

# SITEDRAIN™

## INSTALLATION GUIDE FOR RETAINING WALL APPLICATIONS

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AWD SITEDRAIN prefabricated geocomposite drainage products are engineered, subsurface drainage products that are durable, economical solutions for most drainage problems. AWD's long history of successful installations and extensive distributor relationships ensure that there is a SITEDRAIN product for your application.

This Installation Guide provides a brief product overview and the information necessary to choose and install a SITEDRAIN geocomposite drainage solution for typical retaining wall applications. AWD is also available to support and answer any questions.



RETAINING WALLS

# GENERAL INFORMATION

SITEDRAIN prefabricated geocomposite drainage products combine a polymeric core with filter fabrics laminated to one or both sides. The filter fabric retains soil while allowing water to pass through. The drainage core efficiently moves the collected water to designated drainage outlets. This gives water an “escape path”, minimizing the buildup of hydrostatic (water) pressure against subsurface structures, which greatly reduces the risk of structural and cosmetic damage to the structure.

AWD manufactures a complete line of prefabricated drainage products for various subsurface drainage applications.

The following information provides guidelines applicable to prefabricated drains in typical retaining wall applications using SITEDRAIN Sheet Drain and SITEDRAIN Strip Drain. SITEDRAIN Sheet Drain installation is recommended when the retaining walls are at least 4 feet tall.

SITEDRAIN PRODUCT OVERVIEW	
Sheet Series	Large surface area, single-sided drainage. Flow capacity equivalent to more than 3 ft of drainage aggregate.
Strip Drain Series	High flow capacity, double sided water collection system for sheet drains. Replacement for perforated pipe.

# RETAINING WALL INSTALLATION DETAILS

## ACCESSORIES:

AWD offers a complete line of Fittings & Accessories to facilitate the proper installation of our drainage products. AWD Fitting & Joint Tape (AWD Tape) is recommended for the sealing, seaming, terminating and connecting details referenced in this instruction guide. Any tape designed for underground use is acceptable provided it offers a strong bond that will not deteriorate over time in typical or anticipated subsurface conditions.

## ATTACHMENT METHODS:

Common attachment methods for drainage products include construction adhesives, mechanical fasteners with washers (typically using nail gun), and double-sided tapes. Construction adhesives with high solvent contents should be avoided as they may damage prefabricated drainage products. If any additional barriers (i.e. waterproofing) are applied prior to sheet drain installation, please confirm attachment method will not compromise these layers.

# SITEDRAIN STRIP DRAIN INSTALLATION

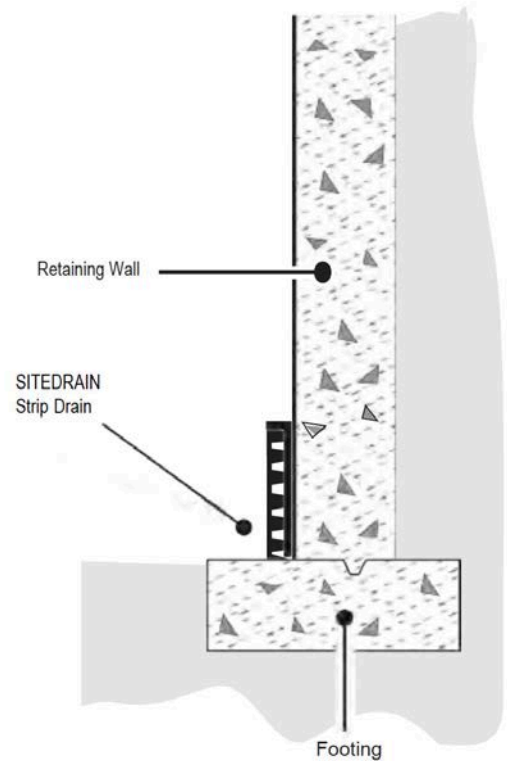
## For retaining walls less than 4 feet high

SITEDRAIN Strip prefabricated drains can be used alone at the base of a retaining wall as a replacement for perforated pipe and stone drainage systems.

