Le Sueur County, MN

Tuesday, May 6, 2014

Board Meeting

Item 8

9:50am Mike Schultz - Soil and Water

Request for Aggregate Tax

Staff Contact:

Le Sueur County Soil & Water Conservation District

Le Sueur County SWCD
181 W Minnesota St
Le Center, MN 56057

Tel. (507) 357-4879 Ext. 3
Fax. (507) 357-6982

E-mail: Michael.Schultz@mn.nacdnet.net
E-mail: Sue.Prchal@mn.nacdnet.net

April 25, 2014

Lake Volney Soil Erosion Stabilization Project
Request for Gravel Tax Funding
Cordova Township, Section 1

Le Sueur County SWCD and Le Sueur County Environmental Services have been working on this project since September 2012 when Cordova Township replaced and lowered a failing culvert that flowed to Lake Volney 40-50' east (see pictures attached). The lowering of the culvert has created an erosion issue that has become one of the top priorities for the SWCD. Multiple agencies (MN DNR, MN PCA, Le Sueur County Environmental Services, Le Sueur County SWCD, and the Lake Association) have all made this a high priority project with protecting Lake Volney from any future sediment issues. No enforcement is available to change any of the township road culvert plans/design. Leaving the SWCD to take a lead role and find funds to fix the issue.

The Le Sueur County SWCD has worked with the landowner (Cyril Miller) on the field that is contributing sediment to Lake Volney, and the Cordova Township Board on a resolution to fix the problem. After many discussions with both the landowner and the township an agreement to build an embankment and install a 2.5 acre buffer was agreed upon. The approximate cost of the project is $10,000. Cordova Township has agreed to pay for the building of the embankment and necessary tile work needed by the landowner which would cost approximately $3,550. The Lake Volney Association has agreed to donate $500 to the project. This would leave a balance of $5,950 to complete a 5 year hayable buffer with the landowner.

Agreed Upon Timeline:

2014 Spring:	Landowner will install a wheat buffer.
2014 Summer:	Construction of embankment will start after wheat is harvested.
2014 Fall:	Establish a winter wheat cover crop and beginning of 5 year haying agreement.
2015 Spring:	Harvest cover crop and interseed alfalfa/hay mix.
2019 Fall:	End of 5 year hayable buffer contract.

Approximately 40% of the project will be matched between the township and lake association. The preliminary plans of this project are based off of the South Central Technical Service Area engineer's concept design.

I am requesting $5,950 of gravel tax money for this project. If funding is not secured for the project the embankment will likely be installed but sediment from the field will not be buffered and therefore entering Lake Volney.

Sincerely,

Michael Schultz
District Technician

Lake Volney Lane Miller Buffer

Cordova Twp Sec 1

3/25/2014

Volney Miller Buffer

Civil Townships

1:4,800 1 inch = 400 feet

400 200 0 400 Feet

Maps are for graphical purposes only. They do not represent a legal survey.

Le Sueur SWCD
181 W. Minnesota St.
Le Center, MN 56057
(507) 357-4879 Ext. 3
Fax: (507) 357-6982

Schultz, Michael - NRCS-CD, Le Center, MN

From: Ryan Jones <ryan.jones@blueearthswcd.org>
Sent: Tuesday, January 21, 2014 12:56 PM
To: Schultz, Michael - NRCS-CD, Le Center, MN
Subject: Lake Volney Lane - erosion issues
Attachments: Volney Ln_Drainage Area_400 Scale.pdf; Volney Ln_100 Scale.pdf

In August you, Greg Schemmel and I looked at an area of erosion that is a concern along Lake Volney Lane, adjacent to the Cyril Miller property on the sout est side of the lake. There are some erosion problems on the upstream side of a culvert that drains under the township road and directly into Lake Volney.

The culvert was replaced in the past few years at a lower elevation to help prevent runoff from washing over the roadway. There appeared to be problems associated with erosion in the ditch itself (due to steep sideslopes) plus deposition of sediment from the adjacent field. I looked at the elevation contours available and determined the culvert's watershed is approximately 10 acres.

Two conceptual options for dealing with the erosion are described below:

1. Construct an embankment (terrace) on the Miller property
   - The embankment would run approximately 350 feet along the property edge. Width would vary. Total footprint would be between a quarter acre and a half acre (probably closer to a quarter acre)
   - A tile inlet would be designed to drain the water from upstream of the embankment within 24 to 36 hours.
   - The tile inlet piping could be configured to either drain to the culvert in the ditch, or to drain across the road to the lake side.
   - The embankment would be configured with an overflow, to direct runoff from very large rains into the road ditch and the existing culve

2. Grade the ditch backslope into the field and plant a buffer
   - It may be possible to grade the slope from the bottom of the ditch back into the field to eliminate the existing dropoff.
   - Use sideslopes that would still allow for farming
   - Plant a buffer of vegetation along the edge of the field to help collect sedimentation.
   - This would also have the effect of increasing the storage area for the culvert.
   - Would need to find a place to waste the material that is excavated (on the property or haul off-site).

