October 4, 2013

Planning Commission
City of Ramsey
7550 Sunwood Dr NW,
Ramsey, MN 55303

RE: Narrative: Sketch Plan, Minor Plat, and Variance: Diehl Acres

Dear Commissioners:

Midwest Planning & Design is working with Sam and Andrea Diehl regarding the approvals necessary for dividing their property at 6405 Green Valley Road (the "Property") into two lots for the purpose of building a new home. Sam and Andrea purchased the Property in June 2013 and hope to move into their new home as soon as possible.

Requested Action:
We are asking the Commission to move to approve the attached Sketch Plan, "Diehl Acres Minor Plat," and to recommend to the City Council approval of the attached Minor Plat, "Diehl Acres," and approval of the Variance to allow development in the R-1, MUSA without City sewer and water due to the current impossibility of compliance.

Proposal:
To subdivide the existing 9.13 acres of Lot 4, Block 1, Valley View Acres into two lots for the purpose of:

- Lot 1 Diehl Acres: New family home and attached garage,
- Lot 2: Diehl Acres Existing home to be remodeled, existing pole barn, existing sheds, orchard, garden and garage, existing cell tower.

Setting:
The Property is adjacent to Green Valley Road (CSAH 63), which provides the only access to the property. A 4 to 5-foot deep ditch, County Ditch 14 (the "Ditch"), bisects the property from northwest to east. The Ditch flood plain ranges from 880 feet in the east to 886 feet in the northwest. The Property is relatively flat to the west and south of the Ditch (888 feet near Green Valley Road and 884 feet near the Ditch).

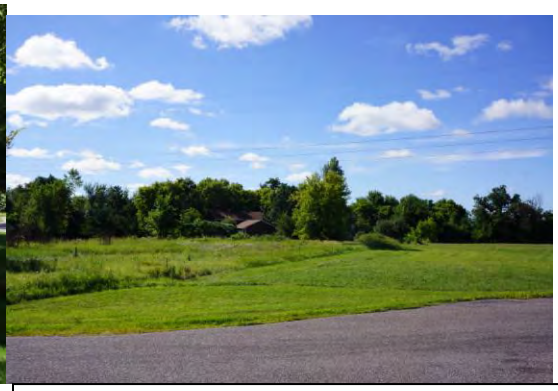
Midwest Planning & Design LLC
1491 shoreline Drive
Wayzata, Minnesota 55391
952 476 1762
612 865 3302
Rkrier@mchsi.com

To the north of the Ditch the property rises from 884 feet near the Ditch to an 890-foot knoll in the center of the northern part of the property. There is heavy tree cover along the Ditch and in the far west portion of the property. Only 10 Box Elders will be removed through this project and 10 2.5 inch trees of a variety of species approved by the City are planned to be planted after construction of the new home.

Green Valley Road is fairly heavily travelled at high speeds. To the north and east are MUSA residential properties without municipal sewer and water. To the west is agricultural land. Across Green Valley Road is a large commercial/agricultural facility (greenhouses and related warehouse, parking, and retail).

The following pictures are intended to provide visual reference to the Commission and Council:

Looking North from CR 63 towards Ditch 14



Property from 178th street:
The property does not have access from this street. Property is separated by private property and a high voltage power line

Existing home adjacent to CR 63 to be remodeled

Looking from the property to the commercial property across CR 63

Proposed home site north of the Ditch

Location of new driveway to service new home site

Property, **Existing and Proposed Improvements**

Property:

The one, 9.13 acre lot will be divided into two lots. Both lots will continue to be designated and consistent with:

- The Comprehensive Plan, Future Land Use Plan. Property is:
  - Within the MUSA
  - Low Density Residential (LDR)
- R-1: MUSA Zoning with Flood Plain Overlay and Cell Tower Overlay districts
- Cell Tower Overlay district:
  - Setback to the adjoining lot line is the height of the tower (120 ft) plus 10 feet.
  - Towers are not allowed between the street and the principle structure on the lot.
- Flood Plain Overlay District/County Ditch 14:
  - County Ditch 14 bisects the property from northwest to east.
  - A 100-foot wide easement is being provided for this ditch.
  - The attached report from Loucks Associates establishes the flood plain at 880 feet near the east property line and 886 feet near the northwest property line.
  - The existing home located on lot 2 and the proposed home located on lot 1are both outside of the flood plain.
  - Existing Ditch crossing is being removed and a new, improved ditch crossing is proposed in the northwest part of lot:
  - A new 48 inch culvert will be installed, improving Ditch flow and reducing upstream flooding.
  - 153 cubic yards of fill and rip rap will be use in conjunction with the crossing and 157 cubic yards of material will be removed in association with removing an existing crossing and to provide compensating storage within the flood plain.
  - Where the old crossing is removed ditch bank restoration and stabilization will be provided.

    - The County Ditch crossing and its design will be submitted to the County for approval. A permit is required from the County. We have worked with the County on the easement and crossing.
    - According to the City Staff the Ditch is not "protected waters" and the subject property is not within the Shoreland Overlay Zoning District.
- Green Valley Road (CSAH63):
    - CR 63 is a major collector with an existing Average Daily Traffic (ADT) of 1950 vehicles.[1]
    - Projected 2030 ADT is:
        - 10100 ADT with a river crossing; and
        - 13600 ADT without a river crossing.
    - In accord with County standards, the following two (2) accesses are being proposed to Green Valley Road (CR 63) to replace the two existing accesses that will be closed. Each access will:
        - Be within 30 feet of the proposed side lot line dividing lot1 and lot 2;
        - Have 15 foot radius and no wider than 30 feet at the intersection with the paved part of Green Valley Road;
        - Have a15 inch culverts for the CR ditch; and
        - Have a side slope of 6:1 or less.
    - We have worked with Anoka County regarding the accesses to CR 63 and these plans are consistent with the County's comments.

Existing Improvements:

- Roughly 1,500 Sq. Ft. single family 2-story home located 30 feet from the front lot line. This home has been and is continuing to be remodeled and retained by the Diehl's for the time being.
- 2,000 Sq. Ft pole shed.
- 936 Sq. Ft. detached garage.
- Cell Tower:
    - Multi use 120 foot high cell tower.
    - Leased for 25 years.
- Small shed, orchard, garden and pasture.
- Concrete driveways.
- Two County ditch crossings, one of which is proposed to be removed and replaced with an improved crossing with a larger culvert.
- Removal of two small sheds that located in "front" of the proposed new home' lot 1.

Proposed Improvements:

- Approximately 2,700 Sq. Ft. new home and attached garage.
- New home will be serviced by a new bituminous 12-foot wide driveway with 18-foot wide drive at the Ditch crossing:
    - Designed to accommodate public safety equipment.
    - Preliminary specifications are included on the sketch plan.

[1] City's Comprehensive Plan

    - The new bituminous driveway serving the new home will be at or above the flood plain driveway protection level.
- Replacement driveway will be created for existing house per Anoka County's specifications.
- New County Ditch crossing:
    - With new 48 inch concert culvert designed to reduce existing up-stream flooding and replace current, inadequate culvert, improving Ditch flow.
    - Will accommodate emergency vehicles (see prelim. specifications).
    - Protect the Ditch's integrity with erosion control rip rap at the crossing.
- Removal of existing crossing with extensive Ditch improvement of flow and properties (see preliminary specifications).

New home location access design:

- The only logical location for a new home site is north of the Ditch. This is because:
    - Heavily traveled Green Valley Road, a Major Collector not being conducive to residential development.
    - Access only form Green Valley Road; all other options require crossing private property.
    - Large commercial/agricultural facility (greenhouses and related warehouse, parking, and retail) south of Green Valley Road not conducive to residential devlopment.
    - Cell Tower's visual impact and setback requirements curtail any residential development in the south and southeast portion of the Property.
    - County Ditch and required 100-foot wide easement for the County Ditch limit development in the western part of the property.
    - Existing improvements limit the use of land in the south part of the property.
    - Flood Plain restricts use in the northwest part of the property limit development.
    - Existing trees dominate the western edge of the property; use of this area for a new home will require the removal of trees.

- The Proposed location of the new home on the knoll north of the Ditch presents an excellent location for the new home because:
    - Except for the 10 box elder in the driveway, building the new home will not require removal of any trees.
    - The home has proposed access for service and emergency vehicles that conform to the City Fire Marshall's standards and meet engineering standards for access.
    - The new County Ditch driveway crossing will help resolve the current issue of upstream flooding.
    - The surrounding land uses are residential.

- Future public utility access will be more easily accommodated from the north avoiding the necessity to cross the County Ditch on this property with public utilities.
- The location and views provide a quality residential environment that cannot be found elsewhere on the site.
- Each home will be serviced by a bituminous 12-foot wide driveway :
  - Designed to accommodate public safety equipment.
  - Preliminary specifications are included on the sketch plan.
  - Creating a spectacular approach to the new home, and preserving existing tree.

Concept Ghost Plat

- While the Diehls prefer the existing, rural nature of the Property, the Property is located in the MUSA. Because of this, we have prepared a ghost plat designed to show one concept for future improvement after the City provides sewer and water to the area.
- With the arrival of City sewer and water, it will be possible to plat the property into 14-15 urban lot.
- The proposed new home would be located on one of the urban lots.
- When plated for urban lots, the cell tower and existing home will likely be removed.
- Public access to CR 63 will likely not be allowed, requiring a continuous urban street from the north part of the property to the western edge of the property.

Variance:

The State Statute requires the City to find that a Practical Difficulty exists that would not let the property be developed without a variance.

- The proposed subdivision is within the R-1: MUSA Zone.
- City ordinance requires municipal sewer and water for residential development within the MUSA.
- City sewer and water will not be available to this area for some time.
- A variance is necessary from this City Code requirement for the proposed subdivision and construction of the new home. The request meets the criteria for granting the variance.

Should you need any additional information or explanation, please do not hesitate to contact me.
Sincerely,

Midwest Planning & Design, LLC

Richard Krier, AICP
President

DIEHL ACRES

CITY OF RAMSEY
COUNTY OF ANOKA
SEC. 2, T. 32, R. 25

KNOW ALL PERSONS BY THESE PRESENTS: That Samuel Diehl and Andrea Diehl, husband and wife, owners of the following described property situated in the County of Anoka, State of Minnesota, to wit:

Lot 4, Block 1, Valley View Acres, Anoka County, Minnesota.

Have caused the same to be surveyed, platted and known as DIEHL ACRES and do hereby dedicate to the public for public use the drainage and utility easements as shown on the plat.

In witness whereof said Samuel Diehl and Andrea Diehl, husband and wife, have hereunto set their hand this _____ day of _____, 20___.

SAMUEL DIEHL ANDREA DIEHL

By_____ By_____
Owner Owner

State of Minnesota
County of _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20____ by Samuel Diehl and Andrea Diehl.

_____
Notary Public, _____ County, Minnesota
My commission expires _____

I, Charles E. Webb, Jr., hereby certify that I have surveyed and platted the property described on this plat as DIEHL ACRES; that this plat is a correct representation of the survey; that all distances are correctly shown on the plat in feet and hundredths of a foot; that all monuments have been correctly placed in the ground as shown or will be correctly placed in the ground as designated; that the outside boundary lines are correctly designated on the plat; and that there are no wet lands as defined in LS 505.02, Subd. 1, or public highways to be designated other than as shown.

_____
Charles E. Webb, Land Surveyor
Minnesota License Number 41226

State of Minnesota

County of _____

The foregoing Surveyors Certificate was acknowledged before me this _____ day of _____, 20____ by Charles E. Webb Jr., Minnesota License No. 41226.

