

SEASONAL WETLAND

Grieve Family Dairy Farm
in Oxford County

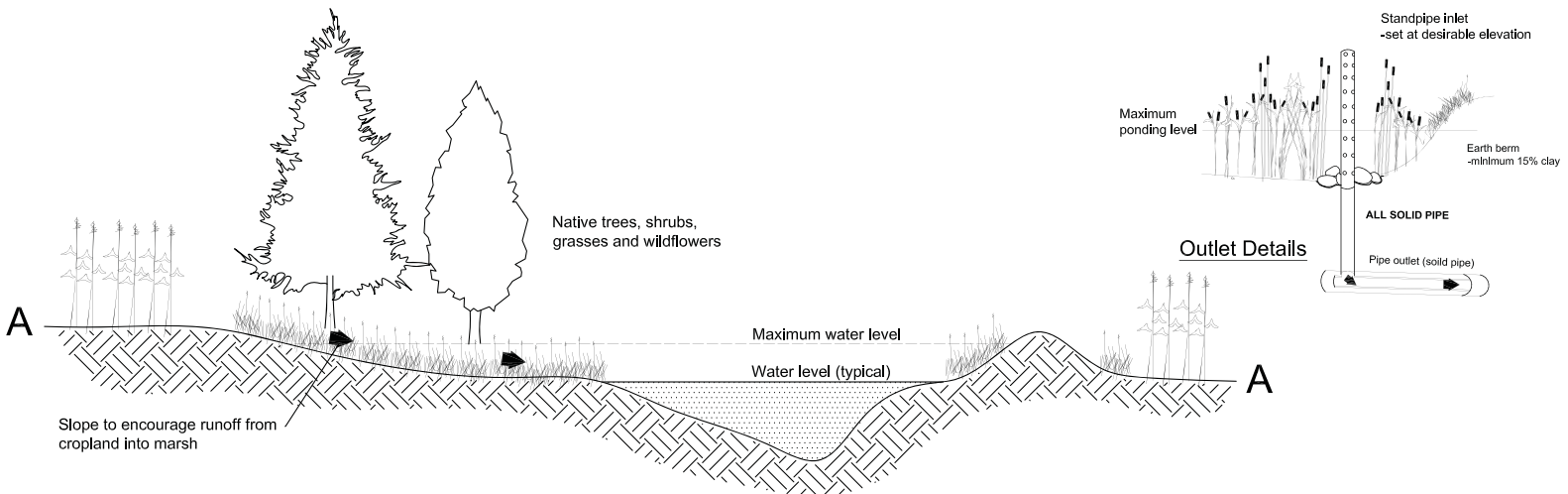
Wetlands are areas where water saturates the land either permanently or temporarily. More and more, people are recognizing the important role of wetlands in reducing flooding and drought, improving water quality, and providing habitat. Wetlands are not wastelands that should be drained or filled so that the land can be used. Wetlands can be restored or new wetlands created in areas where they would occur naturally.

Seasonal Wetlands can form in low lying areas or land with poor drainage during winter snowmelt or heavy rainfall. Water levels in these wetlands vary seasonally and annually, depending on the weather conditions. These wetlands may also be dry during much of the year.

Before: Surface ponding following heavy rainfall in May.



In June 2017, a wetland was constructed in a naturally wet area of the farm field, where crop growth was limited due to standing water after intense rain or during snowmelt.



Wetland design: The berm shapes the wetland and guides water to the outlet control structure. A standpipe regulates the water level in the pond.

Design

- 0.5 ha in total size
- 0.2 ha oval pond
- Water depth varies 0.3 - 1 m
- Water level controlled by outlet
- Surrounding ground sloped towards pond
- Receives water from surface runoff and tile drainage



Hardwoods and conifers were planted upland of the pond. Aquatic plants were added around the perimeter in June.

A variety of tree, shrubs and aquatic plant species were planted around the wetland perimeter and upland areas.

Trees

Eastern Larch
White Cedar
White Spruce
Yellow Birch
Serviceberry
White Oak
Red Maple
Tulip

Shrubs

Nannyberry
Elderberry
Alternate Leaf Dogwood
Ninebark
American Cranberry
Buttonbush
Chokecherry
Serviceberry

Aquatic Plants

Fringed Sedge
Awl-fruited Sedge
Joe-Pye Weed
Northern Wild Blue Flag
Soft Rush
Cardinal Flower

Benefits

- Control agricultural runoff: The wetland captures surface runoff and water from several tile drains, and then slowly drained by a standpipe.
- Keep sediment and nutrients on the field: Sediment settles out in the wetland or is filtered by vegetation, which also helps to uptake nutrients from the water, decreasing the amount leaving the field
- Create aquatic and terrestrial habitat: Trees, shrubs and aquatic plants in and around the pond attract birds, insects and other wildlife, shade the pond, and provide food as well as cover for wildlife
- Improve aesthetics: The wetland is an attractive alternative to the standing water that used to sit on the field

Project Timeline & Costs

Construction

June 12-13, 2017: Wetland excavated

Total cost of excavation: \$2710



2017 Planting

May 19: Trees planted around perimeter prior to wetland construction

June 14: Shrubs planted around perimeter of wetland

June 16: Berm seeded with oat cover

July 27: Aquatic vegetation planted within wetland

Total cost of plants: \$2755

Considerations

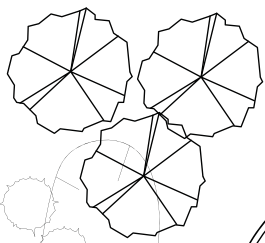
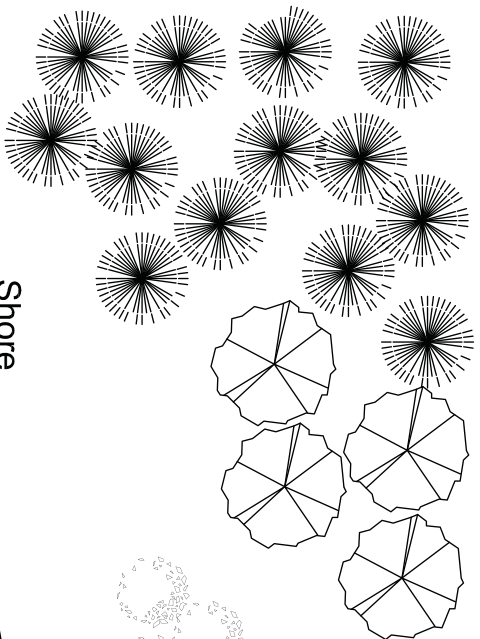
- If using a stand inlet to control water levels, it is important to ensure the tile hookup is functioning properly to drain the water during period of intense rainfall or snowmelt.
- Keep weed pressure down by mowing or spot spraying herbicide around planted trees and shrubs will help them establish. Avoid broadcast spraying herbicide around the new open water.

Water levels in the wetland will be monitored throughout the year.

For more information:

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Native trees & shrubs



Shore

line

Earthen

berm



Marsh

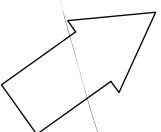
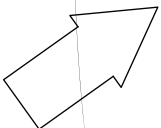
1 m

1 m

0.5 m

Outlet control structu

Flyway



Grieve Farm Wetland Restoration

Township of Zorra

Oxford County