

## Before You Start

- Have an engineer calculate the bearing capacity required for wall construction and have the on-site geotechnical engineer verify the foundation bearing capacity.
- A surveyor should locate the proposed wall base by offset-staking.

### Required Design Components

- Site plan
- Soil design properties
- Wall construction plan
- Specifications

### Wall Construction Plan

- Wall elevations
- Reinforcement type, location and length
- Soil, design properties
- Wall and drainage details
- Wall construction specifications

## Follow these steps to install the Landmark System



Excavation

### 1 - Excavation/Leveling Pad Base

- Excavate for the leveling pad to the lines and grades shown on the approved plans and excavate enough soil behind the wall for reinforcement placement. In 'cut' areas, the trench for the leveling pad should have a minimum width of 24 inches (600 mm) and be 14 inches (350 mm) deep.
- Make sure there is enough room for the cutback per safe working requirements of OSHA.
- Place base material as shown in the drawings on undisturbed soils. Base material should be a minimum of 6 inches (150 mm) thick and 24 inches (600 mm) wide.
- An aggregate leveling pad base is composed of good, compactible base material of 3/4 inch minus with fines.



Leveling pad

### 2 - Foundation Course Installation

- Placing the foundation units is one of the most important steps in the construction process, both structurally and aesthetically.
- Run a string line along the back of the foundation units and align the units as necessary.
- Begin laying block at the lowest elevation of the wall.
- Place first course of Landmark foundation units on the prepared base material. Place the units side by side. A gap of up to 1 inch (25 mm) is permissible between foundation units, provided a geotextile filter is placed behind the units.
- Make sure the units are in full contact with the base material.



Foundation/string line

- Level each unit front to back and side to side.
- Once the foundation course is installed, leveled and aligned, place the first course of full-height units; then place in-fill soil in front and behind the base course.
- Carefully compact in front and behind the foundation units with lightweight hand-operated compaction equipment.



Foundation course

- Recheck the foundation units for level and alignment.
- Errors in the accuracy of the positioning of foundation units will significantly impact the alignment of wall units in later stages of construction.

### 3 - Full-Unit Installation

- Place full-height units into flange, ensure direct contact with immediately adjacent units and pull forward to engage lock flange.
- Place unit in running bond. (Running bond occurs when the units are centered over the vertical joining of the previous course.)
- String line back of block to ensure lateral alignment is achieved.
- Shim as needed to maintain wall batter alignment. Strips of reinforcement may be used for shim material. Excessive shims will have a detrimental effect on the overall structural performance of the wall and should be avoided.
- If foundation units are installed with 1-inch gap, full units cannot rest on gaps between foundation units.  
Note: Do not use a rubber blow hammer or mallet to move units forward or back. Pull forward by hand to avoid damaging lock flange.
- To build an inside curve, check the wall construction or site grading plans for the dimension of the radius curves to be built. The minimum inside radius curve, at the base of the wall, is 6 feet (1.8 m).



Foundation/level



Full-unit installation

Begin by driving a stake in the ground at the desired center of the curve. Attach a string line and rotate it in a circle around the stake to mark the radius at the front to the foundation units. Align each foundation unit with the desired radius curve and ensure level placement from front to back and side to side.



Backfill and compact

The setback of the block will cause the radius of each course to gradually increase and eventually affect the running bond of the wall. To maintain proper running bond, use partial units as necessary.



Inside radius curve

- Outside curves are constructed using the tapered units. The minimum outside radius curve, at the top of the wall, is 9 feet (2.75 m).

Begin by determining the desired radius at the top of the wall, drive a stake in the ground at the desired center of the curve. Attach a string line and rotate it in a circle around the stake to mark the radius at the back of the foundation units. Align each foundation unit with the desired radius curve and ensure level placement from front to back and side to side.

Note: To calculate the radius of the foundation course, given the radius at the top of the wall, add 1 inch (25 mm) of radius for each 1.25 feet (380 mm) of wall height.



