

# KEY NOTE



**PRICE & COMPANY**  
Solutions Grounded in Experience

SITE CIVIL IMPROVEMENT ↔ EROSION CONTROL ↔ SURFACE WATER QUALITY

Geopro® Learning Tool

August 14, 2003

## When Grass Won't Survive

Throughout Michigan, grasses are an ideal permanent erosion control best management practice [BMP]. Our temperate climate and routine rains allow native, prairie and turf species to establish and thrive relatively well – and inexpensively. Therefore, we deploy 'grass' as a 'standard' groundcover to resist nature's erosive stresses.

With a bit of planning when selecting proper growing media, soil amendments, seed varieties and temporary erosion control BMPs, we can succeed in establishing 'grass' at most locations. However, 'grass' will not thrive or even survive everywhere, particularly when maintenance is lacking. For example, a relatively healthy stand of immature grass can be established via dormant seeding or spring/early summer plantings beneath a mature tree canopy. But without fall leaf removal, much of the grass will not survive until the following summer. With additional fall leaf drops, further deterioration of the permanent ground cover is all but certain, leaving the soil vulnerable to erosive stresses. Such sites are likely candidates for high-cost remediation. Areas notable for these conditions include mild to steep slopes in or adjacent to established woodland areas, rural road improvement projects and development entrance roads.

The lack of leaf removal is only one maintenance deficit that can cause grass cover decay. Moderate to extreme droughty conditions – deep, permeable soils without irrigation – are often trouble locations. Inadequate plant nutrition also presents severe problems due to the combination of poor subsoil structure with no fertilization. Such locations should be identified during design – when alternative systems can be researched and easily incorporated.

Similarly, 'grass' is often not the preferred choice for permanent erosion control. Natural woodland landscapes are typically void of 'grass' undergrowth and its introduction to such landscapes may be aesthetically undesirable, a maintenance nightmare and an

ecosystem disaster. Such locations require proper planning to develop alternatives to a 'grass' management program.

On-site observation is one of the best ways to identify where grass is not likely to be a desirable ground cover. If the pre-construction landscape is nearly void of grass, low-height shrubs, bushes, vines, etc., the wheels of alternative BMP ingenuity should begin to rotate. If little or no trees are to be removed during construction, those wheels should be spinning. Finally, if the land owner requires a low or no-cost maintenance landscape, you had better add oil to the wheel bearings as an alternative management practice for 'grass' must be used. 'Fringe' areas are bound to exist where grassed and non-grassed zones are adjacent. Within these fringes, nature develops intermixing between grasses and the alternative system. As with all things, proper identification of problematic areas becomes easier with practice.



Fringe Area: Grass can be established but will unlikely survive

For the past several years, *Price and Company, Inc.* has used the combination of *North American Green SC250®* or *C350®* turf reinforcement mats [TRMs] and forest floor 'litter' as a viable alternative to grass for many of those applications



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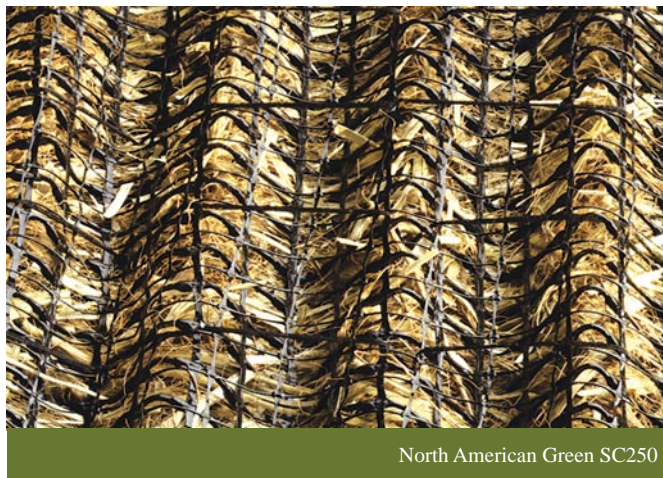
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previously mentioned. The organic matrix of these TRMs offer long-term temporary protection of underlying soils from erosion stresses [approx. 24 and 36 months for **SC250** and **C350**, respectively]. In addition, the matrixes provide an ideal plant establishment environment for either grasses or volunteers [when and if they are able to establish]. The three-dimensional, strong, durable, stable and non-degradable nets capture, hold and reinforce the overlying forest floor litter, whether placed as part of the system or dropped/blown in via natural events. At many locations, chips from clearing or trimming operations are used as the initial 'litter' due to availability and low cost.



While no known research exists whereby the performance of this or a like system has been quantified or analyzed for design tool development, our experience indicates that the TRM/litter BMP is viable for any reasonable slope or flat area as well as swales with minor concentrated flows. The benefits offered by the TRM/Litter BMP are both immediate and long-term.

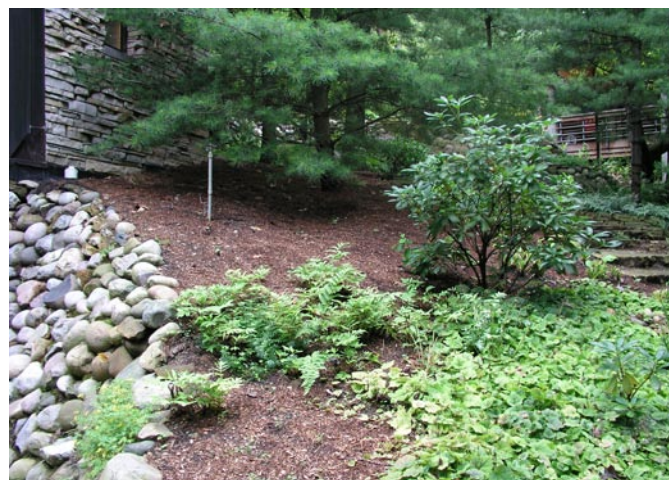
1. Immediate erosion protection upon installation,
2. Natural landscape appearance,
3. Permanent erosion protection established upon installation,
4. No maintenance required,
5. Self maintaining/healing as continued 'litter' catches within nets, and
6. Enhanced environment creation [moisture retention, temperature moderation, wind moderation] for seed germination and early plant development.

When grass establishment or survival is questionable, alternative ground cover methods should be considered. The use of *North American Green* SC250 or C350 combined



Fetzer Institute - Kalamazoo, MI: C350 installation - 1994  
photo taken 2003, on day after 2" in 25 minute rainfall

with natural 'litter' has proven to be effective at controlling erosion, both immediately after installation and as a permanent system.



Fetzer Institute - Kalamazoo, MI: C350 installation - 1994  
photo taken 2003, on day after 2" in 25 minute rainfall

Contact your *Price & Company* **Regional Representative** for additional information regarding the application of **SC250**, **C350** and other **Vmax<sup>3</sup>** products for erosion control.

*SC250*, *C350* & *Vmax<sup>3</sup>* are trademarks of North American Green



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