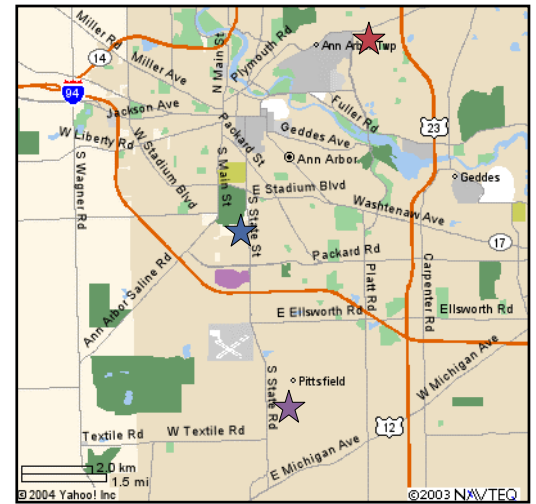


# Vegetated Swales

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

<b>Location:</b>	2800 Plymouth Road Ann Arbor
<b>Landscape Architect:</b>	Pollack Design Assoc.
<b>Size:</b>	.33 acre
<b>Installation Date:</b>	1999
<b>Installation Cost:</b>	\$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](http://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



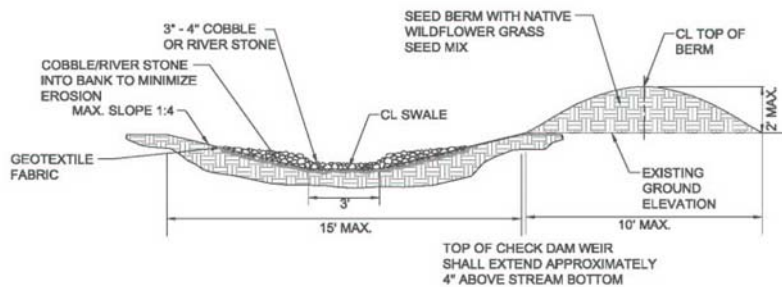
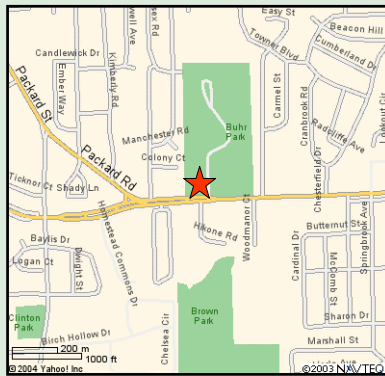
# Horiba Instruments

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



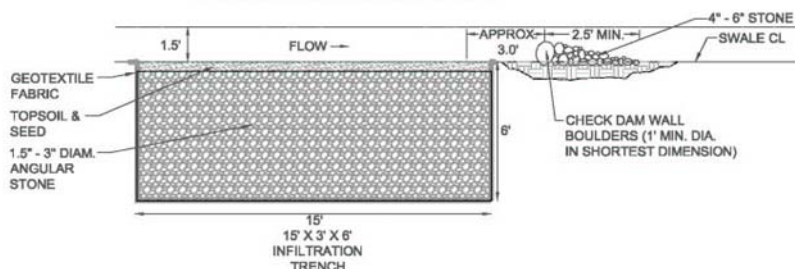
## Buhr Park

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



TOP OF CHECK DAM WEIR SHALL EXTEND APPROXIMATELY 4\"/>

NOTE: INFILTRATION TRENCH DESIGNED TO HANDLE 5% OF THE FIRST FLUSH VOLUME



## Resources

For more information about vegetated swales:

USEPA Storm Water Fact Sheets  
[www.epa.gov/owm/mtb/vegswale.pdf](http://www.epa.gov/owm/mtb/vegswale.pdf)

Low Impact Development Center  
[www.lowimpactdevelopment.org](http://www.lowimpactdevelopment.org)

Cahill Associates Environmental Planning  
[www.thcahill.com/wetlands.html](http://www.thcahill.com/wetlands.html)

International Storm Water Best Management Practices Database  
[www.bmpdatabase.org](http://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