Get Started Today

Your local soil conservation district has a team of technical experts that can help you select the right practice for your farm and apply for state and federal cost-share assistance. In addition, district staff will provide you with free technical assistance and supervision during all phases of construction. Applicants must be in good standing with MACS and in compliance with Maryland's nutrient management regulations. Please contact your soil conservation district today to arrange for someone to come to your farm.

Maryland's Soil Conservation Districts

A.U.	001 777 1747 . 0	
Allegany	301-777-1747, ext. 3	alleganyscd.com
Anne Arundel	410-571-6757	aascd.org
Baltimore Co.	410-527-5920, ext. 3	bcscd.org
Calvert	410-535-1521, ext. 3	calvertsoil.org
Caroline	410-479-1202, ext. 3	
Carroll	410-848-8200, ext. 3	carrollsoil.com
Catoctin	301-695-2803, ext. 3	catoctinfrederickscd.com
Cecil	410-398-4411, ext. 3	cecilscd.com
Charles	301-638-3028	charlesscd.com
Dorchester	410-228-5640, ext. 3	
Frederick	301-695-2803, ext. 3	catoctinfrederickscd.com
Garrett	301-501-5886	garrettscd.org
Harford	410-638-4828	harfordscd.org
Howard	410-313-0680	howardscd.org
Kent	410-778-5150, ext. 3	kentsoilandwaterconserva- tiondistrict.org
Montgomery	301-590-2855	montgomeryscd.org
Prince George's	301-574-5162, ext. 3	pgscd.org
Queen Anne's	410-758-3136, ext. 3	qascd.com
St. Mary's	301-475-8402, ext. 3	stmarysscd.com
Somerset	410-621-9310	
Talbot	410-822-1577, ext. 5	talbotscd.com
Washington Co.	301-797-6821, ext. 3	conservationplace.com
Wicomico	410-546-4777, ext. 3	
Worcester	410-632-5439, ext. 3	



Office of Resource Conservation

Conservation Grants Program 50 Harry S. Truman Parkway Annapolis, MD 21401 410.841.5864 • mda.maryland.gov

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Maryland Department of Agriculture

Office of Resource Conservation

Cost-Share Grants for Conservation **Drainage Practices**

Help for farmers who want to improve field productivity and protect water quality

Conservation Drainage Can Improve Your Farm

Keeping crop nutrients in your fields and out of nearby waterways is the right thing to do for your farm, your bottom line, and the Chesapeake Bay. But did you know there's a way to curb nutrient losses, improve your farm's productivity, and protect nearby waterways without breaking the bank?

Cost-share grants are now available from the Maryland Agricultural Water Quality Cost-Share (MACS) Program to help farmers cover the cost of installing conservation drainage practices on farms to reduce nutrient runoff and protect water quality downstream. Grants cover up to 87.5 percent of the cost to install a practice. In many instances, MACS grants can be combined with federal cost-share programs to make installation of these practices very affordable.

Improving Existing Subsurface **Field Drainage Systems**

Agricultural drainage is an important component of modern crop production. Drainage ditches are common on Maryland's Eastern Shore where a network of ditches covers large areas of the Delmarva Peninsula. The conservation drainage practices cost-shared by MACS collect and treat drainage water from existing subsurface drainage systems before it enters a stream or drainage ditch. All are edge of field practices that don't take a lot of land out of production and are relatively easy to install and maintain.

Conservation Drainage Benefits

- Removes nutrients from drainage water before it leaves the farm
- Can reduce soil and sediment losses
- Improves crop productivity and profitability

A typical conservation drainage project will include the installation of a water control structure and an underground water drainage collection system to support the creation of a denitrifying bioreactor, saturated buffer, or wetland. A Drainage Water Management Plan developed by the local soil conservation district is required for all drainage conservation projects as a condition of cost-share. Technical staff in your soil conservation district will develop this plan for you free of charge.

Eligible Conservation Drainage Practices

The following conservation drainage best management practices and components are eligible for cost-share funding through MACS:

- SUBSURFACE DENITRIFYING BIOREACTOR
- SATURATED BUFFER
- WETLAND CREATION
- SUBSURFACE DRAINS
- UNDERGROUND OUTLETS
- WATER CONTROL STRUCTURES

What to Expect

Eligible Maintenance Practices

SUBSURFACE DENITRIFYING BIOREACTOR

Up to 87.5 Percent Cost-Share

This edge of field practice involves digging a buried trench and filling it with wood chips or another carbon source to remove nitrates from drainage water.

How it Works

- Bioreactors create conditions that support the growth of beneficial bacteria that can remove nitrates from subsurface drainage water before it enters drainage ditches or surface waters.
- A water control structure regulates the amount of water that goes through the bioreactor before it is released to a drainage ditch or stream.
- This practice may reduce nitrate loads to local waterways by up to 20 percent.

SATURATED BUFFER

Up to 87.5 Percent Cost-Share

Vegetation is planted along a watercourse to remove nutrients from subsurface drainage water before it enters a ditch or stream. A water control structure is used to divert flow from the tile outlet to a lateral, perforated distribution line that runs parallel to the watercourse.

How it Works

- As water drains through the buffer, denitrification occurs along with nutrient uptake by the plants within the buffer. The treated water is then released into a drainage ditch or surface waters.
- Saturated buffers work well in places where the soil has plenty of organic matter and where a high water table can be maintained.
- This practice may enhance wildlife and pollinator habitat.
- This practice may reduce nitrogen loads to local waterways by up to 20 percent.

WETLAND CREATION

Up to 87.5 Percent Cost-Share

A wetland is constructed at the edge of a field to help improve water quality by intercepting subsurface drainage, trapping sediment, and removing nutrients before they reach nearby ditches or streams. A water control structure, pipes, outlets, liners, and vegetation are installed to create wetland hydrology.

How it Works

- Wetlands store water temporarily, allowing it to percolate slowly into the ground, evaporate, or be absorbed by the roots of wetland plants.
- Wetlands provide habitat for waterfowl and many other species of wildlife.
- This practice may reduce nitrate loads to local waterways by up to 16 percent.

Supporting Hardware and Practices

Up to 87.5 Percent Cost-Share

WATER CONTROL STRUCTURE

Used in conjunction with the conservation drainage practices described above or as a stand-alone practice to help prevent gully erosion, manage water to improve crop production, and reduce the movement of nitrates to downstream waters.

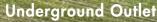
SUBSURFACE DRAIN

An underground pipe used to collect and convey subsurface drainage water to a buffer, wetland, or bioreactor.

UNDERGROUND OUTLET

Tubing, tile, or pipe installed to move surface water from a treatment practice to a designated outlet.







Wetland Creation