

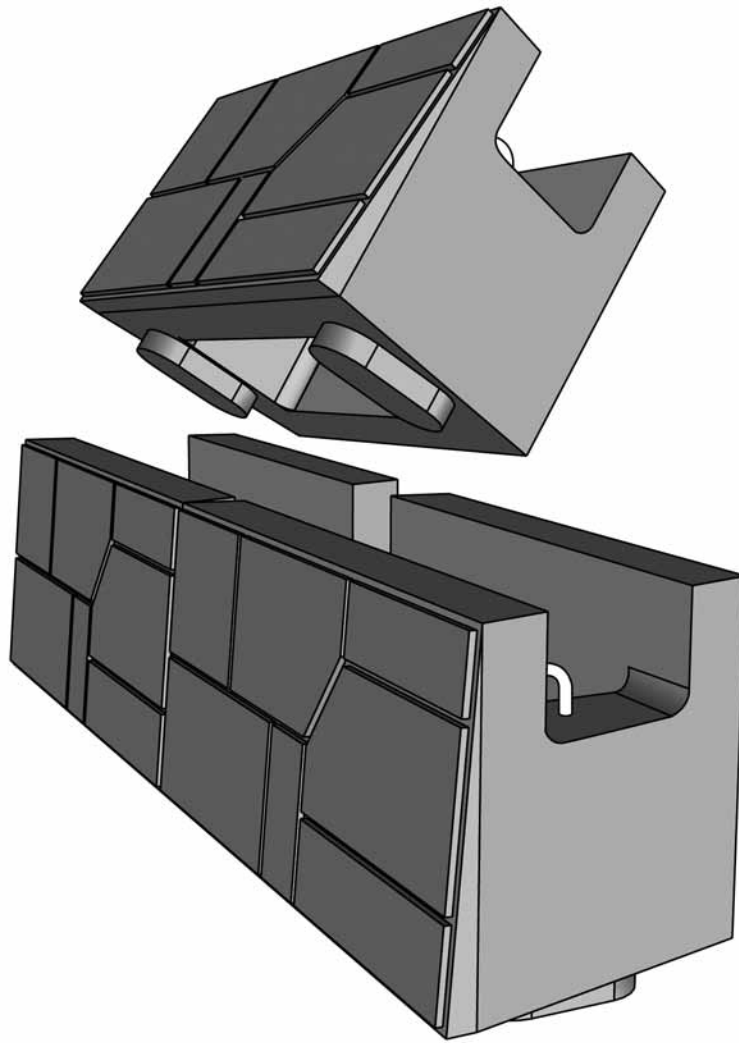
MAGNUMSTONE™

By CornerStone Wall Solutions Inc.

TECHNICAL REFERENCE MANUAL



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

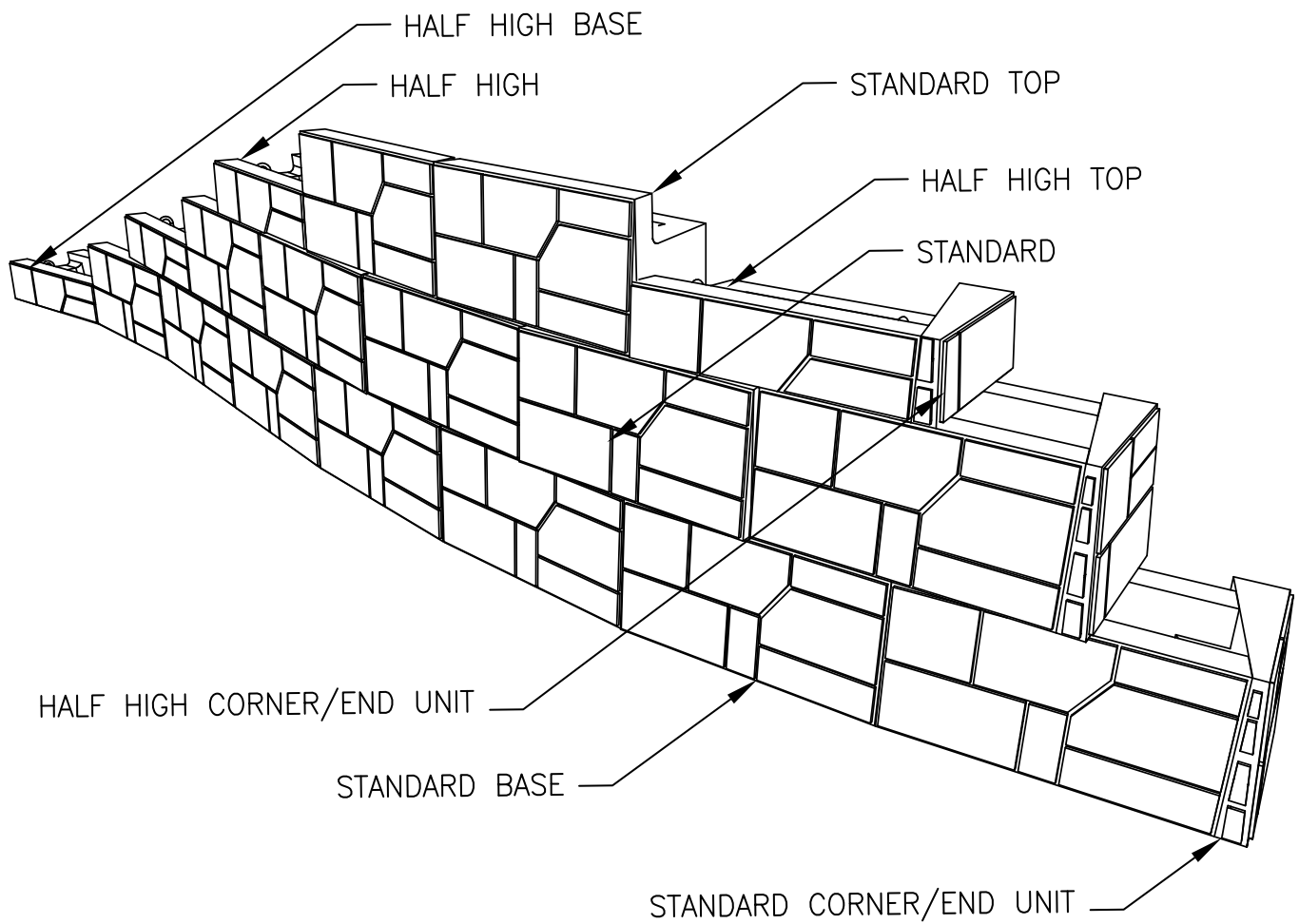


Our MagnumStone™ product is a large block, hollow core, wet-cast segmental retaining wall system that uses nearly half the amount of concrete per face foot when compared to traditional solid systems. The environmental and economical advantages of the pre-cast hollow block MagnumStone™ product are unprecedented 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.

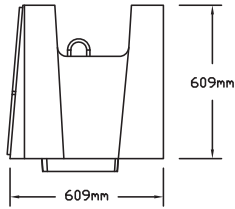
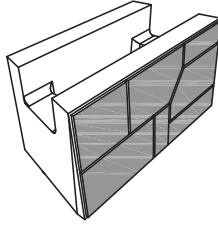
Unit to unit connection uses our patented, mortarless, SecureLug™ interlock system (no expensive, time consuming pins or clips.) and are light enough that they can be moved two at a time with lighter machinery such as a standard Bobcat.

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™ 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.

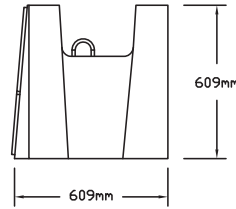
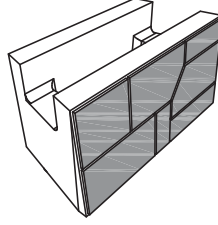
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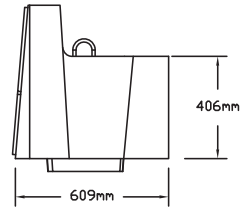
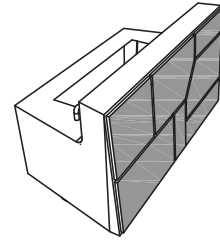
> > > MagnumStone™ Units



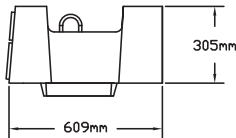
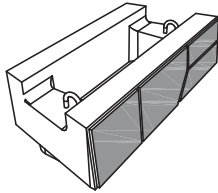
>>>STANDARD



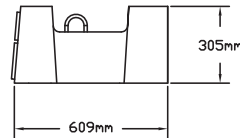
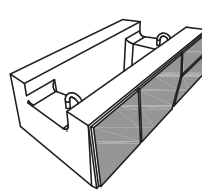
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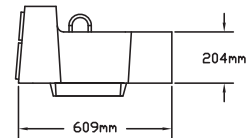
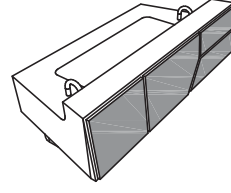
>>>STANDARD TOP



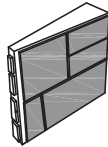
>>>HALF HIGH



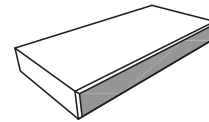
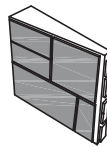
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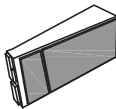
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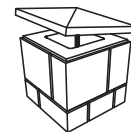
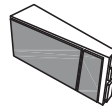
>>>STANDARD CORNER/END UNIT LEFT & RIGHT



>>>STEP/CAP



>>>HALF HIGH CORNER/END UNIT LEFT & RIGHT

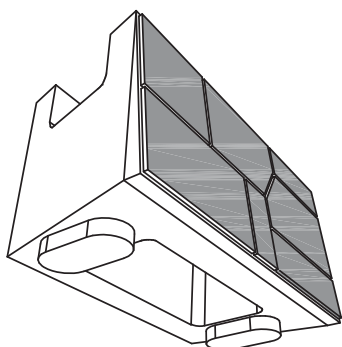


>>>PILLAR

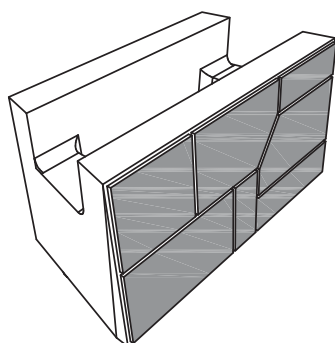
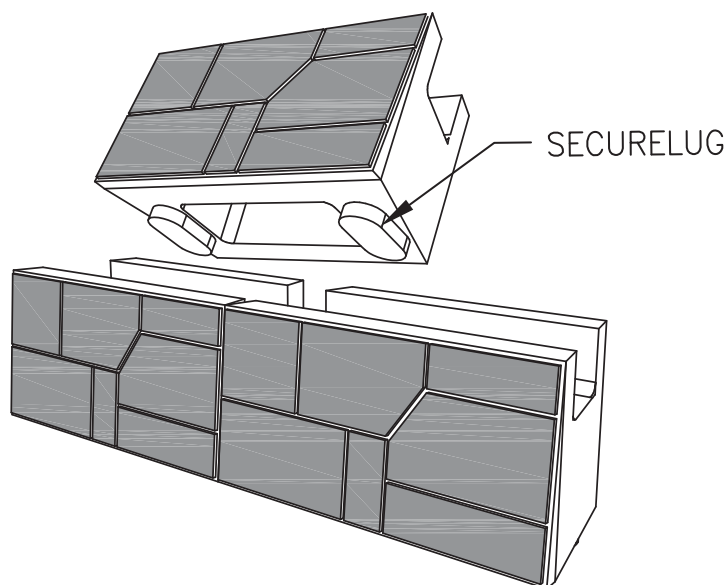
Weights and dimensions are nominal. Specifications may change. Verify exact information with your local producer.

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> > > MagnumStone™ Standard Unit



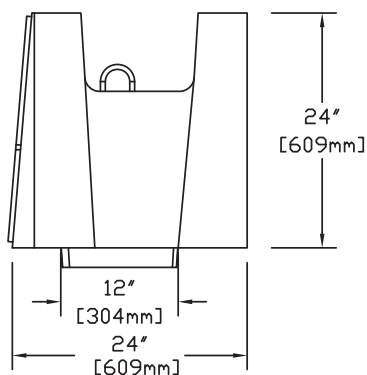
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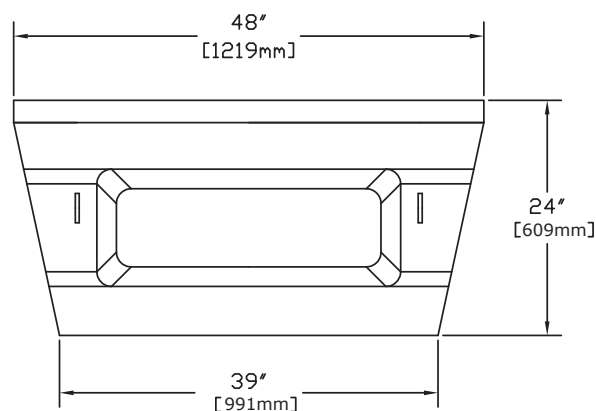
>>>> ISOMETRIC TOP VIEW

Dimensions

Face Width	48"	1219mm
Back Width	29"	991mm
Depth	24"	609mm
Height	24"	609mm
Face Area	8 sq ft	0.74 sq m
Batter	4.5°	2.0"/Unit
Vertical	0°	0"/Unit
Weight	1345 lbs	621Kg