Install SITEDRAIN Strip in a vertical position at the base of the foundation wall. To maximize open area for water flow, install dimples away from retaining wall. Hold in place using mastic, adhesives or mechanical fasteners.

**Any exposed drain ends should be sealed to prevent soil intrusion into the drainage channel.**

Once installed, several accessories are available to move collected water away. Continue to Collection Systems - SITEDRAIN Strip Drain Section of the Instruction Guide to complete installation.

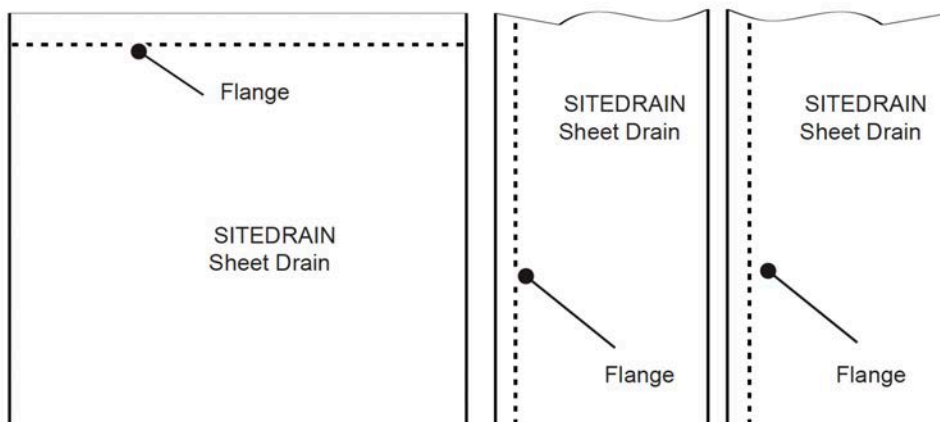


# SITEDRAIN SHEET DRAIN INSTALLATION

## For retaining walls 4 feet or higher

SITEDRAIN Sheet prefabricated drains are manufactured with a core flange on each roll. The flange is a flat section of plastic that extends beyond the molded dimples on one side. The flange is designed to connect rolls to each other to facilitate water flow and installation. Rolls are designed with integrated fabric flaps that extend beyond the dimples on each edge to secure seams and terminate edges.

Rolls are typically installed horizontally (in rows) against the installation surface, but can be installed vertically (in columns) if desired. All rolls should be installed with flanges oriented in a consistent manner.

