

MAYTRx

Five Stone System Patent Pending

The MaytRx Wall System is a 5 stone system. There are five stones designated A, B, X, Y and C or Cap. They are various sizes and shapes as shown.



The MaytRx C or Cap stone is 3 inches thick and used in projects as an internal wall stone as well as a cap stone. See inside this brochure for dimensions and ideas.

MAYTRx SPECIAL PROJECTS

(Details Inside This Brochure)



STEPS



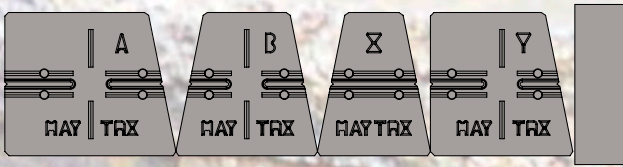
MORE BEAUTIFUL MAYTRx PROJECTS



COLUMNS



LEDGES



MAYTRX

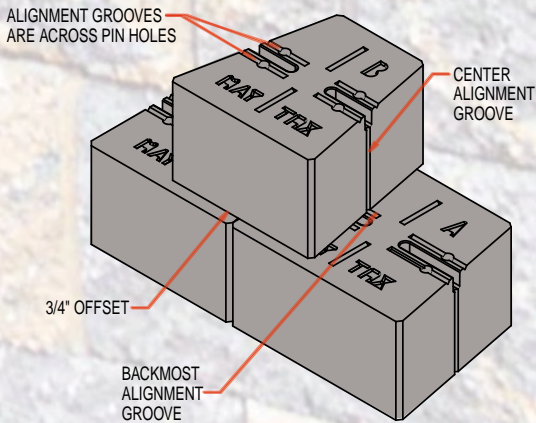
Five Stone System

Patent Pending

THE MAYTRX SYSTEM CAN BE USED TO BUILD 3 DIFFERENT

TYPE 1. LANDSCAPE RETAINING WALLS

- Landscape retaining walls, no taller than 3'
- Designed to retain soil and add beauty to landscape projects
- This application uses visual alignment of the stones – **NO PINS**
- Top layers may be glued

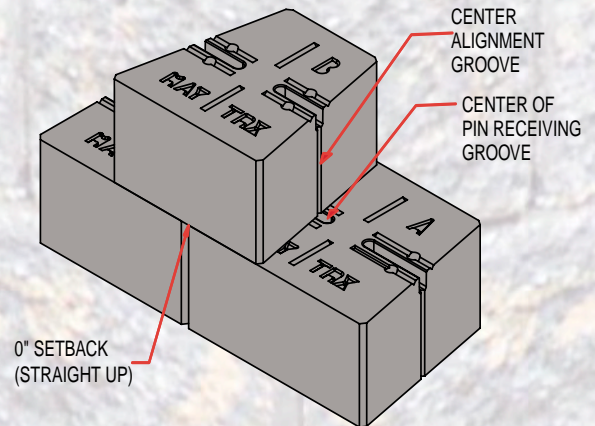


ALIGNMENT WITHOUT PINS FOR LANDSCAPE WALLS



TYPE 2. FREE STANDING STONE FENCE AND BARRIER WALLS

- Free standing walls have no soil on either side and are straight-up-plumb
- This application uses visual alignment of the stones – **NO PINS**
- Top layers should be glued for safety and to avoid vandalism



ALIGNMENT STRAIGHT UP FOR FREESTANDING WALLS

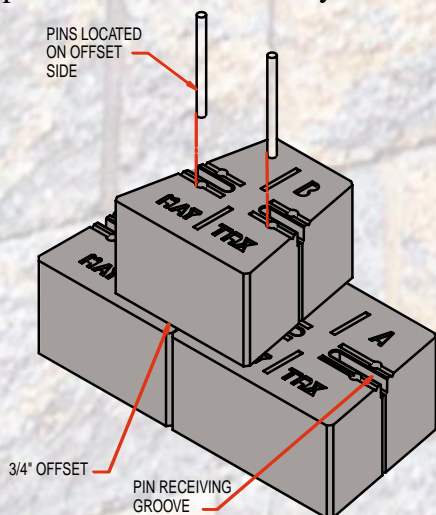




DIFFERENT TYPES OF PROJECTS

TYPE 3. ENGINEERED SEGMENTAL RETAINING WALLS (SRW)

