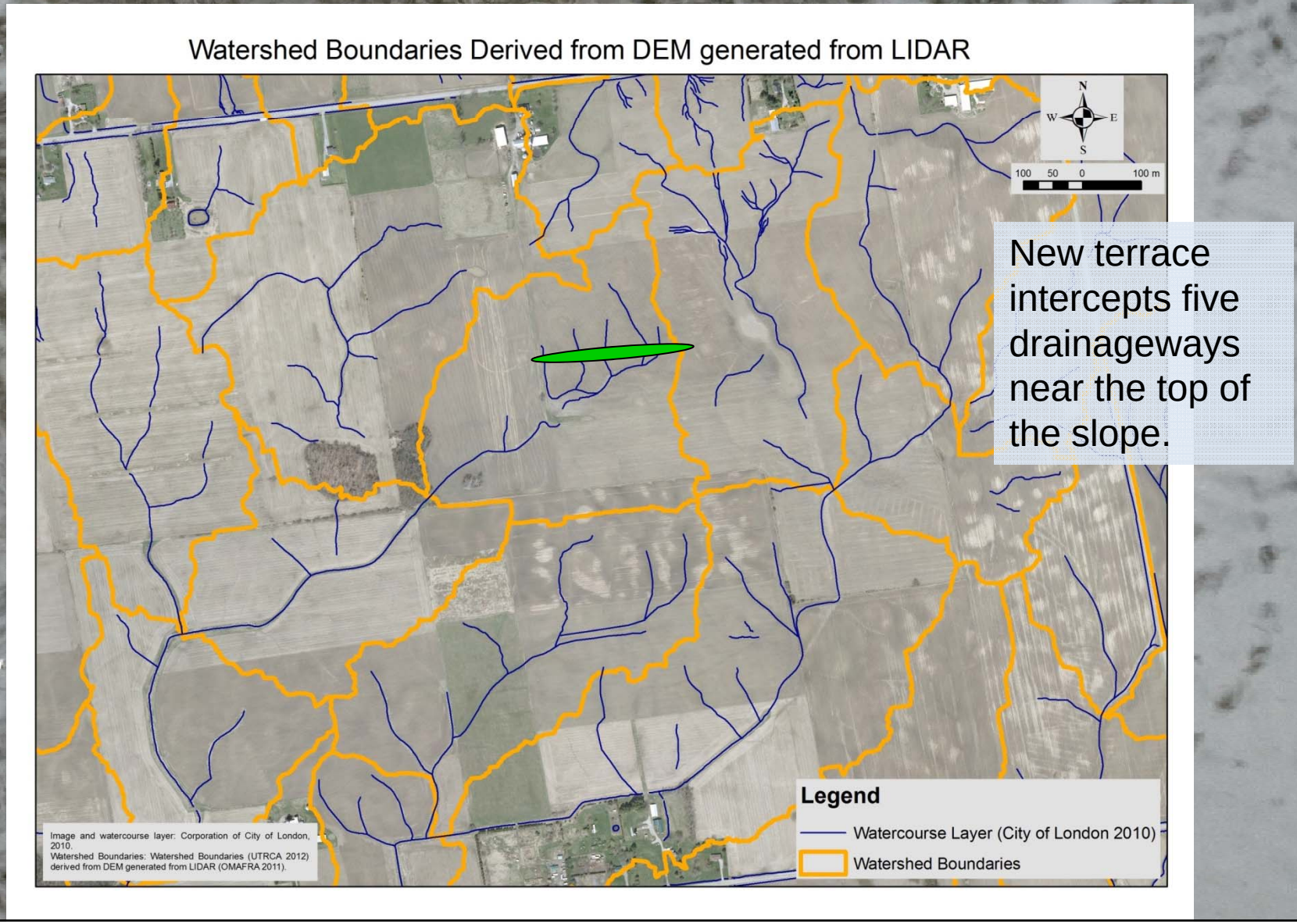
Showcasing Water Innovation

Best Management Practices Photo Journal

UPPER THAMES RIVER
CONSERVATION AUTHORITY


Site 1: Field Terrace

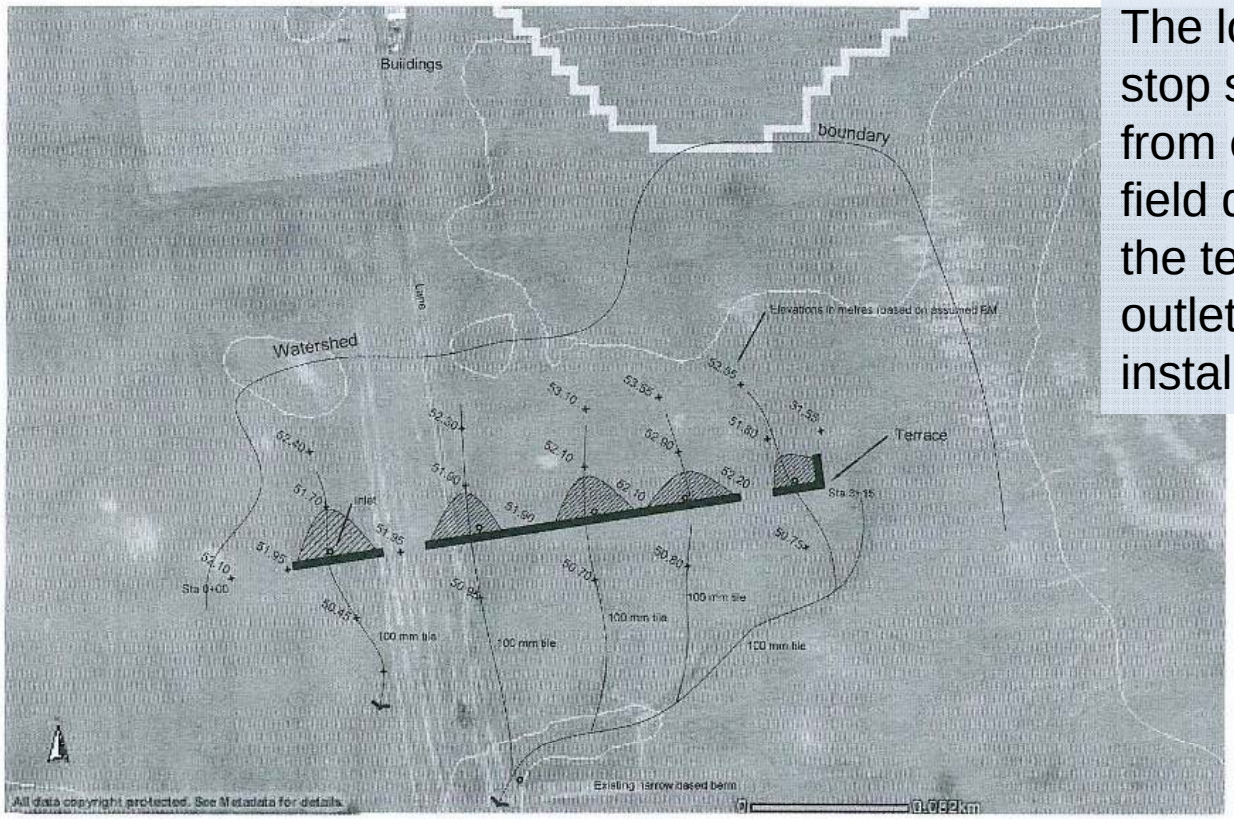
Site 1: Aerial View of Terrace Location



Site 1: Before (Upslope)

Surface erosion from side slopes on this farm field.

Site 1: Site Plan



Plan View

Notes: Existing laneway will need to be incorporated into berm construction

The long terraces stop surface runoff from eroding the field downslope of the terrace. Five outlets pipes were installed.

Notes:
This plan is designed to address erosion on the property. A single terrace is proposed as the solution. A broad-based or narrow based tile outlet terrace may be considered.

The project meets Clean Water Program specifications.

Approval must be acquired from the local municipality where any erosion control works are to be located in or around municipal drainage works.

