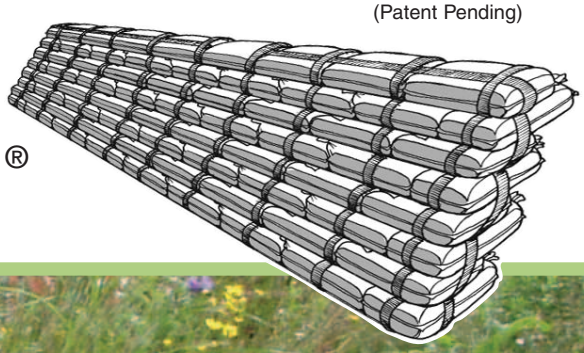
Envirolok™

Vegetated Retaining Walls from Agrecol ®

(Patent Pending)



Native Plants

Envirolok™ vegetated walls are strong, environmentally-friendly, and create beautiful, permanent natural landscapes with native plants

Day 1

Day 3

Day 60

Envirolok™

Vegetated Retaining Walls from Agrecol ®

The Envirolok system is a patent-pending erosion control and slope stabilization system that creates vegetated retaining walls and berms with deep-rooted native plants.

The Envirolok vegetated retaining wall system is a strong, environmentally-friendly alternative to conventional erosion control systems. This system creates beautiful, permanent natural landscapes with native plants.

Stormwater Erosion Control

Our History

Agrecol Corporation, founded in Madison, Wisconsin in 1991, combines the best principles of production agriculture with the science of ecology to produce high quality native seed and plants.

Products and Services

Agrecol's ecological products and services include seed and plant production, design, installation and maintenance, consulting, erosion control and stormwater management.

Agrecol's focus includes:

- Nursery production of seed and live plants for prairie, woodlands, wetlands and savanna plant communities
- Design, installation and maintenance of native seed and plants
- Environmental consulting and resource management services
- Restoration design, installation, site monitoring and management

Residential Lakeshore

Seashore

Use the Envirolok vegetated retaining wall system for these applications:

- Erosion control
- Shoreline stabilization
- Residential lakeshore preservation and remediation
- Natural retaining walls
- Stormwater management
- Stream restorations
- Rainwater gardens
- Landscape enhancements
- Creating naturalized buffers along tributaries
- Creating functional green spaces

The Science of Erosion Control

Temporary erosion control is the ability to hold soil in place long enough to establish vegetation with an extensive root system, which provides permanent erosion control.

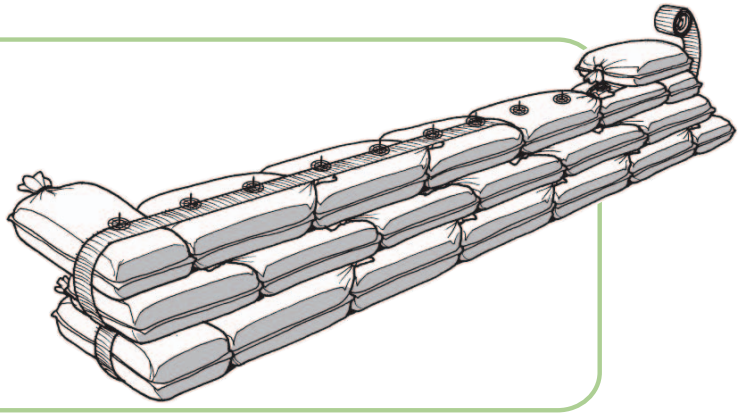
When constructed to manufacturer's specifications, the wall grows into a solid, monolithic structure.

The ecologically-advanced Envirolok System provides permanent erosion control in three important steps:

Build the Wall

Envirolok sand/soil bags are woven into a monolithic wall unit. This creates immediate soil confinement.

Weaving the wall makes it into one strong unit instead of individual components. (Patent pending).



Vegetate the Wall

After construction, the face of the bags are planted with native seed, plants and sod.

The roots grow and develop extensive root systems, growing through the bags.

Depending on local conditions, natives may take six months or more to develop the root system necessary to insure permanent erosion control success.

