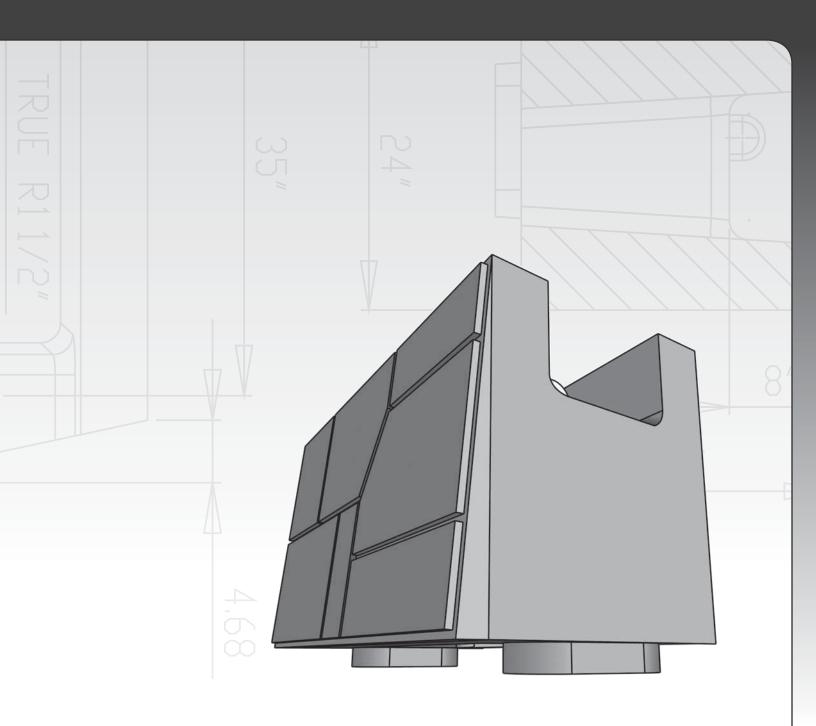
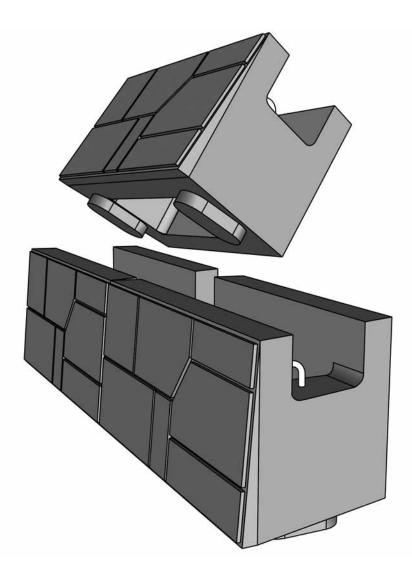
MAGNUMSTONETM

TECHNICAL REFERENCE MANUAL



3D Drawings I Unit Specifications I Cross Sections I Design Charts I Details



Our MagnumStone[™] product is a large block, hollow core, wet-cast segmental retaining wall system that uses nearly half the amount of concrete per face foot when compared to traditional solid systems. The environmental and economical advantages of the pre-cast hollow block MagnumStone[™] product are unprecedented in the retaining wall industry. Because of its size and design flexibility, MagnumStone[™] is ideal for almost any retaining wall project from residential to large commercial installations.

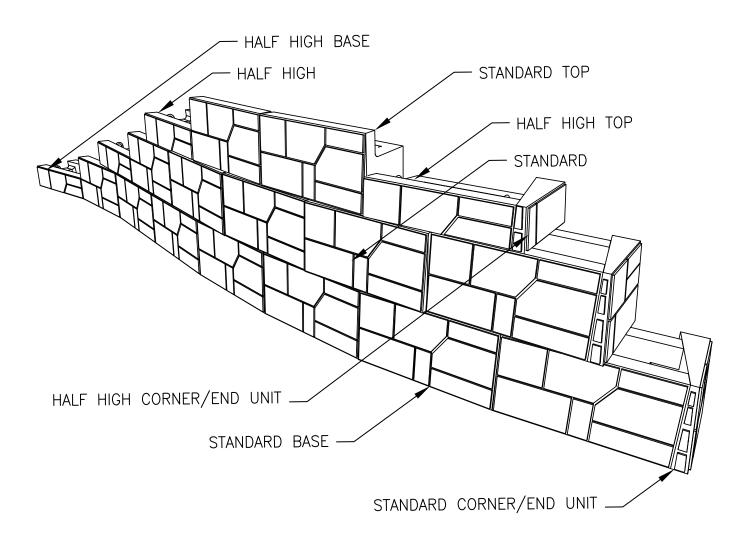
Unit to unit connection uses our patented, mortarless, SecureLug[™] interlock system (no expensive, time consuming pins or clips.) and are light enough that they can be moved two at a time with lighter machinery such as a standard Bobcat.

A wet cast segmental retaining wall product provides freeze/thaw durability advantages over competing products, a critical factor for the Departments Of Transport work that MagnumStone $^{\text{TM}}$ is very well suited for. The wet-cast process also allows for unique through-wall applications, face options and logo details for any type of project.

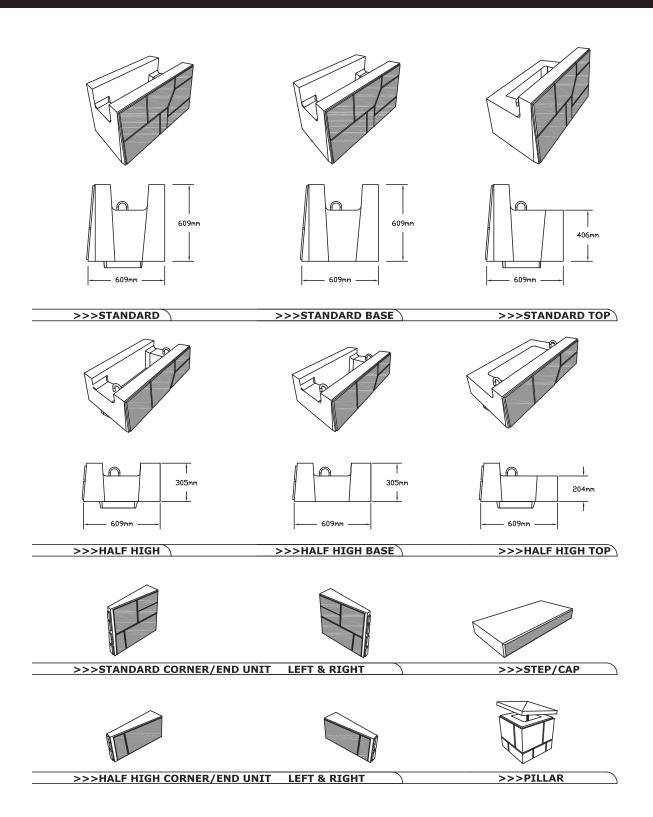
> > MagnumStone™ Technical Reference Index

