WORKING WITH LANDOWNERS IN THE BLAKELEY RAVINES

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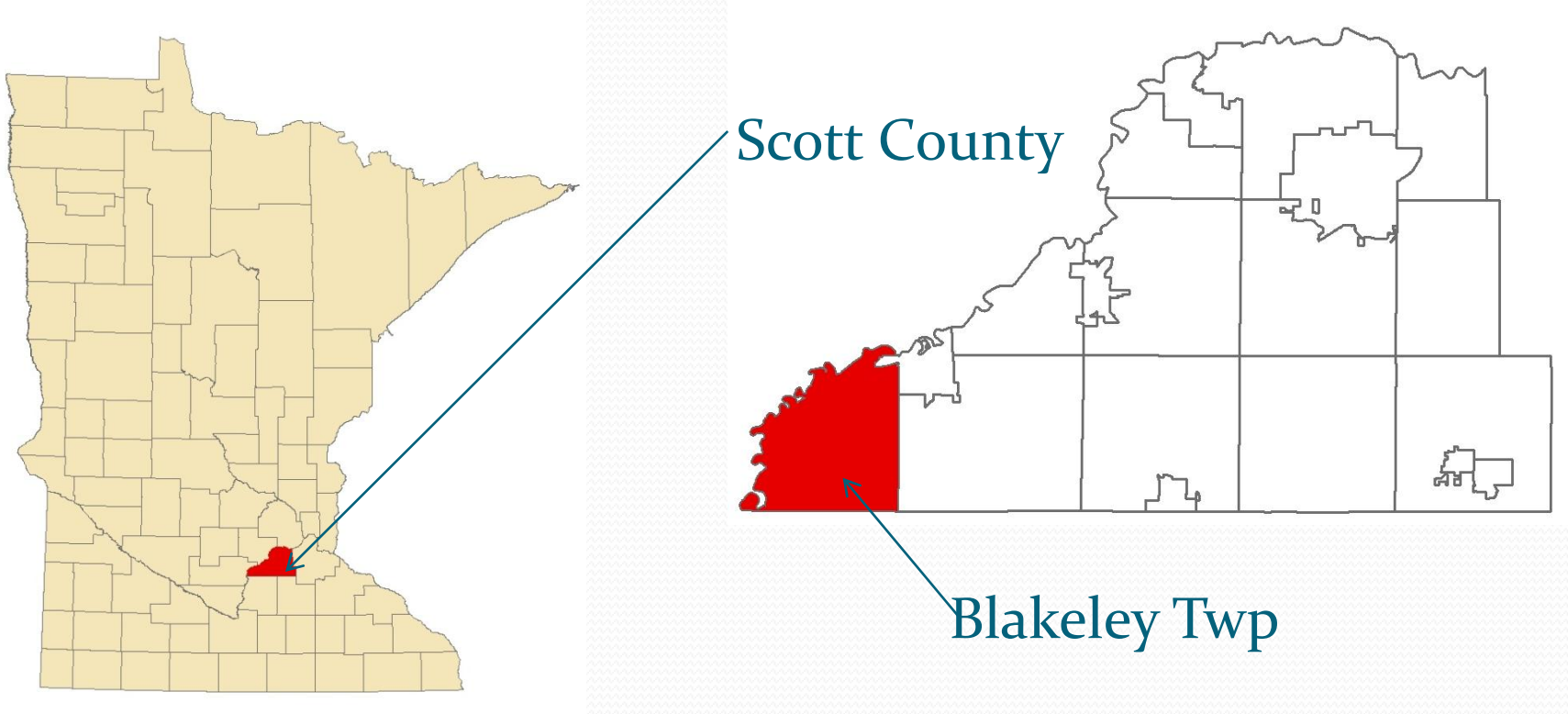
Purpose