Please let me know if you have any questions.

Ryan Jones, P.E.
Area Engineer

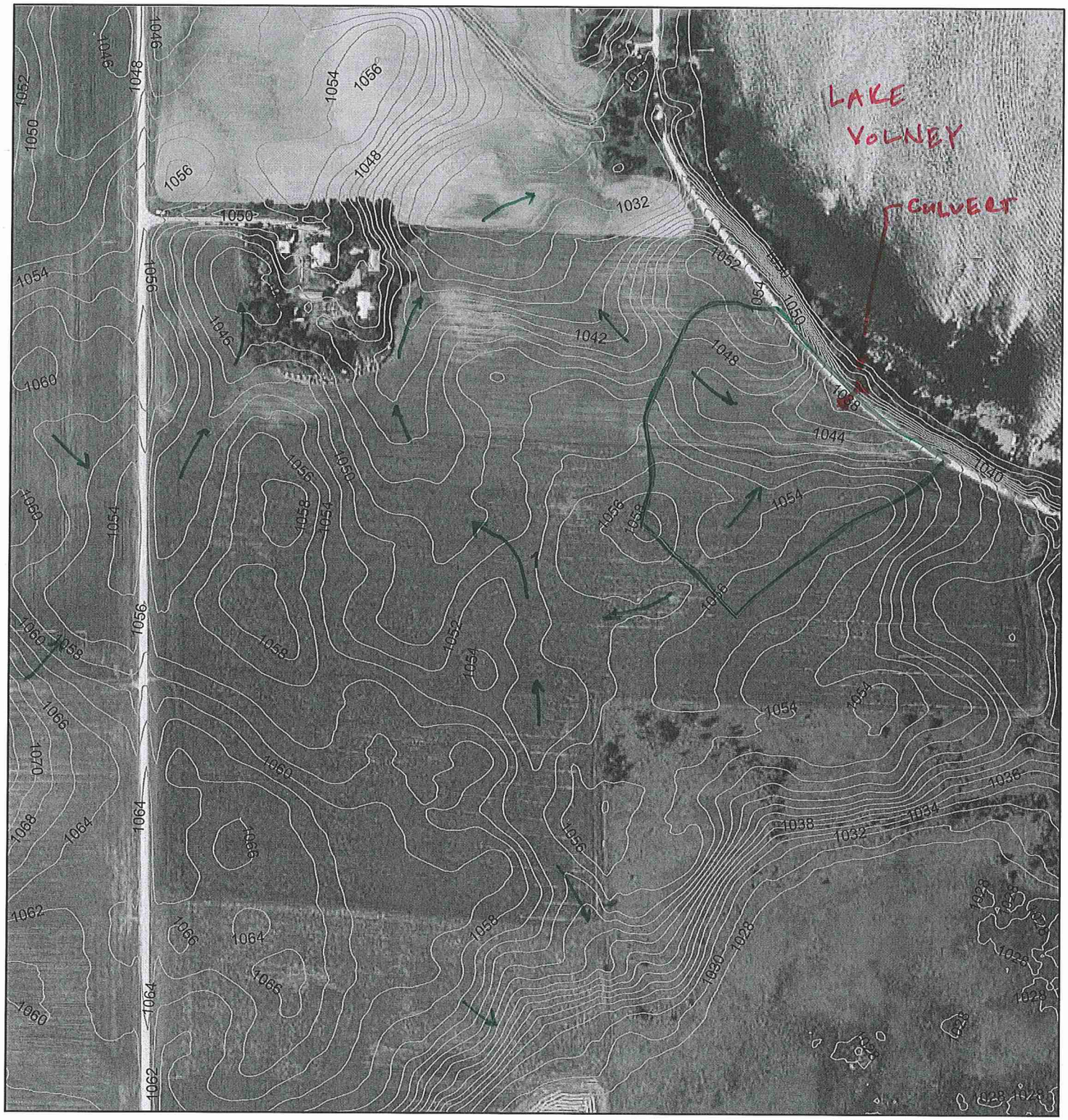
South Central Technical Service Area

1160 South Victory Drive, Suite 3, Mankato, MN 56001
Ph 507.345.1051 | ryan.jones@blueearthswcd.org

Le Sueur County
Cordova Township
NE 1/4 of Section 1

Lake Volney - Cyril Miller Property

1-10-2014



Drainage Area = 10.0 ac

Flow Direction

Feet
0 200 400
Scale 1"=400'