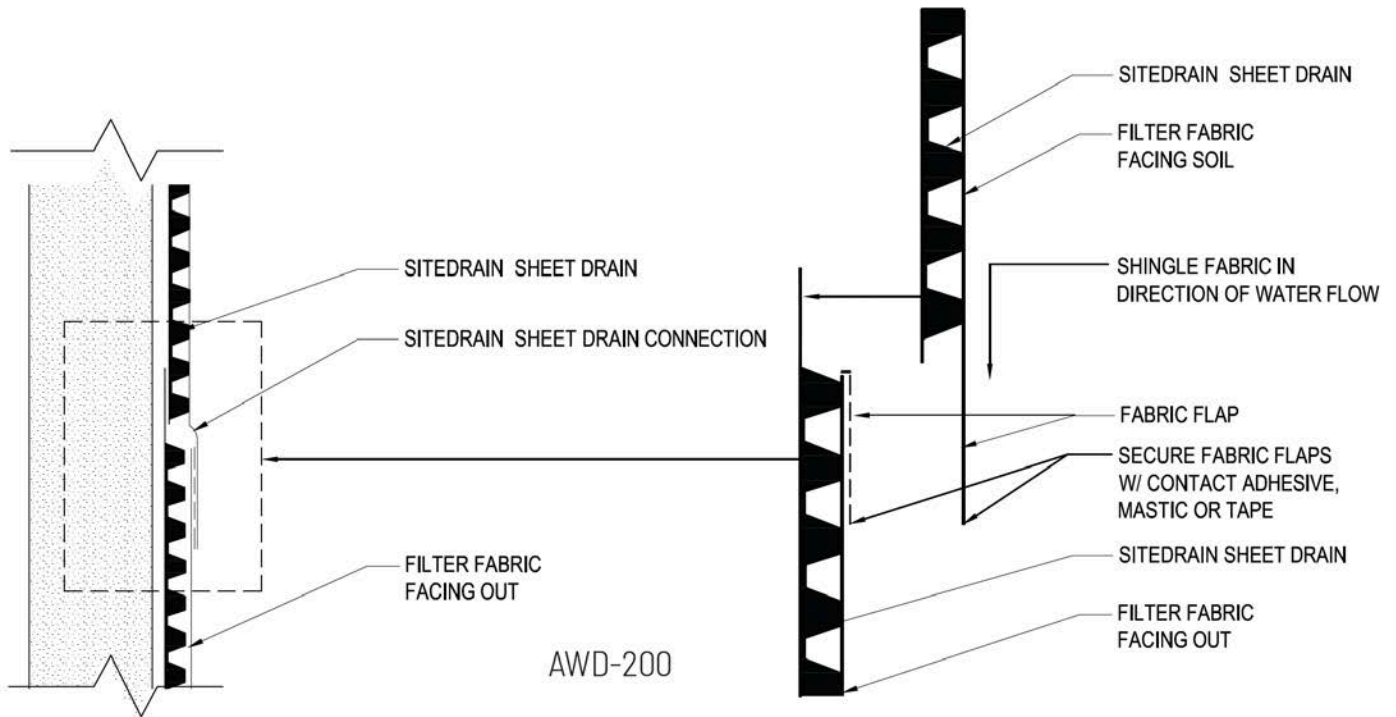


# SITEDRAIN SHEET DRAIN INSTALLATION

## For retaining walls 4 feet or higher

When rolls are installed horizontally (rows), the core flange should be at the top edge. Additional rolls should be installed the same way with the bottom, non-flange edge overlapping or "shingled" over the lower horizontal row flange. Integrated fabric flaps are used to cover seams by overlapping or "shingling" downward (see Detail AWD 200).

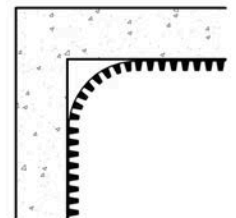
AWD Tape or spray adhesives can be used to secure fabric flaps in place prior to placement of backfill.



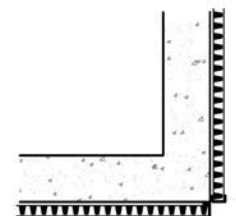
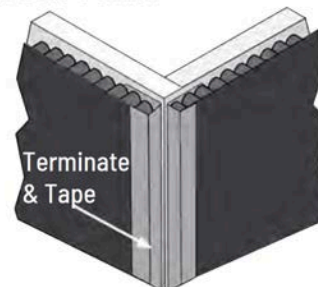
## CORNER APPLICATION

During the installation process, if corners are encountered, the sheet drain is handled as shown. Inside corners will allow the sheet drain to easily bend into the corner. For outside corners, fabric tension will not allow the sheet drain to conform to the wall. The sheet drain must be terminated at the corner and resealed with tape. This will not effect the drainage.

### Inside Corner



### Outside Corner



# SEALING EDGE, TERMINATIONS & PENETRATIONS

Because SITEDRAIN Sheet Drain products are installed below ground, care should be taken when backfilling to ensure soil is not able to enter the prefabricated drainage core through seams or edges.

