

# WALLS

WALLS, PILLARS & PLANTERS



## PHYSICAL AND GEOMETRICAL CHARACTERISTICS

CHARACTERISTICS		ASTM C 1372	TECHO-BLOC
Compressive strength		3 000 psi [21 MPa] min.	5 050 psi [35 MPa] min.
Water absorption		13 lb/ft <sup>3</sup> [208 kg/m <sup>3</sup> ] max	9 lb/ft <sup>3</sup> [144 kg/m <sup>3</sup> ] max.
Freeze-thaw durability		Mass loss (max.): 1% at 100 cycles, or Mass loss (max.): 1.5% at 150 cycles	Mass loss (max.): 1% at 100 cycles, or Mass loss (max.): 1.5% at 150 cycles
Dimension tolerance <sup>1</sup>	length	± 1/8" [3.2 mm]	± 1/8" [3.2 mm]
	width	± 1/8" [3.2 mm]	± 1/8" [3.2 mm]
	height	± 1/8" [3.2 mm]	± 1/8" [3.2 mm]

Notes : 1. The dimension tolerance is not applicable to split facings or other architectural finish.

2. The dimensional tolerance for Stonedge wet cast retaining wall units is: ± 3/16" (5 mm) for height and ± 1/2" (13 mm) for length and width.

3. During the installation, the level between adjacent wall units will vary (usually more than for a dry cast wall unit) in order to obtain a more realistic appearance of a natural stone wall. Stonedge collection of wet cast wall units include, but are not limited to, the following: Borealis, Prescott, Röcka and Travertina Raw wall units.

# APPLICATION CHART

Product	Depth (Nominal)		Batter	Connector Type	Alignment		Retaining Walls						Freestanding Walls	Pillars	Steps	Outdoor Fire Features		
	mm	in.			Straight Wall	Curved Wall	Typical Height Range <sup>(3)</sup>			Gravity		Geogrid Reinforced				Pervious Concrete Backfill	Fire Pit	Grill Island
							Landscape up to 1.5-4 ft	Midsize up to 8-10 ft	Heavy Duty 10 ft and above	Single Depth	Multi Depth							
Borealis	152	6	0° <sup>(1)(2)</sup>	-	X		X			X				X			X <sup>(5)</sup>	X <sup>(5)</sup>
Brandon	250	9 13⁄16	0°; 4.4° <sup>(1)</sup>	HDPE Vertical Key (Short)	X	X		X		X		X	X	X	X <sup>(4)</sup>	X	X <sup>(6)</sup>	X <sup>(5)</sup>
Fascia	263	10 3⁄8	0°; 5.3° <sup>(1)</sup>	HDPE Horizontal Key & Front Lip	X		X			X		X	X	X	X	X		
G-Force	290	11 1⁄16	3.9°	HDPE Vertical Key (Long)	X	X			X	X		X	X		X <sup>(4)</sup>	X	X <sup>(5)</sup>	
Graphix	205 - 280	8 1⁄16 - 11	Variable	HDPE Horizontal Key	X			X		X		X	X	X	X	X		
Mini-Creta	250	9 13⁄16	0°; 5.3° <sup>(1)</sup>	HDPE Horizontal Key	X	X		X		X		X	X	X	X	X <sup>(4)</sup>	X	X <sup>(5)</sup>
Prescott	250	9 13⁄16	0°; 4.5° <sup>(1)</sup>	HDPE Vertical Key (Short)	X	X	X			X		X		X	X <sup>(4)</sup>	X	X <sup>(6)</sup>	
Raffinato	249	9 13⁄16	0°; 4.4° <sup>(1)</sup>	HDPE Vertical Key (Short)	X	X		X		X		X	X	X	X <sup>(4)</sup>	X	X <sup>(6)</sup>	X <sup>(5)</sup>
Röcka	203	8	0° <sup>(1)(2)</sup>	-	X		X			X				X			X <sup>(5)</sup>	X <sup>(5)</sup>
Semma	279	11	0°; 7.6° <sup>(1)</sup>	HDPE Horizontal Key	X	X			X	X		X	X	X	X <sup>(4)</sup>	X	X <sup>(5)</sup>	
Skyscraper <sup>(4)</sup>	590 - 1220	23 1⁄4 - 48 1⁄16	0.8°; 12.7°	Precast Concrete Key	X	X			X		X							
Travertina Raw	202	7 15⁄16	0°; 5.2° <sup>(1)</sup>	HDPE Vertical Key (Short)	X		X			X				X	X <sup>(4)</sup>	X		

<sup>(1)</sup> For 0° degree (vertical) batter retaining walls, it is recommended a slight positive batter achieved by tilting the top surface of the leveling pad from front to back. This will accommodate forward rotation of the wall during or after installation.

<sup>(2)</sup> Alternatively to tilting the leveling pad, an offset of 1/4" (6 mm) min. per row could be used instead.

<sup>(3)</sup> These typical height ranges may require geogrid. Contact our Technical Support for assistance.

<sup>(4)</sup> Available Corner/Pillar units, sold separately.

<sup>(5)</sup> Installation drawing available.

<sup>(6)</sup> Not pre-assembled kits available.

<sup>(7)</sup> Pre-assembled kits available.

<sup>(8)</sup> UL-127 & ULC-S610 Compliant

<sup>(9)</sup> Mechanical installation required.

# INSTALLATION GUIDE

## GRAVITY RETAINING WALL CHARACTERISTICS - RESIDENTIAL

The chart below provides general information for residential garden walls based on optimal conditions (see Note 2 below). Contact our Technical Service department if your project requires a higher wall, conditions are not optimal or for commercial applications.

WALL PRODUCT	MAXIMUM TOTAL HEIGHT (INCLUDING EMBEDMENT) WITHOUT SURCHARGE OR SLOPE												MINIMUM DRAINAGE COLUMN WIDTH		MINIMUM RADIUS	
	INCLINED						VERTICAL									
	ANGLE		SETBACK		HEIGHT		ANGLE		SETBACK		HEIGHT					
	(°)	mm	in.	ROWS	mm	in.	(°)	mm	in.	ROWS	mm	in.	mm	in.	m	FT
BOREALIS	-	-	-	-	-	-	0.0	0.0	0	3	457	18	400	16	-	-
BRANDON 90 mm	4.4	7.0	¼	8	720	28	0.0	0.0	0	6	540	21	350	14	2.3	7'-6"
BRANDON 180 mm	4.4	14.0	⅜	4	720	28	0.0	0.0	0	3	540	21	350	14	2.3	7'-6"
FASCIA	5.3	14.0	⅜	5	750	30	0.0	0.0	0	4	600	24	350	14	-	-
GRAPHIX	VARIABLE			8	600	24	-	-	-	-	-	-	350	14	-	-
G FORCE	3.9	14.0	⅜	4	813	32	-	-	-	-	-	-	300	12	3.0	9'-10"
MINI-CRETA 3"	5.3	7.0	¼	10	750	30	0.0	0.0	0	8	600	24	350	14	2.1	7'-0"
MINI-CRETA 6"	5.3	14.0	⅜	5	750	30	0.0	0.0	0	4	600	24	350	14	2.1	7'-0"
PRESCOTT 2.25"	4.5	4.5	⅜	14	800	32	0.0	0.0	0	12	686	27	350	14	1.6	5'-2"
PRESCOTT 4.5"	4.5	9.0	¾	7	800	32	0.0	0.0	0	6	686	27	350	14	1.6	5'-2"
RAFFINATO 90 mm	4.4	7.0	¼	8	720	28	0.0	0.0	0	6	540	21	350	14	2.6	8'-6"
RAFFINATO 180 mm	4.4	14.0	⅜	4	720	28	0.0	0.0	0	3	540	21	350	14	2.6	8'-6"
RÖCKA	-	-	-	-	-	-	0.0	0.0	0	3	457	18	400	16	-	-
SEMMA	7.6	20.0	1⅜	6	900	35	0.0	0.0	0	4	600	24	330	13	2.1	7'-0"
SKYSCRAPER	12.7	68.5	2 11⁄16	SEE SKYSCRAPER DESIGN CHART			0.8	4.5	¾	SEE SKYSCRAPER DESIGN CHART			300	12	INSIDE CURVE 5.5   18'-0" OUTSIDE CURVE 11.0   36'-1"	
TRAVERTINA RAW	5.2	14.0	⅜	5	762	30	0.0	0.0	0	4	610	24	400	16	-	-

- [1] The total height does not include the cap thickness. The total height measurement refers to the vertical distance between the top of the leveling pad (aggregate base) and the top of the uppermost course.
- [2] The optimal conditions assumed for the development of this chart are the following: (i) The retained soil type is granular with an internal friction angle of 36 degrees; (ii) There is no presence of load applied or slope above the wall; and (iii) An adequate drainage system is provided to the wall system.
- [3] The minimum radius is measured from the center of the circle to the outer face of the wall. It corresponds to the lowest course in an internal curve and to the uppermost course in an external curve.

# INSTALLATION GUIDE

## SUMMARY OF CHARACTERISTICS

Type of wall	FREESTANDING WALL						PILLARS			
	MAXIMUM EXPOSED HEIGHT [2,3]		MINIMUM WALL RADIUS [4]				MAXIMUM PERMISSIBLE HEIGHT [2,3,5]			
			inside		Outside		Exposed		Total	
	mm	in	mm	in	mm	in	mm	in	mm	in
Borealis	612	24"	-	-	-	-	-	-	-	-
Brandon 90 mm [6]	750	29 7/16"	1538	61"	1788	70"	930	36 1/2"	1080	42 1/2"
Brandon 180 mm [6]	750	29 7/16"	1538	61"	1788	70"	930	36 1/2"	1080	42 1/2"
Fascia Wall Collection	600	23 1/2"	-	-	-	-	750	29 7/16"	900	35 7/16"
Graphix	600	23 1/2"	-	-	-	-	1050	41 1/4"	1200	47 1/4"
G Force	-	-	-	-	-	-	1069	42"	1219	48"
Mini-Creta 3" [6]	750	29 7/16"	907	36"	1158	46"	1050	41 1/4"	1200	47 1/4"
Mini-Creta 6" [6]	750	29 7/16"	907	36"	1158	46"	1050	41 1/4"	1200	47 1/4"
Prescott 2.25" [6]	650	25 1/2"	863	34"	1114	44"	993	39"	1143	45"
Prescott 4.5" [6]	650	25 1/2"	863	34"	1114	44"	993	39"	1143	45"
Raffinato 90 mm [6]	750	29 7/16"	2259	89"	2510	99"	930	36 1/2"	1080	42 1/2"
Raffinato 180 mm [6]	750	29 7/16"	2259	89"	2510	99"	930	36 1/2"	1080	42 1/2"
Röcka	612	24"	-	-	-	-	-	-	-	-
Semma [6]	750	29 7/16"	519	20"	807	32"	1050	41 1/4"	1200	47 1/4"
Travertina Raw [6]	612	24"	-	-	-	-	917	36"	1067	42"

- [1] Vertical Retaining walls are constructed without any face inclination or setback.
- [2] Heights do not include cap thickness.
- [3] - Total Height is the vertical distance measured from the top of the footing (aggregate base) to the top of the uppermost course.  
- Exposed Height is the vertical distance measured from the finished grade at the bottom of the wall to the top of the uppermost course. It does not include the wall depth below grade (embedment).
- [4] Freestanding Minimum Wall radius based on the shortest tapered unit.
- [5] The maximum height does not necessarily correspond to the amount of blocks in a pallet.
- [6] Pillar units sold separately.



# PRELIMINARY DESIGN ASSISTANCE - REQUEST FORM FOR DESIGN PROFESSIONALS, ENGINEERS AND CONTRACTORS

Techo-Bloc can help you in your preliminary design of retaining walls. However, preliminary design should only be used to assess the suitability of a wall system to a specific project or for estimating budget costs. For final construction designs, please contact a qualified engineer in your area.

Techo-Bloc Sales Representative \_\_\_\_\_ Date \_\_\_\_\_

CUSTOMER TYPE: ☐ Landscape Architect ☐ Engineer ☐ Contractor ☐ Other: \_\_\_\_\_ Are you a Techo-Pro? ☐ Yes ☐ No \_\_\_\_\_

## 1. GENERAL PROJECT INFORMATION

Project Name \_\_\_\_\_ Address \_\_\_\_\_

Contact \_\_\_\_\_ E-mail \_\_\_\_\_ City \_\_\_\_\_

Entreprise \_\_\_\_\_ Telephone \_\_\_\_\_ State/Province \_\_\_\_\_

Postal Code \_\_\_\_\_

## 2. PROJECT SPECIFICATIONS

Type: ☐ Industrial ☐ Commercial ☐ Institutional ☐ Residential Information date required \_\_\_\_\_ Units (metric or imperial) \_\_\_\_\_

### 2.1 SPECIAL CONSIDERATIONS

Maximum available  
space behind wall:

Maximum required  
freestanding wall portion:

## 3. GENERAL INFORMATION ON WALLS

### 3.1 SINGLE WALL

Block Product: \_\_\_\_\_

Wall length: \_\_\_\_\_

☐ Setback position  
☐ Near vertical position

Maximum wall height  
(above ground) \_\_\_\_\_

Vertical Rise \_\_\_\_\_

Horizontal Run \_\_\_\_\_

Vertical Rise \_\_\_\_\_

Horizontal Run \_\_\_\_\_

\*Include only the Retaining portion of the wall. Freestanding portion must be included in section 2.1 under Project Specification.

\*\*If a grading plan is available, include it with this request (drawing should indicate the location of the wall, grade lines and loads). Otherwise clear and detailed sketches must be provided.

### 3.2 TIERED WALL

Backslope: Horizontal run \_\_\_\_\_ Vertical rise \_\_\_\_\_

☐ Setback position  
☐ Near vertical position

Platform between walls:

Horizontal run \_\_\_\_\_ Vertical rise \_\_\_\_\_

☐ Setback position  
☐ Near vertical position

Upper wall:

Block product \_\_\_\_\_

Wall height (above ground) \_\_\_\_\_

Wall length \_\_\_\_\_

Lower wall:

Block product \_\_\_\_\_

Wall height (above ground) \_\_\_\_\_

Wall length \_\_\_\_\_

Base slope: Horizontal run \_\_\_\_\_ Vertical rise \_\_\_\_\_

## 4. TYPE OF SOIL

If a soil report is available, attach it to this request.

Retained Soil

☐ Good soil conditions (Gravel or sand & gravel mixes)

☐ Medium soil conditions (Fine sands & silty sands)

☐ Poor soil conditions (Low plasticity silts & clays)

☐ Other: \_\_\_\_\_

Geogrid (if required)

Reinforced soil (if required)

☐ Good soil conditions (Gravel or sand & gravel mixes)

☐ Medium soil conditions (Fine sands & silty sands)

☐ Poor soil conditions (Low plasticity silts & clays)

☐ Other: \_\_\_\_\_

Foundation Soil

☐ Good soil conditions (Gravel or sand & gravel mixes)

☐ Medium soil conditions (Fine sands & silty sands)

☐ Poor soil conditions (Low plasticity silts & clays)

☐ Other: \_\_\_\_\_

## 5. SURCHARGE ABOVE WALL

TYPE OF SURCHARGE (LOAD)	DISTANCE TO WALL
<input type="checkbox"/> ROUTE	_____
<input type="checkbox"/> PARKING / ALLEY FOR HEAVY VEHICLES	_____
<input type="checkbox"/> PARKING / ALLEY FOR LIGHT VEHICLES	_____
<input type="checkbox"/> SWIMMING POOL	_____
<input type="checkbox"/> PAVED SURFACE	_____
<input type="checkbox"/> LAWN	_____
<input type="checkbox"/> OTHER	_____

# COMPATIBILITY CHART

## Walls & Pillars

## Caps

	Architectural cap	Brandon cap	Bullnose	Bullnose Grande	Graphix cap	Pacific cap	Piedimonte	Piedimonte 28"x28"	Portofino	Raffinato 60 mm	Raffinato 90 mm	Travertina Raw 12"x30"	Travertina Raw 14"x28"	York	York 28"x28"	York 32"x32"
Borealis (does not require a cap)																
Brandon 90 & 180 mm		x	x	x		x	x		x	x	x	x	x	x		
Brandon 90 & 180 mm pillar								x		x	x		x		x	
Fascia Wall Collection - single-sided	x	x	x	x	x	x	x		x	x	x	x	x	x		
Fascia Wall Collection - double-sided									x							
G-Force					x		x			x	x	x	x			
Graphix					x		x			x	x	x	x			
Mini-Creta Collection	x	x	x	x		x	x		x	x	x	x	x	x		
Mini-Creta Pillar 24" Collection								x		x	x		x		x	
Prescott Collection							x		x	x	x	x	x	x		
Prescott Pillar Collection								x		x	x		x		x	
Raffinato Collection				x	x		x			x	x	x	x			
Raffinato Pillar Collection								x		x	x		x			
Röcka (does not require a cap)																
Semma	x	x	x		x	x	x		x	x	x	x	x	x		
Semma Pillar										x			x			x
Skyscraper										x	x					
Travertina Raw	x	x	x	x	x	x	x		x	x	x	x	x	x		
Travertina Raw pillar										x	x		x		x	

NOTE: The combinations shown in this chart are not complete. Other possible combinations exist.

## Applications

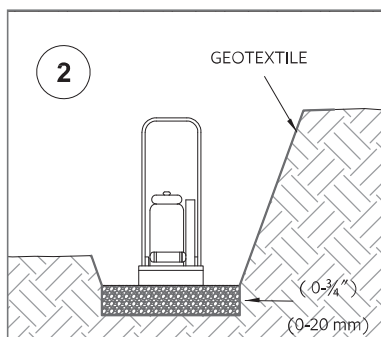
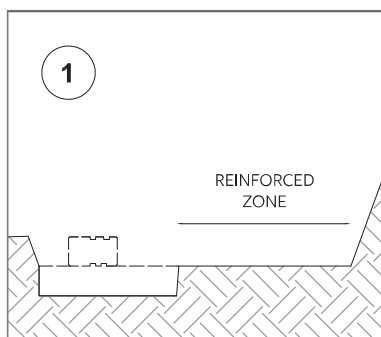
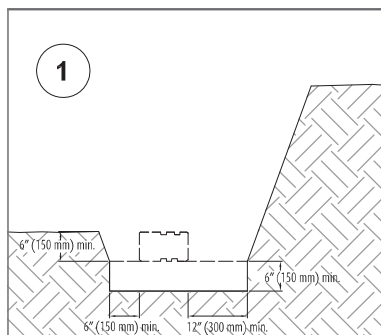
## Caps

	Architectural cap	Bali Travertina Raw	Brandon cap	Bullnose	Bullnose Grande	Graphix cap	Pacific cap	Piedimonte 14"x30"	Piedimonte 28"x28"	Portofino	Raffinato 60 mm	Raffinato 90 mm	Travertina Raw 14"x28"	York wall caps 16", 32", 48"	York 14"x48"	York 24"x36"	York 28"x28"	York 32"x32"	Blu 45 mm	Venetian
Step	x		x	x	x	x		x		x	x	x	x	x	x					
Concrete & step overlay system		x		x	x		x	x		x	x	x	x	x					x	x
Pool coping		x		x	x		x	x		x	x	x	x	x						
Wall single-sided	x		x	x	x	x	x	x		x	x	x	x	x	x					
Wall double-sided	x					x		x		x	x	x	x	x	x					
Counter top								x	x					x		x	x	x		
Pillar								x	x		x		x				x	x		

# INSTALLATION GUIDE

## RETAINING WALLS

### Installation outline



#### 01 EXCAVATION

- Check the location of existing structures and utilities before starting the excavation.
- Dig out a trench. Its depth should be calculated according to the thickness of the leveling pad and the burial depth of the wall.
- Plan for a thickness of at least 6" (150 mm) for the leveling pad and consider that at least 10% of the height of the wall should be buried in the ground. In all cases, the wall must be buried no less than 6" (150 mm) deep.
- In determining the width of the trench, allow for a space of at least 6" (150 mm) at the front of the wall and 12" (300 mm) at the back. Compact and level the excavation base.



#### FOR GEOGRID REINFORCED RETAINING WALLS

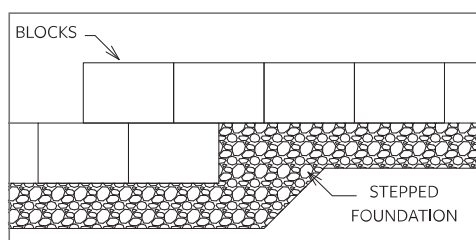
The excavation must also take into account the length of geogrid.

#### 02 FOUNDATION

- Cover the base and back of the trench with a geotextile. Extend the geotextile towards the back of the excavation and eventually above the drainage fill once it is in place close to the top of the wall.
- Next, spread the 0-3/4" (0-20 mm) stone in the trench and compact using a vibratory plate or jumping jack, ensuring that the surface is level. The compacted leveling pad must be at least 6" (150 mm) thick.

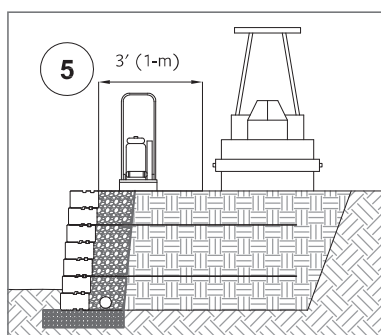
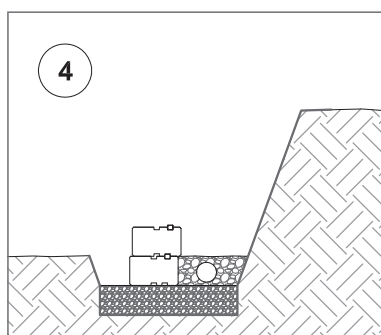
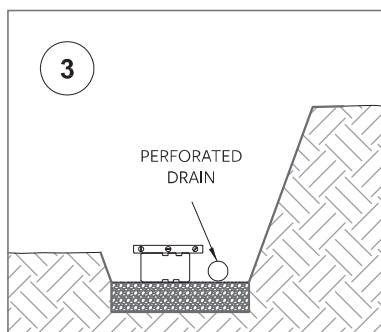
#### NOTE FOR STEPPED FOUNDATION

A wall built on an incline requires stepped foundations. For steep inclines, several steps may be required. Construction should start at the lowest level. Each of the steps must follow a level horizontal path and the vertical distance separating the successive steps must equal the height of a block.



# INSTALLATION GUIDE

## RETAINING WALLS



### 03 BUILDING THE FIRST COURSE

- Using blocks of the same height, place the first course on the compacted leveling pad according to the predetermined layout. Check the alignment and leveling in all directions and make sure that all the blocks are in full contact with the leveling pad and properly supported.
- Place the exposed surfaces of the blocks side by side. There must be no space between the exposed faces of adjacent blocks.
- At the back of the wall and on the compacted leveling pad, lay a 4" (100 mm) diameter perforated drain. Connect this drain to the existing drainage system so that it clears the water accumulated behind the wall.

### 04 BACKFILLING

Backfill at the rear of the wall and the space between the back of the blocks with  $\frac{3}{4}$ " (20 mm) clean stone. Use a minimum of 12" (300 mm) of clean stone behind the wall unit, but not less than a minimum of 24" (600 mm) from the face of the wall. Level and settle the clean stone. Any cavities in the blocks must also be filled with clean stone.

### 05 SUBSEQUENT COURSES

- Clean the top of each block before laying the next course. Depending on the type of block, install the connectors on the extremity of each block.
- Lay the subsequent courses, backfilling at the rear of the wall every 8" (200 mm maximum), using the same method outlined in step 4.
- Make sure the subsequent courses are laid such that the vertical seams are aligned with the blocks below.



### FOR GEOGRID REINFORCED RETAINING WALLS

Where geogrids are to be used, cover the clean stone with a geotextile. Select the geogrid according to the type, level and appropriate length. Position the geogrid according to the main reinforcement direction perpendicular to the wall. The geogrid must be continuous all along its embedment length. Splicing of the geogrid in the main reinforcement direction is not permitted. The geogrid must be installed horizontally over the compacted backfill and the previous course of blocks. Fix the connectors on the geogrid and lay the next course of blocks. Pull on the back of the geogrid and maintain its tension by stakes or pins. Repeat with a new section of geotextile and place the reinforced backfill directly behind the drainage fill. Fill and compact up to the level of the blocks.

Heavy equipment must not be used less than 3' (1-m) behind the blocks. Construction equipment must not drive directly over the geogrid. Repeat the various installation steps.

### 06 FINISHING

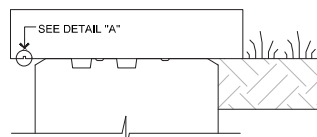
Position the course of coping stones (if applicable) or the final course of blocks to complete the wall. The coping stones or final course of blocks must be fixed to the subjacent blocks using concrete adhesive and there must be no space between the blocks.

# INSTALLATION GUIDE

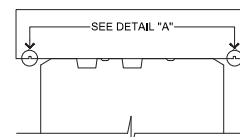
## RETAINING WALLS

### CAP UNIT – DRIP GROOVE

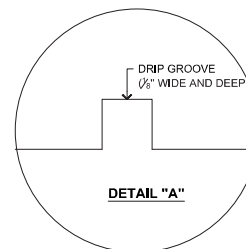
While optional, drip groove applied to the underside of wall cap units is beneficial to reduce the potential of leaving water marks and stains on the wall surface (retaining or freestanding wall). Rain water will run underneath the cap unit, reach the drip groove and fall directly to the ground, instead of continuing to run underneath the cap and down the wall.



CAP AND RETAINING WALL

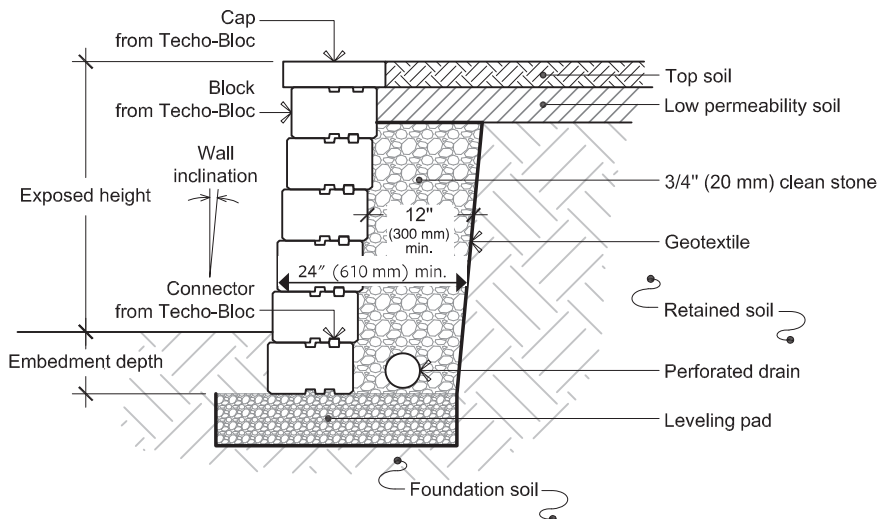


CAP AND FREESTANDING WALL



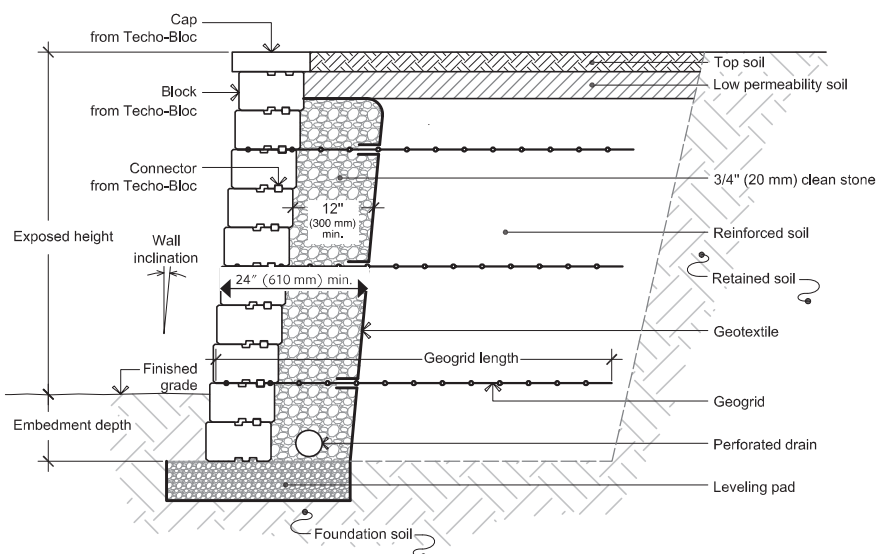
### GRAVITY WALL

Typical cross section



### GEOGRID REINFORCED WALL

Typical cross section

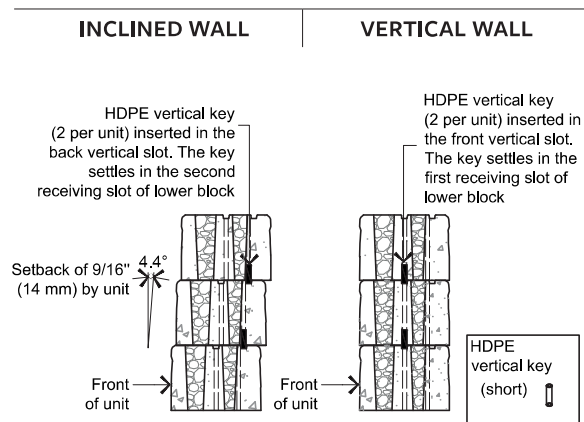


# INSTALLATION GUIDE

## RETAINING WALLS

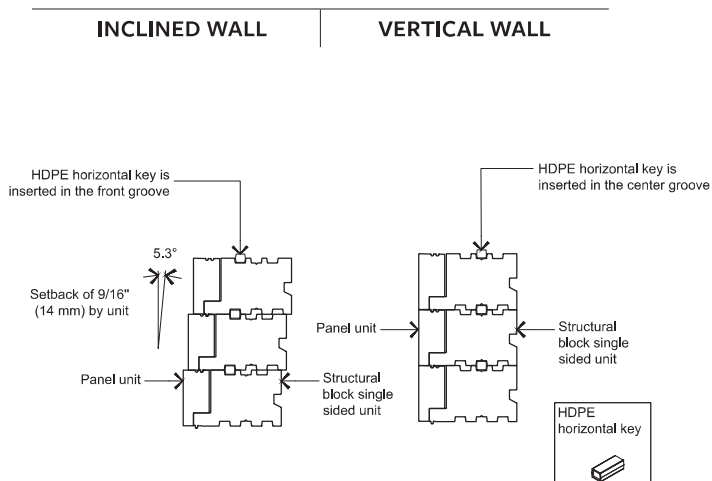
### Anchoring systems

#### BRANDON 180 mm

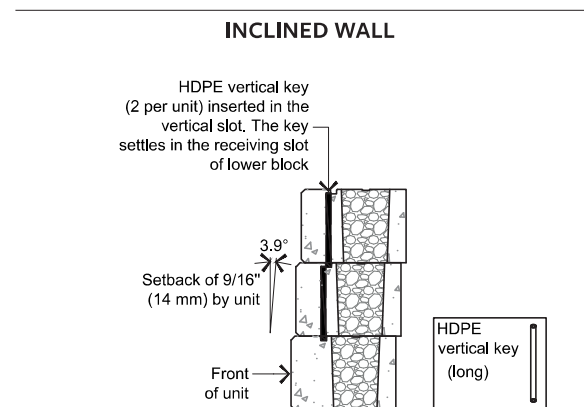


BRANDON 180 mm IS EQUIVALENT TO TWICE THE BRANDON 90 mm

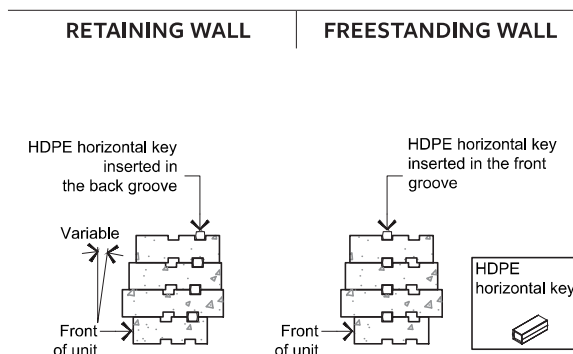
#### FASCIA WALL COLLECTION



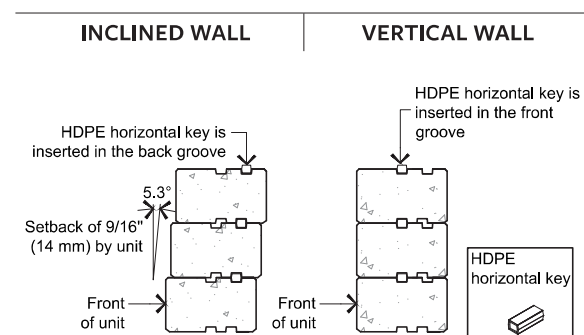
#### G-FORCE



#### GRAPHIX

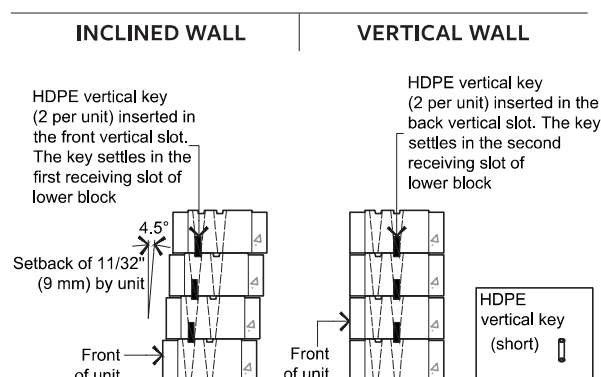


#### MINI-CRETA 6"



MINI-CRETA 6" IS EQUIVALENT TO TWICE THE MINI-CRETA 3"

#### PRESCOTT 4.5"



PRESCOTT 4.5" IS EQUIVALENT TO TWICE THE PRESCOTT 2.25"

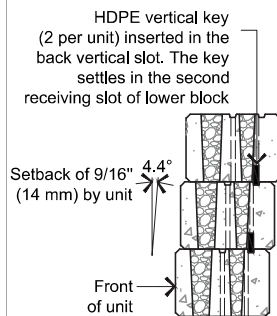
# INSTALLATION GUIDE

## RETAINING WALLS

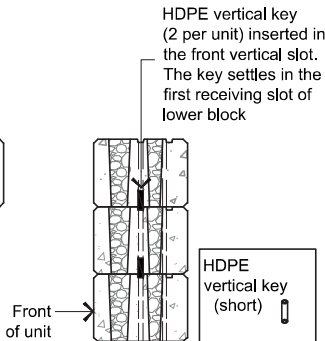
### Anchoring systems

#### RAFFINATO 180 mm

##### INCLINED WALL



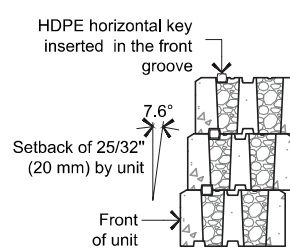
##### VERTICAL WALL



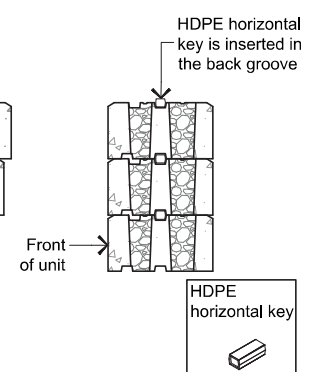
RAFFINATO 180 mm IS EQUIVALENT TO TWICE THE RAFFINATO 90 mm

#### SEMMA

##### INCLINED WALL

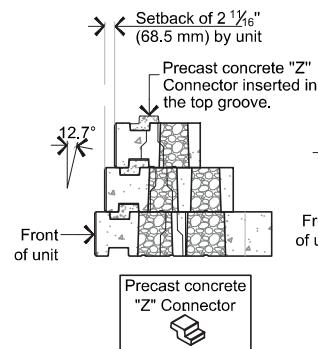


##### VERTICAL WALL

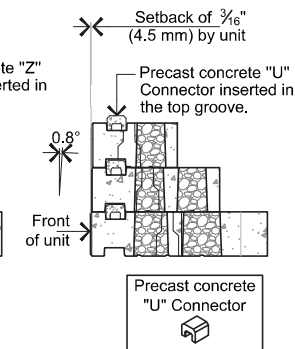


#### SKYSCRAPER

##### INCLINED WALL

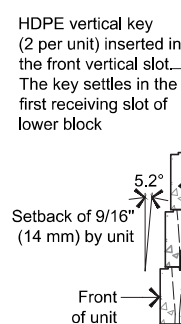


##### VERTICAL WALL

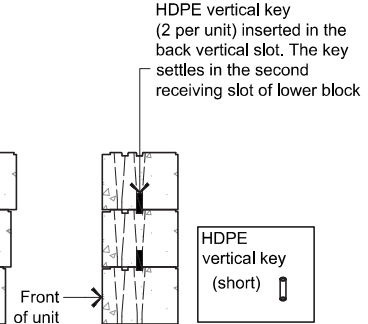


#### TRAVERTINA RAW

##### INCLINED WALL



##### VERTICAL WALL



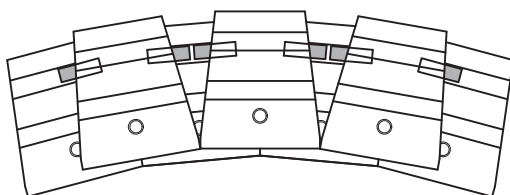
# INSTALLATION GUIDE

## RETAINING WALLS

### Anchoring system | Connectors in curved wall application

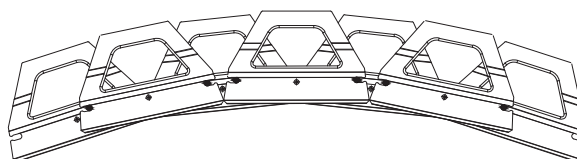
#### HDPE Horizontal Key

When creating internal curves and the HDPE horizontal keys are in the back groove, two connectors must be installed on each block as illustrated.