Grow the Wall

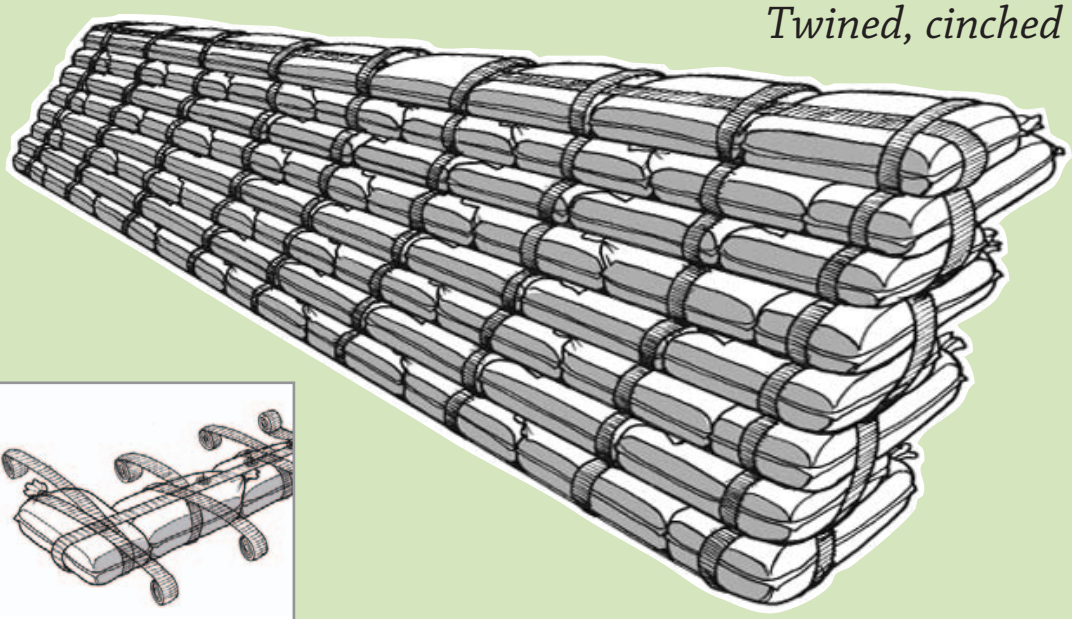
Mature natives, with some of their powerful root structures growing up to 20 feet into the earth, lock the wall into place, growing into the soil below and adjacent to the wall.

This provides an ecologically sound and beautiful vegetated erosion control system with permanent structural strength.

