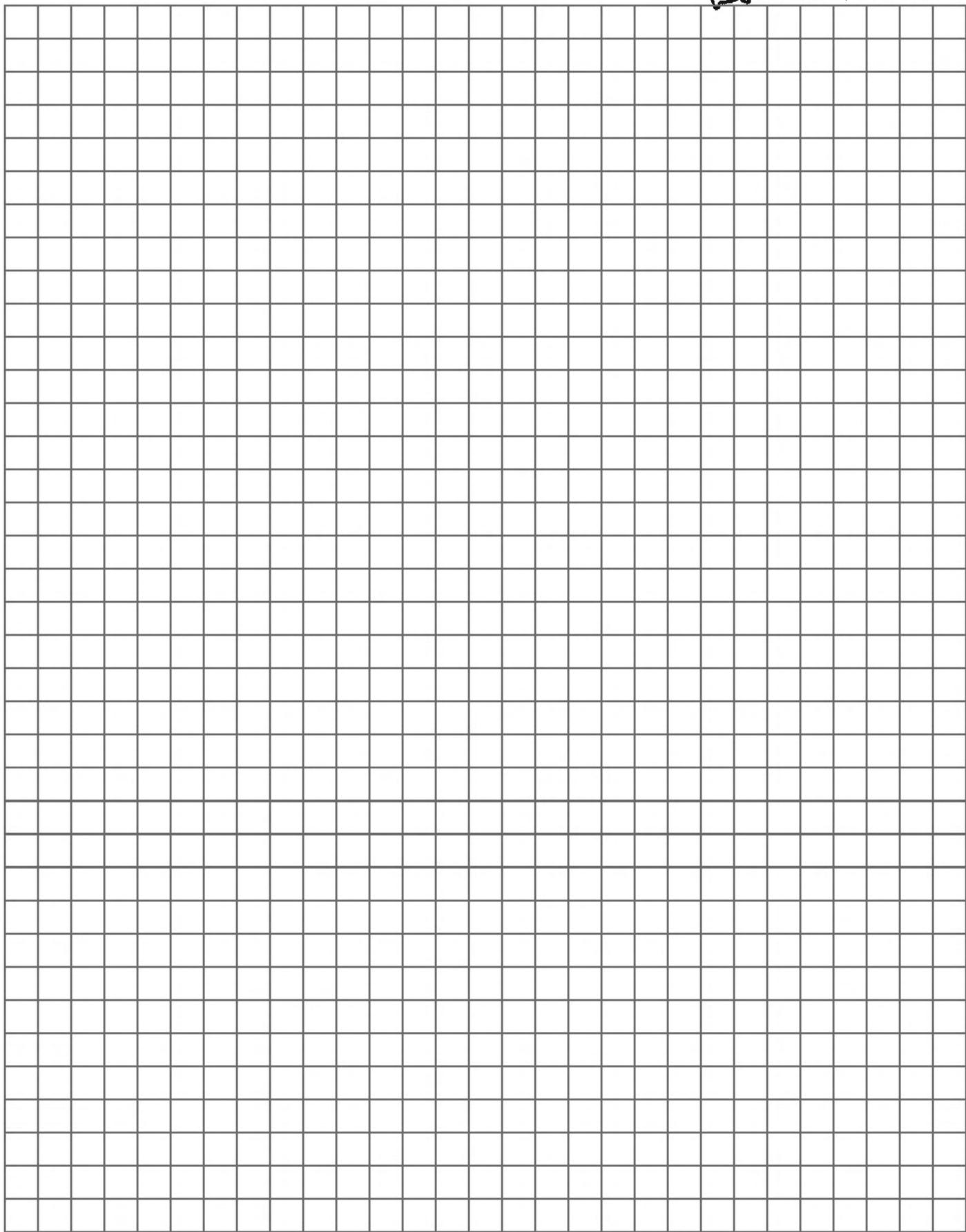
NOTE: For more advanced installation details, scan the QR code above or go to www.brownsconcrete.com/resources.



