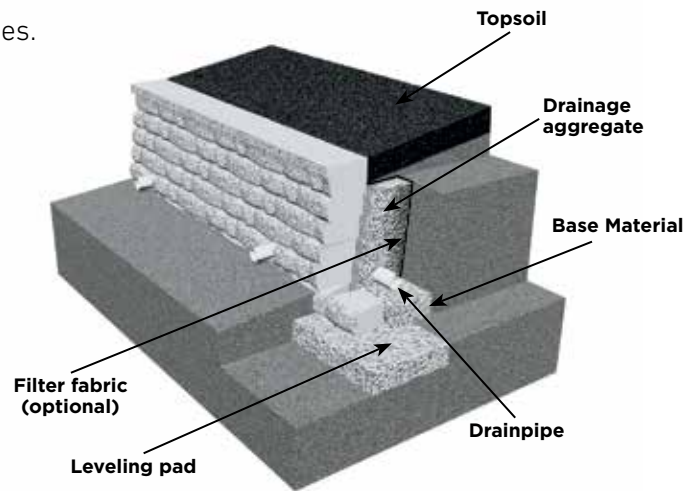




Segmental retaining walls typically fall into one of three categories.

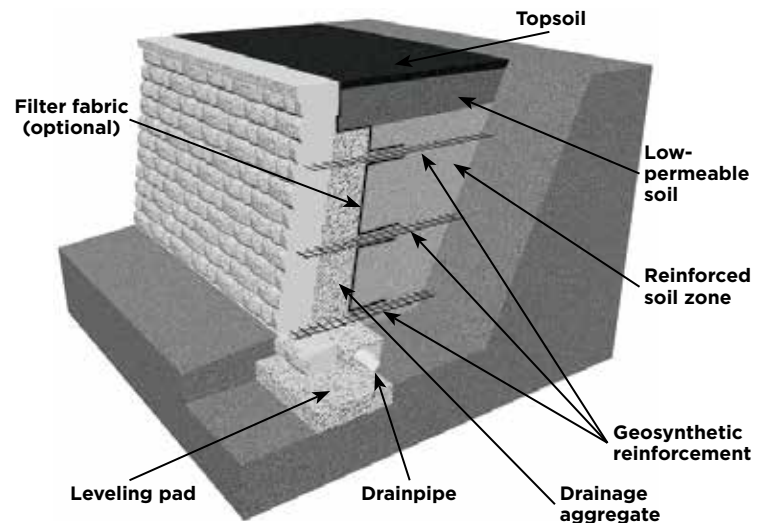
### GRAVITY RETAINING WALL

The first category – a gravity wall – is a retaining wall that does not use soil reinforcement. A gravity wall has height limitations specific to each product. An advantage of this type of retaining wall is that it requires a smaller work area behind the wall. A gravity wall relies on the weight and setback of the block to resist the soil forces being exerted on the wall.



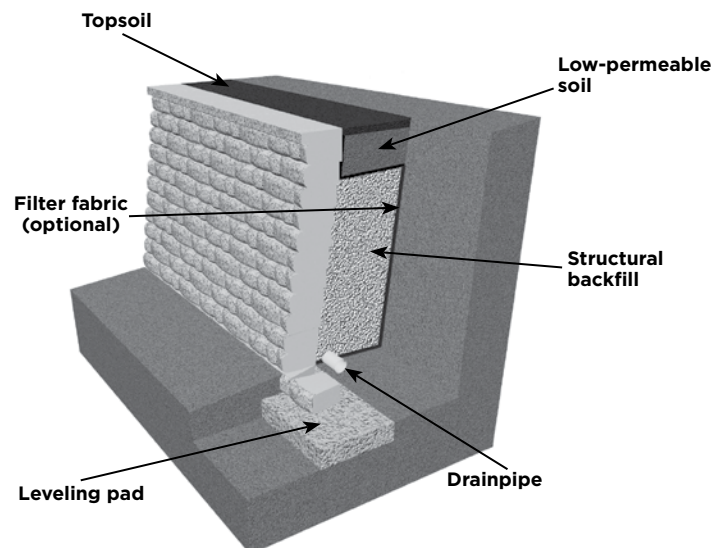
### GEOSYNTHETIC-REINFORCED RETAINING WALL

The second category is a geosynthetic-reinforced wall, which needs to be designed by a qualified engineer. There are (theoretically) no height limitations with reinforced retaining walls, and they are used in larger applications. They require more work area behind the structure. The block of soil is stabilized by introducing reinforcement layers into the soil mass behind the facing units. The larger the stabilized soil mass, the more soil can be retained or held back. The geogrid in the soil extends past the theoretical failure plane and serves to create a large, rectangular mass of block and soil, restraining the retained soil.