>>>> SIDE VIEW

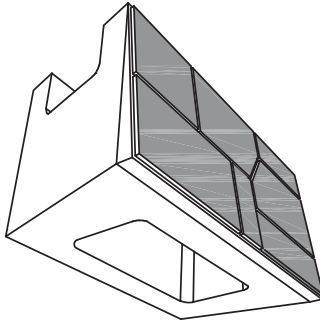


>>>> TOP VIEW

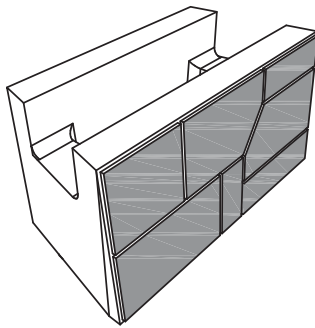
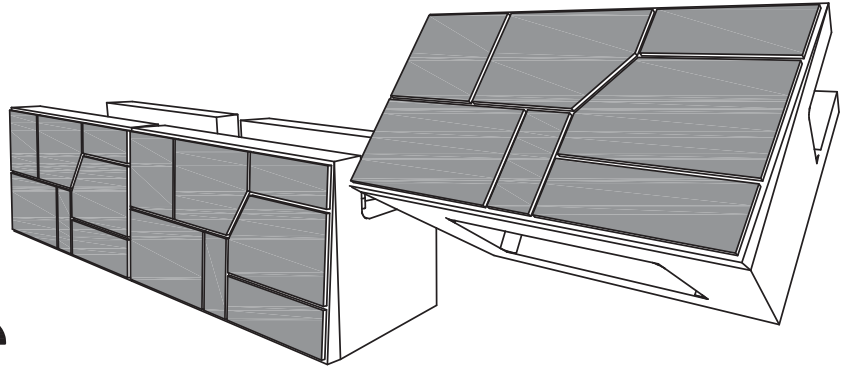
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> > > MagnumStone™ Standard Base Unit



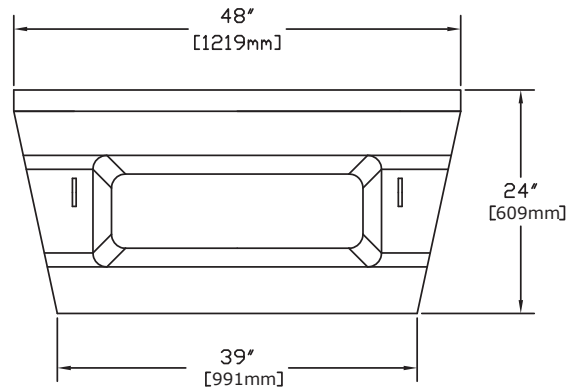
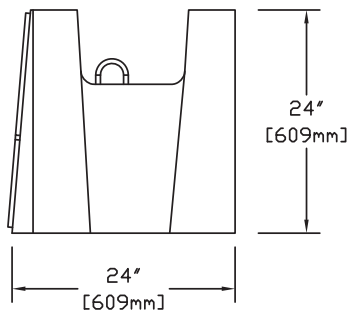
>>>ISOMETRIC BOTTOM VIEW



>>>ISOMETRIC TOP VIEW

Dimensions

Face Width	48"	1219mm
Back Width	39"	991mm
Depth	24"	609mm
Height	24"	609mm
Face Area	8 sq ft	0.74 sq m
Batter	4.5°	2.0"/Unit
Vertical	0°	0"/Unit
Weight	1345lbs	621Kg



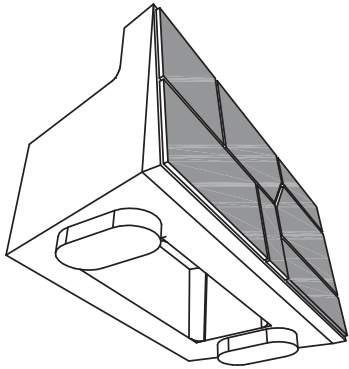
>>>SIDE VIEW

>>> TOP VIEW

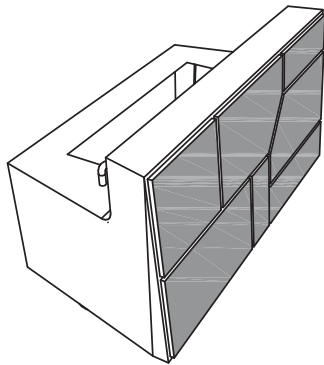
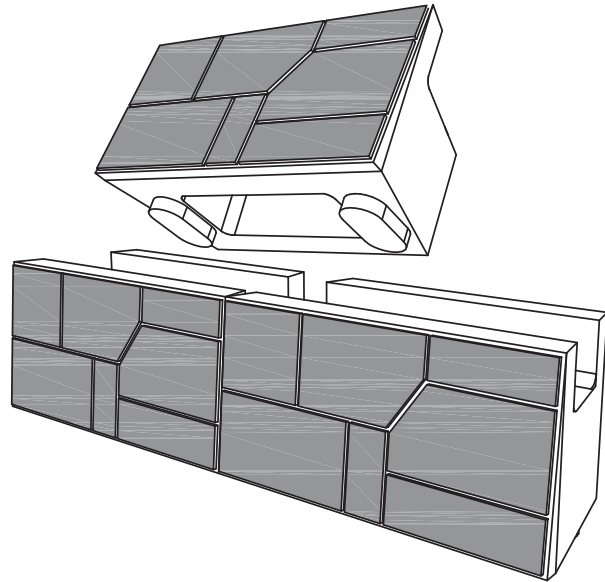
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> > > MagnumStone™ Standard Top Unit



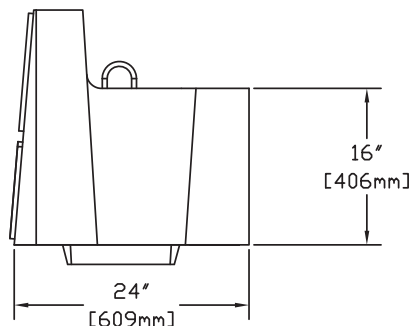
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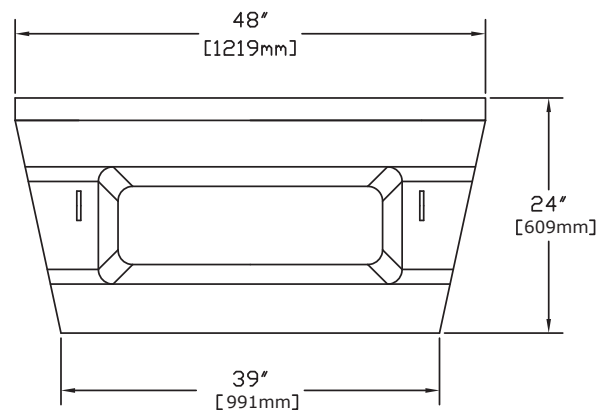
>>>> ISOMETRIC TOP VIEW

Dimensions

Face Width	48"	1219mm
Back Width	39"	991mm
Depth	24"	609mm
Height	24"	609mm
Face Area	8 sq ft	0.74 sq m
Batter	4.5°	2.0"/Unit
Vertical	0°	0"/Unit
Weight	1220lbs	553Kg



>>>> SIDE VIEW

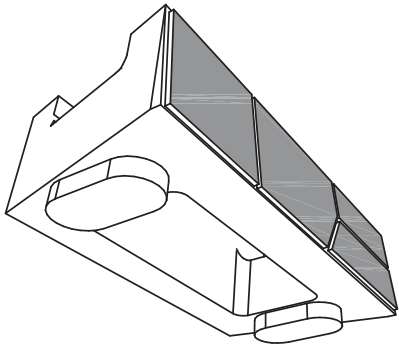


>>>> TOP VIEW

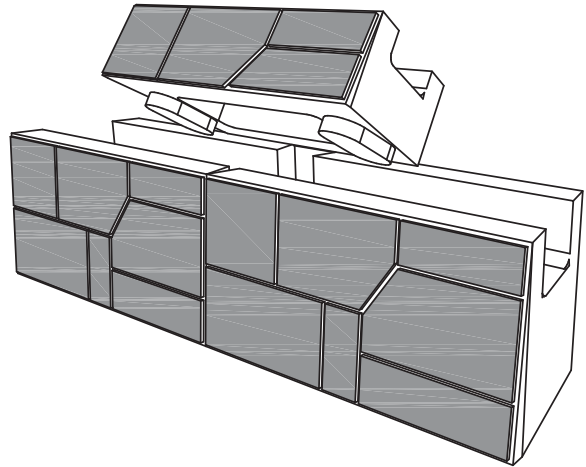
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> > > MagnumStone™ Half High Unit

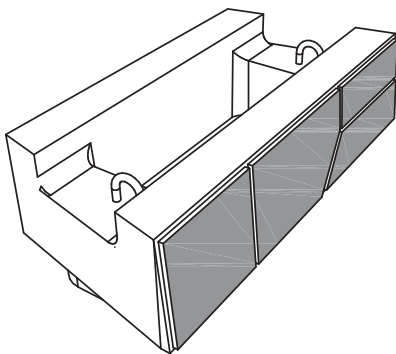


>>>> ISOMETRIC BOTTOM VIEW

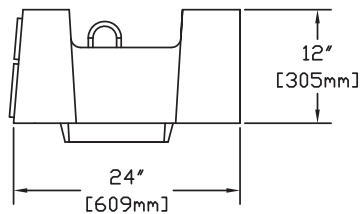


Dimensions

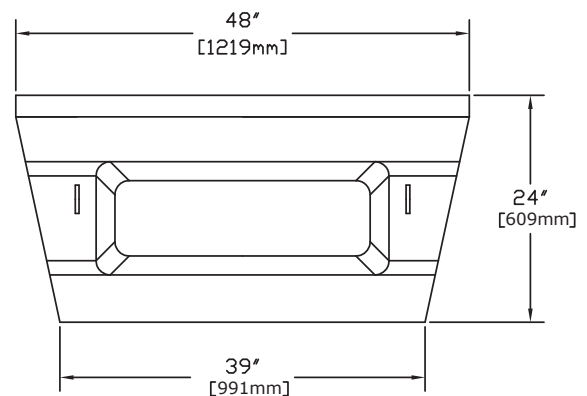
Face Width	48"	1219mm
Back Width	39"	991mm
Depth	24"	609mm
Height	12"	305mm
Face Area	4 sq ft	0.37sq m
Batter	4.5°	1.0"/Unit
Vertical	0°	0"/Unit
Weight	750lbs	340Kg



>>>> ISOMETRIC TOP VIEW



>>>> SIDE VIEW

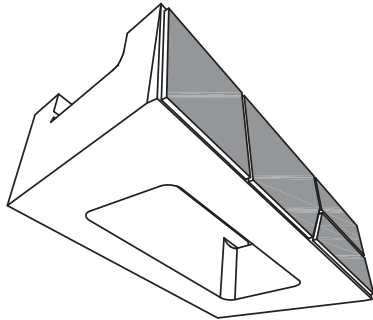


>>>> TOP VIEW

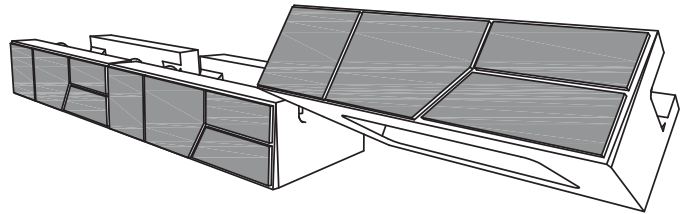
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> > > MagnumStone™ Half High Base Unit

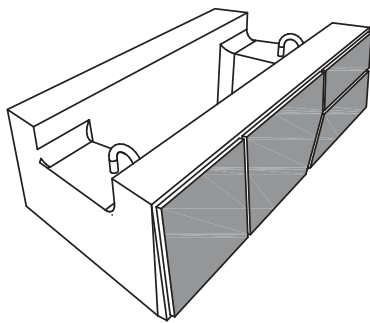


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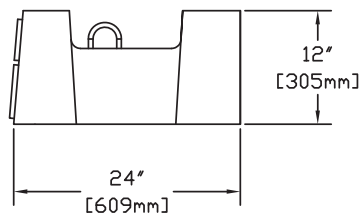


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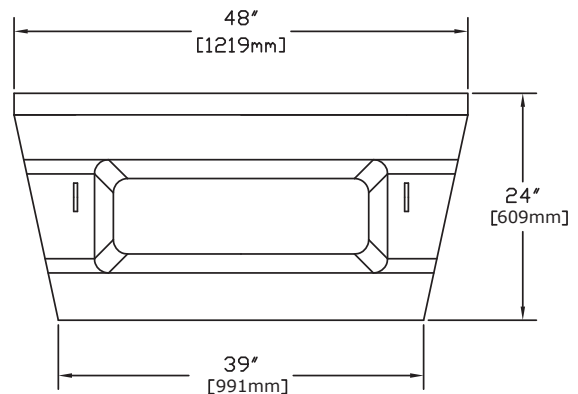
Face Width	48"	1219mm
Back Width	39"	991mm
Depth	24"	609mm
Height	12"	305mm
Face Area	4 sq ft	0.37sq m
Batter	4.5°	1.0"/Unit
Vertical	0°	0"/Unit
Weight	725lbs	328Kg



>>>ISOMETRIC TOP VIEW



>>>SIDE VIEW

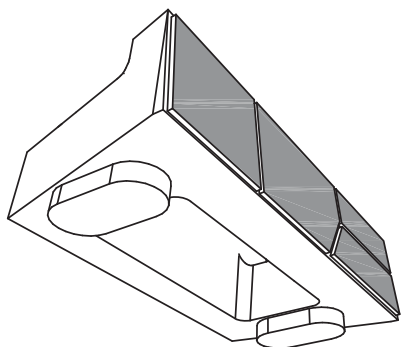


>>> TOP VIEW

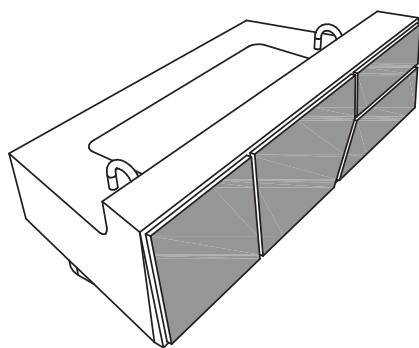
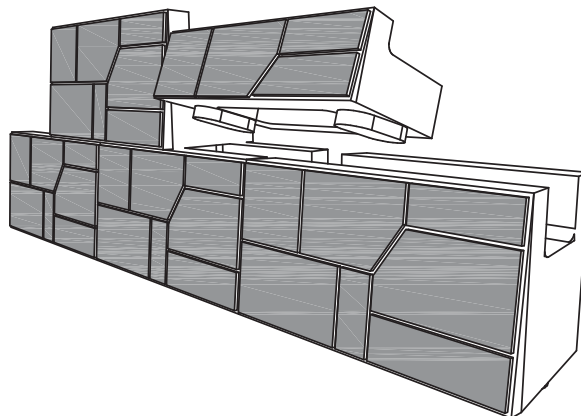
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> > > MagnumStone™ Half High Top Unit