Illustrations: John Andrews

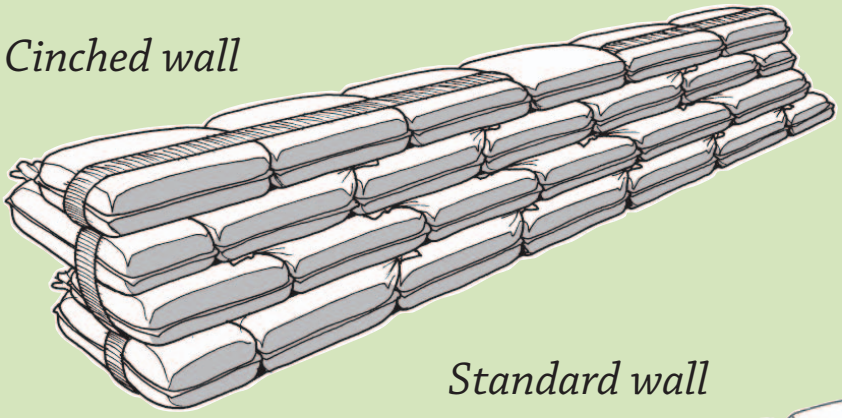
>4 Height

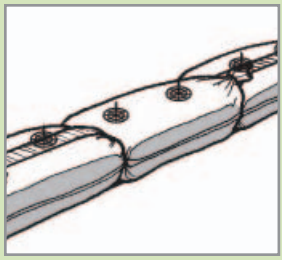
Twined, cinched wall



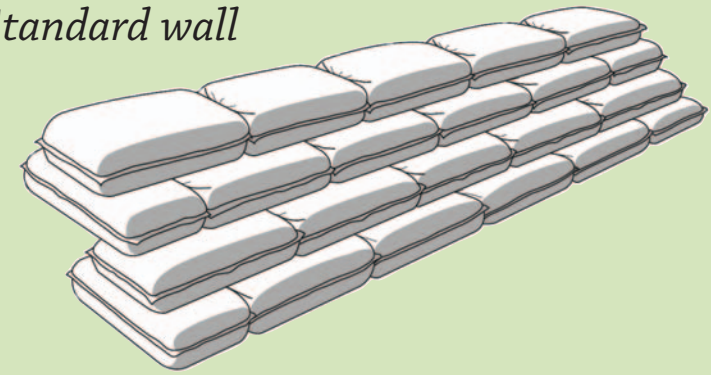
<4 Height

Cinched wall





Standard wall



Envirolok Soil Bag and Tie

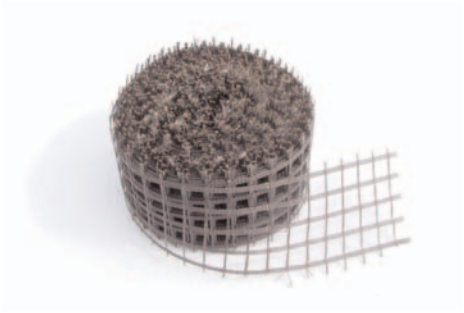
Item #904

- Bag measures approximately 16"x 36"
- Filled bag measures approx. 14” x 24” x 6”
- Bags filled on-site, or shipped on pallets.
- Bag-filling equipment available

Engineered Soil

Bag is filled with an approximately 80 lb. mixture of sand and compost

- 80% Coarse Sand
- 20% High-grade topsoil or compost: by volume



Envirolok Bag Stabilizer

Item #912

- 100 ft. strips (4” x 100’) Envirolok Bag Stabilizer

Envirolok Spikes

Item #915

- Locks bags and wall, weaving material in place

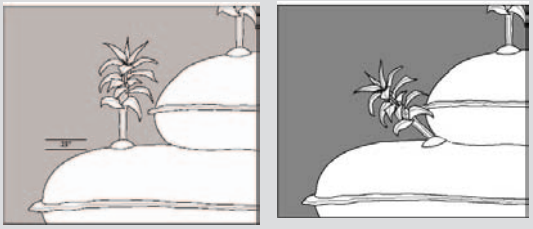
Envirolok Dibble

- Dibble tool pierces bags to install live native plants into the sand/soil bags

Tamping Tool

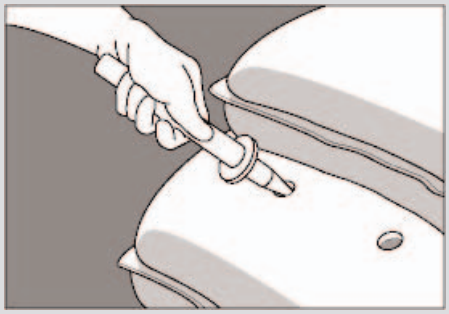
- Tamp each bag to flatten it slightly to insure a solid and uniform structure

How to use the dibble tool to plant the bags

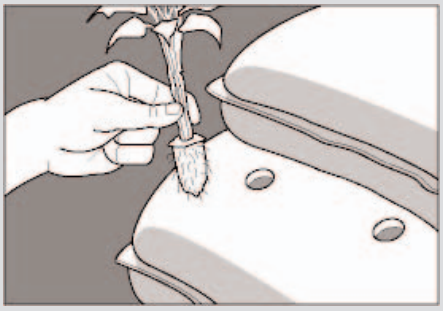


Plant Placement Options

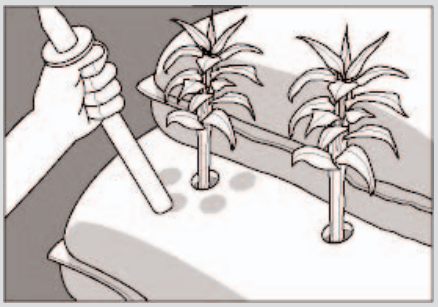
Crown: .25" Exposure



Punch a clean hole in the bag



Insert the plant plug into the hole



Use flat end of the dibble to push the edges of the bag fabric around the plug

It is advisable to both hydroseed the retaining wall and to plant native plants and/or native sod on the face of the wall.