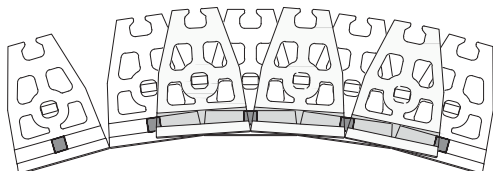
#### HDPE Vertical Key

When creating curves using HDPE vertical keys adjust placement in field to achieve desired curve.



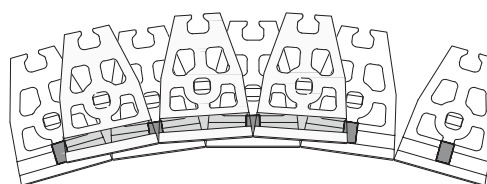
#### Precast concrete "U" Connector

When creating internal curves with the precast concrete "U" connector, place one connector on top center of each lower course block and adjust placement in field to achieve desired curve.



#### Precast concrete "Z" Connector

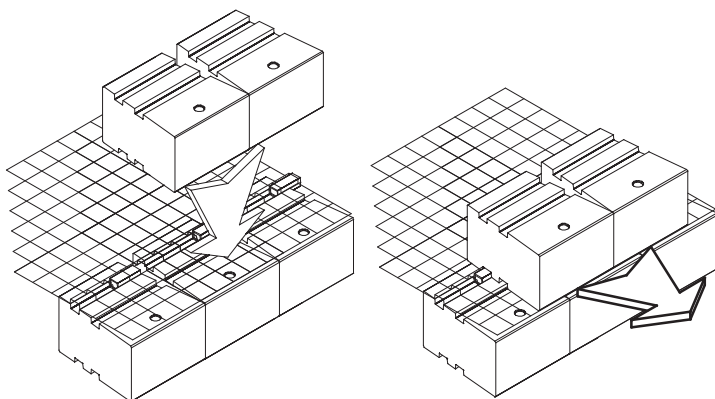
When creating internal curves with the precast concrete "Z" connector, place one connector on top center of each lower course block and adjust placement in field to achieve desired curve.



### Anchoring system | Connectors in geogrid reinforced wall application

#### HDPE Horizontal Key

When installing a geogrid, using HDPE horizontal keys, it must be placed above the connectors. The connectors will therefore be placed before the geogrid. After positioning the geogrid, move the block (from the above course) forward until it touches the connectors and ensures that the system is locked.



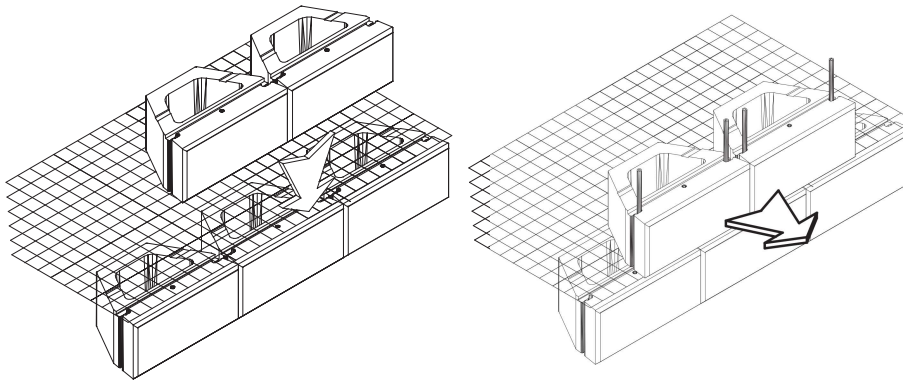


# INSTALLATION GUIDE

## RETAINING WALLS

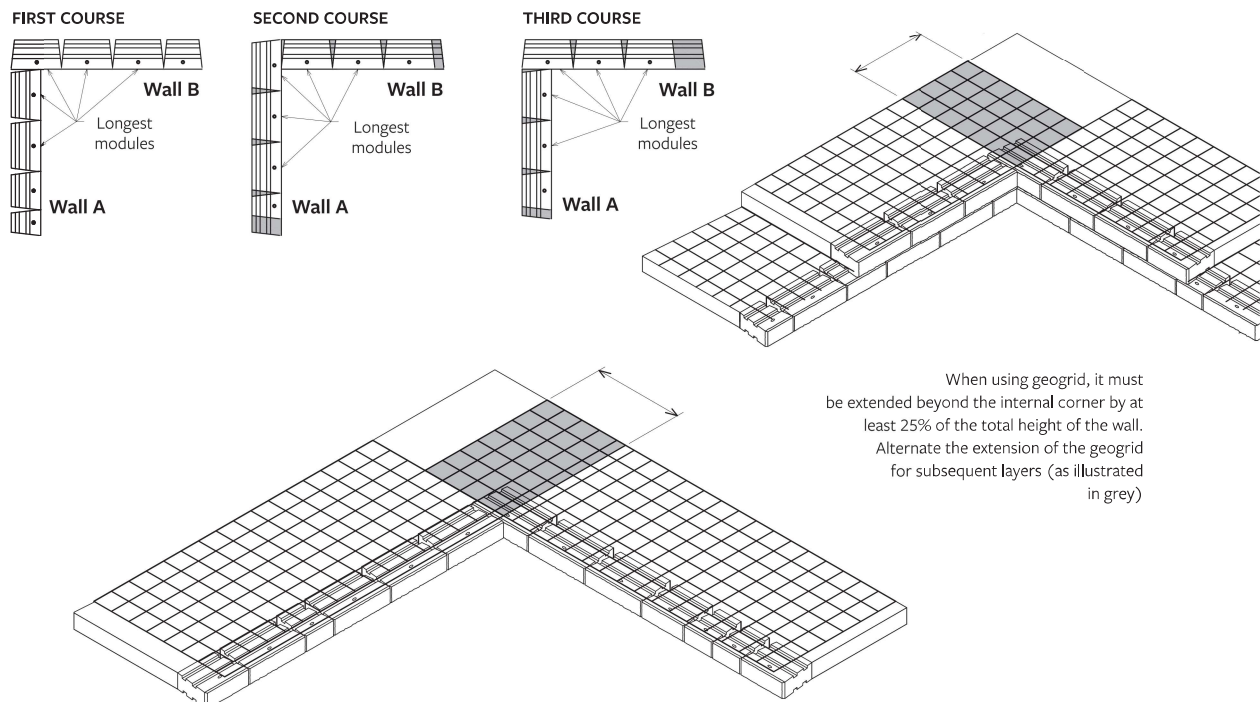
### HDPE Vertical Key

When installing geogrid, using HDPE vertical keys, it must be placed immediately above the lower course block. The connectors will be inserted in the vertical slots of the upper course blocks. Ensure that pin all ways settles into the receiving slot of the lower course block and not on the geogrid. Once the pin settles, move forward the upper block until it touches the connectors and ensures that the system is locked.



### Internal corner

When building a wall with an internal corner, it is recommended to start constructing the wall at the corner and build out from this point in both directions. To form the corner, use the longer modules as illustrated. Build wall B by extending it out from wall A so the end of wall B is aligned with the back of wall A. For subsequent courses, simply alternate the extension of walls A and B.

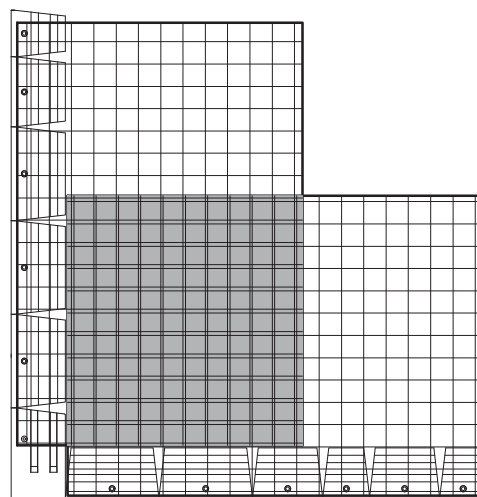
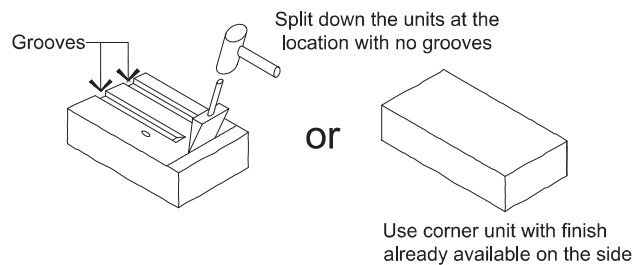
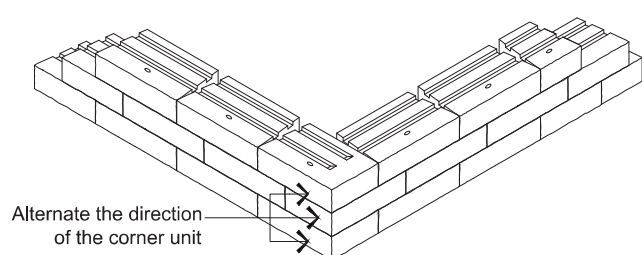


# INSTALLATION GUIDE

## RETAINING WALLS

### External corner

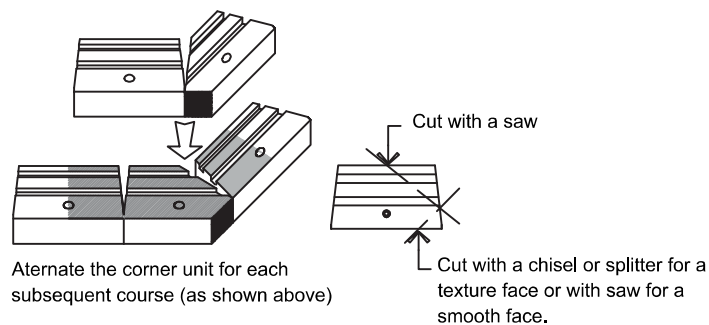
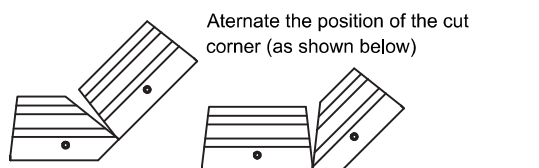
For walls with an external corner, start building the wall from the corner and continue from this point in both directions. For each subsequent course, alternate the direction of the corner unit and secure the corner unit to the block below using concrete adhesive.



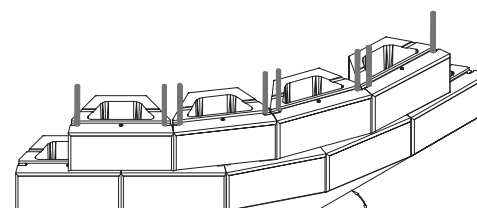
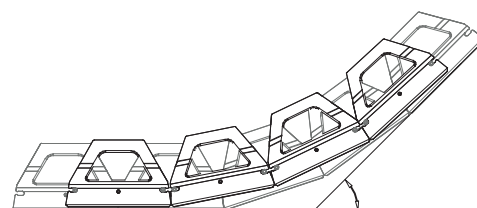
When overlapping two geogrids in the same layer (as illustrated by shaded area) allow at least 3" (75 mm) of backfill in between the overlapping section

### Oblique corner

The longer modules should be used to build an oblique external corner. Alternatively, corner can be replaced by a curve.



**Note:** Cut face finish may differ from original face finish



**Note:** Adjust placement in field to achieve desired angle

# INSTALLATION GUIDE

## RETAINING WALLS

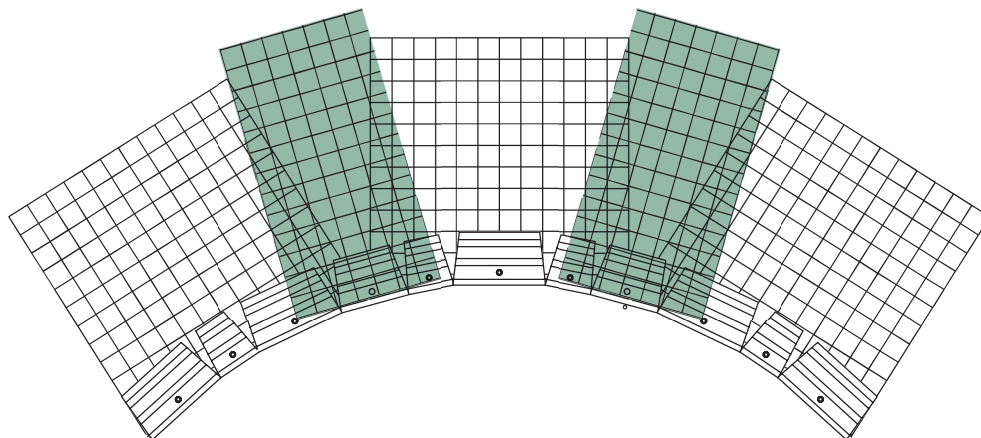
### Internal curve

The Techo-Bloc retaining wall system allows walls to be built with internal and external curves. These curves can be achieved without cutting the blocks. You will need to angle the curves according to the minimum radius specified by Techo-Bloc.

When building a wall with an internal curve, it is recommended to start building the wall at the center of the curve and place blocks alternately to the left and right of the central block. If the wall to be constructed requires a setback (inclined wall), each course should be offset to the back and the curve will then become bigger. The minimum radius is therefore that of the first course.



When using geogrid, it must cover 100% of the surface around the curve. To do this, additional layers of geogrid are placed on the next course of blocks to fill voids created from previous course (as illustrated in green).

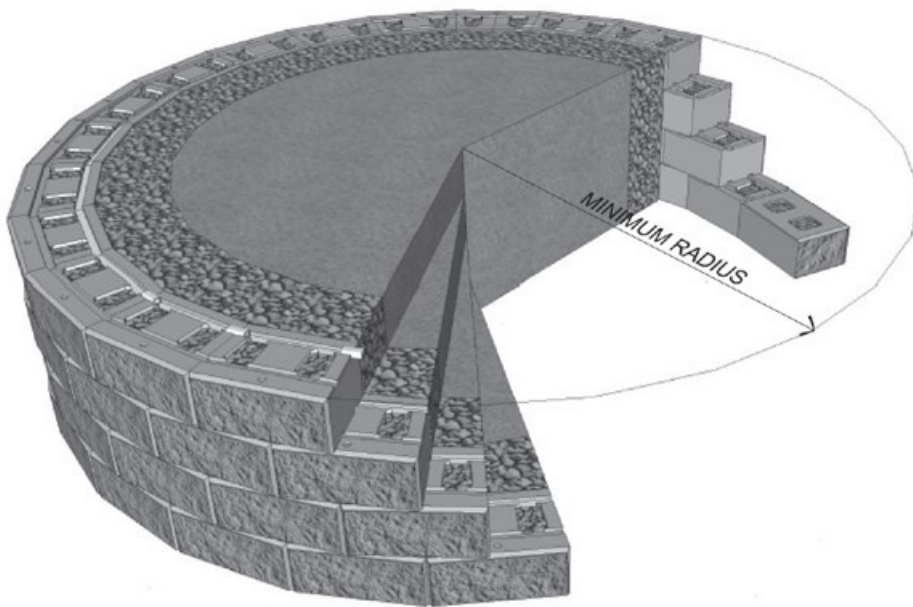


# INSTALLATION GUIDE

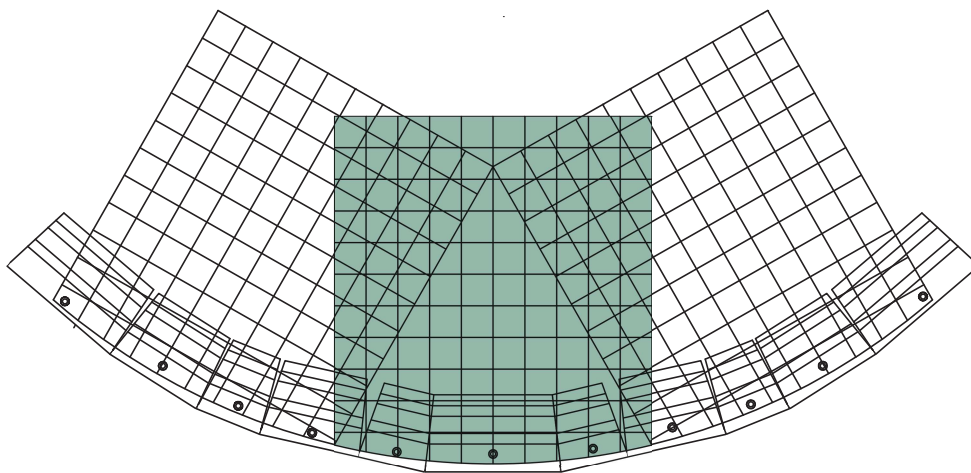
## RETAINING WALLS

### External curve

When building a wall with an external curve, it is recommended to start building the wall at the center of the curve and place blocks alternately to the left and right of the central block. Unlike internal curves, the external curve gets smaller as courses are added. The minimum radius is therefore that of the last course.



When using geogrid, it must cover 100% of the surface around the curve. To achieve this, additional layers of geogrid are placed on the same course of blocks to fill voids (as illustrated in green). In this case, we recommend at least 3" (75 mm) of backfill in between the overlapping sections.

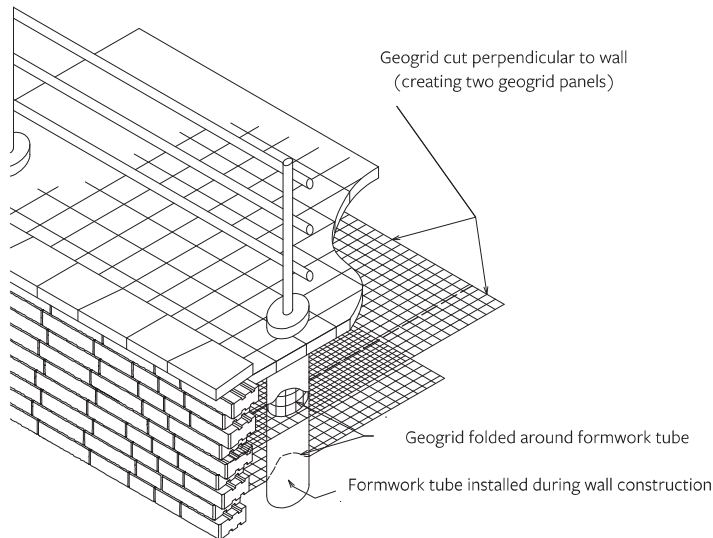


# INSTALLATION GUIDE

## RETAINING WALLS

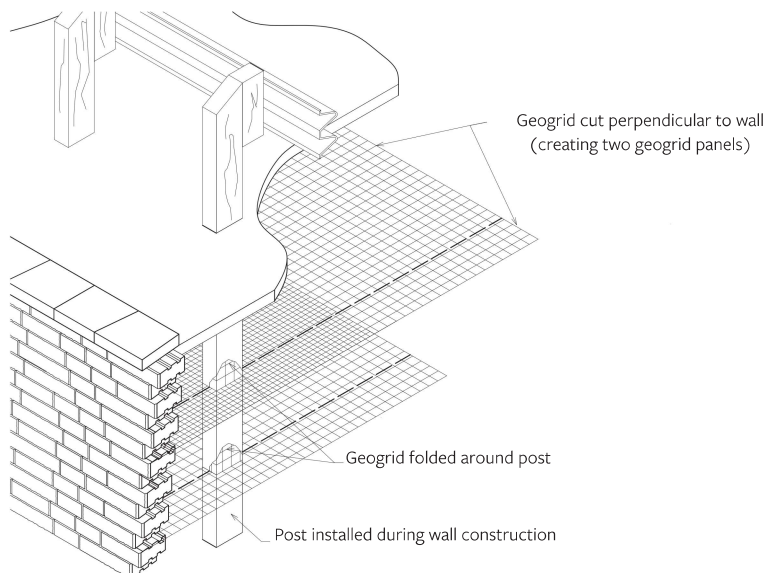
### Fencing

Fencing can be erected behind the blocks. Fence posts must be placed in formwork tubes positioned during construction of the wall and then filled with concrete. The geogrid may be cut to accommodate installation of the tubes. Cut the geogrid in alignment with the center of the formwork tube and perpendicular to the wall, thus creating two geogrid panels. Connect the two geogrid panels at the front and back of the formwork tube and bend the geogrid to fit around the formwork.



### Guard Rail

As with fencing, a guardrail can be incorporated behind the blocks. The guardrail posts must be installed during construction of the wall. The geogrid is cut perpendicular to the wall and in alignment with the center of the post, thus creating two geogrid panels. These two panels are connected at the front and back of the post. The geogrid can be bent to fit around the post.



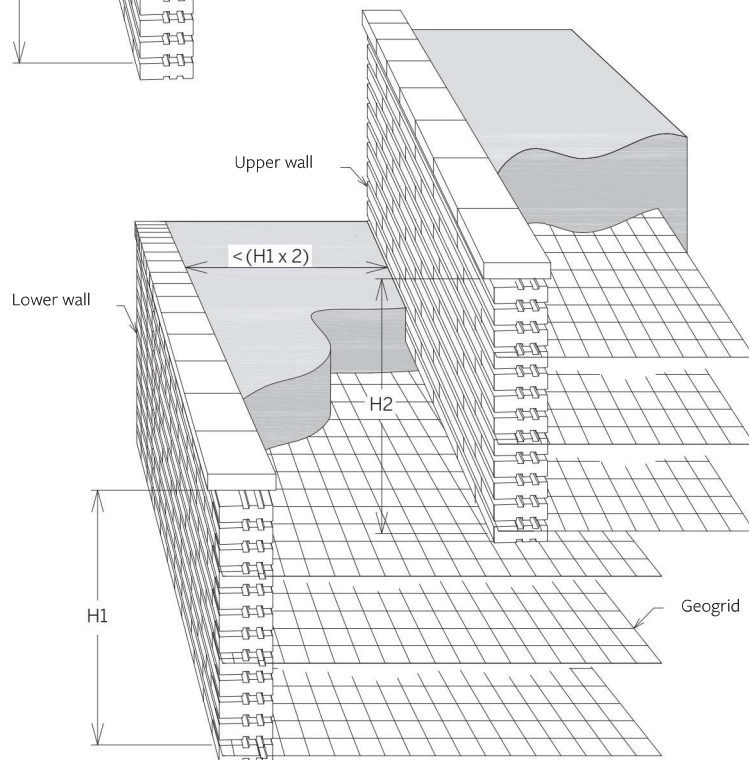
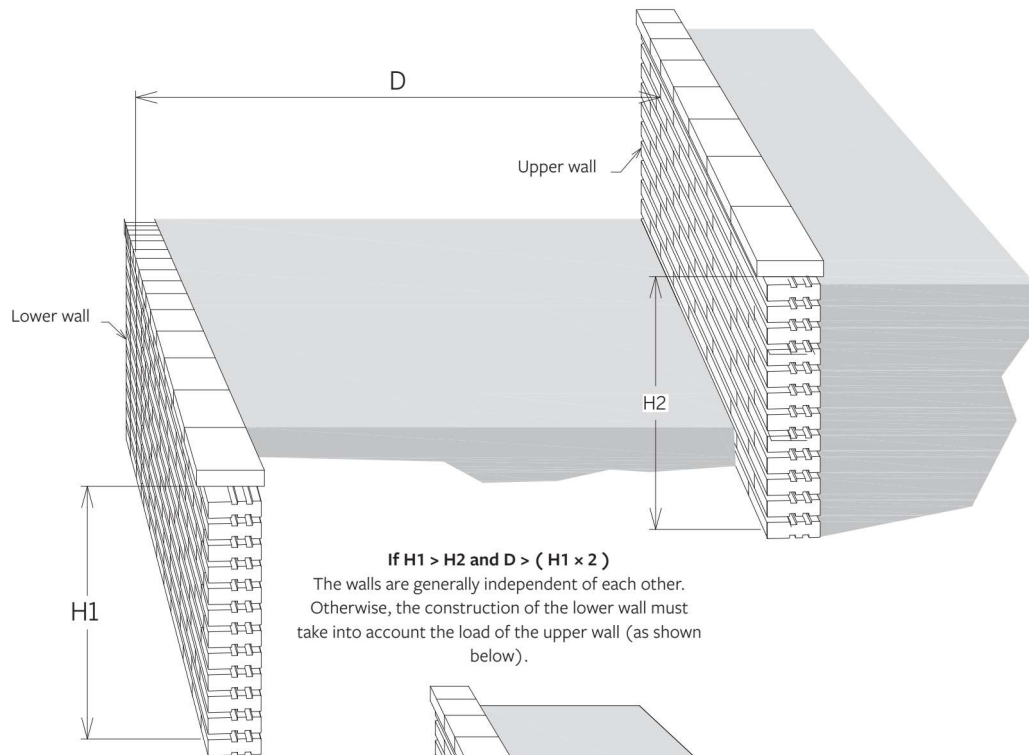


# INSTALLATION GUIDE

## RETAINING WALLS

### Tiered Wall

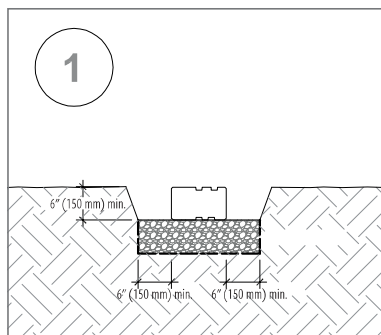
Although tiered walls look appealing, it is important to take into account the additional load the upper wall applies on the lower wall. If the distance between the walls is at least twice the height of the lower wall, the walls are generally independent of each other. However, if this distance is less the lower wall must be built to take account of the load of the upper wall and geogrids may be required.



# INSTALLATION GUIDE

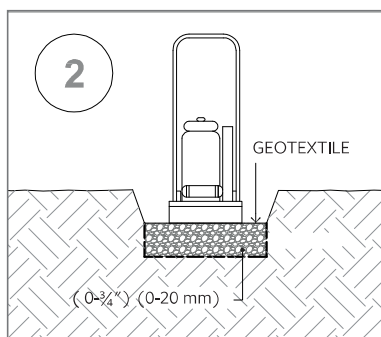
## FREESTANDING WALLS

### Installation Outline



#### 01 EXCAVATION

- A. Check the location of existing structures and utilities before starting the excavation.
- B. Dig out a trench. The trench should be 12" wider than the block width (6" (150 mm) at the front and at the back of the wall).
- C. The trench should be a minimum 12" (300mm) deep. This depth will provide 6" (150mm) for the compacted base and a minimum 6" (150mm) free-standing wall embedment.
- D. In areas where unstable soils or one particularly affected by freeze-thaw cycles, a thicker compacted base may be necessary.
- E. The foundation soil should be checked to make sure it is firm, level and capable of supporting the freestanding wall.

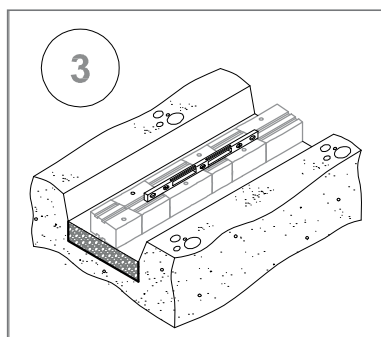


#### 02 FOUNDATION

- A. Cover the excavated area with a geotextile. Create a leveling pad of compacted aggregate base material. The pad should be composed of 0-3/4" (0-20 mm) crushed stone with a minimum thickness of 6" (150 mm).

#### NOTE FOR STEPPED FOUNDATION

A wall built on an incline requires stepped foundations. For steep inclines, several steps may be required. Construction should start at the lowest level. Each of the steps must follow a level horizontal path and the vertical distance separating the successive steps must equal the height of a block.



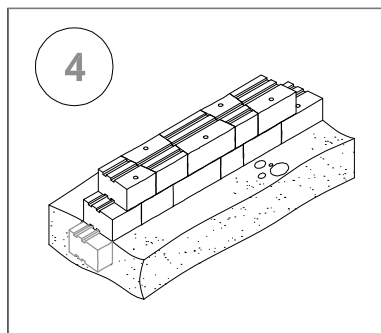
#### 03 BUILDING THE FIRST COURSE

- A. Using blocks of the same height, place the first course on the compacted leveling pad according to the predetermined layout. Check the alignment and leveling in all directions and make sure that all the blocks are in full contact with the leveling pad and properly supported.
- B. Place the blocks side by side. There must be no space between adjacent blocks. For alignment of straight walls, use a string line aligned on the connector's slots of applicable units, or back of the block of full solid units.
- C. For tapered units, alternate front and back faces to obtain straight walls.

# INSTALLATION GUIDE

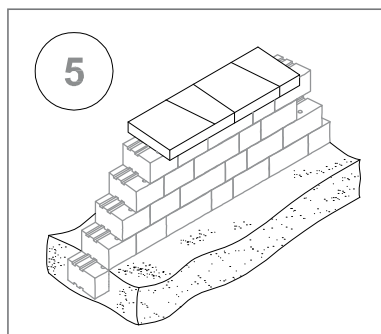
## FREESTANDING WALLS

### Installation Outline



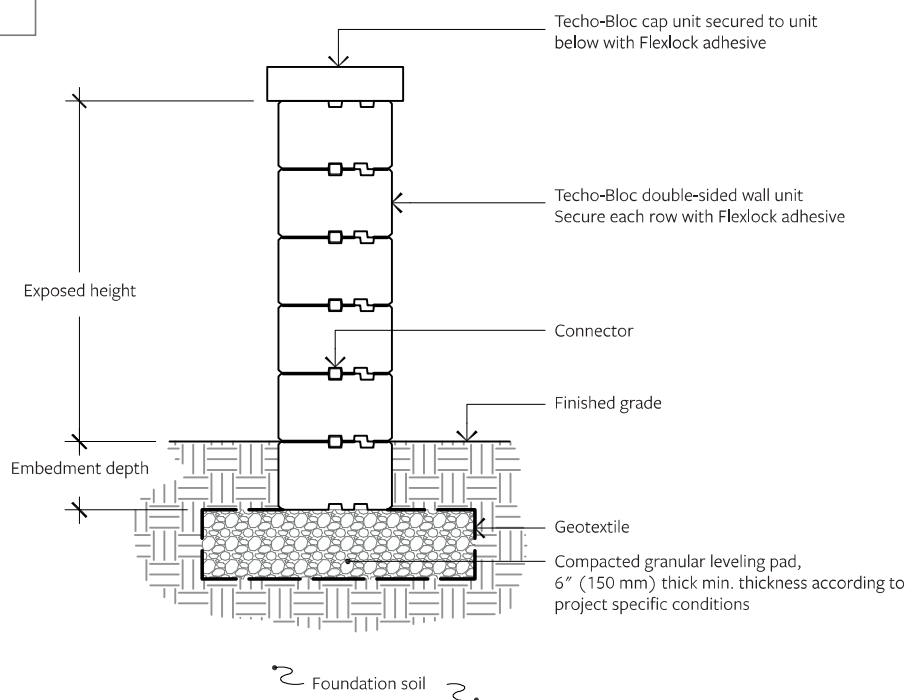
#### 04 SUBSEQUENT COURSES

- A. Clean the top of each block before laying the next course. Depending on the type of block, install the connectors if available on each block.
- B. Stagger joints from one row to the next.
- C. Glue all modules at each row with a concrete adhesive for securing.
- D. All Free-standing walls must be installed in vertical position.
- E. Any cavities in the blocks must be filled with  $\frac{3}{4}$ " (20 mm) clean stone.
- F. Continue building to the desired and permissible height.



#### 05 FINISHING

- A. Position the cap units (if applicable) or the final course of blocks to complete the wall. The cap units (if applicable) or final course of blocks must be fixed to the subjacent blocks using concrete adhesive and there must be no space between the blocks.





# INSTALLATION GUIDE

## PILLARS

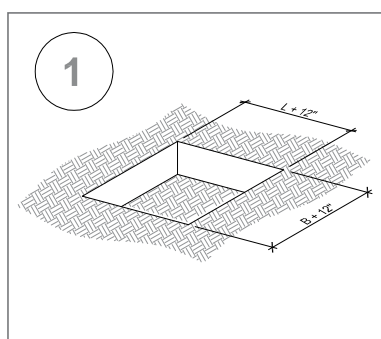
### General Note

It is important to adequately glue each row with a concrete adhesive in order to obtain a stable pillar.

If you are planning to install a light on top of the pillar, make sure you run the electrical wires prior to installing the blocks.

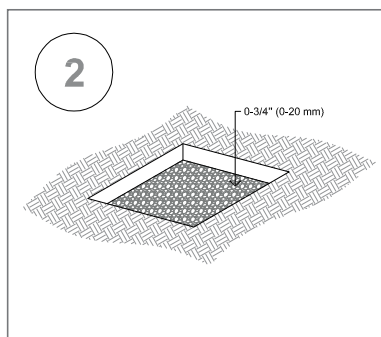
If you are planning to build a pillar with a planter, make sure to install a geotextile membrane inside the pillar before filling the cavity with planting soil.

### Installation Outline



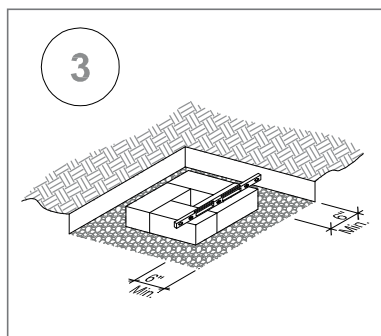
#### 01 EXCAVATION

- A. Check the location of existing structures and utilities before starting the excavation.
- B. Excavate an area that is 12" (300 mm) wider than the pillar (6" [150 mm] at each side of the pillar).
- C. The excavated area should be a minimum 12" (300mm) deep. This depth will provide 6" (150mm) for the compacted base and a minimum 6" (150mm) of embedment.
- D. In areas where unstable soils or one particularly affected by freeze-thaw cycles, a thicker compacted base may be necessary.
- E. The foundation soil should be checked to make sure it is firm, level and capable of supporting the pillar.



#### 02 FOUNDATION

- A. Cover the excavated area with a geotextile. Create a leveling pad of compacted granular base material. The pad should be composed of 0-3/4" (0-20 mm) crushed stone with a minimum thickness of 6" (150 mm).



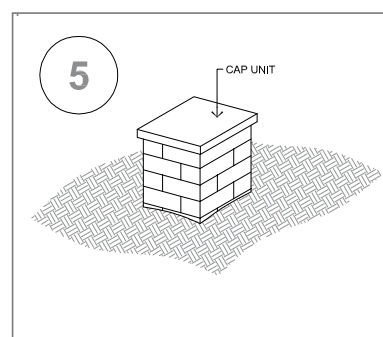
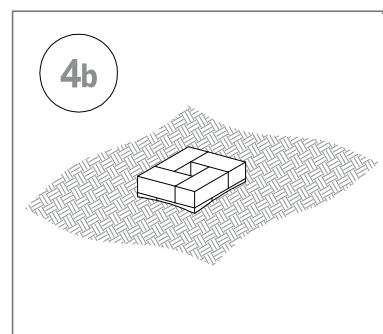
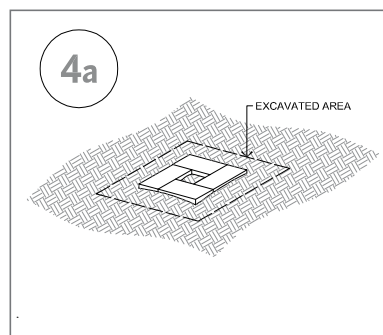
#### 03 BUILDING THE FIRST COURSE

- A. Using the corresponding pillar or corner units, place the first course on the compacted base according to the predetermined layout. Check the alignment and leveling in all directions and make sure that all the blocks are in full contact with the base and properly supported.