_____

Notary Public, _____County, Minnesota
My commission expires _____

CITY OF RAMSEY, MINNESOTA

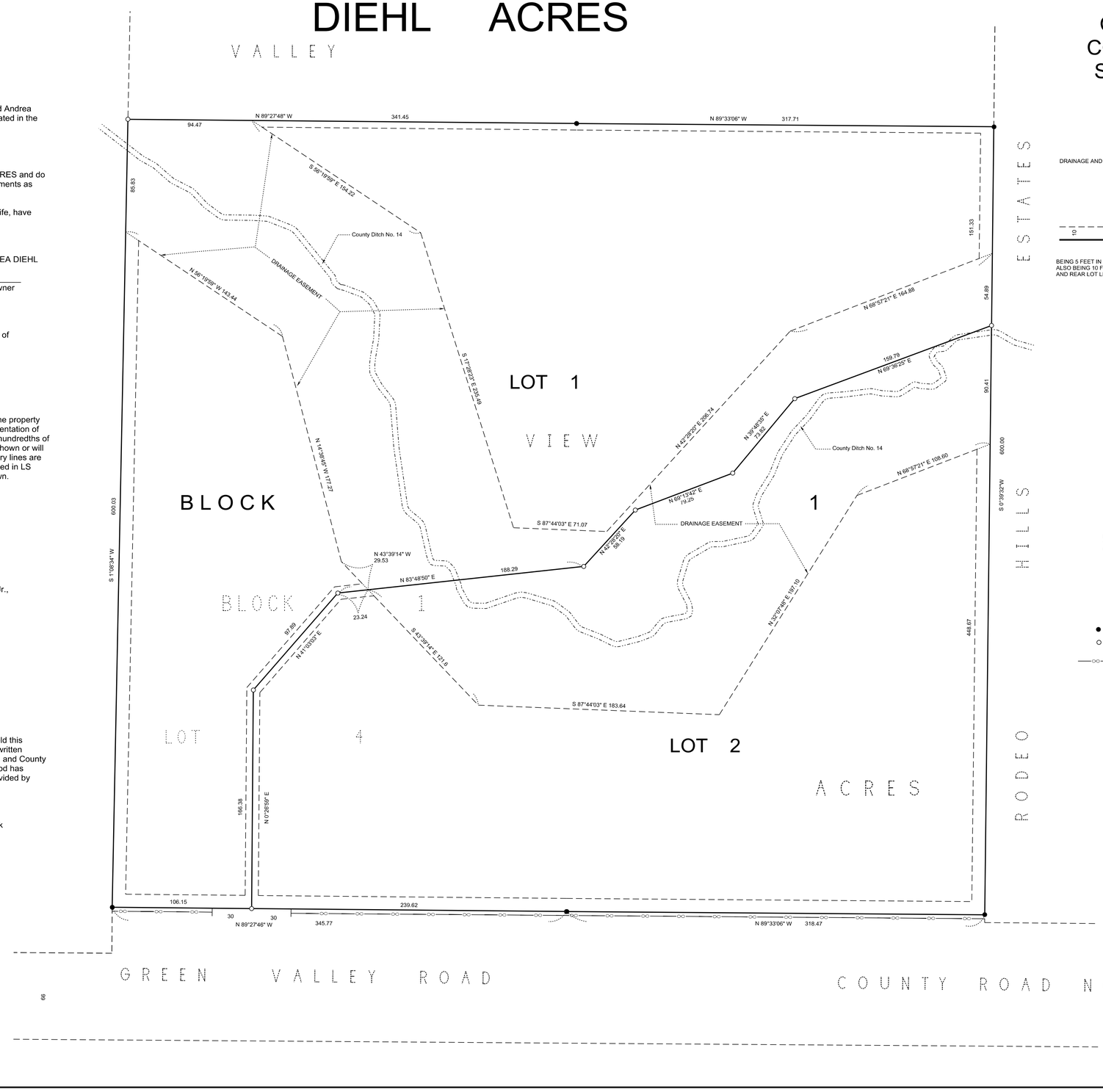
This plat of DIEHL ACRES was approved and accepted by the City Council of the city of Ramsey Minnesota, at a regular meeting thereof held this _____ day of _____, 20___. If applicable, the written comments and recommendations of the Commissioner of Transportation and County Highway Engineer have been received by the City of the prescribed period has elapsed without receipt of such comments and recommendations as provided by Minnesota Statutes,, Section 505.03, Subdivision 2.

CITY COUNCIL OF THE CITY OF RAMSEY, MINNESOTA

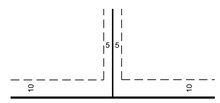
_____, Mayor _____ Clerk

ANOKA COUNTY SURVEYOR

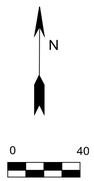
This plat was checked and approved on this _____ day of _____, 20___.



DRAINAGE AND UTILITY EASEMENTS ARE SHOWN THUS:



BEING 5 FEET IN WIDTH AND ADJOINING SIDE LOT LINES, ALSO BEING 10 FEET IN WIDTH AND ADJOINING RIGHT-OF-WAY AND REAR LOT LINES, UNLESS OTHERWISE SHOWN ON THE PLAT.

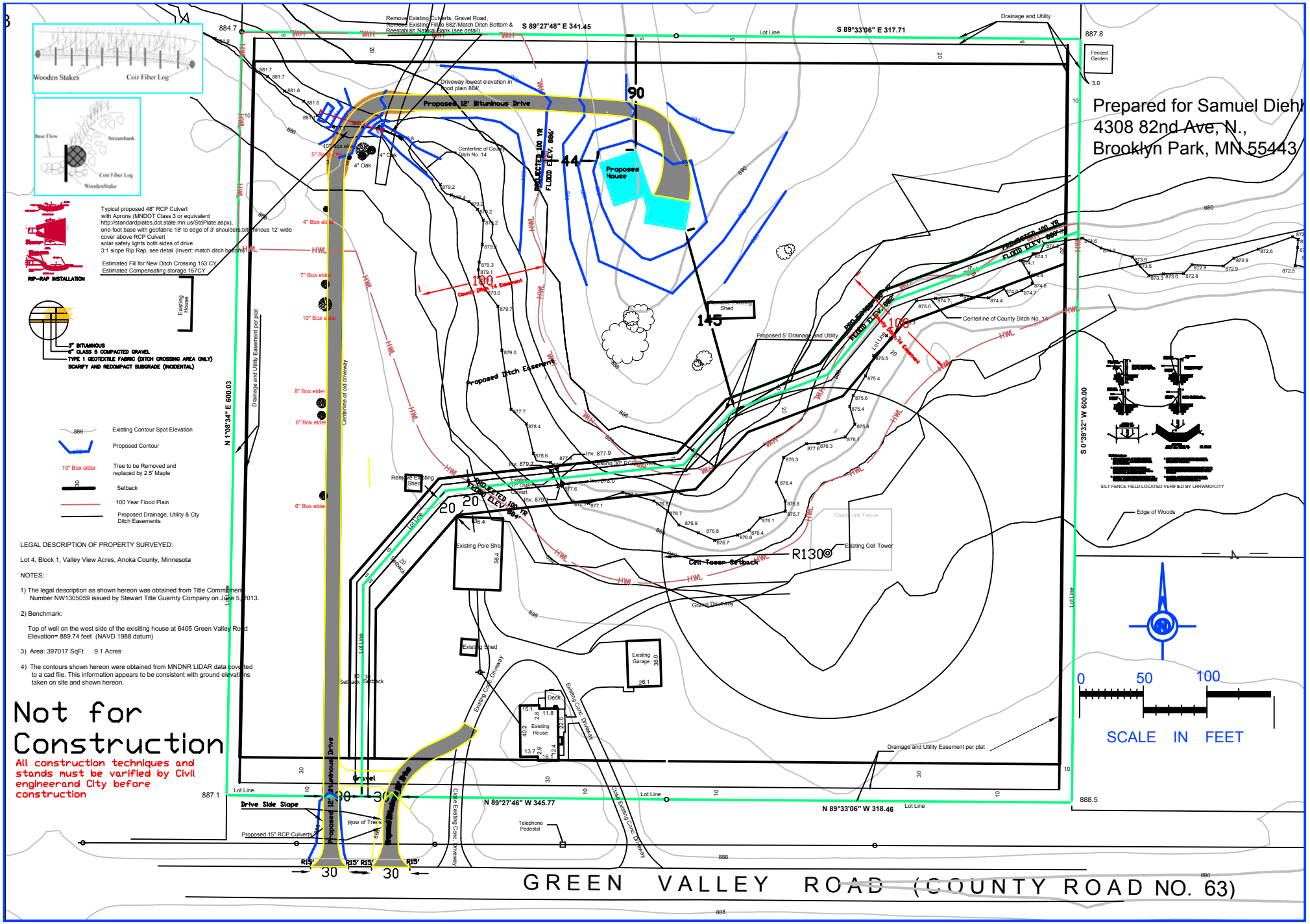


FOR THE PURPOSES OF THIS PLAT, THE EAST LINE OF VALLEY VIEW ACRES IS ASSUMED TO HAVE A BEARING OF SOUTH 0 DEGREES 27 MINUTES 05 SECONDS WEST

- DENOTES IRON PIPE MONUMENT FOUND
- DENOTES 1/2 INCH BY 14 INCH IRON MONUMENT SET AND MARKED MINNESOTA LICENSE NO. 42116
- DENOTES RIGHT OF ACCESS DEDICATED TO THE COUNTY OF ANOKA

WEBB SURVEYING, LLC
PROFESSIONAL LAND SURVEYORS

Traverse PC



LEGAL DESCRIPTION OF PROPERTY SURVEYED:

Lot 4, Block 1, Valley View Acres, Anoka County, Minnesota

NOTES:

1) The legal description as shown hereon was obtained from Title Commitment Number NW1305059 issued by Stewart Title Guaranty Company on June 5, 2013.

2) Benchmark:

Top of well on the west side of the exisiting house at 6405 Green Valley Road Elevation= 889.74 feet (NAVD 1988 datum)

3) Area: 397017 SqFt 9.1 Acres

4) The contours shown hereon were obtained from MNDNR LIDAR data converted to a cad file. This information appears to be consistent with ground elevations taken on site and shown hereon.

Not for Construction

All construction techniques and stands must be varified by Civil engineerand City before construction

Sketch Plan for Minor Plat: Diehl Acres

Owners: Samuel and Andrea Diehl

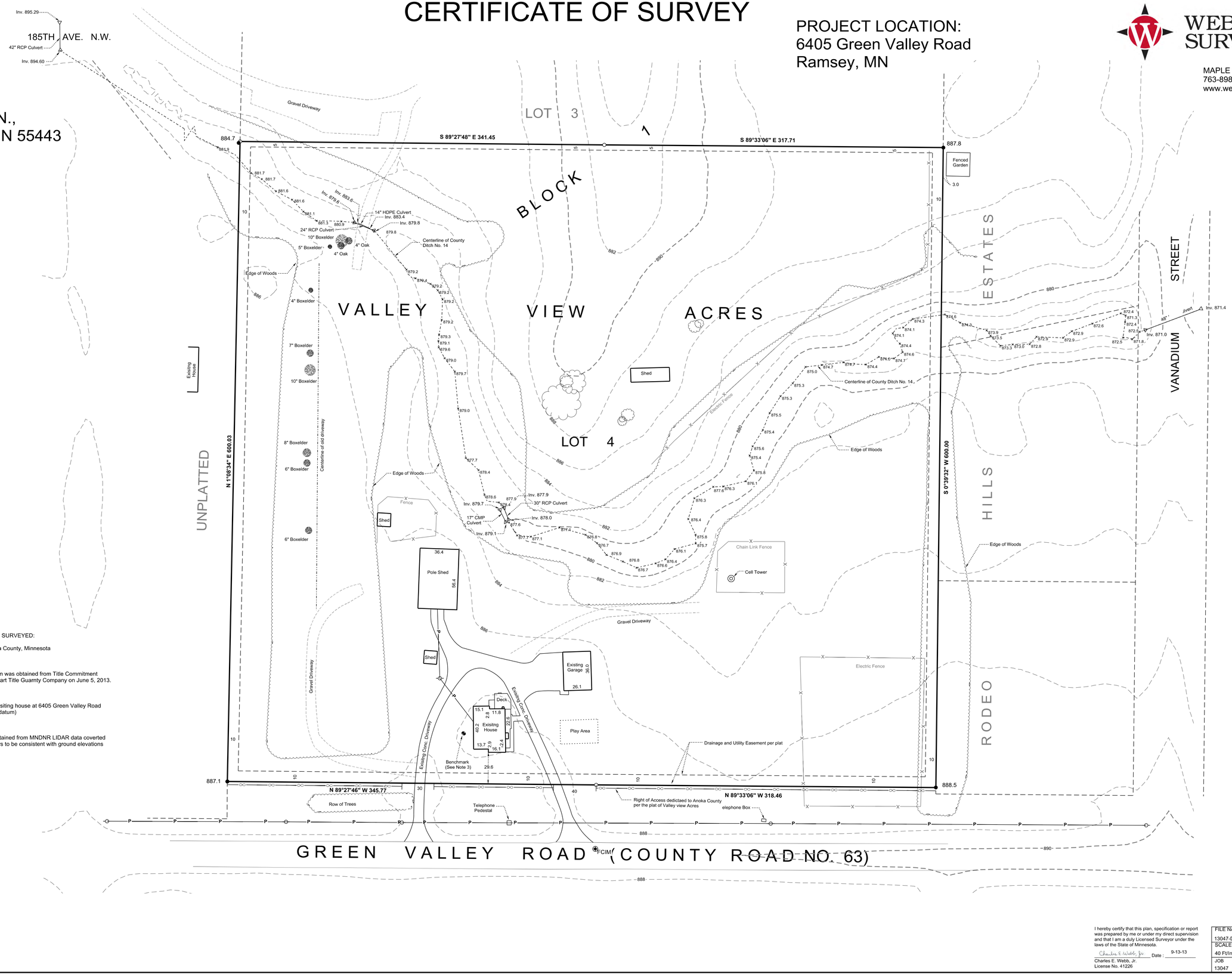
OCTOBER4,2013
MPD 1491 SHORELINEDR
WAYZATA MN 55391
9524761762