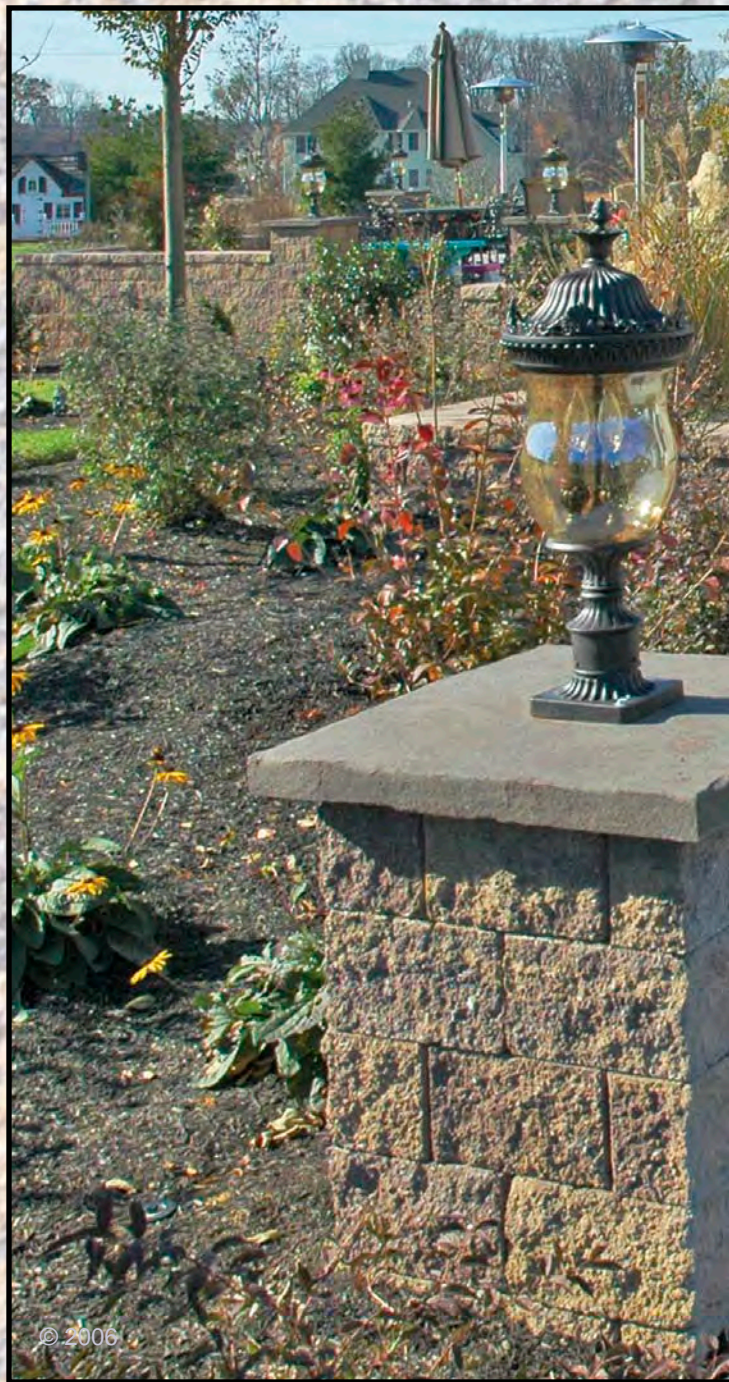
- Engineered retaining walls taller than 3'
- Designed primarily for soil retention
- Normally soil reinforced with Geogrid
- This application is the **ONLY** MaytRx application that uses the MaytRx Pin



ALIGNMENT WITH PINS FOR ENGINEERED WALLS



The **MaytRx** Stone System is a multi-use five stone system for retaining walls, stone fences, steps, columns and many other projects that display the character of natural stone installations.