# INSTALLATION GUIDE

## PILLARS

### Installation outline

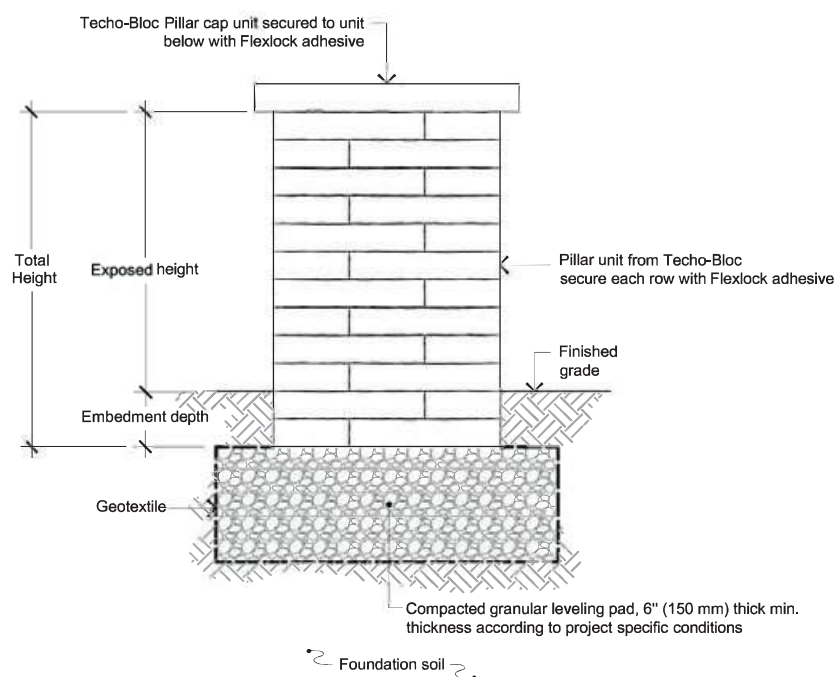


#### 04 SUBSEQUENT COURSES

- Clean the top of each block before laying the next course.
- Stagger joints from one row to the next.
- Glue all modules at each row with a concrete adhesive for securing.
- Backfill the excavated area surrounding the pillar.
- Continue building to desired and permissible height.

#### 05 CROWNING

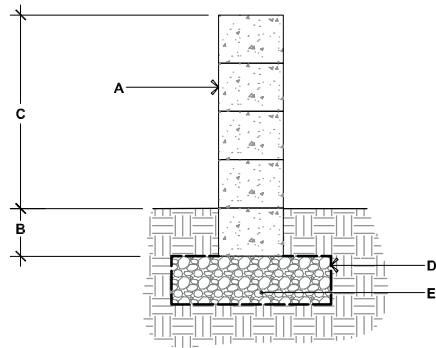
- Crown the pillar using Techo-Bloc Pillar cap units and securing to blocks underneath with a concrete adhesive.



# INSTALLATION GUIDE

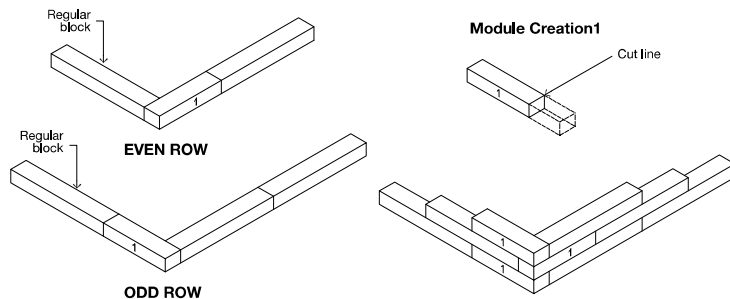
## FREESTANDING WALLS- BOREALIS

### BOREALIS



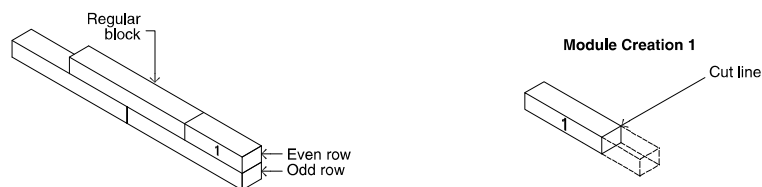
- A.** BOREALIS DOUBLE-SIDED WALL UNITS  
SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- B.** EMBEDMENT DEPTH, 6" (150 mm) MIN.
- C.** 24" (612 mm) MAX.
- D.** GEOTEXTILE
- E.** COMPACTED GRANULAR LEVELING PAD, 6" (150 mm) THICK MIN. THICKNESS  
ACCORDING TO PROJECT SPECIFIC CONDITIONS

## 90° CORNER OF A DOUBLE-SIDED WALL



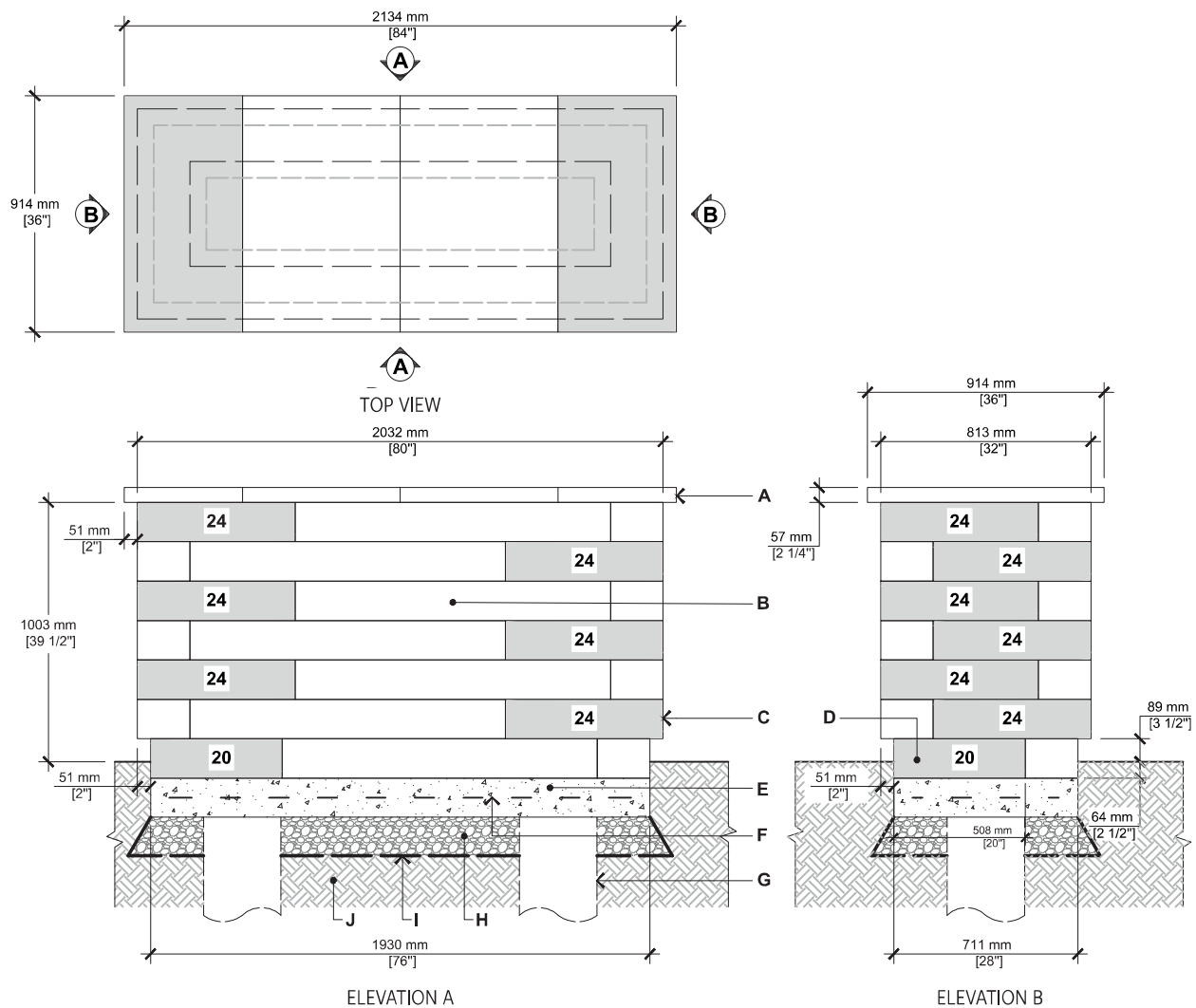
1. Alternate odd and even rows.
2. Stagger joints from one row to the next.
3. Glue all modules at each row with Flexlock adhesive.

## DOUBLE-SIDED WALL - END OF A STRAIGHT WALL



# INSTALLATION GUIDE

## GRILL ISLAND - BOREALIS



- A.** YORK COUNTER TOP 24" X 36" X 2 1/4" (CUT ON FIELD AS REQUIRED)
- B.** BOREALIS WALL UNIT
- C.** BOREALIS WALL UNIT CUT IN HALF (CUT ON FIELD)
- D.** BOREALIS WALL UNIT (CUT ON FIELD AS REQUIRED)
- E.** CAST IN PLACE CONCRETE SLAB 4350 psi (30 MPa), 5" (125 mm) THICK
- F.** 4X4-4/4 (102X102-MW25.8XMW25.8) WELDED WIRE MESH AND/OR REBAR AS PER SITE CONDITIONS
- G.** 12" (300 mm) DIA. CONCRETE PILLAR, AS PER LOCAL CODE
- H.** 3/4" (20 mm) CLEAN STONE
- I.** 6" (150 mm) THICK MIN. AS PER SITE CONDITIONS
- J.** GEOTEXTILE
- J.** NATURAL SOIL OR COMPACTED BACKFILL

### QUANTITY OF MATERIALS REQUIRED

- York Counter top 24" x 36" x 2 1/4": **4**
- Borealis wall unit: **28**

**NOTE:** Appliances and utilities may vary for each project and are not shown on this drawing. This drawing is shown for inspiration only and surplus or shortage of materials may result. It is the user's responsibility to verify for the quantity of materials required. Secure the blocks using a heat resistant concrete adhesive. The installer must ensure that the installation and use of the grill island comply with local regulations and code requirements. Concrete pillars extending to frost line may be required as per local code. Check your local building code before installing.

# TECHO—BLOC

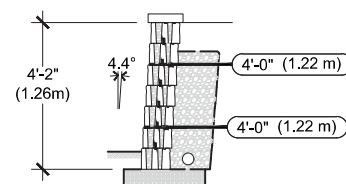
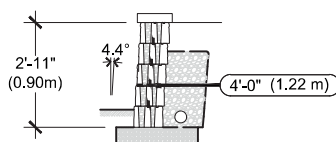
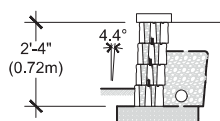
## DESIGN CHART BRANDON 180 mm

(EQUIVALENT TO TWICE THE BRANDON 90 mm)

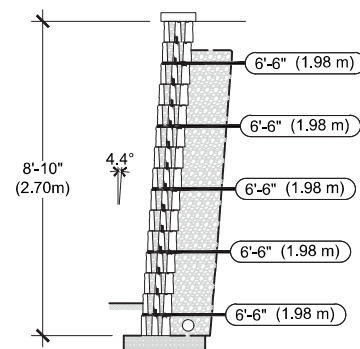
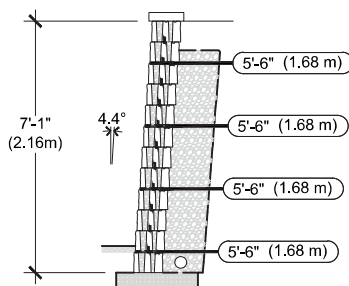
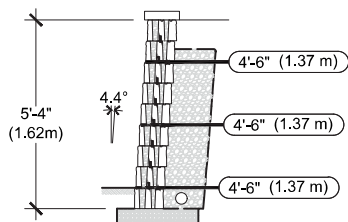
SETBACK VERTICAL

CLEAN SAND/GRAVEL/ SAND AND GRAVEL MIXES ( $\phi=34^\circ$ ,  $\gamma = 120$  pcf)  
GEOGRID: MIRAGRID 3XT BY TENCATE (RFd=1.10, RFcr=1.45, RFid=1.25, Cds=0.9, Ci=0.9)

**CASE N° 1 :**  
No Surcharge  
No Backslope  
No Toe Slope



VISIT [WWW.TECHO-BLOC.COM](http://WWW.TECHO-BLOC.COM) FOR COMPLETE DESIGN CHART DOCUMENT  
(USA AND CANADA VERSIONS)



WALLS & PILARS

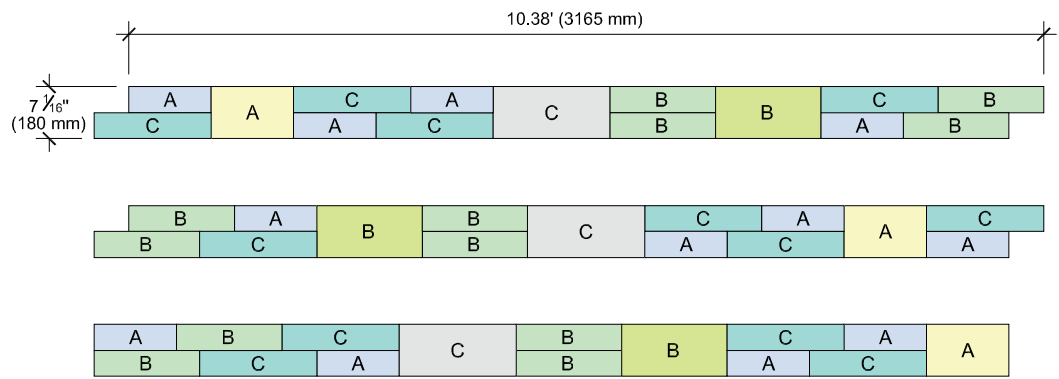
1. The information contained in the design charts is supplied for information purposes only and as such should only be used for preliminary designs.
2. The height (H) of the wall is the total height from the leveling pad to the top of the wall not including the thickness of the cap.
3. Soil parameters: reinforced soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf); retained soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf); foundation soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf)
4. A qualified engineer should be consulted for the final design to be used for construction.
5. The foundation soil must be able to support the wall system. The bearing capacity of the foundation soil, settlement, and global stability must be verified and validated by a qualified geotechnical engineer.
6. The seismic analysis is not included.
7. The design charts do not apply to tiered walls.
8. The charts assume that the walls are constructed in accordance with Techo-Bloc specifications, good construction practice and an adequate drainage system.
9. The geogrid layout has been optimized to satisfy the design requirements of the NCMA's Design Manual for Segmental Retaining Walls, 3rd Edition.
10. The minimum burial depth must be 6 in (150 mm) or 10% of the exposed height, whichever is greater.
11. Engineering judgement should be used when interpolating between heights.
12. Techo-Bloc and its predecessors, successors, beneficiaries, employees, associates, administrators and insurers accepts no liability for the incorrect use of information contained in the design charts.
13. For further information, please contact our technical service department.

# INSTALLATION GUIDE

## RETAINING WALLS - BRANDON 90 & 180 mm

### 1-Row Pattern | Laying Patterns

The 1-row pattern provides three different combinations. Each combination is 10.38' (3.165 m) long and 7 1/16" (180 mm) high. **This pattern can be used for installing the last row of modules or where other patterns cannot be used.**



NUMBER OF BLOCKS REQUIRED

MODULE

**BRANDON**

**A**

**B**

**C**

**67% of the surface** - Brandon 90 mm

4

4

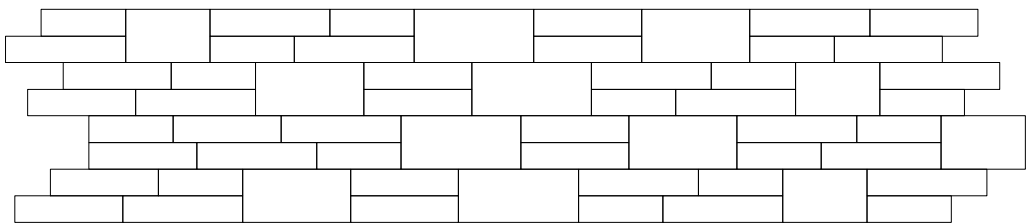
4

**33% of the surface** - Brandon 180 mm

1

1

1

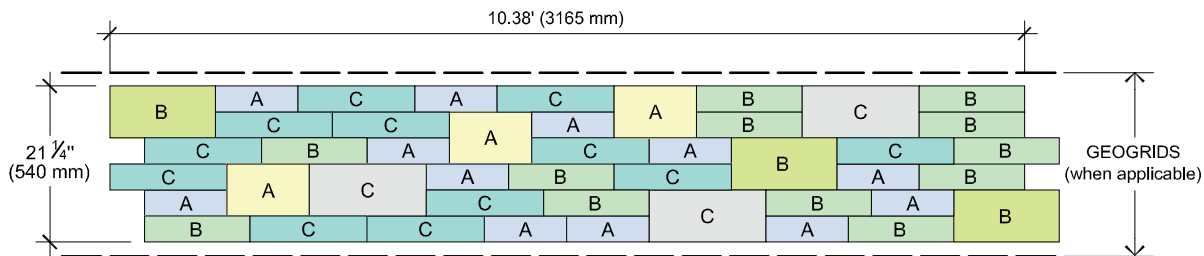


# INSTALLATION GUIDE

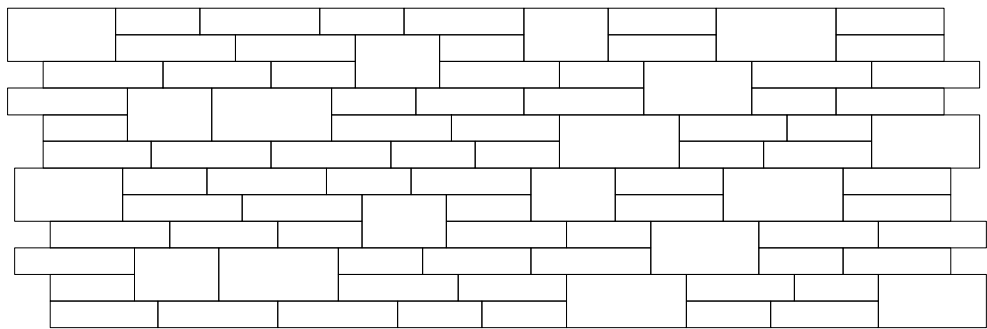
## RETAINING WALLS - BRANDON 90 & 180 mm

### 3-Row Pattern | Laying Patterns

The 3-row pattern is 10.38' (3.165 m) long and 21 1/4" (540 mm) high. This pattern allows a continuous leveled surface every 21 1/4" (540 mm), which corresponds to the recommended maximum spacing between the layers of geogrid in a Brandon wall. **This pattern is recommended when using the geogrid.**



NUMBER OF BLOCKS REQUIRED	MODULE		
	A	B	C
<b>BRANDON</b>			
67% of the surface - Brandon 90 mm	12	12	12
33% of the surface - Brandon 180 mm	3	3	3

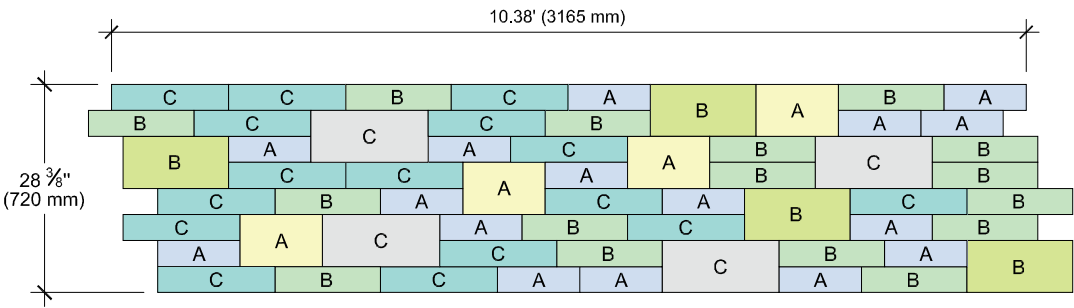


# INSTALLATION GUIDE

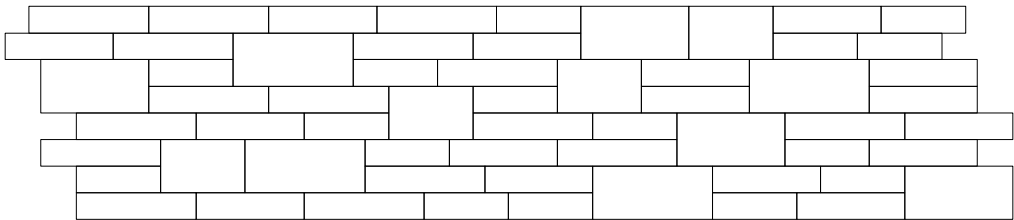
## RETAINING WALLS - BRANDON 90 & 180 mm

### 4-Row Pattern | Laying Patterns

The 4-row pattern is 10.38' (3.165 m) long and 28 3/8" (720 mm) high. **This pattern should be used only where the geogrid is not required.**



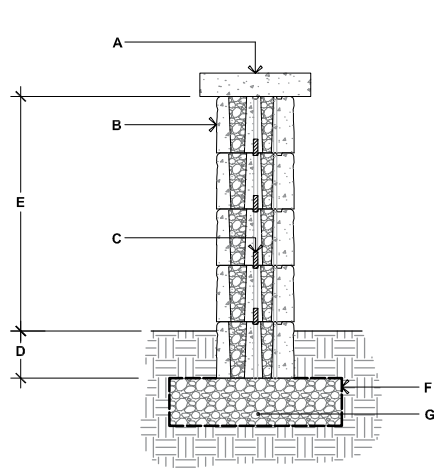
NUMBER OF BLOCKS REQUIRED	MODULE		
	A	B	C
<b>BRANDON</b>			
67% of the surface - Brandon 90 mm	16	16	16
33% of the surface - Brandon 180 mm	4	4	4





# INSTALLATION GUIDE

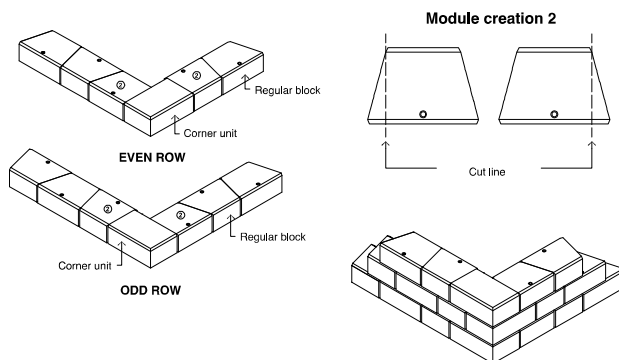
## FREESTANDING WALLS - BRANDON 90 & 180 mm



### BRANDON 90 mm & 180 mm

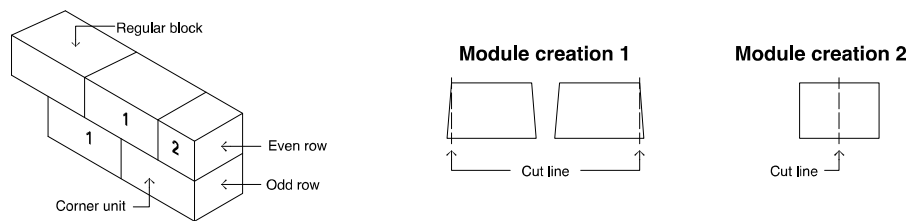
- A.** TECO-BLOC CAP UNIT SECURED TO UNIT BELOW WITH FLEXLOCK ADHESIVE
- B.** BRANDON 90 mm AND 180 mm DOUBLE-SIDED WALL UNITS SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- C.** CONNECTOR
- D.** EMBEDMENT DEPTH, 6" (150 mm) MIN.
- E.** 29 7/16" (750 mm) MAX.
- F.** GEOTEXTILE
- G.** COMPACTED GRANULAR LEVELING PAD, 6" (150 mm) THICK MIN. THICKNESS ACCORDING TO PROJECT SPECIFIC CONDITIONS

## 90° CORNER OF A DOUBLE-SIDED WALL



1. Alternate odd and even rows.
2. Stagger joints from one row to the next.
3. Glue all modules at each row with Flexlock adhesive.
4. Cavities, grooves and connectors are not illustrated to avoid overloading the image.

## DOUBLE-SIDED WALL - END OF A STRAIGHT WALL



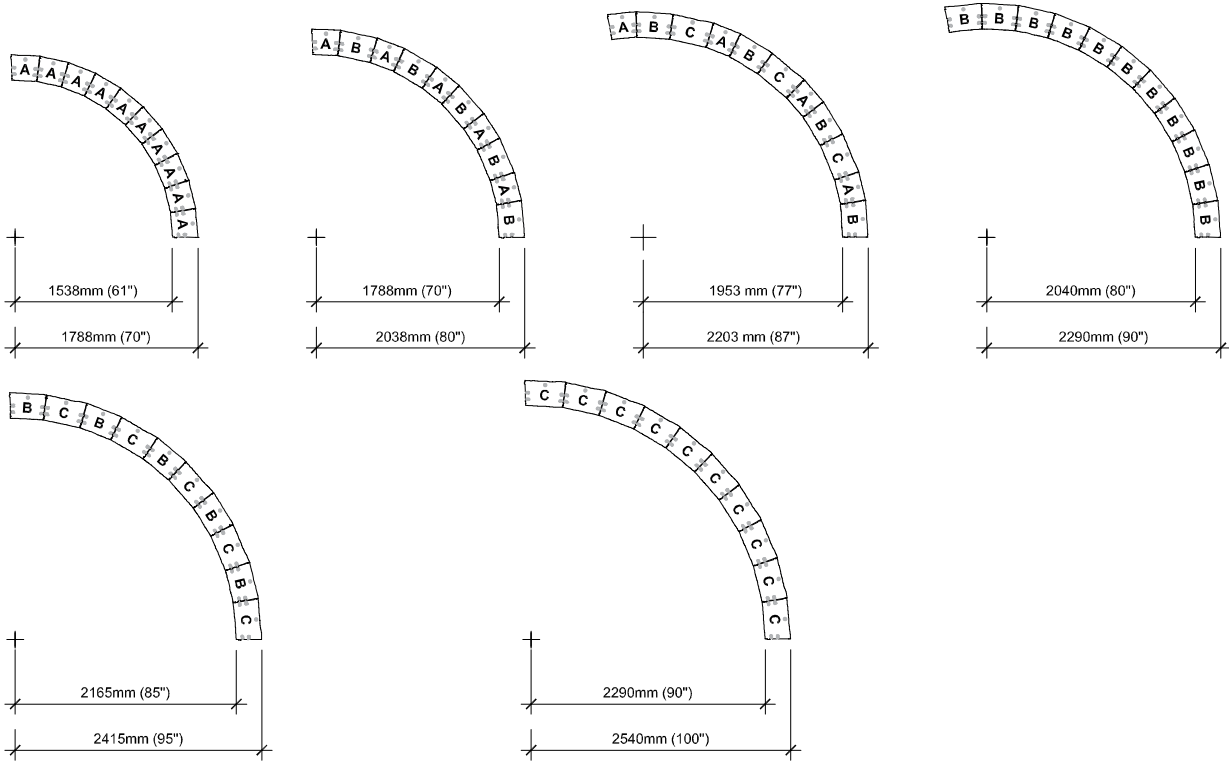
### GENERAL NOTES

1. Alternate odd and even rows.
2. Stagger joints from one row to the next.
3. Glue all modules at each row with Flexlock adhesive.
4. Cavities, grooves and connectors are not illustrated to avoid overloading the image.

PLEASE REFER TO P.4 FOR THE CORRECT USE AND LIMITATIONS OF PROVIDED TECHNICAL INFORMATION.

# INSTALLATION GUIDE

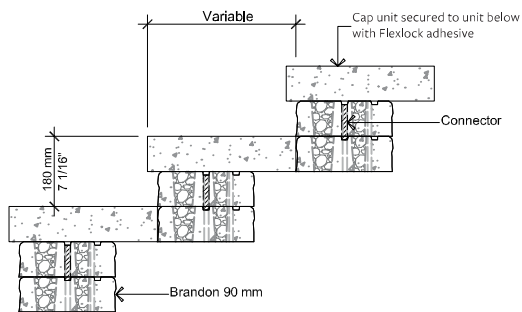
## DOUBLE-SIDED WALL RADIUS - BRANDON 90 & 180 mm



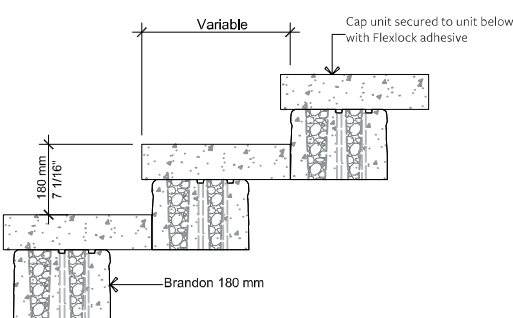
It is the user's responsibility to verify for the quantity of materials required.

### STEPS

#### BRANDON 90 mm



#### BRANDON 180 mm

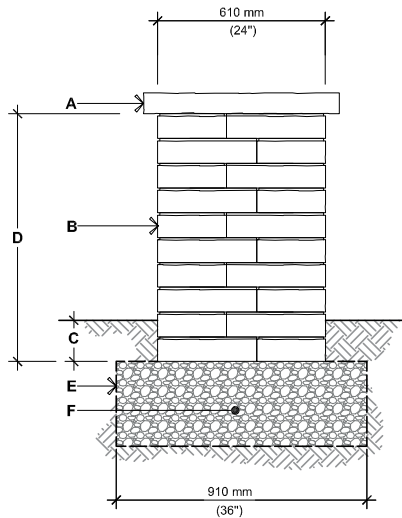


For all possible combinations of pillars and caps, please refer to the correspondence table on page 140

PLEASE REFER TO P.4 FOR THE CORRECT USE AND LIMITATIONS OF PROVIDED TECHNICAL INFORMATION.

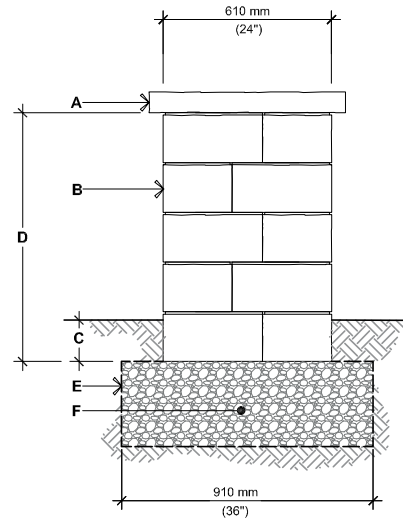
# INSTALLATION GUIDE

## PILLARS - BRANDON 90 & 180 mm



**BRANDON 90 mm**

- A.** PILLAR CAP UNIT, SECURE TO UNITS BELOW WITH FLEXLOCK ADHESIVE
- B.** BRANDON 90 mm PILLAR UNIT  
SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- C.** EMBEDMENT DEPTH: 150 mm (6") MIN.
- D.** 900 mm (35  $\frac{7}{16}$ " ), HEIGHT PER PALLET  
1 080 mm (42  $\frac{1}{2}$ " ), MAXIMUM HEIGHT
- E.** GEOTEXTILE
- F.** COMPACTED GRANULAR BASE 150 mm (6")  
THICK MIN. THICKNESS ACCORDING TO  
PROJECT SPECIFIC CONDITIONS



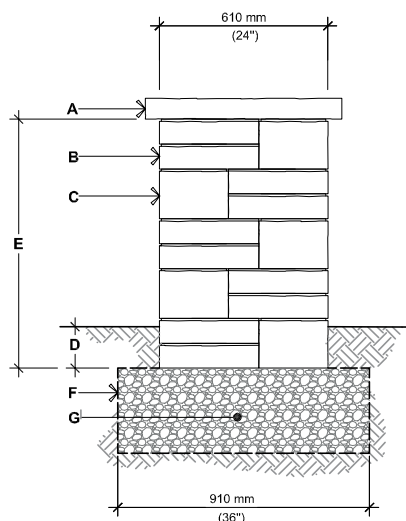
**BRANDON 180 mm**

- A.** PILLAR CAP UNIT, SECURE TO UNITS BELOW WITH FLEXLOCK ADHESIVE
- B.** BRANDON 180 mm PILLAR UNIT  
SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- C.** EMBEDMENT DEPTH: 150 mm (6") MIN.
- D.** 900 mm (35  $\frac{7}{16}$ " ), HEIGHT PER PALLET  
1 080 mm (42  $\frac{1}{2}$ " ), MAXIMUM HEIGHT
- E.** GEOTEXTILE
- F.** COMPACTED GRANULAR BASE 150 mm (6")  
THICK MIN. THICKNESS ACCORDING TO  
PROJECT SPECIFIC CONDITIONS

For all possible combinations of pillars and caps, please refer to the correspondence table on page 140

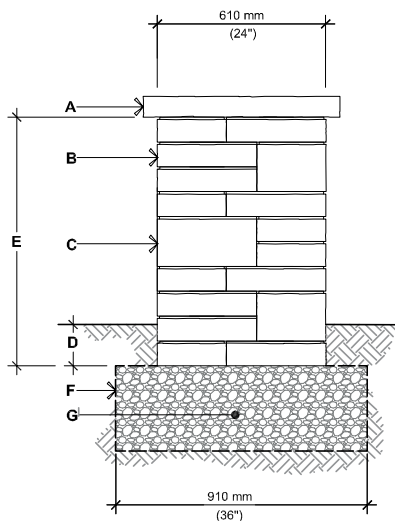
# INSTALLATION GUIDE

## PILLARS - BRANDON 90 & 180 mm



**BRANDON 90 mm & 180 mm**  
OPTION A

- A.** PILLAR CAP UNIT, SECURE TO UNITS BELOW WITH FLEXLOCK ADHESIVE
- B.** BRANDON 90 mm PILLAR UNIT  
SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- C.** BRANDON 180 mm PILLAR UNIT  
SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- D.** EMBEDMENT DEPTH: 150 mm (6") MIN.
- E.** 900 mm (35 7/16"),  
1 080 mm (42 1/2"), MAXIMUM HEIGHT
- F.** GEOTEXTILE
- G.** COMPACTED GRANULAR BASE 150 mm (6")  
THICK MIN. THICKNESS ACCORDING TO  
PROJECT SPECIFIC CONDITIONS



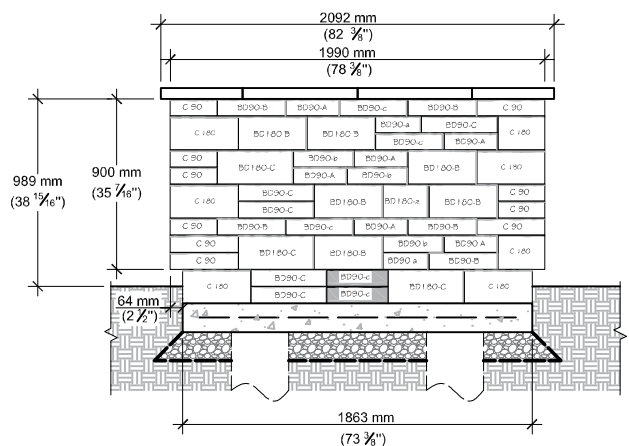
**BRANDON 90 mm & 180 mm**  
OPTION B

- A.** PILLAR CAP UNIT, SECURE TO UNITS BELOW WITH FLEXLOCK ADHESIVE
- B.** BRANDON 90 mm PILLAR UNIT  
SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- C.** BRANDON 180 mm PILLAR UNIT  
SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- D.** EMBEDMENT DEPTH: 150 mm (6") MIN.
- E.** 900 mm (35 7/16"),  
1 080 mm (42 1/2"), MAXIMUM HEIGHT
- F.** GEOTEXTILE
- G.** COMPACTED GRANULAR BASE 150 mm (6")  
THICK MIN. THICKNESS ACCORDING TO  
PROJECT SPECIFIC CONDITIONS

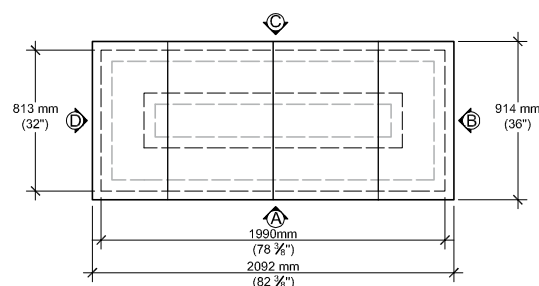
For all possible combinations of pillars and caps, please refer to the correspondence table on page 140

PLEASE REFER TO P.4 FOR THE CORRECT USE AND LIMITATIONS OF PROVIDED TECHNICAL INFORMATION.

