Data Submittal-Limited Detailed Study for Selected Flooding Sources

Prepared for
Ramsey Washington Metro Watershed District

December 2004

23/62-851 BJL
Flood Map Revisions
Data Submittal - Limited Detailed Study
12/01/2004

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December 6, 2004

Ms. Suzanne Jiwani
Minnesota Department of Natural Resources
Headquarters
500 Lafayette Road
St. Paul, MN 55155

Re: Ramsey Washington Metro Watershed District—Data Submittal

Dear Ms. Jiwani:

This submittal is a collection of data for the selected flooding sources in the Ramsey Washington Metro Watershed District. The District would like to have these flood levels reviewed and approved for use by the municipalities in the district for flood management.

Figure 1 shows the location of the district and the subwatersheds within the district. Figures 2 through 6 show the subwatershed in greater detail with the selected flooding sources highlighted. The attached Tables 1 through 5 show the elevation of each flooding source for which the District would like to establish a flood elevation. Also, in this table is the common name of the flooding source and the DNR lake ID. Additional information is the hydrology and hydraulics model type and the year each was completed.

The backup data for each of these flood levels is included on the attached CD. The information on the CD is broken down by subwatershed. The data files for the watershed is included in ASCII format and as a .PDF file. The PDF file has been bookmarked so the critical data is easily accessible.

Please review this data and contact me at 952.832-2841 with any questions.

Sincerely,

Dean V Skallman

Dean V. Skallman, P.E.
Sr. Civil Engineer

DVS/ymh
Enclosure(s)

::ODMA\PCDOCS\DOCS\245109\1

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4700 West 77th Street
Minneapolis, MN 55435
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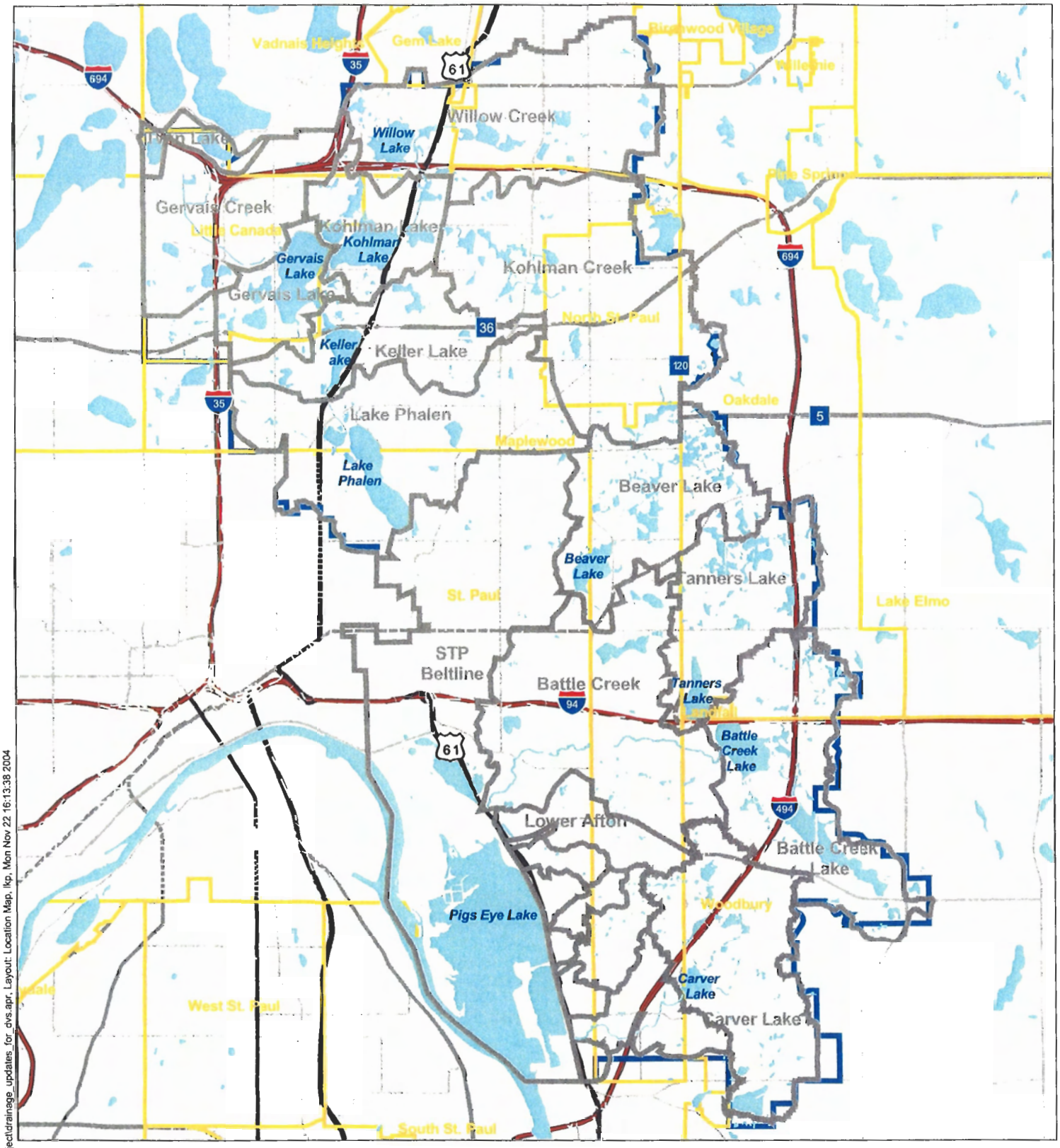
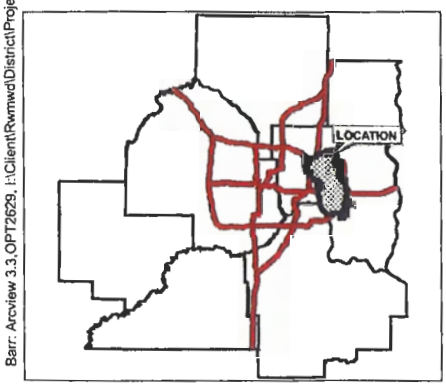
CD