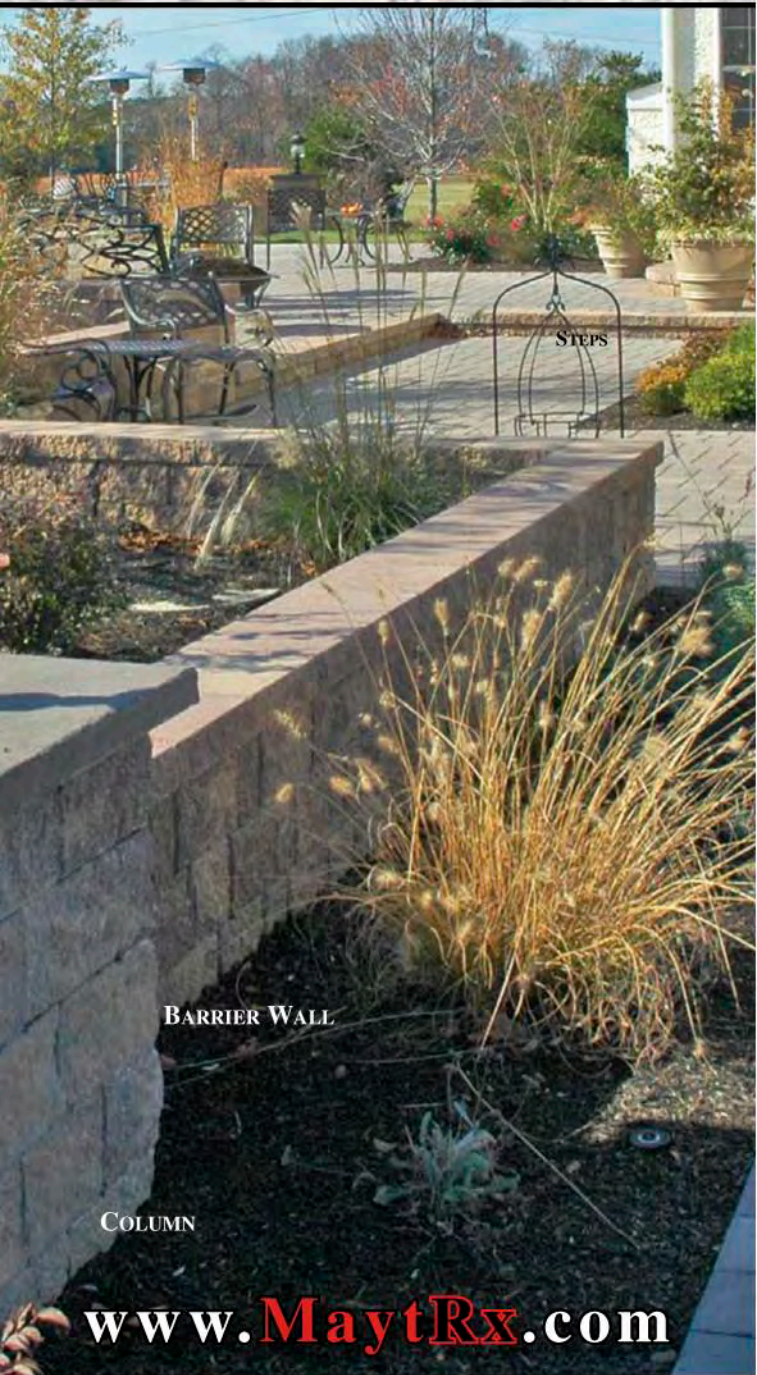


BUILDING WITH

MAYTRx

Five Stone System

Patent Pending

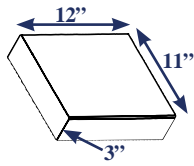


STEPS

BARRIER WALL

COLUMN

www.MaytRx.com



CHAPTER 1

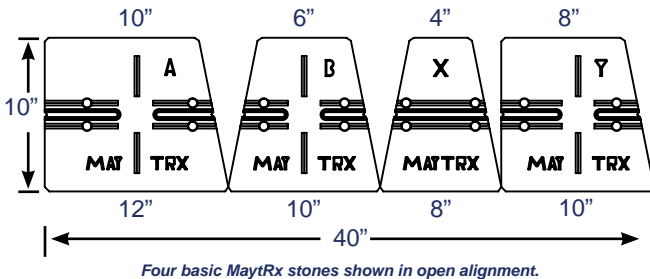
The System

The MaytRx multi-use, multi-stone system is the prescription for retaining walls, stone fences, steps, columns and many other projects that display the character of natural stone installations.