CERTIFICATE OF SURVEY

PROJECT LOCATION:
6405 Green Valley Road
Ramsey, MN

WEBB SURVEYING LLC
MAPLE LAKE, MN 55358
763-898-9999
www.webbsurveying.net

CLIENT:
Samuel Diehl
4308 82nd Ave, N.,
Brooklyn Park, MN 55443



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LEGEND

- Set Iron Monument
- Power Pole
- Phone Riser
- Spot Elevation
- Found Monument
- Tree
- Well
- Tree to be removed
- Set Monument In Case

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Surveyor under the laws of the State of Minnesota.

Charles E. Webb, Jr. Date : 9-13-13
Charles E. Webb, Jr.
License No. 41226

FILE NAME		
13047-DIEHL-ROT.TRV		
SCALE	DATE	DRAWN BY
40 Ft/In	9-18-2013	name
JOB	REVISION	SHEET
13047	1/1	1/1

Traverse PC

DENOTES APPROXIMATE AREA PRONE TO 100 YR FLOOD

NORTH

SCALE IN FEET
VERT: 1" = 5"

Project Name:

VALLEY VIEW ACRES FLOOD ELEVATION DETERMINATION CO. DITCH 14

Ramsey, MN

Owner/Developer:

Mr. Sam Diehl

4308 82nd Ave. N.
Brooklyn Park, MN 55443
samuel.diehl@gpmlaw.com

Professional Services:

LOUCKS ASSOCIATES

Planning • Civil Engineering • Land Surveying
Landscape Architecture • Environmental

7200 Hemlock Lane - Suite 300
Maple Grove, MN 55369
Telephone: (763) 424-5505
www.LoucksAssociates.com

CADD Qualification:

C-13326.0A - MASTER.DWG/C-1

09/21/13	Client Submittal

Professional Signature:

Quality Control:

Project Lead: TWM	Drawn By: CDL
Checked By: TWM	Review Date: 09/20/13

C-1	Plan and Profile
C-2	Plan and Profile

Sheet Title:

Plan and Profile
Sta: 0+00 - 12+00

Project No.:

13326.0A

Sheet No.:

C-1

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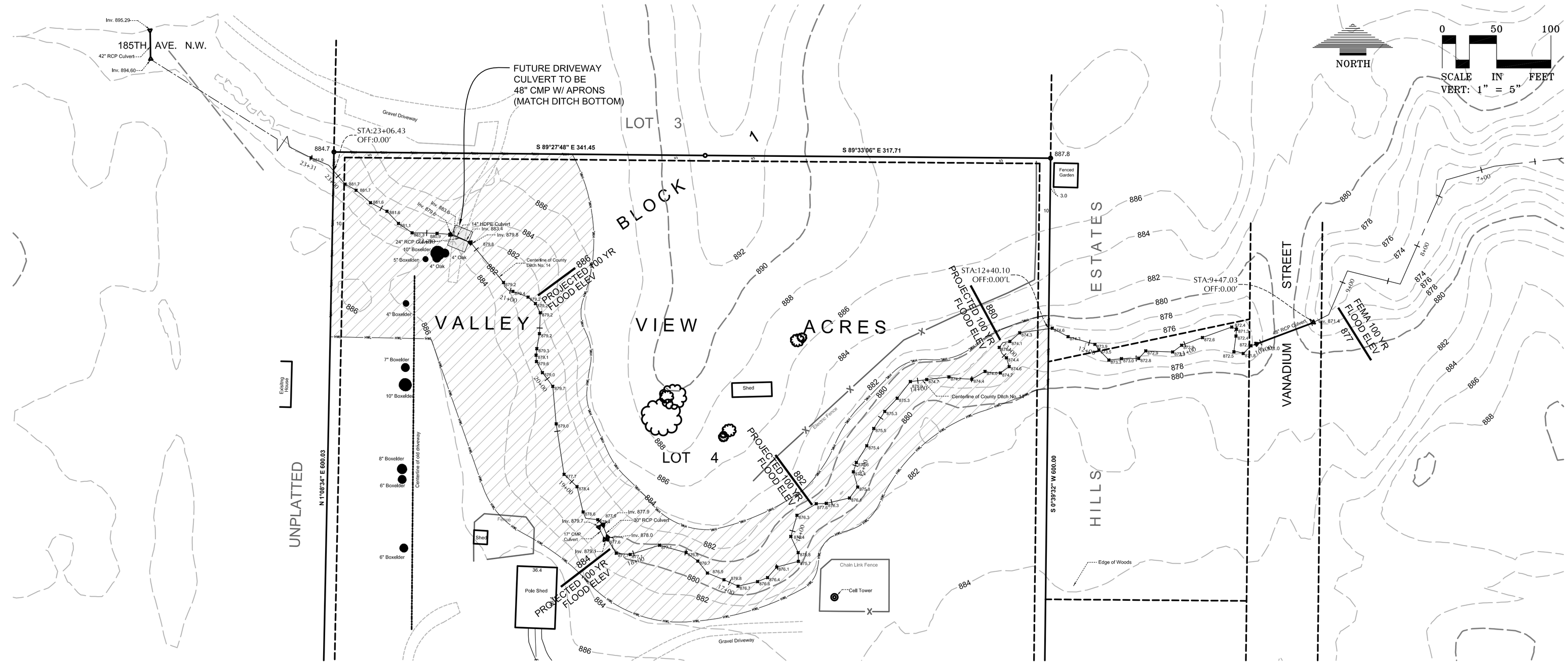
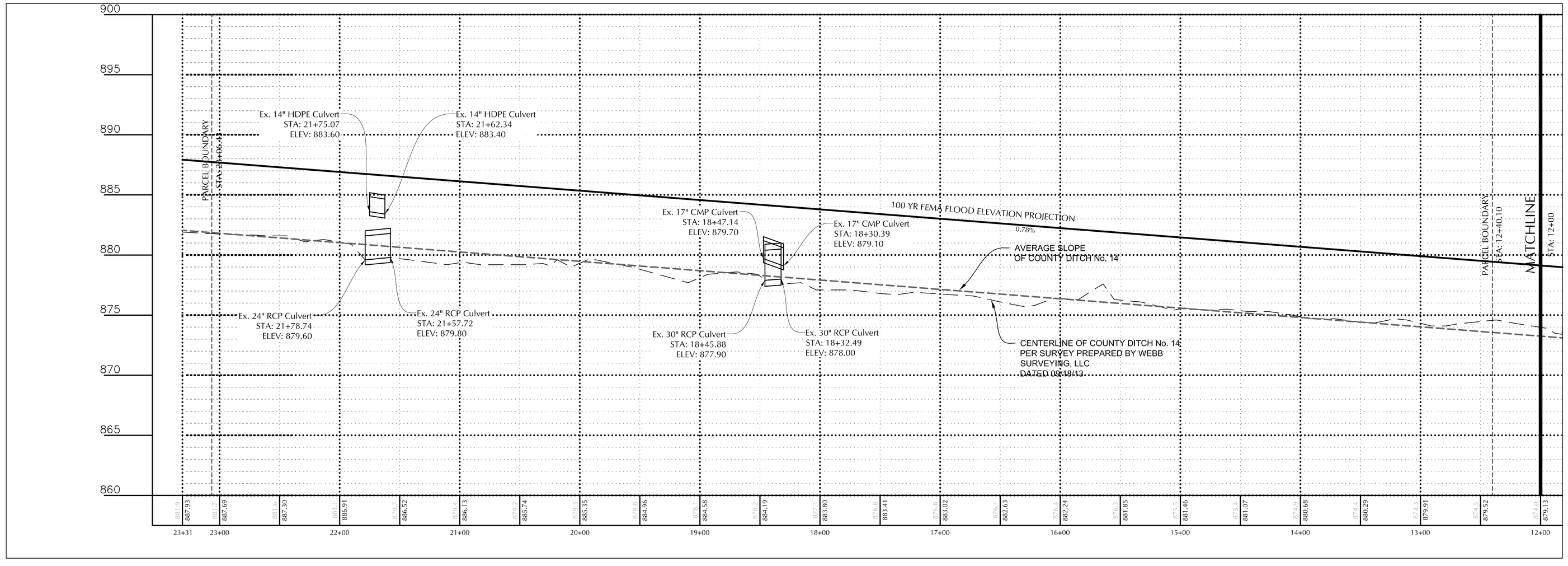


DENOTES APPROXIMATE AREA PRONE TO 100 YR FLOOD



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Telephone: (763) 424-5505
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C-13326.0A - MASTER.DWG/C-2

09/21/13	Client Submittal

Professional Signature:

Quality Control:

Project Lead: TWM	Drawn By: CDL
Checked By: TWM	Review Date: 09/20/13

C-1	Plan and Profile
C-2	Plan and Profile

Sheet Title:

Plan and Profile
Sta: 0+00 - 12+00

Project No.:

13326.0A

Sheet No.:

C-2

Plotted: 09 /23 / 2013 2:44 PM W:\2013\13326.0A\CADD DATA\CIVIL

LOUCKS ASSOCIATES

7200 Hemlock Lane
Suite 300
Maple Grove, MN 55369
763.424.5505 main
763.424.5822 fax
loucksassociates.com

September 24, 2013

Mr. Leonard Linton, PE
City of Ramsey
7550 Sunwood Drive NW
Ramsey, MN 55303
llinton@ci.ramsey.mn.us

Re: Flood Elevation – Lot 4, Block 1, VALLEY VIEW ACRES - Ramsey, MN
Proposed Plat of DIEHL'S ACRES

Dear Mr. Linton:

As part of the project approval for DIEHL'S ACRES the City has requested a determination of the 100 year flood elevation of County Ditch No. 14.

The enclosed copy of the flood map from FEMA shows that the flood elevation is not established in this area but is established just to the east of the site at Vanadium Street. The flood elevation at Vanadium Street is 877.

As we discussed earlier, and with our discussion with the County Highway Department, there has not been a significant flooding issue in this area in the past. The existing ditch section and the existing culverts have been adequate to contain the runoff during previous flooding events.

The method we used to project the flood elevation to the site is a straight forward analysis of the ditch slope. Starting at the flood elevation of 877 at Vanadium Street, we projected the average ditch slope upstream into the site. The plan shows the flood elevations through the site.

We also analyzed the capacity of the ditch in relation to the upstream culvert capacity. The upstream culvert is a 42" culvert under 185th Ave. NW near Ebony Street, approximately 1.0 mile to the northwest. This culvert, with its size and slope has a capacity of approximately 150 cubic feet per second (cfs). The cross-sectional area of the ditch at station 17+00 provides approximately 155 cfs at a depth of 3.7 feet, or at an elevation of 880.5. See enclosed calculations. At the flood elevation of 883.0 the ditch provides 585 cfs of capacity. Therefore, the ditch has adequate capacity to contain additional flow from a flood event.