Project
Erosion Control Plan
Plan View

Location
G McPherson Farm
City of London

UPPER THAMES RIVER
CONSERVATION AUTHORITY

1424 Clarke Road, London,Ontario N5V 5B9
Contact: B Glasman

Date: May 2011

Sheet: 2 of 2

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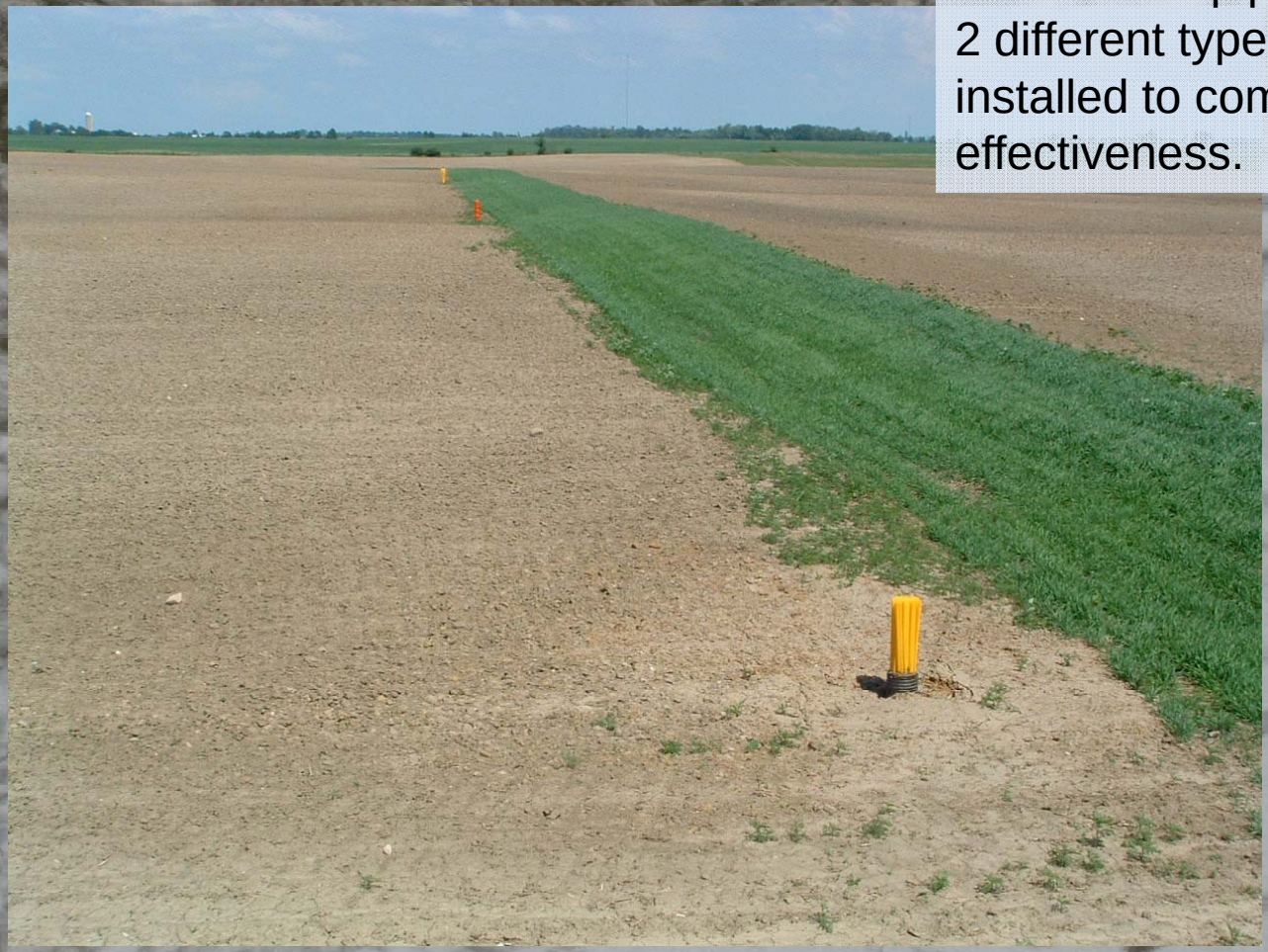
Site 1: After



Outlet standpipes – 2 different types were installed to compare effectiveness.