If you use both methods to vegetate the structure, it is preferable to hydroseed the structure first, then add plants and sod.

Hydroseeded shoreline wall

Hydroseeded streambank wall

Root establishment in sand/soil bags

- Sand/soil bag does not limit or constrict the diameter of the roots
- Rapid root colonization within the bag
- Bag material does not minimize quantity of root development; equal on both sides of the bag
- Roots can easily grow through multiple bags
- Once vegetation begins, the roots do the work, and the system becomes stronger over time

Live Native Plants

In trays of:

- 32, 2½" square plugs
- 128, 15/16" square plugs

or

- Your local native eco-types

IMPORTANT

Water the bags thoroughly before planting and do not allow the plants to dehydrate.

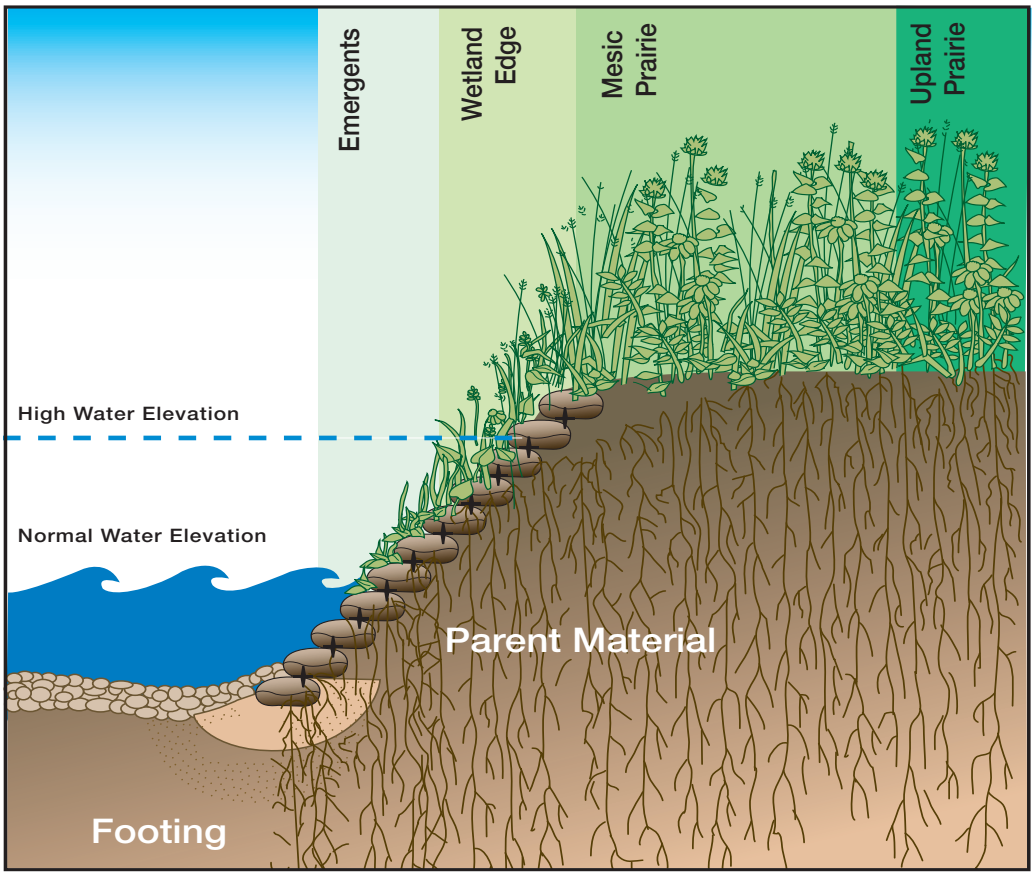
Native Seed for Hydroseeding

Agrecol's Envirolok Native Seed Mixes

- Mix #920 – Envirolok Full Sun, No Water Mix
- Mix #921 – Envirolok Part Sun, No Water Mix
- Mix #922 – Envirolok Part Sun, Riparian Mix
- Mix #923 – Envirolok Full Sun, Riparian Mix

or

- Your local native eco-types
- BFM Recommendations for best results



Mesic Prairie Zone

- Highest elevations of basins
- Buffer area that meets adjacent land use
- Never under standing water

Species include: Big Bluestem, Indian Grass, Wild White Indigo, Rattlesnake Master, Ironweed

Wet Meadow Zone

- Represents elevations at the midpoint between standing water and Mesic Prairie
- Rarely under standing water – able to tolerate for short periods (<1wk.)