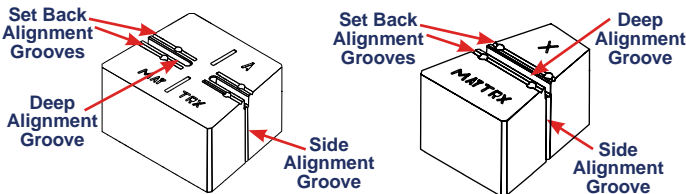
The MaytRx system has five stones of different sizes and shapes. All five stones have two faces on each stone allowing projects to be built that require a finished look on both sides of walls, such as stone fences.

MaytRx offers strength, beauty and long life in a multi-stone, multi-use wall system that eliminates the fixed patterns of other multi-stone systems. The 5 MaytRx stones may be used randomly throughout any retaining wall, stone fence or other project. No pins are required to construct landscape walls and many other projects. For all projects except engineered retaining walls, MaytRx uses a groove alignment system that allows the installer to visually control the setback of each layer of stones. MaytRx can also be used to build engineered Segmental Retaining Walls (SRWs). MaytRx pins are used for alignment of each layer's set back and to secure geogrid during the construction of engineered SRWs. The MaytRx stones are flat and will not cut or damage geogrid materials as some lip-type stone systems do.

Four of the MaytRx stones are imprinted with a letter designating each of the four major stones. [The fifth stone is the MaytRx cap stone.] The letters A, B, X, and Y are imprinted on each of the four stones as shown here.

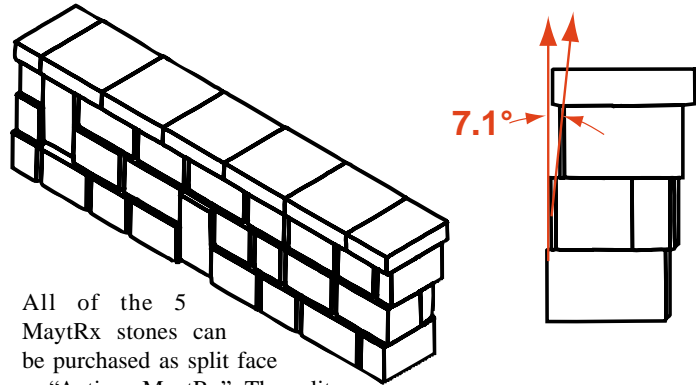


The letter designations are used throughout this brochure to assist the user in understanding how to install the MaytRx stones. The four 6" thick MaytRx stones have 5 different face widths and



are 10" deep. The double-sided Cap stone is 12 inches wide, 11 inches deep and 3 inches thick. (Production requires nominal dimensions in some areas. Nominal stones are 98% of standard MaytRx stones.)

The small grooves on each stone that are parallel to the faces are used for landscape alignment. Aligning the groove on the side of each of the MaytRx stones with the middle of the deep pin groove on the top of each stone, in the layer below, will build a project straight up. This is needed for a stone fence or free standing barrier wall. Aligning the side groove with the back most set back groove will give a 3/4 inch set back for each layer or approximately a 7 degree batter. This is needed for landscape retaining walls.