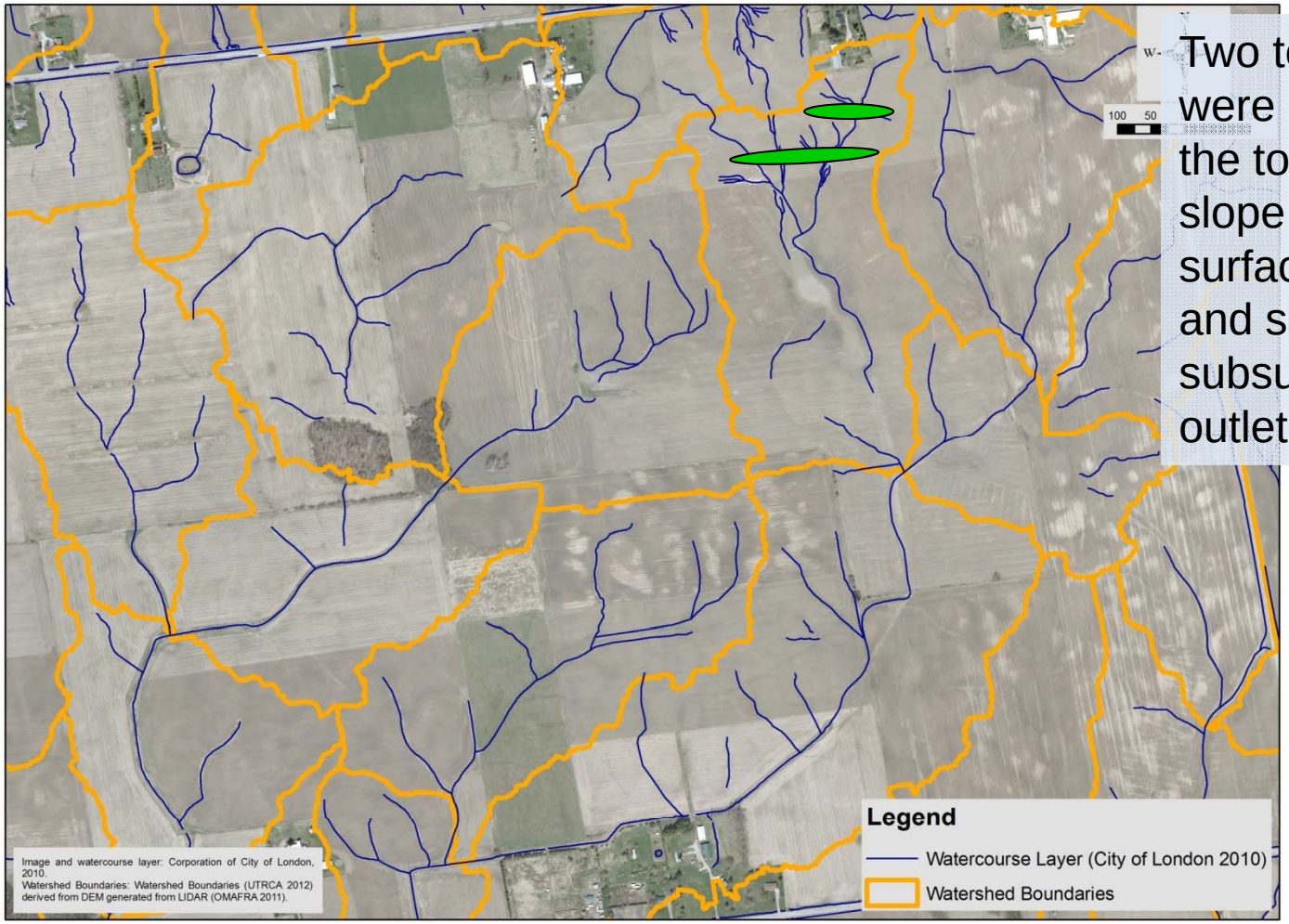
Site 1: After

Storm water is ponded behind the new terrace. Yellow standpipe drains water to subsurface tile.