Species such as: Bluejoint Grass, Rice Cut Grass, Common Fox Sedge, Boneset, Obedient Plant

Deep Marsh Zone

- Inundated nearly all of the time
- Dries out only in driest times if ever

Species include: Soft-Stem Bulrush, Bur Reed

Wet Mesic Prairie Zone

- Next elevation down from Mesic Prairie
- Never under standing water except for 100 yr. situations
- Slightly closer to the water table

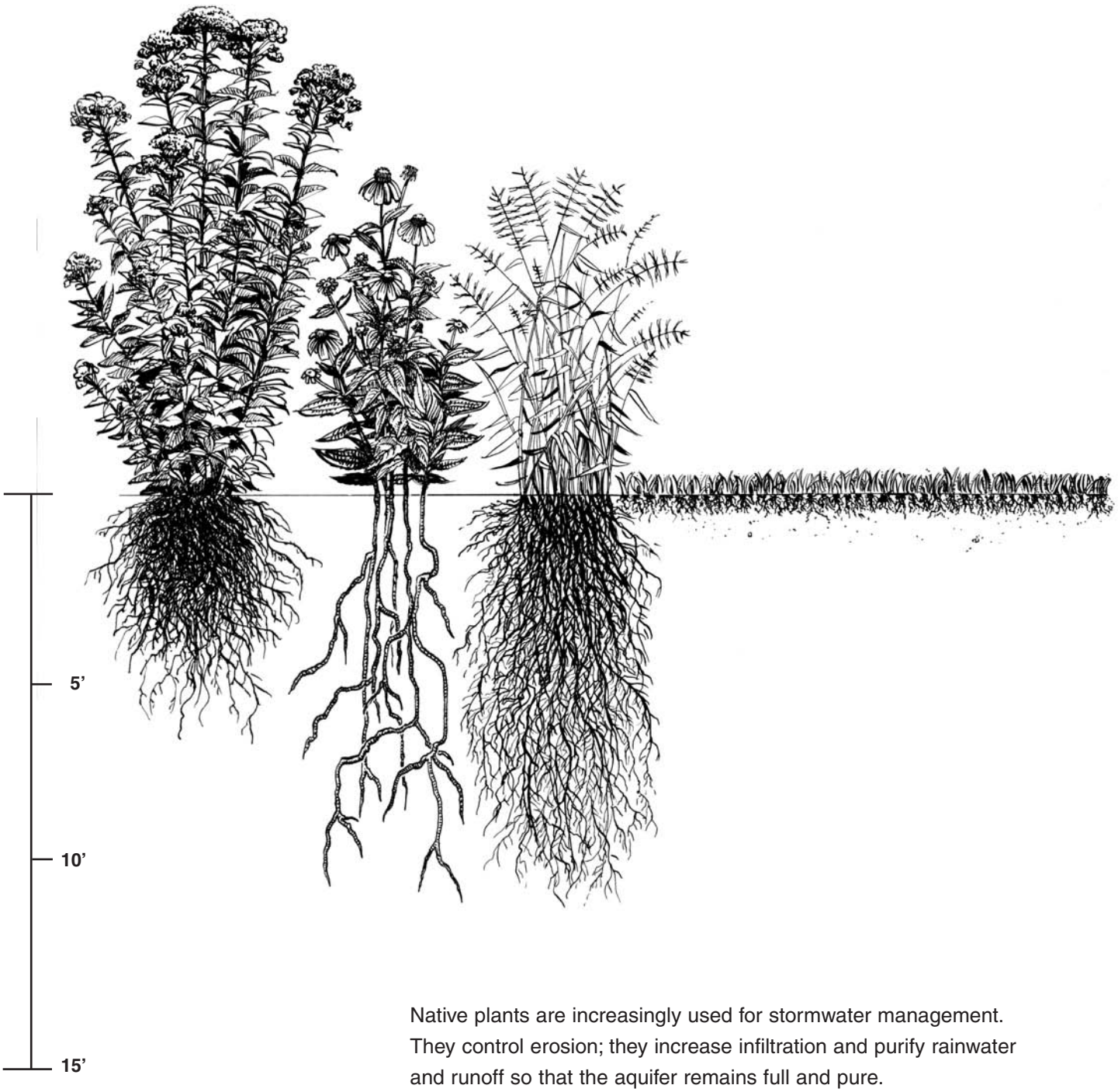
Species include: Fringed Brome, Cordgrass, New England Aster, Great St. John's Wort, Meadowrue