If you have any further questions or comments please feel free to give me a call.

Sincerely,
LOUCKS ASSOCIATES

Todd W. McLouth, PE
Senior Project Engineer

Cc: Richard Krier, Midwest Planning

File: 013326.0A

FEMA Info Scale: 21 % LOMC: 03-05-2612A-270681

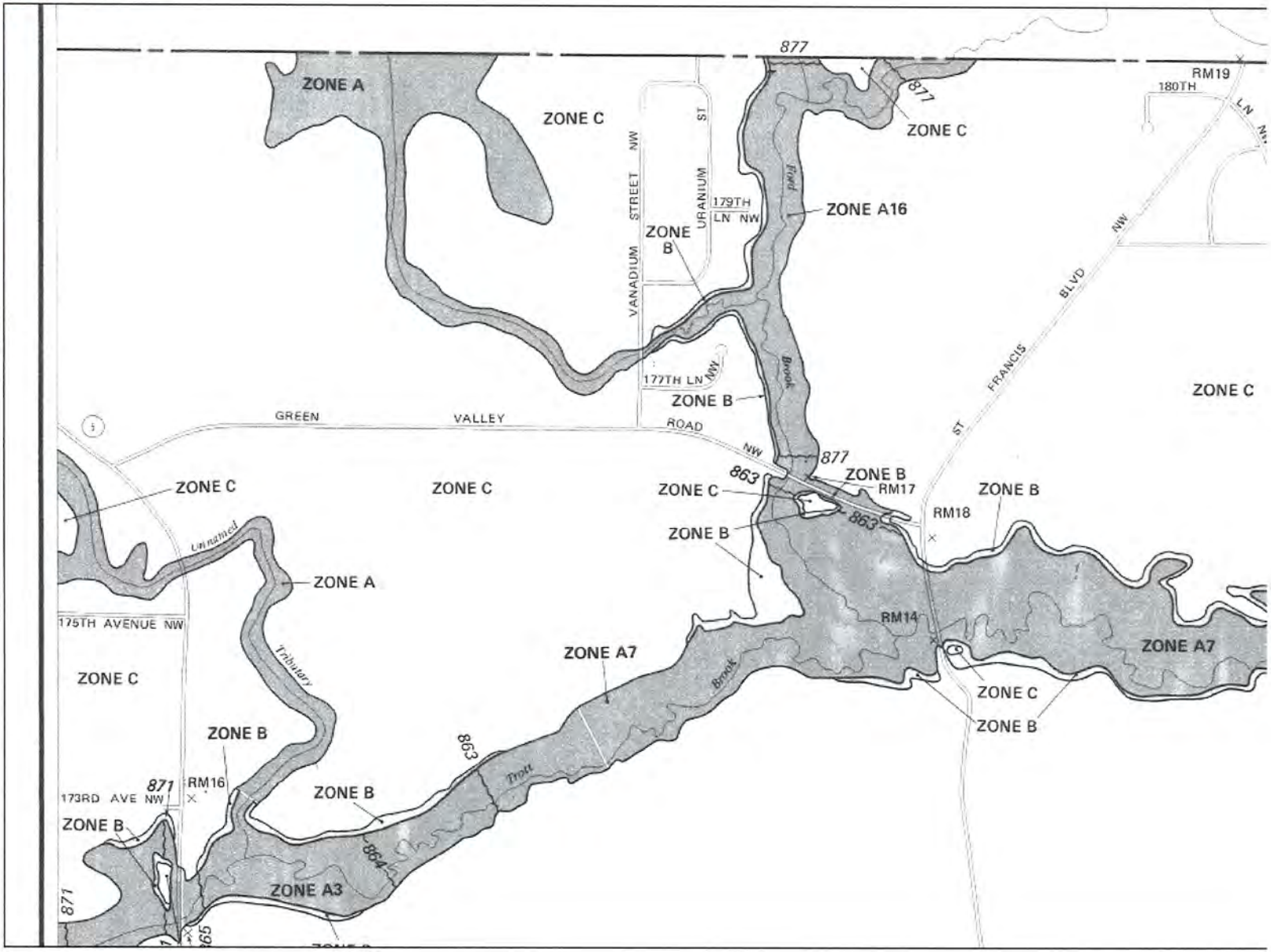
Help

Zoom Win Pan

Zoom In Zoom Out

1:1 Zoom In MAX Zoom Out

Make a FIRMette



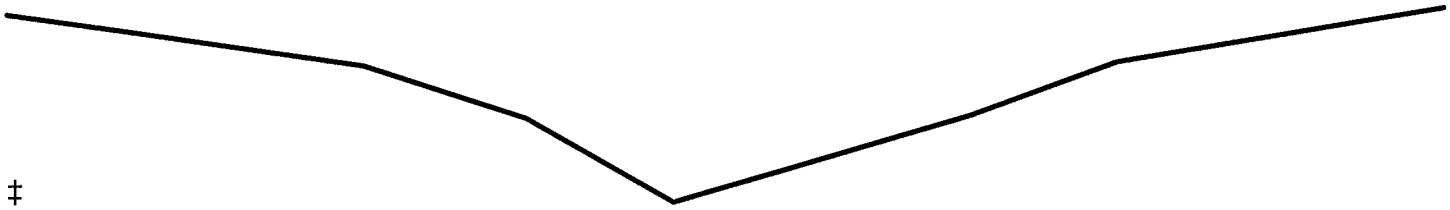
Summary for Reach Sta. 17+00: Ditch 14

Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 7.20' Flow Area= 277.0 sf, Capacity= 906.54 cfs

Custom cross-section, Length= 50.0' Slope= 0.0078 '/' (102 Elevation Intervals)
Constant n= 0.080 Earth, long dense weeds
Inlet Invert= 0.00', Outlet Invert= -0.39'



‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
-45.00	884.00	0.00
-21.00	882.00	2.00
-10.00	880.00	4.00
0.00	876.80	7.20
20.00	880.00	4.00
30.00	882.00	2.00
52.00	884.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
3.20	48.0	30.8	2,400	105.95
5.20	129.0	52.1	6,450	387.16
7.20	277.0	98.3	13,850	906.54

Stage-Discharge for Reach Sta. 17+00: Ditch 14

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
0.00	0.00	0.00
0.10	0.22	0.01
0.20	0.35	0.07
0.30	0.46	0.20
0.40	0.55	0.42
0.50	0.64	0.75
0.60	0.72	1.23
0.70	0.80	1.85
0.80	0.88	2.63
0.90	0.95	3.61
1.00	1.02	4.77
1.10	1.08	6.16
1.20	1.15	7.76
1.30	1.21	9.60
1.40	1.27	11.70
1.50	1.33	14.06
1.60	1.39	16.70
1.70	1.45	19.63
1.80	1.50	22.84
1.90	1.56	26.41
2.00	1.61	30.27
2.10	1.67	34.47
2.20	1.72	39.03
2.30	1.77	43.92
2.40	1.82	49.22
2.50	1.87	54.88
2.60	1.92	60.91
2.70	1.97	67.38
2.80	2.02	74.22
2.90	2.07	81.51
3.00	2.11	89.23
3.10	2.16	97.36
3.20	2.21	105.95
3.30	2.25	114.79
3.40	2.29	124.11
3.50	2.33	133.92
3.60	2.37	144.21
3.70	2.41	155.08
3.80	2.45	166.45
3.90	2.49	178.35
4.00	2.53	190.84
4.10	2.57	203.83
4.20	2.61	217.46
4.30	2.65	231.64
4.40	2.69	246.40
4.50	2.73	261.81
4.60	2.77	277.78
4.70	2.81	294.41
4.80	2.85	311.67
4.90	2.89	329.53
5.00	2.92	348.11
5.10	2.96	367.30
5.20	3.00	387.16
5.30	2.99	401.89
5.40	2.99	417.63
5.50	2.99	434.65
5.60	2.99	452.74
5.70	3.00	471.98
5.80	3.01	492.42
5.90	3.02	513.94
6.00	3.03	536.74
6.10	3.04	560.67
6.20	3.06	585.77
6.30	3.08	612.17
6.40	3.09	639.70
6.50	3.11	668.55
6.60	3.13	698.64
6.70	3.15	729.95
6.80	3.18	762.67
6.90	3.20	796.61
7.00	3.22	831.92
7.10	3.25	868.60
7.20	**3.27**	**906.54**

EAGLE SOIL SERVICES

5818 Halifax Avenue North ~ Brooklyn Center, MN 55429
Phone 612.441.7509 ~ Fax 612.441.9176 ~ Email eaglesoils@aol.com
Minnesota Licensed Soil Scientist #30018

March 18, 2000

Phil Johnson
6461 178th Lane NW
Ramsey, MN 55303

Dear Phil:

As requested, Eagle Soil Services has completed the wetland delineation on your property located in Secs. 2 & 3, T 32 N., R. 25 W. of Anoka County, MN. Enclosed are copies of the wetland transect sheets, aerial photo with the approximate wetland transects and boundaries located, National Wetlands Inventory (NWI) information, Remotely Sensed Data Summary sheet, and Anoka County Soil Survey information. Three copies of the delineation report are enclosed, one for your records, one for the Anoka Soil & Water Conservation District, and one for the City of Ramsey.

Anoka County Ditch #14 runs through the southern portion of the property. The ditch has not been delineated as a wetland; private landowners cannot engage in activities which negatively impact a County ditch, regardless if wetlands are present within the ditch or not.

Six wetland areas were located on the property. Wetland 1, which extends past the western property boundary, most closely resembles a Type 2 wetland. Dominant hydrophytic vegetation includes Reed-Canary Grass (*Phalaris arundinacea*, FACW+). Hydric soils and wetland hydrology criteria were met. The area also appears on the NWI maps as a PEMC (Palustrine, Emergent, Seasonally Flooded) wetland. There are 12 pink wetland delineation flags marking the upland/wetland boundary, and pink flagging has been placed in the surrounding vegetation to assist the survey crew in locating the flags.

Wetland 2 most closely resembles a Type 3 wetland. Dominant hydrophytic vegetation includes Reed-Canary Grass (*Phalaris arundinacea*, FACW+) and Broad-leaved Cattail (*Typha latifolia*, OBL). Hydric soil and wetland hydrology criteria were met, and the area appears as a PEMC (Palustrine, Emergent, Seasonally Flooded) wetland on the NWI maps. There are 7 pink wetland delineation flags marking the upland/wetland boundary, and pink flagging has been placed in the surrounding vegetation to assist the survey crew in locating the flags.

Wetlands 3 and 4 most closely resemble Type 3 Wetland surrounded by a fringe of Type 2 Wetland. Dominant hydrophytic vegetation includes Reed-Canary Grass (*Phalaris arundinacea*, FACW+), Tussock Sedge (*Carex stricta,* OBL), and Broad-leaved Cattail (*Typha latifolia*, OBL). Hydric soil and wetland hydrology criteria were met. There are 12 pink wetland delineation flags marking the upland/wetland boundary for Wetland #3, 7 pink delineation flags marking the boundary for Wetland #4.

Wetlands 5 most closely resemble Type 2 Wetland. Dominant hydrophytic vegetation includes Reed-Canary Grass (*Phalaris arundinacea*, FACW+). Hydric soil and wetland hydrology criteria were met. There are 5 pink wetland delineation flags marking the upland/wetland boundary.

Wetland 6 most closely resembles a Type 1 Wetland. Dominant hydrophytic vegetation includes Reed-Canary Grass (*Phalaris arundinacea*, FACW+), Barnyard Grass (*Echinochloa crusgalli,* FACW), and Giant goldenrod (Solidago canadensis, FACW). Hydric soil and wetland hydrology criteria were met and there are 8 pink wetland delineation flags marking the upland/wetland boundary.

According to the Wetlands Conservation Act, in the less than 50% original wetlands remaining area of the state (which includes Anoka County) a replacement plan is not required for draining or filling up to 2,000 square feet of Type 2 wetlands. Additionally, a replacement plan is not required for draining or filling up to 400 square feet of Type 3 wetlands. The Anoka Soil & Water Conservation District and the City of Ramsey may have additional or stricter requirements for wetland replacement plans; I caution you to check with them prior to beginning any filling, draining, or excavation activities.