Site 2: Field Terrace Sequence

Site 2: Aerial View of Terrace Locations

Watershed Boundaries Derived from DEM generated from LIDAR

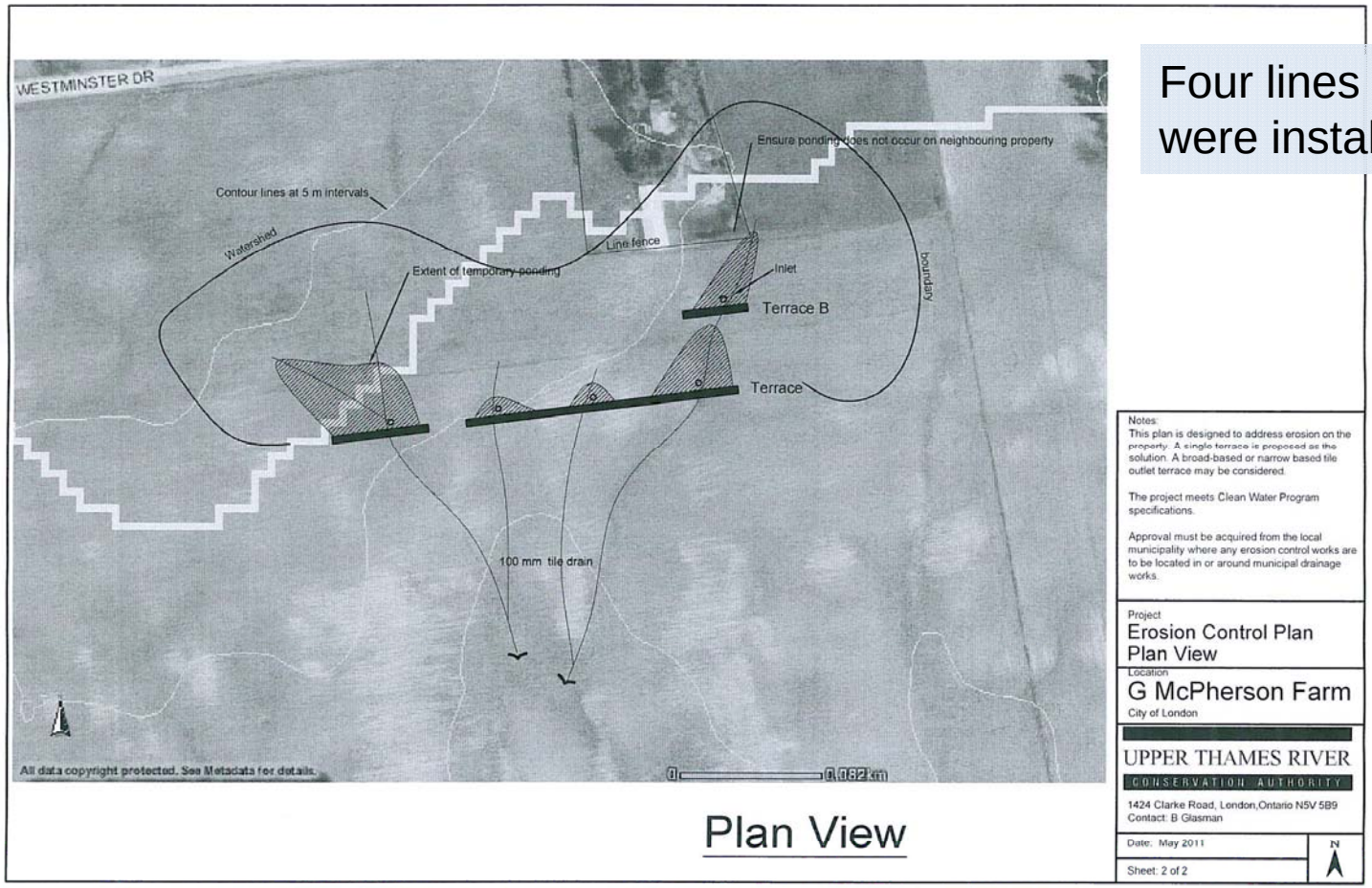


Two terraces were installed at the top of the slope to intercept surface runoff and send it to a subsurface tile outlet.

Site 2: Before (Field Cut and Soil Loss)

The landowner planted a cover crop in the eroded area in an unsuccessful attempt to slow surface runoff and gully erosion.

