Billy Creek Preserve

City of Fort Myers, FL

• Project was planned in a low income, high crime area that has frequent flooding problems.
• Project was intended to address impairment issues to Billy Creek, as listed by FDEP: nutrients, dissolved oxygen, and fecal coliform bacteria.
Community Makeup for Billy Creek Watershed

- Total Population (2009): 20,463
- Average Family Size: 3.5
- Annual Per Capita Income: $11,824
- 41% Renter Occupied Properties
- Unemployment Rate: 18.2%
- Population By Race:
  - White 18.9%
  - Black 67.7%
  - Hispanic 22.8%
  - Other 9.4%

Community Action

- Prior to 2008, the City of Fort Myers did not construct any significant stormwater improvement projects, other than what was required by the permitting process.
- Volunteer groups organized to address the degradation of the City’s system caused by excess dumping.
Billy Creek Preserve
Stormwater Treatment System

- System was proposed through an update to the Stormwater Master Plan in 2008.

- Project has three phase treatment system:
  - Settling Pond
  - Planted Marsh #1 and #2

- Detention areas have also been constructed to provide preliminary treatment for offsite drainage.

- Educational signs and recreational amenities shall be added to enhance community awareness of environmental problems.
Upstream influent from Billy Creek

Overflow weir for extreme flooding events

Inflow pipes into settling pond

Outfall from Settling Pond
Secondary Treatment: Filter Marsh #1

Inflow from settling pond
Tertiary Treatment: Filter Marsh #2

Inflow from Filter Marsh #1
Billy Creek Preserve
Treatment Efficiencies

• Initial Test results conducted in February 2010 indicated reductions for the following parameters:
  – Turbidity (69%)
  – Total Suspended Solids (91.3%)
  – Fecal Coliform (76%)
  – Nitrate-Nitrite (90.2%)
  – Ortho Phosphate (70.5%)
  – Total Phosphorous (67.2%)
  – Total Kjeldahl Nitrogen (59%)