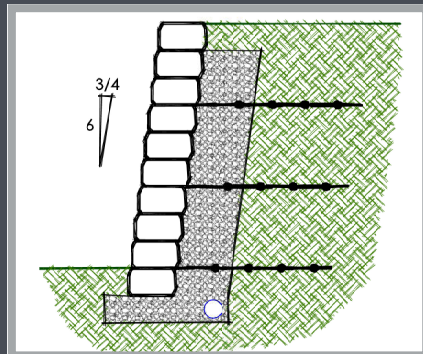
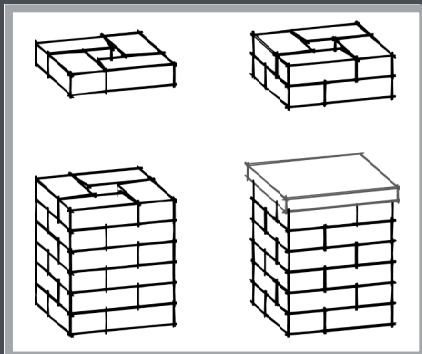


ROSETTA®

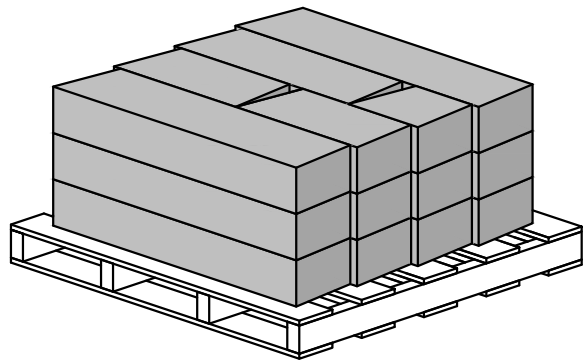
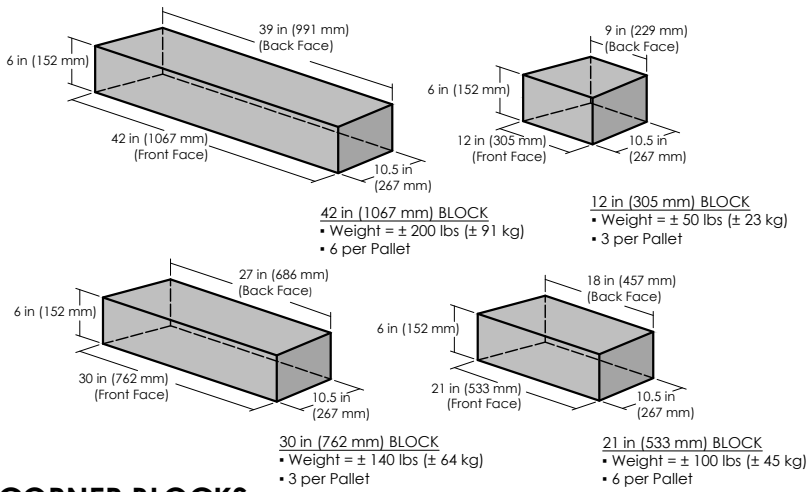
KODAH

TECHNICAL RESOURCES



WALL BLOCKS

Kodah wall blocks are provided in four basic sizes. The blocks are finished on the front and back faces. Both sides of the wall blocks are tapered on each side approximately 1 1/2 in (38 mm) from the front to the back of the block. There are multiple face/texture patterns for each basic block size, providing a more random look for your finished project. Average block weights of the different face/texture patterns are shown. Weights of individual blocks may vary.

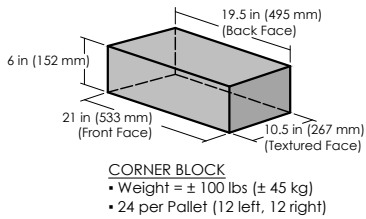


WALL PALLET

- Pallet weight = ± 2,500 lbs (± 1,134 kg) (incl. pallet weight)
- Coverage = ± 21 sq ft (± 1.95 sq m) / Pallet when used in a Retaining Wall and ± 20 sq ft (± 1.86 sq m) / Pallet when used in a Freestanding wall

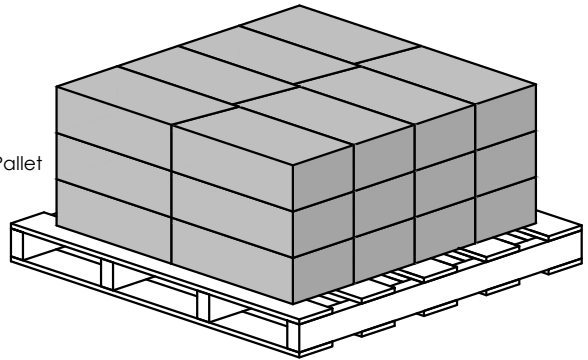
CORNER BLOCKS

Kodah corner blocks are finished on 3 sides. The 4th side is tapered (left or right) to fit with retaining wall blocks. There are 12 of each taper on the pallet. The corner blocks can be used to construct columns, provide a finished end on a freestanding wall, and to make 90° corners. There are multiple face/texture patterns for both corner blocks tapers, providing a more random look for your finished project. Average block weights are shown. Weights of individual blocks may vary.



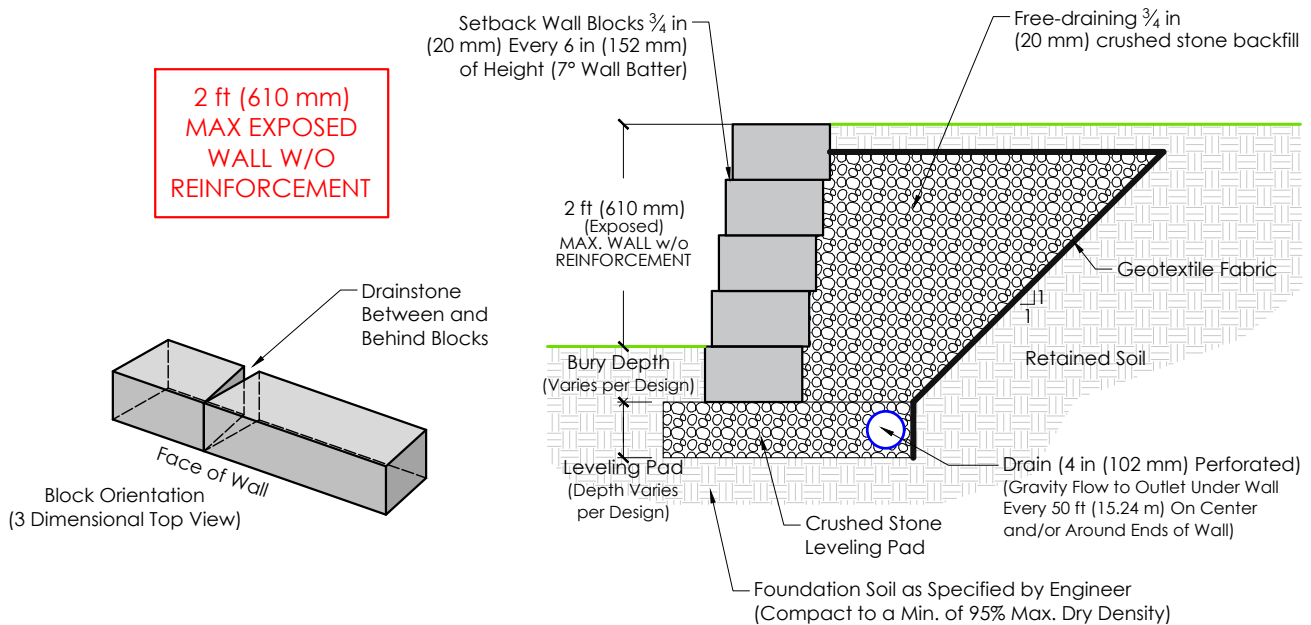
CORNER PALLET

- Pallet weight = ± 2,500 lbs (± 1,134 kg) (incl. pallet weight)
- Coverage = ± 31.5 sq ft (2.93 sq m) / Pallet