## GRILL ISLAND - BRANDON 90 & 180 mm









ELEVATION A



TOP VIEW

- A.** YORK COUNTER TOP 24" × 36" × 2 1/4"
- B.** BRANDON 90 mm UNIT (A, B OR C) – LONG FACE EXPOSED (SHOWN WITH UPPERCASE LETTER)
- C.** BRANDON 90 mm UNIT (A, B OR C) – SHORT FACE EXPOSED (SHOWN WITH LOWERCASE LETTER)
- D.** BRANDON 180 mm UNIT (A, B OR C) – LONG FACE EXPOSED (SHOWN WITH UPPERCASE LETTER)
- E.** BRANDON 180 mm UNIT (A, B OR C) – SHORT FACE EXPOSED (SHOWN WITH LOWERCASE LETTER)
- F.** BRANDON 90 mm PILLAR UNIT
- G.** BRANDON 180 mm PILLAR UNIT
- H.** BRANDON UNIT CUT ON FIELD
- I.** CAST IN PLACE CONCRETE SLAB 4350 psi (30 MPa), 5" (125 mm) THICK
- J.** 4X4-4/4 (102X102-MW25.8XMW25.8) WELDED WIRE MESH AND/OR REBAR AS PER SITE CONDITIONS
- K.** 12" (300 mm) DIA. CONCRETE PILLAR, AS PER LOCAL CODE
- L.** 3/4" (20 mm) CLEAN STONE 6" (150 mm) THICK MIN. AS PER SITE CONDITIONS
- M.** NATURAL SOIL OR COMPACTED BACKFILL
- N.** GEOTEXTILE

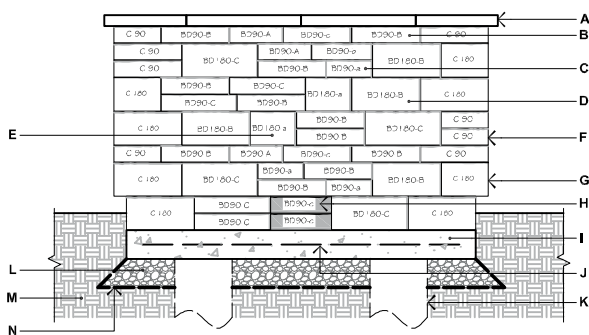
### QUANTITY OF MATERIALS REQUIRED

- York Counter top 24" x 36" x 2 1/4": **4**
- Brandon 90 mm unit: **20** , **20** , **18** 
- Brandon 180 mm unit: **10** , **10** , **9** 
- Brandon 90 mm Pillar unit: **18**
- Brandon 180 mm Pillar unit: **15**

**NOTE:** Appliances and utilities may vary for each project and are not shown on this drawing. This drawing is shown for inspiration only and surplus or shortage of materials may result. It is the user's responsibility to verify for the quantity of materials required. Secure the blocks using a heat resistant concrete adhesive. The installer must ensure that the installation and use of the grill island comply with local regulations and code requirements. Concrete pillars extending to frost line may be required as per local code. Check your local building code before installing.

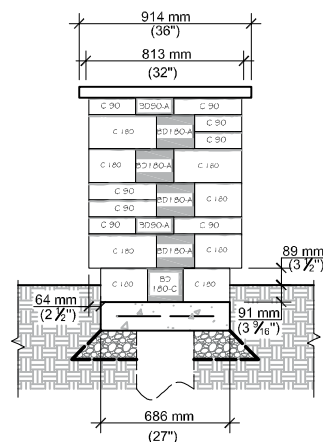
# INSTALLATION GUIDE

## GRILL ISLAND - BRANDON 90 & 180 mm - Cont'd

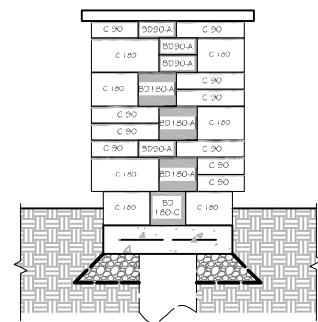


ELEVATION C

- A.** YORK COUNTER TOP 24" x 36" x 2 1/4"
- B.** BRANDON 90 mm UNIT (A, B OR C) - LONG FACE EXPOSED (SHOWN WITH UPPERCASE LETTER)
- C.** BRANDON 90 mm UNIT (A, B OR C) - SHORT FACE EXPOSED (SHOWN WITH LOWERCASE LETTER)
- D.** BRANDON 180 mm UNIT (A, B OR C) - LONG FACE EXPOSED (SHOWN WITH UPPERCASE LETTER)
- E.** BRANDON 180 mm UNIT (A, B OR C) - SHORT FACE EXPOSED (SHOWN WITH LOWERCASE LETTER)
- F.** BRANDON 90 mm PILLAR UNIT
- G.** BRANDON 180 mm PILLAR UNIT
- H.** BRANDON UNIT CUT ON FIELD
- I.** CAST IN PLACE CONCRETE SLAB 4350 psi (30 MPa), 5" (125 mm) THICK
- J.** 4X4-4/4 (102X102-MW25.8XMW25.8) WELDED WIRE MESH AND/OR REBAR AS PER SITE CONDITIONS
- K.** 12" (300 mm) DIA. CONCRETE PILLAR, AS PER LOCAL CODE
- L.** 3/4" (20 mm) CLEAN STONE 6" (150 mm) THICK MIN. AS PER SITE CONDITIONS
- M.** NATURAL SOIL OR COMPACTED BACKFILL
- N.** GEOTEXTILE



ELEVATION B



ELEVATION D

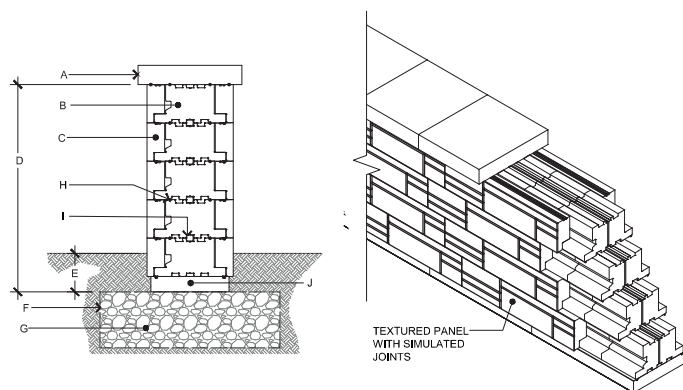
### QUANTITY OF MATERIALS REQUIRED

- York Counter top 24" x 36" x 2 1/4": **4**
- Brandon 90 mm unit: **20 A**, **20 B**, **18 C**
- Brandon 180 mm unit: **10 A**, **10 B**, **9 C**
- Brandon 90 mm Pillar unit: **18**
- Brandon 180 mm Pillar unit: **15**

**NOTE:** Appliances and utilities may vary for each project and are not shown on this drawing. This drawing is shown for inspiration only and surplus or shortage of materials may result. It is the user's responsibility to verify for the quantity of materials required. Secure the blocks using a heat resistant concrete adhesive. The installer must ensure that the installation and use of the grill island comply with local regulations and code requirements. Concrete pillars extending to frost line may be required as per local code. Check your local building code before installing.

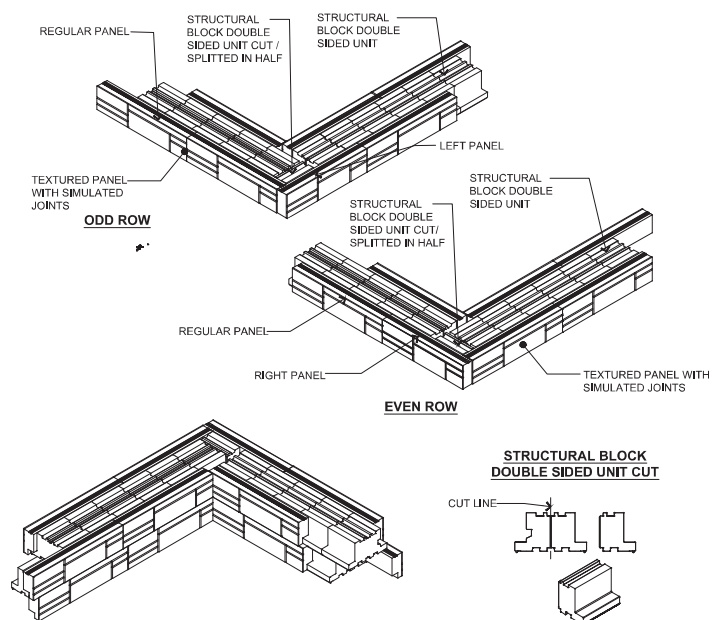
# INSTALLATION GUIDE

## FREESTANDING WALL



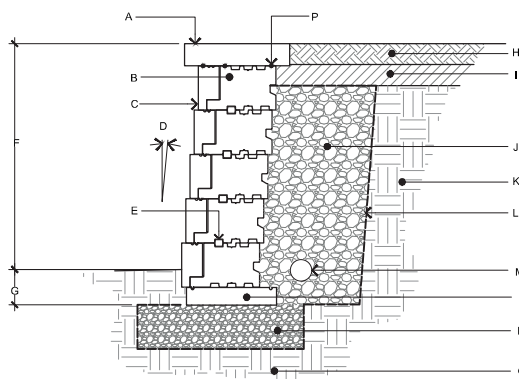
- A. TECO-BLOC CAP UNIT SECURED TO CORE AND PANEL BELOW WITH FLEXLOCK ADHESIVE
- B. STRUCTURAL BLOCK DOUBLE-SIDED UNIT
- C. PANEL UNIT
- D. 29 1/2" (750 mm) MAX.
- E. EMBEDMENT DEPTH 6" (150 mm) MIN.
- F. GEOTEXTILE
- G. COMPACTED GRANULAR BASE 6" (150 mm) MIN. THICKNESS ACCORDING TO PROJECT SPECIFICATIONS
- H. FLEXLOCK ADHESIVE
- I. HDPE HORIZONTAL KEY
- J. BASE UNIT

## FREESTANDING WALL - 90° CORNER



1. ALTERNATE ODD AND EVEN ROWS.
2. STAGGER STRUCTURAL BLOCKS JOINTS FROM ONE ROW TO THE NEXT.
3. GLUE ALL STRUCTURAL BLOCKS AT EACH ROW WITH FLEXLOCK ADHESIVE.
4. APPLY FLEXLOCK ADHESIVE ON TOP OF UPPERMOST PANEL UNITS TO FIX CAP UNITS.
5. STRUCTURAL BLOCK DOUBLE SIDED UNIT CUT / SPLITTED IN HALF MUST ALWAYS BE PRESENT AT THE CORNER OF THE WALL.

## GRAVITY RETAINING WALL

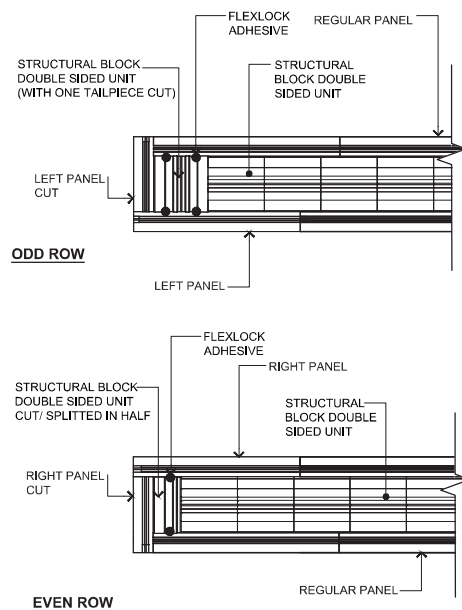


- A. TECO-BLOC CAP UNIT SECURED TO UNIT BELOW WITH FLEXLOCK ADHESIVE
- B. STRUCTURAL BLOCK SINGLE SIDED UNIT
- C. PANEL UNIT
- D. WALL INCLINATION (5.3°)
- E. HDPE HORIZONTAL KEY
- F. EXPOSED HEIGHT
- G. EMBEDMENT DEPTH
- H. TOP SOIL
- I. LOW PERMEABILITY SOIL
- J. 3/4" (20 mm) CLEAN STONE 14" (350mm) THICK MIN.
- K. RETAINED SOIL
- L. GEOTEXTILE
- M. PERFORATED DRAIN
- N. LEVELING PAD
- O. FOUNDATION SOIL
- P. FLEXLOCK ADHESIVE
- Q. BASE UNIT

PLEASE REFER TO P.4 FOR THE CORRECT USE AND LIMITATIONS OF PROVIDED TECHNICAL INFORMATION.

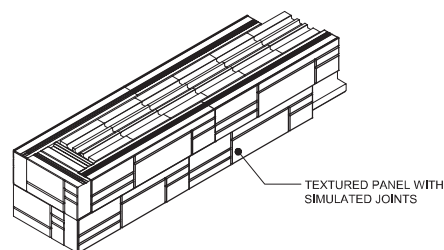
# INSTALLATION GUIDE

## FREESTANDING END OF A STRAIGHT WALL (OPTION 1)

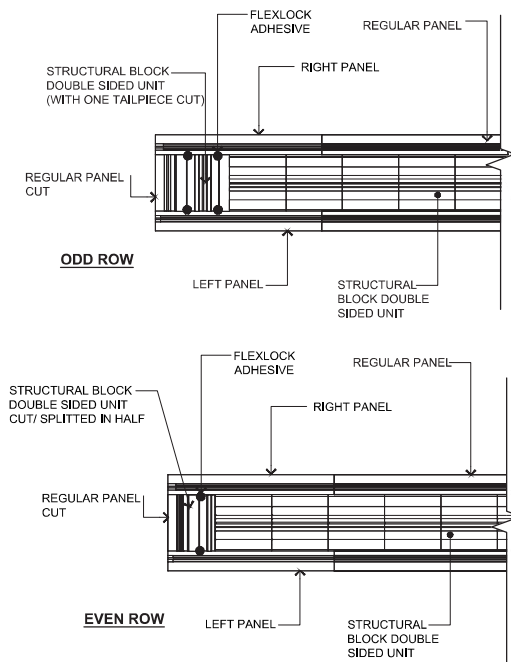


### NOTES:

1. ALTERNATE ODD AND EVEN ROWS.
2. STAGGER STRUCTURAL BLOCKS JOINTS FROM ONE ROW TO THE NEXT.
3. GLUE ALL STRUCTURAL BLOCKS AT EACH ROW WITH FLEXLOCK ADHESIVE.
4. APPLY FLEXLOCK ADHESIVE ON TOP OF UPPERMOST PANEL UNITS TO FIX CAP UNITS.

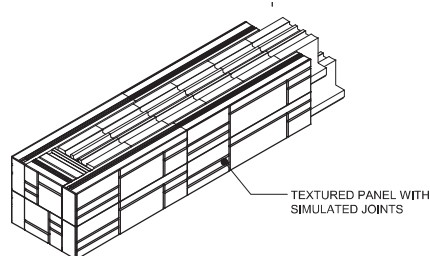


## FREESTANDING END OF A STRAIGHT WALL (OPTION 2)



### NOTES:

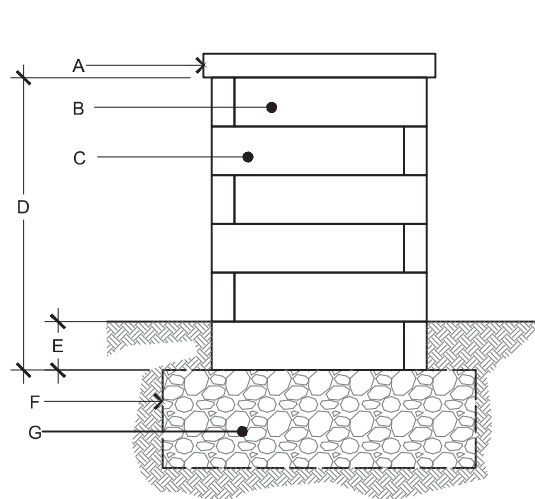
1. ALTERNATE ODD AND EVEN ROWS.
2. STAGGER STRUCTURAL BLOCKS JOINTS FROM ONE ROW TO THE NEXT.
3. GLUE ALL STRUCTURAL BLOCKS AT EACH ROW WITH FLEXLOCK ADHESIVE.
4. APPLY FLEXLOCK ADHESIVE ON TOP OF UPPERMOST PANEL UNITS TO FIX CAP UNITS.



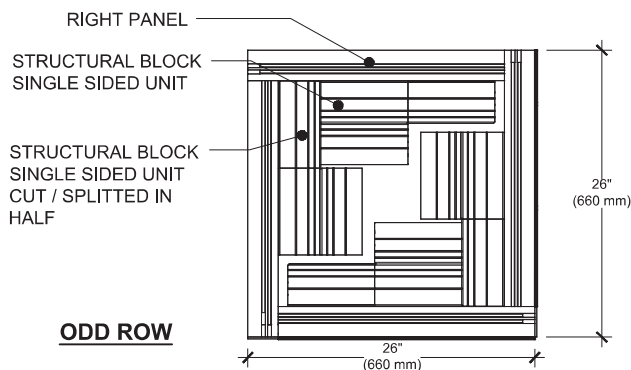
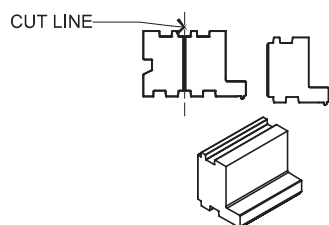


# INSTALLATION GUIDE

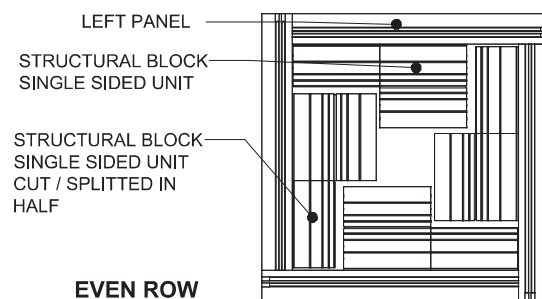
## PILLARS - FASCIA WALL COLLECTION



### STRUCTURAL BLOCK SINGLE SIDED UNIT CUT / SPLITTED IN HALF



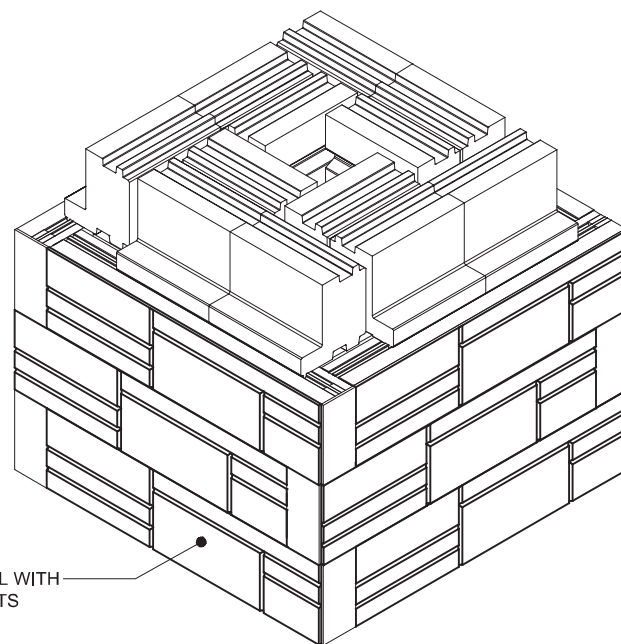
### ODD ROW



### EVEN ROW

**NOTE:** SECURE EACH ROW WITH FLEXLOCK ADHESIVE.

- A. PILLAR CAP UNIT SECURED TO CORE AND PANEL BELOW WITH FLEXLOCK ADHESIVE
- B. RIGHT PANEL
- C. LEFT PANEL
- D. 35 7/16" (900 mm) MAX HEIGHT
- E. EMBEDMENT DEPTH 6" (150 mm) MIN.
- F. GEOTEXTILE
- G. COMPACTED GRANULAR BASE 6" (150 mm) MIN. THICKNESS ACCORDING TO PROJECT SPECIFICATIONS.



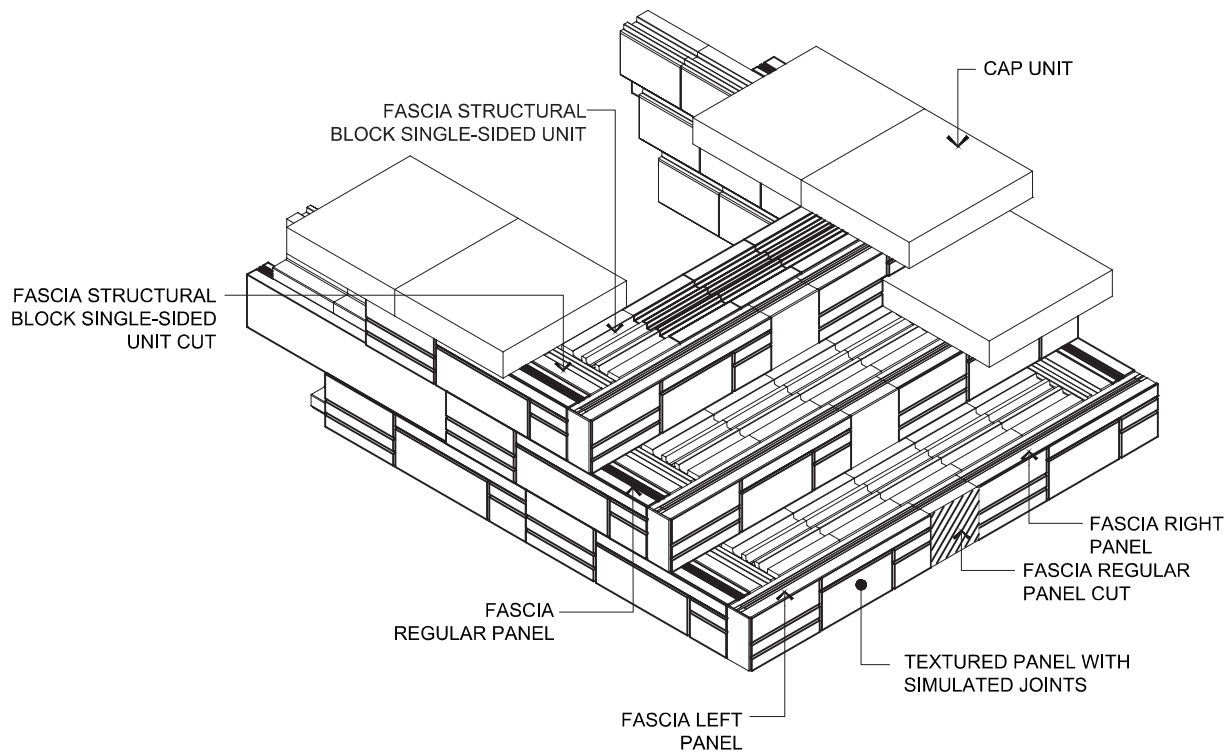
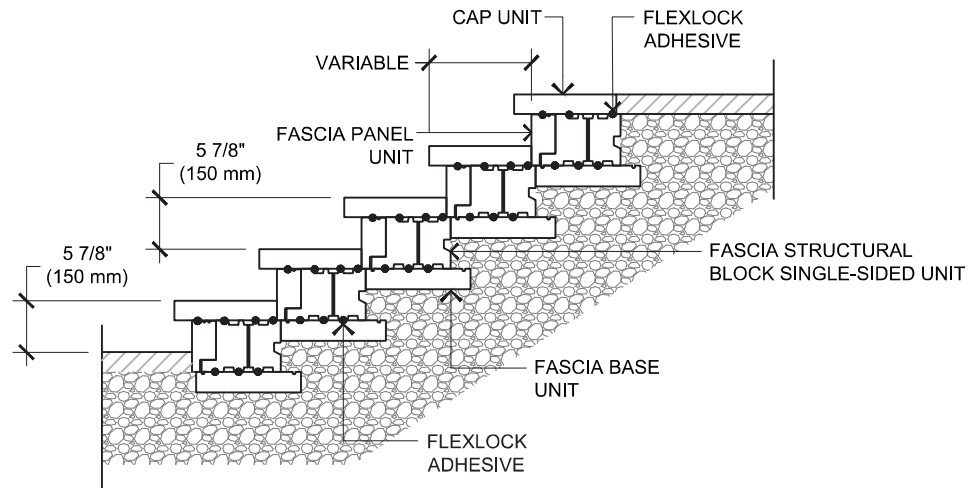
TEXTURED PANEL WITH  
SIMULATED JOINTS

For all possible combinations of pillars and caps, please refer to the correspondence table on page 140

PLEASE REFER TO P.4 FOR THE CORRECT USE AND LIMITATIONS OF PROVIDED TECHNICAL INFORMATION.

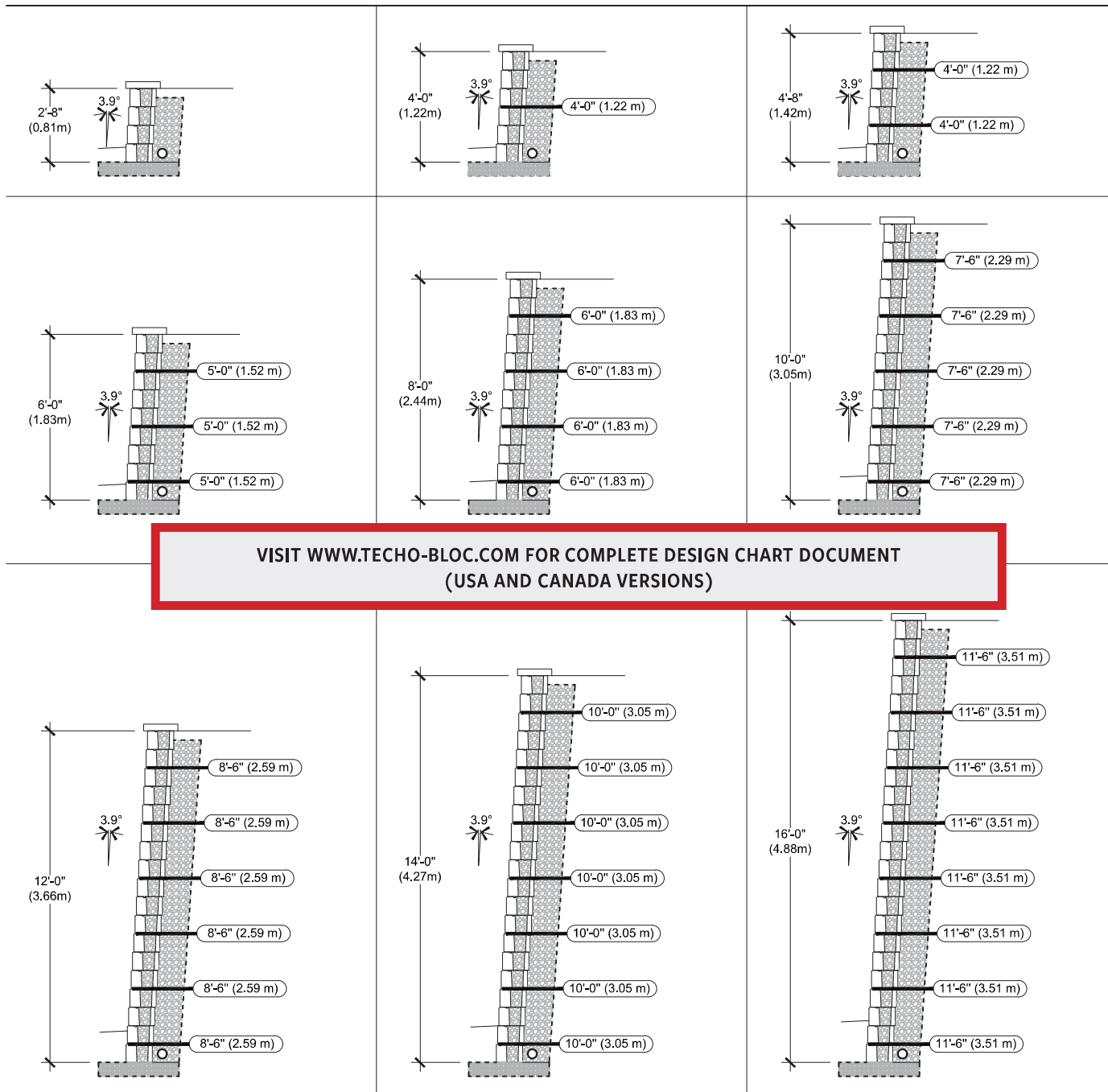
# INSTALLATION GUIDE

## STEPS - FASCIA WALL COLLECTION



CLEAN SAND/GRAVEL/ SAND AND GRAVEL MIXES ( $\phi=34^\circ$ ,  $\gamma = 120$  pcf)  
GEOGRID: MIRAGRID 3XT BY TENCATE (RFd=1.10, RFcr=1.45, RFid=1.25, Cds=0.9, Ci=0.9)

**CASE N° 1 :**  
No Surcharge  
No Backslope  
No Toe Slope

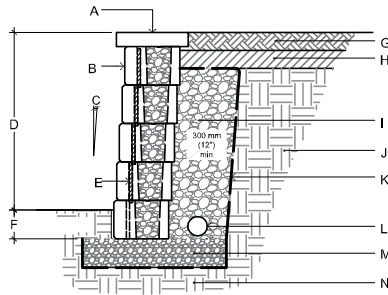


VISIT [WWW.TECHO-BLOC.COM](http://WWW.TECHO-BLOC.COM) FOR COMPLETE DESIGN CHART DOCUMENT  
(USA AND CANADA VERSIONS)

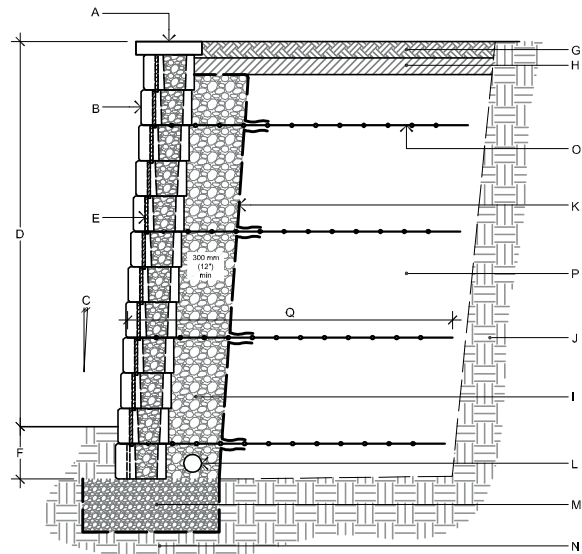
- The information contained in the design charts is supplied for information purposes only and as such should only be used for preliminary designs.
- The height (H) of the wall is the total height from the leveling pad to the top of the wall not including the thickness of the cap.
- Soil parameters: reinforced soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf); retained soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf); foundation soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf)
- A qualified engineer should be consulted for the final design to be used for construction.
- The foundation soil must be able to support the wall system. The bearing capacity of the foundation soil, settlement, and global stability must be verified and validated by a qualified geotechnical engineer.
- The seismic analysis is not included.
- The design charts do not apply to tiered walls.
- The charts assume that the walls are constructed in accordance with Techo-Bloc specifications, good construction practice and an adequate drainage system.
- The geogrid layout has been optimized to satisfy the design requirements of the NCMA's Design Manual for Segmental Retaining Walls, 3rd Edition.
- The minimum burial depth must be 6 in (150 mm) or 10% of the exposed height, whichever is greater.
- Engineering judgement should be used when interpolating between heights.
- Techo-Bloc and its predecessors, successors, beneficiaries, employees, associates, administrators and insurers accepts no liability for the incorrect use of information contained in the design charts.
- For further information, please contact our technical service department.

# INSTALLATION GUIDE

## GRAVITY AND REINFORCED WALLS - G-FORCE



GRAVITY WALL DETAIL

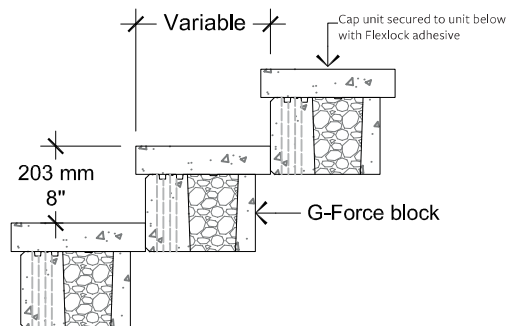


REINFORCED WALL DETAIL

- A. CAP FROM TECO-BLOC
- B. G-FORCE BLOCK FROM TECO-BLOC
- C. WALL INCLINATION (3.9°)
- D. EXPOSED HEIGHT
- E. HDPE VERTICAL KEY
- F. EMBEDMENT DEPTH
- G. TOP SOIL
- H. LOW PERMEABILITY SOIL
- I. 3/4" (20 mm) CLEAN STONE

- J. RETAINED SOIL
- K. GEOTEXTILE
- L. PERFORATED DRAIN
- M. LEVELING PAD
- N. FOUNDATION SOIL
- O. GEOGRID
- P. REINFORCED SOIL
- Q. GEOGRID LENGTH

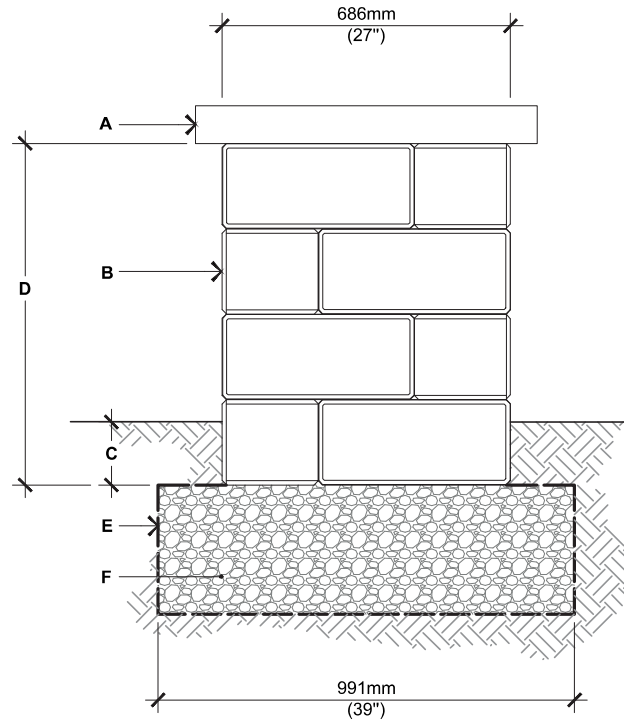
## STEPS - G-FORCE



For all possible combinations of pillars and caps, please refer to the correspondence table on page 140

# INSTALLATION GUIDE

## PILLARS - G-FORCE



### G-FORCE PILLAR

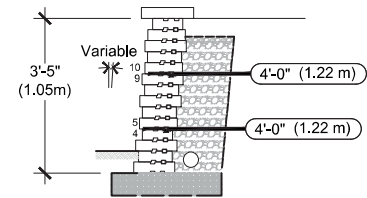
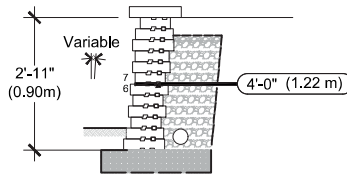
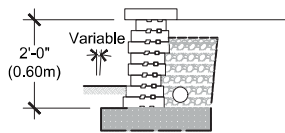
- A.** PILLAR CAP UNIT  
(SECURE WITH FLEXLOCK ADHESIVE)
- B.** G-FORCE UNIT SECURE EACH ROW WITH  
FLEXLOCK ADHESIVE
- C.** EMBEDMENT 6" (150 mm) MIN.
- D.** 32" (813 mm) HEIGHT PER PALLET  
48" (1219 mm), MAX. HEIGHT
- E.** GEOTEXTILE
- F.** COMPACTED GRANULAR BASE 6"  
(150 mm THICK MIN. THICKNESS ACCORDING  
TO PROJECT SPECIFIC CONDITIONS)

For all possible combinations of pillars and caps, please refer to the correspondence table on page 140

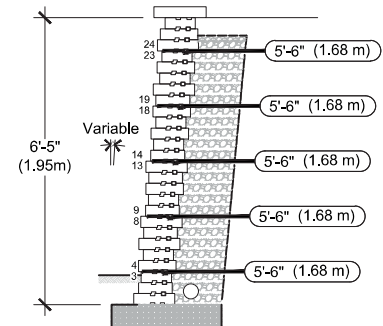
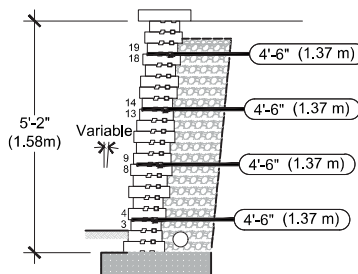
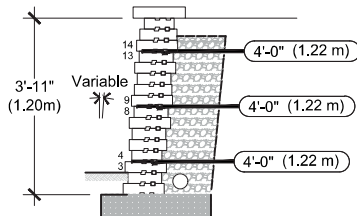
PLEASE REFER TO P.4 FOR THE CORRECT USE AND LIMITATIONS OF PROVIDED TECHNICAL INFORMATION.

