Erosion Control for Athletic Fields

By Steve and Suz Trusty

Erosion is seldom an athletic field problem, but it’s frequently a problem for the sports turfmanager. Although the prime consideration is the playing field, the area surrounding the field and facility usually are under his or her care. At many universities, city school systems and parks and recreation departments, the athletic fields may be a small portion of the “area” of responsibility.

Analysis is the first step in erosion control. Identify the potential for an erosion problem, decide whether this is a short-term or long-term situation, determine the probable extent of damage from uncontrolled erosion, and weigh the advantages and disadvantages of possible solutions.

Evaluating Site Solutions

That bare strip edging a parking lot may be the planned site of ornamental shrubs once construction is completed. If facility use will be minimal during construction, the exposed area is relatively flat, and anticipated weather conditions are moderate, little or no corrective measures may be necessary. If facility use is at normal or high levels, the bare section is sloped, or seasonal wind or rainfall pose risks, a temporary solution, such as covering with a landscape fabric, will be required.

Such long-term problems as that steep slope behind the stadium call for long-term solutions. Is the degree of slope too severe to allow mowing? Is there a possibility future construction would eliminate the slope or alter its severity? Would a series of terraces convert the slope to usable space, or make it mowable? Is wind or precipitation erosion the biggest factor? Does irrigation runoff impact parking areas, walkways or other highly used sections of the facility? What is the actual, and the perceived, environmental impact of the erosion?

Well-established turf is the most effective method of erosion control, as well as one of the most aesthetically-pleasing choices. Extensive studies document the effectiveness of turf in filtering water, eliminating runoff, and controlling sediment loss.

However, the safety of the mower operator must be the prime concern. Turf should not be used on a slope so steep it poses a risk to operator safety. Generally, with ride-on equipment, if operators feel a need to shift their weight on the mower seat to compensate for the mower’s angle on a slope, or if they feel uncomfortable or apprehensive about mowing a slope, it’s too steep for turf.

Consider alternative plantings for such sites. For the stadium hillside, ornamental trees and decorative boulders, interspersed among ground-hugging evergreen shrubs, could be a solution. A combination of native grasses and wildflowers might provide adequate erosion control along with a seasonal-changing splash of color.

What are the real and perceived consequences of uncontrolled erosion? Is this an actual problem for the integrity of the site or for the surrounding environment? Does a temporary erosion problem create blowing dust and debris that adversely affects facility users or those at neighboring facilities? Does precipitation runoff create wet or muddy conditions that hamper facility use, irritate people, or raise environmental concerns? Do erosion situations create a perception of a lack of environmental concern on the part of the facility? The greater the real or perceived consequences of erosion, the greater the need for immediate and highly effective action.

Explore the possibilities. Consider the immediate and long-term effectiveness of each usable erosion control method. Assess the practical and aesthetic impact of each option. Compare the immediate and long-term costs, including those of follow-up care and extended maintenance.

A Quick and Effective Solution

Sodding is the quickest and most effective method of erosion control. The results of a 1991 study conducted at the University of Maryland and presented by Dr. Mark J. Carroll of the University’s Department of Agronomy at the 1992 Midwinter Conference of the American Sod Producers Association.
Hydromulching is preferred to the traditional sodding method for the following reasons:

- **Immediate Coverage**: Hydromulching results in more immediate coverage compared to sodding, which has a slower establishment period.

- **Cost Effectiveness**: Utilizing a “wet slurry” mixture, hydromulching offers lower costs per square foot compared to sodding.

- **Ease of Installation**: Installation is less labor-intensive when using hydromulching, perfect for both small and large projects.

- **Environmentally Friendly**: Hydromulching uses less water and nutrients, reducing the environmental impact.

- **Maintenance Requirements**: It requires significantly less maintenance post-installation due to the protective layer of mulch.

- **Erosion Control**: For high erosion potential areas, hydromulching provides effective erosion control.

**Hydroseeding**

Hydroseeding is similar to hydromulching but involves the use of a mixture of seed, organic matter, and water. The mixture is sprayed on the prepared site to establish a new vegetation layer. However, hydroseeding is more labor-intensive and less cost-effective than hydromulching.

**Landscaping Alternatives**

For sites with minimal water availability or where sodding is impractical, hydroseeding or hydromulching is the preferred method. These techniques are particularly effective in extreme conditions, such as hot, dry areas or areas prone to erosion.

To ensure the success of hydroseeding or hydromulching, consider the following:

- **Site Preparation**: Proper site preparation is crucial to ensure successful establishment.

- **Seed Selection**: The choice of seed and mulching material is critical. Consider factors like hardiness, growth characteristics, and local conditions.

- **Irrigation**: Adequate irrigation is essential to support the establishment of the vegetation layer.

- **Maintenance**: Regular maintenance is necessary to ensure the success of the vegetation establishment.

By carefully selecting the appropriate method and taking necessary precautions, hydroseeding and hydromulching can provide effective erosion control and facilitate the establishment of new vegetation layers.