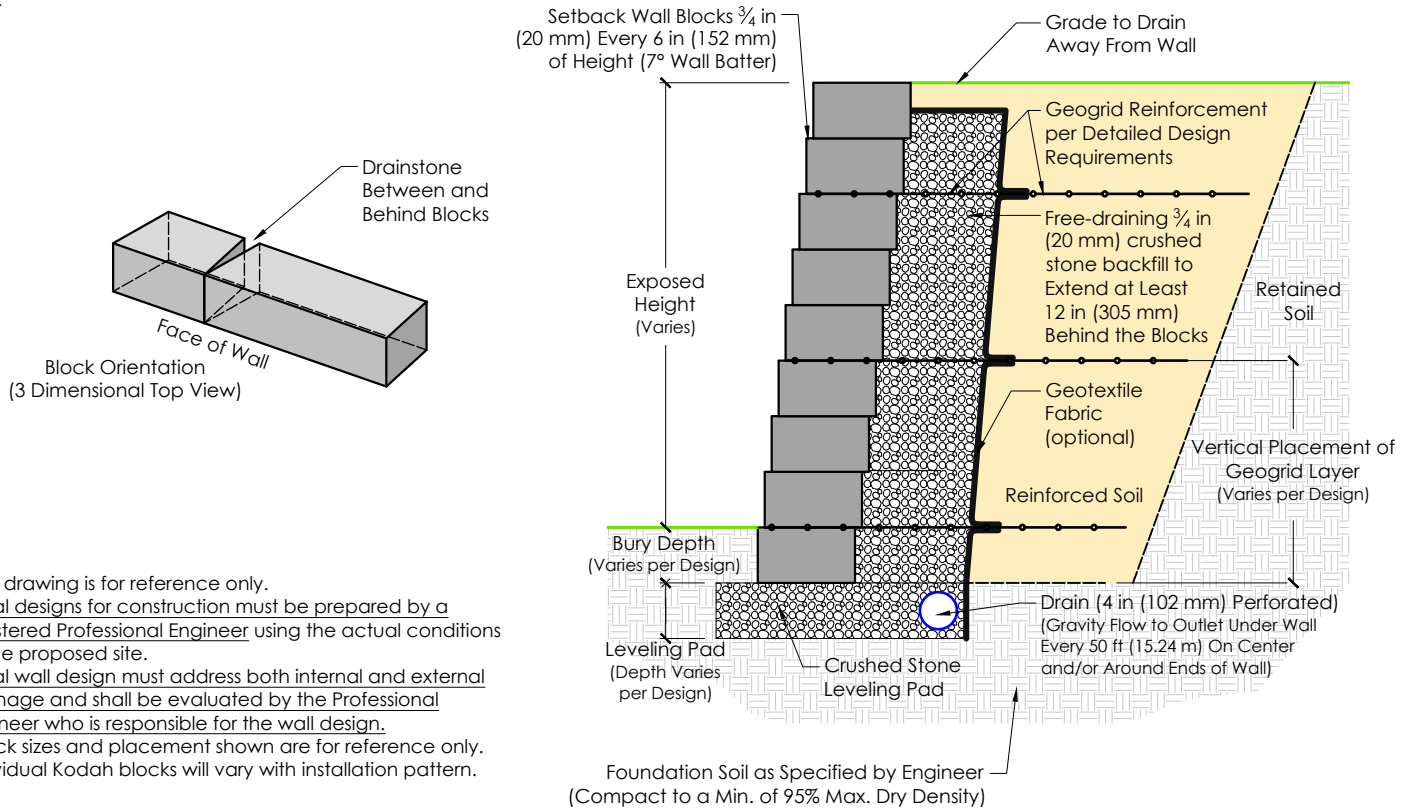
TYPICAL RETAINING WALL CONSTRUCTION DETAILS - GRAVITY INSTALLATION

The following are typical construction details for Kodah gravity retaining walls. These drawings are representative of major components required in wall construction. Specific details including geotextile reinforcement layers, drainage details, soil requirements, etc. shall be per the engineered design for the wall.



TYPICAL RETAINING WALL CONSTRUCTION DETAILS - REINFORCED INSTALLATION

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



- This drawing is for reference only.
- Final designs for construction must be prepared by a registered Professional Engineer using the actual conditions of the proposed site.
- Final wall design must address both internal and external drainage and shall be evaluated by the Professional Engineer who is responsible for the wall design.
- Block sizes and placement shown are for reference only. Individual Kodah blocks will vary with installation pattern.

KODAH RETAINING WALL INSTALLATION NOTES

1. Review all plans and specifications for the project. Make sure you understand the detailed design for the project before starting construction.
2. Leveling pad excavation should be to the depth shown in the engineered plans for the wall, but at least 6 in (152 mm) below the elevation of the bottom block in the wall.
3. Leveling pad excavation width should be a minimum of 28 1/2 in (724 mm), which will provide 6 in (152 mm) in front of and 12 in (305 mm) behind the bottom block.
4. Existing foundation soil (soil below wall) should be compacted to a minimum of 95% of standard proctor before leveling pad material is introduced. Foundation soil should be firm, dry and free of debris, stones, roots, etc. Consult a soils engineer if in doubt.
5. Place leveling pad material as specified in the wall design. Compact using a vibratory plate compactor.
6. Install a 4 in (102 mm) diameter perforated drain pipe in the lowest portion of the free-draining stone, either on the bottom of the crushed stone leveling pad or immediately on top of the slow-draining road gravel leveling pad, depending on the detailed design. See *Typical Drain Placement Details* in this guide. Daylight the drain pipe at the ends and/or through the face of the wall to allow for drainage. The pipe can also outlet into a nearby drainage ditch or catch basin. Because water can flow both ways through the drain pipe, connection to an active storm sewer should only be made under the direction of a professional engineer.
7. Walls shall have the bottom course(s) buried to the depth shown on the engineered design. A minimum depth of 6 in (152 mm) is required for all walls.
8. Place the bottom course of wall blocks. Take care to level the blocks both parallel and perpendicular to the wall.
9. Backfill the first 12 in (305 mm) behind the blocks and triangle shaped areas between the blocks with free-draining 3/4 in (20 mm) crushed stone backfill. Place a layer of non-woven geotextile fabric immediately behind the drainstone and then place the retained or reinforced soil.
10. Drainstone and backfill shall be placed in maximum 6 in (152 mm) lifts and compacted to a minimum of 95% of standard proctor. Hand compaction with a vibratory plate compactor shall be used within 3 ft (914 mm) of the retaining blocks. All compaction equipment shall be large enough to achieve desired compaction, but not so large as to move the wall blocks. Monitor the wall blocks for movement during compaction and rectify if required prior to proceeding.

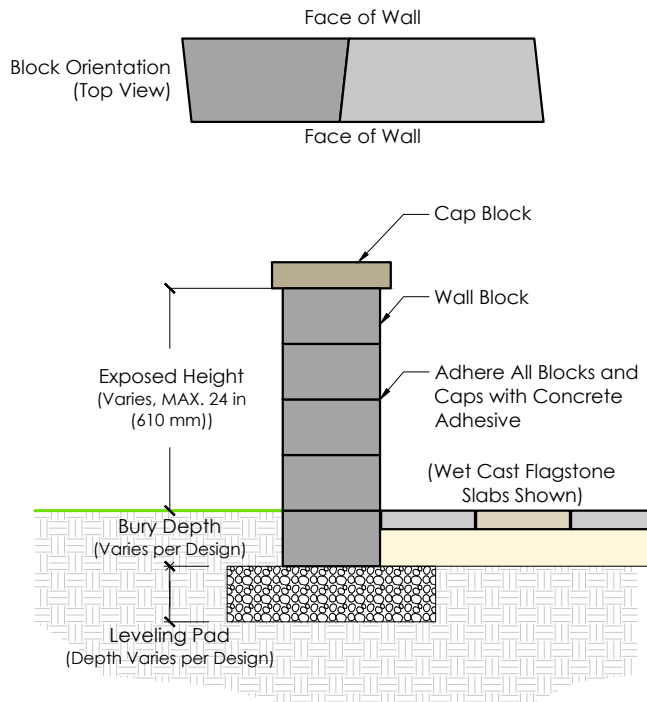
11. Place successive units, drainstone, and compacted backfill to the desired grade/wall height. Make sure the wall blocks are setback a minimum of 3/4 in (20 mm) for every 6 in (152 mm) of wall height.
12. The top of wall must be graded to direct surface water away from the wall.
13. Coping layer should be adhered with a concrete adhesive.

ADDITIONAL REQUIREMENTS FOR GEOGRID INSTALLATION (If Required)

14. Geogrid layers shall be installed to the lengths and elevations detailed in the wall design.
15. Geogrid shall be placed starting at the face of the retaining block and extending into the reinforced soil. Take care to install the geogrid with the strong direction (roll direction) into the reinforced soil zone and not parallel to the wall.
16. Use the next layer of blocks to secure the front end of the geogrid. Make sure the geogrid is as close as possible to the front face of the wall without being visible. Pull the geogrid taut to eliminate any folds and pretension the geogrid. Pin or secure the back edge of the geogrid before placing the reinforced fill.
17. Place and compact drainstone and reinforced fill starting at the back of the blocks and continuing back into the retained soil. Drainstone and reinforced fill shall be placed in maximum 6 in (152 mm) thick layers and compacted to 95% of standard proctor. Hand compaction with a vibratory plate shall be used within 3 feet (914 mm) of the retaining wall blocks. All compaction equipment shall be large enough to achieve desired compaction, but not so large as to move the wall blocks. Monitor the wall blocks for movement during compaction and rectify if required prior to proceeding.
18. Tracked construction equipment shall not be used directly on the geogrid. A minimum of 6 in (152 mm) of fill is required between tracked equipment and geogrid to prevent damage to the grid. Rubber-tired equipment may pass over the geogrid when traveling at low speeds of 5 mph (8 km/h) or less.
19. Avoid any sudden stopping or turning of construction equipment in the reinforced fill zone to prevent moving or damaging the geogrid layers.
20. Follow geogrid manufacturer's requirements, including requirements for vertical separation and overlap of geogrid.

TYPICAL FREESTANDING WALL CONSTRUCTION DETAILS

The following are typical construction details for freestanding Kodah walls. These drawings are representative of major components required in freestanding wall construction. Kodah freestanding walls are intended to be low walls (24 in (610 mm) or lower) used in a garden or patio setting. Taller walls, walls intended to act as railings or barriers, walls constructed in other settings, or walls subject to applied loads will require project specific engineering.



Kodah Installation Notes

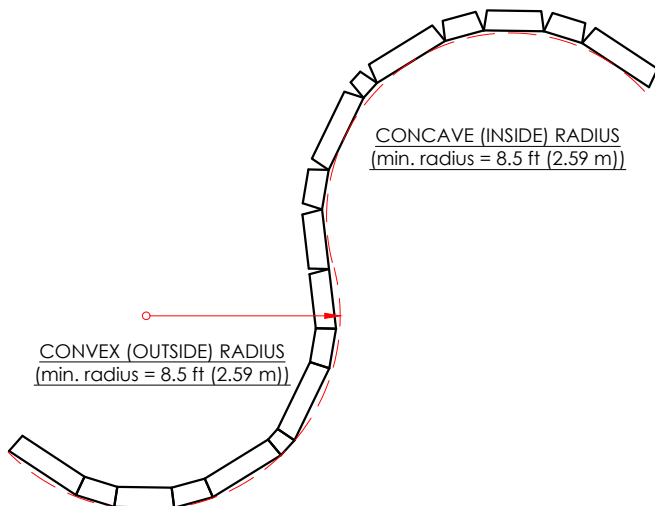
1. Leveling pad excavation should be to the depth shown in the engineered plans for the wall, but at least 6 in (152 mm) below the elevation of the bottom block in the wall.
2. Leveling pad excavation width should be a minimum of 22 1/2 in (572 mm), which will provide 6 in (152 mm) in front of and behind the bottom block.
3. Existing foundation soil should be compacted to a minimum of 95% of standard proctor before leveling pad material is introduced. Foundation soil should be firm, dry and free of debris, stones, roots, etc. Consult a soils engineer if soil stability is in doubt.
4. Place crushed stone or well-graded road gravel leveling pad material as specified in the wall design. Compact using a vibrator plate compactor.
5. Walls shall have the bottom course buried to the depth shown on the engineered design. Typically, walls are buried 4 in to 6 in (102 mm to 152 mm).
6. Place the bottom course of wall blocks. Take care to level the blocks both parallel and perpendicular to the wall. Adjacent blocks should be placed so the tapers on the sides are going opposite directions to provide a uniform wall face with no gaps on either side of the wall.
7. Place successive units to the desired wall height.
8. Concrete adhesive is required between all blocks and the coping layer of a freestanding wall to provide additional stability to the blocks.