CLEAN SAND/GRAVEL/ SAND AND GRAVEL MIXES ( $\phi=34^\circ$ ,  $\gamma = 120$  pcf)  
GEOGRID: MIRAGRID 2XT BY TENCATE (RFd=1.10, RFcr=1.45, RFid=1.25, Cds=0.9, Ci=0.9)

**CASE N° 1 :**  
No Surcharge  
No Backslope  
No Toe Slope



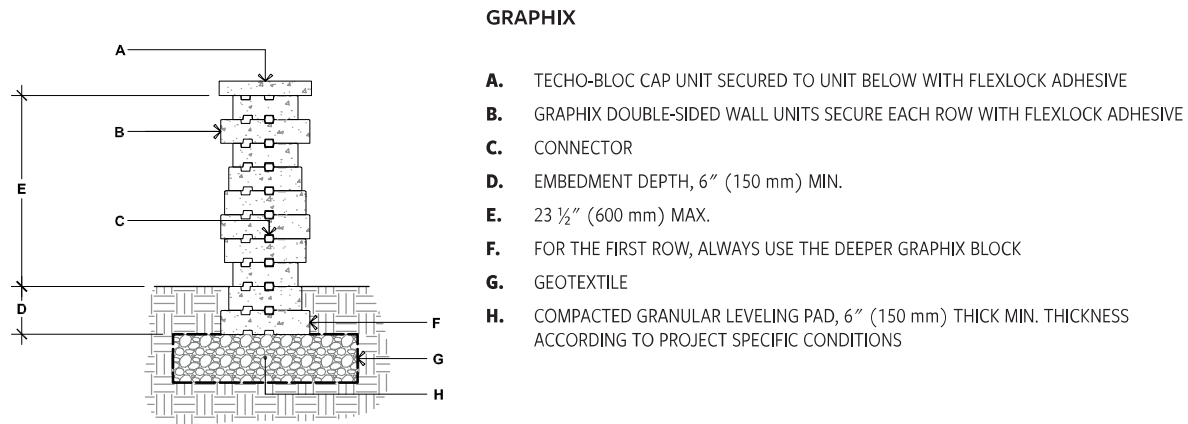
VISIT [WWW.TECHO-BLOC.COM](http://WWW.TECHO-BLOC.COM) FOR COMPLETE DESIGN CHART DOCUMENT  
(USA AND CANADA VERSIONS)



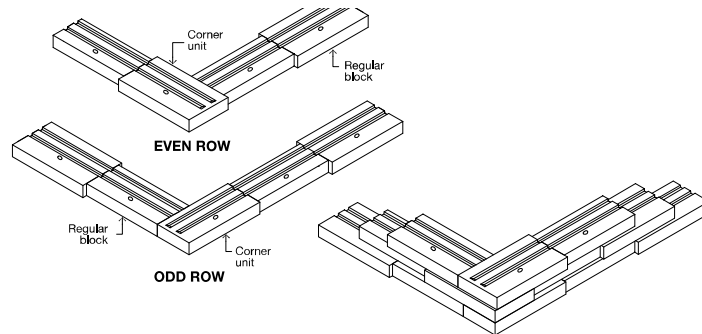
1. The information contained in the design charts is supplied for information purposes only and as such should only be used for preliminary designs.
2. The height (H) of the wall is the total height from the leveling pad to the top of the wall not including the thickness of the cap.
3. Soil parameters: reinforced soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf); retained soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf); foundation soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf)
4. A qualified engineer should be consulted for the final design to be used for construction.
5. The foundation soil must be able to support the wall system. The bearing capacity of the foundation soil, settlement, and global stability must be verified and validated by a qualified geotechnical engineer.
6. The seismic analysis is not included.
7. The design charts do not apply to tiered walls.
8. The charts assume that the walls are constructed in accordance with Tehco-Bloc specifications, good construction practice and an adequate drainage system.
9. The geogrid layout has been optimized to satisfy the design requirements of the NCMA's Design Manual for Segmental Retaining Walls, 3rd Edition.
10. The minimum burial depth must be 6 in (150 mm) or 10% of the exposed height, whichever is greater.
11. Engineering judgement should be used when interpolating between heights.
12. Tehco-Bloc and its predecessors, successors, beneficiaries, employees, associates, administrators and insurers accepts no liability for the incorrect use of information contained in the design charts.
13. For further information, please contact our technical service department.

# INSTALLATION GUIDE

## FREESTANDING WALLS - GRAPHIX

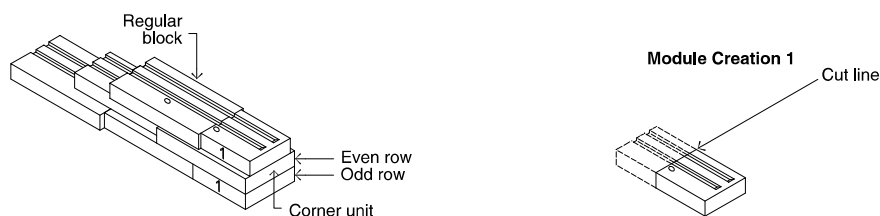


## 90° CORNER OF A DOUBLE-SIDED WALL



1. Alternate odd and even rows.
2. Stagger joints from one row to the next.
3. Glue all modules at each row with Flexlock adhesive.
4. Connectors are not illustrated to avoid overloading the image.
5. It is possible to alternate the blocks (1, 2, 3 or 4) in the same row to create different patterns. However, a corner block (1A, 2A, 3A or 4A) must always be present at the end of a row and must be alternated for each subsequent row.
6. At the corner, make sure to place the blocks so that the grooves of the block cannot be seen.

## DOUBLE-SIDED WALL - END OF A STRAIGHT WALL

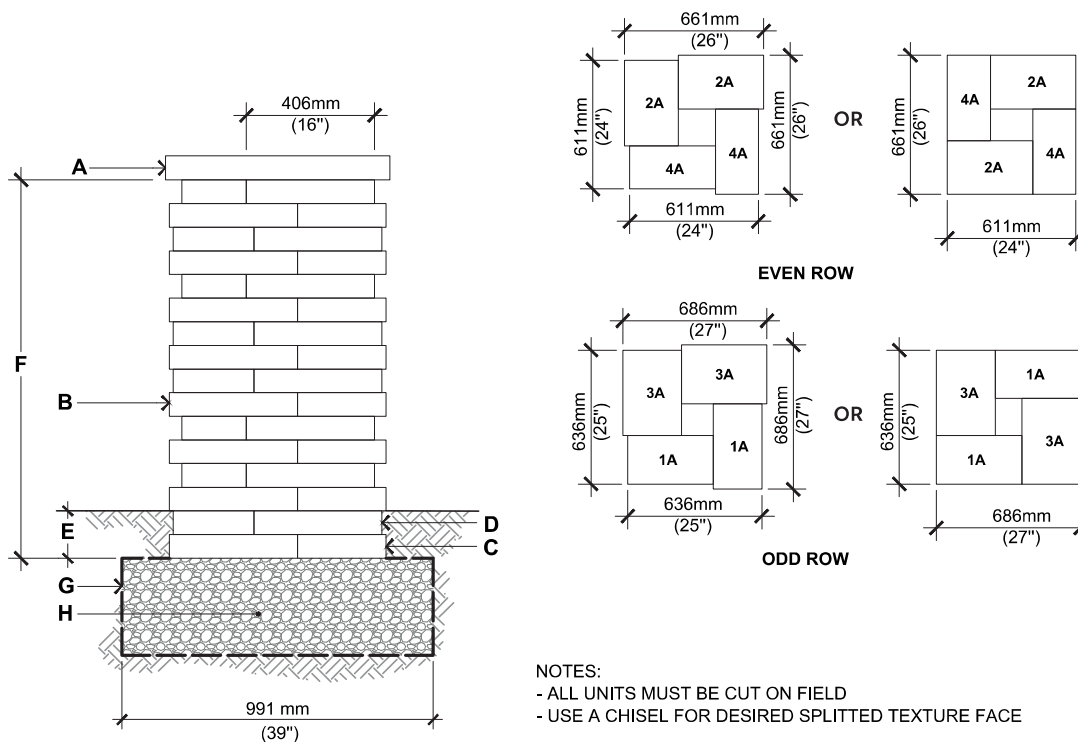


\* It is possible to alternate the blocks (1, 2, 3 or 4) in the same row to create different patterns. However, a corner block and a cut corner block (1A, 2A, 3A or 4A) must always be present at the end of a row and must be alternated for each subsequent row.

PLEASE REFER TO P.4 FOR THE CORRECT USE AND LIMITATIONS OF PROVIDED TECHNICAL INFORMATION.

# INSTALLATION GUIDE

## PILLARS - GRAPHIX



### GRAPHIX

- A.** PILLAR CAP UNIT (SECURE WITH FLEXLOCK ADHESIVE)
- B.** GRAPHIX CORNER UNIT  
SECURE EACH ROW WITH FLEXLOCK ADHESIVE  
CUT EACH BLOCK AT 16" (406 mm) FROM THE CORNER EDGE
- C.** USE THE BLOCKS 1A-3A FOR THE ODD ROWS
- D.** USE THE BLOCKS 2A-4A FOR THE EVEN ROWS
- E.** EMBEDMENT DEPTH 6" (150 mm) MIN.
- F.** 23 <sup>5</sup>/<sub>8</sub>" (600 mm) HEIGHT PER PALLET  
47 <sup>1</sup>/<sub>4</sub>" (1200 mm) MAXIMUM HEIGHT
- G.** GEOTEXTILE
- H.** COMPACTED GRANULAR BASE 6" (150 mm) THICK MIN. THICKNESS  
ACCORDING TO PROJECT SPECIFIC CONDITIONS

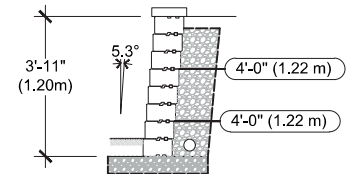
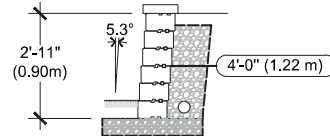
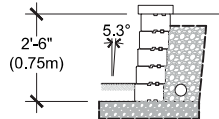
For all possible combinations of pillars and caps, please refer to the correspondence table on page 140

PLEASE REFER TO P.4 FOR THE CORRECT USE AND LIMITATIONS OF PROVIDED TECHNICAL INFORMATION.

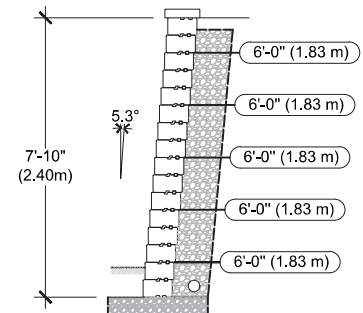
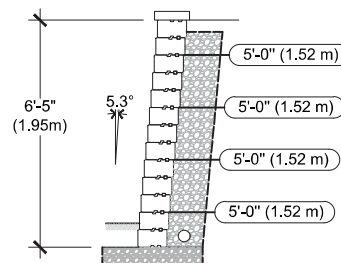
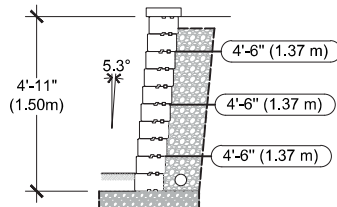


CLEAN SAND/GRAVEL/ SAND AND GRAVEL MIXES ( $\phi=34^\circ$ ,  $\gamma = 120$  pcf)  
GEOGRID: MIRAGRID 3XT BY TENCATE (RFd=1.10, RFcr=1.45, RFid=1.25, Cds=0.9, Ci=0.9)

**CASE N° 1 :**  
No Surcharge  
No Backslope  
No Toe Slope



VISIT [WWW.TECHO-BLOC.COM](http://WWW.TECHO-BLOC.COM) FOR COMPLETE DESIGN CHART DOCUMENT  
(USA AND CANADA VERSIONS)



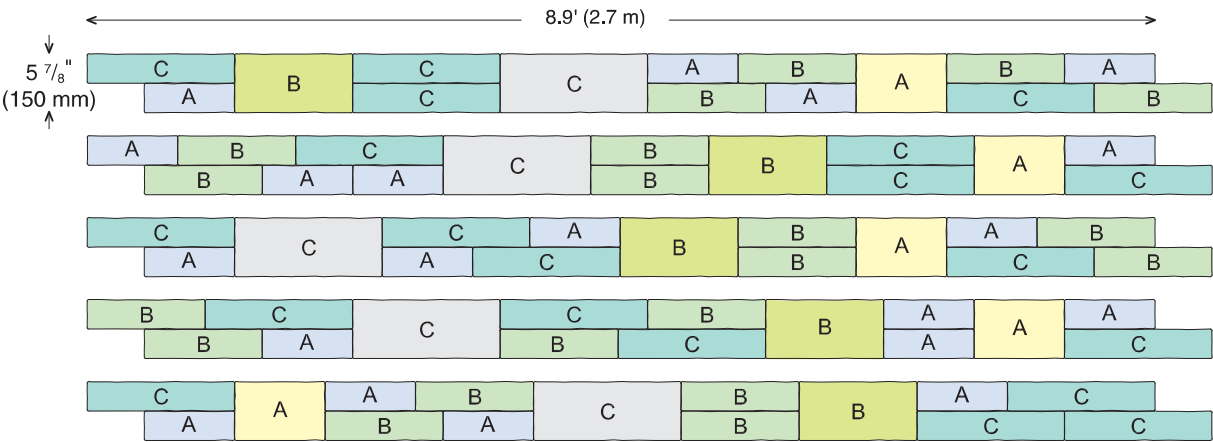
1. The information contained in the design charts is supplied for information purposes only and as such should only be used for preliminary designs.
2. The height (H) of the wall is the total height from the leveling pad to the top of the wall not including the thickness of the cap.
3. Soil parameters: reinforced soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf); retained soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf); foundation soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf)
4. A qualified engineer should be consulted for the final design to be used for construction.
5. The foundation soil must be able to support the wall system. The bearing capacity of the foundation soil, settlement, and global stability must be verified and validated by a qualified geotechnical engineer.
6. The seismic analysis is not included.
7. The design charts do not apply to tiered walls.
8. The charts assume that the walls are constructed in accordance with Teho-Bloc specifications, good construction practice and an adequate drainage system.
9. The geogrid layout has been optimized to satisfy the design requirements of the NCMA's Design Manual for Segmental Retaining Walls, 3rd Edition.
10. The minimum burial depth must be 6 in (150 mm) or 10% of the exposed height, whichever is greater.
11. Engineering judgement should be used when interpolating between heights.
12. Teho-Bloc and its predecessors, successors, beneficiaries, employees, associates, administrators and insurers accepts no liability for the incorrect use of information contained in the design charts.
13. For further information, please contact our technical service department.

# INSTALLATION GUIDE

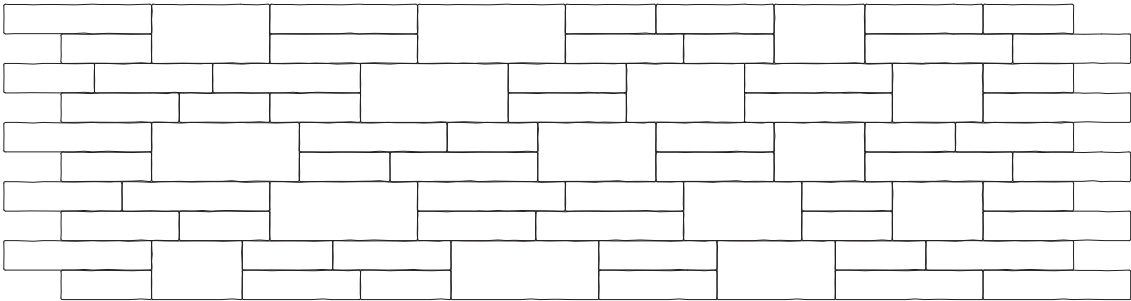
## RETAINING WALLS - MINI-CRETA 3" AND 6"

### 1-Row Pattern | Laying Patterns

The 1-row pattern provides five different combinations. Each combination is 8.9' (2.7 m) long and 5 7/8" (150 mm) high. **This pattern can be used to lay the last course of units or when the other models cannot be used.**



NUMBER OF BLOCKS REQUIRED	MODULE		
	A	B OR B*	C OR D
MINI-CRETA			
67% of the surface - Mini-Creta 3"	4	4	4
33% of the surface - Mini-Creta 6"	1	1	1

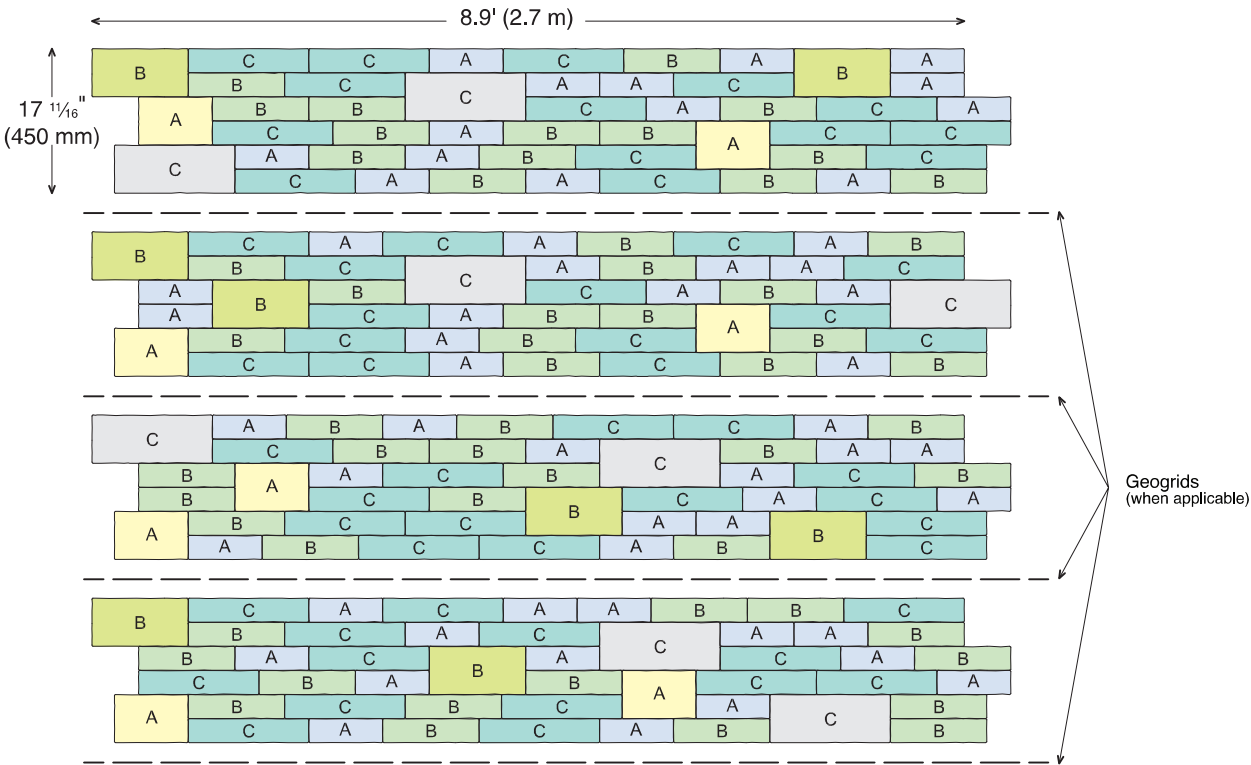


# INSTALLATION GUIDE

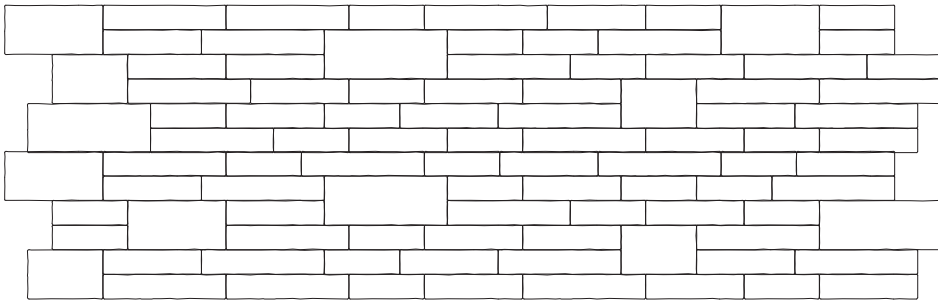
## RETAINING WALLS - MINI-CRETA 3" AND 6"

### 3-Row Pattern | Laying Patterns

The 3-row pattern provides four different combinations. Each combination is 8.9' (2.7 m) long and 17 1/16" (450 mm) high. This pattern gives a leveled surface every 17 1/16" (450 mm), which is the recommended spacing between two layers of geogrid in a Mini-Creta wall. **This pattern is recommended when using geogrid.**



NUMBER OF BLOCKS REQUIRED	MODULE		
	A	B OR B*	C OR D
MINI-CRETA			
78% of the surface - Mini-Creta 3"	14	14	14
22% of the surface - Mini-Creta 6"	2	2	2

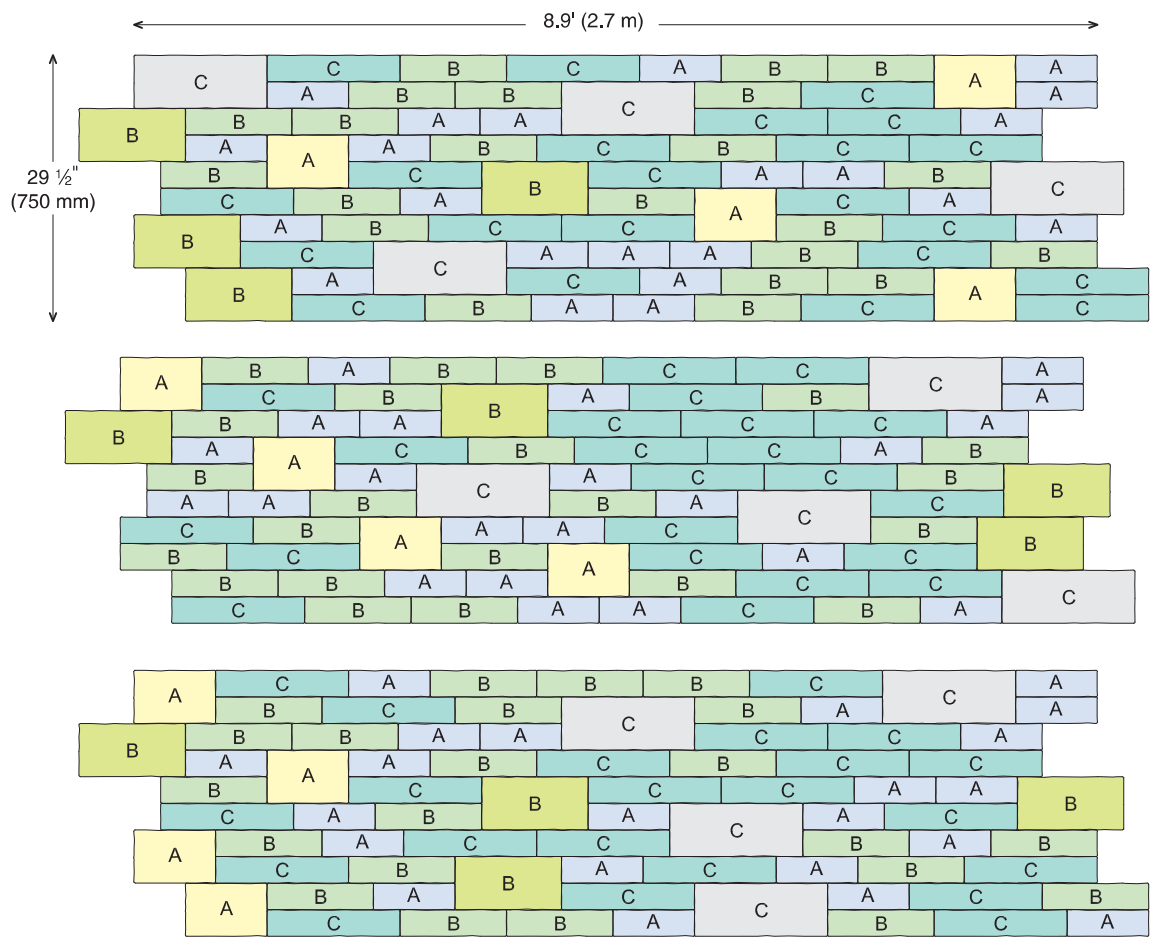


# INSTALLATION GUIDE

## RETAINING WALLS - MINI-CRETA 3" AND 6"

### 5-Row Pattern | Laying Patterns

The 5-row pattern provides three different combinations. Each combination is 8.9' (2.7 m) long and 29 1/2" (750 mm) high. **This pattern should only be used when geogrid is not required.**



NUMBER OF BLOCKS REQUIRED

MODULE

#### MINI-CRETA

73% of the surface - Mini-Creta 3"

27% of the surface - Mini-Creta 6"

A

B OR B\*

C OR D

22

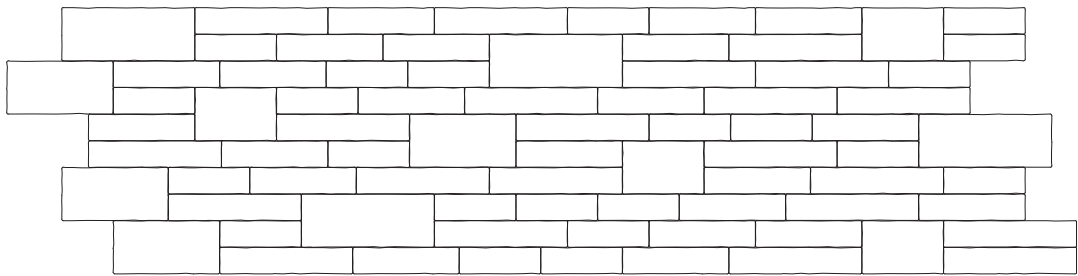
22

22

4

4

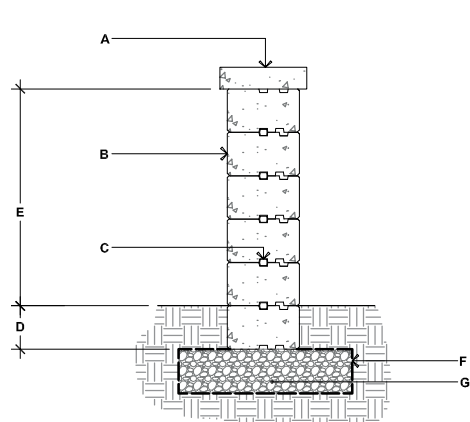
4



PLEASE REFER TO P.4 FOR THE CORRECT USE AND LIMITATIONS OF PROVIDED TECHNICAL INFORMATION.

# INSTALLATION GUIDE

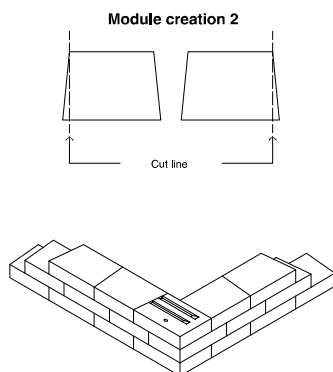
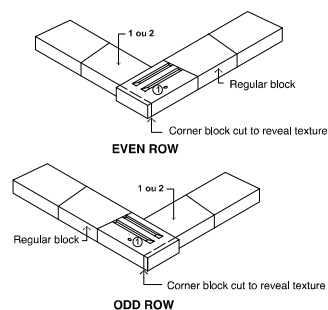
## FREESTANDING WALLS - MINI-CRETA 3" AND 6"



### MINI-CRETA 3" & 6"

- A.** TECO-BLOC CAP UNIT SECURED TO UNIT BELOW WITH FLEXLOCK ADHESIVE
- B.** MINI-CRETA 3" AND 6" DOUBLE-SIDED WALL UNITS SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- C.** CONNECTOR
- D.** EMBEDMENT DEPTH, 6" (150 mm) MIN.
- E.** 29 7/16" (750 mm) MAX.
- F.** GEOTEXTILE
- G.** COMPACTED GRANULAR LEVELING PAD, 6" (150 mm) THICK MIN. THICKNESS ACCORDING TO PROJECT SPECIFIC CONDITIONS

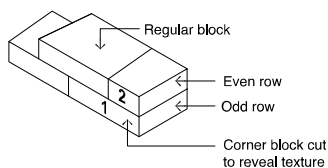
## 90° CORNER OF A DOUBLE-SIDED WALL



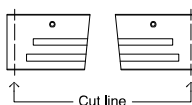
### The corner block must be cut to reveal the texture

1. Alternate odd and even rows.
2. Stagger joints from one row to the next.
3. Glue all modules at each row with Flexlock adhesive.
4. Cavities, grooves and connectors are not illustrated to avoid overloading the image.
5. It is possible to alternate the blocks (A, B or C) in the same row to create different patterns. However, a corner block must always be present at the end of a row and must be alternated for each subsequent row.

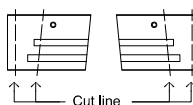
## DOUBLE-SIDED WALL - END OF A STRAIGHT WALL



### Module creation 1



### Module creation 2

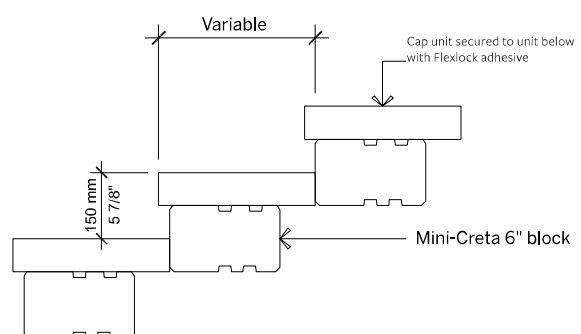


- \* It is possible to alternate the blocks (A, B or C) in the same row to create different patterns. However, a corner block must always be present at the end of a row and must be alternated for each subsequent row.

## DOUBLE-SIDED WALL RADIUS - MINI-CRETA 3" AND 6"



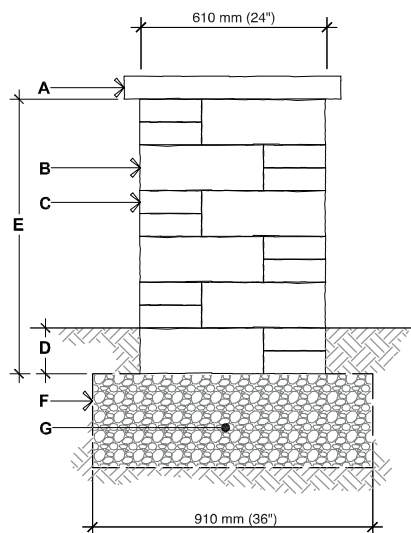
### MINI-CRETA 3"



## WALLS & PILARS

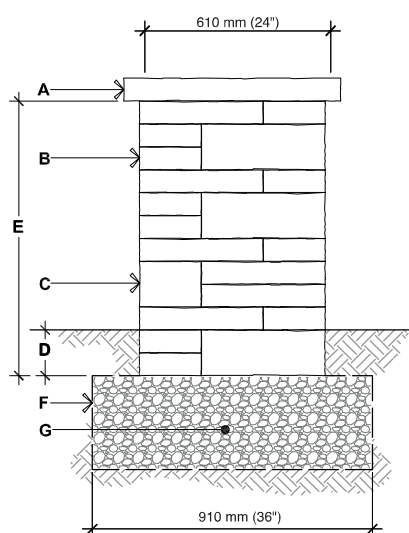
# INSTALLATION GUIDE

## PILLARS- MINI-CRETA 3" AND 6"



**PILLAR 24" x 3" & 24" x 6"**  
**MINI-CRETA - OPTION A**

- A.** PILLAR CAP UNIT  
(SECURE WITH FLEXLOCK ADHESIVE)
- B.** PILLAR 24" x 6" (MINI-CRETA) UNIT  
SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- C.** PILLAR 24" x 3" (MINI-CRETA) UNIT  
SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- D.** EMBEDMENT 6" (150 mm) MIN.
- E.** 35 7/16" (900 mm)  
47 1/4" (1200 mm), MAXIMUM HEIGHT
- F.** GEOTEXTILE
- G.** COMPACTED GRANULAR BASE 150 mm (6")  
THICK MIN. THICKNESS ACCORDING TO  
PROJECT SPECIFIC CONDITIONS



**PILLAR 24" x 3" & 24" x 6"**  
**MINI-CRETA - OPTION B**

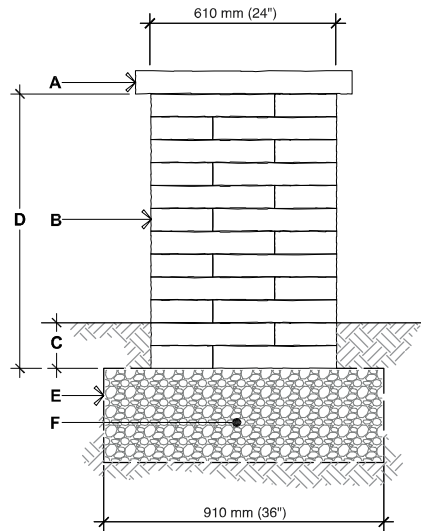
- A.** PILLAR CAP UNIT  
(SECURE WITH FLEXLOCK ADHESIVE)
- B.** PILLAR 24" x 3" (MINI-CRETA) UNIT  
SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- C.** PILLAR 24" x 6" (MINI-CRETA) UNIT  
SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- D.** EMBEDMENT 6" (150 mm) MIN.
- E.** 35 7/16" (900 mm)  
47 1/4" (1200 mm), MAXIMUM HEIGHT
- F.** GEOTEXTILE
- G.** COMPACTED GRANULAR BASE 150 mm (6")  
THICK MIN. THICKNESS ACCORDING TO  
PROJECT SPECIFIC CONDITIONS

For all possible combinations of pillars and caps, please refer to the correspondence table on page 140

PLEASE REFER TO P.4 FOR THE CORRECT USE AND LIMITATIONS OF PROVIDED TECHNICAL INFORMATION.