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> > MagnumStone[™] System

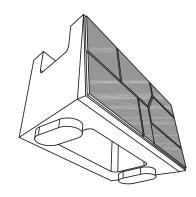


> > MagnumStone™ Units

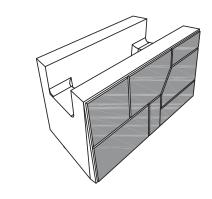


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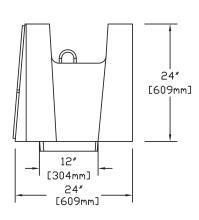
> > MagnumStone™ Standard Unit

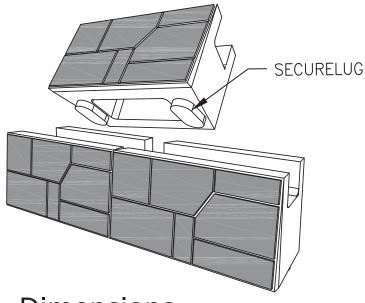


>>>ISOMETRIC BOTTOM VIEW



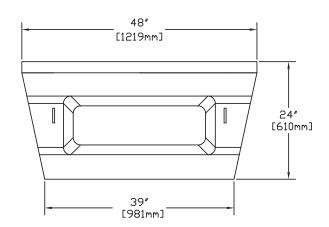
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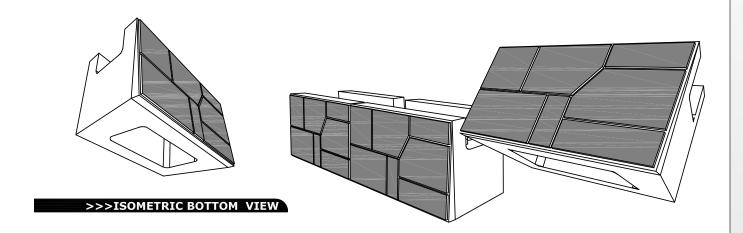
Dimensions

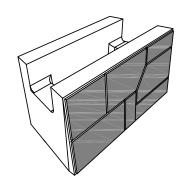
Face Width 1219mm Back Width 991mm Depth 610mm Height 610mm Face Area 0.74 sq m 2.0"/Unit Batter Vertical 0"/Unit Weight 621Kg SecureLug 152x305x51mm



>>>SIDE VIEW

> > MagnumStone™ Standard Base Unit

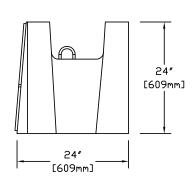


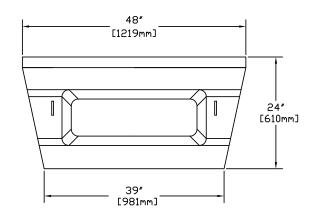


Dimensions

48" Face Width 1219mm 39" Back Width 991mm Depth 24" 610mm Height 24" 610mm Face Area 8 sq ft 0.74 sq m 4.5° 2.0"/Unit Batter ٥٥ 0"/Únit Vertical Weight 1345lbs 621Kg

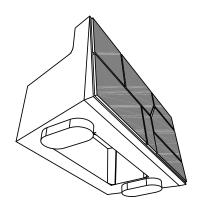
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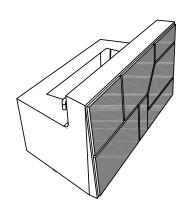


>>>SIDE VIEW

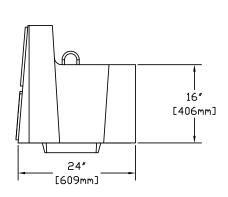
> > MagnumStone™ Standard Top Unit



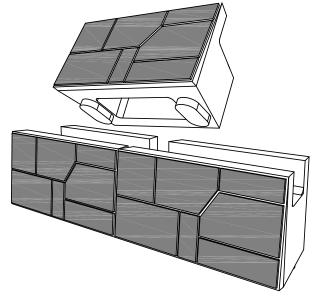
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>>>ISOMETRIC TOP VIEW

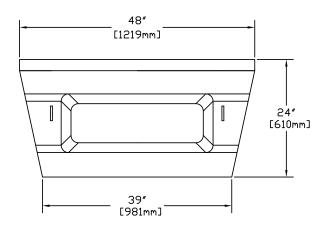




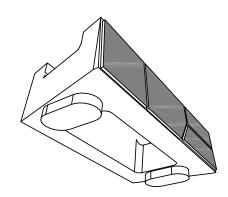


Dimensions

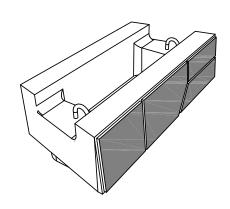
48" Face Width 1219mm Back Width 39" 991mm 24" Depth 610mm 24" Height 610mm 8 sq ft 0.74 sq m Face Area 4.5° 2.0"/Unit Batter 0° 0"/Unit Vertical Weight 1220lbs 553Kg



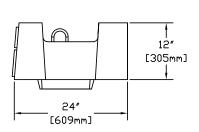
> > MagnumStone™ Half High Unit

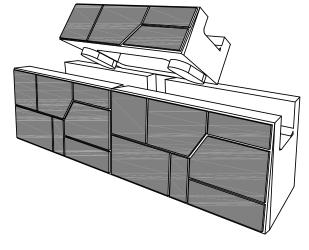


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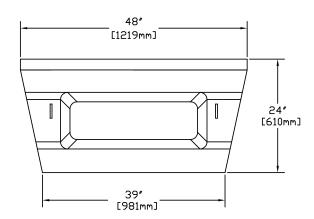
>>>ISOMETRIC TOP VIEW





Dimensions

Face Width	48"	1219mm
Back Width	39"	991mm
Depth	24"	610mm
Height	12"	305mm
Face Area	4 sq ft	0.37sq m
Batter	4.5°	1.0"/Unit
Vertical	0°	0"/Unit
Weight	750lbs	340Kg

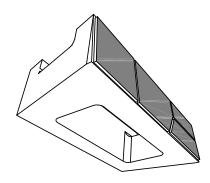


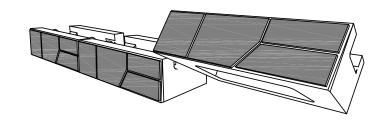
>>>SIDE VIEW

>>> TOP VIEW

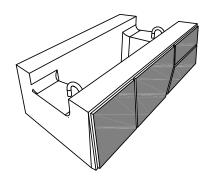
Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.