Site 2: Site Plan

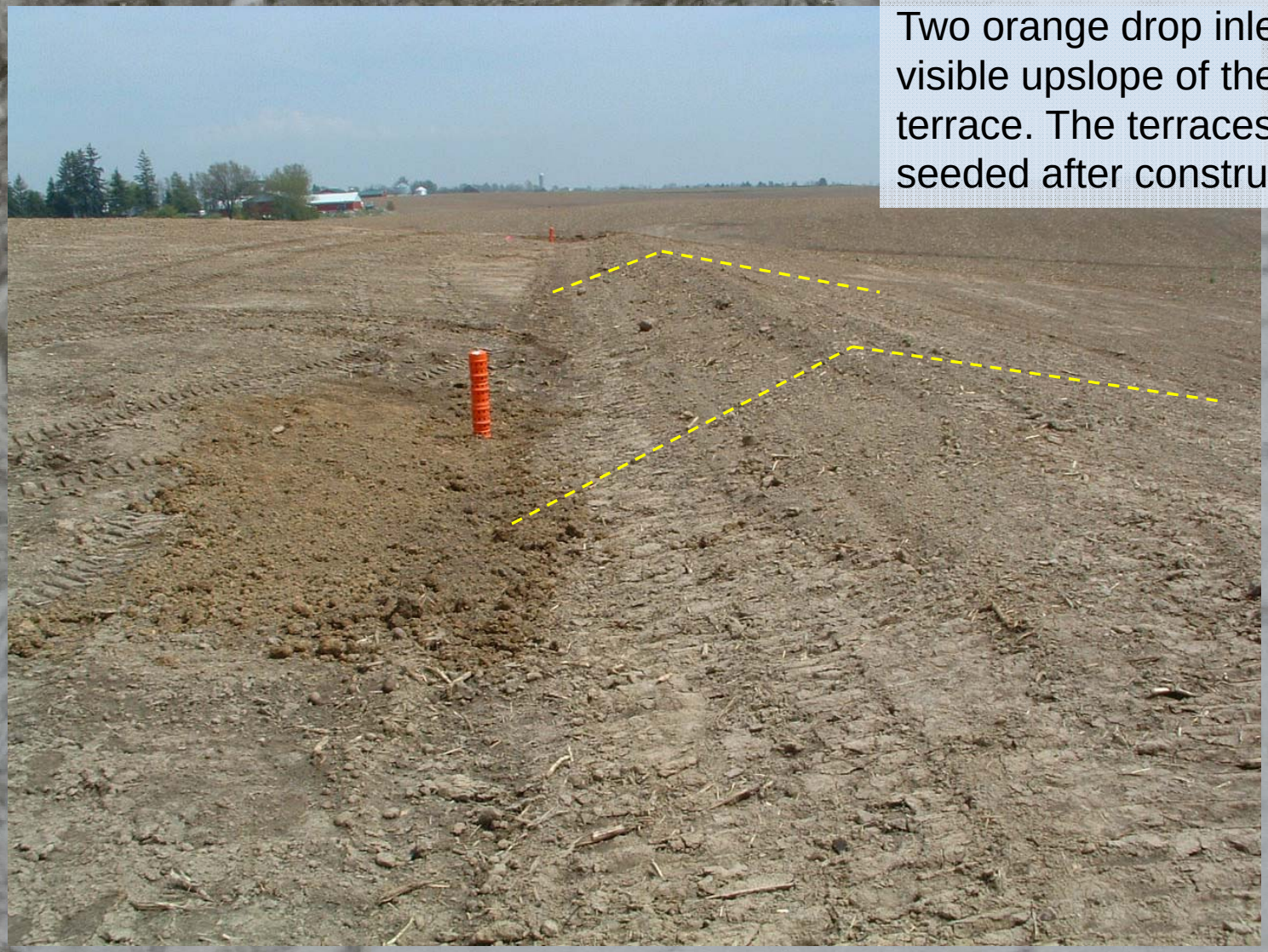


Four lines of tile were installed.

Site 2: Tile Installation

Plastic 4” tile was installed to provide an outlet for the water ponded by the new terraces.

Site 2: Construction



Two orange drop inlets are visible upslope of the terrace. The terraces were seeded after construction.

Site 2: After