# INSTALLATION GUIDE

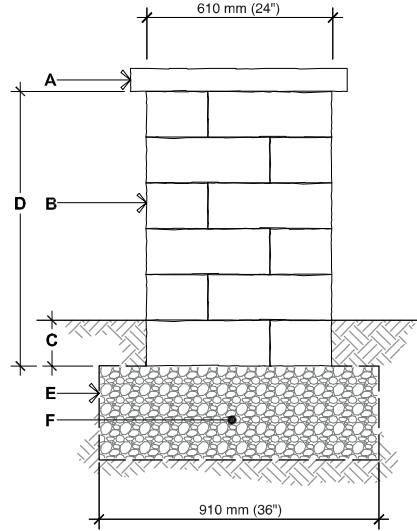
## PILLARS- MINI-CRETA 3" AND 6"



### PILLAR 24" x 3"

#### MINI-CRETA

- A. PILLAR CAP UNIT  
(SECURE WITH FLEXLOCK ADHESIVE)
- B. PILLAR 24" x 3" (MINI-CRETA) UNIT SECURE  
EACH ROW WITH FLEXLOCK ADHESIVE
- C. EMBEDMENT 6" (150 mm) MIN.
- D. 35  $\frac{7}{16}$ " (900 mm), HEIGHT PER PALLET  
47  $\frac{1}{4}$ " (1200 mm), MAXIMUM HEIGHT
- E. GEOTEXTILE
- F. COMPACTED GRANULAR BASE 150 mm (6")  
THICK MIN. THICKNESS ACCORDING TO  
PROJECT SPECIFIC CONDITIONS



### PILLAR 24" x 6"

#### MINI-CRETA

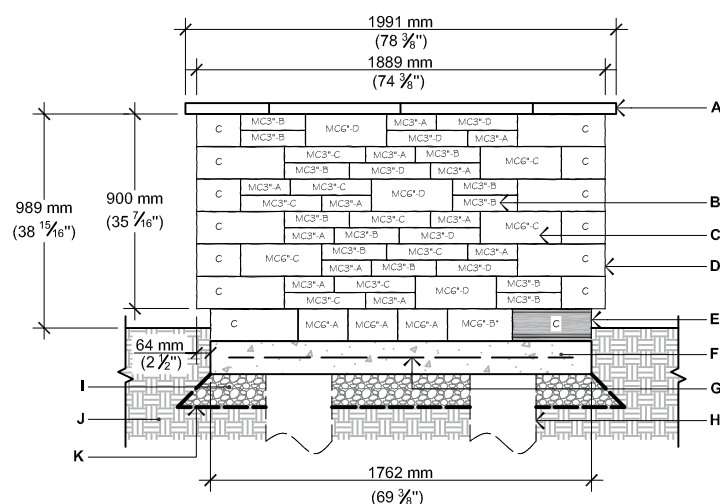
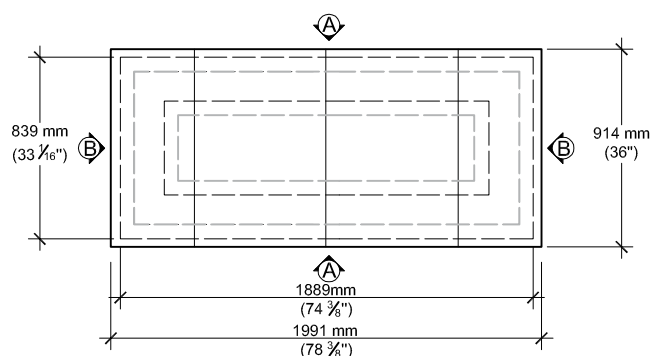
- A. PILLAR CAP UNIT  
(SECURE WITH FLEXLOCK ADHESIVE)
- B. PILLAR 24" x 6" (MINI-CRETA) UNIT  
SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- C. EMBEDMENT 6" (150 mm) MIN.
- D. 35  $\frac{7}{16}$ " (900 mm), HEIGHT PER PALLET  
47  $\frac{1}{4}$ " (1200 mm), MAXIMUM HEIGHT
- E. GEOTEXTILE
- F. COMPACTED GRANULAR BASE 150 mm (6")  
THICK MIN. THICKNESS ACCORDING TO  
PROJECT SPECIFIC CONDITIONS

For all possible combinations of pillars and caps, please refer to the correspondence table on page 140

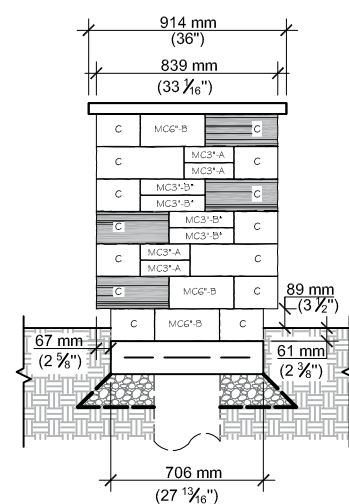


# INSTALLATION GUIDE

## GRILL ISLAND 6 FT - MINI-CRETA 3" AND 6"



ELEVATION A



ELEVATION B

- A. YORK COUNTER TOP 24" × 36" × 2 1/4"
- B. MINI-CRETA 3" UNIT (A, B, B\*, C, OR D)
- C. MINI-CRETA 6" UNIT (A, B, B\*, C, OR D)
- D. PILLAR 24" × 36" (MINI-CRETA) UNIT
- E. PILLAR 24" × 36" (MINI-CRETA) UNIT (CUT ON FIELD)
- F. CAST IN PLACE CONCRETE SLAB 4350 psi (30 MPa), 5" (125 mm) THICK
- G. 4X4-4/4 (102X102-MW25.8XMW25.8) WELDED WIRE MESH AND/OR REBAR AS PER SITE CONDITIONS
- H. 12" (300 mm) DIA. CONCRETE PILLAR, AS PER LOCAL CODE
- I. 3/4" (20 mm) CLEAN STONE
- J. 6" (150 mm) THICK MIN. AS PER SITE CONDITIONS
- K. NATURAL SOIL OR COMPACTED BACKFILL
- K. GEOTEXTILE

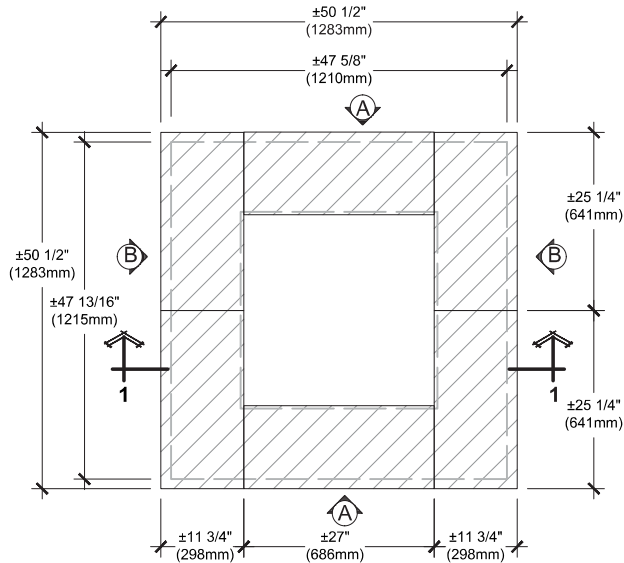
### QUANTITY OF MATERIALS REQUIRED

- York Counter top 24" × 36" × 2 1/4": **4**
- Mini-Creta 3" unit: **32 A, 24 B, 8 B\*, 14 C, 10 D**
- Mini-Creta 6" unit: **6 A, 6 B, 2 B\*, 6 C, 6 D**
- Pillar 24" × 6" (Mini-Creta) unit: **28**

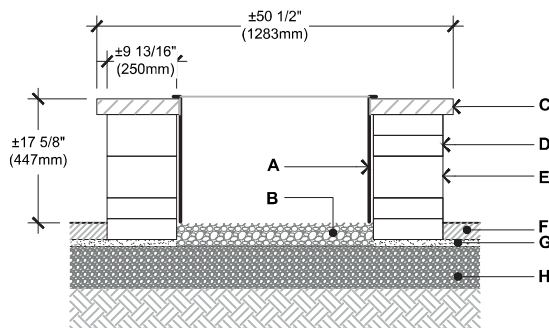
**NOTE:** Appliances and utilities may vary for each project and are not shown on this drawing. This drawing is shown for inspiration only and surplus or shortage of materials may result. It is the user's responsibility to verify for the quantity of materials required. Secure the blocks using a heat resistant concrete adhesive. The installer must ensure that the installation and use of the grill island comply with local regulations and code requirements. Concrete pillars extending to frost line may be required as per local code. Check your local building code before installing.

# INSTALLATION GUIDE

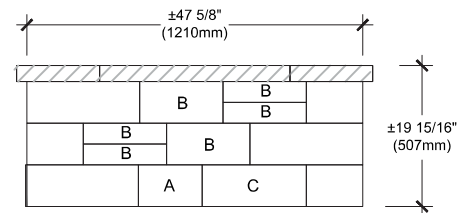
## SQUARE FIRE PIT - MINI-CRETA 3" AND 6"



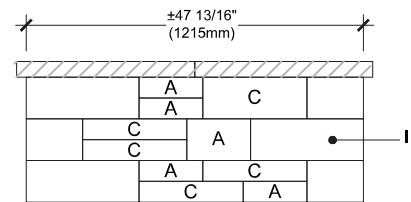
TOP



SECTION 1-1



ELEVATION A



ELEVATION B

 CUT ON FIELD

- A. STEEL BOX INSERT
- B. CLEAN CTONE 3/4" (20 mm), 4" (100 mm) THICK
- C. PIEDIMONTE CAP (12"X30")
- D. MINI-CRETA 3" BLOCK
- E. MINI-CRETA 6" BLOCK
- F. TECO-BLOC PAVERS OR SLABS
- G. SETTING BED 1" (25 mm)
- H. COMPACTED GRANULAR 0- 3/4" (0-20 mm)
- I. PILLAR 24"X6" MINI-CRETA

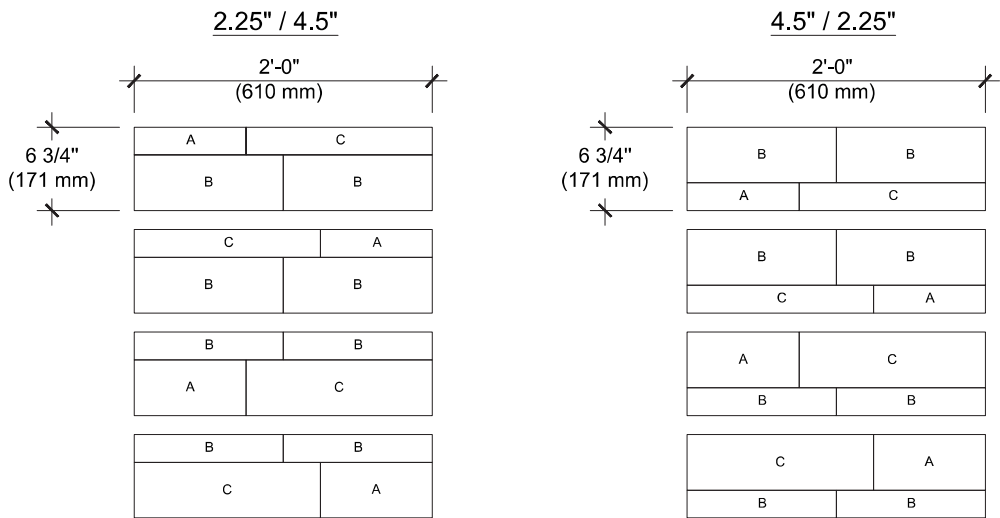
### QUANTITY OF MATERIALS REQUIRED

- Piedimonte Cap (12"x30") = 6
- Mini-Creta 3" (A) = 8
- Mini-Creta 3" (B or B\*) = 8
- Mini-Creta 3" (C or D) = 8
- Mini-Creta 6" (A) = 4
- Mini-Creta 6" (B or B\*) = 4
- Mini-Creta 6" (C or D) = 4
- Pillar 24"x6" Mini-Creta= 12

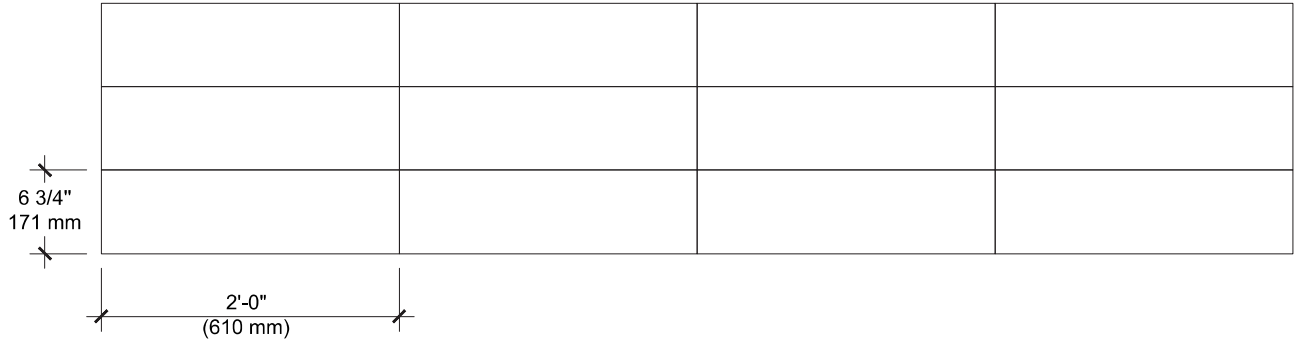
NOTE: Secure the blocks using a heat resistant concrete adhesive. The installer must ensure that the installation and use of the firepit comply with local regulations and code requirements.

PRESCOTT RETAINING WALL – LAYING PATTERNS

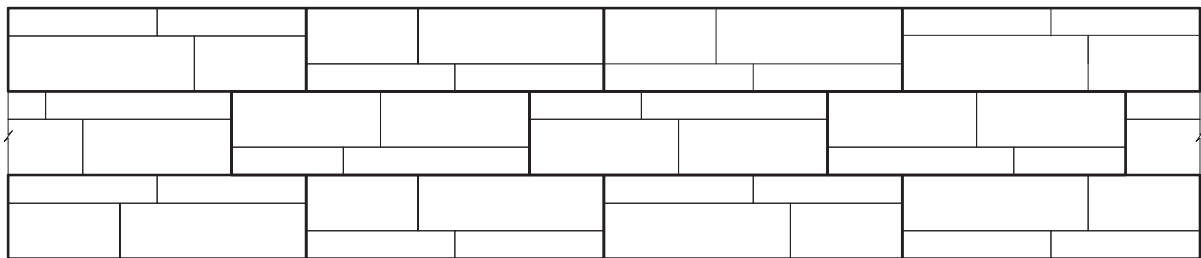
The different modules of the Prescott retaining wall allow the installation of different block combinations.  
Eight combinations are shown as an example. Each combination is 24" (610 mm) long and 6 3/4" (171 mm) high.



The wall installation will be facilitated if the height of the wall is calculated in multiples of 6 3/4" and the length in multiples of 24".

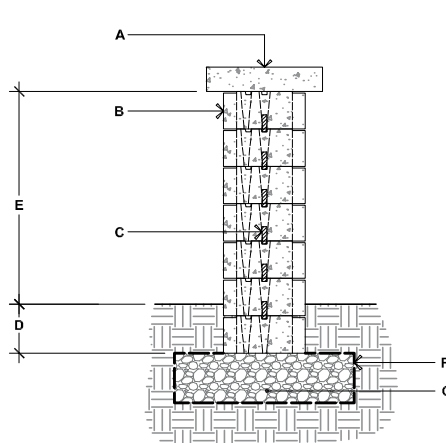


Percentage of blocks required  
Prescott 2.25": 33 % of the surface  
Prescott 4.5": 67 % of the surface



# INSTALLATION GUIDE

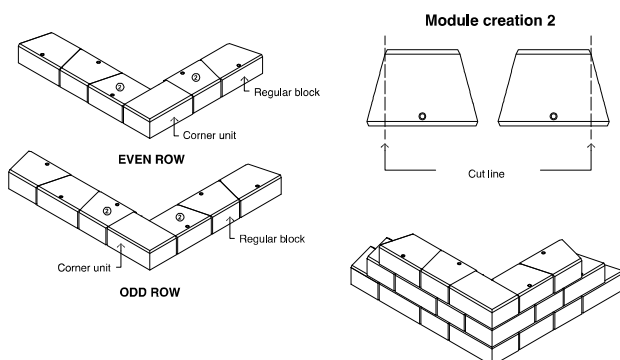
## FREESTANDING WALLS - PRESCOTT 2.25" & 4.5"



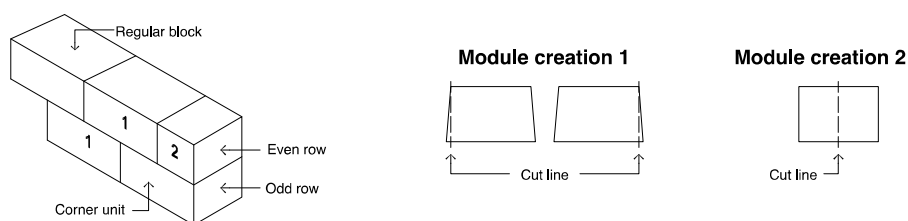
### PRESCOTT 2.25" & 4.5"

- A.** TECO-BLOC CAP UNIT, SECURED TO UNIT BELOW WITH FLEXLOCK ADHESIVE
- B.** PRESCOTT 2.25" AND 4.5" DOUBLE-SIDED WALL UNITS  
SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- C.** CONNECTOR
- D.** EMBEDMENT DEPTH, 6" (150 mm) MIN.
- E.** 25 1/2" (650 mm) MAX.
- F.** GEOTEXTILE
- G.** COMPACTED GRANULAR LEVELING PAD, 6" (150 mm) THICK MIN. THICKNESS ACCORDING TO PROJECT SPECIFIC CONDITIONS

## 90° CORNER OF A DOUBLE-SIDED WALL



## DOUBLE-SIDED WALL - END OF A STRAIGHT WALL



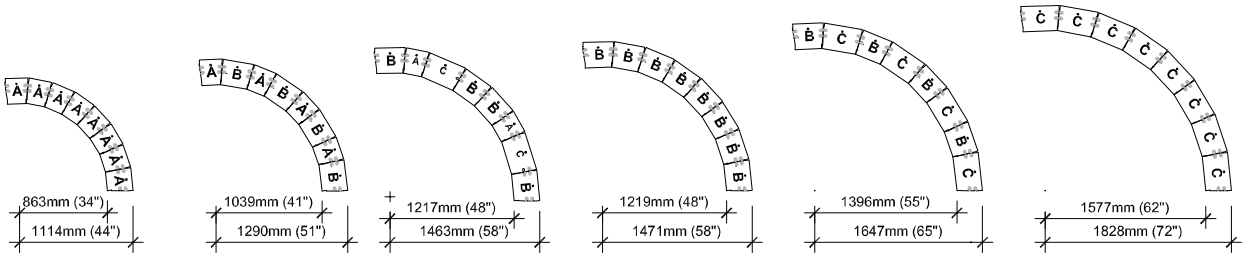
### GENERAL NOTES

1. Alternate odd and even rows.
2. Stagger joints from one row to the next.
3. Glue all modules at each row with Flexlock adhesive.
4. Cavities, grooves and connectors are not illustrated to avoid overloading the image.

PLEASE REFER TO P.4 FOR THE CORRECT USE AND LIMITATIONS OF PROVIDED TECHNICAL INFORMATION.

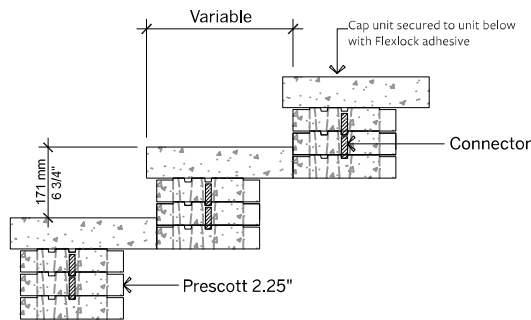
# INSTALLATION GUIDE

## DOUBLE-SIDED WALL RADIUS - PRESCOTT 2.25" & 4.5"



It is the user's responsibility to verify for the quantity of materials required.

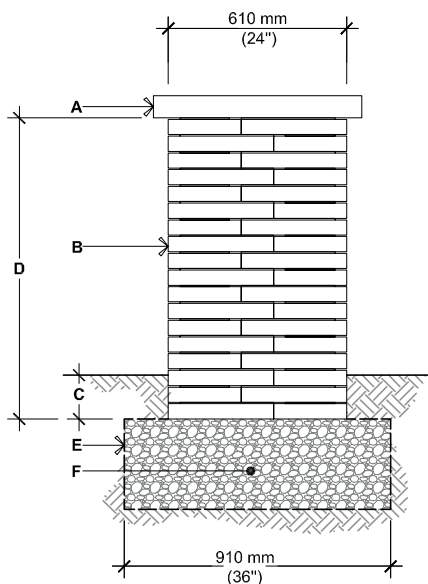
### STEPS



For all possible combinations of pillars and caps, please refer to the correspondence table on page 140

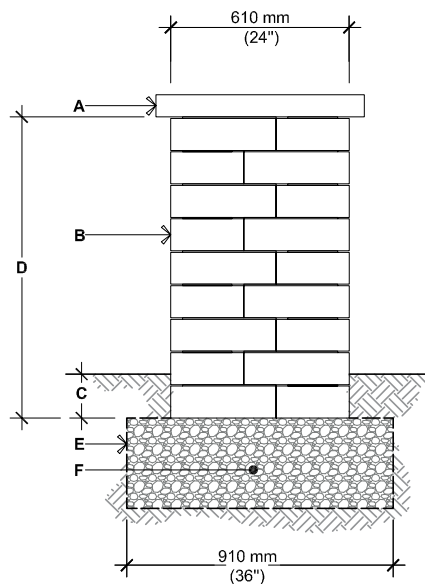
# INSTALLATION GUIDE

## PILLARS - PRESCOTT 2.25" & 4.5"



**PRESCOTT 2.25"**

- A.** PILLAR CAP UNIT  
(SECURE WITH FLEXLOCK ADHESIVE)
- B.** PRESCOTT 2.25" PILLAR UNIT SECURE EACH ROW  
WITH FLEXLOCK ADHESIVE
- C.** EMBEDMENT DEPTH, 6" (150 mm) MIN.
- D.** 40 1/2" (1 029 mm), HEIGHT PER PALLET  
45" (1 143 mm), MAX. HEIGHT
- E.** GEOTEXTILE
- F.** COMPACTED GRANULAR BASE 6" (150 mm)  
THICK MIN. THICKNESS ACCORDING TO PROJECT  
SPECIFIC CONDITIONS



**PRESCOTT 4.5"**

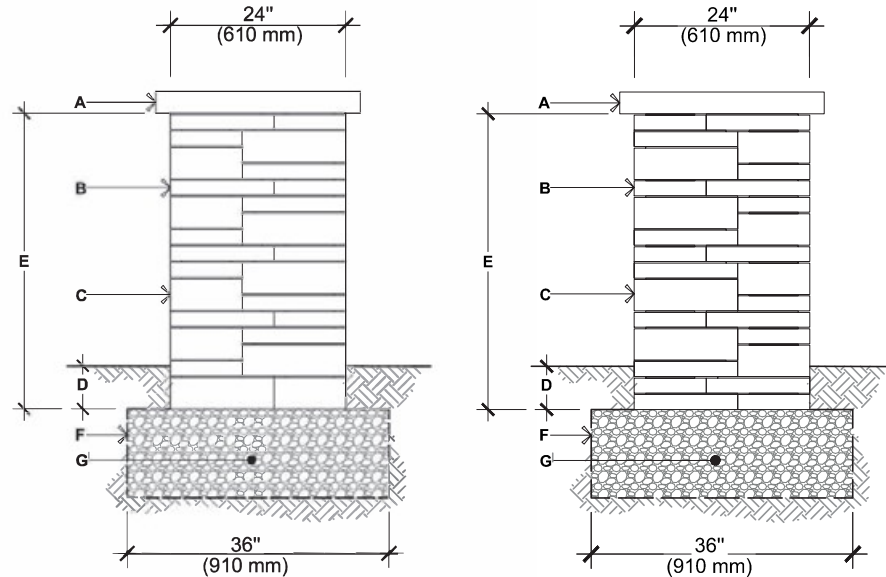
- A.** PILLAR CAP UNIT  
(SECURE WITH FLEXLOCK ADHESIVE)
- B.** PRESCOTT 4.5" PILLAR UNIT SECURE EACH ROW  
WITH FLEXLOCK ADHESIVE
- C.** EMBEDMENT DEPTH, 6" (150 mm) MIN.
- D.** 40 1/2" (1 029 mm), HEIGHT PER PALLET  
45" (1 143 mm), MAX. HEIGHT
- E.** GEOTEXTILE
- F.** COMPACTED GRANULAR BASE  
6" (150 mm) THICK MIN. THICKNESS  
ACCORDING TO PROJECT SPECIFIC CONDITIONS

For all possible combinations of pillars and caps, please refer to the correspondence table on page 140

PLEASE REFER TO P.4 FOR THE CORRECT USE AND LIMITATIONS OF PROVIDED TECHNICAL INFORMATION.

# INSTALLATION GUIDE

## PILLARS - PRESCOTT 2.25" & 4.5"



### PRESCOTT 2.25" & 4.5" OPTION A

- A.** PILLAR CAP UNIT  
(SECURE WITH FLEXLOCK ADHESIVE)
- B.** PRESCOTT 2.25" PILLAR UNIT SECURE EACH ROW  
WITH FLEXLOCK ADHESIVE
- C.** PRESCOTT 4.5" PILLAR UNIT SECURE EACH ROW  
WITH FLEXLOCK ADHESIVE
- D.** EMBEDMENT DEPTH, 6" (150 mm) MIN.
- E.** 40 1/2" (1 029 mm)  
45" (1 143 mm), MAX. HEIGHT
- F.** GEOTEXTILE
- G.** COMPACTED GRANULAR BASE 6" (150 mm)  
THICK MIN. THICKNESS ACCORDING TO PROJECT  
SPECIFIC CONDITIONS

### PRESCOTT 2.25" & 4.5" OPTION B

- A.** PILLAR CAP UNIT  
(SECURE WITH FLEXLOCK ADHESIVE)
- B.** PRESCOTT 2.25" PILLAR UNIT SECURE EACH ROW  
WITH FLEXLOCK ADHESIVE
- C.** PRESCOTT 4.5" PILLAR UNIT SECURE EACH ROW  
WITH FLEXLOCK ADHESIVE
- D.** EMBEDMENT DEPTH, 6" (150 mm) MIN.
- E.** 40 1/2" (1 029 mm)  
45" (1 143 mm), MAX. HEIGHT
- F.** GEOTEXTILE
- G.** COMPACTED GRANULAR BASE 6" (150 mm)  
THICK MIN. THICKNESS ACCORDING TO PROJECT  
SPECIFIC CONDITIONS

**NOTE:** Two pillars of 40 1/2" total height (one option A and one option B) required one pallet of Prescott 4.5" Pillar unit and one pallet of Prescott 2.25" Pillar unit.

For all possible combinations of pillars and caps, please refer to the correspondence table on page 140

# TECHO—BLOC

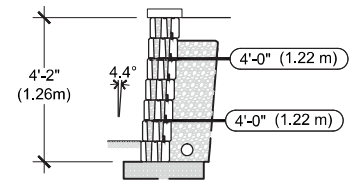
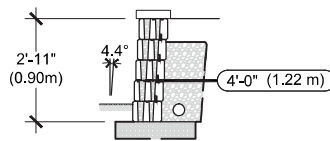
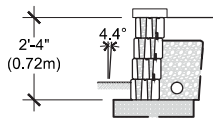
## DESIGN CHART RAFFINATO 180 mm

(EQUIVALENT TO TWICE THE RAFFINATO 90 mm)

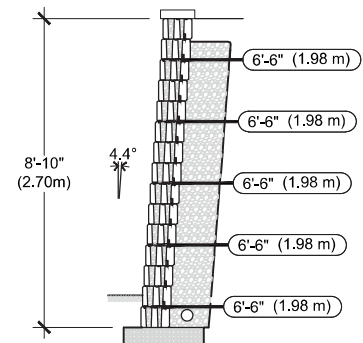
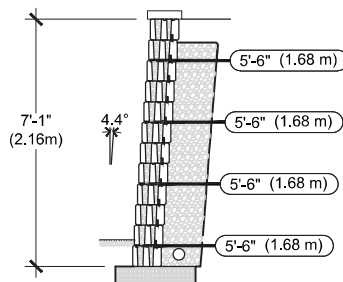
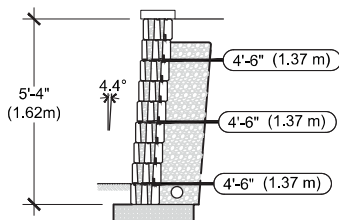
SETBACK POSITION

CLEAN SAND/GRAVEL/ SAND AND GRAVEL MIXES ( $\phi=34^\circ$ ,  $\gamma = 120$  pcf)  
GEOGRID: MIRAGRID 3XT BY TENCATE (RFd=1.10, RFcr=1.45, RFid=1.25, Cds=0.9, Ci=0.9)

**CASE N° 1 :**  
No Surcharge  
No Backslope  
No Toe Slope



VISIT [WWW.TECHO-BLOC.COM](http://WWW.TECHO-BLOC.COM) FOR COMPLETE DESIGN CHART DOCUMENT  
(USA AND CANADA VERSIONS)



WALLS & PILARS

techo-bloc.com

1. The information contained in the design charts is supplied for information purposes only and as such should only be used for preliminary designs.
2. The height (H) of the wall is the total height from the leveling pad to the top of the wall not including the thickness of the cap.
3. Soil parameters: reinforced soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf); retained soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf); foundation soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf)
4. A qualified engineer should be consulted for the final design to be used for construction.
5. The foundation soil must be able to support the wall system. The bearing capacity of the foundation soil, settlement, and global stability must be verified and validated by a qualified geotechnical engineer.
6. The seismic analysis is not included.
7. The design charts do not apply to tiered walls.
8. The charts assume that the walls are constructed in accordance with Tehco-Bloc specifications, good construction practice and an adequate drainage system.
9. The geogrid layout has been optimized to satisfy the design requirements of the NCMA's Design Manual for Segmental Retaining Walls, 3rd Edition.
10. The minimum burial depth must be 6 in (150 mm) or 10% of the exposed height, whichever is greater.
11. Engineering judgement should be used when interpolating between heights.
12. Tehco-Bloc and its predecessors, successors, beneficiaries, employees, associates, administrators and insurers accepts no liability for the incorrect use of information contained in the design charts.
13. For further information, please contact our technical service department.

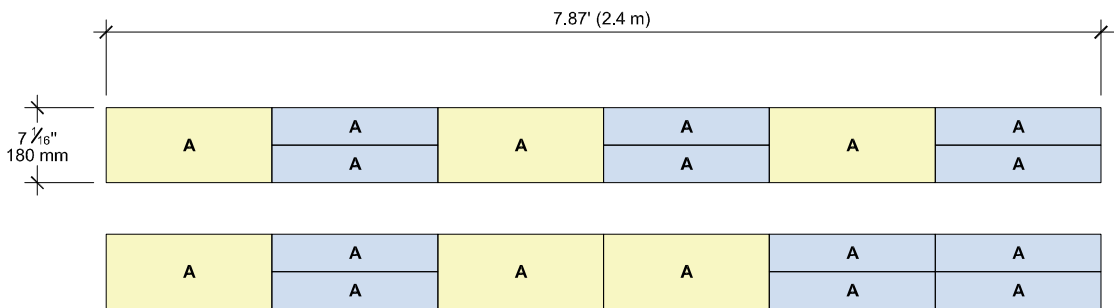


# INSTALLATION GUIDE

## RETAINING WALLS - RAFFINATO 90 mm & 180 mm

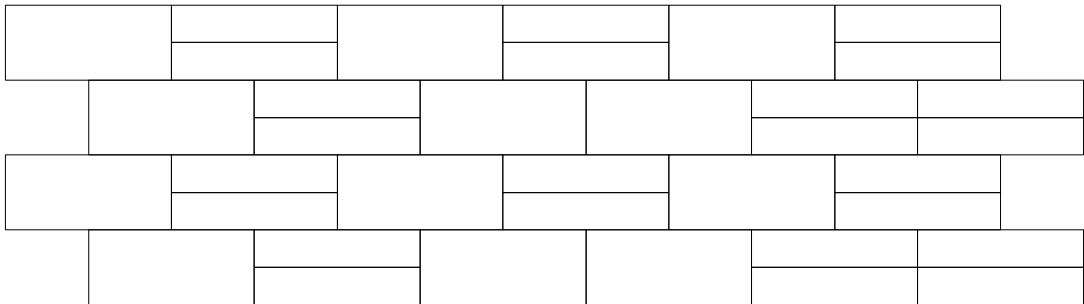
### 1-Row Pattern | Laying Patterns

The single row model shows two examples combination. Each combination is 2.4 m (7.87") long and 180 mm (7 1/16") high. **This model can be used for installing the last row of modules or where other models cannot be used.**



NUMBER OF BLOCKS REQUIRED MODULE

RAFFINATO	A
50 % of the surface - Raffinato 90 mm	6
50 % of the surface - Raffinato 180 mm	3

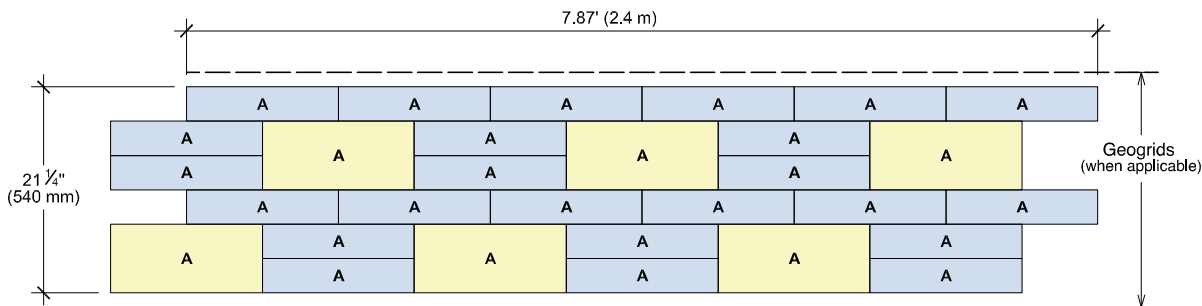


# INSTALLATION GUIDE

## RETAINING WALLS - RAFFINATO 90 mm & 180 mm

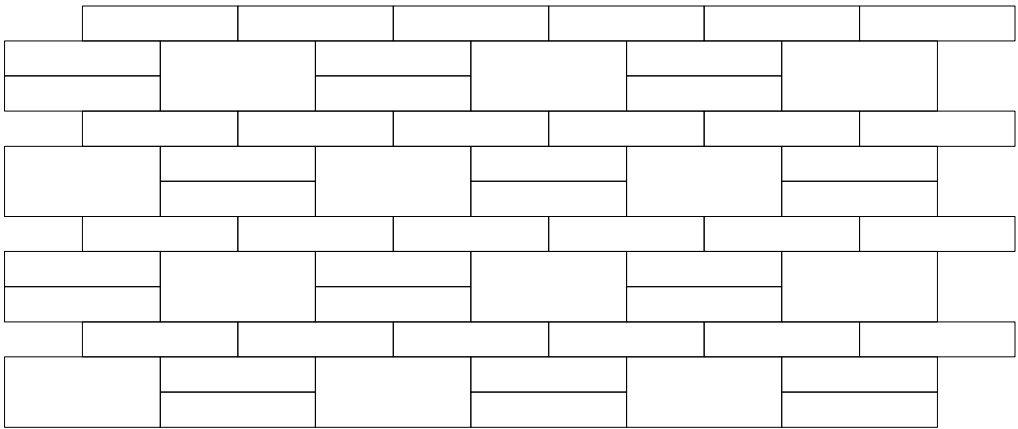
### 3-Row Pattern | Laying Patterns

The 3-row model is 2.4 m (7.87') long and 540 mm (21 1/4") high. This model allows for a graded area at every 540 mm (21 1/4"), which corresponds to the recommended spacing between the layers of geogrid in a Raffinato wall. **This model is recommended when using geogrid.**



#### NUMBER OF BLOCKS REQUIRED MODULE

RAFFINATO	A
67 % of the surface - Raffinato 90 mm	24
33 % of the surface - Raffinato 180 mm	6

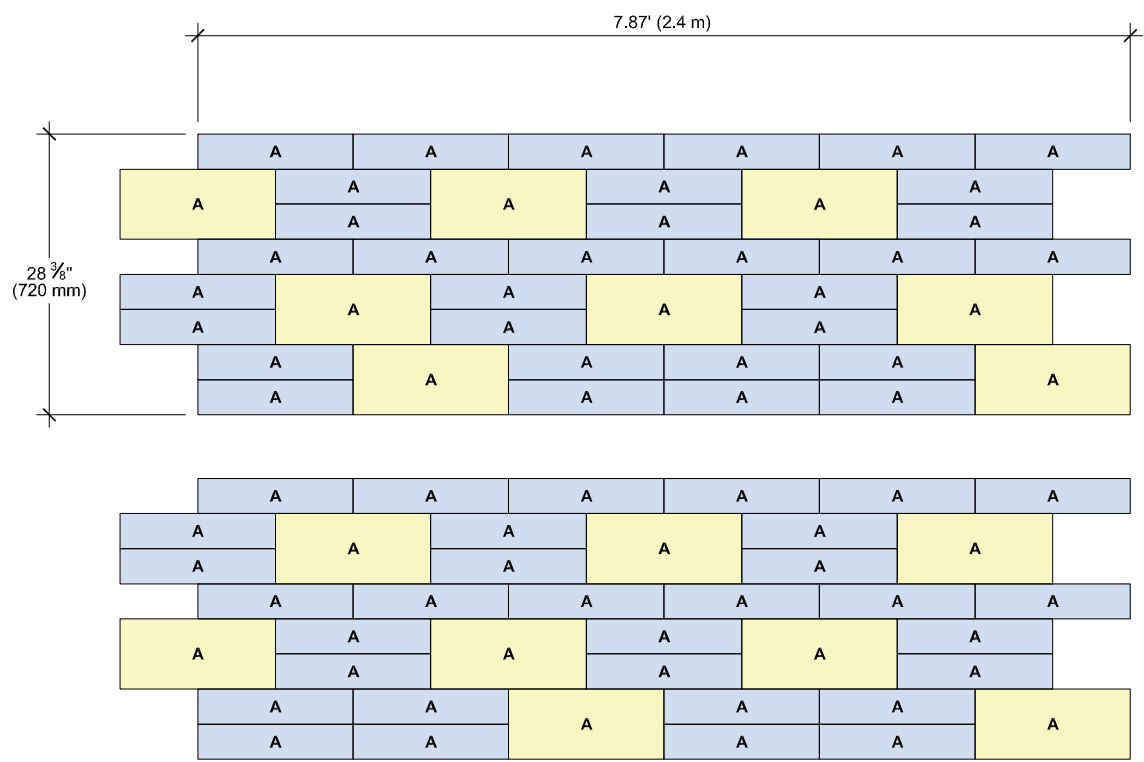


# INSTALLATION GUIDE

## RETAINING WALLS - RAFFINATO 90 mm & 180 mm

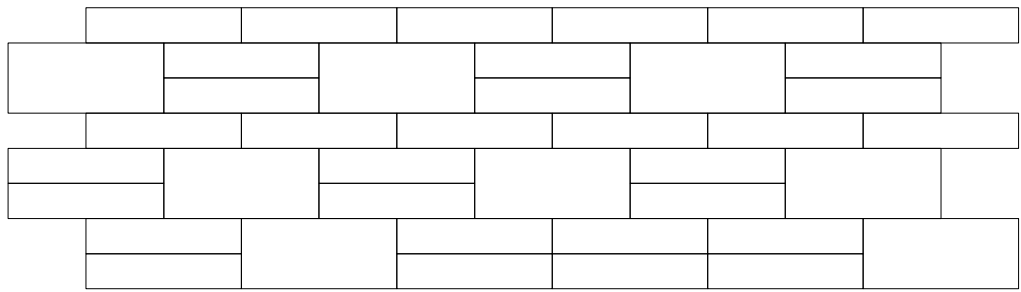
### 4-Row Pattern | Laying Patterns

The 4-row model shows two combination examples. This combination is 2.4 m (7,87') long and 720 mm (28 3/8") high. **This model should only be used where geogrid is not required.**