> > MagnumStone™ Half High Base Unit





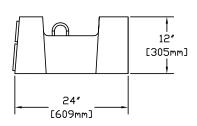
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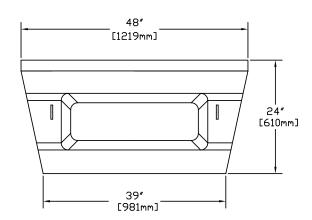


Dimensions

Face Width	48"	1219mm
Back Width	39"	991mm
Depth	24"	610mm
Height	12"	305mm
Face Area	4 sq ft	0.37sq m
Batter	4.5°	1.0"/Unit
Vertical	0°	0"/Unit
Weight	725lbs	328Kg

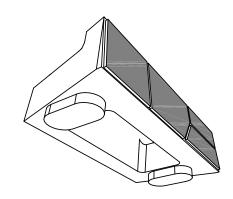
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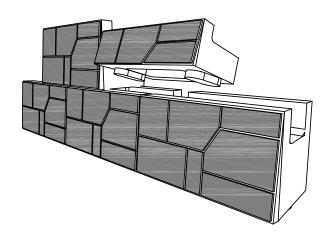


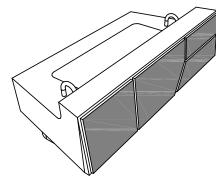
>>>SIDE VIEW

> > MagnumStone™ Half High Top Unit

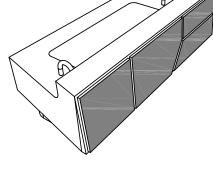


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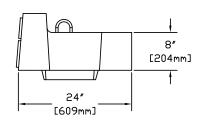


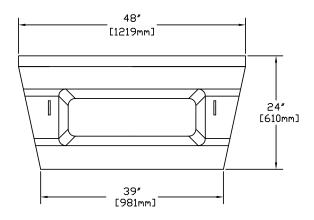


>>>ISOMETRIC TOP VIEW



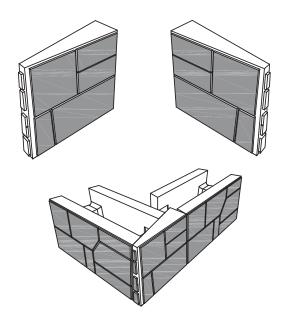
Dimensions





>>>SIDE VIEW

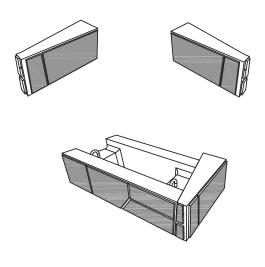
> > MagnumStone™ Corner/End Units



Dimensions

Top Face Width	26"	660mm
Bottom Face Width	28"	711mm
Top Narrow Face	2"	51mm
Bottom Narrow Face	4"	102mm
Height	24"	610mm
Face Area	4.66sq f	t 0.434 sq m
Batter	4.5°	2.0"/Unit
Vertical	0°	0"/Unit
Weight	340lbs	154Kg

>>>STANDARD CORNER/END UNIT



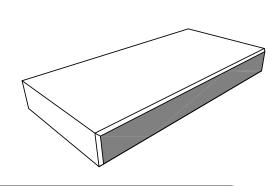
>>>HALF HIGH CORNER/END UNIT

Dimensions

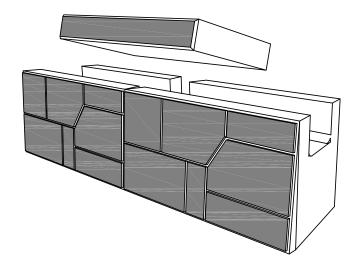
Top Face Width	27"	686mm
Bottom Face Width	28"	711mm
Top Narrow Face	3"	76mm
Bottom Narrow Face	4"	102mm
Height	24"	610mm
Face Area	2.33sq 1	ft 0.217 sq m
Batter	4.5°	1.0"/Unit
Vertical	0°	0"/Unit
Weight	170lbs	77Kg

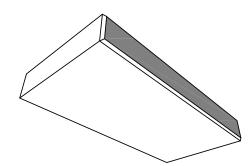
Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.

> > MagnumStone[™] Step/Cap Unit



>>>ISOMETRIC BOTTOM VIEW

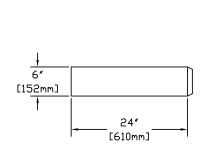


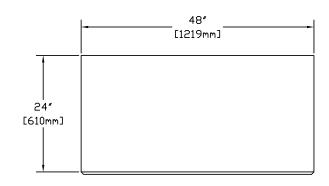


Dimensions

48" Face Width 1219mm 48" Back Width 1219mm 24" Depth 610mm Height 6" 152mm Face Area 2 sq ft 0.186 sq m 290İbs Weight 131Kg

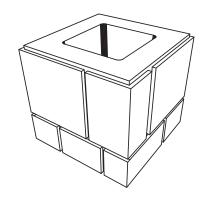
>>>ISOMETRIC TOP VIEW



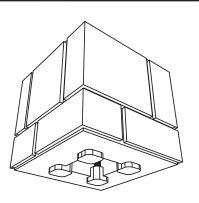


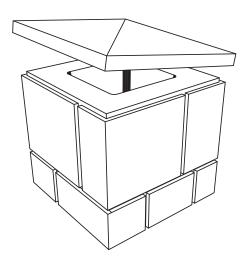
>>>SIDE VIEW

> > MagnumStone™ Pillar & Pillar Cap Unit



>>>ISOMETRIC BOTTOM VIEW

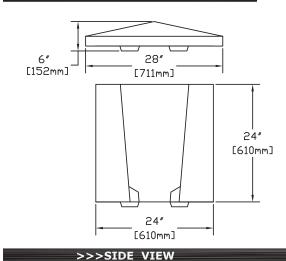


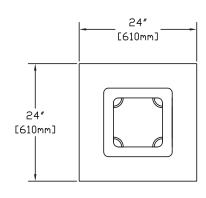


Dimensions

Face Widths 24" 610mm
Height 24" 610mm
Face Area 4 sq ft 0.37 sq m
Batter 0° 0"/Unit
Weight 870lbs 394Kg

>>>ISOMETRIC TOP VIEW



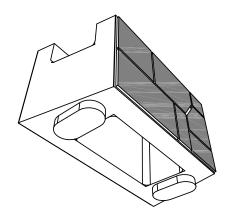


>>> TOP VIEW

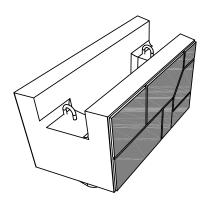
DISCLAIMER: This product is not available in all areas.

Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.

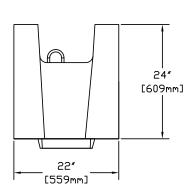
> > MagnumStone™ Double Sided Unit

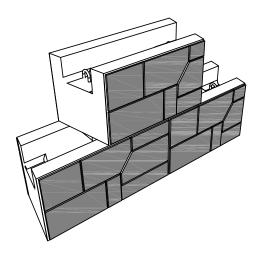


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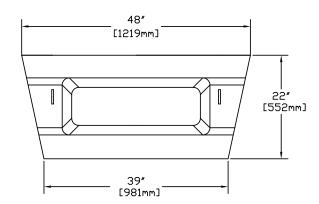
>>>ISOMETRIC TOP VIEW





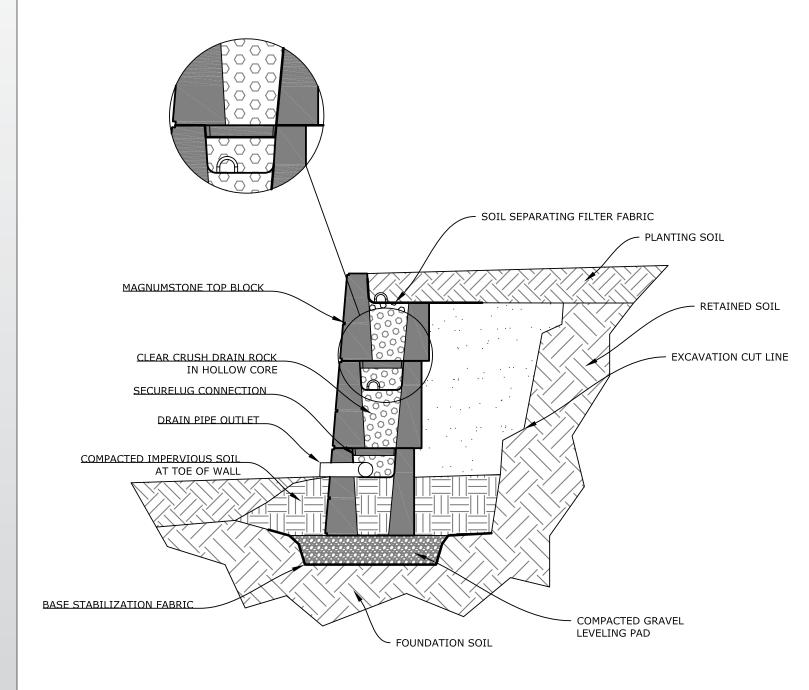
Dimensions

48" Face Width 1219mm 39" Back Width 991mm Depth 22" 559mm Height 24" 610mm Face Area 4 sq ft 0.37sq m ٥٥ 0"/Unit Vertical Weight 1345lbs 625Kg

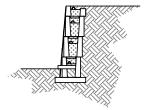


>>>SIDE VIEW

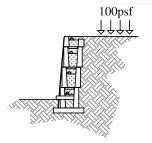
> > MagnumStone™ Gravity Wall



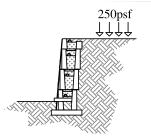
> > MagnumStone™ Gravity Wall Charts



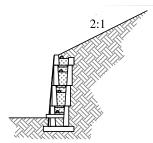
Soil Type	Height Exposed	Height Embedded	Total
AASHTO #57	8.1' (2469mm)	0.5' (152mm)	8.6' (2621mm)
34° Soil	6.6' (2012mm)	0.5' (152mm)	7.1' (2164mm)
30° Soil	5.9' (1798mm)	0.5' (152mm)	6.4' (1951mm)
26° Soil	4.9' (1494mm)	0.5' (152mm)	5.4' (1646mm)



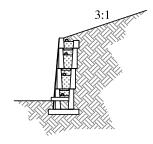
Soil Type	Height Exposed	Height Embedded	Total
AASHTO #57	6.6' (2012mm)	0.5' (152mm)	7.1' (2164mm)
34° Soil	5.4' (1646mm)	0.5' (152mm)	5.9' (1798mm)
30° Soil	4.4' (1341mm)	0.5' (152mm)	4.9' (1494mm)
26° Soil	3.3' (1006mm)	0.5' (152mm)	3.8' (1158mm)



Soil Type	Height Exposed	Height Embedded	Total
AASHTO #57	4.9' (1494mm)	0.5' (152mm)	5.4' (1646mm)
34° Soil	3.3' (1006mm)	0.5' (152mm)	3.8' (1158mm)
30° Soil	2.0' (610mm)	0.5' (152mm)	2.5' (762mm)
26° Soil	0.9' (274mm)	0.5' (152mm)	1.4' (427mm)



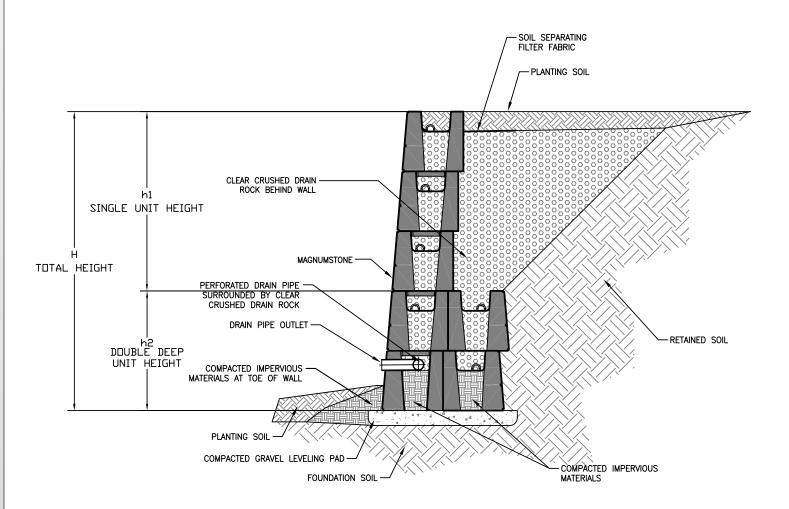
Soil Type	Height Exposed	Height Embedded	Total
AASHTO #57	6.5' (1981mm)	0.5' (152mm)	7.0' (2134mm)
34° Soil	4.5' (1372mm)	0.5' (152mm)	5.0' (1524mm)
30° Soil	3.2' (975mm)	0.5' (152mm)	3.7' (1128mm)
26° Soil			



Soil Type	Height Exposed	Height Embedded	Total
AASHTO #57	7.1' (2164mm)	0.5' (152mm)	7.6' (2316mm)
34° Soil	5.6' (1707mm)	0.5' (152mm)	6.1' (1859mm)
30° Soil	4.4' (1341mm)	0.5' (152mm)	4.9' (1494mm)
26° Soil	3.3' (1006mm)	0.5' (152mm)	3.8' (1158mm)

DISCLAIMER. This chart is for initial estimation purposes only. Do not use for final design or construction. Retain a licensed professional engineer to design every wall on a case-by-case basis using site specific criteria. The accuracy and use of this document are the sole responsibility of the user. All calculations were performed based on NCMA methodology using factors of safety of 1.5 for sliding and overturning. The bearing capacity of base soils will be no less than 3,000 pounds per square foot (psf). All soils have been assumed to be less than 125 pounds per cubic foot (pcf). Global Stability Analysis has not been performed.

