

EROSION CONTROL FOR THE HOME BUILDER

Soil erosion, stormwater runoff and resulting sedimentation are a leading cause of water quality problems in Lake Forest Park. Erosion is a major concern at all construction sites. Every phase of a construction project has the potential to contribute significant quantities of sediment-laden runoff, if the disturbed land is left unprotected. Therefore, all who are associated with a building project must do their part to control erosion.

WHY IS SOIL VALUABLE?

Soil is created when weathering breaks down rocks. This process may take thousands or even millions of years. This ancient material serves to provide nutrients to microorganisms, plants and animals. Soil provides us with our daily bread and is a valuable resource that is required for life.

WHY IS EROSION AN IMPORTANT MATTER?

Water quality. Sediment degrades fish spawning habitat, smothers fish eggs and promotes the growth of nuisance weeds and algae. It also decreases recreational opportunities and can pose human health risks.

Local taxes. Sediment that finds its way into streets, storm drains and ditches, resulting in additional maintenance cost for local governments.

Flooding. Sediment accumulation in streams, lakes and rivers reduces their capacity to carry water, which increases the possibility of flooding.

Property values. Eroded lots are unpleasant sights to potential home buyers and, if erosion is not controlled, may affect structural stability.

HOW TO CONTROL EROSION ON BUILDING SITES

Erosion and stormwater control is essential on every building site, regardless of lot size. The goal is to be proactive and prevent erosion before it occurs because building sediment traps or sediment ponds on site can be incredibly costly.

The following are five steps to follow when building on a site in Lake Forest Park:

1. Work with the City's Department of Planning and Building or your consultant to try and fit the proposed building structure or development activity to the terrain. Remember, seasonal grading restrictions are in effect from October 1 through March 31. Grading activities should be timed to minimize uncovered or unvegetated soil. Limit the access and staging areas open to construction traffic; use the appropriate Best Management Practices (BMPs) for the site.
2. Develop an erosion control plan or jointly select BMPs and install these erosion and stormwater controls as soon as

practicable for the site. Determine which of the specific erosion control practices are best suited for the lot. These techniques include dispersion, infiltration, perimeter control and cover revegetation. Reduce the length and steepness of bare earthen slopes.

3. Install the erosion control measures prior to storm events and the wet season; do not wait until it starts to rain. Think ahead and make sure proper installation methods are used.
4. Maintain the erosion control measures on site during construction.
5. Revegetate and landscape. As soon as possible, restore or revegetate disturbed areas. A well-vegetated site is more attractive and has greater sales potential; and it protects the water quality for all our citizens and our endangered species.

STEPS IN CONSTRUCTION SEQUENCE

1. EVALUATE THE SITE

Before construction, evaluate the entire site. Mark for protection any important trees and associated rooting zones, unique areas to be preserved, septic systems and vegetation suitable for filter strips, especially along the perimeter.

Identify Vegetation to Be Saved

- Select and identify the trees, shrubs and other vegetation that you want to save.

Protect Trees and Sensitive Areas

- To prevent root damage, do not grade, burn, place soil piles or park vehicles near trees or in areas marked for preservation.
- Place plastic mesh or snow fence barriers around the drip line of the trees to protect the area below their branches.
- Place a physical barrier, such as plastic fencing, around the area designated for a septic system drainfield.

2. INSTALL PERIMETER EROSION AND RUNOFF CONTROLS

Identify the areas where sediment-laden stormwater runoff could leave the construction site and install perimeter controls to minimize this potential. Perimeter controls must be in place before any other earthmoving activities begin.

Protect Downslope Areas

- Vegetative Filter Strips. Where possible, preserve a vegetative strip around the perimeter of the property and use it to trap sediment. Do not mow filter strips more than 4 inches.
- Silt Fence. Use silt fence along the perimeter of the lot's downslope sides to trap sediment.

Install Gravel Drive

- Restrict all lot access to the gravel drive to prevent vehicles from tracking soil onto roadways.

Protect Storm Drain Inlets

- Protect nearby storm drain inlets with gravel-filled geotextile bags or catch basin sediment traps.

3. PREPARE THE SITE FOR CONSTRUCTION

Prepare the site for construction and for installation of utilities. Make sure all contractors are aware of the protected areas.

Salvage and Stockpile the Soil

- Remove topsoil (typically the upper 4 to 6 inches of soil material) and stockpile.
- Remove subsoil and stockpile separately from the topsoil.
- Locate the stockpiles away from any downslope street, driveway, stream, lake, wetland, ditch, or other drainage.
- Immediately after stockpiling, seed them with annual rye or cover with plastic to toe of slope of pile and secure plastic to the ground.

4. INSTALL UTILITIES AND BUILD

Install the utilities and construct the home. If a septic tank and drainfield or drinking water well is needed, install them as well. Place all soil away from utility trenches and up slope so stormwater washes sediment into the trench and not of the construction site.

Immediately after backfilling, reestablish erosion control measures below utility trenches.

Install Downspout Extenders

- Although not required, downspout extenders are highly recommended. They prevent soil erosion by diverting roof runoff.
- Be sure the extenders have a stable outlet, such as the street, sidewalk, splash block made of grave, or a well-vegetated area.

5. MAINTAIN THE CONTROL PRACTICES

Maintain all erosion and stormwater control practices until construction is completed and soil is stabilized with vegetation or mulch.

- Inspect the control practices after each storm event, making any needed repairs immediately.
- Remove sediment from behind silt fences and catch basin sediment traps as needed.

- After work, sweep/scrape up any soil tracked onto roadways. Do not flush areas with water.

6. REVEGETATE THE BUILDING SITE

Immediately after all outside construction activities are completed, stabilize the soil with vegetation such as sod, seed or mulch.

Redistribute the Stockpiled Subsoil and Topsoil

- Spread the stockpiled subsoil to rough grade.
- Spread the stockpiled topsoil to a depth of 4 to 6 inches over rough-graded areas.
- Fertilize and lime according to soil test results or recommendations of a lawn care specialist.

Seed or Sod Bare Areas

- Contact a lawn care specialist for recommended seeding mixtures and rates, or for methods of sod installation.
- Water newly planted areas every day until grass is well established. Established grass needs far less irrigation.

Mulch Newly Seeded Areas

- Apply straw mulch to newly seeded areas, using 75 to 100 pounds of straw per 1,000 square feet (approx. 1.5-2 bales of straw).
- On flat or gently sloping land, anchor the mulch by crimping it 2 to 4 inches into the soil. On steep slopes, anchor the mulch with netting or tackifiers. An erosion control blanket can substitute for anchored mulch.

Once the sod or vegetation is well established, remove any remaining temporary erosion and sediment control practices, such as downspout extenders or storm drain protection.

For more information please contact the Planning and Building Department

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