*• This drawing is for reference only.
 • Final designs for construction for walls subject to any loading must be prepared by a registered Professional Engineer.
 • Block sizes and placement shown are for reference only.
 Individual Kodah blocks will vary with installation pattern.*

CURVED WALL DETAILS

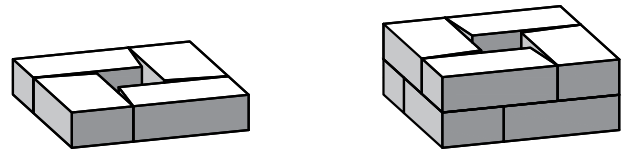
The taper on the sides of Kodah blocks allow for construction of a wide range of curved walls.

1. Minimum radius curves are shown which can be constructed without saw-cutting a significant number of blocks. Larger radius curves can be created by leaving a larger gap between blocks on the back side of the wall. The gaps must be filled with drainstone.
2. When retaining walls are constructed with batter, the radius on outside curves becomes smaller with each course due to the block setback. For proper construction, the radius of the bottom course must be larger than the minimum radius so upper courses will have significant room for construction. Increase the bottom course radius at least 3/4 in (20 mm) for every row of block in the wall.
3. When retaining walls are constructed with batter, the radius on inside curves becomes larger with each course due to the block setback.



PILLAR CONSTRUCTION DETAILS

Kodah pillars can be constructed using 1 full pallet of Kodah corner blocks. A 34 in (864 mm) column cap can be utilized to finish the pillar. The column cap can be cored as needed to accommodate the installation of a lamp.

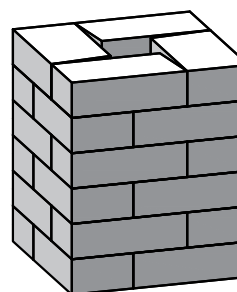


Step 1

Place (4) Kodah corner blocks with the same taper, facing into the center of the pillar.

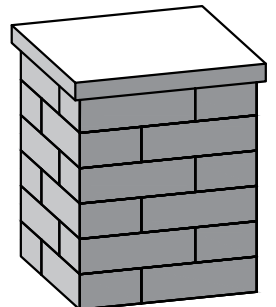
Step 2

Place a second row of (4) Kodah corner blocks with the opposite taper, facing into the center of the pillar.



Step 3

Continue with subsequent rows to the desired pillar height. One pallet of Kodah corner blocks will create a 32 in x 32 in x 36 in (813 mm x 813 mm x 914 mm) tall column.



Step 4

Place a column cap to finish the pillar. The column cap can be cored as needed for installation of a lamp.

KODAH PRELIMINARY GEOGRID REINFORCEMENT GUIDE

This page shows preliminary guides for soil reinforcement required to construct a wall with Kodah blocks in the conditions noted below. The geogrid reinforcement is Mirafi Miragrid 3XT.

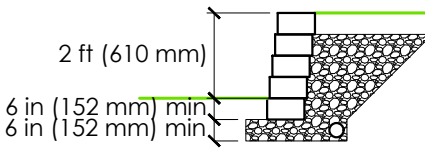
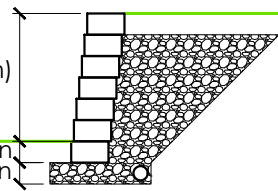
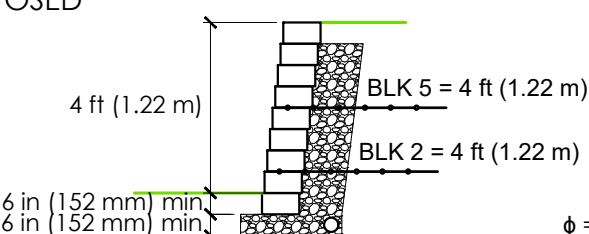
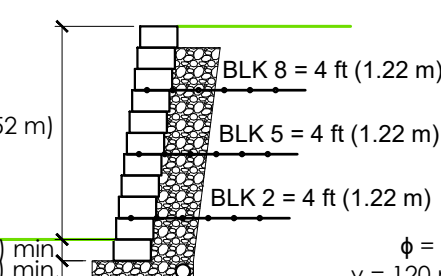
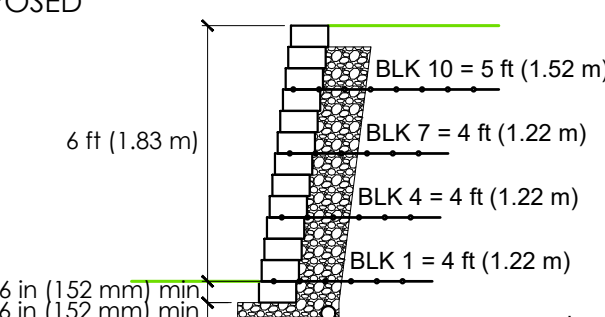
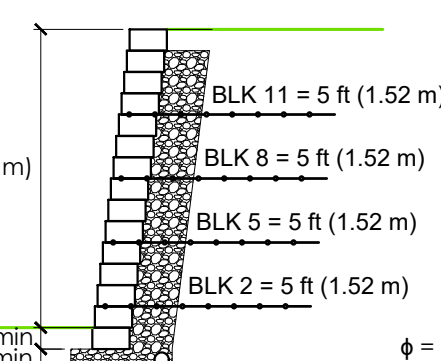
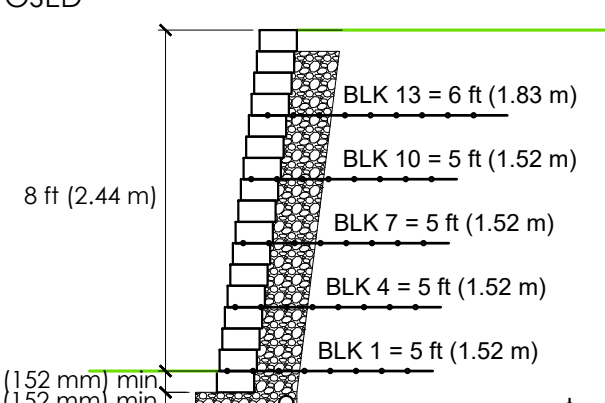
DENSE WELL-GRADED SAND, SAND AND GRAVEL

$$\phi = 34^\circ, \gamma = 120 \text{ pcf (19 kN/m}^3\text{)}$$

NO BACK SLOPE

NO TOE SLOPE

NO SURCHARGE

<p>2 ft (610 mm) EXPOSED</p>  <p>2 ft (610 mm)</p> <p>6 in (152 mm) min. 6 in (152 mm) min.</p> <p>NO GEOGRID. STONE BACKFILL REQUIRED</p> <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<p>3 ft (914 mm) EXPOSED</p>  <p>3 ft (914 mm)</p> <p>6 in (152 mm) min. 6 in (152 mm) min.</p> <p>NO GEOGRID. STONE BACKFILL REQUIRED</p> <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>
<p>4 ft (1.22 m) EXPOSED</p>  <p>4 ft (1.22 m)</p> <p>6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 5 = 4 ft (1.22 m) BLK 2 = 4 ft (1.22 m)</p> <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<p>5 ft (1.52 m) EXPOSED</p>  <p>5 ft (1.52 m)</p> <p>6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 8 = 4 ft (1.22 m) BLK 5 = 4 ft (1.22 m) BLK 2 = 4 ft (1.22 m)</p> <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>
<p>6 ft (1.83 m) EXPOSED</p>  <p>6 ft (1.83 m)</p> <p>6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 10 = 5 ft (1.52 m) BLK 7 = 4 ft (1.22 m) BLK 4 = 4 ft (1.22 m) BLK 1 = 4 ft (1.22 m)</p> <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<p>7 ft (2.13 m) EXPOSED</p>  <p>7 ft (2.13 m)</p> <p>6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 11 = 5 ft (1.52 m) BLK 8 = 5 ft (1.52 m) BLK 5 = 5 ft (1.52 m) BLK 2 = 5 ft (1.52 m)</p> <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>
<p>8 ft (2.44 m) EXPOSED</p>  <p>8 ft (2.44 m)</p> <p>6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 13 = 6 ft (1.83 m) BLK 10 = 5 ft (1.52 m) BLK 7 = 5 ft (1.52 m) BLK 4 = 5 ft (1.52 m) BLK 1 = 5 ft (1.52 m)</p> <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<ol style="list-style-type: none"> 1. These drawings are for reference only. 2. Final designs for construction must be prepared by a registered professional engineer using the actual conditions of the proposed site. Wall stability, incl. global stability, must be verified for site specific conditions. 3. Final wall design must address both internal and external drainage and shall be evaluated by the professional engineer who is responsible for the wall design. 4. Geogrid Layers are to be placed on TOP of the course of blocks shown. For example, BLK 2 = 5 ft (1.52 m) indicates that you place a 5 ft (1.52 m) long layer of geogrid on top of the 2nd course of blocks. 5. Length of geogrid is measured from the front of the Kodah blocks. 6. Seismic conditions are not included in these guides and must be analyzed based on site specific conditions. 7. These guides assume a flat "toe" slope at the bottom of the wall. Toe slopes must be analyzed based on site conditions. 8. Minimum Factors of Safety for the assumed conditions shown above are 1.5 for sliding, 2.0 for overturning (1.5 for non-reinforced section), and 2.0 for bearing capacity. 9. Designs are in general accordance with NCMA's <i>Design Manual for Segmental Retaining Walls</i>, 3rd Ed. 10. Reinforced and Backfill soils are to be compacted to 95% maximum density (Standard Proctor). 11. All Kodah Specifications are to be followed.

KODAH PRELIMINARY GEOGRID REINFORCEMENT GUIDE

This page shows preliminary guides for soil reinforcement required to construct a wall with Kodah blocks in the conditions noted below. The geogrid reinforcement is Mirafi Miragrid 3XT.