### ANCHORPLEX™ SYSTEM

The third category is the Anchorplex™ system, which offers a unique, nonconventional solution to problematic wall construction sites. It is a retaining wall built with Anchor Diamond™ products and structural backfill specified by Anchor Diamond, and backed by engineering support tools developed by Anchor. Use of the Anchorplex system completely eliminates the need for the construction of a mechanically stabilized earth zone behind the wall facing and requires substantially less excavation than is usually necessary in geosynthetic reinforced wall construction.





### WALL LAYOUT

- Stake out the wall's placement. Verify with the contractor or homeowner.

### EXCAVATION

- Excavate for the leveling pad to the lines and grades shown on the plans. Excavate enough soil behind the wall for the geogrid reinforcement that is needed.
- The trench for the leveling pad should be excavated 12 inches wider than the block. And 6 inches of the block is to be buried below finished grade line. *(Diagram 1)*

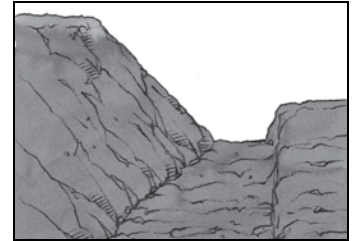


Diagram 1

### LEVELING PAD

- An aggregate leveling pad is made of compactable base material of ¾-inch minus (with fines).
- The pad must extend at least 6 inches in front of and behind the first course of block and be at least 6 inches deep after compaction.
- If the planned grade line along the front of the wall changes elevation. The leveling pad may be stepped up in 6 to 8 inch increments to match the grade change. Start the wall at the lowest elevation.
- Compact the aggregate and make sure it's level front to back and side to side. Mist lightly with water before compaction. *(Diagram 2)*

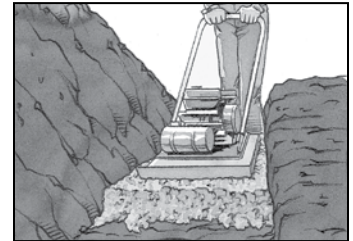


Diagram 2

### BASE COURSE:

- The base course is the most important step in the installation process. Bury a minimum of 6" of the block below finished grade.
- Start by laying the block at the lowest elevation of the site. When using a rear lip product. Remove the rear lip so the block will lie flat and level on the leveling pad. If you are using a non-rear lip product. Lip removal is not required.
- Place the first block on the leveling pad. Level block from front to back and side to side. Lay additional blocks in the same manner.
- Place the blocks side by side, flush against each other and make sure all blocks are in full contact with the base leveling pad.
- If the wall is placed on an incline, do not slope the blocks; step them up so they remain consistently level.
- Use a string line along the back edge of the block to check for proper wall alignment.
- For multi piece products, use the larger blocks on the base course. Or you can use the U Start Block on the base. This will allow you to use all multi piece blocks on the base course.
- Fill the open cores ( if applicable ) and open voids in the blocks with ¾" inch angular free draining aggregate. You will do this step for all additional courses.
- Prior to laying additional courses, remove excess fill from tops of the block before placement of additional courses.
- The U Start Base Block is an option for walls up to the maximum gravity height limits.



### CONSTRUCTION OF SUBSEQUENT COURSES:

- Clean off any debris off the top of all the blocks.
- You can install these products using any combinations of blocks.
- Place the second course of blocks on top of the base course. Maintain a running bond. Pull each block forward to engage the proper setback. For rear lip products, pull the block forward until the rear lip engages with the back of the block below. This will engage the block and provide the wall setback. *(Diagram 3)* For a pinned system. Place or drop the pin in the designated hole / slot of the block to provide the proper setback. Then pull the block forward until the pin engages into the block below. This will engage the block and provide the wall setback.
- Fill additional courses ( if applicable ) and voids between blocks with  $\frac{3}{4}$ -inch angular free draining aggregate. Prior to laying the next course of block. Remove excess fill from tops of the block. *(Diagram 4)*
- Backfill 12 inches behind the wall with  $\frac{3}{4}$ -inch free-draining aggregate. You will do this step for every course.
- Add soil fill behind the aggregate. Compact fill soil before adding additional courses.
- Do not drive heavy equipment near the wall. Self-propelled compaction equipment should not be used within 4 feet of the back of the wall.
- You might need partial units to stay on bond. A circular saw with a masonry blade is recommended for cutting partial blocks. Please use proper safety protective equipment when cutting.