PROJECT PLANNER



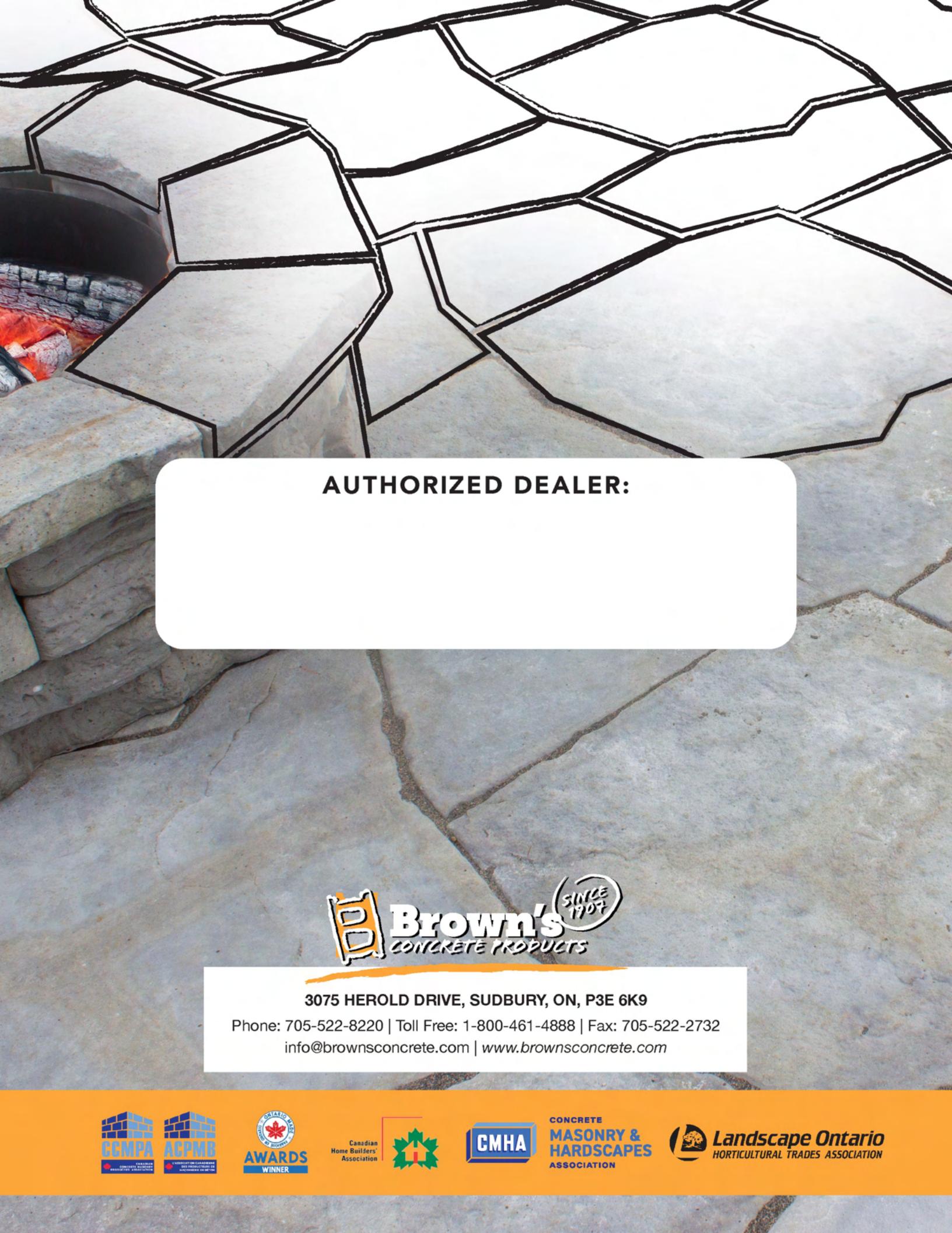
PROJECT PLANNER





BROWN'S **LIFETIME WARRANTY**

Brown's Concrete Products Limited provides a Lifetime Warranty to the original purchaser on the structural integrity of its products used in residential applications. If the material installed on the owner's property, using our recommended guidelines, proves to be defective the product will be replaced without cost. Colour matching and the occurrence of efflorescence cannot be guaranteed. The Warranty does not cover damage resulting from subgrade settlement or movement, contact with chemicals or paint, discolouration due to airborne contamination, staining, oxidation or improper sealing. Please refer to ICPI and/or NCMA for recommended product maintenance programs, winter care solutions and recommended de-icing products. This warranty is not transferable and proof of purchase is required. Brown's Warranty does not cover transportation, labour or accessory materials.



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