

GREEN INFRASTRUCTURE in New Jersey



PRACTICES

GREEN INFRASTRUCTURE PRACTICE: SUBSURFACE GRAVEL WETLAND

Subsurface gravel wetlands are wetland systems designed to maximize the removal of pollutants, particularly nitrogen, from stormwater runoff through settling, uptake and chemical transformation.

HOW IT WORKS:

These systems consist of two distinct components: the above ground wetland cells and the below ground gravel cell. Stormwater flows into the wetland cell where pollutants are treated through settling and uptake by the wetland plants. Stormwater then slowly enters the underground gravel beds that stores runoff between events. A special type of bacteria grows on the saturated gravel, which breaks down the nitrogen compounds dissolved in the water.

CONSIDERATIONS:

Gravel wetlands are fully lined so they can be constructed in areas with high water tables where other systems would fail. Water should remain in the systems about 24 hours for the best pollutant removal; however, they must be designed so that the runoff drains from the surface wetland cells within 72 hours to prevent mosquito breeding and odor problems.

Additional information regarding the design of subsurface gravel wetlands for the treatment of stormwater runoff is available at www.njstormwater.org/pdf/gravel_wetlands_barneгат_bay.pdf.