With all tables, figures, and hydrology and hydraulic data broken down by subwatershed

Figures





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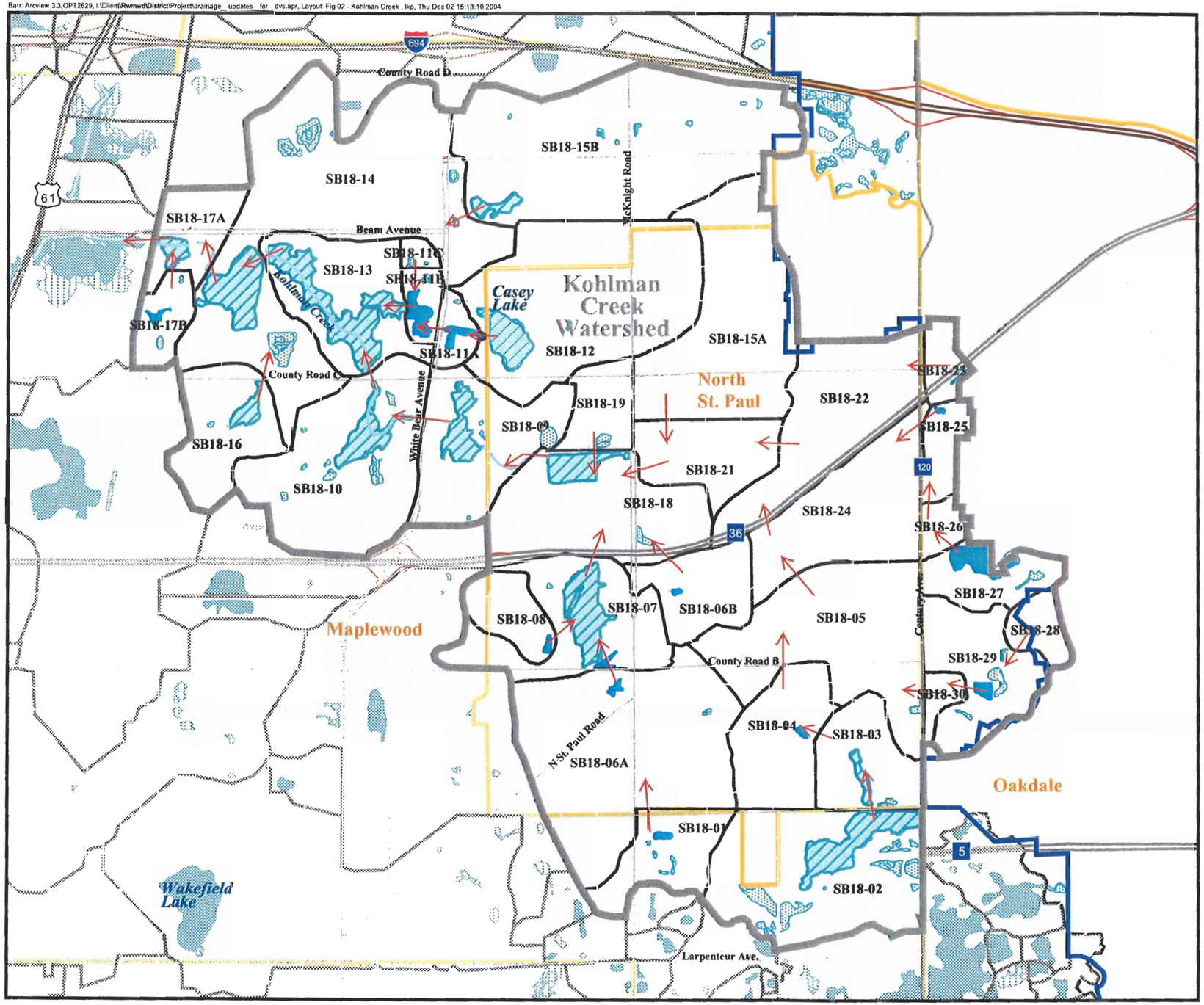
Ramsey-Washington Metro Watershed District

Figure 1

LOCATION MAP
Ramsey Washington Metro Watershed District

Barr: Arcview 3.3,OPT2629, I:\Client\Rwmwd\District\Project\drainage_updates_for_dvs.apr, Layout: Location Map, lkp, Mon Nov 22 16:13:38 2004

Barr: Arcview 3.3,OPT2629, I:\Client\Rwmwd\District\Project\drainage_updates_for_dvs.apr, Layout: Fig 02 - Kohlman Creek , lkp, Thu Dec 02 15:13:10 2004



0 400 800 1200 1600 Meters

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Ramsey-Washington Metro Watershed District

