

Cincinnati State Technical and Community College

Green Infrastructure Stormwater
Management System

April 24, 2013

Cincinnati State Technical and Community College (CSTCC)



- The Green Infrastructure Stormwater Management System was installed on the school's main campus.
- 40 acres



President of Cincinnati State

**The project was completed under the leadership
of O'DELL M. OWENS, M.D., M.P.H. (Master of
Public Health)**

CSTCC Stormwater Project

- Project was funded by the Hamilton County Metropolitan Sewer District to lower rainwater runoff to their sewer system
- Main campus is 40 acres
- This was the largest project completed under this program

CSTCC Stormwater Project

- The two phase project was started in early 2009 and completed in late 2011. The purpose was to control the level of rainwater that comes into the MSD sewer system during heavy rainfall
- This project was part of MSD's effort to meet the requirements of a federal consent decree

CSTCC Stormwater Project



- The school is on top of a hill.
- Not only did MSD have a problem they were wanting to help resolve, the school also had problems with neighbors due to rainwater runoff onto their property during heavy rains

CSTCC Stormwater Project

- Project has a data logging control system
- When totally completed the data will be available to the public on the web
- The results of the work is now used as a lab area for educational purposes.

CSTCC Stormwater Project

- Educational opportunities include the Sustainable Landscape Horticulture Technologies and the Environmental Engineering Technology-Stormwater Management Department
- CSTCC is interested in also allowing other educational institutions such as UC to use this for their educational work such as graduate research

CSTCC Stormwater Project

- The project was done in two phases
- The first phase cost \$1.3 million shared by MSD and CSTCC
- The second phase was \$1.6 million funded 100% by MSD

CSTCC Stormwater Project

- In Phase I A large surface parking lot was rebuilt with permeable pavement
- Water flows to a series of rain gardens and eventually to a bio-retention basin



CSTCC Stormwater Project

- Phase II installed permeable pavers, rain gardens, two 10000 gallon underground cisterns and one 4000 gallon cistern to collect rainwater from the roof. This water is used for irrigation.



CSTCC Stormwater Project

- More than 75 species of plants were planted as part of this project.
- Native or native-adaptive plants were used



CSTCC Stormwater Project

- The stormwater controls will be monitored by the US EPA and MSD to gauge effectiveness.
- The rainwater diverted from the sewer system will be measured and monitored.
- It is estimated 8-10 million gallons of stormwater yearly will be diverted from the grid

CSTCC Stormwater Project

- Mounted or installed instructional plaques or mounted to use to educate tours or individuals wanting to learn about the project.
- A sample plaque is available to see today as part of this presentation



CSTCC Stormwater Project

- In a separate project a weather station funded by the EPA has been installed on campus
- The data acquisition system for this weather station is going to be integrated into the Stormwater project. This means the data from the weather station will also be available to the public on the web.



CSTCC Stormwater Project

- Any questions?