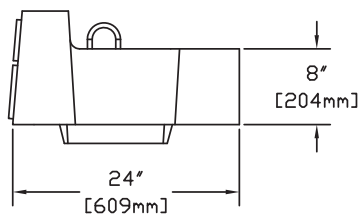
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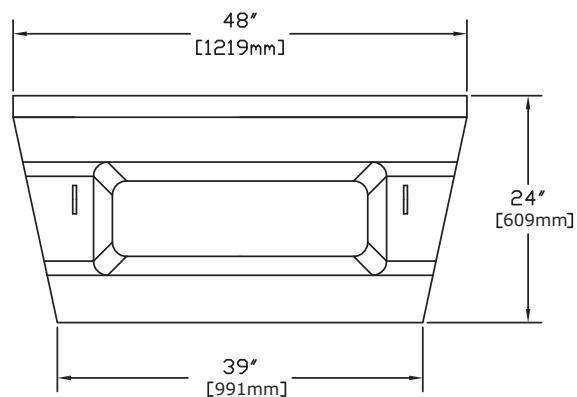
>>>> ISOMETRIC TOP VIEW

Dimensions

Face Width	48"	1219mm
Back Width	39"	991mm
Depth	24"	609mm
Height	12"	305mm
Face Area	4 sq ft	0.37sq m
Batter	4.5°	1.0"/Unit
Vertical	0°	0"/Unit
Weight	680lbs	308Kg



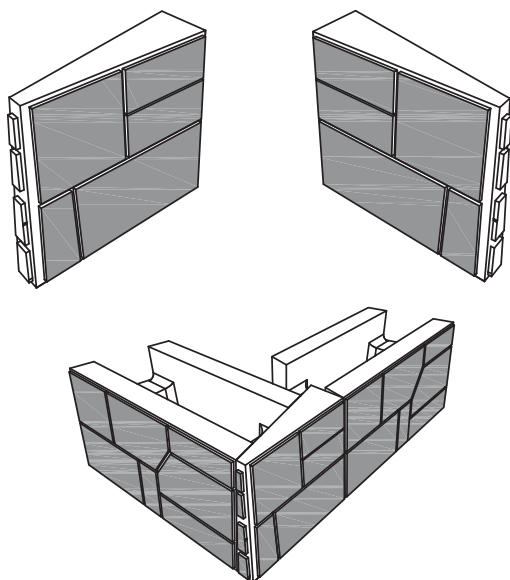
>>>> SIDE VIEW



>>>> TOP VIEW

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

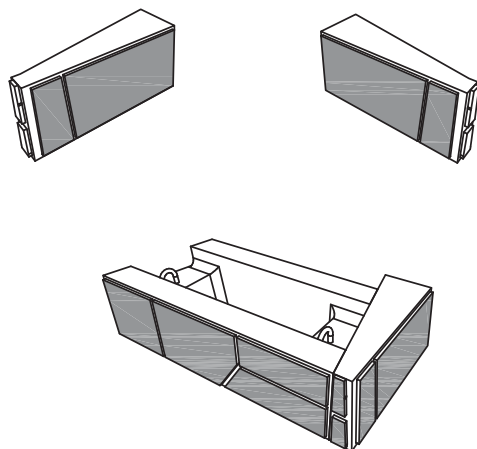
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Dimensions

Top Face Width	26"	660mm
Bottom Face Width	28"	711mm
Top Narrow Face	2"	51mm
Bottom Narrow Face	4"	102mm
Height	24"	609mm
Face Area	4.66sq ft	0.434 sq m
Batter	4.5°	2.0"/Unit
Vertical	0°	0"/Unit
Weight	340lbs	154Kg

>>>STANDARD CORNER/END UNIT



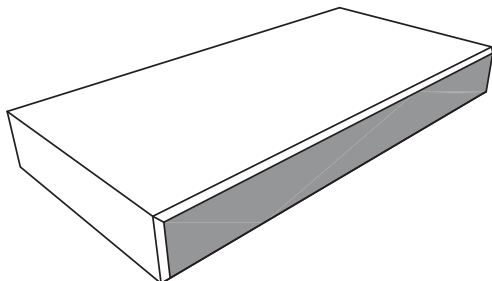
Dimensions

Top Face Width	27"	686mm
Bottom Face Width	28"	711mm
Top Narrow Face	3"	76mm
Bottom Narrow Face	4"	102mm
Height	24"	609mm
Face Area	2.33sq ft	0.217 sq m
Batter	4.5°	1.0"/Unit
Vertical	0°	0"/Unit
Weight	170lbs	77Kg

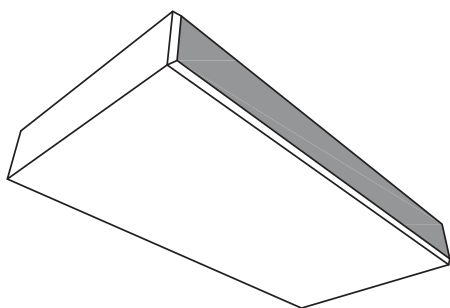
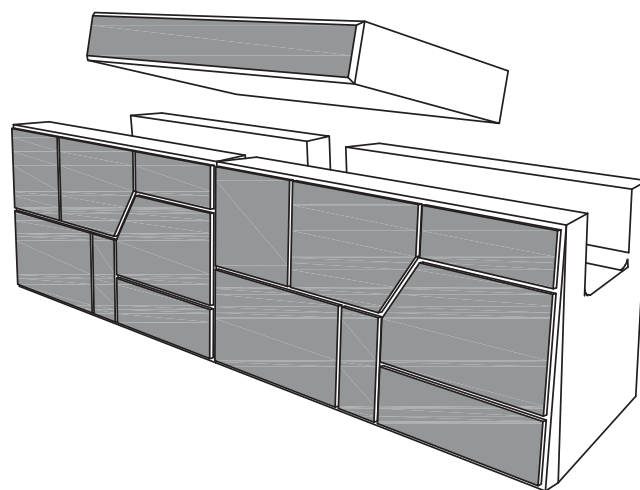
>>>HALF HIGH CORNER/END UNIT

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

> > > MagnumStone™ Step/Cap Unit



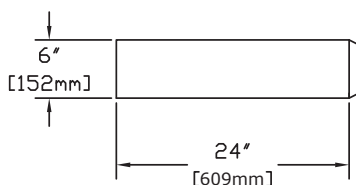
>>>ISOMETRIC BOTTOM VIEW



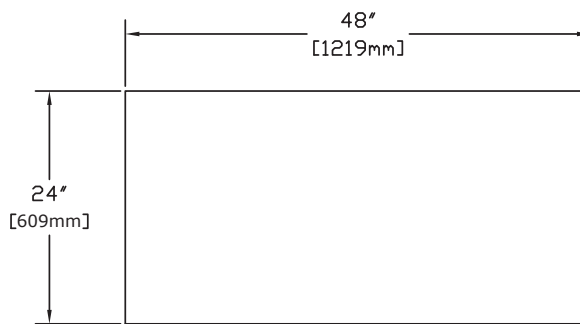
>>>ISOMETRIC TOP VIEW

Dimensions

Face Width	48"	1219mm
Back Width	48"	1219mm
Depth	24"	609mm
Height	6"	152mm
Face Area	2 sq ft	0.186 sq m
Weight	290lbs	131Kg



>>>SIDE VIEW

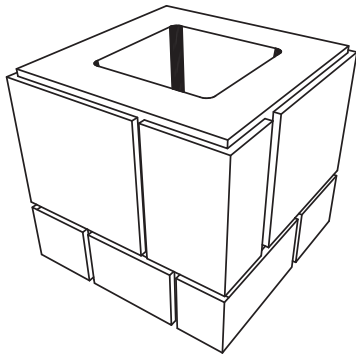


>>> TOP VIEW

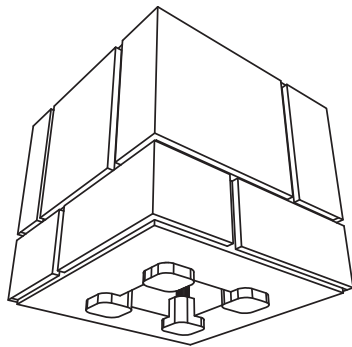
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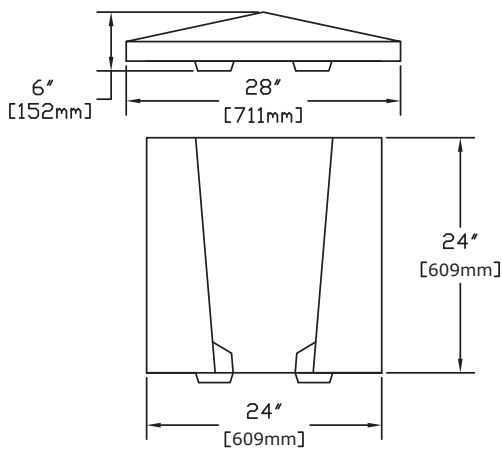
> > > MagnumStone™ Pillar & Pillar Cap Unit



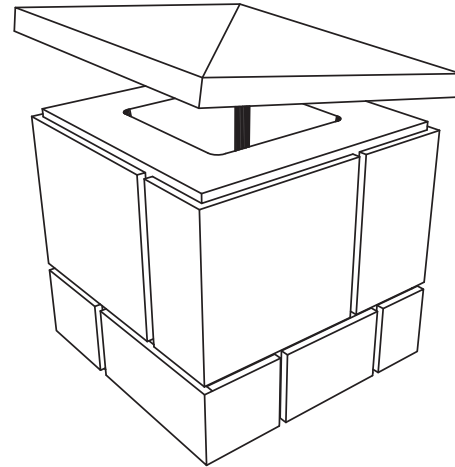
>>>ISOMETRIC BOTTOM VIEW



>>>ISOMETRIC TOP VIEW

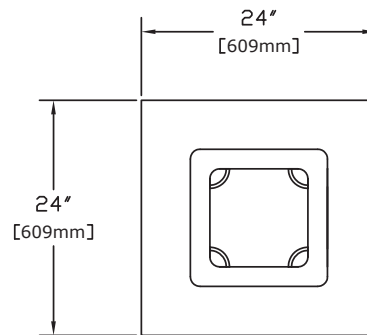


>>>SIDE VIEW



Dimensions

Face Widths	24"	609mm
Height	24"	609mm
Face Area	4 sq ft	0.37 sq m
Batter	0°	0"/Unit
Weight	870lbs	394Kg

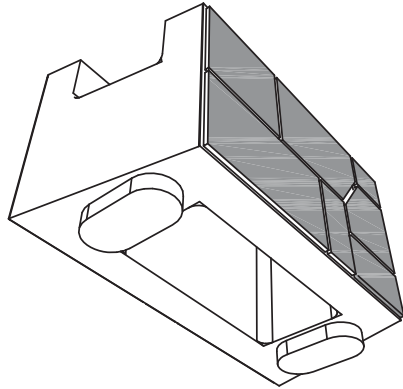


>>> TOP VIEW

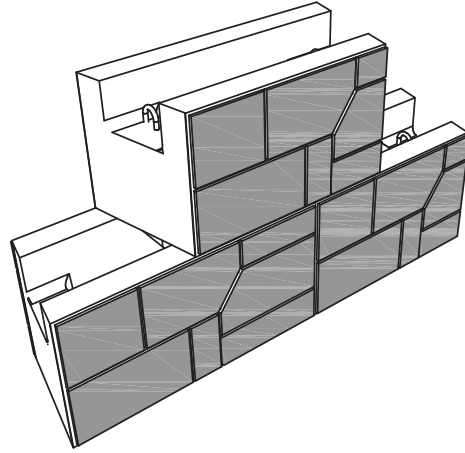
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> > > MagnumStone™ Double Sided Unit

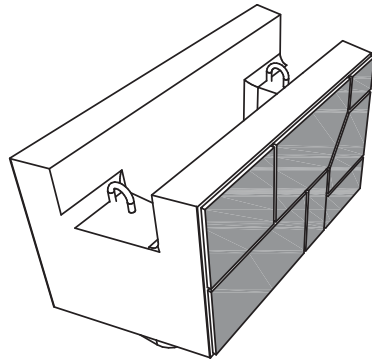


>>>ISOMETRIC BOTTOM VIEW

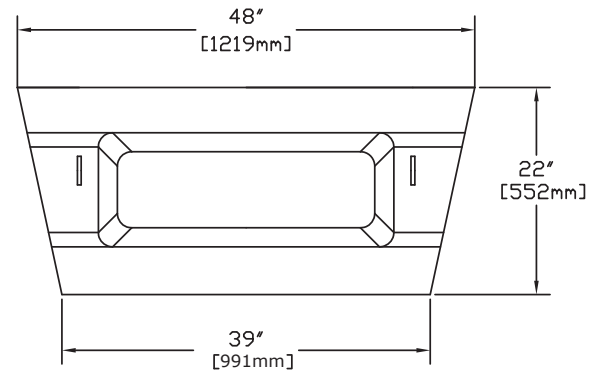
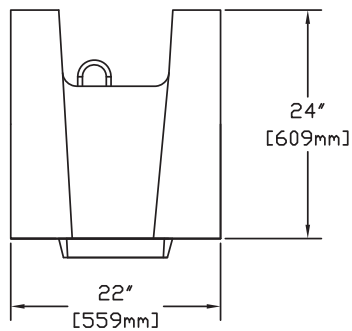


