



# PLANNING TO

## Thinking ahead can save you

By Natalie Macsalka

Careful planning of a project is important to ensure the success of reclamation and landscaping later.

As with the foundation of a house, landscaping and other vegetation rely on a foundation: soil. During construction, heavy equipment is continually moving over areas, mixing the soil layers and packing them down. This can destroy permeability for water, displace nutrient-rich topsoil, and inhibit root growth. Lands disturbed by construction commonly have issues such as compaction, loss of fertility, and increased erosion. With thoughtful planning before breaking ground, you can ensure success in landscaping rather than set yourself up for failure.

### Minimize the disturbance

Construction projects usually start with excavating and grading the area with heavy equipment and removing all or most of the existing vegetation, often sacrificing more land than necessary. While contractors need sufficient space in which to operate, owners can work with them to minimize disturbance by establishing a boundary that defines the area to be disturbed. Marking the area with protective fencing or steel posts and colored twine will make clear to anyone working in the area where designated boundaries are.



### Protect your topsoil

Topsoil requires hundreds to thousands of years to form and contains the crucial nutrients and organic matter required for establishing and maintaining vegetation. After minimizing disturbance, the best way to enhance reclamation success is to salvage and stockpile the topsoil prior to construction. This will require the use of heavy equipment and proper technique. If you do not have access to the right equipment or adequate time to prepare, paying a contractor experienced in earthmoving is highly recommended.

From start to finish, handle the topsoil with care; it is alive, and the living features of the topsoil will contribute to the reclamation. Throughout the process, keep disturbance to a minimum by limiting equipment operation and vehicle traffic to what is necessary for removal and replacement of the topsoil; this will limit contamination and compaction that can destroy properties of the soil.

- Dig a few holes and accurately identify the topsoil layer (indicators typically include a dark brown color and the presence of seeds and roots); for assistance, contact a local conservation district or Natural Resources Conservation Service office. See sidebar on page 9 for contact information.
- Carefully strip only the top layer making sure to not take the subsoils, which are less productive and can reduce or dilute the valuable properties of topsoil.
- Store the stockpiled topsoil on-site in small piles, and replace it as soon as possible. Keep the stockpiled topsoil away from drainage areas and traffic routes to protect it from erosion and compaction. Further erosion protection is achieved by using sediment barriers, such as berms and straw bales, around the pile. A temporary stabilization can be as simple as placing mulch over the pile, or, weighted down tarps can protect small piles. If you have an extended project (more than a couple of months), seed a quick-growing annual grass seed such as annual rye or winter wheat on the pile.

*Natalie Macsalka is a graduate student in the University of Wyoming College of Agriculture's Department of Agricultural and Applied Economics and was a small-acreage intern for the UW Cooperative Extension Service in the summer of 2008.*



# BUILD?

## time, money — and precious topsoil

- Replacement of the topsoil over the regraded surface is the next step in reclamation. Plan replacement carefully to minimize compaction over the area. At this point, proper seedbed preparation becomes critical for vegetation establishment. This can include tilling, disking, ripping, and the addition of compost, organic matter, and mulch. Your strategy is dependent on a number of factors specific to the site, and thus consulting a reclamation specialist is a good idea.

### Plant selection and planting

Bare ground is unsightly and highly susceptible to erosion and invasions by noxious weeds and is a great motivator to reestablish vegetation. Revegetating an area after a disturbance can be challenging especially in Wyoming's semiarid climate where residents often face low precipitation, a short growing season, varying soils, and wind. To ensure a successful reclamation and to also save time, money, and a lot of frustration, plan and design landscaping to match the characteristics and limitations of your site.

Since species vary in their tolerance to drought, wetness, and salinity, choose plants and seed mixtures adapted specifically for your land use and soil type. Time planting to take advantage of the higher precipitation

Wyoming receives in early spring and late fall. Utilize a mulch such as weed-free hay or straw to maintain soil moisture, and add soil amendments and fertilizers where appropriate (generally unnecessary with native species). If in windy areas of Wyoming, or areas prone to erosion, use a seed drill or work seed in with a harrow; consider wind fences or coconut matting to protect your plantings (check with a local landscape contractor for availability).

The goal of many landowners is to match their reclamation to the surrounding landscape, and this is best accomplished with the use of water-wise, adapted, and native plants. There is a vast collection

of resources specific to plants, grasses, and trees that work well in Wyoming on the resource page of the *Barnyards&Backyards* Web site [http://barnyardsandbackyards.com/informational\\_resources.htm#Landscaping](http://barnyardsandbackyards.com/informational_resources.htm#Landscaping). You can also contact a local conservation district, University of Wyoming Cooperative Extension Service office, or nursery for species that work well in your area.

While we have offered tips to enhance the success of your reclamation, the process does not end here. Whether you choose to perform the reclamation or hire a consulting firm, adequate preparation, planning, and patience are vital to the success of any project.



**WHO CAN HELP**

To find a local conservation district:  
<http://www.conservwy.com/DISTRICTS.htm>

To contact the Natural Resources Conservation Service: <http://www.wy.nrcs.usda.gov/>  
 or by phone (307) 233-6750 (state office)

To find a local University of Wyoming Cooperative Extension Service office:  
<http://ces.uwyo.edu/Counties.asp>