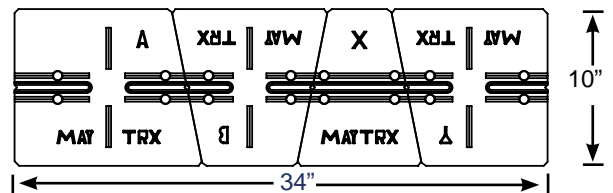
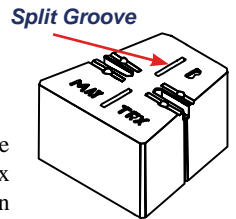


All of the 5 MaytRx stones can be purchased as split face or "Antique MaytRx". The split face MaytRx is processed one additional time to develop the natural stone look of "Antique MaytRx". All of the MaytRx projects described in this brochure can be built with either split face MaytRx or "Antique MaytRx".

CHAPTER 2

The Stones

There are two finished faces on each of the five MaytRx stones. This allows the MaytRx stones to be set so that there are no gaps on both sides of a free standing stone fence or barrier wall. The multiple sizes and shapes, plus the half stones made on location by splitting the "A", "B", and "Y" stones (front to back), will allow the installer to have 11 stones to build serpentine walls and other projects.

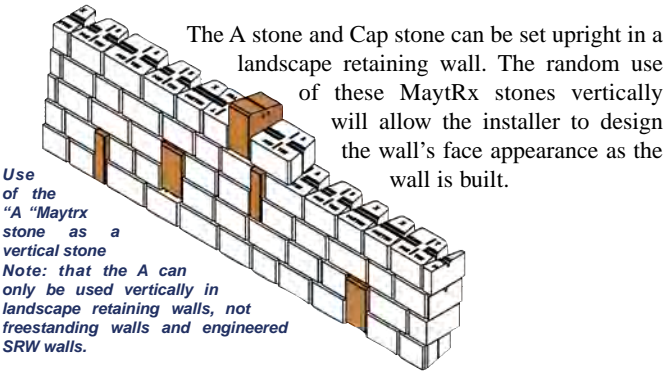


The total of 11 stones, 5 as manufactured and 6 more as split gives the MaytRx installer tremendous flexibility to develop a nearly unlimited number of stone projects in any landscape job.

CHAPTER 3

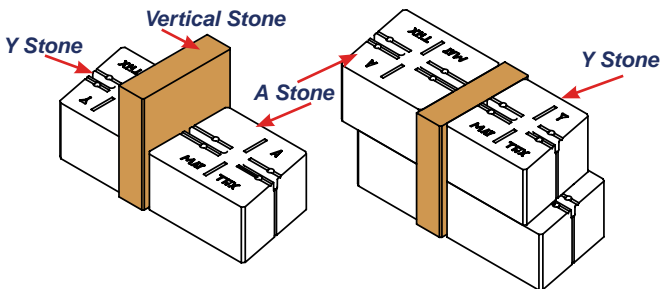
Stones Set Vertically

The MaytRx stone system includes two stones that can be turned upright vertically in landscape applications. They are the MaytRx A stone and the MaytRx Cap stone.



The A stone may be set with the square side down as a vertical stone. Setting the A stone vertically will require a modification to the setback. The vertical stone will be set back further in the lower layer of the two layers it is set in because the vertical stone will be covering two layers of stones. The two layers will have normal $\frac{3}{4}$ inch set back for each layer. The vertical stone will be set back 1 $\frac{1}{8}$ inches when set rather than $\frac{3}{4}$ inch.

The MaytRx cap stone is uniquely designed to be used vertically and as a cap stone. The MaytRx cap stone is 11 inches front to back while stones A, B, X and Y are 10 inches front to back. This "extra" inch allows for the MaytRx cap stone to have a 1 inch overhang when used as a cap stone. But when this same MaytRx cap stone is used vertically in a retaining wall, the stone must be set back to allow the face of the wall to be at a consistent set back, similar to setting the A stone vertically. The MaytRx cap stone can be used as a vertical stone in a free standing stone fence or barrier wall. Stones A or Y must be set next to the MaytRx cap stone when using the cap stone vertically in a free standing stone fence or barrier wall to present a solid stone face on both sides of the fence or barrier wall.



In landscape retaining walls and many other projects, any MaytRx stone may be flipped on occasion, [i.e. normal top set down], to stagger the seams of the stones. Be certain to keep the proper alignment between the layers if a stone is flipped.

