UNI-GROUP U.S.A.

UNI Eco-Stone® Permeable Interlocking Concrete Pavement

Municipal Regulations, Infiltration Practices, and Objectives

Municipal regulations for managing stormwater runoff vary across the country due to rainfall amounts, geography, climate, and land-use development patterns. Water quality and/or quantity may be regulated, with criteria for reducing water pollutants such as nitrogen, phosphorous, nitrates, metals, and sediment. Municipal policy, design criteria, and local experience usually govern the use of infiltration systems such as permeable pavements. Many municipalities now restrict the amount of impervious surfaces for virtually all types of construction, including private residences. In addition, thousands of municipalities have created stormwater utilities to fund the increasing costs of managing stormwater. These fees vary, but are usually based on runoff volumes and percentage of impervious cover on a lot. Regional authorities, counties, and municipalities may use a number of design objectives for managing stormwater runoff from a site. These may include:

- ► Limiting impervious cover to reduce stormwater runoff and pollutants from developments
- ► Capturing the entire stormwater volume so there is zero or no discharge from the drainage area
- ► Capturing and treating stormwater runoff to remove a stated percentage of pollutants - this will become increasingly important for managing Total Maximum Daily Loads (TMDLs)
- ► Capturing and treating a fixed volume of runoff, typically 0.75-1.5 in. (18-40mm), which usually contains the highest level of pollutants
- ► Maintaining runoff volumes generated by development at or near pre-development levels
- ► Maintaining groundwater recharge rates to sustain stream flows and ecosystems and recharge aquifers
- ► Mitigating streambank erosion and enhancing stream channel protection by infiltration and detention of runoff volume from a given design storm
- ► Reducing downstream flooding by keeping the post-development peak discharge rate equal to the pre-development rate for a given design storm

The family of Eco-Stone® permeable interlocking concrete pavements may offer solutions for attaining all of these goals and design objectives. PICP can reduce runoff volumes and flows, mitigate downstream erosion and flooding, and recharge groundwater where existing site soils are suitable for exfiltration. It also can filter pollutants with removal rates of up to 95% total suspended solids, 70% total phosphorous, 51% total nitrogen, and 99% zinc. Reducing runoff also may offer property owners reductions in stormwater utility fees where municipalities have established them to fund increasing costs due to stormwater runoff.

Many local municipalities, regional authorities, and state agencies such as Departments of Environmental Protection and Departments of Natural Resources are recommending or requiring best management practices (BMPs) for the mitigation of stormwater and provide information and guidance to residents and business about these practices and stormwater solutions. Many states have produced new stormwater manuals. Please visit our links page on our web site for more information. For a list of municipalities and states that have approved or listed Eco-Stone or permeable paving as an approved BMP, visit our web site at www.uni-groupusa.org.

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