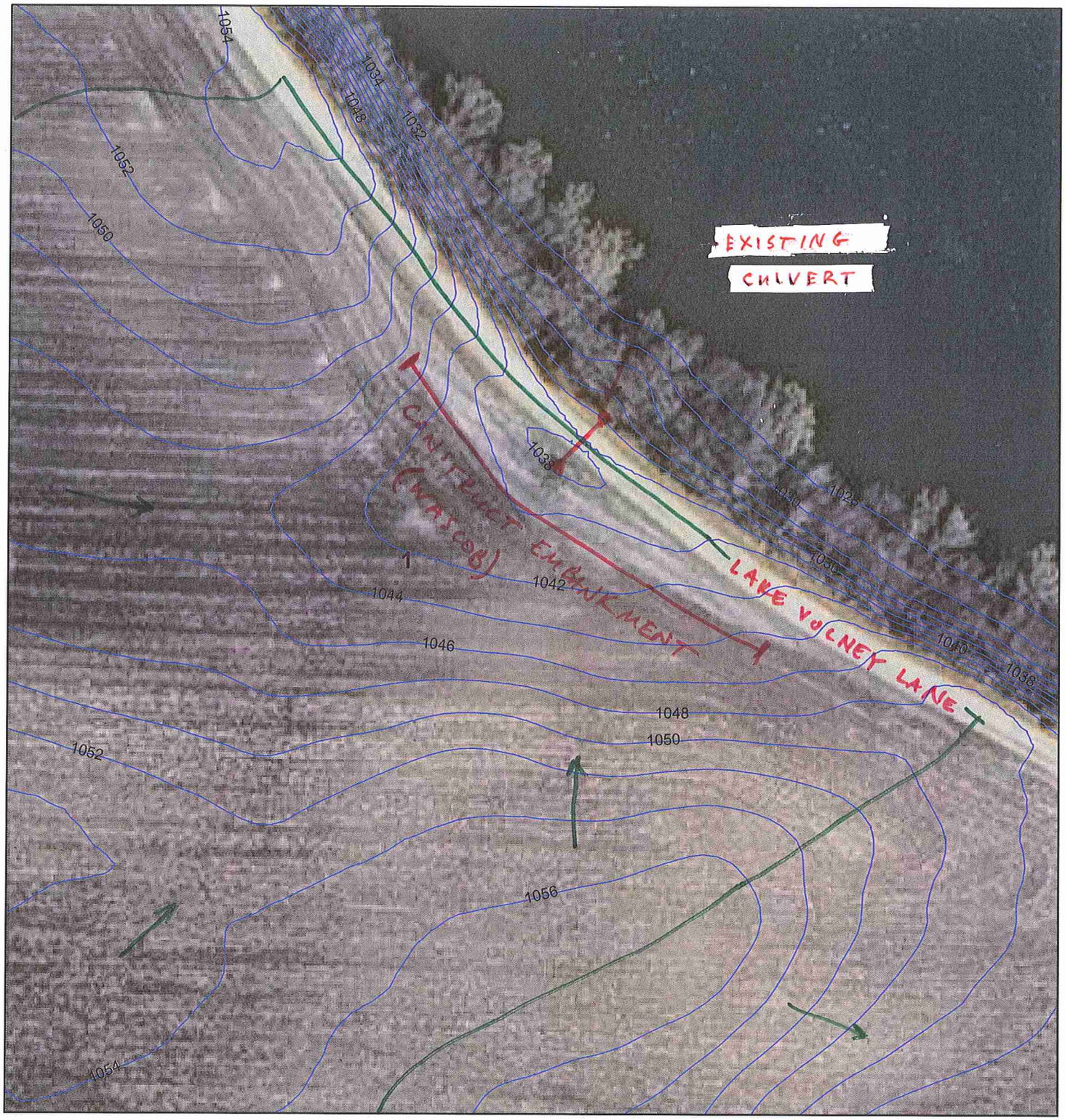
N
W E
S

2010 AERIAL IMAGERY

Le Sueur County
Cordova Township
NE 1/4 of Section 1

Lake Volney Lane
Cyril Miller Property

January 2014



Drainage Boundary

Flow Direction

Feet
0 100 200

Scale 1"=100'

N
W E
S

Projection: UTM NAD83 Zone 15
2011 AERIAL IMAGERY