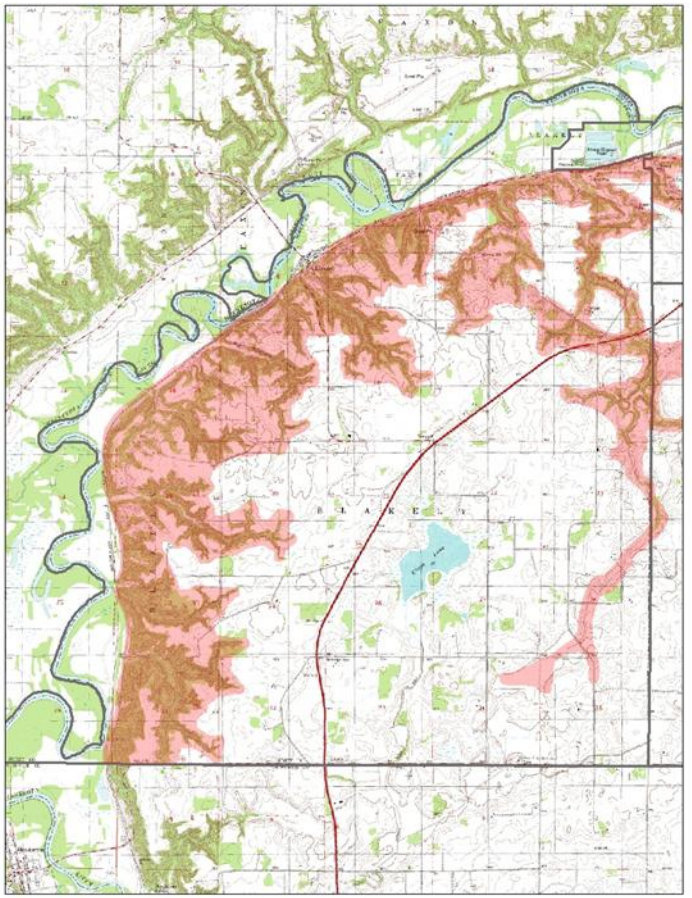
CONDUCT A CONCERTED EFFORT IN THE BLAKELEY AREA TO ADDRESS LANDOWNER CONCERNS AND HEAD-CUTTING RAVINES.

Blakeley Township



Blakeley Township Basics

- Activities Regulated Under County Ordinance
  - 30’ Setback for Structures
  - 50’ Setback for ISTS
  - Grading Prohibited in Bluff Impact Zone



Blakeley Township Basics

- Activities Regulated Under County Ordinance
- 260 Feet of Vertical Relief
  - Silt Loam Uplands

Blakeley Township Basics

- Activities Regulated Under County Ordinance
- 260 Feet of Vertical Relief
- The County's Only "Switchback" Roads

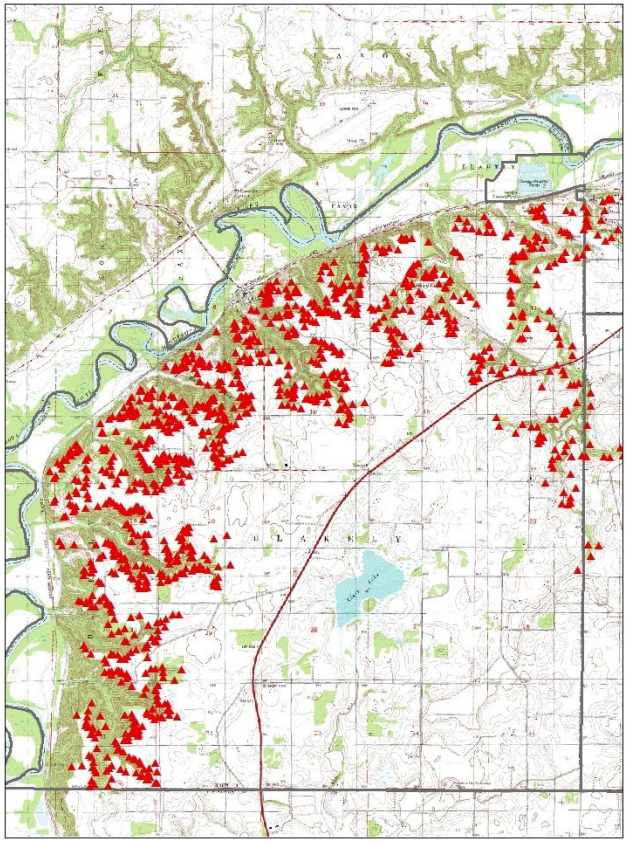
Process

- TARGETING LANDOWNERS & POTENTIAL RAVINE HEADS
- MAILINGS
- ONE-ON-ONE INTERVIEWS WITH LANDOWNERS
- SITE VISIT PROPERTY WITH LANDOWNERS
- POTENTIAL PROJECTS IDENTIFIED
- PROJECT IMPLEMENTATION

Targeting Landowners/Sites

- POTENTIAL STABILIZATION SITES IDENTIFIED THROUGH GIS
  - AERIAL PHOTOGRAPHY
  - LIDAR TWO-FOOT CONTOURS
  - PROPERTY BOUNDARIES
- MORE THAN 1200 POTENTIAL ERODING GULLY HEADS IDENTIFIED

Targeting Landowners/Sites



Mailing

PACKET SENT TO 118 LANDOWNERS

- INFORMATIONAL LETTER
- AERIAL PHOTOGRAPH WITH POTENTIAL SITES
- GULLY HEAD TREATMENT FACTSHEET

Scott Soil and Water Conservation
Fact Sheet

SCOTT Soil & Water Conservation District

Gully Head Repair and Treatment

The scenic Minnesota River Valley is one of our state's most endearing landscapes. But erosion along surrounding bluffs and meandering ravines is negatively affecting this land. Where does erosion start and what can we do to reverse the trend? We believe the solution starts with our partnership with you.