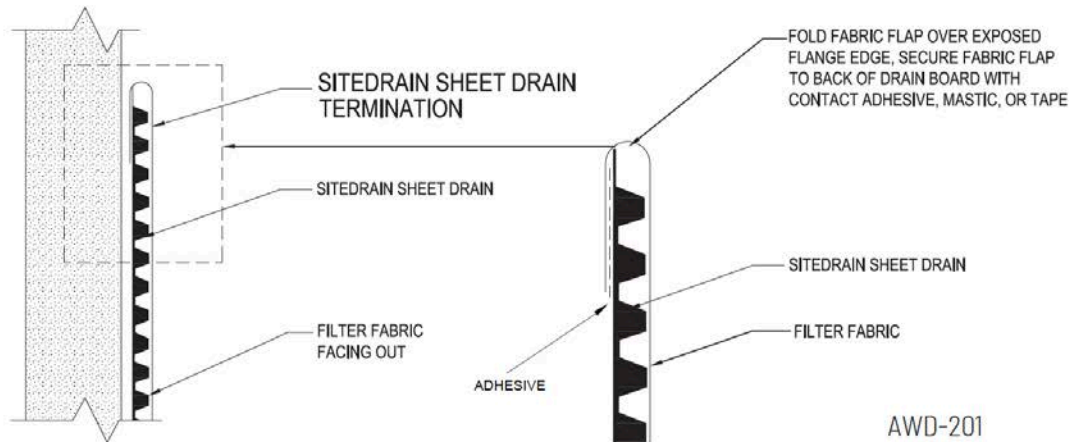
## SEAMS AND EDGES:

Fabric flaps are provided on SITEDRAIN Sheet Drain products to facilitate seam and edge terminations. For flange termination refer to Detail AWD-201. If roll must be cut to size to fit height of wall, refer to Detail AWD-203. Determine the height of roll needed. Note: Termination needs to be minimum 3" below the backfill. Cut dimpled core leaving fabric intact to fold over edge. For additional security, spray adhesive or AWD Tape can be used to secure fabric flaps in place prior to backfill. Once backfill is completed, fabric will be held in place by soil.

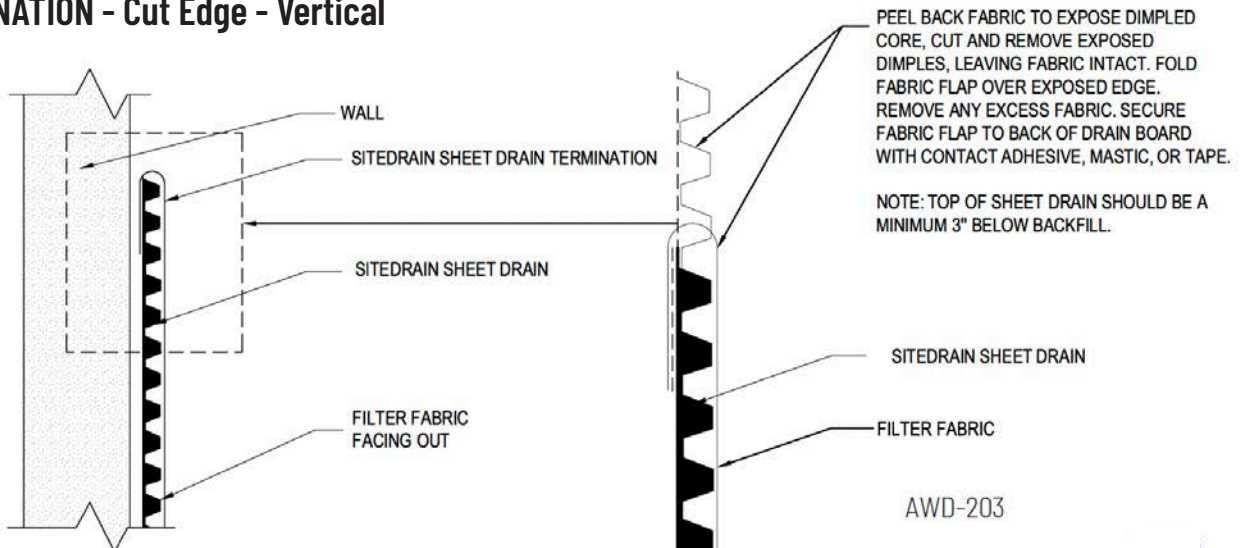
The ends of all rolls/products without fabric flaps must be secured with tape or fabric prior to backfill. If a new roll is added to the previous installed roll, align the edges and secure the seam with tape or additional fabric.

## TERMINATIONS:

### TERMINATION - Flange Edge - Vertical



### TERMINATION - Cut Edge - Vertical



## PENETRATIONS:

Penetrations (such as pipes) through prefabricated drains should be sealed using AWD Tape to insure backfill material is not able to enter the drainage core.

