

IN THIS ISSUE ...

Gold Park Manages Runoff 1

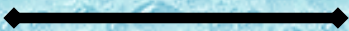
Stormwater Plants at Gold Park..... 2



NEWS & EVENTS ...

Eno River Festival
July 4-6

NC Big Sweep Fall Cleanup
Oct. 24



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**Our Stormwater Drains
to the Eno River!**

Gold Park Manages Runoff

Have you been to Gold Park—the Town of Hillsborough’s new park—and wondered why a mud puddle is by the dog park or why crews are no longer mowing in some areas? The answer is simple: stormwater, or more accurately, stormwater management.

Managing stormwater from new development is required under local, state and federal rules. The reasons we manage stormwater are many. For instance, impervious surfaces—such as roads, rooftops, driveways and parking lots—increase the amount and velocity of stormwater runoff. More stormwater runoff flowing at higher velocity increases downstream erosion and flooding, but it decreases the amount of water that infiltrates into the ground. Less infiltration leads to less groundwater, worsening the effects of drought.

Even worse, as stormwater flows across impervious surfaces or exposed soil, it picks up various pollutants, such as oil, grease, excess nutrients, bacteria, trash and sediment. Polluted stormwater runoff flows into storm drains and through ditches where it is discharged untreated into streams, rivers and lakes. Stormwater runoff pollution adversely impacts aquatic ecosystems and drinking water supplies.

This is important to Hillsborough residents since stormwater runoff from our community, including Gold Park, flows into the Eno River, the same waterbody that provides our drinking water and wonderful wildlife habitat.

To mitigate the effects of increased stormwater runoff and stormwater runoff pollution, Gold Park utilizes two techniques:



Volunteers plant the stormwater wetland at Gold Park. (Photo by Vanessa Shortley, The News of Orange County)

non-structural and structural controls. Non-structural controls refer to the use of stream buffers to manage stormwater runoff. Structural controls are engineered devices known as stormwater best management practices or BMPs. Gold Park uses two engineered stormwater BMPs: a bioretention cell and a stormwater wetland. All three of these stormwater controls are described in further detail below.

Stream Buffer—Stream buffers are generally undisturbed forested areas along streams and rivers. Stream buffers reduce erosion; utilize natural chemical, physical and biological processes to filter pollutants from stormwater runoff; slow the velocity of the runoff that encourages infiltration; regulates surface temperature of the water body; and provides habitat for wildlife. Stream buffers are particularly effective in removing sediment and excess nutrients.

There are both local and state stream buffer rules governing Hillsborough. How-

(GOLD PARK continued on Page 2)

Want to Learn More About Stormwater and Gold Park?

If you would like more information or if you would like to schedule an educational program for your group to learn about the stormwater measures at Gold Park, contact Stormwater Resource Officer Terry Hackett at thackett@co.orange.nc.us or 919-245-2588.

ever, to build the park, the town had to obtain permission to impact portions of the buffer. As part of the conditions of approval, some areas have to be restored and enhanced. Therefore, some areas near the river and creek in the park will not be mowed and either have been planted already or will be planted with native tree species.

Bioretention Cell—Bioretention also known as a “rain garden” is an engineered depression designed to collect and pond stormwater runoff. This allows stormwater runoff to soak into the ground where plants and special soil media remove stormwater pollutants by means of natural chemical, physical and biological processes. Bioretention cells are designed to capture the “first flush” of stormwater runoff, which contains the most pollutants. Typically, water pools less than a day. The bioretention slows runoff, reducing erosion and downstream flooding potential.

Bioretention is effective in removing sediment, heavy metals, excess nutrients, and pathogens from stormwater. Bioretention also reduces the temperature of stormwater runoff. Bioretention cells or rain gardens, as the name implies, are actually a landscape amenity.

Stormwater Wetland—A stormwater wetland is an engineered system designed to imitate the functions of a natural wetland. Wetland plants filter pollutants from stormwater runoff by natural chemical, physical and biological processes. Like bioretention, stormwater wetlands capture the “first flush” of stormwater runoff. They are designed to permanently pool water. This slows runoff, reducing erosion and downstream flooding potential.

Stormwater wetlands are effective at removing excess nutrients, heavy metals, toxic organic pollutants, petroleum compounds and sediment. Stormwater wetlands also provide valuable aquatic habitat. Mosquitoes are not a problem since stormwater wetlands provide habitat for small fish and amphibians that are mosquito larvae predators. In fact, the Gold Park stormwater wetland is already home to frogs, tadpoles, dragon flies and other aquatic animals.

Photographs of Gold Park Stormwater Best Management Practices (photos by T. Hackett)



Volunteers plant the Gold Park bioretention cell. They include (from left): Brian Carson of the Orange County Planning Department, Tom Davis of the Orange County Environment and Resource Conservation Department and Hillsborough Assistant Town Manager Nicole Ard.



Stormwater wetland about one month after the initial planting.

Stormwater Plants at Gold Park

Plants play a major role in managing stormwater. Selecting the right plants for stormwater best management practices (BMPs) is a crucial component of the system; thus, non-invasive native plants are favored.

The stormwater wetland at Gold Park is planted with arrow arum (*Peltandra virginica*), duck potato (*Sagittaria latifolia*), lizard's tail (*Saururus cernuus*), rice cutgrass (*Leersia oryzoides*), Shreve's iris (*Iris virginica*), soft-stem bulrush (*Scirpus validus*), spatterdock (*Nuphar lutea*), and tussock sedge (*Carex stricta*).

The bioretention cell is planted with dense St. John's wort (*Hypericum densiflorum*), dwarf fothergilla (*Fothergilla gardeni*), Inkberry (*Ilex glabra*), purple coneflower (*Echinacea purpurea*), sweet grass (*Muhlenbergia capillaris*), Stella D'oro Daylily (*Hemerocallis hybrida*), and Virginia sweetspire (*Itea virginica*).



Restored riparian buffer along an unnamed tributary of the Eno River within Gold Park.

For more information, contact:



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