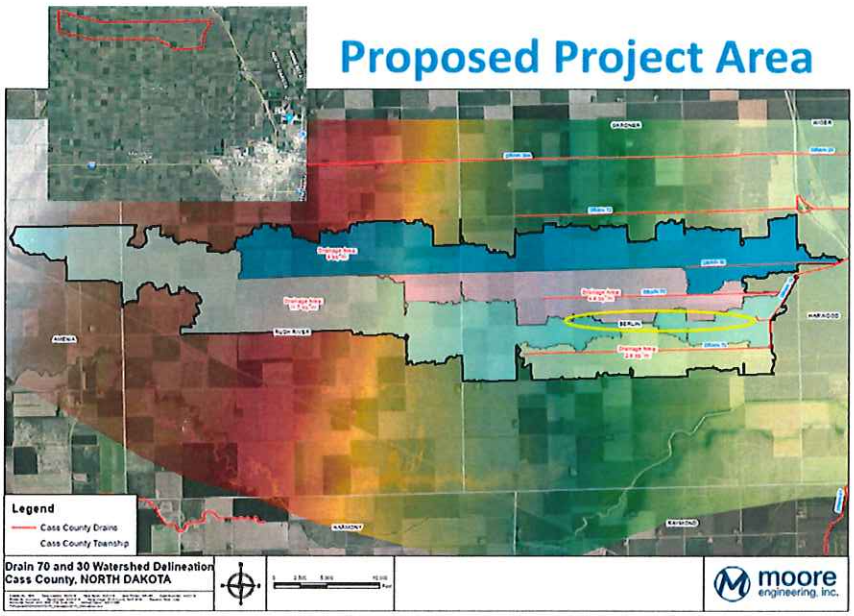
Cass County Integrated Drainage Pilot Proposal

This proposal provides the framework for implementation of a subwatershed plan designed to serve as a model for subwatershed planning in the Red River Valley, an area periodically ravaged by devastating floods and threatened by increasing concentrations of nutrients and sediment in its waterways. The project will be implemented in partnership with a broad variety of stakeholder and build understanding for ongoing agricultural efforts throughout the basin.

Goals:

1. Manage all water from an entire subwatershed to accomplish two key tasks
   a. Retain nutrients on the landscape
   b. Create a system that can retain water on the landscape when flooding threatens
2. Conduct research to better understand how surface and subsurface drainage can work together to build resilience in the Red River Basin

Location:
A candidate watershed has been identified west of Argusville, North Dakota. The subwatershed of the Rush River is generally Amenia and Berlin Townships and already has robust surface drainage which can generally support the conversion of nearly all fields to subsurface drainage systems. Nearly all the landowners in the subwatershed have agreed in principle to participate in a large-scale drainage integration project.



Participants:

- Landowners
- Natural Resources Conservation Service (NRCS)
- All Cass county Water Resource Districts
- Red River Retention Authority
- Moore Engineering
- Ellingson Water Management
- NDSU and Extension
- ND Department of Environmental Quality
- ND Soybean
- ND Corn Council

Upon project implementation three NDSU researchers in the College of Agriculture and Engineering have already developed nine draft research proposals for study over eight years. The studies would identify longer term water quality benefits for the red, socio-

economic benefits to the region and hydrologic impacts of subsurface drainage on a scale that has not been studied anywhere in the world.

Cost:

General Budget Requirements to initiate Phase II: Implementation	
Total Production Acres	18446
Total Acres tiled and firm opposition to participation "no"	4161
Planning Acres	**14,285**
Project Funds = (Planning Acres X 50% x $1000/Acre)	$7,142,500
Infrastructure Improvement	$3,000,000
Research	$1,942,000
BMP implementation	$2,000,000
RRBC Project Management ($30,000/year)	$240,000
Total	**$14,324,500**