DENSE WELL-GRADED SAND, SAND AND GRAVEL
NO BACK SLOPE

NO TOE SLOPE

$\phi = 34^\circ$, $\gamma = 120 \text{ pcf}$ (19 kN/m^3)
100 psf (5 kPa) SURCHARGE

<p>2 ft (610 mm) EXPOSED</p> <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>2 ft (610 mm)</p> <p>6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 2 = 4 ft (1.22 m)</p> <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>	<p>3 ft (914 mm) EXPOSED</p> <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>3 ft (914 mm)</p> <p>6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 4 = 4 ft (1.22 m) BLK 1 = 4 ft (1.22 m)</p> <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>
<p>4 ft (1.22 m) EXPOSED</p> <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>4 ft (1.22 m)</p> <p>6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 7 = 4 ft (1.22 m) BLK 4 = 4 ft (1.22 m) BLK 1 = 4 ft (1.22 m)</p> <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>	<p>5 ft (1.52 m) EXPOSED</p> <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>5 ft (1.52 m)</p> <p>6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 9 = 5 ft (1.52 m) BLK 6 = 5 ft (1.52 m) BLK 3 = 5 ft (1.52 m) BLK 1 = 5 ft (1.52 m)</p> <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>
<p>6 ft (1.83 m) EXPOSED</p> <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>6 ft (1.83 m)</p> <p>6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 10 = 5 ft (1.52 m) BLK 7 = 5 ft (1.52 m) BLK 4 = 5 ft (1.52 m) BLK 1 = 5 ft (1.52 m)</p> <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>	<p>7 ft (2.13 m) EXPOSED</p> <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>7 ft (2.13 m)</p> <p>6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 13 = 6 ft (1.83 m) BLK 10 = 6 ft (1.83 m) BLK 7 = 6 ft (1.83 m) BLK 4 = 6 ft (1.83 m) BLK 1 = 6 ft (1.83 m)</p> <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>
<p>8 ft (2.44 m) EXPOSED</p> <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>8 ft (2.44 m)</p> <p>6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 15 = 7 ft (2.13 m) BLK 12 = 6 ft (1.83 m) BLK 9 = 6 ft (1.83 m) BLK 6 = 6 ft (1.83 m) BLK 3 = 6 ft (1.83 m) BLK 1 = 6 ft (1.83 m)</p> <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>	<ol style="list-style-type: none"> 1. These drawings are for reference only. 2. Final designs for construction must be prepared by a registered professional engineer using the actual conditions of the proposed site. Wall stability, incl. global stability, must be verified for site specific conditions. 3. Final wall design must address both internal and external drainage and shall be evaluated by the professional engineer who is responsible for the wall design. 4. Geogrid Layers are to be placed on TOP of the course of blocks shown. For example, BLK 2 = 5 ft (1.52 m) indicates that you place a 5 ft (1.52 m) long layer of geogrid on top of the 2nd course of blocks. 5. Length of geogrid is measured from the front of the Kodah blocks. 6. Seismic conditions are not included in these guides and must be analyzed based on site specific conditions. 7. These guides assume a flat "toe" slope at the bottom of the wall. Toe slopes must be analyzed based on site conditions. 8. Minimum Factors of Safety for the assumed conditions shown above are 1.5 for sliding, 2.0 for overturning (1.5 for non-reinforced section), and 2.0 for bearing capacity. 9. Designs are in general accordance with NCMA's <i>Design Manual for Segmental Retaining Walls</i>, 3rd Ed. 10. Reinforced and Backfill soils are to be compacted to 95% maximum density (Standard Proctor). 11. All Kodah Specifications are to be followed.

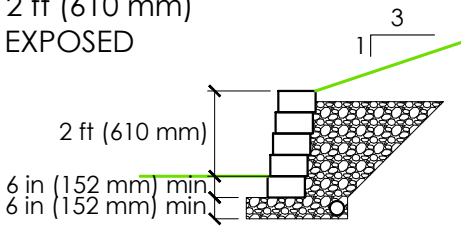
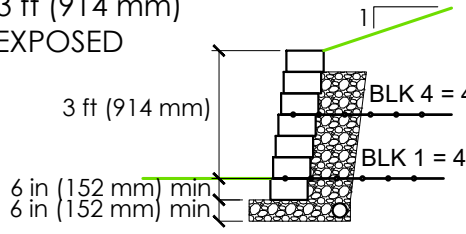
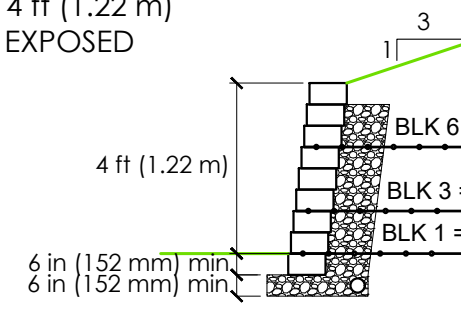
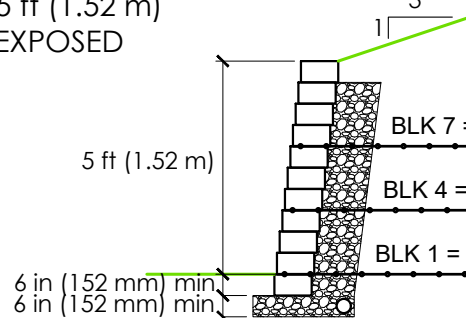
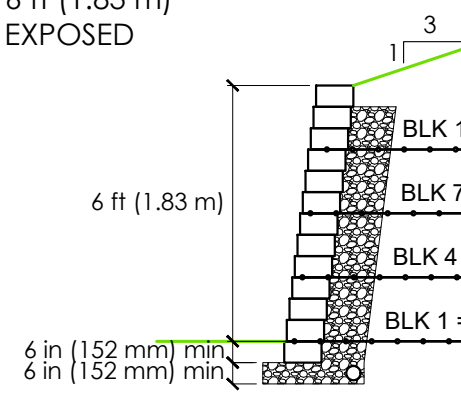
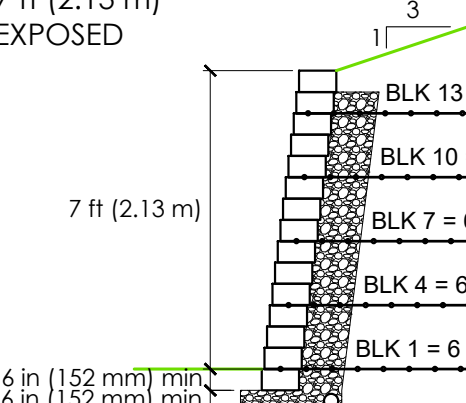
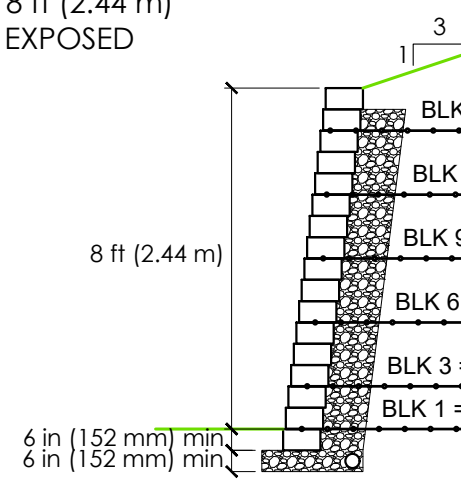
KODAH PRELIMINARY GEOGRID REINFORCEMENT GUIDE

This page shows preliminary guides for soil reinforcement required to construct a wall with Kodah blocks in the conditions noted below. The geogrid reinforcement is Mirafi Miragrid 3XT.

DENSE WELL-GRADED SAND, SAND AND GRAVEL
1:3 (18.4°) BACK SLOPE

NO TOE SLOPE

$\phi = 34^\circ$, $\gamma = 120 \text{ pcf}$ (19 kN/m³)
NO SURCHARGE

<p>2 ft (610 mm) EXPOSED</p>  <p>NO GEOGRID. STONE BACKFILL REQUIRED</p> <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<p>3 ft (914 mm) EXPOSED</p>  <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>
<p>4 ft (1.22 m) EXPOSED</p>  <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<p>5 ft (1.52 m) EXPOSED</p>  <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>
<p>6 ft (1.83 m) EXPOSED</p>  <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<p>7 ft (2.13 m) EXPOSED</p>  <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>
<p>8 ft (2.44 m) EXPOSED</p>  <p>$\phi = 34^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<ol style="list-style-type: none"> 1. These drawings are for reference only. 2. Final designs for construction must be prepared by a registered professional engineer using the actual conditions of the proposed site. Wall stability, incl. global stability, must be verified for site specific conditions. 3. Final wall design must address both internal and external drainage and shall be evaluated by the professional engineer who is responsible for the wall design. 4. Geogrid Layers are to be placed on TOP of the course of blocks shown. For example, BLK 2 = 5 ft (1.52 m) indicates that you place a 5 ft (1.52 m) long layer of geogrid on top of the 2nd course of blocks. 5. Length of geogrid is measured from the front of the Kodah blocks. 6. Seismic conditions are not included in these guides and must be analyzed based on site specific conditions. 7. These guides assume a flat "toe" slope at the bottom of the wall. Toe slopes must be analyzed based on site conditions. 8. Minimum Factors of Safety for the assumed conditions shown above are 1.5 for sliding, 2.0 for overturning (1.5 for non-reinforced section), and 2.0 for bearing capacity. 9. Designs are in general accordance with NCMA's <i>Design Manual for Segmental Retaining Walls</i>, 3rd Ed. 10. Reinforced and Backfill soils are to be compacted to 95% maximum density (Standard Proctor). 11. All Kodah Specifications are to be followed.

KODAH PRELIMINARY GEOGRID REINFORCEMENT GUIDE

This page shows preliminary guides for soil reinforcement required to construct a wall with Kodah blocks in the conditions noted below. The geogrid reinforcement is Mirafi Miragrid 3XT.