Thank you for the opportunity to present this report. Please contact me at 441-7509 if you have any questions or require further information.

Sincerely,

Mary M. West

Enclosures: 3 Wetland Delineation Reports

Wetland Delineation - Phil Johnson 03/16/00

Photo courtesy of the US Geological Survey.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site Applicant/Owner: Phil Johnson Investigator(s): Mary M. West/Eagle Soil Services, Inc.			Date: 03/13/00 County: Anoka State: MN
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse)	X Yes _ Yes _ Yes	_ No X No X No	Community ID: Upland Transect ID: 1 Plot ID: 1

VEGETATION

Dominant Plant Species	Stratum	Indicator
*Phalaris arundinacea	H	FACW+
*Bromus purgans	H	FACU+
Monarda fistolosa	H	FACU
*Rhus typhina	S	N/I
Rubus strigosus	H	FACW-
*Xanthoxylum americanum	S	FACU

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC -) - <10%
*Dominant Species

Remarks: NI = No indicator; insufficient information available to determine and indicator Status

HYDROLOGY

_____Recorded Data (Describe in Remarks) _____Stream, Lake or Tide Gauge _X_Aerial Photographs _X_Other _____No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ___Inundated ___Saturated in Upper 12 Inches ___ Water Marks ___Drift Lines __ Sediment Deposits ___Drainage Patters in Wetlands Secondary Indicators (2 or more required): ___Oxidized Root Channels in Upper 12 Inches ___Local Soil Survey Data ___FAC Neutral Test ___Other (Explain in Remarks)
Field Observations: Depth of Surface Water: __---__ inches Depth to Free Water in Pit: __---__ inches Depth to Saturated Soil: __---___inches	
Remarks: USDA-FSA Aerial Photograph; USDA-FSA slides from 1981-1999 do not indicate wetland signatures	Remarks

SOILS

Map Unit Name
(Series and Phase): Heyder fine sandy loam, 6-12% slopes, eroded Drainage Class: Well Drained

Taxonomy: Typic Eutroboralf Field Observations Confirm Mapped Type? X Yes No

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture
0-4	A	10YR 3/2			Fine Sandy Loam
4-10	E	10YR 5/2			Fine Sandy Loam
10-18	Bt1	10YR 4/4			Fine Sandy Loam

Hydric Soil Indicators:

_____Histosol
_____Histic Epipedon
____ Sulfidic Odor
____ Aquic Moisture Regime
_____Reducing Conditions
_____Gleyed or Low Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soils
_____Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other (Explain in Remarks)

Remarks: Upland Soil

WETLAND DETERMINATION

Hydrophitic Vegetation Present? ___Yes X No

Wetland Hydrology Present? ___Yes X No Is This Sample Point Within a Wetland? ___ Yes X No

Hydric Soils Present: ___ Yes X No

Remarks: Upland

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site Applicant/Owner: Phil Johnson Investigator(s): Mary M. West/Eagle Soil Services, Inc.			Date: 03/13/00 County: Anoka State: MN
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse)	X Yes _ Yes _ Yes	_ No X No X No	Community ID: Wetland Transect ID: 1 Plot ID: 2

VEGETATION

Dominant Plant Species	Stratum	Indicator
*Phalaris arundinacea	H	FACW+

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC -): 90-100%
*Dominant Species

Remarks: NI = No indicator; insufficient information available to determine and indicator Status

HYDROLOGY

_____Recorded Data (Describe in Remarks) _____Stream, Lake or Tide Gauge X Aerial Photographs X Other ____No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ___Inundated X Saturated in Upper 12 Inches ___ Water Marks _X Drift Lines __Sediment Deposits ___Drainage Patters in Wetlands Secondary Indicators (2 or more required): ___Oxidized Root Channels in Upper 12 Inches _X Local Soil Survey Data ___FAC Neutral Test __ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: --- inches Depth to Free Water in Pit: --- inches Depth to Saturated Soil: 0 inches	
Remarks: USDA-FSA Aerial Photograph; USDA-FSA ''ides from 1981-1999 indicate wetland signatures 15 ,ears out of 17	Remarks

SOILS

Map Unit Name
(Series and Phase): Nowen Sandy Loam Drainage Class: Somewhat Poorly and Poorly Drained

Taxonomy: Mollic Ocharaqualf Field Observations Confirm Mapped Type? ___ Yes _X_ No

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture
0-4	Oa	N 2.5/0			Mucky Loam
4-16	Bg1	N 2.5/0			Silty Clay Loam
16-24	Cg1	5GY 2.5/1			Silty Clay

Hydric Soil Indicators:

_____Histosol
_____Histic Epipedon
____ Sulfidic Odor
_X_ Aquic Moisture Regime
_X_Reducing Conditions
_X_Gleyed or Low Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soils
_____Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other (Explain in Remarks)

Remarks: Very poorly drained, hydric inclusion within Nowen mapunit

WETLAND DETERMINATION

Hydrophitic Vegetation Present? _X_ Yes __No

Wetland Hydrology Present? _X_ Yes _ No Is This Sample Point Within a Wetland? _X_ Yes ___ No

Hydric Soils Present: _X_ Yes __No

Remarks: Type 2 Wetland

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site Applicant/Owner: Phil Johnson Investigator(s): Mary M. West/Eagle Soil Services, Inc.			Date: 03/13/00 County: Anoka State: MN
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse)	X Yes _ Yes _ Yes	_ No X No X No	Community ID: Upland Transect ID: 2 Plot ID: 1

VEGETATION

Dominant Plant Species	Stratum	Indicator
Agricultural Field, not yet planted		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC -) - <10%
*Dominant Species

Remarks: NI = No indicator; insufficient information available to determine and indicator Status

HYDROLOGY

_____Recorded Data (Describe in Remarks) _____Stream, Lake or Tide Gauge X Aerial Photographs X Other ____No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ___Inundated ___Saturated in Upper 12 Inches ___ Water Marks ___Drift Lines __ Sediment Deposits ___Drainage Patters in Wetlands Secondary Indicators (2 or more required): ___Oxidized Root Channels in Upper 12 Inches ___Local Soil Survey Data ___FAC Neutral Test ___Other (Explain in Remarks)
Field Observations: Depth of Surface Water: __---__ inches Depth to Free Water in Pit: __---__ inches Depth to Saturated Soil: __---___inches	
Remarks: USDA-FSA Aerial Photograph; USDA-FSA ''des from 1981-1999 do not indicate wetland signatures	Remarks

SOILS

Map Unit Name
(Series and Phase): Heyder fine sandy loam, 6-12% slopes, eroded Drainage Class: Well Drained

Taxonomy: Typic Eutroboralf Field Observations Confirm Mapped Type? X Yes __No

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture
0-4	A	10YR 3/2			Fine Sandy Loam
4-14	Bt1	10YR 4/3			Fine Sandy Loam

Hydric Soil Indicators:

_____Histosol
_____Histic Epipedon
____ Sulfidic Odor
____ Aquic Moisture Regime
_____Reducing Conditions
_____Gleyed or Low Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soils
_____Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other (Explain in Remarks)

Remarks: Upland Soil

WETLAND DETERMINATION

Hydrophitic Vegetation Present? ___Yes X No

Wetland Hydrology Present? ___Yes X No Is This Sample Point Within a Wetland? ___ Yes X No

Hydric Soils Present: ___ Yes X No

Remarks: Upland; Agricultural Field

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site Applicant/Owner: Phil Johnson Investigator(s): Mary M. West/Eagle Soil Services, Inc.			Date: 03/13/00 County: Anoka State: MN
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse)	X Yes _ Yes _ Yes	_ No X No X No	Community ID: Wetland Transect ID: 2 Plot ID: 2

VEGETATION

Dominant Plant Species	Stratum	Indicator
*Phalaris arundinacea	H	FACW+
Typha latifolia	H	OBL

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC -): 90-100%
*Dominant Species

Remarks: NI = No indicator; insufficient information available to determine and indicator Status

HYDROLOGY

_____Recorded Data (Describe in Remarks) _____Stream, Lake or Tide Gauge X Aerial Photographs X Other ____No Recorded Data Available Field Observations: Depth of Surface Water: 6-8 inches Depth to Free Water in Pit: 0 inches Depth to Saturated Soil: 0 inches	Wetland Hydrology Indicators: Primary Indicators: X Inundated X Saturated in Upper 12 Inches ___ Water Marks X Drift Lines __Sediment Deposits ___Drainage Patters in Wetlands Secondary Indicators (2 or more required): ___Oxidized Root Channels in Upper 12 Inches ___ Local Soil Survey Data ___FAC Neutral Test ___ Other (Explain in Remarks)
Remarks: USDA-FSA Aerial Photograph: USDA-FSA slides from 1981-1999 indicate wetland signatures 17 out 7 years.	Remarks:

SOILS

Map Unit Name
(Series and Phase): Dalbo silt loam 1-5% slopes Drainage Class: Moderately Well Drained

Taxonomy: Aquic Eutroboralf Field Observations Confirm Mapped Type? ___ Yes X No

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture
0-10	A	N 2.5/0			Mucky Loam
10-16	B1	10YR 2/1	C2P 10YR 4/6		Clay Loam

Hydric Soil Indicators:

_____Histosol
__X_Histic Epipedon
____ Sulfidic Odor
_____ Aquic Moisture Regime
__X_Reducing Conditions
__X_Gleyed or Low Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soils
_____Organic Streaking in Sandy Soils
_____Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other (Explain in Remarks)

Remarks: Very poorly drained, hydric inclusion within Dalbo mapunit

WETLAND DETERMINATION

Hydrophitic Vegetation Present? __X__Yes ___No

Wetland Hydrology Present? __X__Yes _ No Is This Sample Point Within a Wetland? __X__ Yes ___ No

Hydric Soils Present: __X__ Yes ___No

Remarks: Type 3 Wetland pocket.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site Applicant/Owner: Phil Johnson Investigator(s): Mary M. West/Eagle Soil Services, Inc.			Date: 03/13/00 County: Anoka State: MN
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse)	X Yes _ Yes _ Yes	_ No X No X No	Community ID: Upland Transect ID: 3 Plot ID: 1

VEGETATION

Dominant Plant Species	Stratum	Indicator
*Bromus purgans	H	FACU+
*Rhus typhina	S	N/I
Monarda fistolosa	H	FACU
Rubus strigosus	S	FACW-
*Solidago canadensis	H	FACU

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC -) - <10%
*Dominant Species

Remarks: NI = No indicator; insufficient information available to determine and indicator Status

HYDROLOGY

_____Recorded Data (Describe in Remarks) _____Stream, Lake or Tide Gauge X Aerial Photographs X Other ____No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ___Inundated ___Saturated in Upper 12 Inches ___ Water Marks ___Drift Lines __ Sediment Deposits ___Drainage Patters in Wetlands Secondary Indicators (2 or more required): ___Oxidized Root Channels in Upper 12 Inches ___Local Soil Survey Data ___FAC Neutral Test ___Other (Explain in Remarks)
Field Observations: Depth of Surface Water: __---__ inches Depth to Free Water in Pit: __---__ inches Depth to Saturated Soil: __---__inches	
Remarks: USDA-FSA Aerial Photograph; USDA-FSA ··tes from 1981-1999 do not indicate wetland signatures	Remarks

SOILS

Map Unit Name
(Series and Phase): Heyder fine sandy loam, 6-12% slopes, eroded Drainage Class: Well Drained

Taxonomy: Typic Eutroboralf Field Observations Confirm Mapped Type? X Yes __No

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture
0-3	A	10YR 3/2			Fine Sandy Loam
3-18	Bt1	10YR 4/3			Fine Sandy Loam

Hydric Soil Indicators:

_____Histosol
_____Histic Epipedon
____ Sulfidic Odor
____ Aquic Moisture Regime
_____Reducing Conditions
_____Gleyed or Low Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soils
_____Organic Streaking in Sandy Soils
____ Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other (Explain in Remarks)

Remarks: Upland Soil

WETLAND DETERMINATION

Hydrophitic Vegetation Present? ___Yes X No

Wetland Hydrology Present? ___Yes X No Is This Sample Point Within a Wetland? ___ Yes X No