Geosynthetic reinforcement



Drainage

#### 4 - Drainage System Construction

- Each project is unique. The site grades will determine at what elevation to install the drain tile. Refer to the construction plans for details of drainage system design.
- Place drain tile 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.
- If using sand directly behind the Landmark units, place geotextile filter at back of the Anchor Landmark unit and proceed with construction.
- If using a nonselect backfill, place a minimum of 1 foot (300 mm) drainage aggregate behind the Landmark units. Have a local engineer review nonselect backfill soil and design to determine if alternate drainage systems are applicable.

#### 5 - Backfill Placement and Compaction

- Place reinforced soils in 6 to 8 inches (150 to 200 mm) of loose lifts where hand-operated compaction equipment is used and in not more than 12 inches (300 mm) of loose lifts where large self-propelled compaction equipment is used.
- Place, spread and compact reinforced backfill in such a manner as to minimize slack and the formation of wrinkles in the reinforcement.
- Only hand-operated compaction equipment is allowed within 4 feet (1.2 m) of the back of the units.
- All backfill should be compacted as specified by the project geotechnical engineer. Refer to the wall construction specifications for specific details regarding compaction.
- Prior to periods of construction inactivity, the backfill should be graded to drain water away from the wall face. Trenches or berms may be needed to control surface drainage in the vicinity of the cut slope, wall backfill or toe area.
- Repeat full-unit installation instructions, backfill, compact and follow reinforcement steps until wall is complete.



Backfill

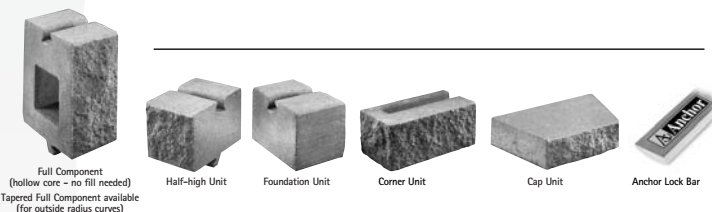


Backfill



Repeat full-unit installation

## Anchor Landmark Units



#### 6 - Installation of Geosynthetic Reinforcement

- Make sure geosynthetic reinforcement is of the correct type per the wall design drawings.
- Ground should be level with top of Landmark units prior to rolling out geosynthetic reinforcement.
- Lay geosynthetic reinforcement flat across top of block, to the front face. The reinforcement has a primary-strength direction, which must be laid perpendicular to the wall face. Do not overlap reinforcement.
- Place the lock bar into the locking channel, flat side up and angled side to back of block. Maintain reinforcement within 1 inch (25 mm) of front of block
- Once the lock bar is in place, roll geosynthetic reinforcement back to the specified length and tension.
- Use stakes or staples to hold the tension in the geosynthetic reinforcement.
- Place a layer of soil on top of the reinforcement, working from the block outward to the back of the geosynthetic reinforcement. Note: never run heavy equipment directly on top of the geosynthetic reinforcement.
- Place the next course of units and repeat steps above.



Geosynthetic reinforcement



Lock bar installation



Backfill and compact



Cap placement

#### 7 - Cap Placement

- Lay out the Landmark cap units for the entire length of the wall, starting at the lowest elevation.
- Alternate short and long faces on a straight section of the wall.
- Cut cap units as required to obtain proper fit on radius curves and angled corners.
- At steps in wall elevation, stack two cap units.
- Apply an exterior concrete construction adhesive to adhere to the block.
- Use a string line to maintain proper cap alignment.
- Place a minimum of 6 inches (150 mm) of impervious backfill to prevent water from running into drainage aggregate.
- Backfill and compact to finish grade after cap adhesive has set.

#### Cleanup

- Brush off the wall and remove any debris left from the construction work.

A professional engineer must be consulted for proper design and reinforcement placement. It is the user's responsibility to obtain such design advice. Neither Anchor Wall Systems, Inc., nor its authorized manufacturers assume any responsibility for the design and/or installation of walls constructed with the Anchor Landmark system.

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