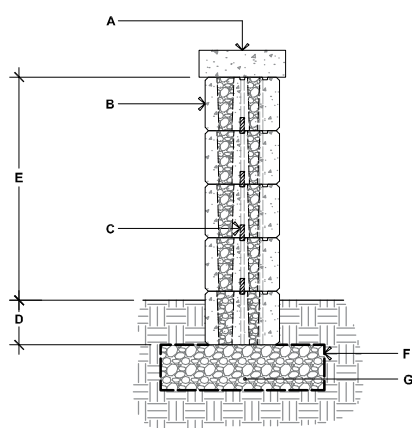
NUMBER OF BLOCKS REQUIRED MODULE

RAFFINATO	A
67 % of the surface - Raffinato 90 mm	32
33 % of the surface - Raffinato 180 mm	8



# INSTALLATION GUIDE

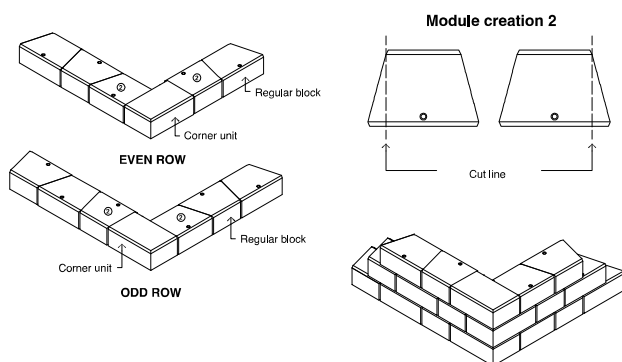
## FREESTANDING WALLS - RAFFINATO 90 mm & 180 mm



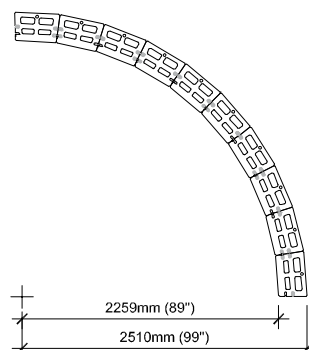
RAFFINATO 90 mm & 180 mm

- A. TECO-BLOC CAP UNIT SECURED TO UNIT BELOW WITH FLEXLOCK ADHESIVE
- B. RAFFINATO 90 mm AND 180 mm DOUBLE-SIDED WALL UNITS SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- C. CONNECTOR
- D. EMBEDMENT DEPTH, 6" (150 mm) MIN.
- E. 29 7/16" (750 mm) MAX.
- F. GEOTEXTILE
- G. COMPACTED GRANULAR LEVELING PAD, 6" (150 mm) THICK MIN. THICKNESS ACCORDING TO PROJECT SPECIFIC CONDITIONS

## 90° CORNER OF A DOUBLE-SIDED WALL

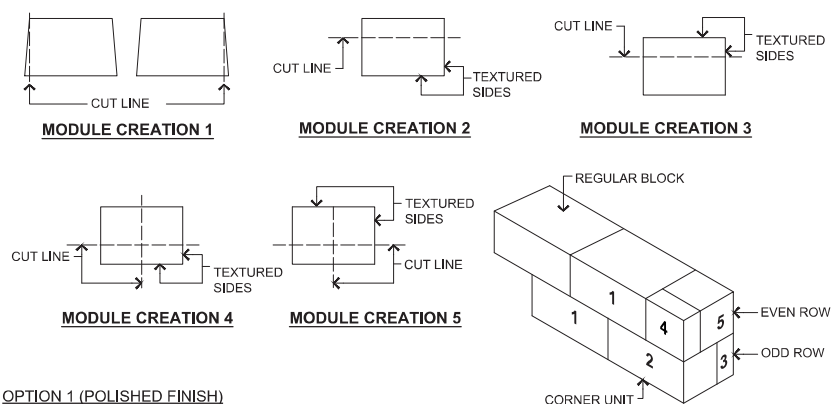


## DOUBLE-SIDED WALL RADIUS

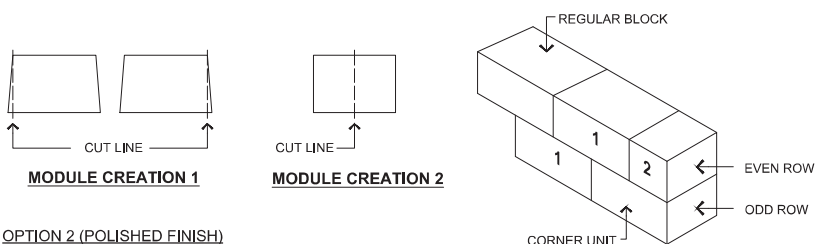


It is the user's responsibility to verify for the quantity of materials required.

## DOUBLE SIDED WALL - END OF A STRAIGHT WALL



OPTION 1 (POLISHED FINISH)



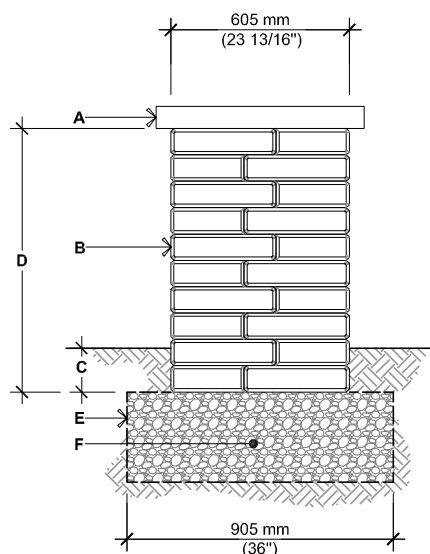
OPTION 2 (POLISHED FINISH)

### GENERAL NOTES

1. Alternate odd and even rows.
2. Stagger joints from one row to the next.
3. Glue all modules at each row with Flexlock adhesive.
4. Cavities, grooves and connectors are not illustrated to avoid overloading the image.

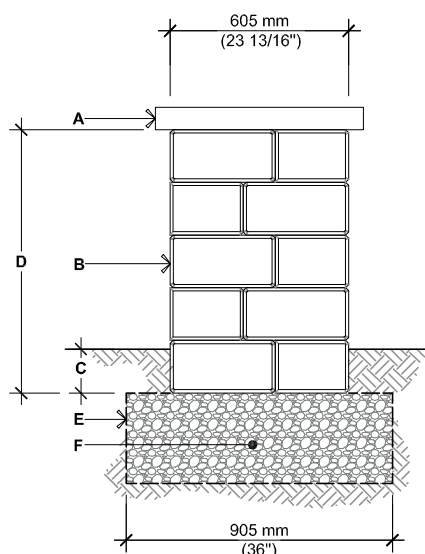
# INSTALLATION GUIDE

## PILLARS - RAFFINATO 90 mm & 180 mm



**RAFFINATO 90 mm**

- A.** STONEDGE COLLECTION PILLAR CAP UNIT, SECURE TO UNITS BELOW WITH FLEXLOCK ADHESIVE
- B.** RAFFINATO 90 mm PILLAR UNIT SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- C.** EMBEDMENT DEPTH: 150 mm (6") MIN.
- D.** 1080 mm (42 1/2"), MAXIMUM HEIGHT
- E.** GEOTEXTILE
- F.** COMPACTED GRANULAR BASE 150 mm (6") THICK MIN. THICKNESS ACCORDING TO PROJECT SPECIFIC CONDITIONS



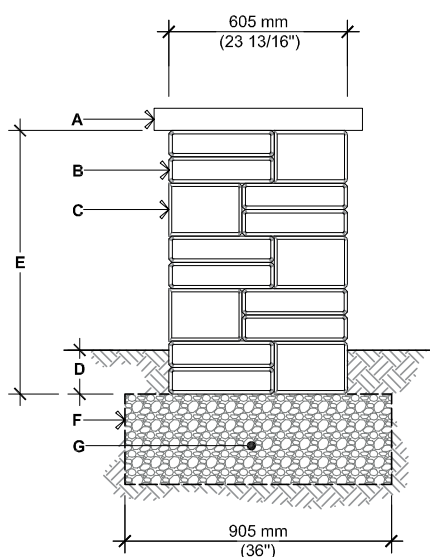
**RAFFINATO 180 mm**

- A.** STONEDGE COLLECTION PILLAR CAP UNIT, SECURE TO UNITS BELOW WITH FLEXLOCK ADHESIVE
- B.** RAFFINATO 180 mm PILLAR UNIT SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- C.** EMBEDMENT DEPTH: 150 mm (6") MIN.
- D.** 1080 mm (42 1/2"), MAXIMUM HEIGHT
- E.** GEOTEXTILE
- F.** COMPACTED GRANULAR BASE 150 mm (6") THICK MIN. THICKNESS ACCORDING TO PROJECT SPECIFIC CONDITIONS

For all possible combinations of pillars and caps, please refer to the correspondence table on page 140

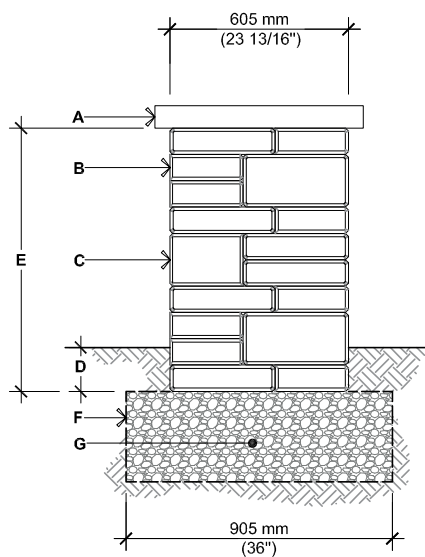
# INSTALLATION GUIDE

## PILLARS - RAFFINATO 90 mm & 180 mm



**RAFFINATO 90 mm & 180 mm**  
OPTION A

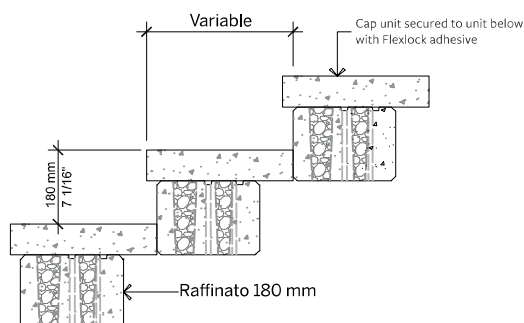
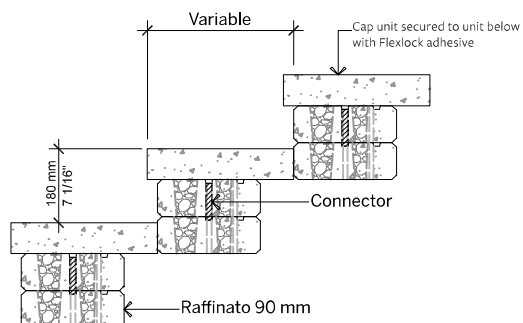
- A.** STONEDGE COLLECTION PILLAR CAP UNIT, SECURE TO UNITS BELOW WITH FLEXLOCK ADHESIVE
- B.** RAFFINATO 90 mm PILLAR UNIT SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- C.** RAFFINATO 180 mm PILLAR UNIT SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- D.** EMBEDMENT DEPTH: 150 mm (6") MIN.
- E.** 1 080 mm (42 1/2"), MAXIMUM HEIGHT
- F.** GEOTEXTILE
- G.** COMPACTED GRANULAR BASE 150 mm (6") THICK MIN. THICKNESS ACCORDING TO PROJECT SPECIFIC CONDITIONS



**RAFFINATO 90 mm & 180 mm**  
OPTION B

- A.** STONEDGE COLLECTION PILLAR CAP UNIT, SECURE TO UNITS BELOW WITH FLEXLOCK ADHESIVE
- B.** RAFFINATO 90 mm PILLAR UNIT SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- C.** RAFFINATO 180 mm PILLAR UNIT SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- D.** EMBEDMENT DEPTH: 150 mm (6") MIN.
- E.** 1 080 mm (42 1/2"), MAXIMUM HEIGHT
- F.** GEOTEXTILE
- G.** COMPACTED GRANULAR BASE 150 mm (6") THICK MIN. THICKNESS ACCORDING TO PROJECT SPECIFIC CONDITIONS

## STEPS

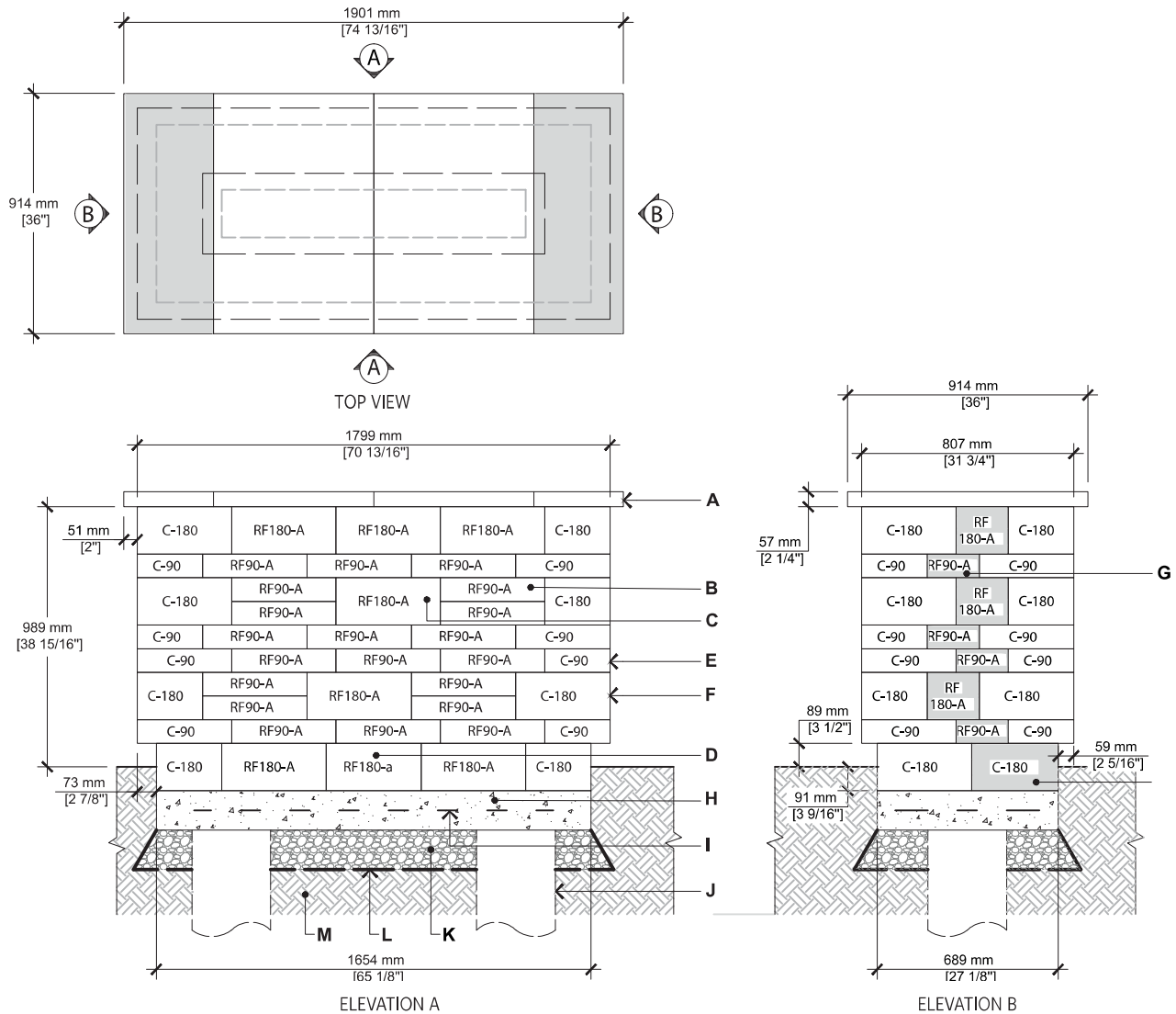


For all possible combinations of pillars and caps, please refer to the correspondence table on page 140

PLEASE REFER TO P.4 FOR THE CORRECT USE AND LIMITATIONS OF PROVIDED TECHNICAL INFORMATION.

# INSTALLATION GUIDE

## GRILL ISLAND - RAFFINATO SMOOTH 90 mm & 180 mm



- A.** YORK COUNTER TOP 24" x 36" x 2 1/4" (CUT ON FIELD AS REQUIRED)
- B.** RAFFINATO 90 mm UNIT (A) - LONG FACE EXPOSED (SHOWN WITH UPPERCASE LETTER)
- C.** RAFFINATO 180 mm UNIT (A) - LONG FACE EXPOSED (SHOWN WITH UPPERCASE LETTER)
- D.** RAFFINATO 180 mm UNIT (A) - SHORT FACE EXPOSED (SHOWN WITH LOWERCASE LETTER)
- E.** RAFFINATO 90 mm PILLAR UNIT
- F.** RAFFINATO 180 mm PILLAR UNIT
- G.** RAFFINATO UNIT CUT ON FIELD AS REQUIRED
- H.** CAST IN PLACE CONCRETE SLAB 4350 psi (30 MPa), 5" (125 mm) THICK
- I.** 4X4-4/4 (102X102-MW25.8XMW25.8) WELDED WIRE MESH AND/OR REBAR AS PER SITE CONDITIONS
- J.** 12" (300 mm) DIA. CONCRETE PILLAR, AS PER LOCAL CODE
- K.** 3/4" (20 mm) CLEAN STONE  
6" (150 mm) THICK MIN. AS PER SITE CONDITIONS
- L.** GEOTEXTILE
- M.** NATURAL SOIL OR COMPACTED BACKFILL

### QUANTITY OF MATERIALS REQUIRED

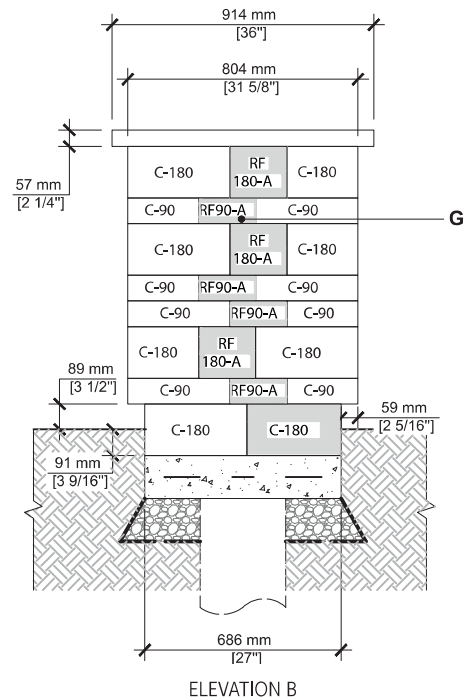
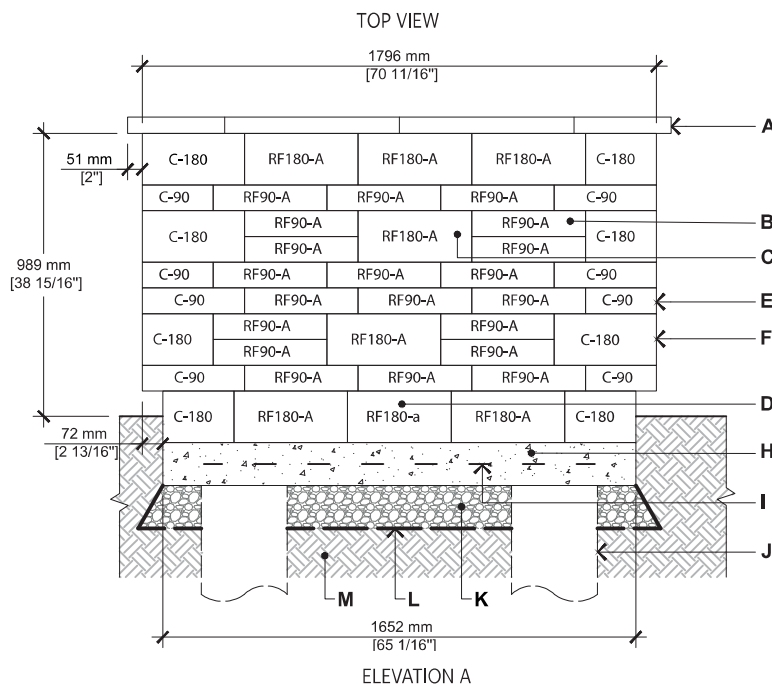
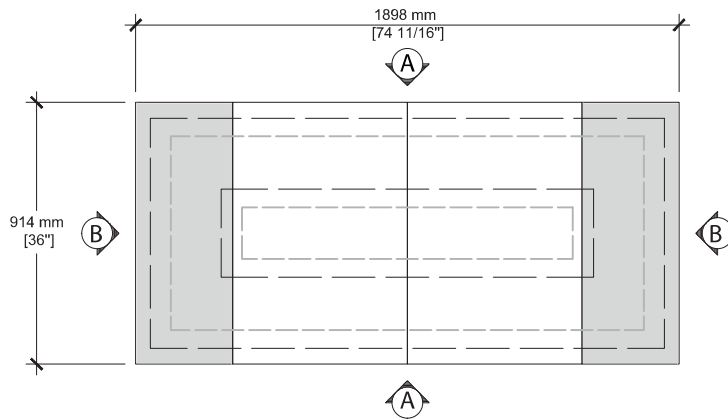
- York Counter top 24" x 36" x 2 1/4": **4**
- Raffinato 90 mm wall unit: **48 A**
- Raffinato 180 mm wall unit: **22 A**
- Raffinato 90 mm pillar unit: **16**
- Raffinato 180 mm pillar unit: **16**

**NOTE:** Appliances and utilities may vary for each project and are not shown on this drawing. This drawing is shown for inspiration only and surplus or shortage of materials may result. It is the user's responsibility to verify for the quantity of materials required. Secure the blocks using a heat resistant concrete adhesive. The installer must ensure that the installation and use of the grill island comply with local regulations and code requirements. Concrete pillars extending to frost line may be required as per local code. Check your local building code before installing.

PLEASE REFER TO P.4 FOR THE CORRECT USE AND LIMITATIONS OF PROVIDED TECHNICAL INFORMATION.

# INSTALLATION GUIDE

## GRILL ISLAND - RAFFINATO POLISHED 90 mm & 180 mm



- A.** YORK COUNTER TOP 24" × 36" × 2 1/4" (CUT ON FIELD AS REQUIRED)
- B.** RAFFINATO 90 mm UNIT (A) - LONG FACE EXPOSED (SHOWN WITH UPPERCASE LETTER)
- C.** RAFFINATO 180 mm UNIT (A) - LONG FACE EXPOSED (SHOWN WITH UPPERCASE LETTER)
- D.** RAFFINATO 180 mm UNIT (A) - SHORT FACE EXPOSED (SHOWN WITH LOWERCASE LETTER)
- E.** RAFFINATO 90 mm PILLAR UNIT
- F.** RAFFINATO 180 mm PILLAR UNIT
- G.** RAFFINATO UNIT CUT ON FIELD AS REQUIRED
- H.** CAST IN PLACE CONCRETE SLAB 4350 psi (30 MPa), 5" (125 mm) THICK
- I.** 4X4-4/4 (102X102-MW25.8XMW25.8) WELDED WIRE MESH AND/OR REBAR AS PER SITE CONDITIONS
- J.** 12" (300 mm) DIA. CONCRETE PILLAR, AS PER LOCAL CODE
- K.** 3/4" (20 mm) CLEAN STONE 6" (150 mm) THICK MIN. AS PER SITE CONDITIONS
- L.** GEOTEXTILE
- M.** NATURAL SOIL OR COMPACTED BACKFILL

### QUANTITY OF MATERIALS REQUIRED

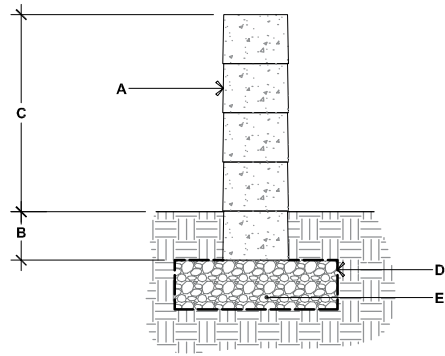
- York Counter top 24" × 36" × 2 1/4": **4**
- Raffinato 90 mm wall unit: **48 A**
- Raffinato 180 mm wall unit: **22 A**
- Raffinato 90 mm pillar unit: **16**
- Raffinato 180 mm pillar unit: **16**

**NOTE:** Appliances and utilities may vary for each project and are not shown on this drawing. This drawing is shown for inspiration only and surplus or shortage of materials may result. It is the user's responsibility to verify for the quantity of materials required. Secure the blocks using a heat resistant concrete adhesive. The installer must ensure that the installation and use of the grill island comply with local regulations and code requirements. Concrete pillars extending to frost line may be required as per local code. Check your local building code before installing.



# INSTALLATION GUIDE

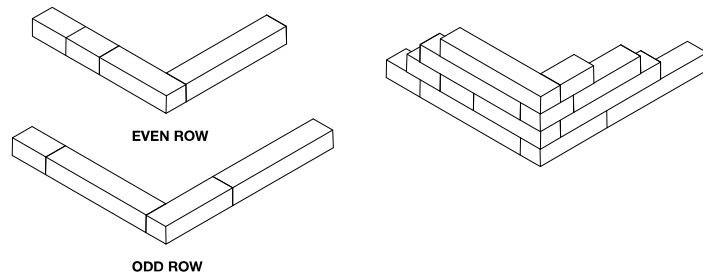
## FREESTANDING WALLS - RÖCKA



### RÖCKA

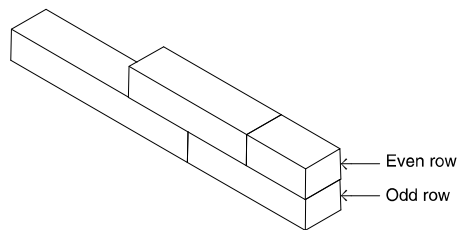
- A.** RÖCKA DOUBLE-SIDED WALL UNITS SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- B.** EMBEDMENT DEPTH, 6" (150 mm) MIN.
- C.** 24" (612 mm) MAX.
- D.** GEOTEXTILE
- E.** COMPACTED GRANULAR LEVELING PAD, 6" (150 mm) THICK MIN. THICKNESS ACCORDING TO PROJECT SPECIFIC CONDITIONS

## 90° CORNER OF A DOUBLE-SIDED WALL



1. Alternate odd and even rows
2. Stagger vertical joints by at least  $\frac{1}{4}$  of the length of the block.
3. Glue all modules at each row with Flexlock adhesive.
4. It is possible to alternate the blocks (A, B or C) in the same row to create different patterns.

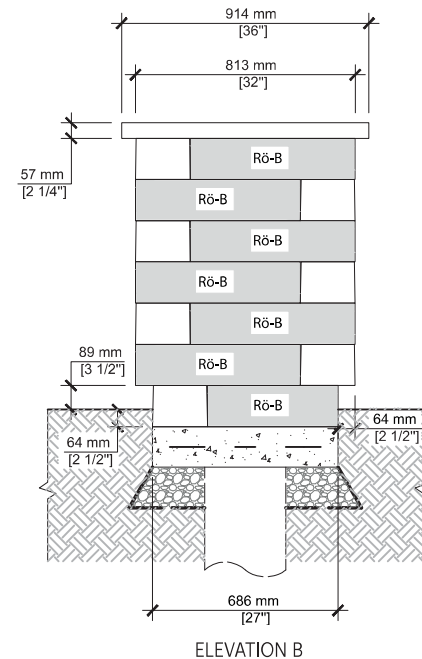
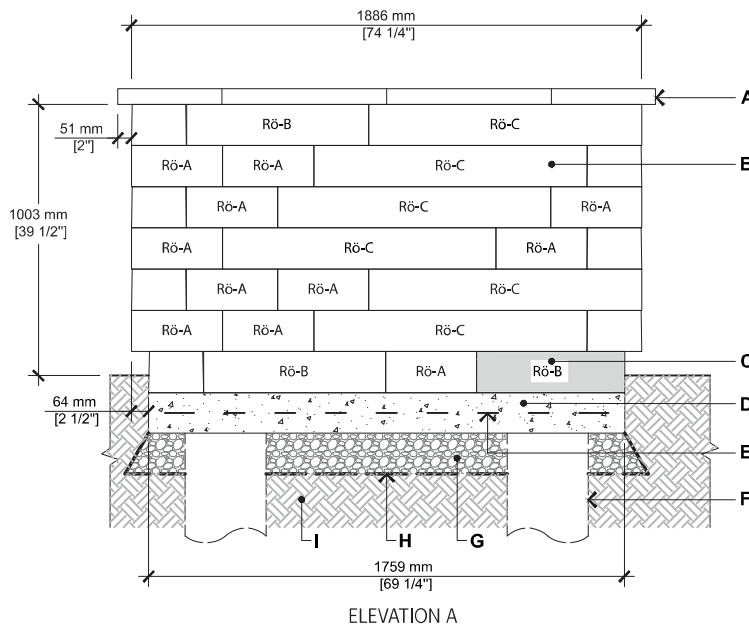
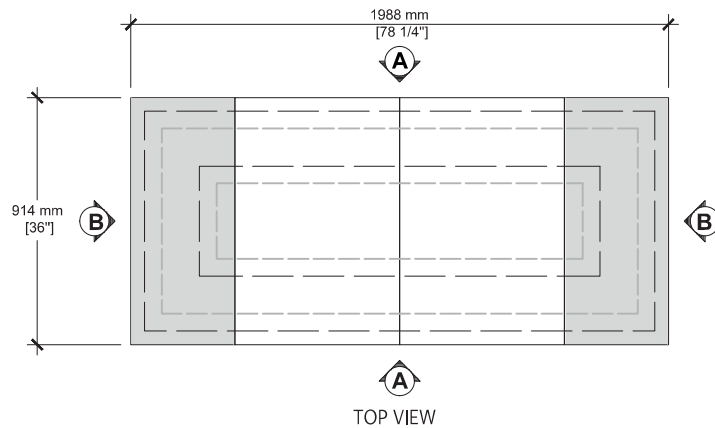
## DOUBLE-SIDED WALL - END OF A STRAIGHT WALL



- \* It is possible to alternate the blocks (A, B or C) in the same row to create different patterns. However, a minimum distance of  $\frac{1}{4}$  the length of the block is required between the vertical joints.

# INSTALLATION GUIDE

## GRILL ISLAND - RÖCKA



- A.** YORK COUNTER TOP 24" X 36" X 2 1/4" (CUT ON FIELD AS REQUIRED)
- B.** RÖCKA WALL UNIT (A, B OR C)
- C.** RÖCKA WALL UNIT CUT ON FIELD AS REQUIRED
- D.** CAST IN PLACE CONCRETE SLAB 4350 psi (30 MPa), 5" (125 mm) THICK
- E.** 4X4-4/4 (102X102-MW25.8XMW25.8) WELDED WIRE MESH AND/OR REBAR AS PER SITE CONDITIONS
- F.** 12" (300 mm) DIA. CONCRETE PILLAR, AS PER LOCAL CODE
- G.** 3/4" (20 mm) CLEAN STONE  
6" (150 mm) THICK MIN. AS PER SITE CONDITIONS
- H.** GEOTEXTILE
- I.** NATURAL SOIL OR COMPACTED BACKFILL

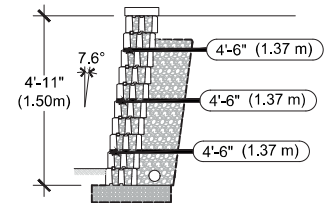
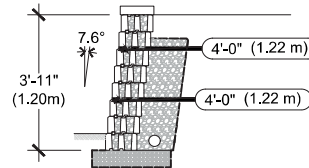
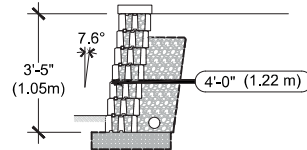
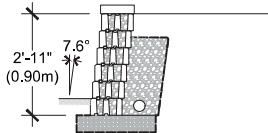
### QUANTITY OF MATERIALS REQUIRED

- York Counter top 24" x 36" x 2 1/4": **4**
- Röcka wall unit: **22 A, 20 B, 12 C**

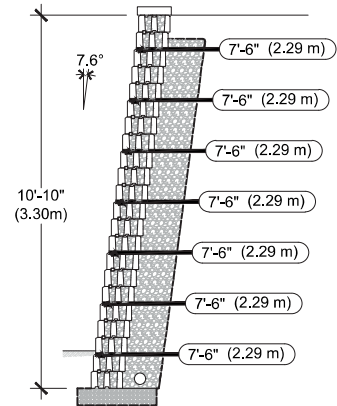
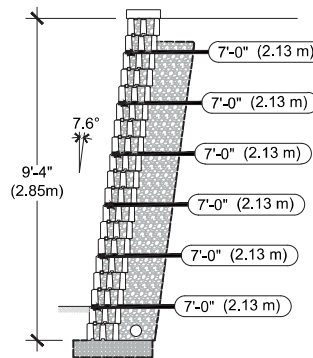
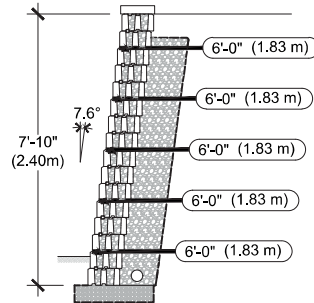
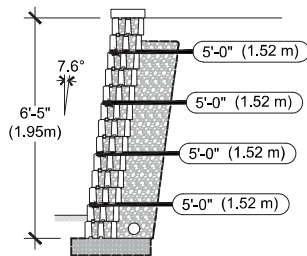
**NOTE:** Appliances and utilities may vary for each project and are not shown on this drawing. This drawing is shown for inspiration only and surplus or shortage of materials may result. It is the user's responsibility to verify for the quantity of materials required. Secure the blocks using a heat resistant concrete adhesive. The installer must ensure that the installation and use of the grill island comply with local regulations and code requirements. Concrete pillars extending to frost line may be required as per local code. Check your local building code before installing.