Hydric Soils Present: ___ Yes X No

Remarks: Upland

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site Applicant/Owner: Phil Johnson Investigator(s): Mary M. West/Eagle Soil Services, Inc.			Date: 03/13/00 County: Anoka State: MN
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse)	X Yes _ Yes _ Yes	_ No X No X No	Community ID: Wetland Transect ID: 3 Plot ID: 2

VEGETATION

Dominant Plant Species	Stratum	Indicator
*Phalaris arundinacea	H	FACW+
Carex stricta	H	OBL

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC -): 90-100%
*Dominant Species

Remarks: NI = No indicator; insufficient information available to determine and indicator Status

HYDROLOGY

_____Recorded Data (Describe in Remarks)
_____Stream, Lake or Tide Gauge
X Aerial Photographs
X Other
____No Recorded Data Available

Field Observations:
Depth of Surface Water: 4-6 inches
Depth to Free Water in Pit: 0 inches
Depth to Saturated Soil: 0 inches

Wetland Hydrology Indicators:
Primary Indicators:
X Inundated
X Saturated in Upper 12 Inches
___ Water Marks
_ Drift Lines
__Sediment Deposits
___Drainage Patters in Wetlands
Secondary Indicators (2 or more required):
___Oxidized Root Channels in Upper 12 Inches
___ Local Soil Survey Data
___FAC Neutral Test
X Other (Explain in Remarks)

Remarks: USDA-FSA Aerial Photograph; USDA-FSA ...es from 1981-1999 indicate wetland signatures 17 ...rs out of 17

Remarks: NWI map identifies area as PEMC Wetland

SOILS

Map Unit Name
(Series and Phase): Heyder fine sandy loam 6-12% slopes, eroded Drainage Class: Well Drained

Taxonomy: Typic Eutroboralf Field Observations Confirm Mapped Type? ___ Yes X No

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture
0-6	Oa	N 2.5/0			Mucky Loam
6-14	Bg1	N 2.5/0			Silty Clay Loam

Hydric Soil Indicators:

_____Histosol
__X Histic Epipedon
__X__ Sulfidic Odor
__X___ Aquic Moisture Regime
__X___Reducing Conditions
__X____Gleyed or Low Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soils
_____Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other (Explain in Remarks)

Remarks: Very poorly drained, hydric inclusion within Heyder mapunit

WETLAND DETERMINATION

Hydrophitic Vegetation Present? __X__Yes __No

Wetland Hydrology Present? __X__Yes __No Is This Sample Point Within a Wetland? __X__ Yes ___ No

Hydric Soils Present: __X__ Yes __No

Remarks: Type 2 Wetland fringe around small Type 3 pocket

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site Applicant/Owner: Phil Johnson Investigator(s): Mary M. West/Eagle Soil Services, Inc.			Date: 03/13/00 County: Anoka State: MN
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse)	X Yes _ Yes _ Yes	_ No X No X No	Community ID: Upland Transect ID: 4 Plot ID: 1

VEGETATION

Dominant Plant Species	Stratum	Indicator
*Bromus purgans	H	FACU+
*Rhus typhina	S	N/I
Monarda fistolosa	H	FACU
Rubus strigosus	S	FACW-
*Solidago canadensis	H	FACU

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC -) - <10%
*Dominant Species

Remarks: NI = No indicator; insufficient information available to determine and indicator Status

HYDROLOGY

_____Recorded Data (Describe in Remarks) _____Stream, Lake or Tide Gauge X Aerial Photographs X Other ____No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ___Inundated __Saturated in Upper 12 Inches ___ Water Marks ___Drift Lines _ Sediment Deposits ___Drainage Patters in Wetlands Secondary Indicators (2 or more required): ___Oxidized Root Channels in Upper 12 Inches ___Local Soil Survey Data ___FAC Neutral Test ___Other (Explain in Remarks)
Field Observations: Depth of Surface Water: __---__ inches Depth to Free Water in Pit: __---__ inches Depth to Saturated Soil: __---__inches	
Remarks: USDA-FSA Aerial Photograph; USDA-FSA slides from 1981-1999 do not indicate wetland signatures	Remarks

SOILS

Map Unit Name
(Series and Phase): Heyder fine sandy loam, 6-12% slopes, eroded Drainage Class: Well Drained

Taxonomy: Typic Eutroboralf Field Observations Confirm Mapped Type? X Yes No

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture
0-3	A	10YR 3/2			Fine Sandy Loam
3-18	Bt1	10YR 4/3			Fine Sandy Loam

Hydric Soil Indicators:

_____Histosol
_____Histic Epipedon
____ Sulfidic Odor
____ Aquic Moisture Regime
_____Reducing Conditions
_____Gleyed or Low Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soils
_____Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other (Explain in Remarks)

Remarks: Upland Soil

WETLAND DETERMINATION

Hydrophitic Vegetation Present? ___Yes X No

Wetland Hydrology Present? ___Yes X No Is This Sample Point Within a Wetland? ___ Yes X No

Hydric Soils Present: ___ Yes X No

Remarks: Upland

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site Applicant/Owner: Phil Johnson Investigator(s): Mary M. West/Eagle Soil Services, Inc.			Date: 03/13/00 County: Anoka State: MN
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse)	X Yes _ Yes _ Yes	_ No X No X No	Community ID: Wetland Transect ID: 4 Plot ID: 2

VEGETATION

Dominant Plant Species	Stratum	Indicator
*Phalaris arundinacea	H	FACW+
Carex stricta	H	OBL

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC -): 90-100%
*Dominant Species

Remarks: NI = No indicator; insufficient information available to determine and indicator Status

HYDROLOGY

_____Recorded Data (Describe in Remarks) _____Stream, Lake or Tide Gauge _X_Aerial Photographs _X_Other ____No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: _X_Inundated _X_Saturated in Upper 12 Inches ___ Water Marks _ Drift Lines __Sediment Deposits ___Drainage Patters in Wetlands Secondary Indicators (2 or more required): ___Oxidized Root Channels in Upper 12 Inches ___ Local Soil Survey Data ___FAC Neutral Test _X_ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _4-6_ inches Depth to Free Water in Pit: _0_ inches Depth to Saturated Soil: _0_ inches	
Remarks: USDA-FSA Aerial Photograph; USDA-FSA slides from 1981-1999 indicate wetland signatures 17 years out of 17	Remarks: NWI map identifies area as PEMC Wetland

SOILS

Map Unit Name
(Series and Phase): Heyder fine sandy loam 6-12% slopes, eroded Drainage Class: Well Drained

Taxonomy: Typic Eutroboralf Field Observations Confirm Mapped Type? ___ Yes X No

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture
0-6	Oa	N 2.5/0			Mucky Loam
6-18	Bg1	N 2.5/0			Silty Clay Loam

Hydric Soil Indicators:

_____Histosol	_____Concretions
__X Histic Epipedon	_____High Organic Content in Surface Layer in Sandy Soils
__X__ Sulfidic Odor	_____Organic Streaking in Sandy Soils
__X___ Aquic Moisture Regime	_____ Listed on Local Hydric Soils List
__X___Reducing Conditions	_____Listed on National Hydric Soils List
__X____Gleyed or Low Chroma Colors	_____Other (Explain in Remarks)

Remarks: Very poorly drained, hydric inclusion within Heyder mapunit

WETLAND DETERMINATION

Hydrophitic Vegetation Present? __X__Yes __No

Wetland Hydrology Present? __X__Yes _ No Is This Sample Point Within a Wetland? __X__ Yes ___ No

Hydric Soils Present: __X__ Yes __No

Remarks: Type 2 Wetland fringe around small Type 3 pocket

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site Applicant/Owner: Phil Johnson Investigator(s): Mary M. West/Eagle Soil Services, Inc.			Date: 03/13/00 County: Anoka State: MN
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse)	X Yes _ Yes _ Yes	_ No X No X No	Community ID: Upland Transect ID: 5 Plot ID: 1

VEGETATION

Dominant Plant Species	Stratum	Indicator
*Quercus rubra	T	FACU
*Rhus typhina	S	N/I
Rubus strigosus	S	FACW-
*Solidago canadensis	H	FACU
Ulmus americana	T	FACW-

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC -) - <10%
*Dominant Species

Remarks: NI = No indicator; insufficient information available to determine and indicator Status

HYDROLOGY

_____Recorded Data (Describe in Remarks) _____Stream, Lake or Tide Gauge X Aerial Photographs X Other ____No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ___Inundated __Saturated in Upper 12 Inches ___ Water Marks ___Drift Lines _ Sediment Deposits ___Drainage Patters in Wetlands Secondary Indicators (2 or more required): ___Oxidized Root Channels in Upper 12 Inches ___Local Soil Survey Data ___FAC Neutral Test ___Other (Explain in Remarks)
Field Observations: Depth of Surface Water: __---__ inches Depth to Free Water in Pit: _---_ inches Depth to Saturated Soil: _---___inches	
Remarks: USDA-FSA Aerial Photograph; USDA-FSA ''des from 1981-1999 do not indicate wetland signatures	Remarks

SOILS

Map Unit Name
(Series and Phase): Heyder fine sandy loam, 6-12% slopes, eroded Drainage Class: Well Drained

Taxonomy: Typic Eutroboralf Field Observations Confirm Mapped Type? X Yes No

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture
0-5	A	10YR 3/2			Fine Sandy Loam
5-18	Bt1	10YR 4/3			Fine Sandy Loam

Hydric Soil Indicators:

_____Histosol
_____Histic Epipedon
____ Sulfidic Odor
____ Aquic Moisture Regime
_____Reducing Conditions
_____Gleyed or Low Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soils
_____Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other (Explain in Remarks)

Remarks: Upland Soil

WETLAND DETERMINATION

Hydrophitic Vegetation Present? ___Yes X No
+
Wetland Hydrology Present? ___Yes X No Is This Sample Point Within a Wetland? ___ Yes X No

Hydric Soils Present: ___ Yes X No

Remarks: Upland

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site Applicant/Owner: Phil Johnson Investigator(s): Mary M. West/Eagle Soil Services, Inc.			Date: 03/13/00 County: Anoka State: MN
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse)	X Yes _ Yes _ Yes	_ No X No X No	Community ID: Wetland Transect ID: 5 Plot ID: 2

VEGETATION

Dominant Plant Species	Stratum	Indicator
*Phalaris arundinacea	H	FACW+

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC -): 90-100%
*Dominant Species

Remarks: NI = No indicator; insufficient information available to determine and indicator Status

HYDROLOGY

_____Recorded Data (Describe in Remarks) _____Stream, Lake or Tide Gauge X Aerial Photographs X Other ____No Recorded Data Available Field Observations: Depth of Surface Water: --- inches Depth to Free Water in Pit: --- inches Depth to Saturated Soil: 0 inches	Wetland Hydrology Indicators: Primary Indicators: ___Inundated X Saturated in Upper 12 Inches ___ Water Marks X Drift Lines ___Sediment Deposits ___Drainage Patters in Wetlands Secondary Indicators (2 or more required): ___Oxidized Root Channels in Upper 12 Inches ___ Local Soil Survey Data ___FAC Neutral Test ___ Other (Explain in Remarks)
Remarks:	Remarks:

SOILS

Map Unit Name
(Series and Phase): Heyder fine sandy loam 6-12% slopes, eroded Drainage Class: Well Drained

Taxonomy: Typic Eutroboralf Field Observations Confirm Mapped Type? ___ Yes _X_ No

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture
0-6	Oa	N 2.5/0			Mucky Loam
6-18	Bg1	N 2.5/0			Silty Clay Loam

Hydric Soil Indicators:

_____Histosol
_____Histic Epipedon
__X__ Sulfidic Odor
_____ Aquic Moisture Regime
__X___Reducing Conditions
__X____Gleyed or Low Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soils
_____Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other (Explain in Remarks)

Remarks: Very poorly drained, hydric inclusion within Heyder mapunit

WETLAND DETERMINATION

Hydrophitic Vegetation Present? _X_ Yes ___No

Wetland Hydrology Present? _X_ Yes __ No Is This Sample Point Within a Wetland? _X_ Yes ___ No

Hydric Soils Present: _X_ Yes __No

Remarks: Type 2 Wetland

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site Applicant/Owner: Phil Johnson Investigator(s): Mary M. West/Eagle Soil Services, Inc.			Date: 03/13/00 County: Anoka State: MN
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse)	X Yes _ Yes _ Yes	_ No X No X No	Community ID: Upland Transect ID: 6 Plot ID: 1