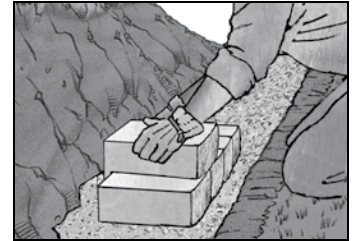


Diagram 3

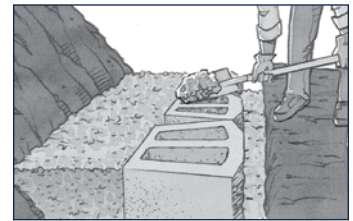


Diagram 4

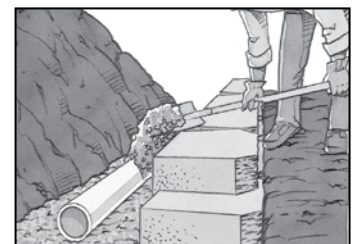


Diagram 5

### DRAINAGE DESIGN

- Each project is unique. The grades on your site will determine at what level to install the drainpipe.
- Place the drainpipe as low as possible behind the wall so water drains down and away from the wall into a storm drain or to an area lower than the wall.
- Fill in the area behind the blocks with  $\frac{3}{4}$ -inch free-draining aggregate, at least 12 inches from the wall. *(Diagram 5)*
- You may need to place and backfill several courses to achieve the proper drainage level.
- Cover the 4 or 6 inches perforated drain tile with the  $\frac{3}{4}$ -inch free-draining rock. An outlet drain tile should be ran out through the wall face every 50 feet on center for the length of the wall.



### COMPACTION

- Place the backfill behind the drainage rock. *(Diagram 7)*
- Make sure the aggregate is level with or slightly below the top of the base course.
- Place soil in front of the base course and compact. The base course should be buried.
- Continue to fill and compact. *(Diagram 8)*

### GEOSYNTHETIC REINFORCEMENT (IF REQUIRED)

- Geogrid reinforcement is recommended for walls that exceed gravity wall height limits. Please check with your local building codes for retaining wall height limitations. Consult a qualified engineer for design assistance and or engineered plans.
- Check the wall construction plan for which courses will need geogrid.
- Clean any debris off the top layer of blocks.
- Measure and cut the geogrid to the design length in the plans.
- Place the geogrid reinforcement in the proper strength direction. Please read the roll instructions for proper grid placement for laying back behind the wall.
- Place the front edge of the material on the top course, 1 inch from the face of the block.
- Apply the next course of blocks to secure it in place.
- To keep it from wrinkling, pull the geogrid taut and pin the back edge in place with stakes or staples.
- Add drainage aggregate behind the blocks, then add the soil and compact it.
- A minimum of 6 inches of backfill is required prior to operating vehicles on the geosynthetic reinforcement. Avoid sudden turning or braking.

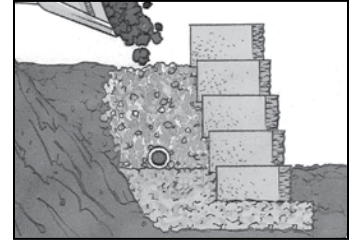


Diagram 7

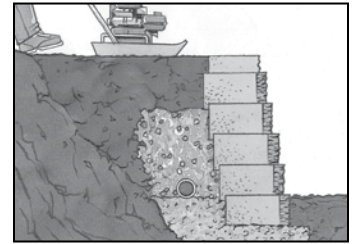


Diagram 8

### FINISH GRADE AND SURFACE DRAINAGE

- Protect the wall with a finished grade at the top and bottom.
- To ensure proper water drainage away from the wall, use 6 inches of soil with low permeability. This will minimize water seeping into the soil and drainage aggregate behind the wall.

### SITE CLEANING AND RESTORATION

- Brush off the wall and pick up any debris left from the construction process.
- Notify the client in writing of the projects completion and is ready for final inspection.
- Planting vegetation in front and on top of the wall will help reduce the chance of erosion.
- Following these best practices for construction will ensure the successful installation of Anchor Diamond™ products.

**SAFETY NOTE:** Always use appropriate equipment, including safety glasses or goggles and respirators, when splitting, cutting or hammering units.