## FABRIC CUTS:

Cuts in the fabric less than 2 inches wide should be sealed using AWD Tape. Cuts in the fabric larger than 2 inches wide require a patch of filter fabric (of the same type used on the drainage product) extending a minimum 3 inches in all directions beyond the damaged fabric be used to cover the cut. The patch should be secured in place over the cut using AWD Tape or spray adhesive.

# COLLECTION SYSTEM

Once water is collected into the sheet drain, an exit method must be installed.

Below are three methods to remove collected water: SITEDRAIN Strip Drain, Weep Hole, and French Drain.

## COLLECTION SYSTEM - SITEDRAIN STRIP DRAIN

This collection system method uses SITEDRAIN Strip Drain to collect the water from the SITEDRAIN Sheet Drain.

The bottom of the sheet drain should end at the top of the footer. Check that all exposed seams have been secured with fabric or tape to prevent backfill material intrusion. Place Strip Drain with dimples facing sheet drain to maximize open area for collection.\* Use fittings and accessories guide to determine which outlet types will be best based on design.

**\*If SITEDRAIN Strip Drain is solely being used, the dimples can face in either direction.**

**PIPE OUTLETS:** Transition water to 4" smooth or corrugated pipe using End Outlet or Tee Outlet fittings. End Outlets connect to the end of Strip Drain and provide in-line connection to outlet pipe. Tee Outlets connect to Strip Drain at any location and provide a perpendicular connection to outlet pipe.

**STEP DOWN:** If the retaining wall foundation changes elevation, a Step Down Fitting can be used to allow the Strip Drain to stay continuous along the foundation.