Dimensions

Face Width	48"	1219mm
Back Width	39"	991mm
Depth	22"	559mm
Height	24"	609mm
Face Area	4 sq ft	0.37sq m
Vertical	0°	0"/Unit
Weight	1345lbs	625Kg



>>>ISOMETRIC TOP VIEW



>>>SIDE VIEW

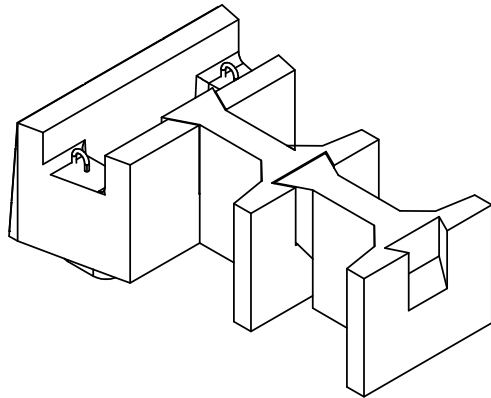
>>> TOP VIEW

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

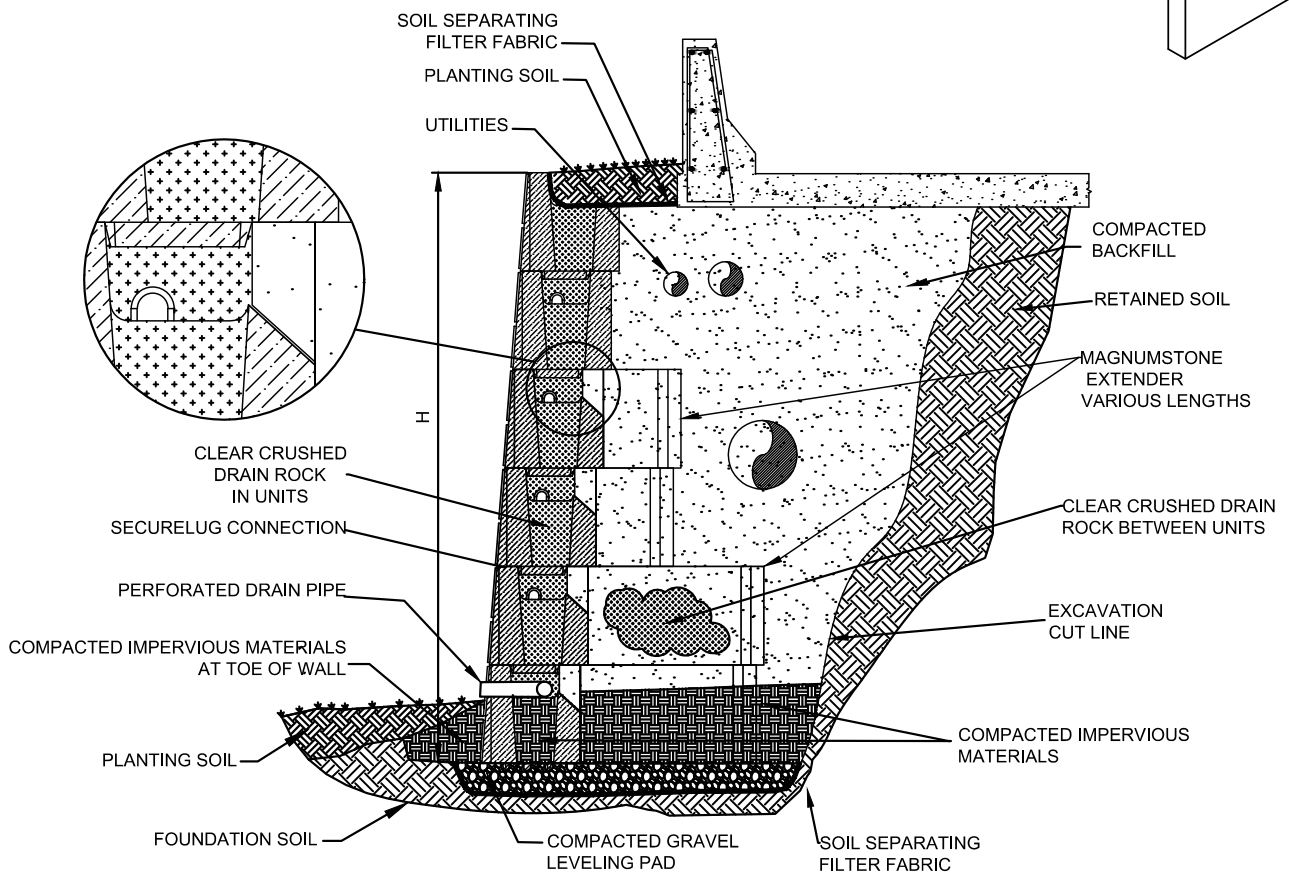
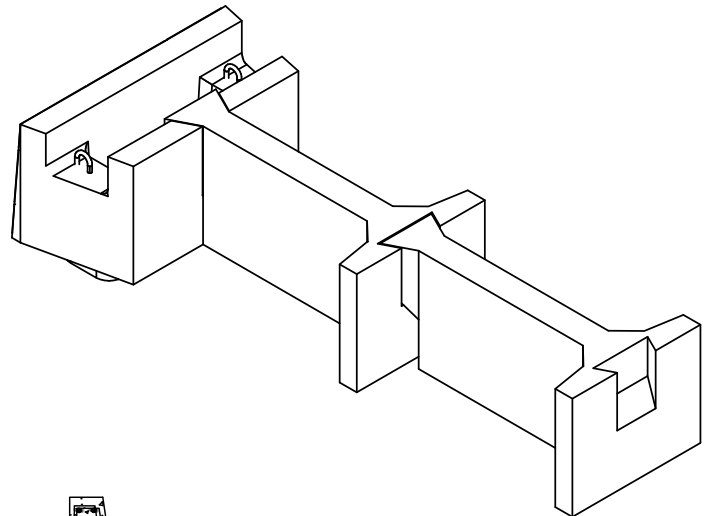
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> > > MagnumStone™ Gravity Wall

2ft LINKED EXTENDER



4ft LINKED EXTENDER

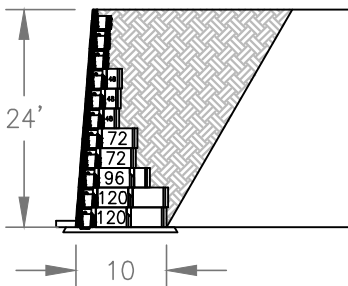
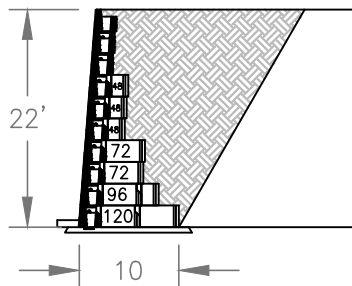
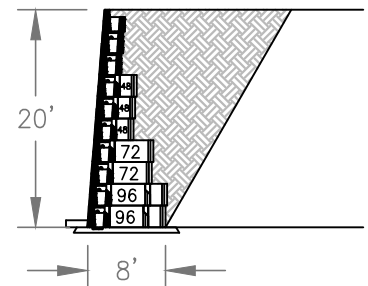
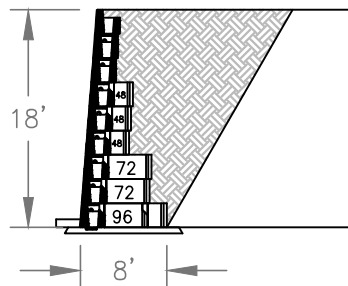
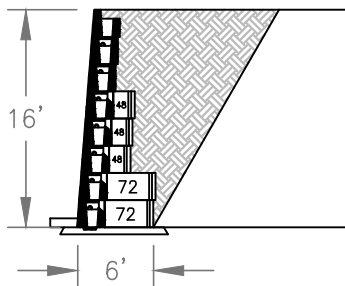
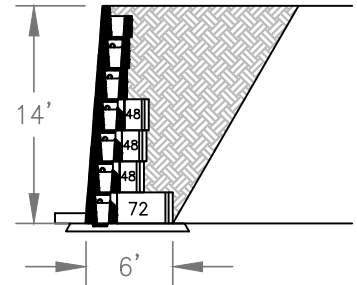
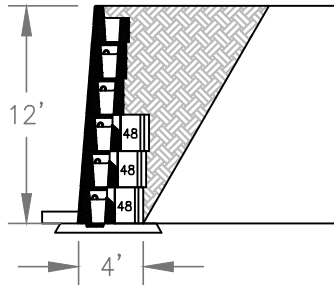
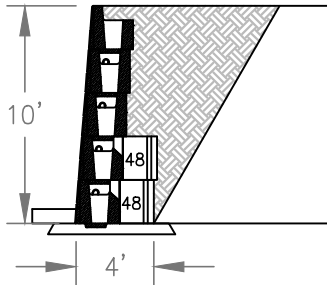
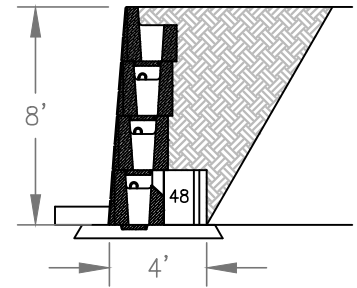
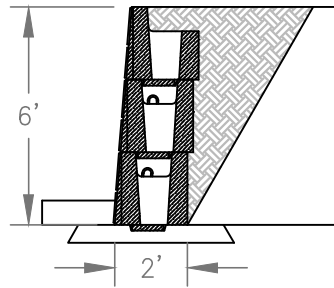


NOTE: Walls can be vertical or setback.

> > > MagnumStone™ Gravity Wall Charts

Slope Angle	0 Degrees
Live Load	0 PSF
Retained Soil	34 Degrees
Unit Refill	Crushed Gravel

Note: Calculations are for preliminary use only and should not be used for construction without the review of a qualified professional.



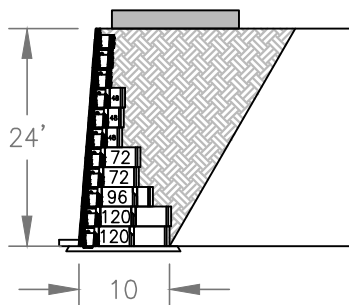
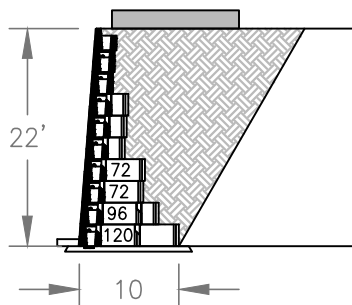
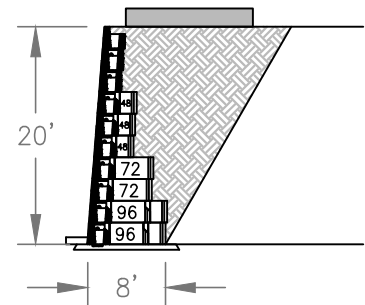
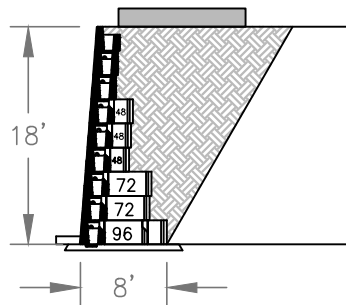
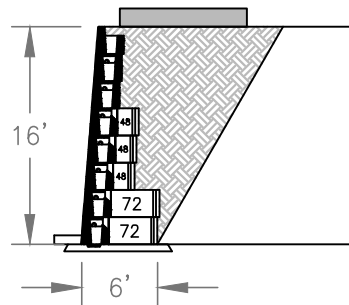
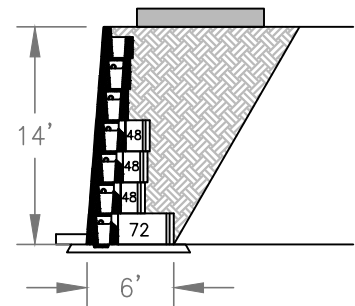
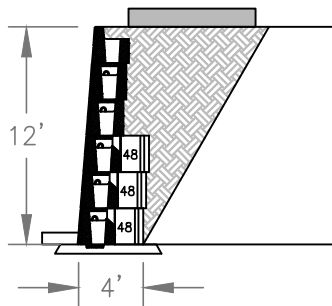
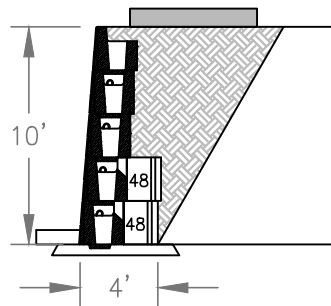
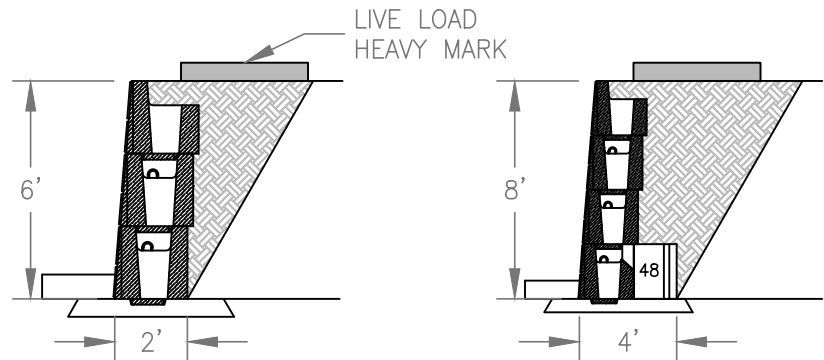
NOTE: Walls can be vertical or setback.