> > MagnumStone™ Double Deep Gravity Wall



DISCLAIMER. This chart is for initial estimation purposes only. Do not use for final design or construction. Retain a licensed professional engineer to design every wall on a case-by-case basis using site specific criteria. The accuracy and use of this document are the sole responsibility of the user. All calculations were performed based on NCMA methodology using factors of safety of 1.5 for sliding and overturning. The bearing capacity of base soils will be no less than 3,000 pounds per square foot (psf). All soils have been assumed to be less than 125 pounds per cubic foot (pcf). Global Stability Analysis has not been performed.

> > MagnumStone™ Double Deep Gravity Wall Charts

Lower Tier (AASHTO #57) Upper Tier (AASHTO #57)

 φ_{soil} = 38° (min.) φ_{soil} = 38° (min.) γ_{soil} = 110pcf (max.) γ_{soil} = 110pcf (max.)

No Slope, No Load

Н	h1	h2
16' (4877mm)	0' (0mm)	16' (4877mm)
14' (4267mm)	2' (610mm)	12' (3658mm)
12' (3658mm)	5' (1524mm)	7' (2134mm)
10' (3048mm)	8' (2438mm)	3' (914mm)
9' (2134mm)	9' (2134mm)	0' (0mm)

2:1 Slope, No Load

Н	h1	h2
14' (4267mm)	0' (0mm)	14' (4267mm)
12' (3658mm)	1' (305mm)	11' (3353mm)
10' (3048mm)	4' (1219mm)	6' (1829mm)
8' (2438mm)	6' (1829mm)	2' (610mm)
7' (2134mm)	7' (2134mm)	0' (0mm)

3:1 Slope, No Load

Н	h1	h2
15' (4572mm)	0' (0mm)	15' (4572mm)
14' (4267mm)	0' (0mm)	14' (4267mm)
12' (3658mm)	3' (914mm)	9' (2743mm)
10' (3048mm)	5' (1524mm)	5' (1524mm)
8' (2438mm)	7' (2134mm)	1' (305mm)
8' (2438mm)	8' (2438mm)	0' (0mm)

No Slope, 100psf Load

Н	h1	h2
16' (4877mm)	0' (0mm)	16' (4877mm)
14' (4267mm)	1' (305mm)	13' (3962mm)
12' (3658mm)	3' (914mm)	9' (2743mm)
10' (3048mm)	6' (1829mm)	5' (1524mm)
8' (2438mm)	7' (2134mm)	1' (305mm)
7' (2134mm)	7' (2134mm)	0' (0mm)

No Slope, 250psf Load

Н	h1	h2
14' (4267mm)	0' (0mm)	14' (4267mm)
12' (3658mm)	1' (305mm)	11' (3353mm)
10' (3048mm)	3' (914mm)	7' (2134mm)
8' (2438mm)	5' (1524mm)	3' (914mm)
6' (1829mm)	6' (1829mm)	0' (0mm)
5' (1524mm)	5' (1524mm)	0' (0mm)

Lower Tier Upper Tier (AASHTO #57)

 $\varphi_{\text{soil}} = 30^{\circ} \text{ (min.)} \qquad \varphi_{\text{soil}} = 38^{\circ} \text{ (min.)}$ $\gamma_{\text{soil}} = 125 \text{pcf (max.)} \qquad \gamma_{\text{soil}} = 110 \text{pcf (max.)}$

No Slope, No Load

Н	h1	h2
13' (3962mm)	0' (0mm)	13' (3962mm)
12' (3658mm)	2' (610mm)	10' (3048mm)
10' (3048mm)	4' (1219mm)	6' (1829mm)
8' (2438mm)	6' (1829mm)	3' (914mm)
6' (1829mm)	6' (1829mm)	0' (0mm)

2:1 Slope, No Load

Н	h1	h2
7' (2134mm)	0' (0mm)	7' (2134mm)
7' (2134mm)	3' (914mm)	4' (1219mm)
6' (1829mm)	4' (1219mm)	2' (610mm)
4' (1219mm)	4' (1219mm)	1' (305mm)
4' (1219mm)	4' (1219mm)	0' (mm)

3:1 Slope, No Load

Н	h1	h2
10' (3048mm)	0' (0mm)	10' (3048mm)
8' (2438mm)	4' (1219mm)	4' (1219mm)
6' (1829mm)	5' (1524mm)	1' (305mm)
5' (1524mm)	5' (1524mm)	0' (0mm)

No Slope, 100psf Load

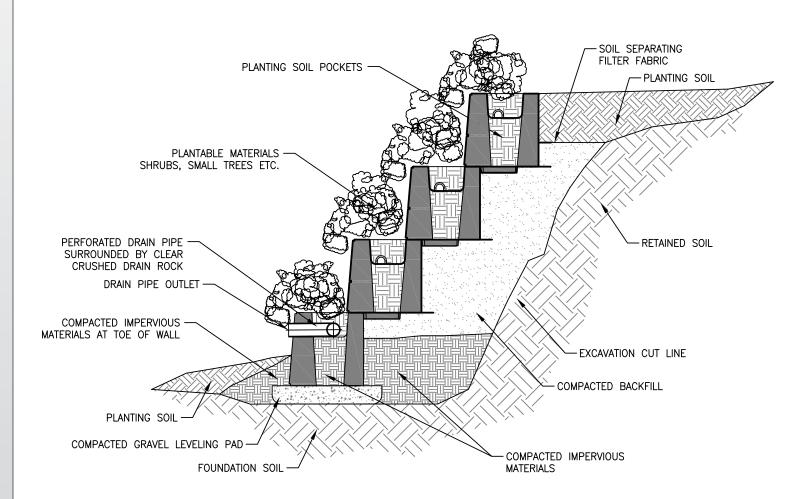
Н	h1	h2
11' (3353mm)	0' (0mm)	11' (3353mm)
10' (3048mm)	1' (305mm)	9' (2743mm)
8' (2438mm)	4' (1219mm)	4' (1219mm)
6' (1829mm)	5' (1524mm)	1' (305mm)
5' (1524mm)	5' (1524mm)	0 (0mm)