CLEAN SAND/GRAVEL/ SAND AND GRAVEL MIXES ( $\phi=34^\circ$ ,  $\gamma = 120$  pcf)  
GEOGRID: MIRAGRID 3XT BY TENCATE (RFd=1.10, RFcr=1.45, RFid=1.25, Cds=0.9, Ci=0.9)

**CASE N° 1 :**  
No Surcharge  
No Backslope  
No Toe Slope



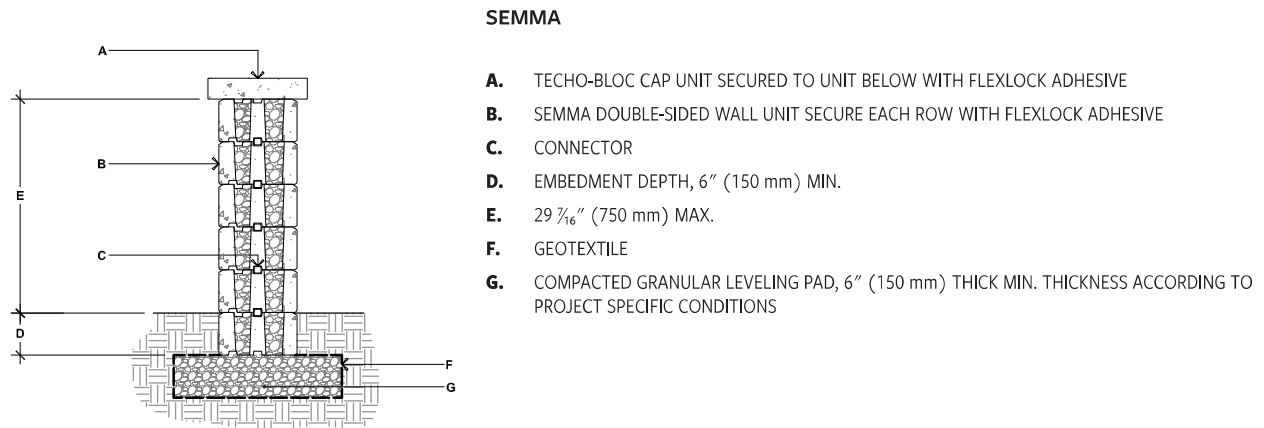
VISIT [WWW.TECHO-BLOC.COM](http://WWW.TECHO-BLOC.COM) FOR COMPLETE DESIGN CHART DOCUMENT  
(USA AND CANADA VERSIONS)



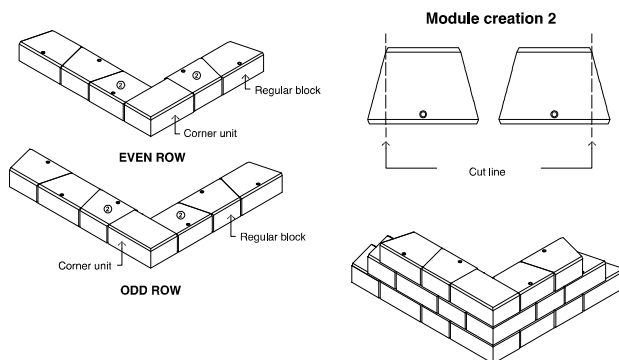
1. The information contained in the design charts is supplied for information purposes only and as such should only be used for preliminary designs.
2. The height (H) of the wall is the total height from the leveling pad to the top of the wall not including the thickness of the cap.
3. Soil parameters: reinforced soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf); retained soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf); foundation soil ( $\phi = 34^\circ$ ,  $\gamma = 120$  pcf)
4. A qualified engineer should be consulted for the final design to be used for construction.
5. The foundation soil must be able to support the wall system. The bearing capacity of the foundation soil, settlement, and global stability must be verified and validated by a qualified geotechnical engineer.
6. The seismic analysis is not included.
7. The design charts do not apply to tiered walls.
8. The charts assume that the walls are constructed in accordance with Techo-Bloc specifications, good construction practice and an adequate drainage system.
9. The geogrid layout has been optimized to satisfy the design requirements of the NCMA's Design Manual for Segmental Retaining Walls, 3rd Edition.
10. The minimum burial depth must be 6 in (150 mm) or 10% of the exposed height, whichever is greater.
11. Engineering judgement should be used when interpolating between heights.
12. Techo-Bloc and its predecessors, successors, beneficiaries, employees, associates, administrators and insurers accepts no liability for the incorrect use of information contained in the design charts.
13. For further information, please contact our technical service department.

# INSTALLATION GUIDE

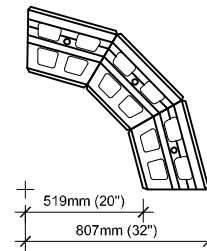
## FREESTANDING WALLS - SEMMA



## 90° CORNER OF A DOUBLE-SIDED WALL

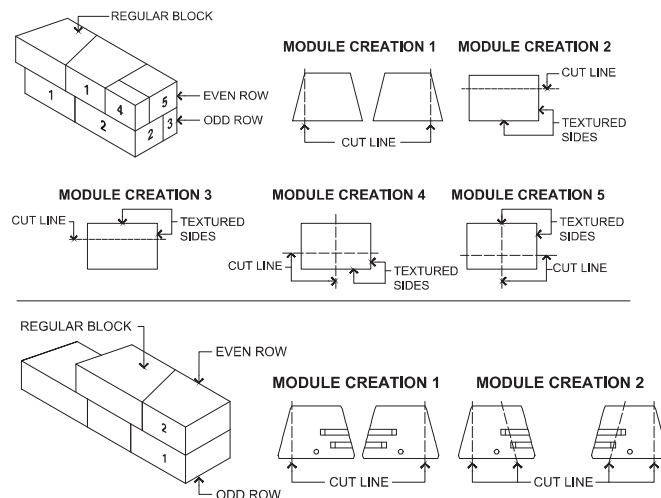


## DOUBLE-SIDED WALL RADIUS



It is the user's responsibility to verify for the quantity of materials required.

## DOUBLE-SIDED WALL - END OF A STRAIGHT WALL



### GENERAL NOTES

1. Alternate odd and even rows.
2. Stagger joints from one row to the next.
3. Glue all modules at each row with Flexlock adhesive.
4. Cavities, grooves and connectors are not illustrated to avoid overloading the image.

PLEASE REFER TO P.4 FOR THE CORRECT USE AND LIMITATIONS OF PROVIDED TECHNICAL INFORMATION.

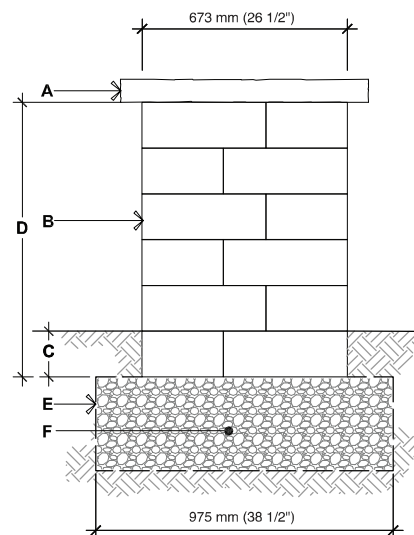
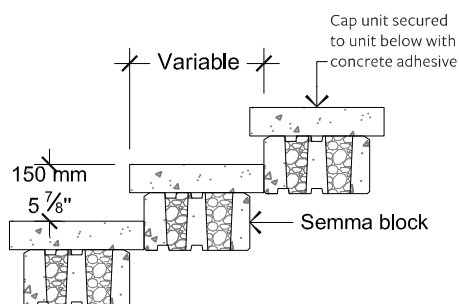
# INSTALLATION GUIDE

## PILLARS - SEMMA



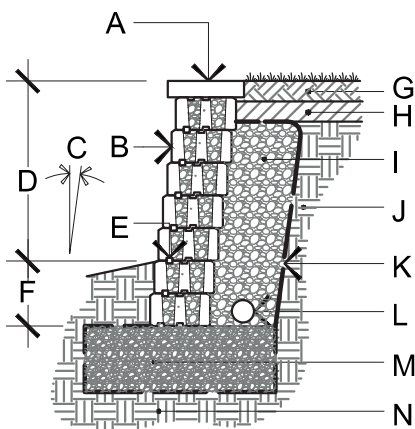
- A.** PILLAR CAP UNIT (SECURE WITH FLEXLOCK ADHESIVE)
- B.** SEMMA PILLAR UNIT SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- C.** EMBEDMENT 6" (150 mm) MIN.
- D.** 35 7/8" (900 mm), HEIGHT PER PALLET 47 1/4" (1200 mm), MAXIMUM HEIGHT
- E.** GEOTEXTILE
- F.** COMPACTED GRANULAR BASE 6" (150mm) THICK MIN. THICKNESS ACCORDING TO PROJECT SPECIFIC CONDITIONS

### STEPS



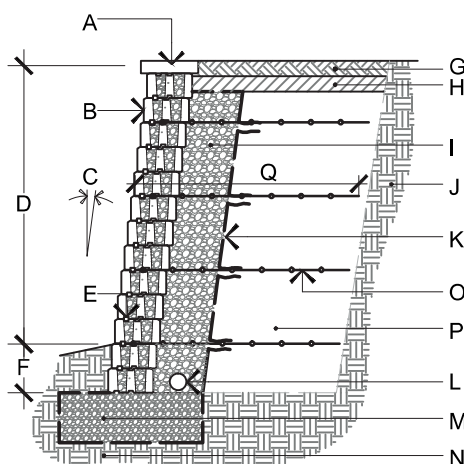
For all possible combinations of pillars and caps, please refer to the correspondence table on page 140

## GRAVITY AND REINFORCED WALLS - SEMMA



### GRAVITY WALL DETAIL

- A.** CAP FROM TECO-BLOC
- B.** SEMMA BLOCK FROM TECO-BLOC
- C.** WALL INCLINATION (7.6°)
- D.** EXPOSED HEIGHT
- E.** HDPE HORIZONTAL KEY
- F.** EMBEDMENT DEPTH
- G.** TOP SOIL
- H.** LOW PERMEABILITY SOIL
- I.** 3/4" (20 mm) CLEAN STONE, 13" (330 mm) THICK MIN.



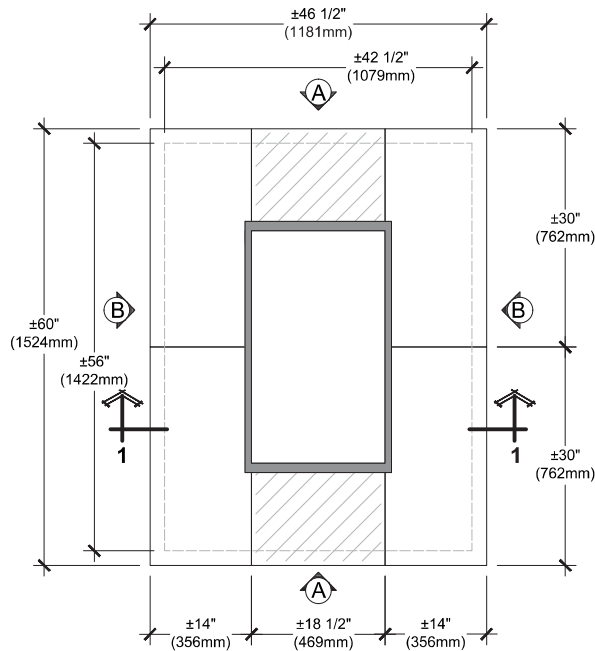
### REINFORCED WALL DETAIL

- J.** RETAINED SOIL
- K.** GEOTEXTILE
- L.** PERFORATED DRAIN
- M.** LEVELING PAD
- N.** FOUNDATION SOIL
- O.** GEOGRID
- P.** REINFORCED SOIL
- Q.** GEOGRID LENGTH

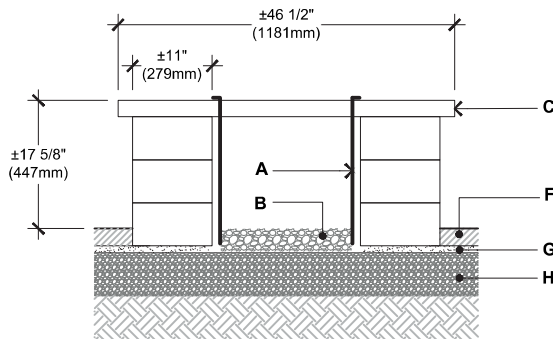
PLEASE REFER TO P.4 FOR THE CORRECT USE AND LIMITATIONS OF PROVIDED TECHNICAL INFORMATION.

# INSTALLATION GUIDE

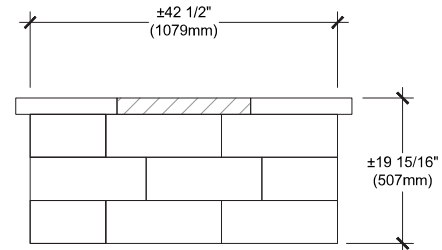
## FIREPIT - SEMMA



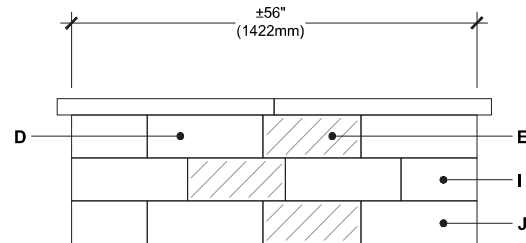
TOP



SECTION 1-1



ELEVATION A



ELEVATION B

 CUT ON FIELD

- A. STEEL BOX INSERT
- B. CLEAN STONE 3/4" (20 mm), 4" (100 mm) THICK
- C. PIEDIMONTE CAP 14"x30" (CUT ON FIELD AS REQUIRED)
- D. SEMMA BLOCK (A OR B UNIT)
- E. SEMMA BLOCK (A OR B UNIT) CUT ON FIELD AS REQUIRED
- F. TECO-BLOC PAVERS OR SLABS
- G. SETTING BED 1" (25 mm)
- H. COMPACTED GRANULAR 0- 3/4" (0-20 mm)
- I. SEMMA PILLAR UNIT (LEFT CORNER)
- J. SEMMA PILLAR (RIGHT CORNER)

### QUANTITY OF MATERIALS REQUIRED

Piedimonte Cap (14"x30"): 6  
 Semma (A or B): 24  
 Semma Pillar: 12 (8 RIGHT CORNER, 4 LEFT CORNERS)

NOTE: Secure the blocks using a heat resistant concrete adhesive.  
 The installer must ensure that the installation and use of the firepit comply with local regulations and code requirements.

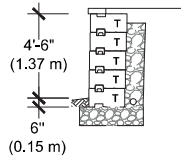
### ALLOWABLE STRESS DESIGN

CLEAN SAND/ SAND AND GRAVEL MIXES ( $\phi=34^\circ$ ,  $\gamma = 130$  pcf)

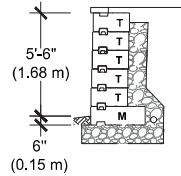
CASE N° 1 :

No Surcharge  
No Backslope  
No Toe Slope

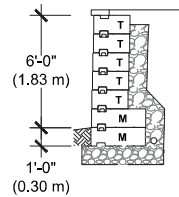
**5 ft (1.52 m) Total Height**  
T: 5



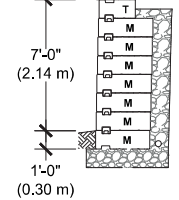
**6 ft (1.83 m) Total Height**  
T: 5  
M: 1



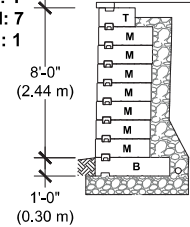
**7 ft (2.13 m) Total Height**  
T: 5  
M: 2



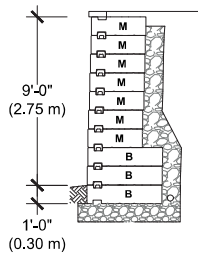
**8 ft (2.44 m) Total Height**  
T: 1  
M: 7



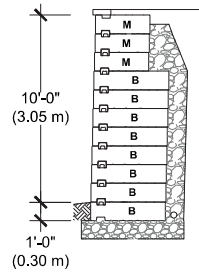
**9 ft (2.74 m) Total Height**  
T: 1  
M: 7  
B: 1



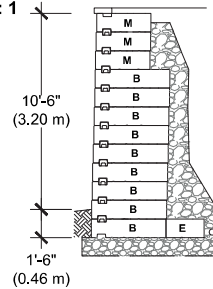
**10 ft (3.05 m) Total Height**  
M: 7  
B: 3



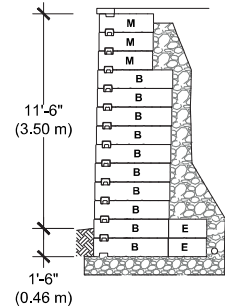
**11 ft (3.35 m) Total Height**  
M: 3  
B: 8



**12 ft (3.66 m) Total Height**  
M: 3  
B: 8  
BE: 1

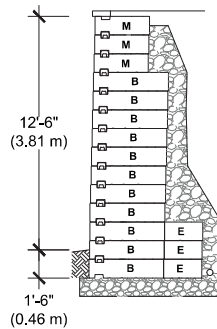


**13 ft (3.96 m) Total Height**  
M: 3  
B: 8  
BE: 2

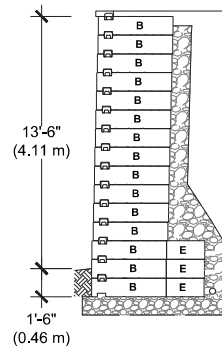


VISIT [WWW.TECHO-BLOC.COM](http://WWW.TECHO-BLOC.COM) FOR COMPLETE DESIGN CHART DOCUMENT  
(USA AND CANADA VERSIONS)

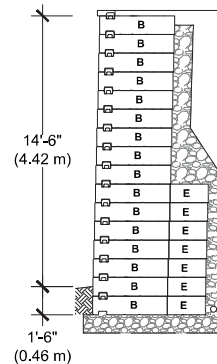
**14 ft (4.27 m) Total Height**  
M: 3  
B: 8  
BE: 3



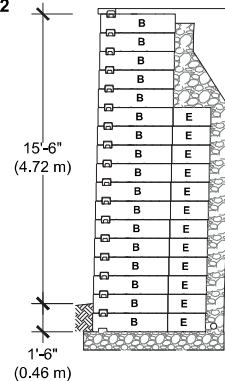
**15 ft (4.57 m) Total**  
B: 12  
BE: 3



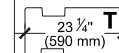
**16 ft (4.88 m) Total Height**  
B: 9  
BE: 7



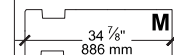
**17 ft (5.18 m) Total Height**  
B: 5  
BE: 12



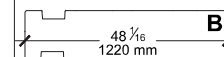
### LEGEND :



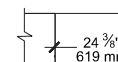
TOP UNIT



MIDDLE UNIT



BASE UNIT



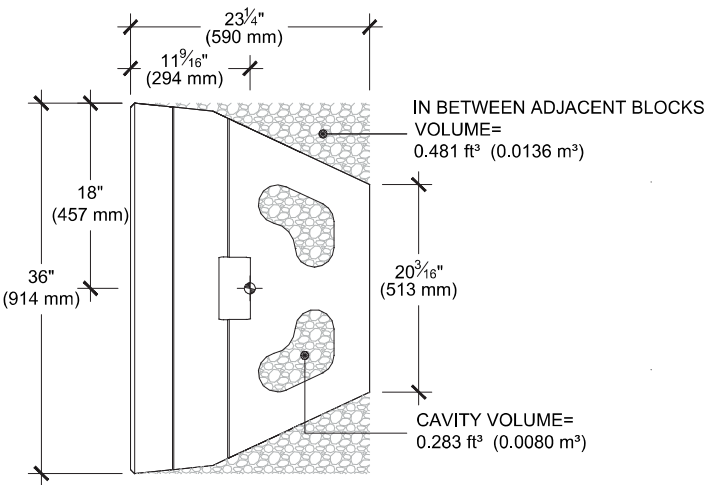
EXTENDER UNIT

- The information contained in the design charts is supplied for information purposes only and as such should only be used for preliminary designs.
- The height (H) of the wall does not include the thickness of the cap.
- Soil parameters: retained soil ( $\phi=34^\circ$ ,  $\gamma = 130$  pcf); foundation soil ( $\phi=34^\circ$ ,  $\gamma = 120$  pcf)
- A qualified engineer should be consulted for the final design to be used for construction.
- The foundation soil must be able to support the wall system. The bearing capacity of the foundation soil, settlement, and global stability must be verified and validated by a qualified geotechnical engineer.
- The seismic analysis is not included.
- The design charts do not apply to tiered walls.
- The charts assume that the walls are constructed in accordance with Techo-Bloc specifications, good construction practice and an adequate drainage system.
- Engineering judgement should be used when interpolating between heights.
- Techo-Bloc and its predecessors, successors, beneficiaries, employees, associates, administrators and insurers accepts no liability for the incorrect use of information contained in the design charts.
- For further information, please contact our technical service department.



# INSTALLATION GUIDE

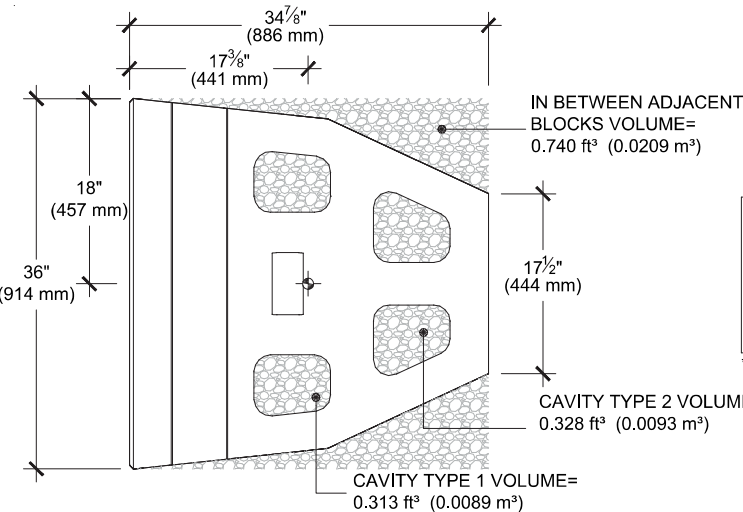
## CAVITY INFILL - SKYSCRAPER



### SKYSCRAPER TOP

AGGREGATE INFILL QUANTITY	PER UNIT	±1.53 ft³	(±0.043 m³)
		±147.91 lb	(±66.65 kg)
	PER WALL AREA	± 0.51 ft³/ ft²	(±0.16 m³/m²)
		±49.37 lb/ft²	(±248 kg/m²)

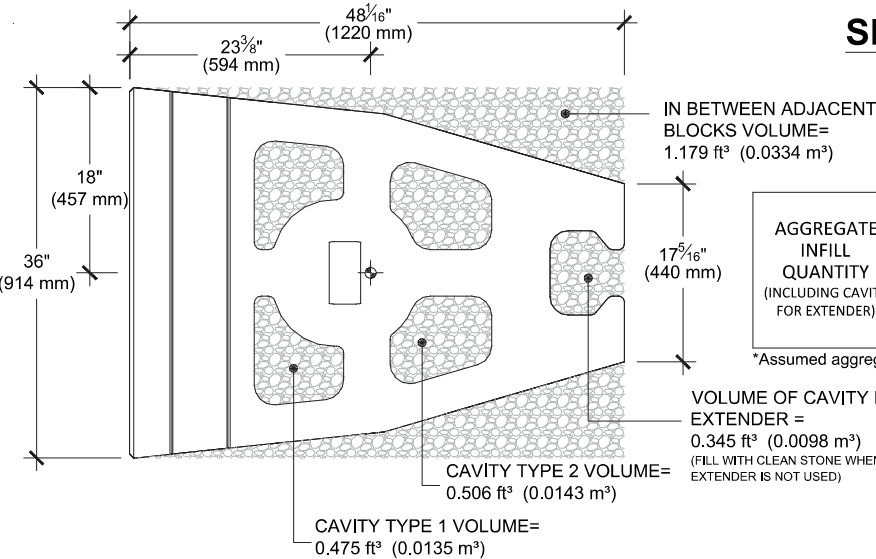
\*Assumed aggregate unit weigh of 96.8 lb/ft³ (1550 kg/m³)



### SKYSCRAPER MIDDLE

AGGREGATE INFILL QUANTITY	PER UNIT	±2.76 ft³	(±0.078 m³)
		±267.17 lb	(±120.9 kg)
	PER WALL AREA	± 0.92 ft³/ ft²	(±0.28 m³/m²)
		±89.06 lb/ft²	(±434 kg/m²)

\*Assumed aggregate unit weigh of 96.8 lb/ft³ (1550 kg/m³)



### SKYSCRAPER BASE

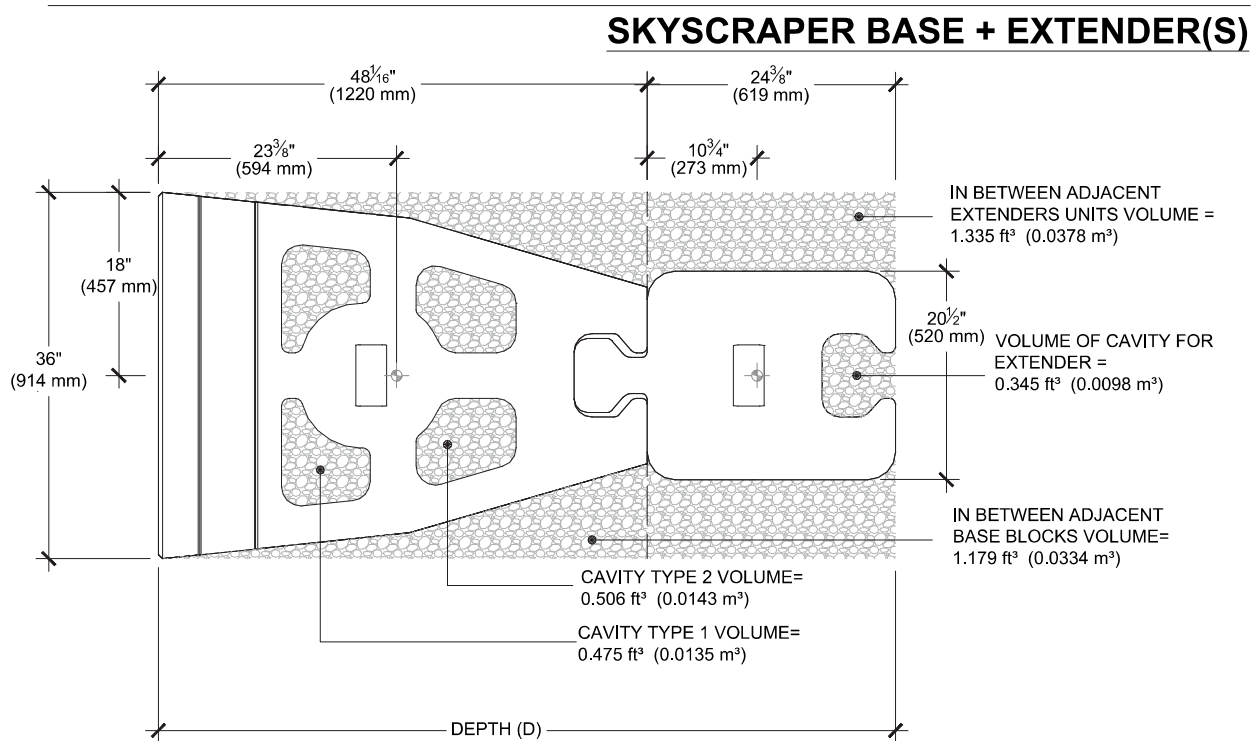
AGGREGATE INFILL QUANTITY (INCLUDING CAVITY FOR EXTENDER)	PER UNIT	±4.67 ft³	(±0.132 m³)
		±452.06 lb	(±204.6 kg)
	PER WALL AREA	± 1.56 ft³/ ft²	(±0.47 m³/m²)
		±151.01 lb/ft²	(±728.5 kg/m²)

\*Assumed aggregate unit weigh of 96.8 lb/ft³ (1550 kg/m³)



# INSTALLATION GUIDE

## CAVITY INFILL - SKYSCRAPER



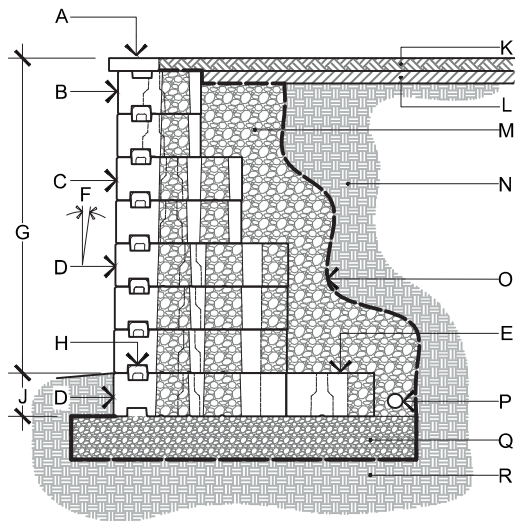
**Aggregate Infill Quantity**  
(INCLUDING CAVITY FOR EXTENDER)

# OF EXTENDERS	DEPTH (D)	PER UNIT				PER WALL AREA			
1	72 3/8 " 1839 mm	$\pm 7.35 \text{ ft}^3$	( $\pm 0.208 \text{ m}^3$ )	$\pm 711 \text{ lb}$	( $\pm 322 \text{ kg}$ )	$\pm 2.45 \text{ ft}^3/\text{ft}^2$	( $\pm 0.75 \text{ m}^3/\text{m}^2$ )	$\pm 237 \text{ lb}/\text{ft}^2$	( $\pm 1163 \text{ kg}/\text{m}^2$ )
2	96 3/4 " 2458 mm	$\pm 10.02 \text{ ft}^3$	( $\pm 0.283 \text{ m}^3$ )	$\pm 970 \text{ lb}$	( $\pm 439 \text{ kg}$ )	$\pm 3.34 \text{ ft}^3/\text{ft}^2$	( $\pm 1.02 \text{ m}^3/\text{m}^2$ )	$\pm 323 \text{ lb}/\text{ft}^2$	( $\pm 1581 \text{ kg}/\text{m}^2$ )
3	121 1/8 " 3077 mm	$\pm 12.69 \text{ ft}^3$	( $\pm 0.359 \text{ m}^3$ )	$\pm 1228 \text{ lb}$	( $\pm 556 \text{ kg}$ )	$\pm 4.23 \text{ ft}^3/\text{ft}^2$	( $\pm 1.29 \text{ m}^3/\text{m}^2$ )	$\pm 409 \text{ lb}/\text{ft}^2$	( $\pm 2000 \text{ kg}/\text{m}^2$ )
4	145 1/2 " 3696 mm	$\pm 15.36 \text{ ft}^3$	( $\pm 0.435 \text{ m}^3$ )	$\pm 1487 \text{ lb}$	( $\pm 674 \text{ kg}$ )	$\pm 5.12 \text{ ft}^3/\text{ft}^2$	( $\pm 1.56 \text{ m}^3/\text{m}^2$ )	$\pm 496 \text{ lb}/\text{ft}^2$	( $\pm 2418 \text{ kg}/\text{m}^2$ )
5	169 7/8 " 4315 mm	$\pm 18.03 \text{ ft}^3$	( $\pm 0.510 \text{ m}^3$ )	$\pm 1745 \text{ lb}$	( $\pm 791 \text{ kg}$ )	$\pm 6.01 \text{ ft}^3/\text{ft}^2$	( $\pm 1.83 \text{ m}^3/\text{m}^2$ )	$\pm 582 \text{ lb}/\text{ft}^2$	( $\pm 2837 \text{ kg}/\text{m}^2$ )
6	194 1/4 " 4934 mm	$\pm 20.70 \text{ ft}^3$	( $\pm 0.586 \text{ m}^3$ )	$\pm 2004 \text{ lb}$	( $\pm 908 \text{ kg}$ )	$\pm 6.9 \text{ ft}^3/\text{ft}^2$	( $\pm 2.1 \text{ m}^3/\text{m}^2$ )	$\pm 668 \text{ lb}/\text{ft}^2$	( $\pm 3255 \text{ kg}/\text{m}^2$ )

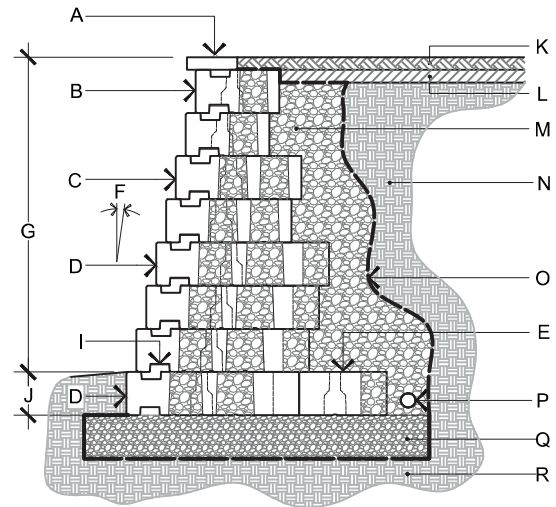
\*Assumed aggregate unit weight of  $96.8 \text{ lb}/\text{ft}^3$  (1550  $\text{kg}/\text{m}^3$ )

# INSTALLATION GUIDE

## GRAVITY WALLS - SKYSCRAPER



**GRAVITY NEAR VERTICAL WALL DETAIL**



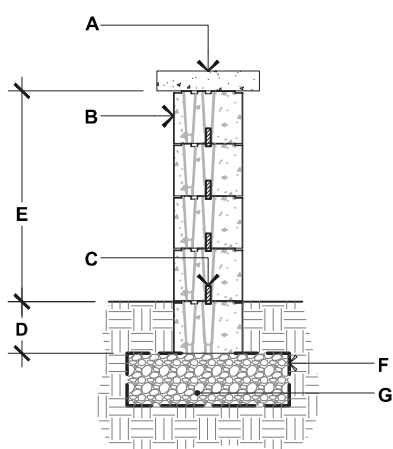
**GRAVITY INCLINED WALL DETAIL**

- A. CAP FROM TECO-BLOC
- B. SKYSCRAPER TOP UNIT FROM TECO-BLOC
- C. SKYSCRAPER MIDDLE UNIT FROM TECO-BLOC
- D. SKYSCRAPER BASE UNIT FROM TECO-BLOC
- E. SKYSCRAPER EXTENDER UNIT FROM TECO-BLOC
- F. WALL INCLINATION:  
- 0.8° (NEAR VERTICAL)  
- 12.7° (INCLINED)
- G. EXPOSED HEIGHT
- H. PRECAST CONCRETE "U" CONNECTOR

- I. PRECAST CONCRETE "Z" CONNECTOR
- J. EMBEDMENT DEPTH
- K. TOP SOIL
- L. LOW PERMEABILITY SOIL
- M. 3/4" (20 mm) CLEAN STONE, 12" (300 mm) THICK MIN
- N. RETAINED SOIL
- O. GEOTEXTILE
- P. PERFORATED DRAIN
- Q. LEVELING PAD
- R. FOUNDATION SOIL

# INSTALLATION GUIDE

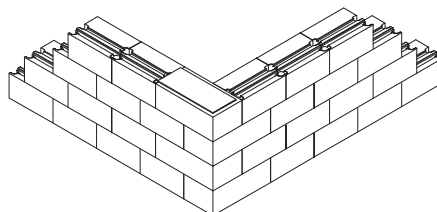
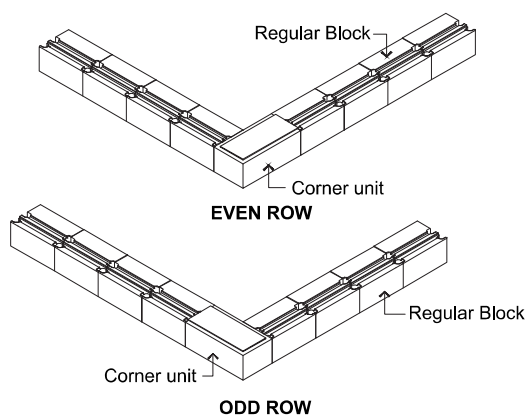
## FREESTANDING WALLS - TRAVERTINA RAW



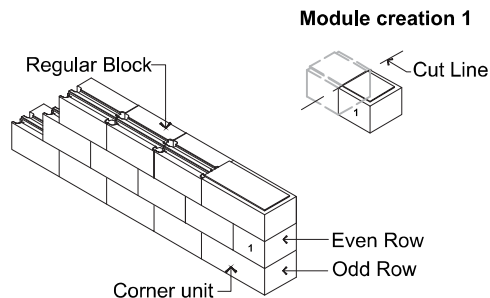
### TRAVERTINA RAW

- A.** TECO-BLOC CAP UNIT, SECURED TO UNIT BELOW WITH FLEXLOCK ADHESIVE
- B.** TRAVERTINA RAW DOUBLE-SIDED WALL UNIT  
SECURE EACH ROW WITH FLEXLOCK ADHESIVE
- C.** CONNECTOR
- D.** EMBEDMENT DEPTH, 6" (150 mm) MIN.
- E.** 24" (612 mm) MAX.
- F.** GEOTEXTILE
- G.** COMPACTED GRANULAR LEVELING PAD, 6" (150 mm) THICK MIN.  
THICKNESS ACCORDING TO PROJECT SPECIFIC CONDITIONS

## 90° CORNER OF A DOUBLE-SIDED WALL



## DOUBLE-SIDED WALL - END OF A STRAIGHT WALL



### GENERAL NOTES

1. Alternate odd and even rows.
2. Stagger joints from one row to the next.
3. Glue all modules at each row with Flexlock adhesive.

