

disturbed sites, besides the initial loss of ground cover, is the temporary influence of storm water runoff in the forms of erosion, sedimentation, loss of soil, and the degradation of downstream water. The clearing of the vegetation disturbs the relationship between the vegetative cover and the soil. In the absence of the vegetation, the soil is more prone to erosion. Water is unable to soak the ground as well as it did before, and it can be very difficult to reestablish vegetation. The loss of vegetative cover means the loss of plant surfaces that intercept and then deflect the energy of the falling rain before it contacts the soil. Without the plant root network to keep the soil structure and the rainwater in place, the soil loses its intact resistance to the erosive forces of wind and rain.

The design and management of sites usually address the long-term protection of sites from erosion and storm water damage, but they often forget the temporary construction condition. Often it is the site contractor that is left to deal with the dynamic, often complex, storm water runoff conditions that exist as a result of interim conditions during construction. This can be an expensive experience, requiring time and money to repair and maintain temporary features. To prevent such problems, the designer of the site-grading scheme should also consider the various interim conditions that will exist during construction, and he or she should formulate at least general strategies for how these conditions will be managed.

Another aspect of grading to be considered is related to the form rather than the function of the new grades. The grading of the site is often designed and completed without consideration of the long-term visual impact and appearance of the new shape of the land. Equipment operators rather than designers often have the final say in how a site will look and how people will appreciate the design. In fact, the grading is the foundation for the appearance of a site, and in that way it is the basis for how the site is seen and appreciated by the ultimate users. A poorly conceived grading plan of a site's final form will have a great impact on the success of the site, physically and emotionally. Final elements that are out of scale or uninteresting may be rejected by people in favor of spaces that are inviting, comfortable, and interesting. The appearance of the final form of grading is as important as the function. Most people find outdoor spaces that are natural in appearance to be the most visually interesting and appealing.

Slopes that are to be mowed should not exceed a 3:1 slope although 4:1 is preferred. New cut or fill slopes should not exceed 2:1. On steeper slopes that exceed 15 ft in height, it may be necessary to include a reverse bench or runoff diversion to convey runoff away. The reverse bench should be designed and built to collect runoff and convey it to a stabilized outlet. Benches are designed with a reverse slope of 5:1, and they must be wide enough for construction and maintenance equipment. Figures 3.2 and 3.3 provide greater detail of reverse bench construction.

New slopes that are to be reseeded should be graded in a manner that is conducive to the establishment of new plants. This requires the surface to be