Using The Cap Stone in a Stone Fence or Barrier Wall (Straight Up)

Centering the MaytRx cap stone [front to back in the wall] when it is used vertically or horizontally will allow the Cap stone to "stick out" $\frac{1}{2}$ inch on each side of the fence or barrier wall giving a 3-D appearance. The installer may stagger other stones forward and backward to get the appearance of an Old English or Shadow Box natural stone fence.

CHAPTER 4

MaytRx Stone Finish

In addition to the textured split face appearance, the MaytRx stones can be tumbled to give a natural stone appearance to any project. Tumbled Stones are called "Antique MaytRx". Stones that are split on location can be hammered on the split face to develop an "Antique MaytRx" appearance. Installers that will need to split many stones on location may modify a concrete mixer with internal fins removed and lined with old tire tread material or used belting material to tumble stones split on location. Tumble three or four half stones at a time to get the "Antique MaytRx" appearance on the face that is split on site. The speed of the mixer should be reduced to allow the stones to roll and rumble over one another and reduce breakage of the half stones. The final stones will have the "Antique MaytRx" appearance on all faces.

CHAPTER 5

Review

The uniqueness of the MaytRx stones allows projects such as landscape retaining walls and stone fences to be built using the MaytRx visual alignment system, no pins or lips. Using visual alignment avoids the cost of MaytRx pins. Pins are used in engineered Segmental Retaining Walls (SRWs) to secure geogrid during the construction phase of the engineered SRW and for setback alignment.

All five MaytRx Stones have two faces on each stone and are therefore reversible. MaytRx may be set in some projects with all long faces to the front and in other projects with the stones alternated to build a solid wall.

Stones A, B, and Y can be split into two stones along a front to back split groove on each stone. This gives additional stone sizes that will expand the wide array of construction projects that can be built with MaytRx stones.

Stone A and the Cap stone can be used vertically in some wall applications. These applications will be discussed in this brochure. Also, the Cap stone may be installed horizontally in retaining walls and freestanding walls to give another unique appearance to a wall project. MaytRx stones can be tumbled to develop "Antique MaytRx" stones that give any project a natural stone appearance.

CHAPTER 6

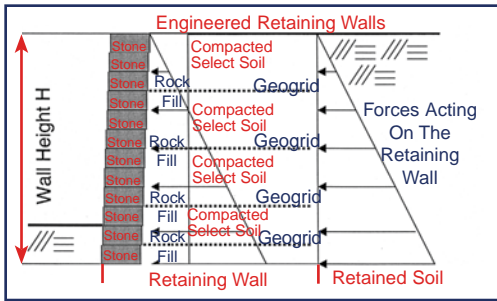
Engineered Segmental Retaining Walls

Walls over 3 feet tall should be engineered (designed) by a certified professional engineer who is competent and experienced at Segmental Retaining Wall (SRW) design. These walls are also

referred to as reinforced earth retaining walls because geogrid or other soil reinforcing mat material is placed in the select soil that is placed and compacted behind the wall stones.

This cross sectional drawing shows the components of a reinforced earth retaining wall. In design terms, the retaining wall includes (1) the face stones, (2) the rock backfill, (3) the compacted select fill and (4) the geogrid. These four parts are the retaining wall that holds back the earth that is behind it (i.e. the retained soil).

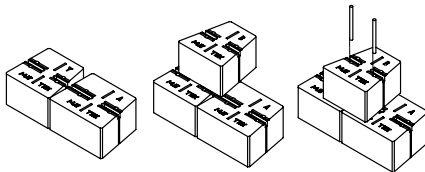
Forces acting on the retaining wall are zero (with no surcharge) at the top of the wall increasing to maximum at the bottom. Gravity imposes forces that act horizontally as well as vertically. These forces are attempting to make the wall slide or overturn. The load of the stones must have adequate



support from the foundation to maintain the levelness of the layers. With test data on in-situ soils and other data, an experienced SRW engineer will design the

retaining wall considering all forces and the effect of changes over time for the geogrid selected. When construction follows a competent designer's instructions, a relatively low cost retaining wall with the face character of MaytRx or Antique MaytRx stones will last for decades.