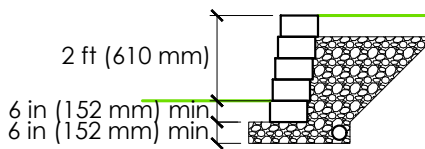
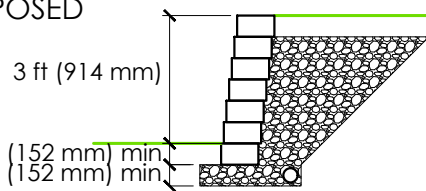
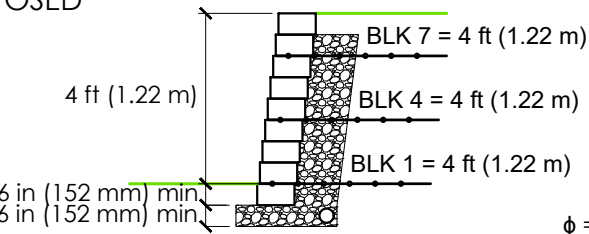
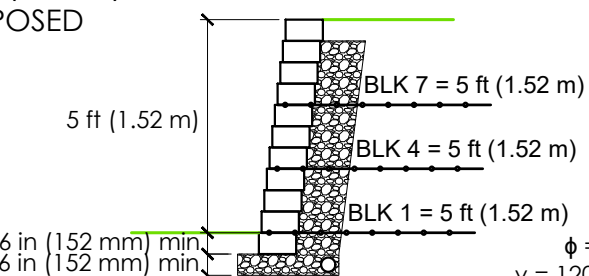
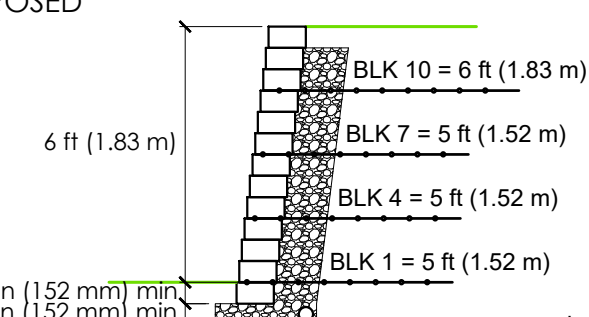
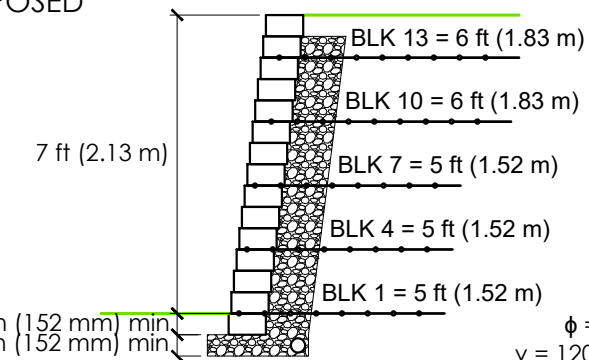
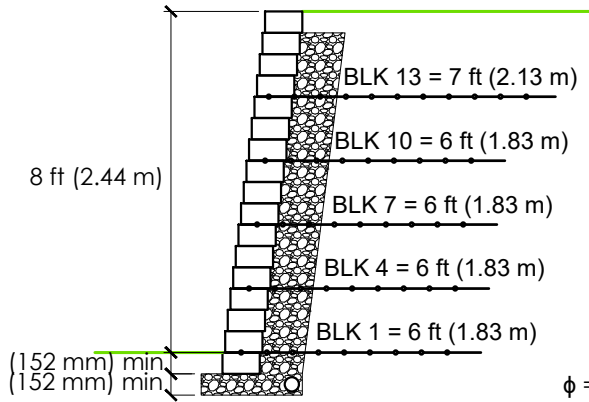
FINE TO MEDIUM SAND

$$\phi = 30^\circ, \gamma = 120 \text{ pcf (19 kN/m}^3\text{)}$$

NO BACK SLOPE

NO TOE SLOPE

NO SURCHARGE

<p>2 ft (610 mm) EXPOSED</p>  <p>2 ft (610 mm)</p> <p>6 in (152 mm) min 6 in (152 mm) min</p> <p>NO GEOGRID. STONE BACKFILL REQUIRED</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<p>3 ft (914 mm) EXPOSED</p>  <p>3 ft (914 mm)</p> <p>6 in (152 mm) min 6 in (152 mm) min</p> <p>NO GEOGRID. STONE BACKFILL REQUIRED</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>
<p>4 ft (1.22 m) EXPOSED</p>  <p>4 ft (1.22 m)</p> <p>BLK 7 = 4 ft (1.22 m) BLK 4 = 4 ft (1.22 m) BLK 1 = 4 ft (1.22 m)</p> <p>6 in (152 mm) min 6 in (152 mm) min</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<p>5 ft (1.52 m) EXPOSED</p>  <p>5 ft (1.52 m)</p> <p>BLK 7 = 5 ft (1.52 m) BLK 4 = 5 ft (1.52 m) BLK 1 = 5 ft (1.52 m)</p> <p>6 in (152 mm) min 6 in (152 mm) min</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>
<p>6 ft (1.83 m) EXPOSED</p>  <p>6 ft (1.83 m)</p> <p>BLK 10 = 6 ft (1.83 m) BLK 7 = 5 ft (1.52 m) BLK 4 = 5 ft (1.52 m) BLK 1 = 5 ft (1.52 m)</p> <p>6 in (152 mm) min 6 in (152 mm) min</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<p>7 ft (2.13 m) EXPOSED</p>  <p>7 ft (2.13 m)</p> <p>BLK 13 = 6 ft (1.83 m) BLK 10 = 6 ft (1.83 m) BLK 7 = 5 ft (1.52 m) BLK 4 = 5 ft (1.52 m) BLK 1 = 5 ft (1.52 m)</p> <p>6 in (152 mm) min 6 in (152 mm) min</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>
<p>8 ft (2.44 m) EXPOSED</p>  <p>8 ft (2.44 m)</p> <p>BLK 13 = 7 ft (2.13 m) BLK 10 = 6 ft (1.83 m) BLK 7 = 6 ft (1.83 m) BLK 4 = 6 ft (1.83 m) BLK 1 = 6 ft (1.83 m)</p> <p>6 in (152 mm) min 6 in (152 mm) min</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<ol style="list-style-type: none"> 1. These drawings are for reference only. 2. Final designs for construction must be prepared by a registered professional engineer using the actual conditions of the proposed site. Wall stability, incl. global stability, must be verified for site specific conditions. 3. Final wall design must address both internal and external drainage and shall be evaluated by the professional engineer who is responsible for the wall design. 4. Geogrid Layers are to be placed on TOP of the course of blocks shown. For example, BLK 2 = 5 ft (1.52 m) indicates that you place a 5 ft (1.52 m) long layer of geogrid on top of the 2nd course of blocks. 5. Length of geogrid is measured from the front of the Kodah blocks. 6. Seismic conditions are not included in these guides and must be analyzed based on site specific conditions. 7. These guides assume a flat "toe" slope at the bottom of the wall. Toe slopes must be analyzed based on site conditions. 8. Minimum Factors of Safety for the assumed conditions shown above are 1.5 for sliding, 2.0 for overturning (1.5 for non-reinforced section), and 2.0 for bearing capacity. 9. Designs are in general accordance with NCMA's <i>Design Manual for Segmental Retaining Walls</i>, 3rd Ed. 10. Reinforced and Backfill soils are to be compacted to 95% maximum density (Standard Proctor). 11. All Kodah Specifications are to be followed.

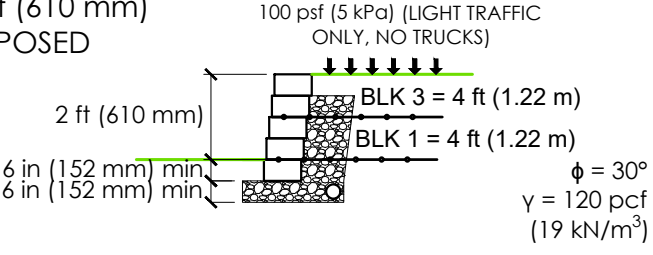
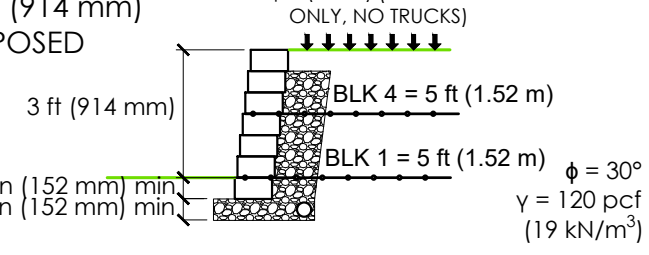
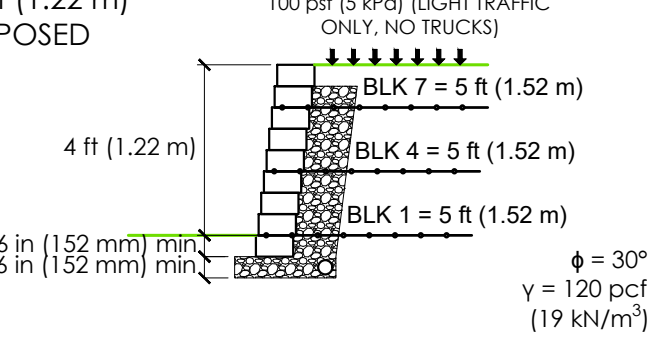
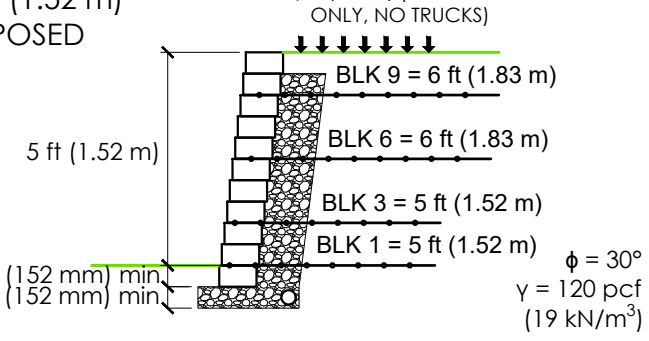
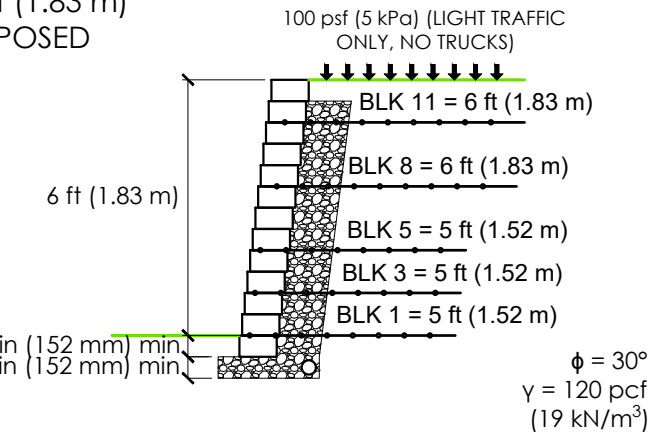
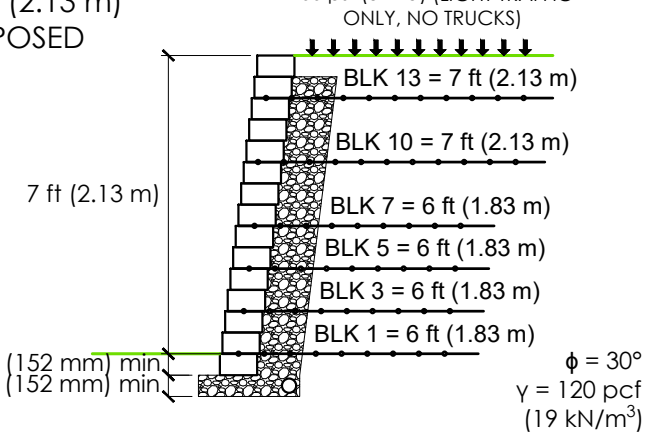
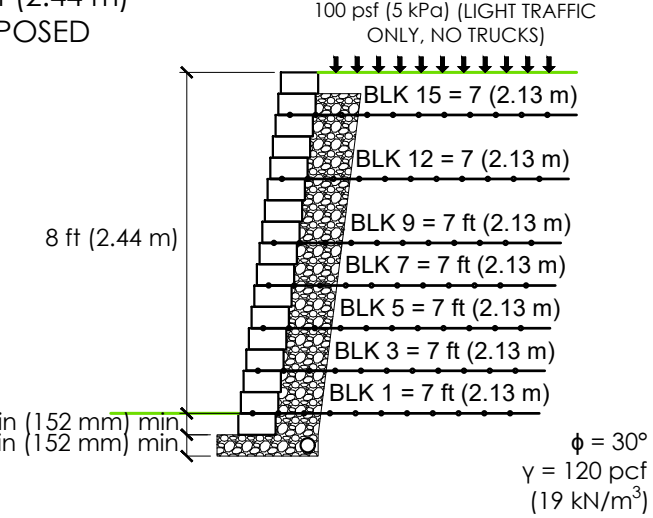
KODAH PRELIMINARY GEOGRID REINFORCEMENT GUIDE