For years, the Scott Soil and Water Conservation District (SWCD) has helped landowners like you with both technical assistance and funding in an effort to protect our soil and water resources in Scott County. The District is now working cooperatively with landowners to repair and stabilize actively eroding gully heads.

What is a gully head?
A gully is an open channel that typically has steep side walls. Gullies often develop from intense erosion caused by flow over a steep overfall at the head of the gully. This overcall, called a headcut or gully head, moves upstream. A head-cutting gully will get larger and continue to wash away areas upstream, which can negatively affect our County waters.

Forest gully head

Cropland gully head

Dangers of gully head erosion
Because soil erosion actually pollutes our waters, we must intervene to stop it. Eroded soil particles not only decrease the oxygen in the water, but also deliver pollutants (phosphorus and nitrogen) into the water system. Water-bound soil particles disturb aquatic habitats and organisms.

How can we treat eroding gully heads?
Typically erosion can result in 10 to 100 tons of soil loss each year if nothing is done to correct the problem. With simple maintenance, these projects can last for more than 50 years.

Soil loss from an actively eroding gully head can be stopped by using one of the following methods:

Reshape the gully head

Build a grade stabilization structure

Install grade check dams

Construct a rock-lined waterway

Scott Soil and Water Conservation District • 7151 190th Street W, Suite 125 • Jordan MN 55352 • (952) 492-5425 • www.scottswcd.org

One-on-One Interviews

- Follow-up phone calls were made for a “Personal Touch”
- 45 Interviews Were Held (38% success rate)

Site Visits With Landowners

- 420 Potential Gully Heads Inspected
- 42 Gully Heads From Moderate to Severe in Erosion

Site Visits With Landowners

What We Saw

- New Sites
- Old Structures
- Naturally Stabilized

Types of Practices Planned/Implemented

- Hooded Inlet (pipe) Structures
- Water & Sediment Basin Type Structures
- Vertical Riser Structures
- Chutes
- Critical Area Shaping

Who Designs the Practices

- SCOTT SWCD STAFF
- CONTRACTED ENGINEERS THROUGH NPEAP
- USDA-NRCS ENGINEER

Typical Scenario

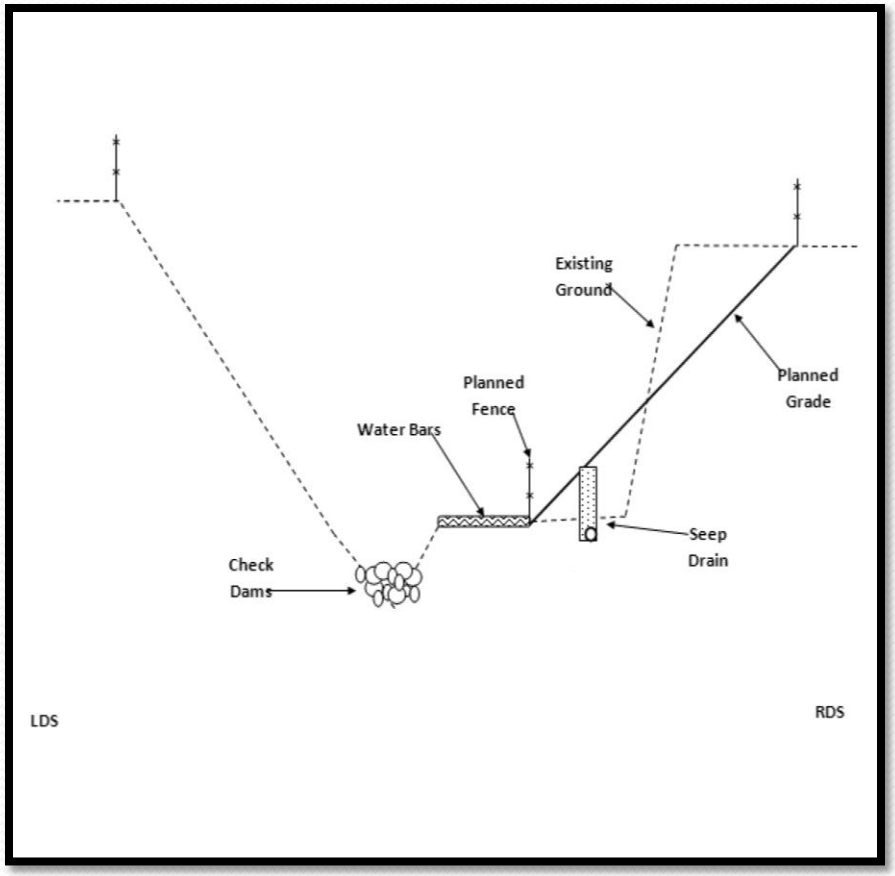
Farmer Suffering Significant Erosion at Ravine Head

