

9.0 Impervious Removal

9.1 Overview of Practice

As discussed in section 2.2, urbanization (characterized by increases in impervious area) can cause a substantial increase in stormwater runoff. One basic stormwater management practice is to reduce the amount of impervious area in a given urbanized area. If an area has already been built out, this can be accomplished by removing impervious areas that are no longer needed. Patios, walkways, parking areas, and driveways can all be removed and converted to pervious areas. Gardens, lawn, and permeable pavements all can be used in place of the impervious area. For permeable pavement costs to be offset by CCAP, it must be accompanied by impervious surface removal.

9.2 Selection of this practice over others

Impervious surface removal should only take place when there is a patio, walkway, parking area, or driveway that is no longer being used or is going to be converted to a permeable surface. Impervious areas that drain directly into the stormwater sewer system should be targeted. Impervious areas that are directly connected (see connected imperviousness – Section 3.2) to the larger stormwater drainage system have the greatest impact on stormwater runoff. Impervious areas that drain onto pervious areas before collecting in the storm drainage network present less of an impact since runoff from these impermeable surfaces has an opportunity to infiltrate into the pervious area. Impervious surface removal can provide a water quality benefit when there is limited space to construct a rain garden, backyard wetland, or other SCM.

Impervious removal should be performed in combination with the creation of pervious areas such as lawn, gardens, or permeable pavement. Permeable pavement conversion can only be performed in the Sandhills and Coastal Plain as part of the CCAP (see Chapter 10.0).

9.3 Carrying Out Impervious Removal

While removing impervious area is a simple way to limit stormwater runoff, removing asphalt, concrete, or brick can be challenging. Breaking the impervious area into small pieces and removing these pieces should be performed by a contractor to avoid injury. Once broken up, the impervious area will consist of very heavy, sharp-edged debris. A large truck will be required to transport the debris from the location to a disposal site after heavy equipment, such as a backhoe, breaks the pavement apart and carries it to the truck.

Following the removal of impervious surfaces, the soils need to be amended to aid in establishment of vegetation. Soils underneath driveways and patios have been compacted. A small roto-tiller should be used to loosen the soil. Before doing so, ensure that all rubble and debris have been removed. A sample of the soil should be sent for analysis to the NCDA

laboratory for free soil testing to determine if lime and fertilizer needs to be applied. Finally, a small layer (nominally 2 inches thick) of topsoil should be placed over the disturbed area and tilled in to the native soil. Grass, shrubs, or trees should be able to establish on this amended soil. Follow planting recommendations for the species that the landowner desires.