

CONSTRUCTION DETAILS: Soil Preparation



SOURCE: KEVIN ROBERT PERRY - CITY OF PORTLAND

Figure 5-51: Native soil is rototilled to break up construction compaction.



SOURCE: KEVIN ROBERT PERRY - CITY OF PORTLAND

Figure 5-52: New imported topsoil is placed within a planter. Soil is graded 2 inches lower than finish grade to allow for a mulch layer.



SOURCE: NEVUE NGAN ASSOCIATES

Figure 5-53: Sand bags are placed in front of curb cut inlets in order to help protect soil and plant material immediately after planting.

In general, it is good to amend soils with organic material because a rich soil allows for healthy plant growth and helps promote the microbiological processes beneficial for the removal of certain types of pollutants. Many sites, especially retrofit conditions, have little or no organic material within the soil structure because they have been paved over for many years.

If possible, consult with a soil scientist to determine the best mix for a site's imported topsoil. In general, a three-part mix of weed-free compost, sand, and loamy topsoil works well. Specific recommended mixture percentages are detailed in the C.3 Technical Guidance. It is important to rototill newly imported topsoil with the native soil in 6 inch lifts. This provides an even mixture between native and imported soil. Do not compact soil with heavy equipment during construction. This is often the cause of stormwater facilities' failure to perform well. Use only foot-compaction or a landscape-roller to finish the grade of a stormwater facility. Soil preparation should only be done in dry conditions when there is no standing water on the soil's surface.

Upon the completion of soil preparation and final grading of stormwater facilities, it is best to inhibit stormwater runoff from entering the stormwater facility until the plant material has been installed (possibly even later to ensure the successful establishment of the plant material). Using sand bags to block curb cuts is one method of keeping a stormwater facility "offline." In some cases, inhibiting stormwater runoff cannot be achieved if there is no viable way to direct flow around the stormwater facility. In these cases, it is important to protect the soil from erosion and to ensure that the installed plant material is well-established prior to the onset of the wet season.