This page shows preliminary guides for soil reinforcement required to construct a wall with Kodah blocks in the conditions noted below. The geogrid reinforcement is Mirafi Miragrid 3XT.

FINE TO MEDIUM SAND
NO BACK SLOPE

NO TOE SLOPE

$\phi = 30^\circ$, $\gamma = 120 \text{ pcf}$ (19 kN/m^3)
100 psf (5 kPa) SURCHARGE

<p>2 ft (610 mm) EXPOSED</p>  <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>2 ft (610 mm)</p> <p>6 in (152 mm) min 6 in (152 mm) min</p> <p>BLK 3 = 4 ft (1.22 m) BLK 1 = 4 ft (1.22 m)</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>	<p>3 ft (914 mm) EXPOSED</p>  <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>3 ft (914 mm)</p> <p>6 in (152 mm) min 6 in (152 mm) min</p> <p>BLK 4 = 5 ft (1.52 m) BLK 1 = 5 ft (1.52 m)</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>
<p>4 ft (1.22 m) EXPOSED</p>  <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>4 ft (1.22 m)</p> <p>6 in (152 mm) min 6 in (152 mm) min</p> <p>BLK 7 = 5 ft (1.52 m) BLK 4 = 5 ft (1.52 m) BLK 1 = 5 ft (1.52 m)</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>	<p>5 ft (1.52 m) EXPOSED</p>  <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>5 ft (1.52 m)</p> <p>6 in (152 mm) min 6 in (152 mm) min</p> <p>BLK 9 = 6 ft (1.83 m) BLK 6 = 6 ft (1.83 m) BLK 3 = 5 ft (1.52 m) BLK 1 = 5 ft (1.52 m)</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>
<p>6 ft (1.83 m) EXPOSED</p>  <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>6 ft (1.83 m)</p> <p>6 in (152 mm) min 6 in (152 mm) min</p> <p>BLK 11 = 6 ft (1.83 m) BLK 8 = 6 ft (1.83 m) BLK 5 = 5 ft (1.52 m) BLK 3 = 5 ft (1.52 m) BLK 1 = 5 ft (1.52 m)</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>	<p>7 ft (2.13 m) EXPOSED</p>  <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>7 ft (2.13 m)</p> <p>6 in (152 mm) min 6 in (152 mm) min</p> <p>BLK 13 = 7 ft (2.13 m) BLK 10 = 7 ft (2.13 m) BLK 7 = 6 ft (1.83 m) BLK 5 = 6 ft (1.83 m) BLK 3 = 6 ft (1.83 m) BLK 1 = 6 ft (1.83 m)</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>
<p>8 ft (2.44 m) EXPOSED</p>  <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>8 ft (2.44 m)</p> <p>6 in (152 mm) min 6 in (152 mm) min</p> <p>BLK 15 = 7 (2.13 m) BLK 12 = 7 (2.13 m) BLK 9 = 7 ft (2.13 m) BLK 7 = 7 ft (2.13 m) BLK 5 = 7 ft (2.13 m) BLK 3 = 7 ft (2.13 m) BLK 1 = 7 ft (2.13 m)</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>	<ol style="list-style-type: none"> 1. These drawings are for reference only. 2. Final designs for construction must be prepared by a registered professional engineer using the actual conditions of the proposed site. Wall stability, incl. global stability, must be verified for site specific conditions. 3. Final wall design must address both internal and external drainage and shall be evaluated by the professional engineer who is responsible for the wall design. 4. Geogrid Layers are to be placed on TOP of the course of blocks shown. For example, BLK 2 = 5 ft (1.52 m) indicates that you place a 5 ft (1.52 m) long layer of geogrid on top of the 2nd course of blocks. 5. Length of geogrid is measured from the front of the Kodah blocks. 6. Seismic conditions are not included in these guides and must be analyzed based on site specific conditions. 7. These guides assume a flat "toe" slope at the bottom of the wall. Toe slopes must be analyzed based on site conditions. 8. Minimum Factors of Safety for the assumed conditions shown above are 1.5 for sliding, 2.0 for overturning (1.5 for non-reinforced section), and 2.0 for bearing capacity. 9. Designs are in general accordance with NCMA's Design Manual for Segmental Retaining Walls, 3rd Ed. 10. Reinforced and Backfill soils are to be compacted to 95% maximum density (Standard Proctor). 11. All Kodah Specifications are to be followed.

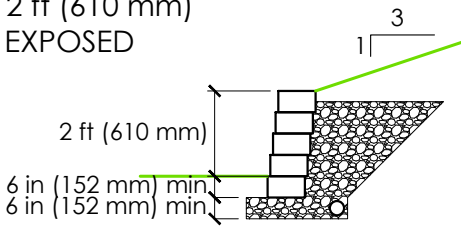
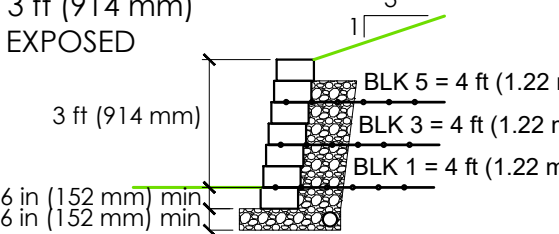
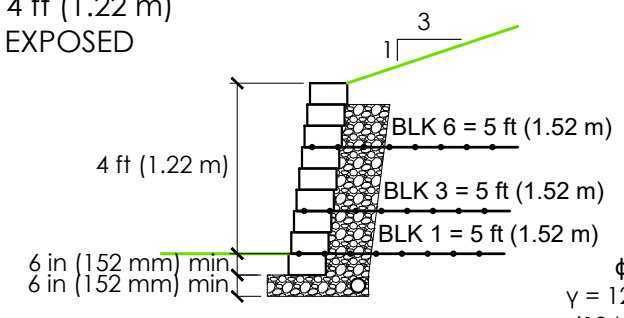
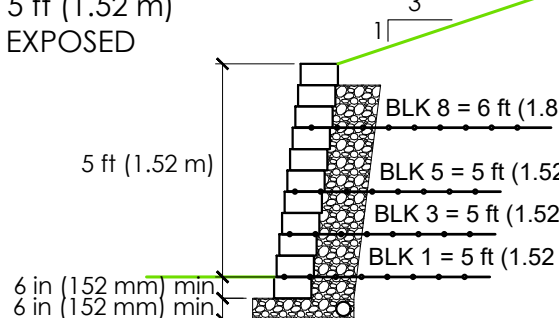
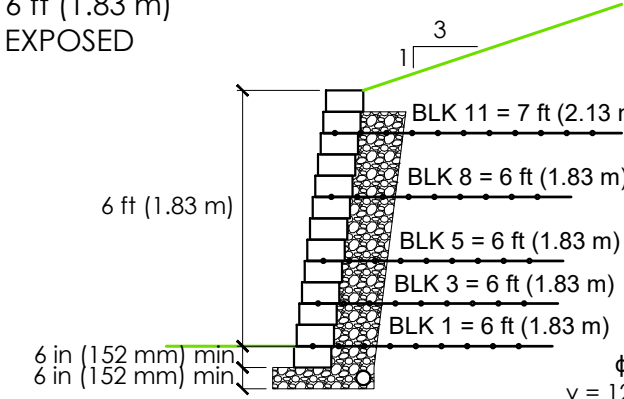
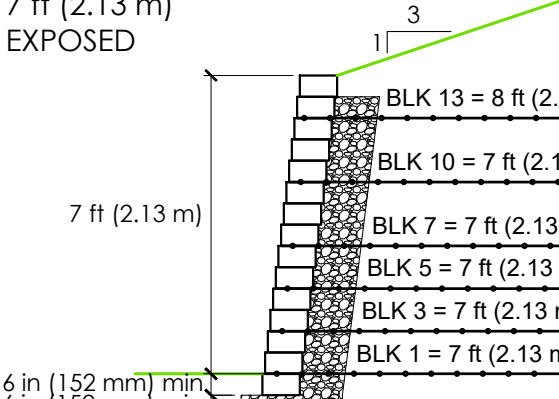
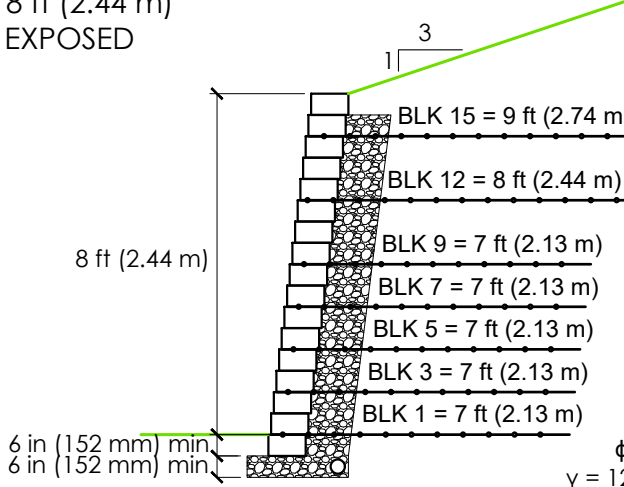
KODAH PRELIMINARY GEOGRID REINFORCEMENT GUIDE

This page shows preliminary guides for soil reinforcement required to construct a wall with Kodah blocks in the conditions noted below. The geogrid reinforcement is Mirafi Miragrid 3XT.