6" End Outlet



12" End Outlet



Tee Outlet



12" Corner Guard



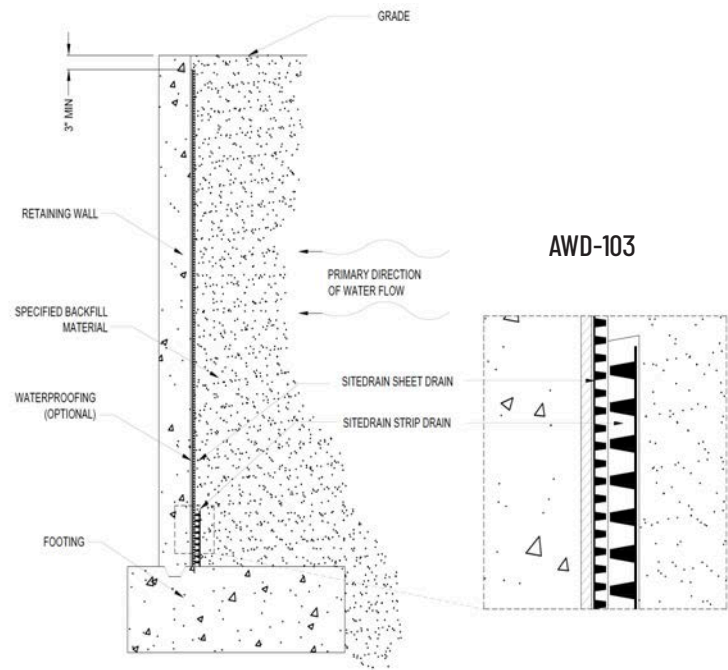
6" Step-Down



6" Corner

\*not pictured AWD Tape

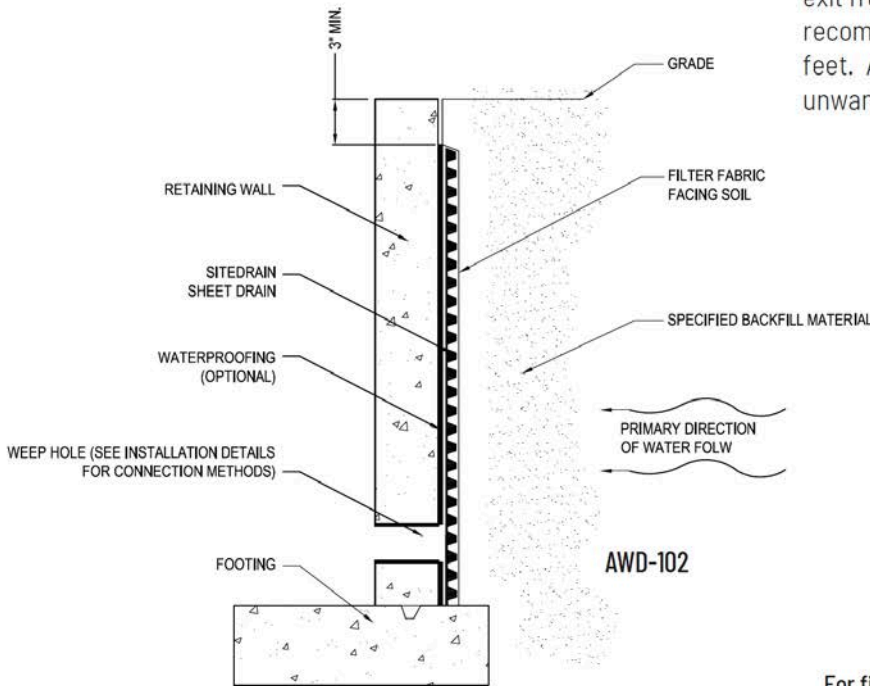
**CORNER FITTINGS:** Based on the Strip Drain dimple orientation during installation, the Strip Drain may need to be cut to release tension in the fabric to remain abutted against the installed Sheet Drain or wall at the corners. To continue the drain at a corner, two options are available. For 6" Strip Drain, completely cut the strip including the dimpled core at the corner. Use the 6" Corner Fitting, by inserting each end into the fitting and secure with AWD Tape + or other underground-rated tape. For 12" Strip Drain, cut only the fabric to release tension and use the 12" Corner Guard to wrap and protect the corner of Strip Drain. Secure with tape.



# COLLECTION SYSTEM - WEEP HOLE

AWD offers two options for weep connection discharge.

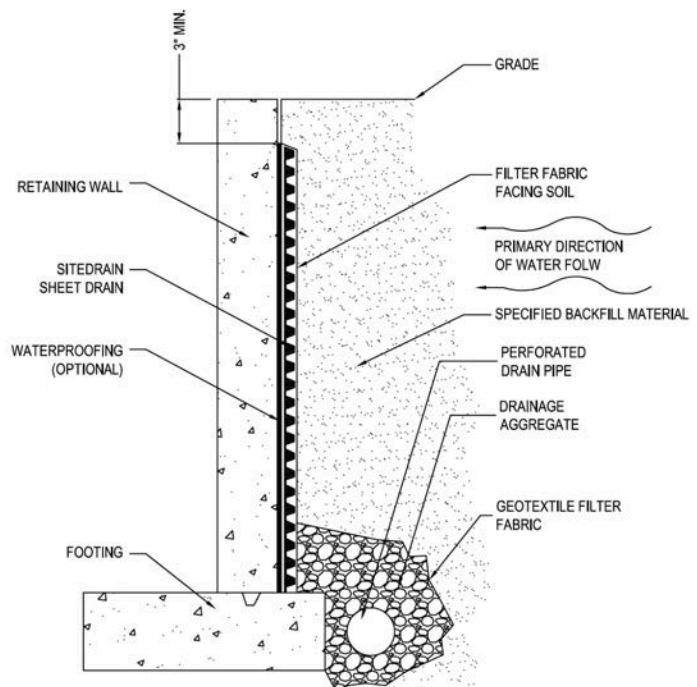
If a weep hole system is used to allow the water to exit from behind the retaining wall, it is recommended that one is placed at least every ~15 feet. A drain grate can be installed to keep unwanted debris or pests out of the weep holes.



For fitting installation instructions available on the website, refer to AWD-324 ( Geo-Outlet) or AWD-330 (Drain Grate)

# COLLECTION SYSTEM - FRENCH DRAIN

Terminate sheet drain at the footer.  
 Allow sheet drain to discharge into drainage aggregate for transition to perforated pipe.  
 Terminate bottom edge of drain with fabric or tape to prevent backfill material intrusion.