No Slope, 250psf Load

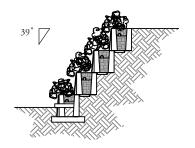
Н	h1	h2
9' (2743mm)	0' (0mm)	9' (2743mm)
8' (2438mm)	3' (914mm)	5' (1524mm)
6' (1829mm)	4' (1219mm)	2' (610mm)
4' (1219mm)	3' (914mm)	1' (305mm)
3' (914mm)	3' (914mm)	0' (0mm)

> > MagnumStone™ 2.0 Ft Plantable Wall

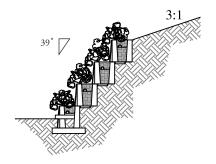




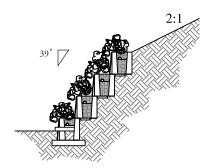
> > MagnumStone™ 2.0 Ft Plantable Wall Charts



Soil Type	Height Exposed	Height Embedded	Total
34° Soil	20.9' (6370mm)	1.1' (335mm)	22.0' (6706mm)
30° Soil	20.9' (6370mm)	1.1' (335mm)	22.2' (6767mm)
26° Soil	14.5' (4420mm)	0.8' (244mm)	15.3' (4663mm)



Soil Type	Height Exposed	Height Embedded	Total
34° Soil	20.9' (6370mm)	1.1' (335mm)	22.0' (6706mm)
30° Soil	17.8' (5425mm)	1.0' (305mm)	18.8' (5730mm)
26° Soil	10.8' (3292mm)	0.6' (183mm)	11.4' (3475mm)

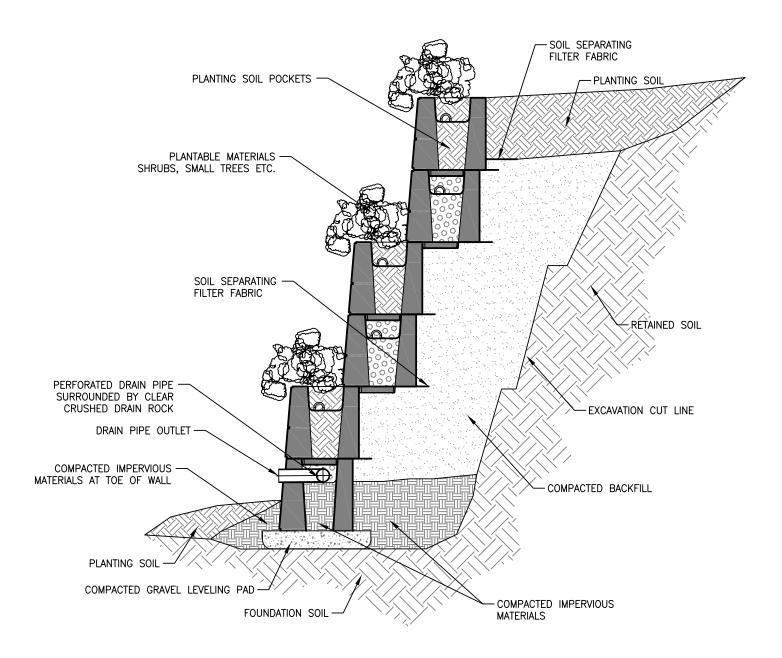


Soil Type	Height Exposed	Height Embedded	Total
34° Soil	20.9' (6370mm)	1.1' (335mm)	22.0' (6706mm)
30° Soil	13.4' (4084mm)	0.8' (244mm)	14.2' (4328mm)
26° Soil	N/A	N/A	N/A

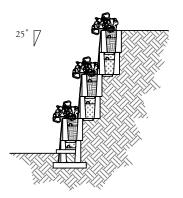
DISCLAIMER. This chart is for initial estimation purposes only. Do not use for final design or construction. Retain a licensed professional engineer to design every wall on a case-by-case basis using site specific criteria. The accuracy and use of this document are the sole responsibility of the user. All calculations were performed based on NCMA methodology using factors of safety of 1.5 for sliding and overturning. The bearing capacity of base soils will be no less than 3,000 pounds per square foot (psf). All soils have been assumed to be less than 125 pounds per cubic foot (pcf). Global Stability Analysis has not been performed.

> > MagnumStone™ 4.0 Ft Plantable Wall

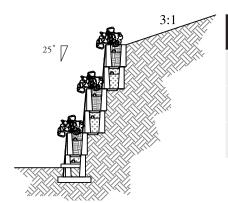
25°



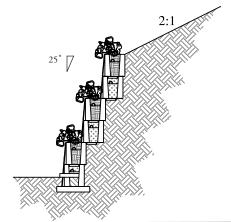
> > MagnumStone™ 4.0 Ft Plantable Wall Charts



Soil Type	Height Exposed	Height Embedded	Total
34° Soil	14.5' (4420mm)	0.8' (244mm)	15.3' (4663mm)
30° Soil	10.8' (3292mm)	0.6' (183mm)	11.4' (3475mm)
26° Soil	8.1' (2469mm)	0.5' (152mm)	8.6' (2621mm)



Soil Type	Height Exposed	Height Embedded	Total
34° Soil	11.8' (3597mm)	0.7' (213mm)	12.5' (3810mm)
30° Soil	8.4' (2560mm)	0.5' (152mm)	8.9' (2713mm)
26° Soil	5.8' (1768mm)	0.5' (152mm)	6.3' (1920mm)

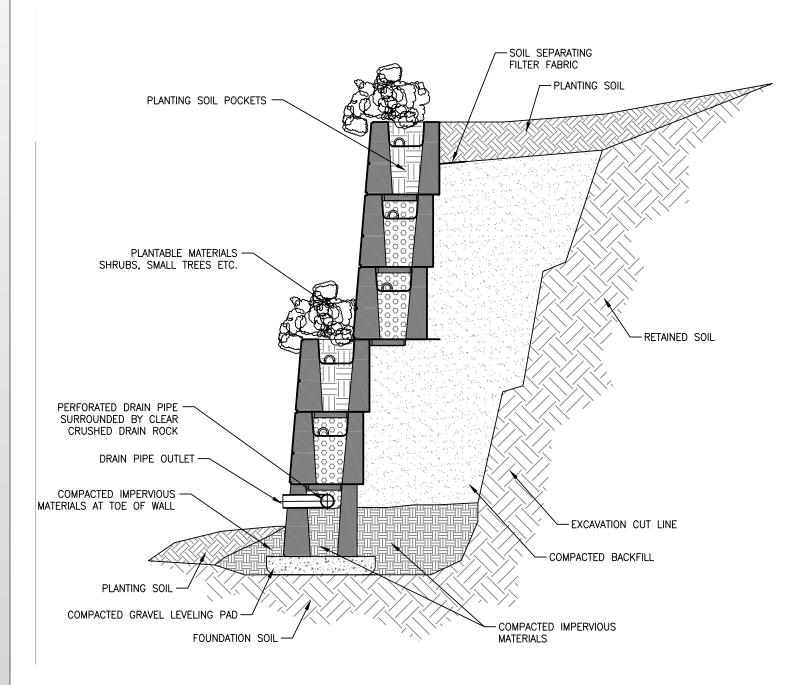


Soil Type	Height Exposed	Height Embedded	Total
34° Soil	9.8' (2987mm)	0.6' (183mm)	10.4' (3170mm)
30° Soil	6.2' (1890mm)	0.5' (152mm)	6.7' (2042mm)
26° Soil	N/A	N/A	N/A

