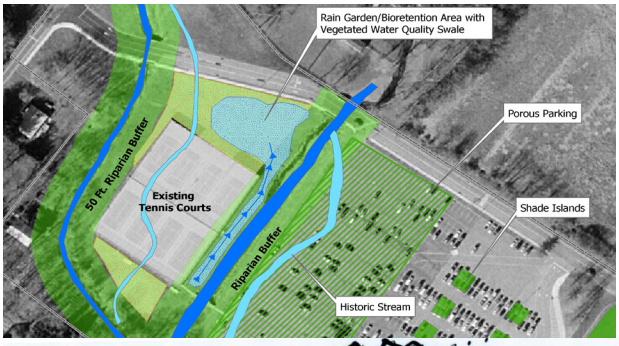
viridian
landscape studio

Stormwater Management for Norristown High School

Location: *Norristown, Pennsylvania*
Client: *Norristown School District*
Size: *99 acres*
Cost: *$1 million in phased site improvements*
Status: *Ongoing*

Stormwater Management Master Site Plan.

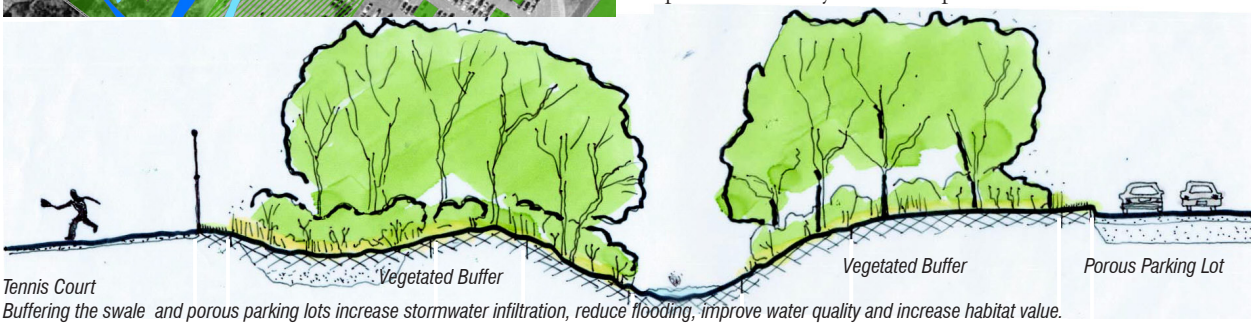

An existing mown swale (left) could be transformed into an infiltration rain garden (right).



Working through a grant established by the Montgomery County Planning Commission, the Philadelphia Water Department, the PA DEP, Stony Creek Anglers and several other partners, Viridian helped the Norristown Area School District to craft a program to reestablish healthy plant communities and appropriate stormwater infiltration along the 1 mile length of Stony Creek that runs through the Norristown Area High School site. Stony Creek, a 20 mile long tributary to the Schuylkill River is 75% impaired. It suffers from poor water quality, habitat alternation, siltation, road runoff and flow variability. Working with Cahill Engineering, the team analyzed existing site conditions which include no stormwater management – uncontrolled rate volume and quality –no proper riparian buffer, and overall lack of significant vegetation typical of historic forested Pennsylvania. The team developed a series of eleven interventions and vetted the with the district's superintendent as well as the school's maintenance staff. This step is essential to the long-term success of any restoration program as those in command and those actually performing the work much understand the steps necessary to substantive change. Interventions included:

- Convert Portion of Parking Lot to Permeable Pavement w/ Infiltration
- Convert Lawn to Native Landscape
- Restore Stream Buffer
- Disconnect storm drains and redirect to vegetated features
- Retrofit Detention Basins
- Alter maintenance practices to reduce mowing and fertilizing
- Provide signage to help explain why landscapes look different

Total costs and costs per intervention were developed. An outline of maintenance duties was developed to retrain staff toward alternative maintenance practices. The team anticipates greatly reduced maintenance after the first three establishment. This combined with substantial site-wide improvements, a 26% reduction in Annual Runoff and plethora educational opportunities offered means that another piece of this important tributary will be improved.



Buffering the swale and porous parking lots increase stormwater infiltration, reduce flooding, improve water quality and increase habitat value.