Looking west: Water ponds behind the terraces and is drained away over a 24 hour period.

Site 2: After

Looking east after a winter rainfall event: The terrace is designed to force overflow water into the next inlet.


Site 3: Agricultural Berm

Site 3: Before (Upslope)

Surface sheet erosion upslope of the new berm.

Site 3: Before (Downslope)

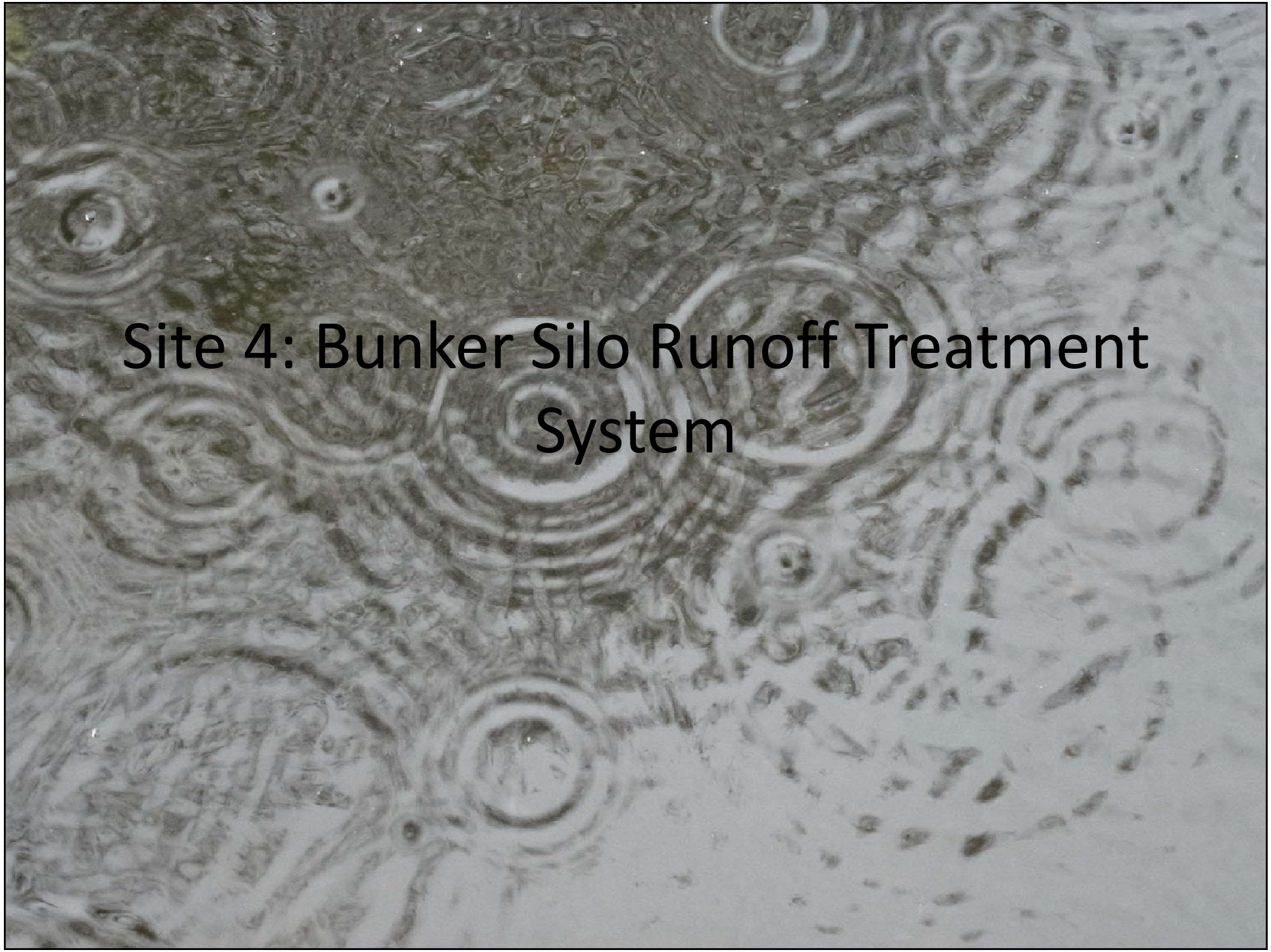
Concentrated flows downslope cut a gully in the field.