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> > > MagnumStone™ Gravity Wall Charts

Slope Angle	0 Degrees
Live Load	250 PSF
Retained Soil	34 Degrees
Unit Refill	Crushed Gravel

Note: Calculations are for preliminary use only and should not be used for construction without the review of a qualified professional.

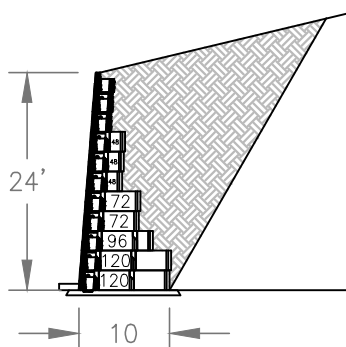
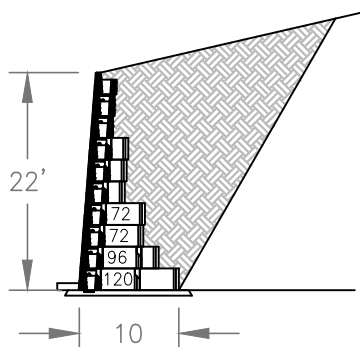
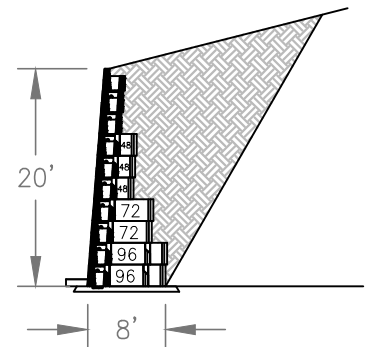
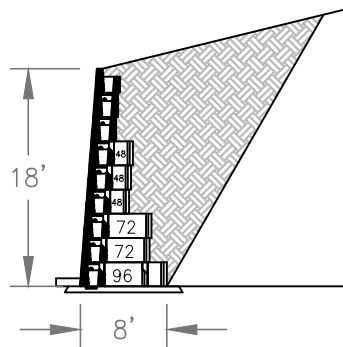
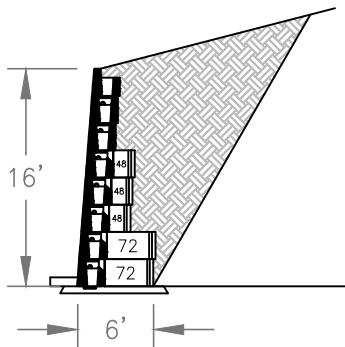
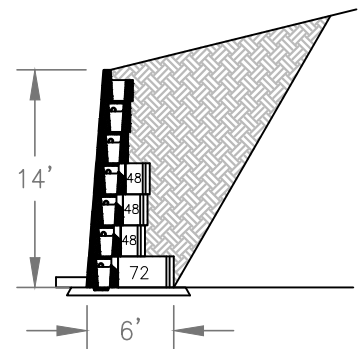
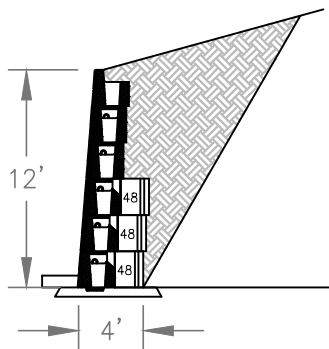
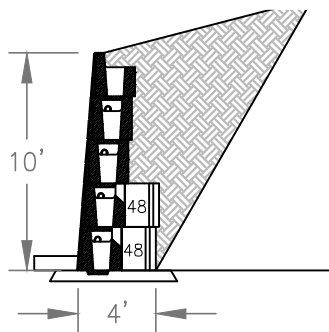
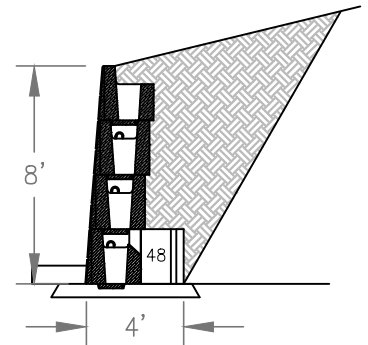
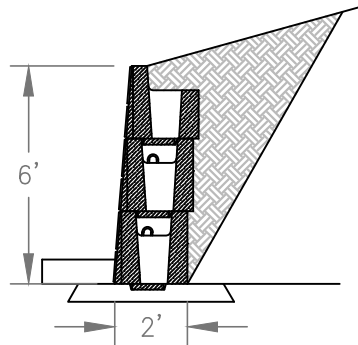


NOTE: Walls can be vertical or setback.

> > > MagnumStone™ Gravity Wall Charts

Slope Angle	20 Degrees
Live Load	0 PSF
Retained Soil	34 Degrees
Unit Refill	Crushed Gravel

Note: Calculations are for preliminary use only and should not be used for construction without the review of a qualified professional.

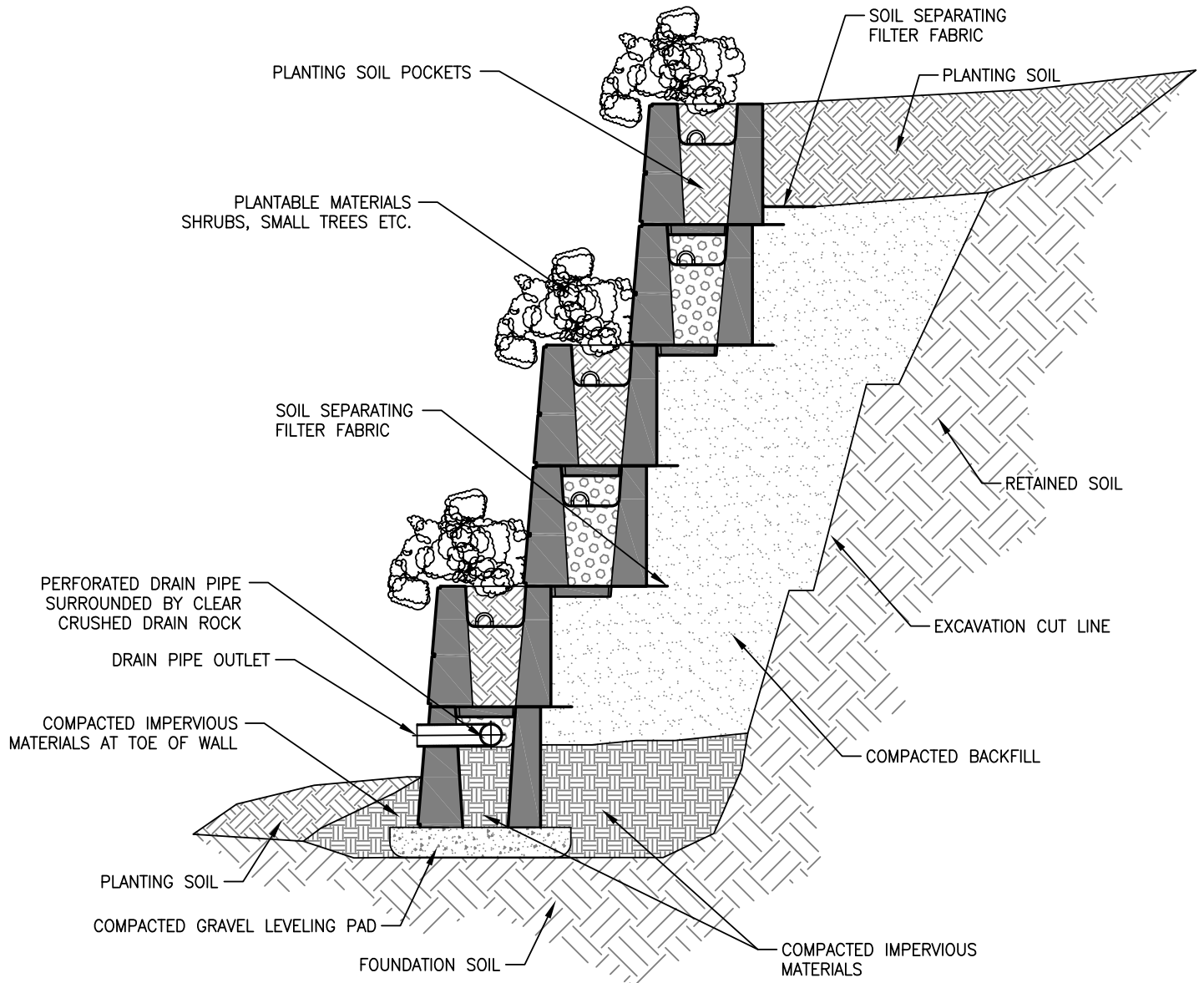


NOTE: Walls can be vertical or setback.

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> > > MagnumStone™ 4.0 Ft Plantable Wall

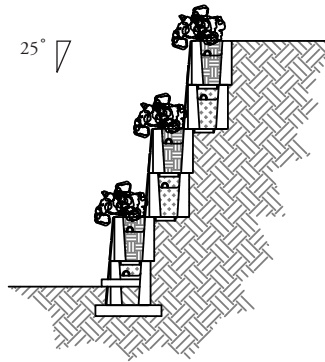
25° ▽



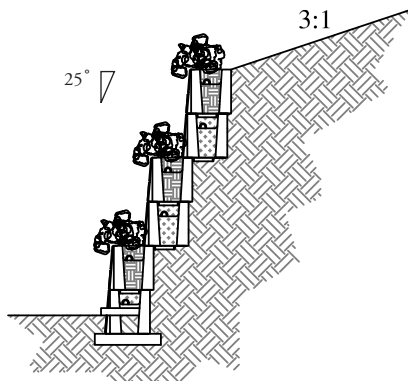
NOTE: Walls can be vertical or setback.

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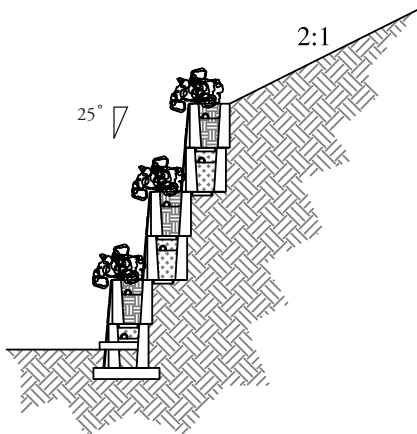
> > > MagnumStone™ 4.0 Ft Plantable Wall Charts



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

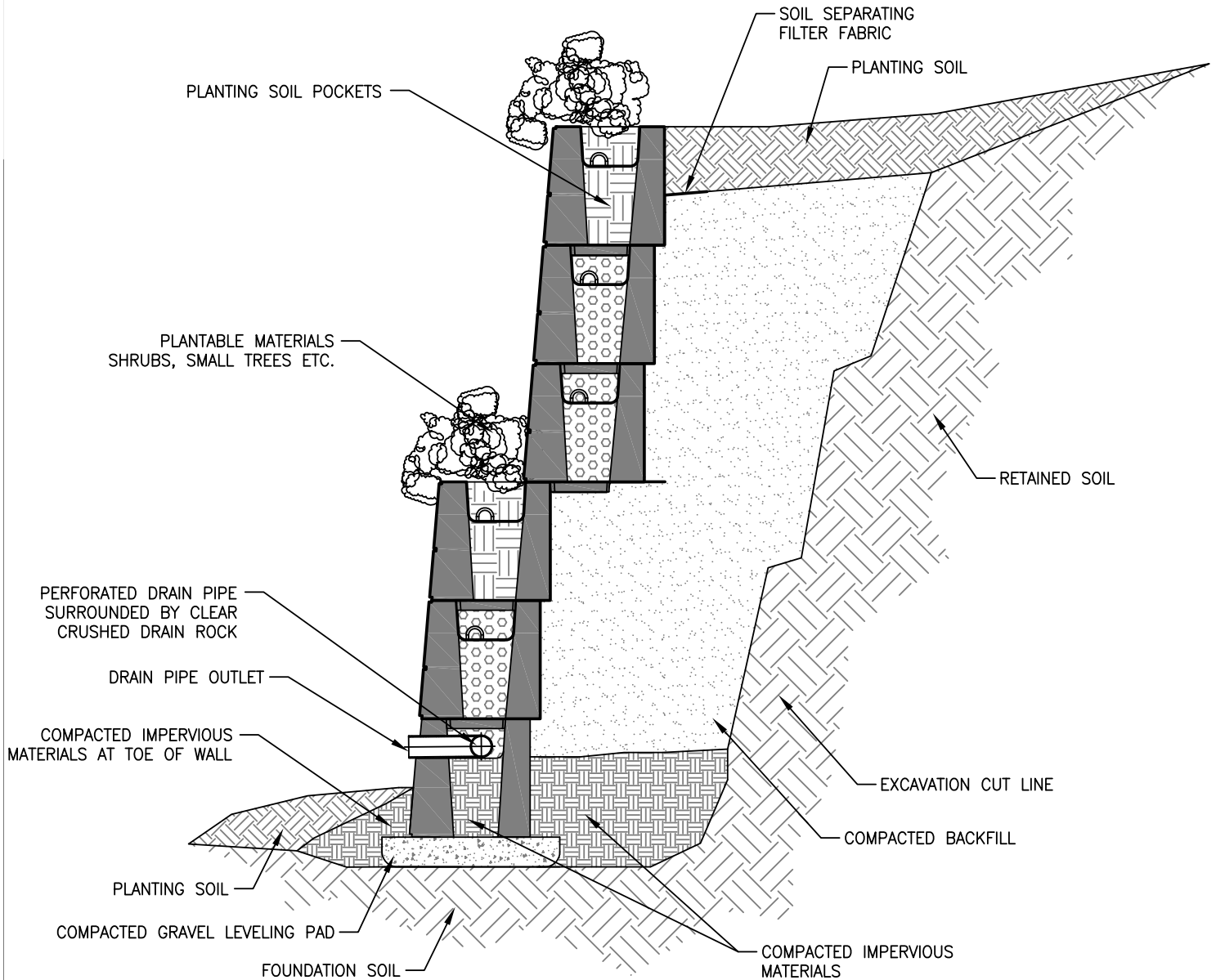
DISCLAIMER. This chart is for initial estimation purposes only. Do not use for final design or construction. Retain a licensed professional engineer to design every wall on a case-by-case basis using site specific criteria. The accuracy and use of this document are the sole responsibility of the user. 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.