FINE TO MEDIUM SAND
1:3 (18.4°) BACK SLOPE

NO TOE SLOPE

$\phi = 30^\circ$, $\gamma = 120 \text{ pcf}$ (19 kN/m³)
NO SURCHARGE

<p>2 ft (610 mm) EXPOSED</p>  <p>NO GEOGRID. STONE BACKFILL REQUIRED</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<p>3 ft (914 mm) EXPOSED</p>  <p>BLK 5 = 4 ft (1.22 m) BLK 3 = 4 ft (1.22 m) BLK 1 = 4 ft (1.22 m)</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>
<p>4 ft (1.22 m) EXPOSED</p>  <p>BLK 6 = 5 ft (1.52 m) BLK 3 = 5 ft (1.52 m) BLK 1 = 5 ft (1.52 m)</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<p>5 ft (1.52 m) EXPOSED</p>  <p>BLK 8 = 6 ft (1.83 m) BLK 5 = 5 ft (1.52 m) BLK 3 = 5 ft (1.52 m) BLK 1 = 5 ft (1.52 m)</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>
<p>6 ft (1.83 m) EXPOSED</p>  <p>BLK 11 = 7 ft (2.13 m) BLK 8 = 6 ft (1.83 m) BLK 5 = 6 ft (1.83 m) BLK 3 = 6 ft (1.83 m) BLK 1 = 6 ft (1.83 m)</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<p>7 ft (2.13 m) EXPOSED</p>  <p>BLK 13 = 8 ft (2.44 m) BLK 10 = 7 ft (2.13 m) BLK 7 = 7 ft (2.13 m) BLK 5 = 7 ft (2.13 m) BLK 3 = 7 ft (2.13 m) BLK 1 = 7 ft (2.13 m)</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>
<p>8 ft (2.44 m) EXPOSED</p>  <p>BLK 15 = 9 ft (2.74 m) BLK 12 = 8 ft (2.44 m) BLK 9 = 7 ft (2.13 m) BLK 7 = 7 ft (2.13 m) BLK 5 = 7 ft (2.13 m) BLK 3 = 7 ft (2.13 m) BLK 1 = 7 ft (2.13 m)</p> <p>$\phi = 30^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<ol style="list-style-type: none"> 1. These drawings are for reference only. 2. Final designs for construction must be prepared by a registered professional engineer using the actual conditions of the proposed site. Wall stability, incl. global stability, must be verified for site specific conditions. 3. Final wall design must address both internal and external drainage and shall be evaluated by the professional engineer who is responsible for the wall design. 4. Geogrid Layers are to be placed on TOP of the course of blocks shown. For example, BLK 2 = 5 ft (1.52 m) indicates that you place a 5 ft (1.52 m) long layer of geogrid on top of the 2nd course of blocks. 5. Length of geogrid is measured from the front of the Kodah blocks. 6. Seismic conditions are not included in these guides and must be analyzed based on site specific conditions. 7. These guides assume a flat "toe" slope at the bottom of the wall. Toe slopes must be analyzed based on site conditions. 8. Minimum Factors of Safety for the assumed conditions shown above are 1.5 for sliding, 2.0 for overturning (1.5 for non-reinforced section), and 2.0 for bearing capacity. 9. Designs are in general accordance with NCMA's <i>Design Manual for Segmental Retaining Walls</i>, 3rd Ed. 10. Reinforced and Backfill soils are to be compacted to 95% maximum density (Standard Proctor). 11. All Kodah Specifications are to be followed.

KODAH PRELIMINARY GEOGRID REINFORCEMENT GUIDE

This page shows preliminary guides for soil reinforcement required to construct a wall with Kodah blocks in the conditions noted below. The geogrid reinforcement is Mirafi Miragrid 3XT.

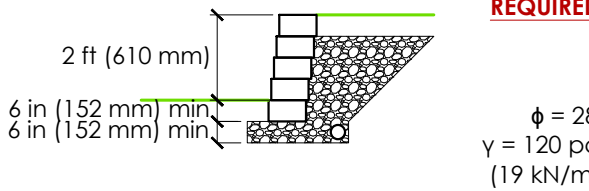
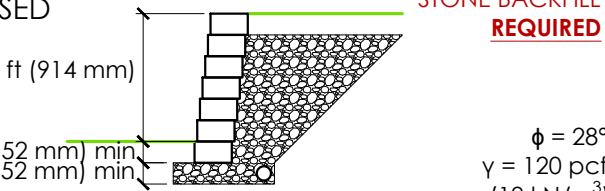
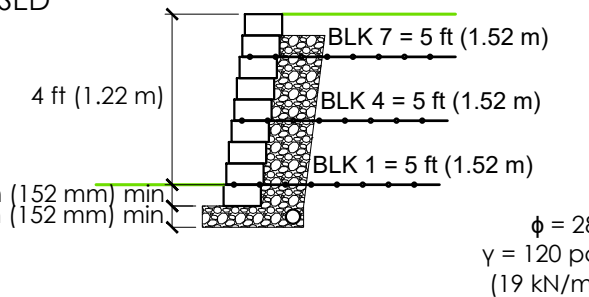
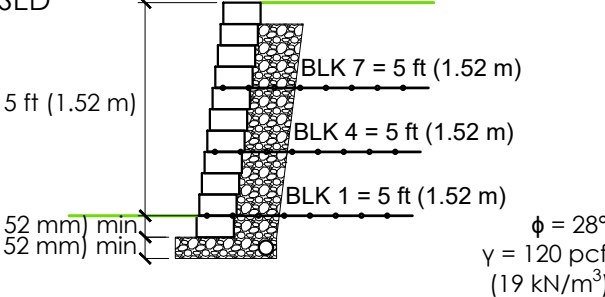
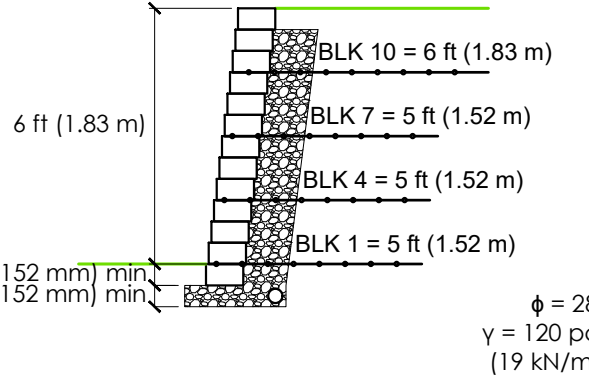
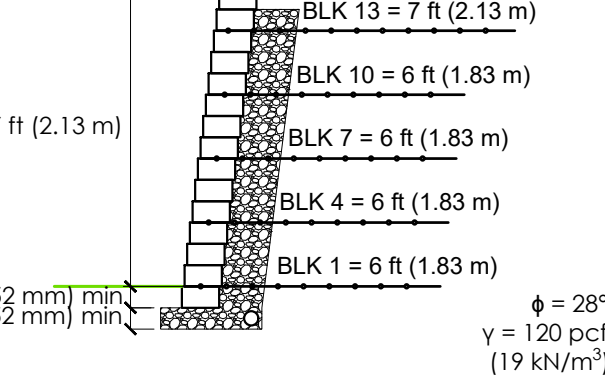
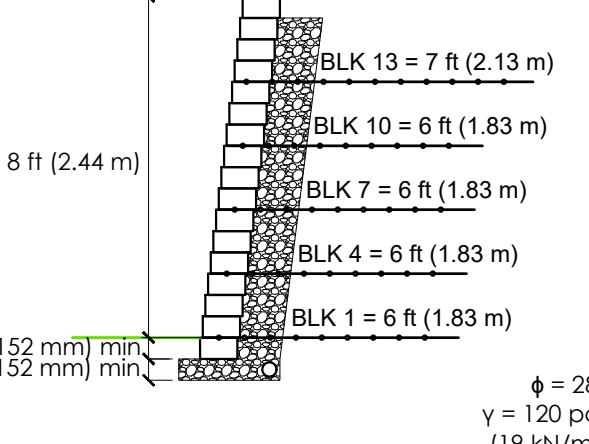
SILTY SAND, CLAYEY SAND

$$\phi = 28^\circ, \gamma = 120 \text{ pcf (19 kN/m}^3\text{)}$$

NO BACK SLOPE

NO TOE SLOPE

NO SURCHARGE

<p>2 ft (610 mm) EXPOSED</p>  <p>NO GEOGRID. STONE BACKFILL REQUIRED</p> <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<p>3 ft (914 mm) EXPOSED</p>  <p>NO GEOGRID. STONE BACKFILL REQUIRED</p> <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>
<p>4 ft (1.22 m) EXPOSED</p>  <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<p>5 ft (1.52 m) EXPOSED</p>  <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>
<p>6 ft (1.83 m) EXPOSED</p>  <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<p>7 ft (2.13 m) EXPOSED</p>  <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>
<p>8 ft (2.44 m) EXPOSED</p>  <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m³)</p>	<ol style="list-style-type: none"> 1. These drawings are for reference only. 2. Final designs for construction must be prepared by a registered professional engineer using the actual conditions of the proposed site. Wall stability, incl. global stability, must be verified for site specific conditions. 3. Final wall design must address both internal and external drainage and shall be evaluated by the professional engineer who is responsible for the wall design. 4. Geogrid Layers are to be placed on TOP of the course of blocks shown. For example, BLK 2 = 5 ft (1.52 m) indicates that you place a 5 ft (1.52 m) long layer of geogrid on top of the 2nd course of blocks. 5. Length of geogrid is measured from the front of the Kodah blocks. 6. Seismic conditions are not included in these guides and must be analyzed based on site specific conditions. 7. These guides assume a flat "toe" slope at the bottom of the wall. Toe slopes must be analyzed based on site conditions. 8. Minimum Factors of Safety for the assumed conditions shown above are 1.5 for sliding, 2.0 for overturning (1.5 for non-reinforced section), and 2.0 for bearing capacity. 9. Designs are in general accordance with NCMA's <i>Design Manual for Segmental Retaining Walls</i>, 3rd Ed. 10. Reinforced and Backfill soils are to be compacted to 95% maximum density (Standard Proctor). 11. All Kodah Specifications are to be followed.

