

Minimize Directly Connected Impervious Areas **BMP 9**

Description	The impact of impervious surfaces is reduced by minimizing directly connected impervious areas, directing runoff from the impervious areas to pervious areas and/or small depressions, and in the process disconnecting hydrologic flow paths.
General Information	<p>Impervious areas directly connected to the storm drain system are the greatest contributor to nonpoint source pollution. Any impervious surface, which drains into a catch basin, area drain, or other conveyance structure, is a “directly connected impervious area” (DCIA). A basic site planning principle for stormwater management is to minimize these directly connected impervious areas. This can be done by limiting overall impervious land coverage and directing runoff from these impervious areas to pervious areas or small depressions. Locate impervious areas to drain to natural systems and when this is not possible, direct flows from impervious areas (roofs and paved surfaces) to bioretention areas, infiltration devices, drainage swales, retention areas, natural systems, or vegetated buffers.</p> <p>Strategies include:</p> <ul style="list-style-type: none">▪ Disconnecting roof drains and directing flow to vegetated areas▪ Directing flows from paved areas such as driveways to stabilized vegetated areas▪ Breaking up flow directions from large paved surfaces▪ Encouraging sheet flow through vegetated areas▪ Carefully locating impervious areas so that they drain to natural systems, vegetated buffers, natural resource areas, or infiltratable zones/soils▪ When applying this technique to roads, use slotted curbing along with stabilized grass shoulders and swales. The connection between impervious areas can be addressed in varying degrees.▪ The runoff generated by impervious surfaces can be directed over grass-covered areas before runoff leaves the site, enters a curb and gutter system, or enters another storm water collection system.▪ The runoff can be directed over a grass-covered area and then into low-velocity grass-lined swales and pervious street shoulders that have replaced street curb and gutter systems.▪ The runoff can be directed over a grass-covered area and then into oversized swales with driveway and street crossing culverts arranged to direct flow into grass-lined swales. The swales are used as elongated detention areas.
Additional Resources	Bay Area Stormwater Management Agencies Association (BASMAA), 1999. Start at the Source: Design Guidance Manual for Stormwater Quality Protection.

Figure 9-1. Minimize directly connected impervious areas.