VEGETATION

Dominant Plant Species	Stratum	Indicator
*Quercus rubra	T	FACU
*Acer rubrum	S	FAC

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC -) - <10%
*Dominant Species

Remarks: NI = No indicator; insufficient information available to determine and indicator Status

HYDROLOGY

_____Recorded Data (Describe in Remarks) _____Stream, Lake or Tide Gauge X Aerial Photographs X Other ____No Recorded Data Available Field Observations: Depth of Surface Water: --- inches Depth to Free Water in Pit: --- inches Depth to Saturated Soil: --- inches	Wetland Hydrology Indicators: Primary Indicators: ___Inundated ___Saturated in Upper 12 Inches ___ Water Marks ___Drift Lines _ Sediment Deposits ___Drainage Patters in Wetlands Secondary Indicators (2 or more required): ___Oxidized Root Channels in Upper 12 Inches ___Local Soil Survey Data ___FAC Neutral Test ___Other (Explain in Remarks)
Remarks: USDA-FSA Aerial Photograph; USDA-FSA slides from 1981-1999 do not indicate wetland signatures	Remarks

SOILS

Map Unit Name
(Series and Phase): Heyder fine sandy loam, 6-12% slopes, eroded Drainage Class: Well Drained

Taxonomy: Typic Eutroboralf Field Observations Confirm Mapped Type? X Yes __No

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture
0-4	A	10YR 3/2			Fine Sandy Loam
4-16	Bt1	10YR 4/3			Fine Sandy Loam

Hydric Soil Indicators:

_____Histosol
_____Histic Epipedon
____ Sulfidic Odor
____ Aquic Moisture Regime
_____Reducing Conditions
_____Gleyed or Low Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soils
_____Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other (Explain in Remarks)

Remarks: Upland Soil

WETLAND DETERMINATION

Hydrophitic Vegetation Present? ___Yes X No
+
Wetland Hydrology Present? ___Yes X No Is This Sample Point Within a Wetland? ___ Yes X No

Hydric Soils Present: ___ Yes X No

Remarks: Upland Woods

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site Applicant/Owner: Phil Johnson Investigator(s): Mary M. West/Eagle Soil Services, Inc.			Date: 03/13/00 County: Anoka State: MN
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse)	X Yes _ Yes _ Yes	_ No X No X No	Community ID: Upland Transect ID: 6 Plot ID: 2

VEGETATION

Dominant Plant Species	Stratum	Indicator
*Quercus rubra	T	FACU
*Acer rubrum	S	FAC
Tilia americana	S	FACU

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC -) - <10%
*Dominant Species

Remarks: NI = No indicator; insufficient information available to determine and indicator Status

HYDROLOGY

_____Recorded Data (Describe in Remarks) _____Stream, Lake or Tide Gauge X Aerial Photographs X Other ____No Recorded Data Available Field Observations: Depth of Surface Water: --- inches Depth to Free Water in Pit: --- inches Depth to Saturated Soil: --- inches	Wetland Hydrology Indicators: Primary Indicators: ___Inundated __Saturated in Upper 12 Inches ___ Water Marks ___Drift Lines _ Sediment Deposits ___Drainage Patters in Wetlands Secondary Indicators (2 or more required): ___Oxidized Root Channels in Upper 12 Inches ___Local Soil Survey Data ___FAC Neutral Test ___Other (Explain in Remarks)
Remarks: USDA-FSA Aerial Photograph; USDA-FSA slides from 1981-1999 do not indicate wetland signatures	Remarks

SOILS

Map Unit Name
(Series and Phase): Heyder fine sandy loam, 6-12% slopes, eroded Drainage Class: Well Drained

Taxonomy: Typic Eutroboralf Field Observations Confirm Mapped Type? X Yes No

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture
0-4	A	10YR 2/1			Fine Sandy Loam
4-8	E	10YR 3/2			Fine Sandy Loam
8-18	Bt1	10YR 4/2	C2D 10YR 4/4, C2P 10YR 4/6		Fine Sandy Loam

Hydric Soil Indicators:

_____Histosol
_____Histic Epipedon
_____ Sulfidic Odor
_____ Aquic Moisture Regime
_____Reducing Conditions
__X__Gleyed or Low Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soils
_____Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other (Explain in Remarks)

Remarks: Poorly drained inclusion within Heyder mapunit

WETLAND DETERMINATION

Hydrophitic Vegetation Present? ___Yes _X__No
+
Wetland Hydrology Present? ___Yes _X No Is This Sample Point Within a Wetland? ___ Yes _X__ No

Hydric Soils Present: ___ Yes _X__No

Remarks: Small depression in upland woods. Area appears to be used for mulching leaves and cutting of firewood. May have been wetter at one time. No herbaceous vegetation present; evidence of erosion from upland naturally filling in depression.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site Applicant/Owner: Phil Johnson Investigator(s): Mary M. West/Eagle Soil Services, Inc.			Date: 03/13/00 County: Anoka State: MN
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse)	X Yes _ Yes _ Yes	_ No X No X No	Community ID: Upland Transect ID: 7 Plot ID: 1

VEGETATION

Dominant Plant Species	Stratum	Indicator
*Bromus purgans	H	FACU+
Setaria glauca	H	FACU
Setaria italica	H	FAC

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC -) - <10%
*Dominant Species

Remarks: NI = No indicator; insufficient information available to determine and indicator Status

HYDROLOGY

_____Recorded Data (Describe in Remarks) _____Stream, Lake or Tide Gauge X Aerial Photographs X Other ____No Recorded Data Available Field Observations: Depth of Surface Water: --- inches Depth to Free Water in Pit: --- inches Depth to Saturated Soil: --- inches	Wetland Hydrology Indicators: Primary Indicators: ___Inundated ___Saturated in Upper 12 Inches ___ Water Marks ___Drift Lines _ Sediment Deposits ___Drainage Patters in Wetlands Secondary Indicators (2 or more required): ___Oxidized Root Channels in Upper 12 Inches ___Local Soil Survey Data ___FAC Neutral Test ___Other (Explain in Remarks)
Remarks: USDA-FSA Aerial Photograph; USDA-FSA slides from 1981-1999 do not indicate wetland signatures	Remarks

SOILS

Map Unit Name
(Series and Phase): Dalbo silt loam, 1-5% slopes Drainage Class: Moderately Well Drained

Taxonomy: Aquic Eutroboralf Field Observations Confirm Mapped Type? X Yes __No

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture
0-6	Ap	10YR 3/2			Loam
6-20	Bt1	10YR 4/3	C2P 10YR 4/6, Common 10YR 5/2 clay films		Clay Loam

Hydric Soil Indicators:

_____Histosol
_____Histic Epipedon
____ Sulfidic Odor
____ Aquic Moisture Regime
_____Reducing Conditions
___Gleyed or Low Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soils
_____Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophitic Vegetation Present? ___Yes X No
+
Wetland Hydrology Present? ___Yes X No Is This Sample Point Within a Wetland? ___ Yes X No

Hydric Soils Present: ___ Yes X No

Remarks: Abandoned agricultural field

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site Applicant/Owner: Phil Johnson Investigator(s): Mary M. West/Eagle Soil Services, Inc.			Date: 03/13/00 County: Anoka State: MN
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse)	X Yes __ Yes __ Yes	__ No X No X No	Community ID: Upland Transect ID: 7 Plot ID: 2

VEGETATION

Dominant Plant Species	Stratum	Indicator
*Bromus purgans	H	FACU+
Setaria glauca	H	FACU
Setaria italica	H	FAC

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC -) - <10%
*Dominant Species

Remarks: NI = No indicator; insufficient information available to determine and indicator Status

HYDROLOGY

_____Recorded Data (Describe in Remarks) _____Stream, Lake or Tide Gauge X Aerial Photographs X Other ____No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ___Inundated ___Saturated in Upper 12 Inches ___ Water Marks ___Drift Lines __ Sediment Deposits ___Drainage Patters in Wetlands Secondary Indicators (2 or more required): ___Oxidized Root Channels in Upper 12 Inches ___Local Soil Survey Data ___FAC Neutral Test ___Other (Explain in Remarks)
Field Observations: Depth of Surface Water: ____--- inches Depth to Free Water in Pit: ____--- inches Depth to Saturated Soil: ____--- inches	
Remarks: USDA-FSA Aerial Photograph; USDA-FSA slides from 1981-1999 do not indicate wetland signatures	Remarks

SOILS

Map Unit Name
(Series and Phase): Dalbo silt loam, 1-5% slopes Drainage Class: Moderately Well Drained

Taxonomy: Aquic Eutroboralf Field Observations Confirm Mapped Type? X Yes __No

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture
0-6	Ap	10YR 2/1			Loam
6-8	E	10YR 3/2			Loam
8-16	Bt1	10YR 4/3	C2P 10YR 4/6, Common 10YR 5/2 clay films		Clay Loam

Hydric Soil Indicators:

_____Histosol
_____Histic Epipedon
_____ Sulfidic Odor
_____ Aquic Moisture Regime
_____Reducing Conditions
___Gleyed or Low Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soils
_____Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophitic Vegetation Present? ___Yes X No
±
Wetland Hydrology Present? ___Yes X No Is This Sample Point Within a Wetland? ___ Yes X No

Hydric Soils Present: ___ Yes X No

Remarks: Abandoned agricultural field

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site Applicant/Owner: Phil Johnson Investigator(s): Mary M. West/Eagle Soil Services, Inc.			Date: 03/13/00 County: Anoka State: MN
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse)	X Yes _ Yes _ Yes	_ No X No X No	Community ID: Upland Transect ID: 8 Plot ID: 1

VEGETATION

Dominant Plant Species	Stratum	Indicator
*Bromus purgans	H	FACU+
*Solidago canadensis	H	FACU

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC -) - <10%
*Dominant Species

Remarks: NI = No indicator; insufficient information available to determine and indicator Status

HYDROLOGY

_____Recorded Data (Describe in Remarks) _____Stream, Lake or Tide Gauge X Aerial Photographs X Other ____No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ___Inundated ___Saturated in Upper 12 Inches ___ Water Marks ___Drift Lines __ Sediment Deposits ___Drainage Patters in Wetlands Secondary Indicators (2 or more required): ___Oxidized Root Channels in Upper 12 Inches ___Local Soil Survey Data ___FAC Neutral Test ___Other (Explain in Remarks)
Field Observations: Depth of Surface Water: __---__ inches Depth to Free Water in Pit: __---__ inches Depth to Saturated Soil: __---__inches	
Remarks: USDA-FSA Aerial Photograph; USDA-FSA ''des from 1981-1999 do not indicate wetland signatures	Remarks

SOILS

Map Unit Name
(Series and Phase): Hayden fine sandy loam 6-12% slopes, eroded Drainage Class: Well Drained

Taxonomy: Typic Hapludralf Field Observations Confirm Mapped Type? X Yes __No

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture
0-4	Ap	10YR 3/2			Fine Sandy Loam
4-16	Bt1	10YR 4/3			Loam

Hydric Soil Indicators:

_____Histosol	_____Concretions
_____Histic Epipedon	_____High Organic Content in Surface Layer in Sandy Soils
____ Sulfidic Odor	_____Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	_____ Listed on Local Hydric Soils List
_____Reducing Conditions	_____Listed on National Hydric Soils List
___Gleyed or Low Chroma Colors	_____Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophitic Vegetation Present? ___Yes X No

Wetland Hydrology Present? ___Yes X No Is This Sample Point Within a Wetland? ___ Yes X No

Hydric Soils Present: ___ Yes X No

Remarks: Abandoned agricultural field

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site Applicant/Owner: Phil Johnson Investigator(s): Mary M. West/Eagle Soil Services, Inc.			Date: 03/13/00 County: Anoka State: MN
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse)	X Yes _ Yes _ Yes	_ No X No X No	Community ID: Wetland Transect ID: 8 Plot ID: 2

VEGETATION

Dominant Plant Species	Stratum	Indicator
*Phalaris arundinacea	H	FACW+
Solidago canadensis	H	FACU
Solidago gigantea	H	FACW
Echlinochloa crusgalli	H	FACW

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC -): 60-80%
*Dominant Species