Each MaytRx stone is manufactured with four pin holes. The first MaytRx layer is set on the foundation and leveled in all directions. No pins are used in the first layer. Visually align each subsequent layer such that the two front pin holes are above or nearly above the deep slot in the middle of the stones in the layer below. After MaytRx stones are set and visually aligned, drop pins in these holes. If the pin does not drop below the surface of the MaytRx stone, move the stone holding the pin forward and backward slightly to properly align the stones and then the pin will drop with one exception. The pin hole may be above the solid or no slot section of the stone below. If this is the case, even



on geogrid layers, remove the pin and check visual alignment with other stones in the layer and proceed dropping pins for the remainder of the layer. A few missing pins in each layer presents no structural problems as will be explained later. Pull all stones forward until the pins prevent the stone from moving forward. This will give the engineered retaining wall an approximate 6.5 degree batter. (Visually aligned landscape walls will have an approximate 7 degree batter.) Verify that stones with only one pin are aligned with all other stones in the layer and proceed with backfill and subsequent layers.

The pins serve two purposes; (1.) they set the batter at the degree engineered and (2.) they hold geogrid at the front allowing the geogrid to be pulled taunt and staked at the back of the geogrid during construction. The occasional missing pin mentioned above is acceptable because, in most cases, there will be at least 10 pins in each roll of geogrid. These ten or more pins will be adequate to allow the installer to pull the geogrid taunt and stake it at the back of the geogrid section.

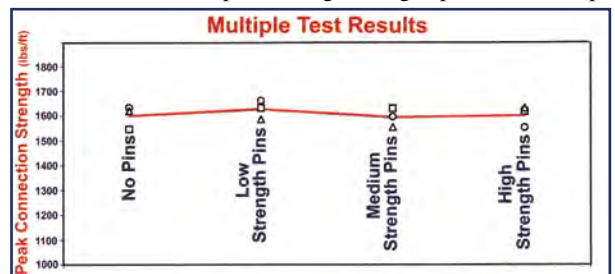
Engineered reinforced earth retaining walls require that taunt geogrid be placed between layers of compacted select soil backfill. The pins that extend through the geogrid at the front or stone face of the wall hold the geogrid in place preventing the grid from slipping out from under the single layer of stones as the grid is pulled taunt and staked at the back of the wall (i.e. the select soil backfill area). This is the only time the pins' tie to geogrid is critical. After the full wall is completed, the load of the concrete MaytRx stones is the downward force that holds the geogrid in place. Pins are not a factor in geogrid pullout as tests have shown (see chart below).

Special Note: Additionally, stone systems with rear lips or nubs that fit into openings can cut the geogrid reducing the geogrid's tie to the stones in the wall and therefore can reduce the geogrids connection strength. MaytRx is a flat stone that has no lips or protrusions that will cut the geogrid. Geogrid, installed as designed by the SRW engineer, is a critical wall strength element. Geogrid that is not pulled taunt prior to placing soil on top of the geogrid for compaction will not provide the designed strength to the SRW. Loose geogrid will allow movement of the engineered retaining wall until the geogrid becomes taunt due to that movement. Laying geogrid that is not pulled taunt between compacted layers of select soil may lead to a SRW's failure. MaytRx pullout and shear testing has been conducted and the results of these tests are available to design engineers.

Engineered SRWs should be built with the layers where geogrid is placed using only the A, B, X and Y stones set horizontally (no vertical stones). Place gravel in the v-shaped openings between the stones and behind the stones. This will comply with the MaytRx/geogrid pullout tests that are the basis of the SRW engineer's design of the wall being built.

Pullout Testing

Test results show the force needed to pull geogrid from between stone layers is the same with no pins or with pins of various strengths as shown in this chart. Expensive high-strength pins do not improve



pullout test results. Pins are of value when installing geogrid by holding the front of the geogrid in place when the geogrid is pulled taunt.

MAYTRX[®]

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