Site 3: Construction

Top soil is stripped back to construct the new berm with subsoil. Top soil will be pushed back onto the new berm.

Site 3: After

New berm is seeded. Soil is trapped upslope of the berm during heavy rainfall events.



Site 4: Bunker Silo Runoff Treatment System

Site 4: Before

Runoff from the bunker silos and manure storage area runs out into adjacent cropped field.

Site 4: Before

Runoff moves down the slope beside the buildings.

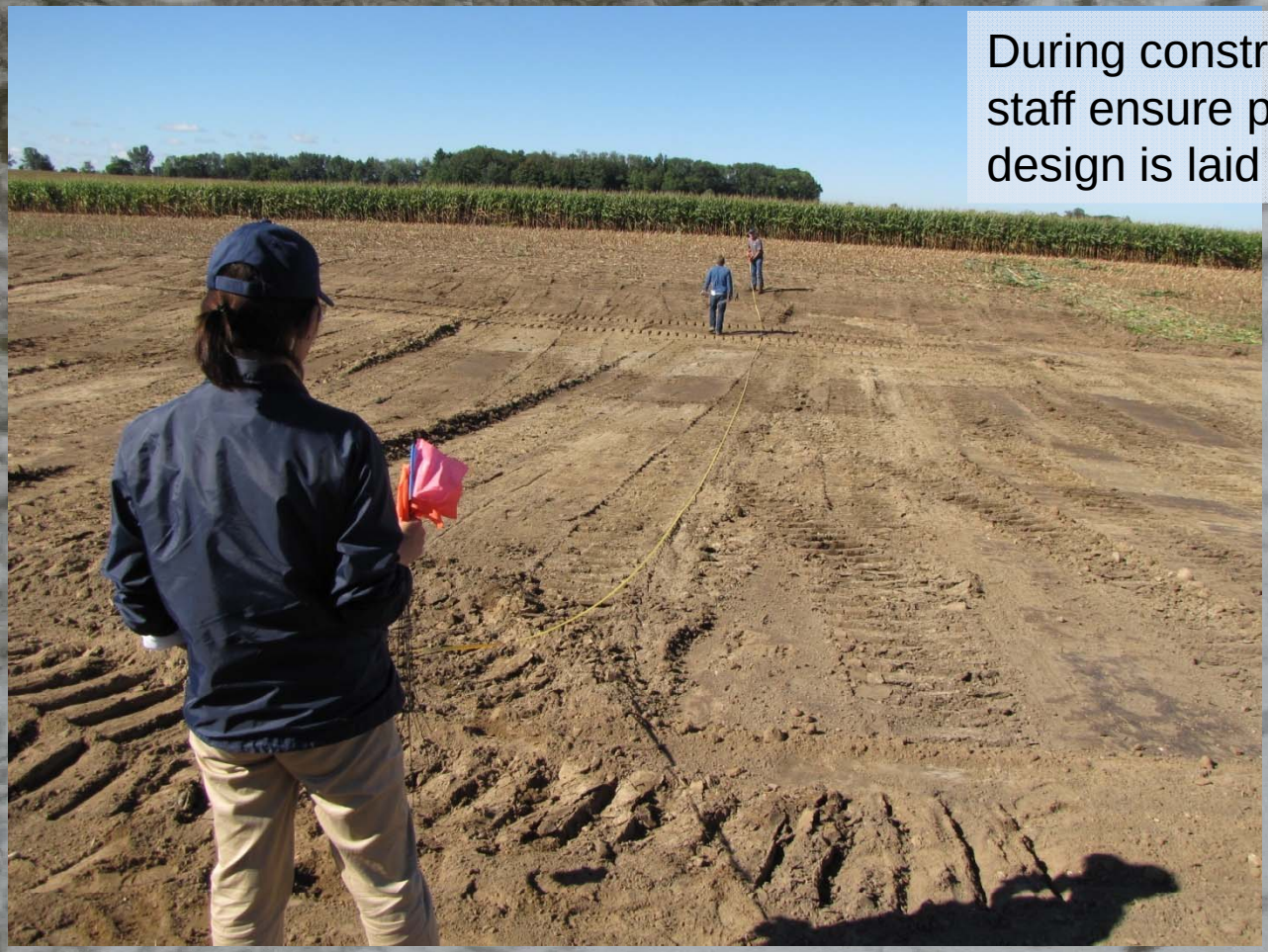
Site 4: Construction

Runoff treatment system is constructed by stripping soil and creating a ponding area and grassed waterway with a unique phosphorus treatment system made of slag.