Shallow Marsh Zone

- Inundated most of the time
- Dries out occasionally during dry times

Species such as: Reed Manna Grass, Wool Grass, Arrowhead

Native prairie root system compared to a turf root system



Native plants are increasingly used for stormwater management. They control erosion; they increase infiltration and purify rainwater and runoff so that the aquifer remains full and pure.

Building and vegetating the wall

Building the wall

Planting the courses

Completed wall

Installing the wall

Installing the wall

Envirolok System Benefits

- Deep-rooted perennial vegetation locks, renews and improves the structure year after year
- Does not interfere with hydrological processes
- Provides habitat, safe for amphibious species
- Retains oxygen and moisture
- Absorbs sound
- Moves with freeze / thaw cycles
- Weeping/hydraulic piping is minimal in comparison to block or stone wall erosion control systems

Single-bag filler

Three-bag filler

Pre-filled and palleted – delivered to your job site

Do NOT burn vegetation growing on the Envirolok system

Distributors: USA

Wisconsin

Earth & Road

924 Development Drive, Unit E
Lodi, Wisconsin, 53555

Contact: Derek Hoffman
Telephone: (608) 592-3355
Fax: (608) 592-3686

Email: sales@earth&road.com
Website: earthandroad.com

Northwest: Oregon, Washington, Idaho, Utah, Montana, Wyoming

Sunmark Environmental Services

906 NW Corporate Drive
Troutdale, Oregon 97060

Telephone: (888) 214-7333
Fax: (503) 491-0279

Email: info@sunmarkenvironmental.com
Website: sunmarkenvironmental.com

Florida

Living Shores

1511 Gulf Boulevard, Suite A
Indian Rocks Beach, Florida 33785

Contact: Steve Spencer
Telephone: (727) 596-8020
Fax: (727) 596-8086

Email: sspencer@seagrassrecovery.com
Website: seagrassrecovery.com

Illinois

Martenson Turf Products

P.O. Box 216
250 W. Adams Street
Waterman, IL 60556

Contact: Jeff Martenson
Telephone: (815) 264-3322, (800) 833-2290
Fax: (815) 264-3324

Email: martenson@indianvalley.com

Distributors: Canada

Alberta, Canada

Cascade Geotechnical Inc.

15620- 121A Avenue
Edmonton, Alberta, Canada T5V 1B5

Contact: Gil Barber
Telephone: (780) 454-2400
Fax: (780) 451-0911

Email: mailbox@cascade.ab.com
Website: cascade.ab.ca

Manitoba, Canada

Mid-Canada Hydroseeding

3-325 Parkdale Road
St. Andrews, Manitoba R1A 3N9
Canada

Contact: Dave Martens
Telephone: (204) 797-3255, (204) 782-8813
Fax: (204) 231-8134

Email: dave@mid-canadahydroseeding.com
Website: mid-canadahydroseeding.com

Landscaping

Streambank Stabilization

Streambank Stabilization

Agrecol®
Agricultural Ecological Solutions

www.agrecol.com

Go to agrecol.com for more information, specifications, standard detail drawings, photos and installation guides.

Agrecol® Corporation
2918 Agriculture Drive
Madison, Wis 53718
Telephone 608.223.3571
Fax 608.223.3575
ecosolutions@agrecol.com
www.agrecol.com