Remarks: NI = No indicator; insufficient information available to determine and indicator Status

HYDROLOGY

_____Recorded Data (Describe in Remarks) _____Stream, Lake or Tide Gauge X Aerial Photographs X Other ____No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: __Inundated X Saturated in Upper 12 Inches ___ Water Marks _Drift Lines __Sediment Deposits ___Drainage Patters in Wetlands Secondary Indicators (2 or more required): ___Oxidized Root Channels in Upper 12 Inches ___ Local Soil Survey Data ___FAC Neutral Test ___ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: __---__inches Depth to Free Water in Pit: __---__ inches Depth to Saturated Soil: __0__inches	
Remarks: USDA-FSA Aerial Photograph: USDA-FSA slides from 1981-1999 indicate wetland signatures 10 out of 17 years.	Remarks:

SOILS

Map Unit Name
(Series and Phase): Dalbo silt loam 1-5% slopes Drainage Class: Moderately Well Drained

Taxonomy: Aquic Eutroboralf Field Observations Confirm Mapped Type? ___ Yes _X_ No

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture
0-4	A	10YR 2/1			Clay Loam
4-18	B1	10YR 4/2	C2D 10YR 4/4, C2P 10YR 4/6		Clay Loam

Hydric Soil Indicators:

_____Histosol
___Histic Epipedon
____ Sulfidic Odor
_____ Aquic Moisture Regime
__X_Reducing Conditions
___X_Gleyed or Low Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soils
_____Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other (Explain in Remarks)

Remarks: Poorly drained, hydric inclusion within Dalbo mapunit

WETLAND DETERMINATION

Hydrophitic Vegetation Present? _X_ Yes __No

Wetland Hydrology Present? _X_ Yes _ No Is This Sample Point Within a Wetland? _X_ Yes ___ No

Hydric Soils Present: _X_ Yes __No

Remarks: Type 1 Wetland.

WETLAND DOCUMENTATION RECORD
REMOTELY SENSED DATA SUMMARY

Owner/Landuser: Phil Johnson
County/State: ANOKA COUNTY, MN
Slide Reviewer: Mary M. West/Eagle Soil Services Date: 03/13/00
Site Identification No: That part Secs. 2 & 3, T. 32 N., R. 25 W.

FSA COLOR SLIDE DATA

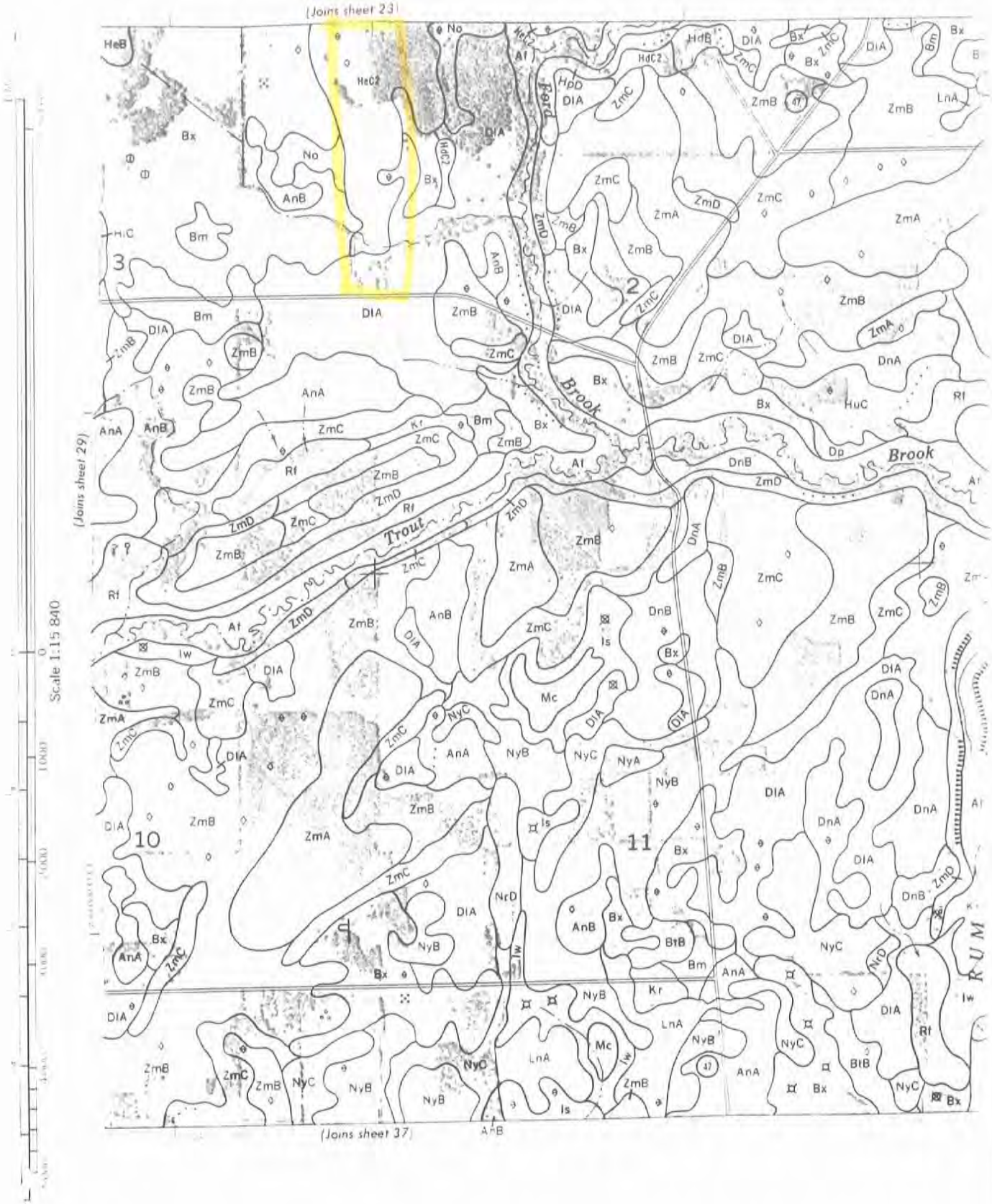
DATE	CLIMATE CONDITION	INTERPRETATION: DO = Drowned Out; CS = Crop Stress
9/81	NORMAL	Wetland pockets 1-4 visible
8/82	DRY	Wetland pockets 1-4 visible
10/83	NORMAL	Wetland pockets 1-4 visible
6/84	WET	Wetland pockets 1-4 visible
7/85	NORMAL	Wetland pockets 1-4 visible
7/86	NORMAL	Wetland pockets 1-4 visible
7/87	DRY	Wetland pockets 1-4 visible
7/88	DRY	Wetland pockets 1-4 visible
8/89	NORMAL	Wetland pockets 1-4 visible
7/90	WET	Wetland pockets 1-4 visible
7/91	WET	Wetland pockets 1-4 visible
6/92	DRY	Partial slide, property not completely visible
6/93	WET	Wetland pockets 1-4 visible
7/94	DRY	Wetland pockets 1, 3, 4
7/95	NORMAL	Slide Not Available
8/96	DRY	Wetland pockets 1-4 visible
7/97	NORMAL	Wetland pockets 1-4 visible
7/98	NORMAL	Wetland pockets 1-4 visible
8/99	DRY	Wetland pockets 1-4 visible

NWI CLASSIFICATION:

WETLANDS 1-4 PEMC (Palustrine, Emergent, Seasonally Flooded)

NUMBER OF YEARS OBSERVED THAT HAVE WET SIGNATURES:

WETLANDS #1, #3 & #4 = 17 out of 17 years
WETLAND #2 = 15 out of 17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(Joins sheet 29)
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Trout Brook
RUM
HeB
HeC2
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DIA
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ZmD
ZmA
HdC2
HdB
HpD
AnA
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Kr
HuC
DnA
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NrD
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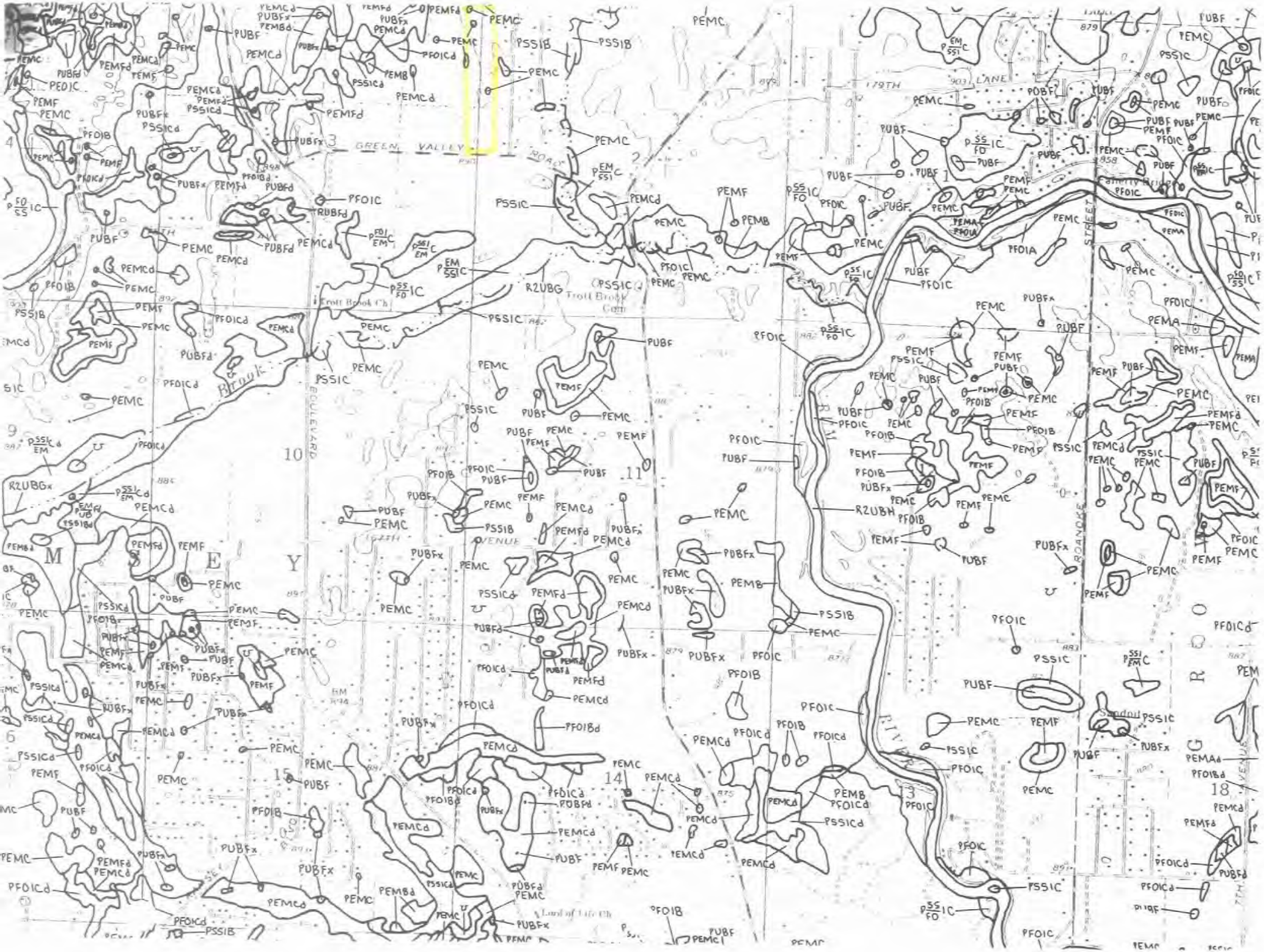
GREEN VALLEY ROAD
179TH LANE
MESEY BOULEVARD
ROANOKE STREET
Trout Brook Ch
Trout Brook
Family Bridge
Sandpoint
Land of Life Ch
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PEMCd
PUBFd
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PSSIC
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PSSICd
PEMB
PEMBd
PFO1C
PFO1B
PFO1Cd
PFO1Bd
PEMA
PFO1A
R2UBG
R2UBGx
R2UBH
PSS1C/EM
PSS1C/FO
PFO1C/SS1C
PEM/SS1C
PSS1Cd/EM
PEMA/PFO1A