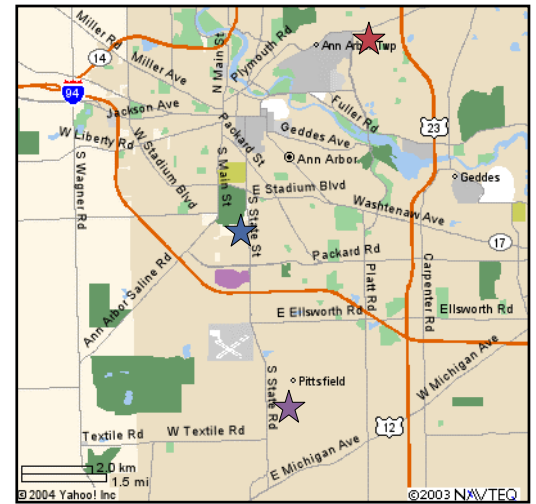


Vegetated Swales

A **vegetated swale** is a broad, shallow drainageway designed to trap pollutants and slowly convey storm water runoff above ground.

Considerations:

- Soil infiltration rates should be greater than one-half inch per hour.
- A parabolic or trapezoidal shape is recommended with side slopes no steeper than 1:3.
- The bottom of the swale should be roughly 1% of the drainage area.
- Swales should be sized for a 10-year storm.
- Avoid soil compaction during construction.
- Check dams can be installed in swales to promote additional infiltration, increase storage, and reduce flow velocities.
- Deep-rooted native wetland and upland plants are preferred for infiltration and reduced maintenance.
- Costs vary greatly depending on size, plant material and specific site considerations, however vegetated swales are generally less expensive when used in place of underground piping.



- ★ Pfizer Global Research & Development
- ★ University of Michigan Varsity Tennis Center
- ★ Horiba Instruments



Pfizer Global Research and Development

Location:	2800 Plymouth Road Ann Arbor
Landscape Architect:	Pollack Design Assoc.
Size:	.33 acre
Installation Date:	1999
Installation Cost:	\$4800/acre including seeds, herbicide application, seed bed prep and one year of maintenance, no site work

At Pfizer, a vegetated swale is used in conjunction with a sediment forebay to treat five acres of parking lot storm water runoff. The area is also used for snow removal storage, and the native plant palette was chosen for its ability to adapt to these less favorable conditions.



Office of the Washtenaw County Drain Commissioner, Janis Bobrin. Funded by the United States Environmental Protection Agency; administered by the Michigan Department of Environmental Quality.

For more information, contact Harry Sheehan at (734)222-6851
www.ewashtenaw.org/government/drain_commissioner/dc_lid.html



University of Michigan Varsity Tennis Center

Location: 2250 South State Street
Ann Arbor
Credit: University of Michigan
Plant Services Division
Size: 900 LF of swale
Installation Date: 2003
Installation Cost: \$5000



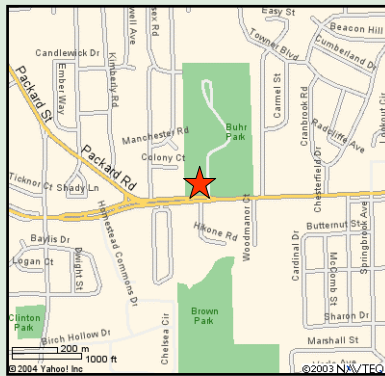
Horiba Instruments

Location: 5900 Hines Drive, Ann Arbor
Landscape Architect: Pollack Design Associates
Size: 3.5 acres, 500 LF of swale
Installation Date: 1995
Installation Cost: \$3200/acre, including seeds and seed bed prep



Buhr Park

Location: 2781 Packard Road
Ann Arbor
Landscape Architect: Tilton & Assoc., Inc.
Size: 40 acres,
620 LF of swale
Installation Date: 2003



Resources

For more information about vegetated swales:

USEPA Storm Water Fact Sheets
www.epa.gov/owm/mtb/vegswale.pdf

Low Impact Development Center
www.lowimpactdevelopment.org

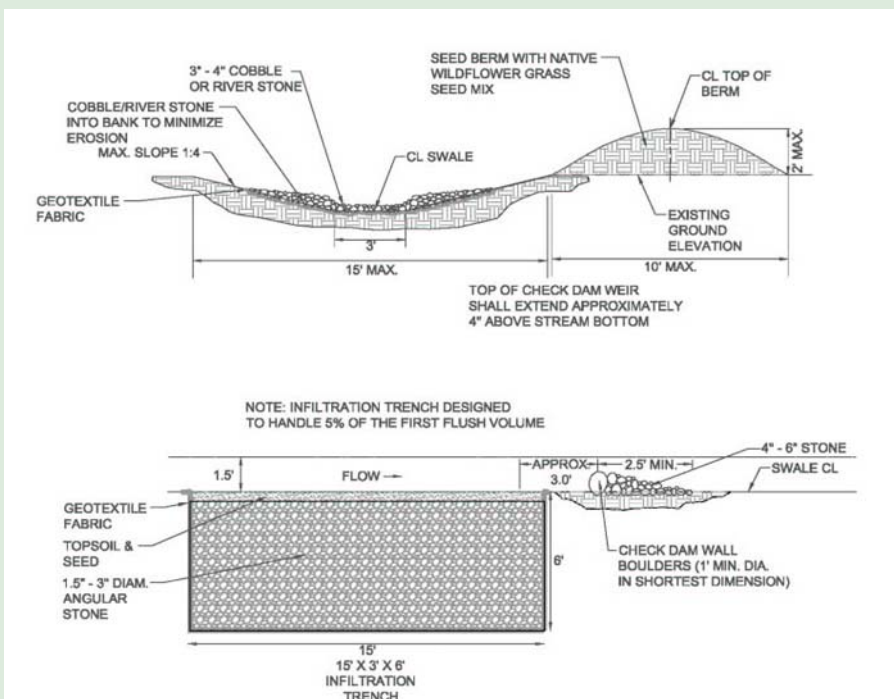
Cahill Associates Environmental Planning
www.thcahill.com/wetlands.html

International Storm Water Best Management Practices Database
www.bmpdatabase.org

Other local projects with vegetated swales:

Ann Arbor District Library
Malletts Creek Branch
3090 East Eisenhower Parkway
Ann Arbor

Olson Park
Pontiac Trail and Dhu Varren Road
Ann Arbor



Pollutant Removal*

Phosphorus	9%
TSS	81%

* USEPA Storm Water Fact Sheet: Vegetated Swales