NOTE: Walls can be vertical or setback.

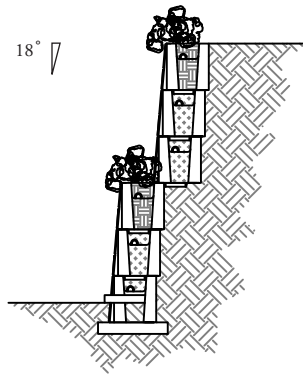
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> > > MagnumStone™ 6.0 Ft Plantable Wall

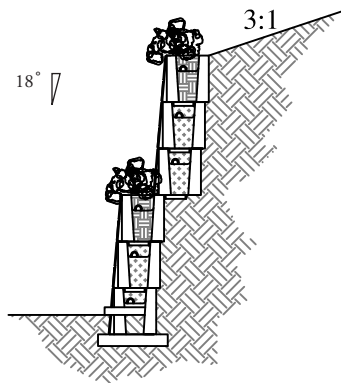
18°



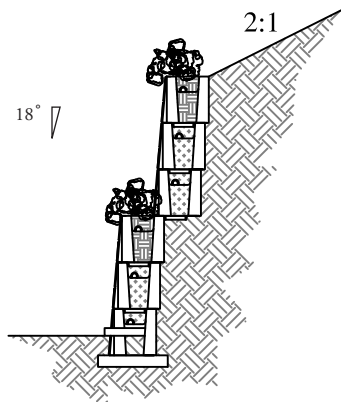
> > > MagnumStone™ 6.0 Ft Plantable Wall Charts



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)



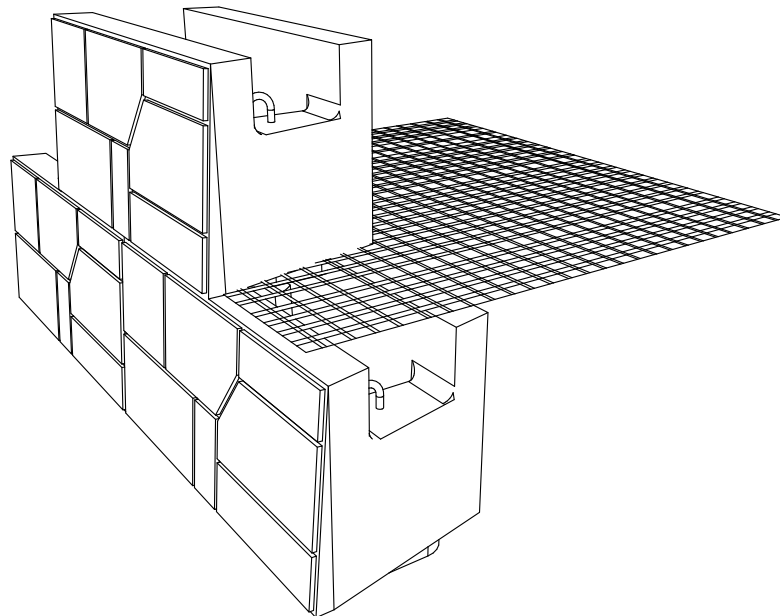
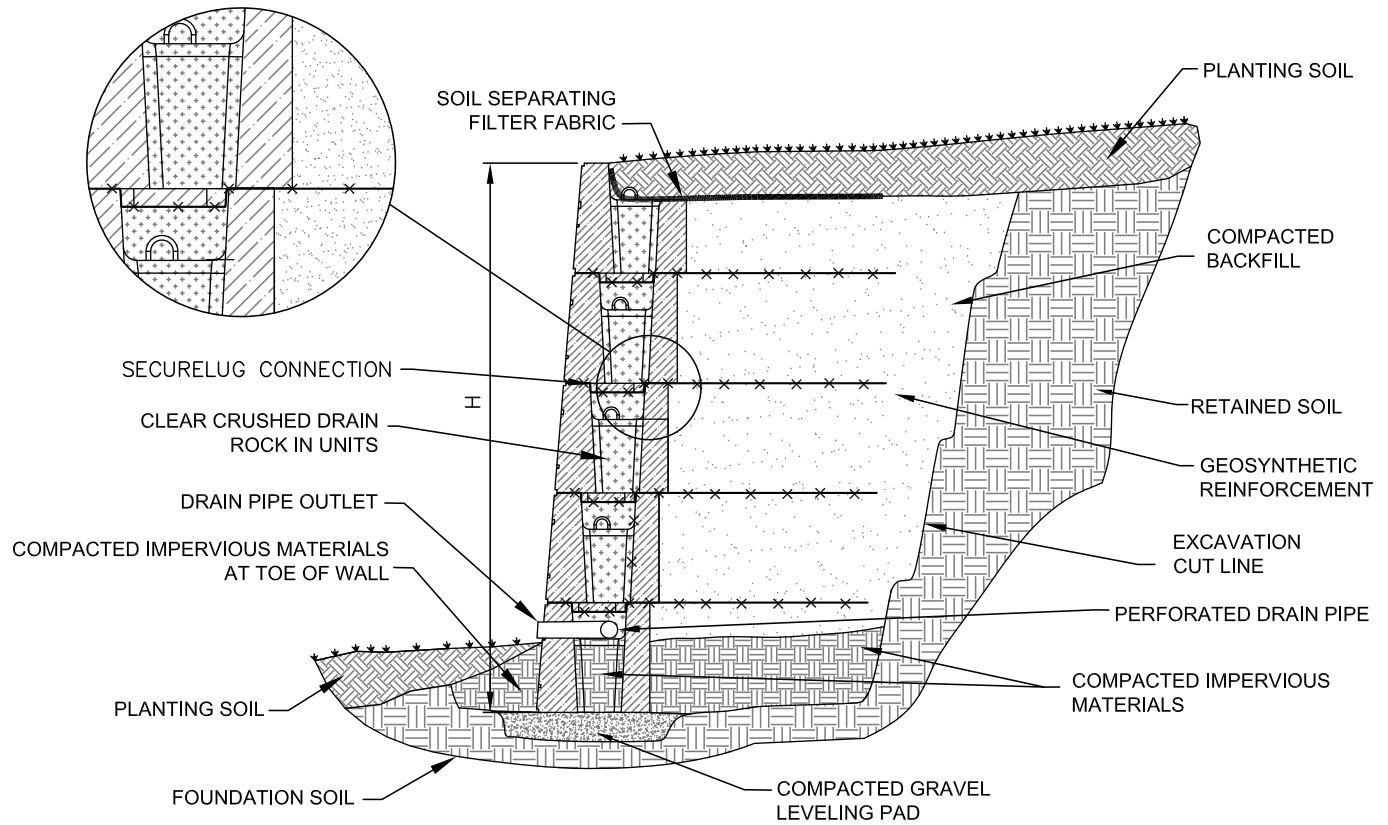
Soil Type	Height Exposed	Height Embedded	Total
34° Soil	8.8' (2682mm)	0.5' (152mm)	9.3' (2835mm)
30° Soil	6.4' (1951mm)	0.5' (152mm)	6.9' (2103mm)
26° Soil	4.7' (1433mm)	0.5' (152mm)	5.2' (1586mm)



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

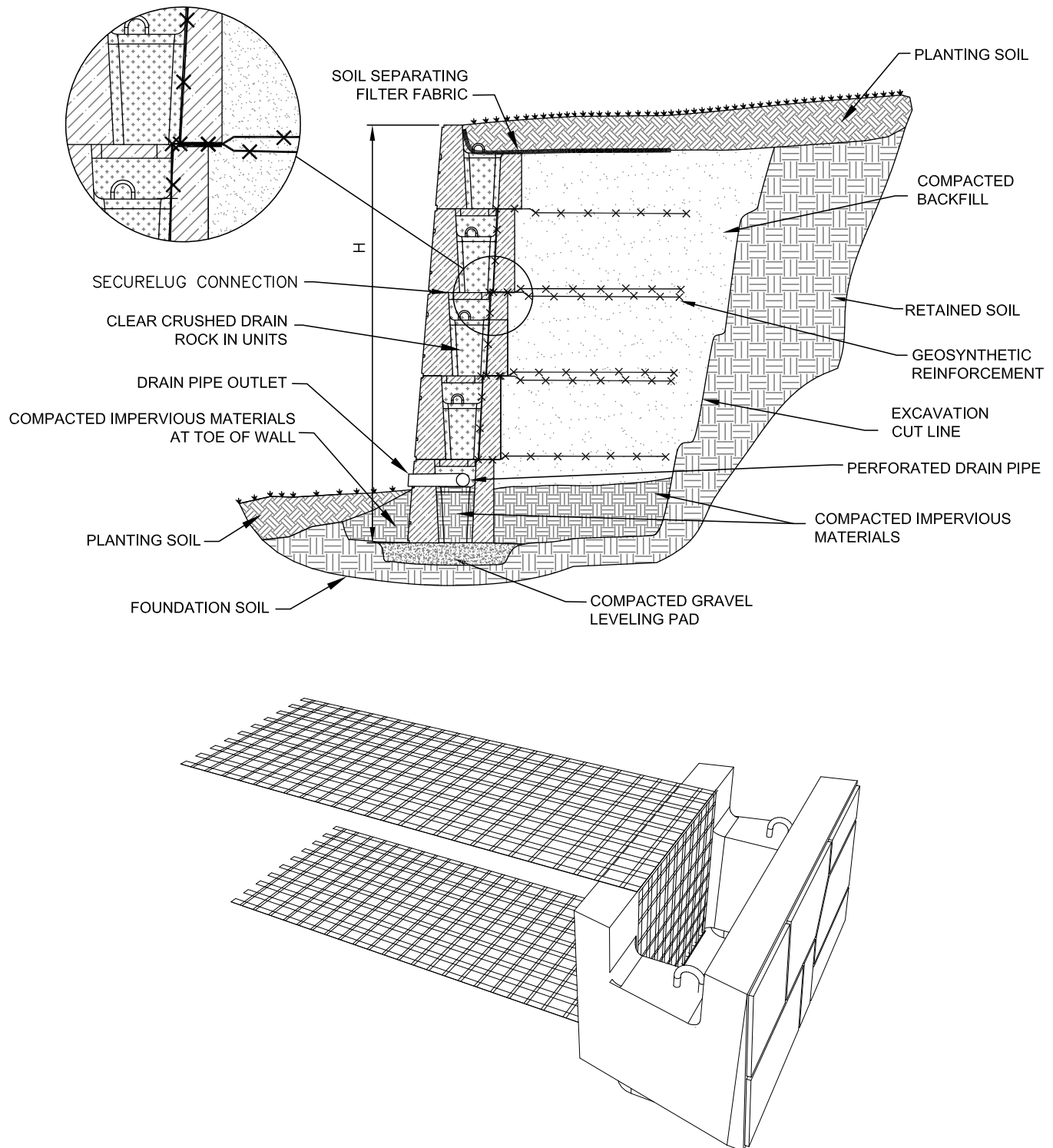
DISCLAIMER. This chart is for initial estimation purposes only. Do not use for final design or construction. Retain a licensed professional engineer to design every wall on a case-by-case basis using site specific criteria. The accuracy and use of this document are the sole responsibility of the user. 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 Wall



NOTE: Walls can be vertical or setback.

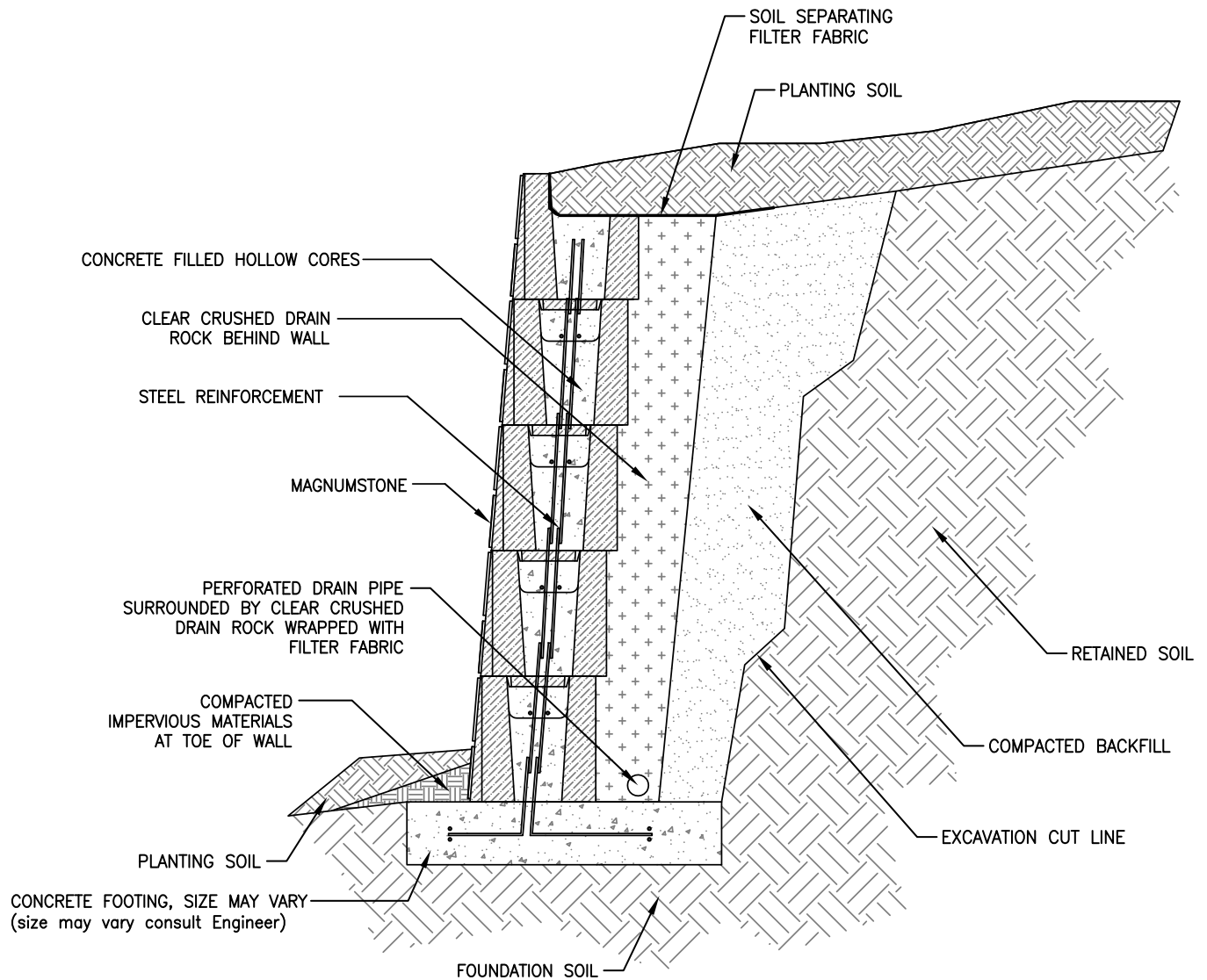
> > > MagnumStone™ Mechanical Geogrid Wall



NOTE: Walls can be vertical or setback.