KODAH PRELIMINARY GEOGRID REINFORCEMENT GUIDE

This page shows preliminary guides for soil reinforcement required to construct a wall with Kodah blocks in the conditions noted below. The geogrid reinforcement is Mirafi Miragrid 3XT.

SILTY SAND, CLAYEY SAND
NO BACK SLOPE

NO TOE SLOPE

$\phi = 28^\circ$, $\gamma = 120 \text{ pcf}$ (19 kN/m^3)
100 psf (5 kPa) SURCHARGE

<p>2 ft (610 mm) EXPOSED</p> <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>BLK 3 = 4 ft (1.22 m)</p> <p>BLK 1 = 4 ft (1.22 m)</p> <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>	<p>3 ft (914 mm) EXPOSED</p> <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>BLK 5 = 5 ft (1.52 m)</p> <p>BLK 3 = 5 ft (1.52 m)</p> <p>BLK 1 = 5 ft (1.52 m)</p> <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>
<p>4 ft (1.22 m) EXPOSED</p> <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>BLK 7 = 5 ft (1.52 m)</p> <p>BLK 5 = 5 ft (1.52 m)</p> <p>BLK 3 = 5 ft (1.52 m)</p> <p>BLK 1 = 5 ft (1.52 m)</p> <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>	<p>5 ft (1.52 m) EXPOSED</p> <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>BLK 9 = 6 ft (1.83 m)</p> <p>BLK 7 = 6 ft (1.83 m)</p> <p>BLK 5 = 6 ft (1.83 m)</p> <p>BLK 3 = 6 ft (1.83 m)</p> <p>BLK 1 = 6 ft (1.83 m)</p> <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>
<p>6 ft (1.83 m) EXPOSED</p> <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>BLK 11 = 7 ft (2.13 m)</p> <p>BLK 9 = 7 ft (2.13 m)</p> <p>BLK 7 = 6 ft (1.83 m)</p> <p>BLK 5 = 6 ft (1.83 m)</p> <p>BLK 3 = 6 ft (1.83 m)</p> <p>BLK 1 = 6 ft (1.83 m)</p> <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>	<p>7 ft (2.13 m) EXPOSED</p> <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>BLK 13 = 7 ft (2.13 m)</p> <p>BLK 11 = 7 ft (2.13 m)</p> <p>BLK 9 = 7 ft (2.13 m)</p> <p>BLK 7 = 7 ft (2.13 m)</p> <p>BLK 5 = 7 ft (2.13 m)</p> <p>BLK 3 = 7 ft (2.13 m)</p> <p>BLK 1 = 7 ft (2.13 m)</p> <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>
<p>8 ft (2.44 m) EXPOSED</p> <p>100 psf (5 kPa) (LIGHT TRAFFIC ONLY, NO TRUCKS)</p> <p>BLK 15 = 8 ft (2.44 m)</p> <p>BLK 13 = 8 ft (2.44 m)</p> <p>BLK 11 = 8 ft (2.44 m)</p> <p>BLK 9 = 8 ft (2.44 m)</p> <p>BLK 7 = 8 ft (2.44 m)</p> <p>BLK 5 = 8 ft (2.44 m)</p> <p>BLK 3 = 8 ft (2.44 m)</p> <p>BLK 1 = 8 ft (2.44 m)</p> <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf}$ (19 kN/m^3)</p>	<ol style="list-style-type: none"> 1. These drawings are for reference only. 2. Final designs for construction must be prepared by a registered professional engineer using the actual conditions of the proposed site. Wall stability, incl. global stability, must be verified for site specific conditions. 3. Final wall design must address both internal and external drainage and shall be evaluated by the professional engineer who is responsible for the wall design. 4. Geogrid Layers are to be placed on TOP of the course of blocks shown. For example, BLK 2 = 5 ft (1.52 m) indicates that you place a 5 ft (1.52 m) long layer of geogrid on top of the 2nd course of blocks. 5. Length of geogrid is measured from the front of the Kodah blocks. 6. Seismic conditions are not included in these guides and must be analyzed based on site specific conditions. 7. These guides assume a flat "toe" slope at the bottom of the wall. Toe slopes must be analyzed based on site conditions. 8. Minimum Factors of Safety for the assumed conditions shown above are 1.5 for sliding, 2.0 for overturning (1.5 for non-reinforced section), and 2.0 for bearing capacity. 9. Designs are in general accordance with NCMA's Design Manual for Segmental Retaining Walls, 3rd Ed. 10. Reinforced and Backfill soils are to be compacted to 95% maximum density (Standard Proctor). 11. All Kodah Specifications are to be followed.

KODAH PRELIMINARY GEOGRID REINFORCEMENT GUIDE

This page shows preliminary guides for soil reinforcement required to construct a wall with Kodah blocks in the conditions noted below. The geogrid reinforcement is Mirafi Miragrid 3XT.

SILTY SAND, CLAYEY SAND

1:3 (18.4°) BACK SLOPE

NO TOE SLOPE

$$\phi = 28^\circ, \gamma = 120 \text{ pcf (19 kN/m}^3\text{)}$$

NO SURCHARGE

<p>2 ft (610 mm) EXPOSED</p> <p>2 ft (610 mm) 6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 3 = 4 ft (1.22 m) BLK 1 = 4 ft (1.22 m)</p> <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf (19 kN/m}^3\text{)}$</p>	<p>3 ft (914 mm) EXPOSED</p> <p>3 ft (914 mm) 6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 5 = 5 ft (1.52 m) BLK 3 = 5 ft (1.52 m) BLK 1 = 5 ft (1.52 m)</p> <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf (19 kN/m}^3\text{)}$</p>
<p>4 ft (1.22 m) EXPOSED</p> <p>4 ft (1.22 m) 6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 7 = 5 ft (1.52 m) BLK 5 = 5 ft (1.52 m) BLK 3 = 5 ft (1.52 m) BLK 1 = 5 ft (1.52 m)</p> <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf (19 kN/m}^3\text{)}$</p>	<p>5 ft (1.52 m) EXPOSED</p> <p>5 ft (1.52 m) 6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 9 = 6 ft (1.83 m) BLK 7 = 6 ft (1.83 m) BLK 5 = 6 ft (1.83 m) BLK 3 = 6 ft (1.83 m) BLK 1 = 6 ft (1.83 m)</p> <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf (19 kN/m}^3\text{)}$</p>
<p>6 ft (1.83 m) EXPOSED</p> <p>6 ft (1.83 m) 6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 11 = 7 ft (2.13 m) BLK 9 = 7 ft (2.13 m) BLK 7 = 7 ft (2.13 m) BLK 5 = 7 ft (2.13 m) BLK 3 = 7 ft (2.13 m) BLK 1 = 7 ft (2.13 m)</p> <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf (19 kN/m}^3\text{)}$</p>	<p>7 ft (2.13 m) EXPOSED</p> <p>7 ft (2.13 m) 6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 13 = 8 ft (2.44 m) BLK 11 = 8 ft (2.44 m) BLK 9 = 8 ft (2.44 m) BLK 7 = 8 ft (2.44 m) BLK 5 = 8 ft (2.44 m) BLK 3 = 8 ft (2.44 m) BLK 1 = 8 ft (2.44 m)</p> <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf (19 kN/m}^3\text{)}$</p>
<p>8 ft (2.44 m) EXPOSED</p> <p>8 ft (2.44 m) 6 in (152 mm) min. 6 in (152 mm) min.</p> <p>BLK 15 = 9 ft (2.74 m) BLK 13 = 9 ft (2.74 m) BLK 11 = 9 ft (2.74 m) BLK 9 = 9 ft (2.74 m) BLK 7 = 9 ft (2.74 m) BLK 5 = 9 ft (2.74 m) BLK 3 = 9 ft (2.74 m) BLK 1 = 9 ft (2.74 m)</p> <p>$\phi = 28^\circ$ $\gamma = 120 \text{ pcf (19 kN/m}^3\text{)}$</p>	<ol style="list-style-type: none"> 1. These drawings are for reference only. 2. Final designs for construction must be prepared by a registered professional engineer using the actual conditions of the proposed site. Wall stability, incl. global stability, must be verified for site specific conditions. 3. Final wall design must address both internal and external drainage and shall be evaluated by the professional engineer who is responsible for the wall design. 4. Geogrid Layers are to be placed on TOP of the course of blocks shown. For example, BLK 2 = 5 ft (1.52 m) indicates that you place a 5 ft (1.52 m) long layer of geogrid on top of the 2nd course of blocks. 5. Length of geogrid is measured from the front of the Kodah blocks. 6. Seismic conditions are not included in these guides and must be analyzed based on site specific conditions. 7. These guides assume a flat "toe" slope at the bottom of the wall. Toe slopes must be analyzed based on site conditions. 8. Minimum Factors of Safety for the assumed conditions shown above are 1.5 for sliding, 2.0 for overturning (1.5 for non-reinforced section), and 2.0 for bearing capacity. 9. Designs are in general accordance with NCMA's Design Manual for Segmental Retaining Walls, 3rd Ed. 10. Reinforced and Backfill soils are to be compacted to 95% maximum density (Standard Proctor). 11. All Kodah Specifications are to be followed.