AWD-101

# BACKFILL

**For Specified Projects:** Please refer to project plans/specifications for backfill and compaction requirements. Compactor exhaust must be directed away from the AWD SITEDRAIN product to prevent damages and care should be taken when working directly adjacent to AWD SITEDRAIN products with mechanical equipment. Backfill should be placed to minimum 3" above SITEDRAIN drainage products to prevent direct sun exposure. Final backfill elevations will be as directed by the project plans and/or specifications.

**For Non-specified Projects:** Native or imported backfill soils may be used. If backfill material has a high fines content (>30% - clay or fine silty soils), it is recommended that a minimum 3"-thick layer of permeable backfill material (such as coarse sand) be used between AWD SITEDRAIN products and backfill material to act as a pre-filter to minimize the risk of localized clogging of the filter fabric over time. Backfill against retaining wall in 12"-24" lifts, compacting each lift before placing the next. Care should be taken to avoid damaging AWD SITEDRAIN products with compaction equipment. Top edge of SITEDRAIN products should be at minimum 3" below finished compacted soil grade to prevent SITEDRAIN product exposure should settlement of soils occur over time.

## DELIVERY:

Materials shall be delivered in original, unopened, undamaged packaging bearing manufacturer's name and product identification.

- Care must be taken during unloading process to insure materials are not damaged.
- Materials shall remain in original packaging until time of installation.

## STORAGE:

SITEDRAIN products should be stored in a covered location protected from temperature extremes and direct sunlight.

- SITEDRAIN products shipped in UVI bags may be stored in an exposed environment for a cumulative maximum of 180 days.

## ENVIRONMENTAL CONSIDERATIONS:

- Limit unpackaged material UV exposure to a cumulative maximum of 14 days during installation.
- Do not install materials during high wind events.
- Do not expose materials to chemicals that are strong acids, strong bases, or high in solvents content.
- Protect materials from site construction damage, direct flames, and other environmental conditions that may damage the materials.

## TEMPERATURE GUIDELINES:

### INSTALLATION TEMPERATURE RESTRICTIONS:

AWD does not recommend installation when the ambient temperature is below 20°F or above 100°F.

### OPERATIONAL TEMPERATURE RESTRICTIONS:

AWD products should not be installed in applications where the long term operational temperature is expected to be below -20°F or above 150°F.



# Consider SITEDRAIN Sheet Drain and Strip Drain for your next project:

**French & Trench Drains**



**Retaining Walls**



**Brick & Stone Patios**

**Lawn & Natural**



**Playgrounds**

American Wick Drain is a leading manufacturer of prefabricated geocomposite drainage products. With plants located in Carson City, NV and Monroe, NC, AWD can provide products across the country through local distribution.

Our Customer Service Team is available to service your needs from product distribution to technical services.

Let us know how we can help you!

## CONTACT US

Visit [awd-usa.com](http://awd-usa.com) or call Customer Support 800.242.9425

Email: [info@awd-usa.com](mailto:info@awd-usa.com)

### PRODUCT WARRANTY:

*American Wick Drain Corporation ("AWD") warrants that the products shall be free from defects and in conformity, within normal manufacturing variations, with AWD's physical specifications. No other portion of AWD's published literature shall be incorporated herein except for such physical specifications. AWD shall be responsible for such defects only if the same is noted, in writing, within one (1) year from delivery of the products.*

*OTHER THAN THE WARRANTY IMMEDIATELY ABOVE, ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED. THE REMEDIES PROVIDED HEREUNDER SHALL BE EXCLUSIVE; AWD SHALL NOT BE LIABLE FOR ANY PERSONAL INJURY, OTHER DIRECT, INDIRECT, CONSEQUENTIAL, INCIDENTAL, OR SPECIAL DAMAGES OF ANY KIND (INCLUDING COST OF INSTALLATION, REMOVAL OR REPAIR OF THE PRODUCT OR LOSS OF USE OR PROFIT).*

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