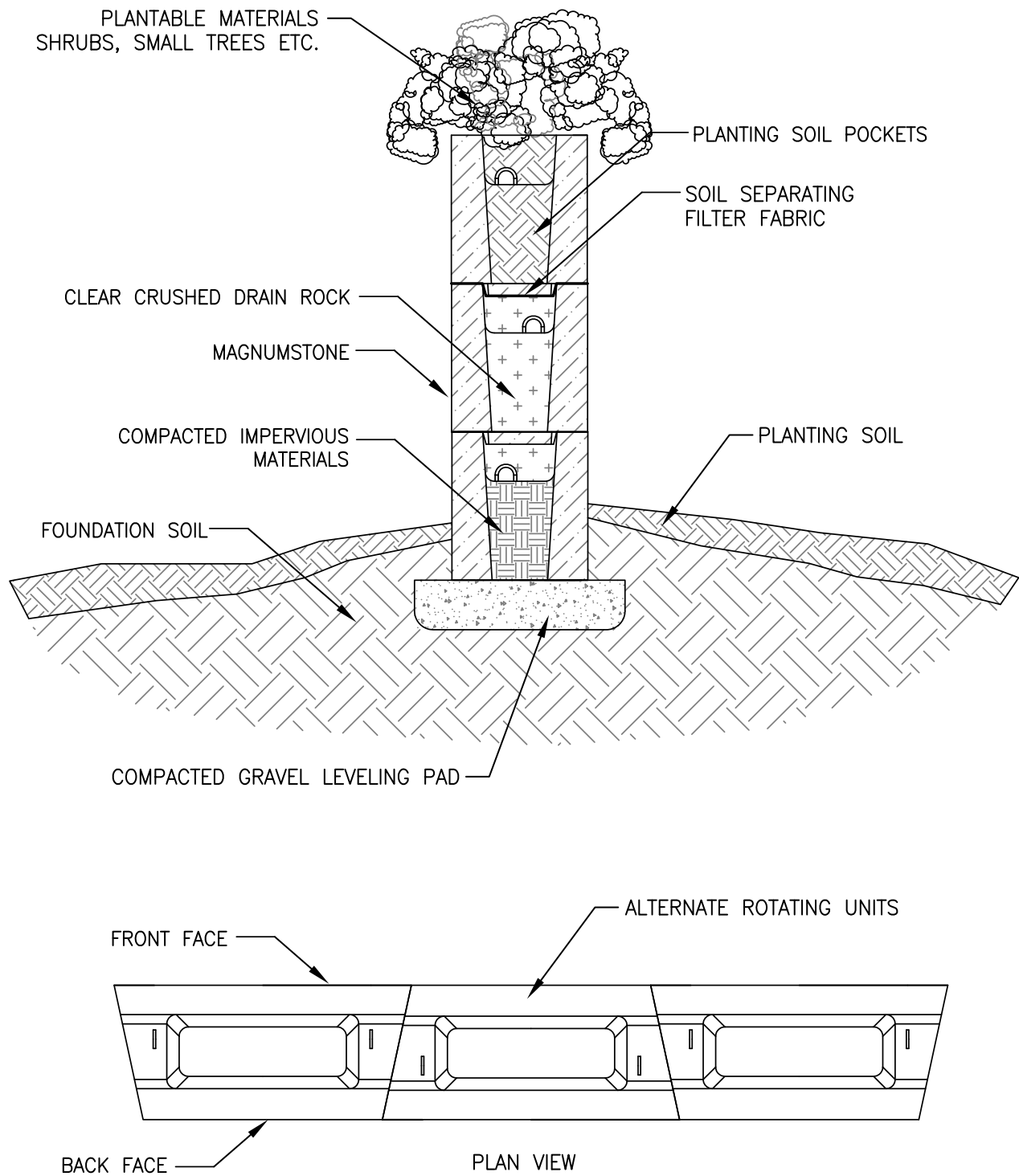
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> > > MagnumStone™ Cantilevered Wall



NOTE: Walls can be vertical or setback.

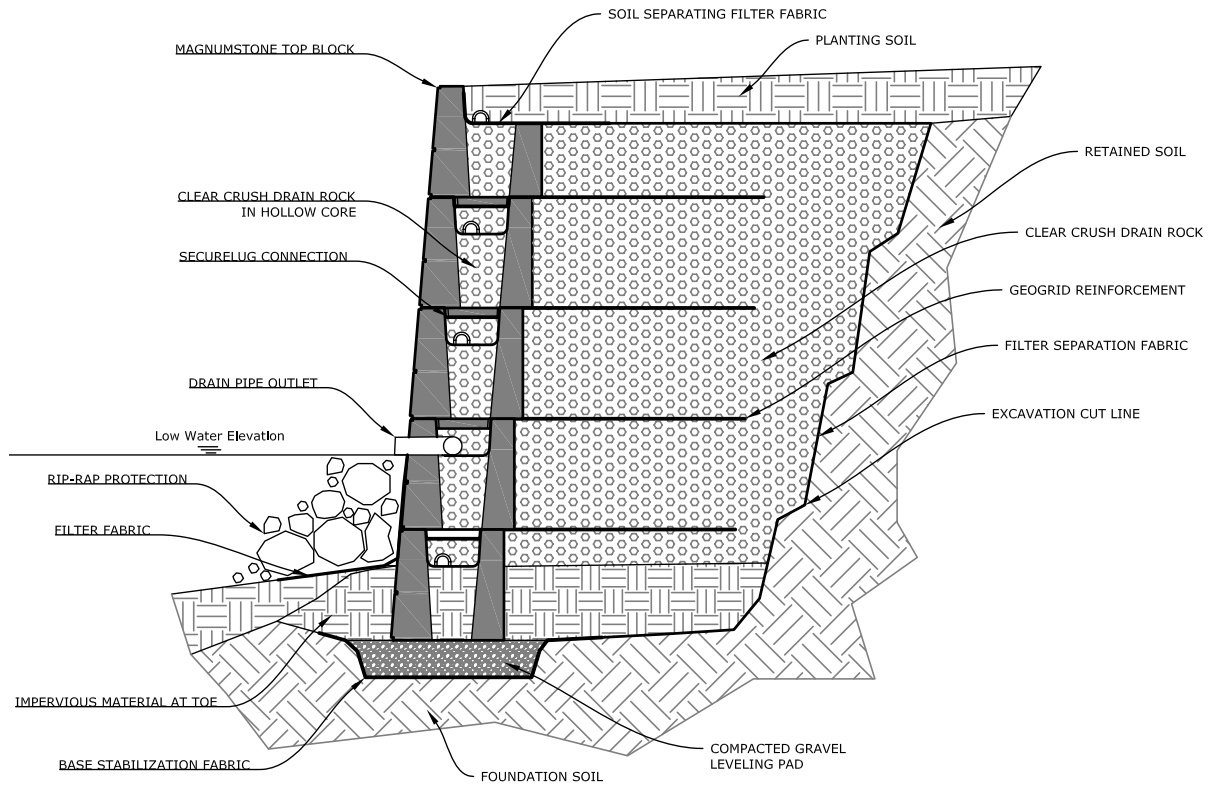
> > > MagnumStone™ Free Standing/Double Sided Wall



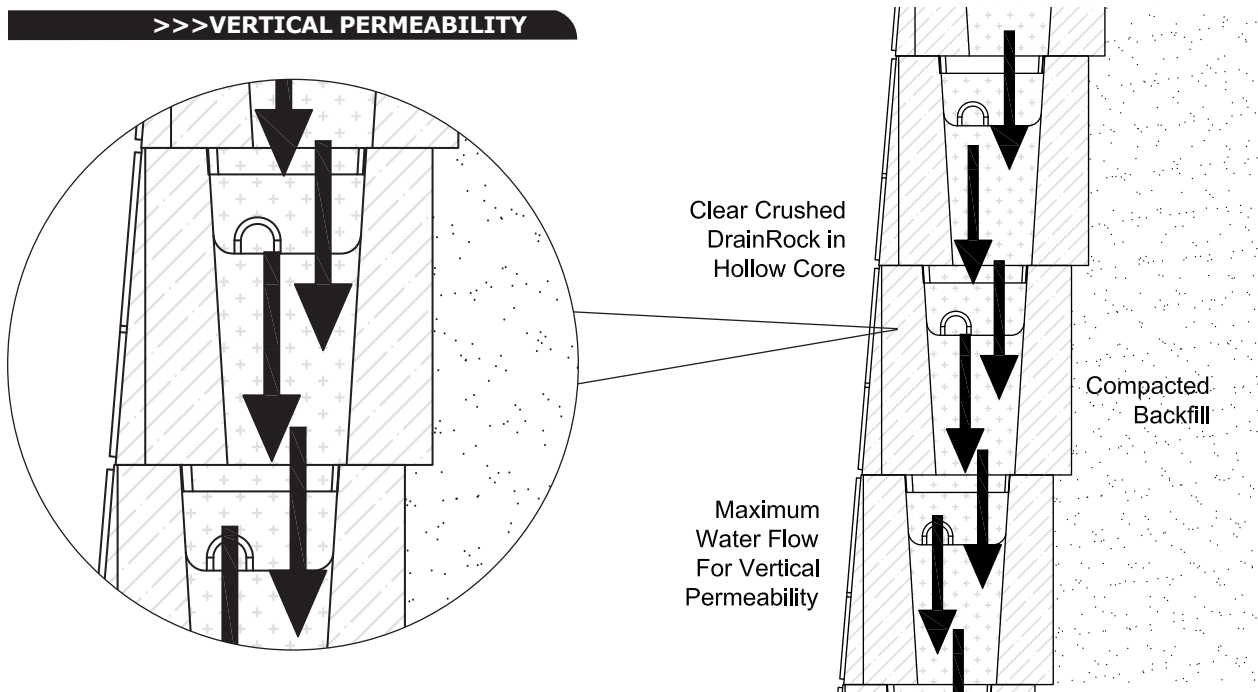
NOTE: Walls can be vertical or setback.

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>>> WATER APPLICATION

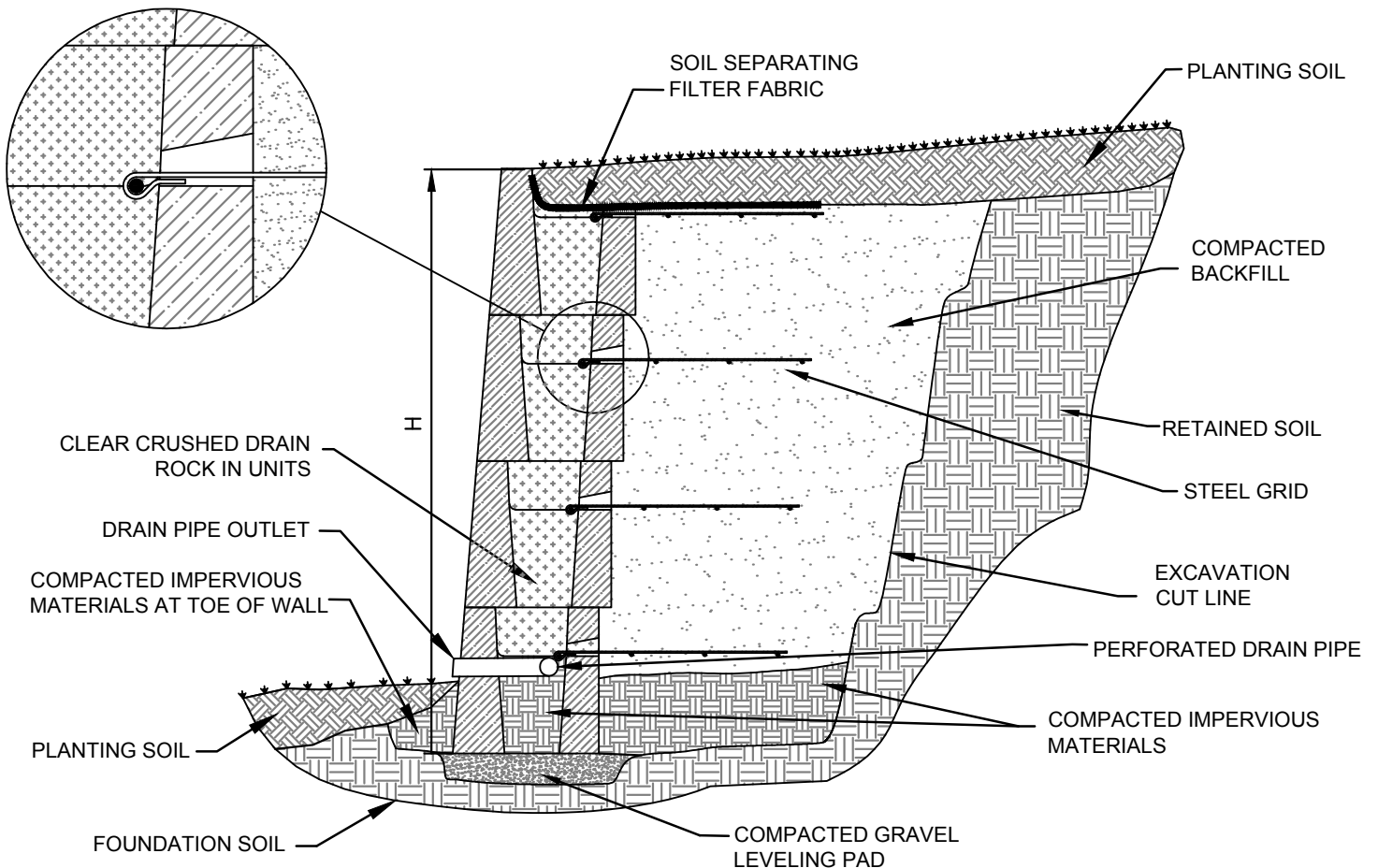
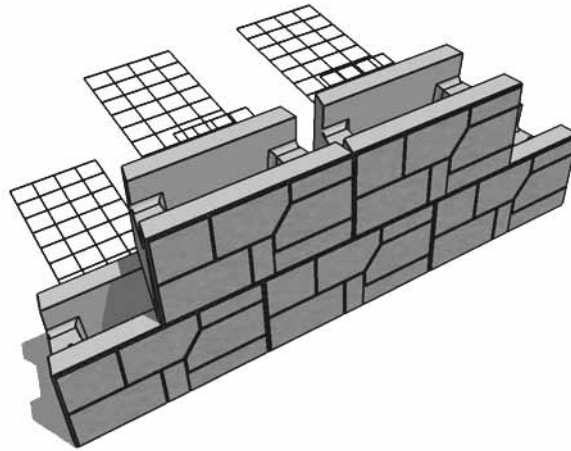