Site 4: Treatment of Phosphorus

Slag is used to ‘bind’ the phosphorus in the contaminated runoff. A trench full of slag will be installed at the top end of the grassed waterway.

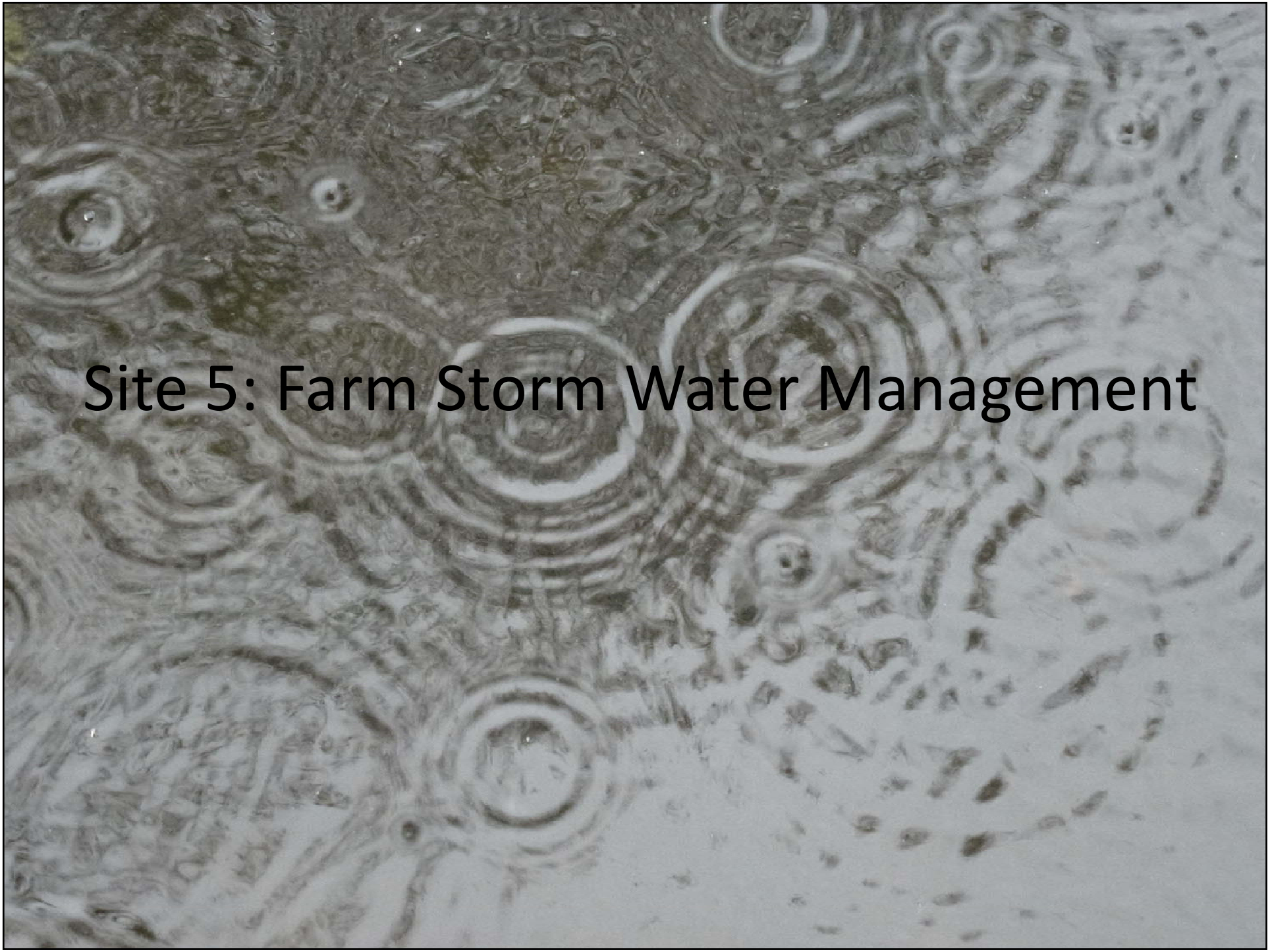
Site 4: Construction



During construction, staff ensure proper design is laid out.

Site 4: Construction

Proper grades are important to ensure runoff is contained and treated.


Site 5: Farm Storm Water Management

Site 5: After

Berm traps surface runoff from storm events and snow melt.