- Seeps
- Woods Road
- Livestock Cattle Access
- 260’ Drop to MN River

Typical Scenario

Corrective Measures

- WASCB at Gully Head
- Livestock Exclusion
- Check Dams in Ravine
- Water Bars in Road
- Subsurface Drainage
- Slope Stabilization

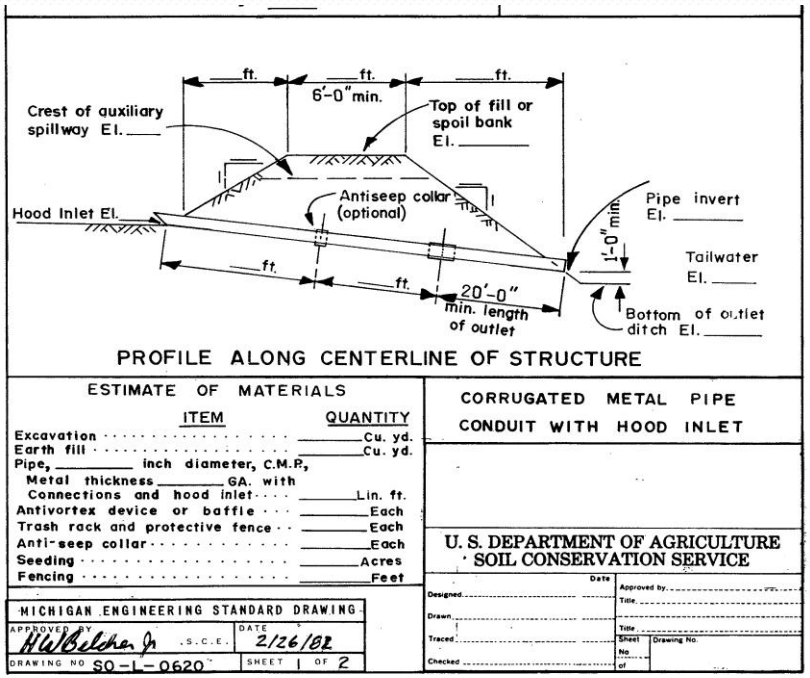


Vertical Riser

- Control Grade at Head-Cut
- Doesn't Reduce Peak Rates
- Wet vs Dry

Hooded Inlet Structures

- Control Grade at Head-Cut
- Doesn't Reduce Peak Rates
- Less Expensive



Water & Sediment Basins

- Relatively Inexpensive
- Reduces Discharge Rates

Chutes (vegetated)

- Least Expensive
- Limited Use
- Hold Up Well

Chutes (rock riprap)

- Costly
- Limestone Weathering Issues
- Easy to Construct

Things to Consider…

Groundwater Seeps

Things to Consider…

Attempting Emergency Spillways Where They Don't belong

Things to Consider…

Landowner Fixing by Filling

Things to Consider…

Cultural Resources

Things to Consider…

Other Surprises!

Who Pays For All This

- LANDOWNERS COMMIT TIME & MONEY
- SCOTT WMO
- USDA-NRCS EQIP PROGRAM
- MINNESOTA STATE COST SHARE PROGRAM

What's Not Working

- BITING OFF MORE THAN WE CAN HANDLE
- THE WHEELS OF COST SHARE MOVES SLOW
- TILING
- WEATHER

Why It's Working

- LANDOWNERS HAVE STRONG CONSERVATION ETHIC
  - RESIDUE MANAGEMENT PREVALENT
  - MANY GULLY HEADS STABILIZED ALREADY
  - MANY FILTER STRIPS ALONG BLUFF AREAS
- LANDOWNERS FLEXIBLE ON PRACTICE DESIGNS
- MULTIPLE RESOURCE CONCERNS ADDRESSED IN ADDITION TO GULLY HEADS
- "TRICKLE DOWN EFFECT"

Conservation Ethic of Landowners

Landowners Recognized at State level

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