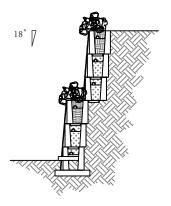
DISCLAIMER. This chart is for initial estimation purposes only. Do not use for final design or construction. Retain a licensed professional engineer to design every wall on a case-by-case basis using site specific criteria. The accuracy and use of this document are the sole responsibility of the user. All calculations were performed based on NCMA methodology using factors of safety of 1.5 for sliding and overturning. The bearing capacity of base soils will be no less than 3,000 pounds per square foot (psf). All soils have been assumed to be less than 125 pounds per cubic foot (pcf). Global Stability Analysis has not been performed.

> > MagnumStone™ 6.0 Ft Plantable Wall

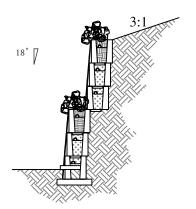
18° /



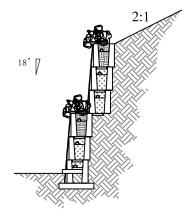
> > MagnumStone[™] 6.0 Ft Plantable Wall Charts



Soil Type	Height Exposed	Height Embedded	Total
34° Soil	10.9' (3322mm)	0.6' (183mm)	11.5' (3505mm)
30° Soil	8.5' (2591mm)	0.5' (152mm)	9.0' (2743mm)
26° Soil	6.6' (2012mm)	0.5' (152mm)	7.1' (2164mm)



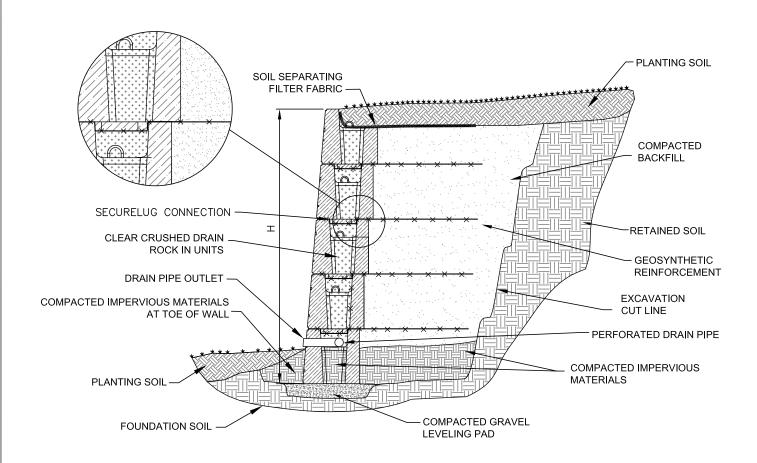
Soil Type	Height Exposed	Height Embedded	Total
34° Soil	8.8' (2682mm)	0.5' (152mm)	9.3' (2835mm)
30° Soil	6.4' (1951mm)	0.5' (152mm)	6.9' (2103mm)
26° Soil	4.7' (1433mm)	0.5' (152mm)	5.2 (1586mm)

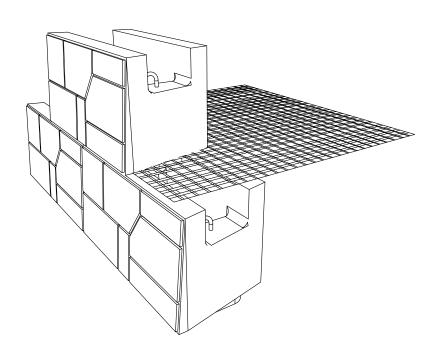


Soil Type	Height Exposed	Height Embedded	Total
34° Soil	7.2' (2195mm)	0.5' (152mm)	7.7' (2347mm)
30° Soil	4.8' (1463mm)	0.5' (152mm)	5.3' (1615mm)
26° Soil	N/A	N/A	N/A

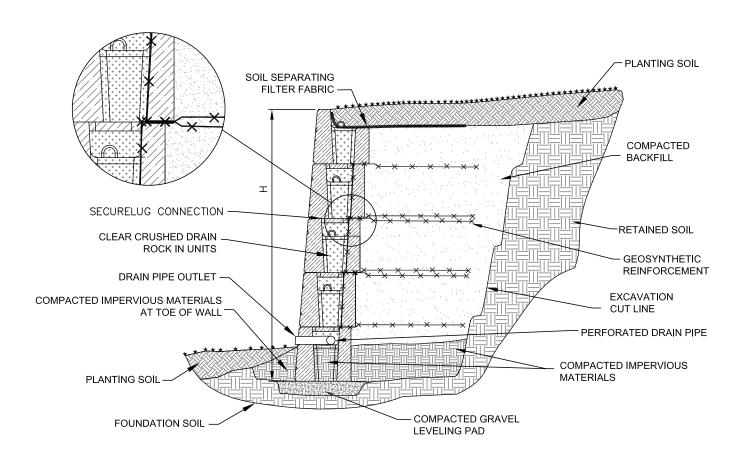
DISCLAIMER. This chart is for initial estimation purposes only. Do not use for final design or construction. Retain a licensed professional engineer to design every wall on a case-by-case basis using site specific criteria. The accuracy and use of this document are the sole responsibility of the user. All calculations were performed based on NCMA methodology using factors of safety of 1.5 for sliding and overturning. The bearing capacity of base soils will be no less than 3,000 pounds per square foot (psf). All soils have been assumed to be less than 125 pounds per cubic foot (pcf). Global Stability Analysis has not been performed.