>>> VERTICAL PERMEABILITY



NOTE: Walls can be vertical or setback.

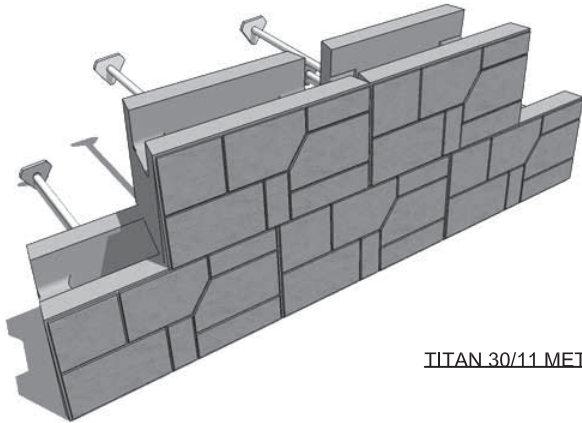
> > > MagnumStone™ Steel Grid Wall



NOTE: Walls can be vertical or setback.

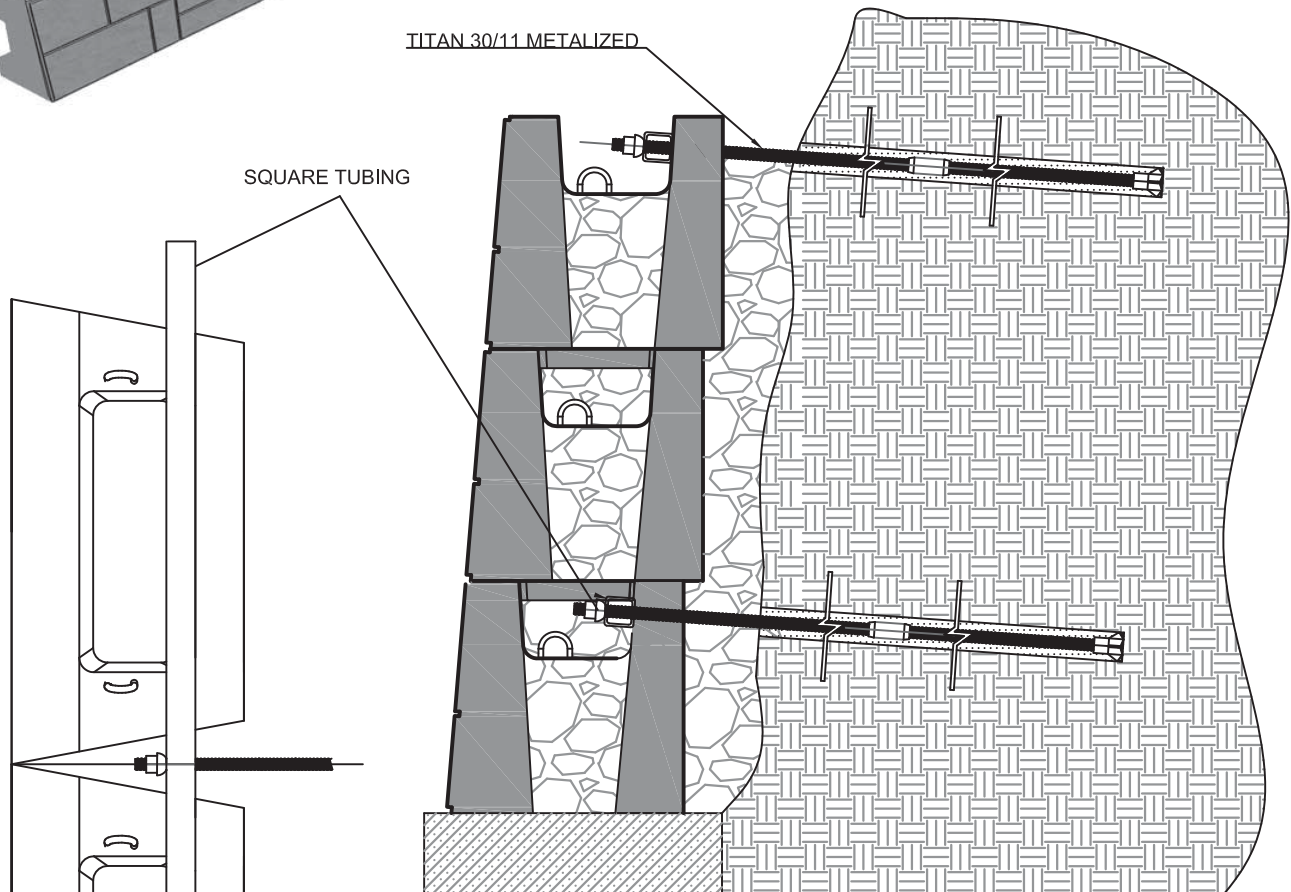
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> > > MagnumStone™ Soil Nailing



Note:

- Titan 30/60 Rod has to be metallized
- Structural steel shape, galvanized
- Vertical / Horizontal nails spacing based on required capacity

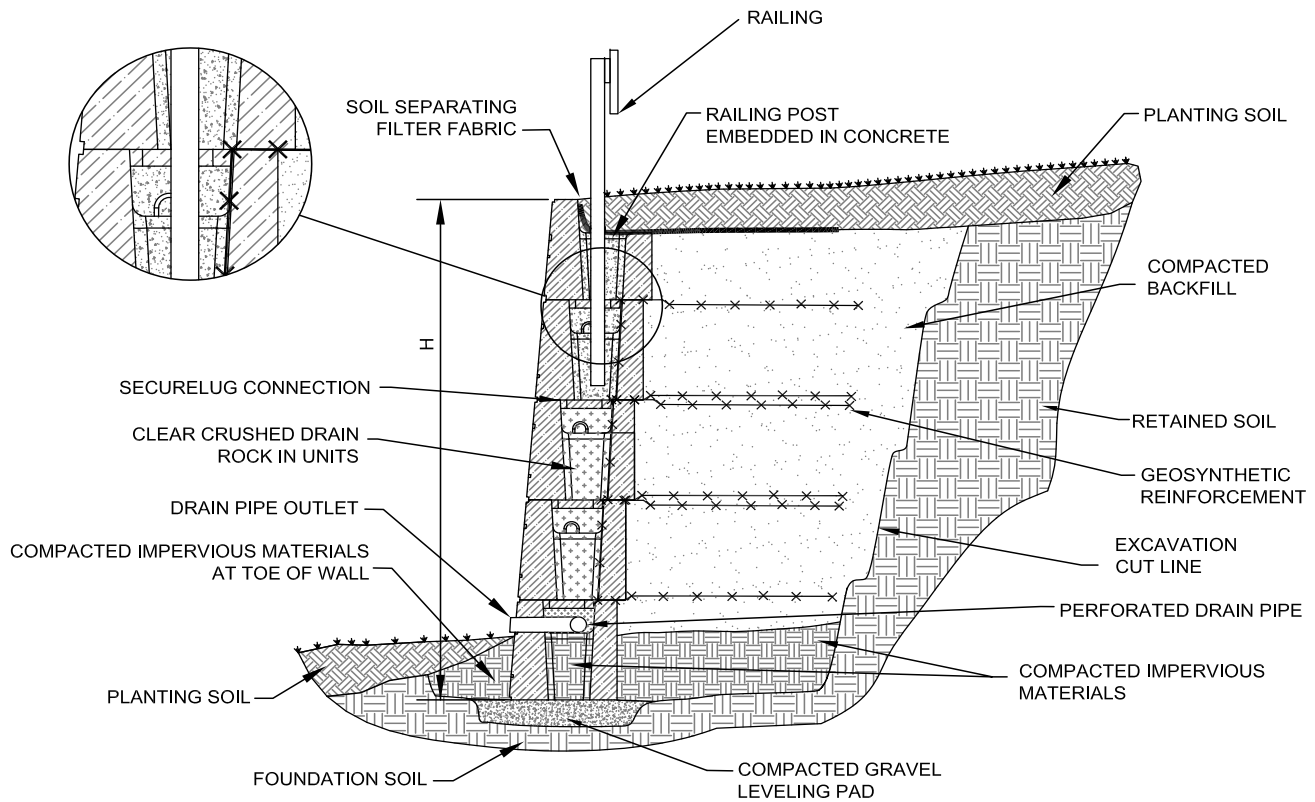


DESIGN LOAD (KIPS)	f_c (28 days) (psi)	min.SECTION MODULUS(in^3)*	STEEL SQUARE TUBING SIZE (in)	STEEL PIPE (in)
29.7	4,000	1.258	3 X 3 X 0.25	3.5" SCH 40
25.0	4,000	1.058	2.75 X 2.75 X 0.25	3.5" SCH 40
20.0	4,000	0.847	2.63 X 2.63 X 0.25	3" SCH 40
15.0	4,000	0.635	2.38 X 2.38 X 0.20	3" SCH 40
10.0	4,000	0.423	2.25 X 2.25 X 0.188	2.5" SCH 40
5.0	4,000	0.212	2.0 X 2.0 X 0.188	2.0" SCH 40

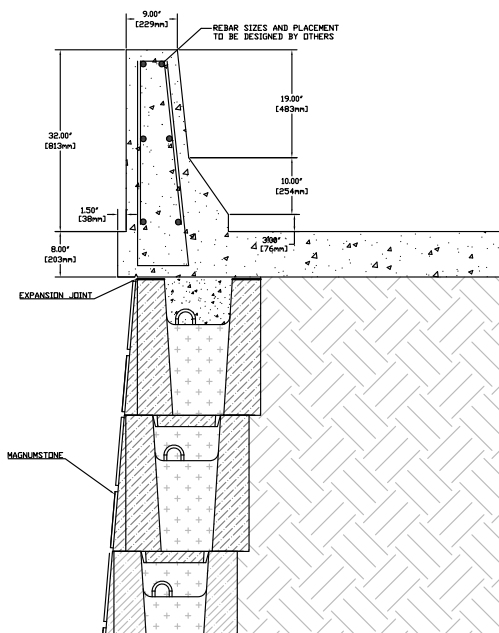
NOTE: Walls can be vertical or setback.

> > > MagnumStone™ Top of Wall Details

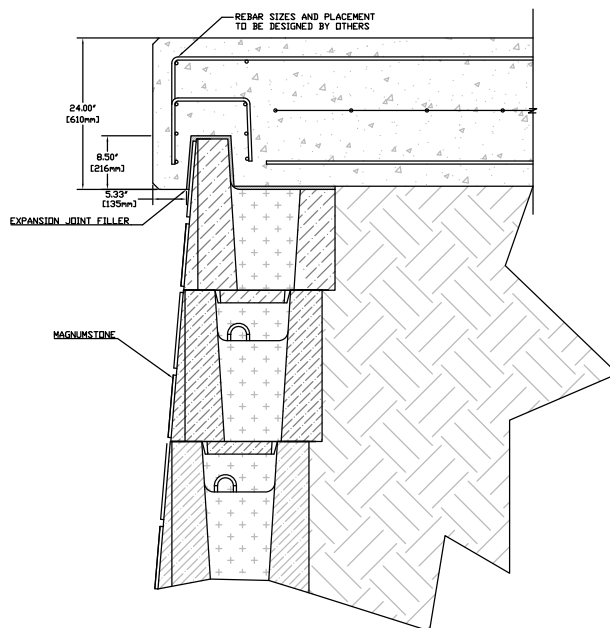
>>> GUARD RAIL



>>> JERSEY BARRIER



>>> COPING



NOTE: Walls can be vertical or setback.

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MAGNUMSTONE™ MARKETING MATERIALS

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



MagnumStone Website



Installation Guide



Sustainability Brochure



General Brochure



Technical Reference



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BC Canada V3J 6G5
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FAX 604 939 4147
TOLL FREE 800 939 9193