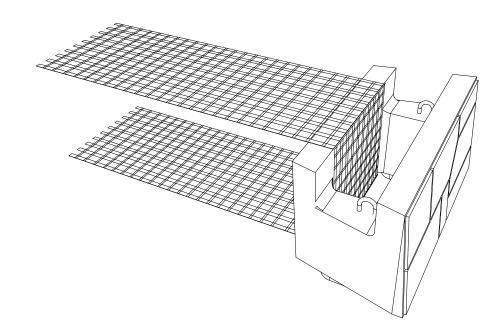
> > MagnumStone™ Geogrid Friction Wall



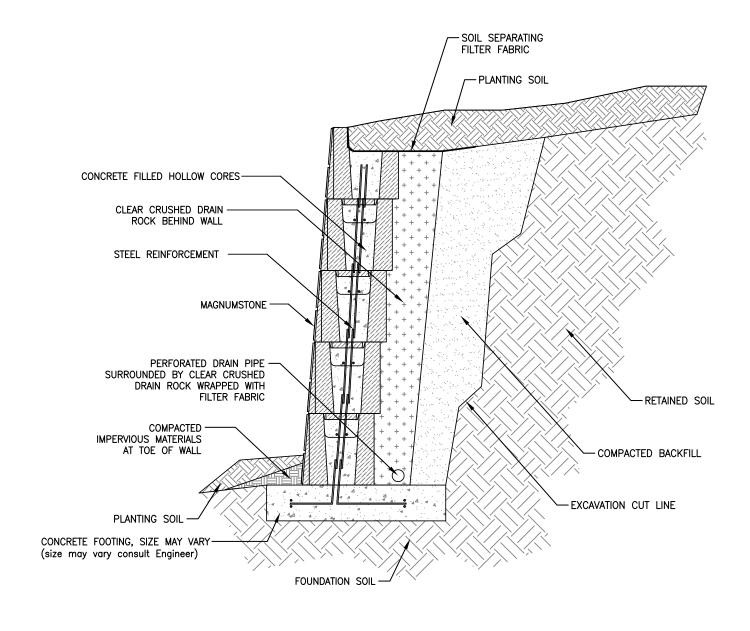


> > MagnumStone™ Positive Connection Wall

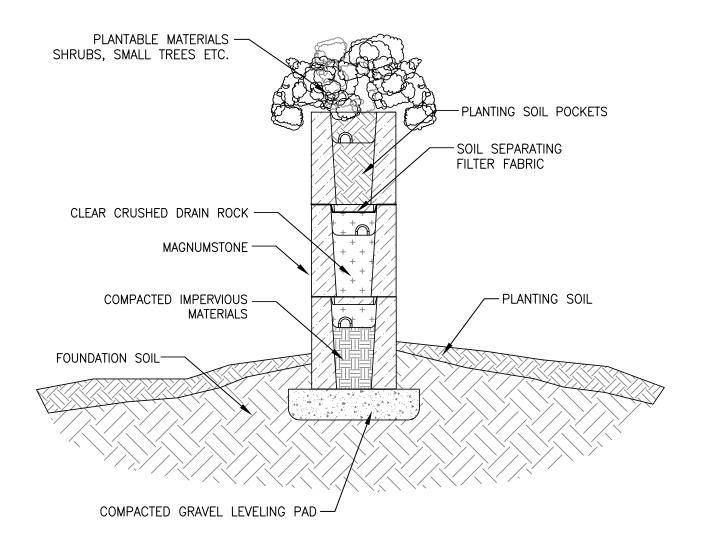


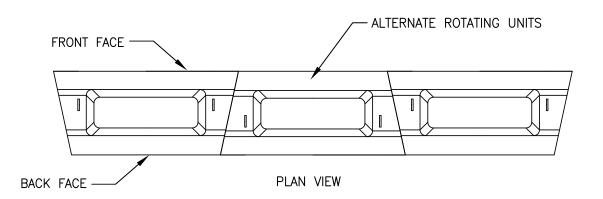


> > MagnumStone[™] Steel/Concrete Wall



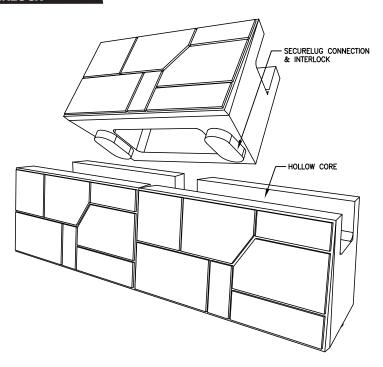
> > MagnumStone™ Free Standing Double Sided Wall



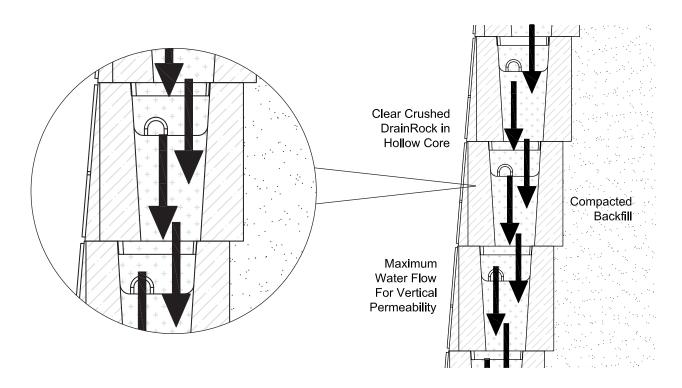


> > MagnumStone™ Interlock/Drainage

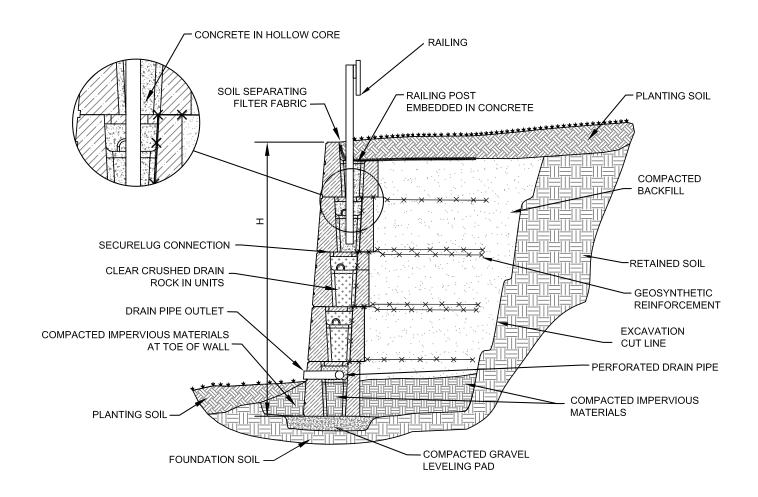
>>>INTERLOCK



>>>VERTICAL PERMEABILITY



> > MagnumStone™ Top of Wall Detail





If you require more information on MagnumStone™ please visit our website at magnumforms.ca.



Magnum Forms Inc Website



General Brochure



Installation Guide



Technical Reference

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