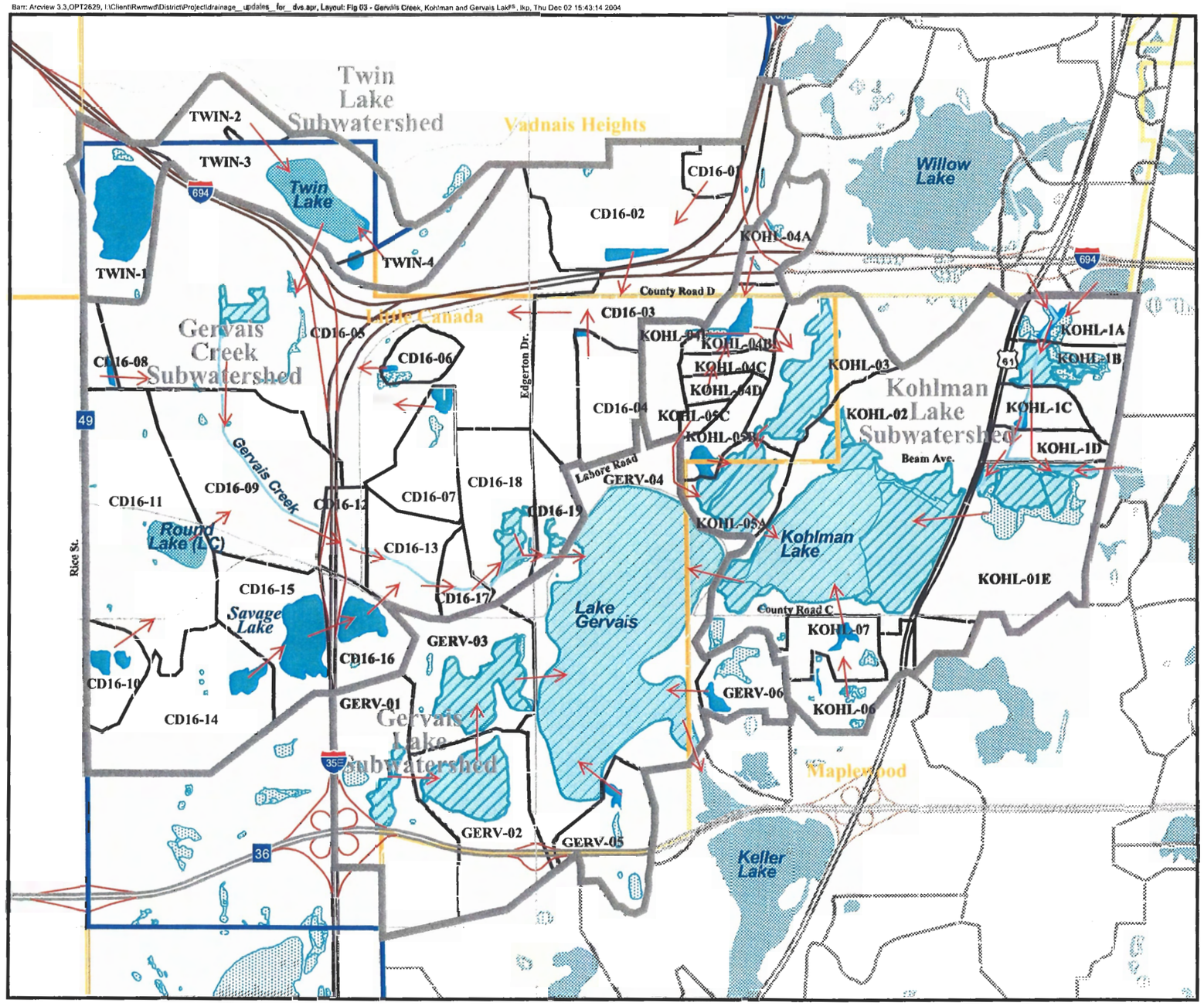
Drainage Patterns Features

- Creeks
- Selected Flooding Source
- Lakes
- Detention Ponds
- Wetlands (not modeled)
- Subwatershed Boundary
- Flow Direction
- Municipal Boundaries
- Ramsey-Washington Metro Watershed District Boundary
- C-58 Drainage Area

Figure 2

DRAINAGE PATTERNS
KOHLMAN CREEK (SOUTH BRANCH CD 18)
SUBWATERSHED

Barr: Arcview 3.3,OPT2629, I:\Client\Rwmwd\District\Project\drainage_updates_for_dvs.apr, Layout: Fig 03 - Gervais Creek, Kohlman and Gervais Lakes, lkp, Thu Dec 02 15:43:14 2004



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0 2000 4000 6000 Feet

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Ramsey-Washington Metro Watershed District

Drainage Patterns Features

- Creeks
- Selected Flooding Source
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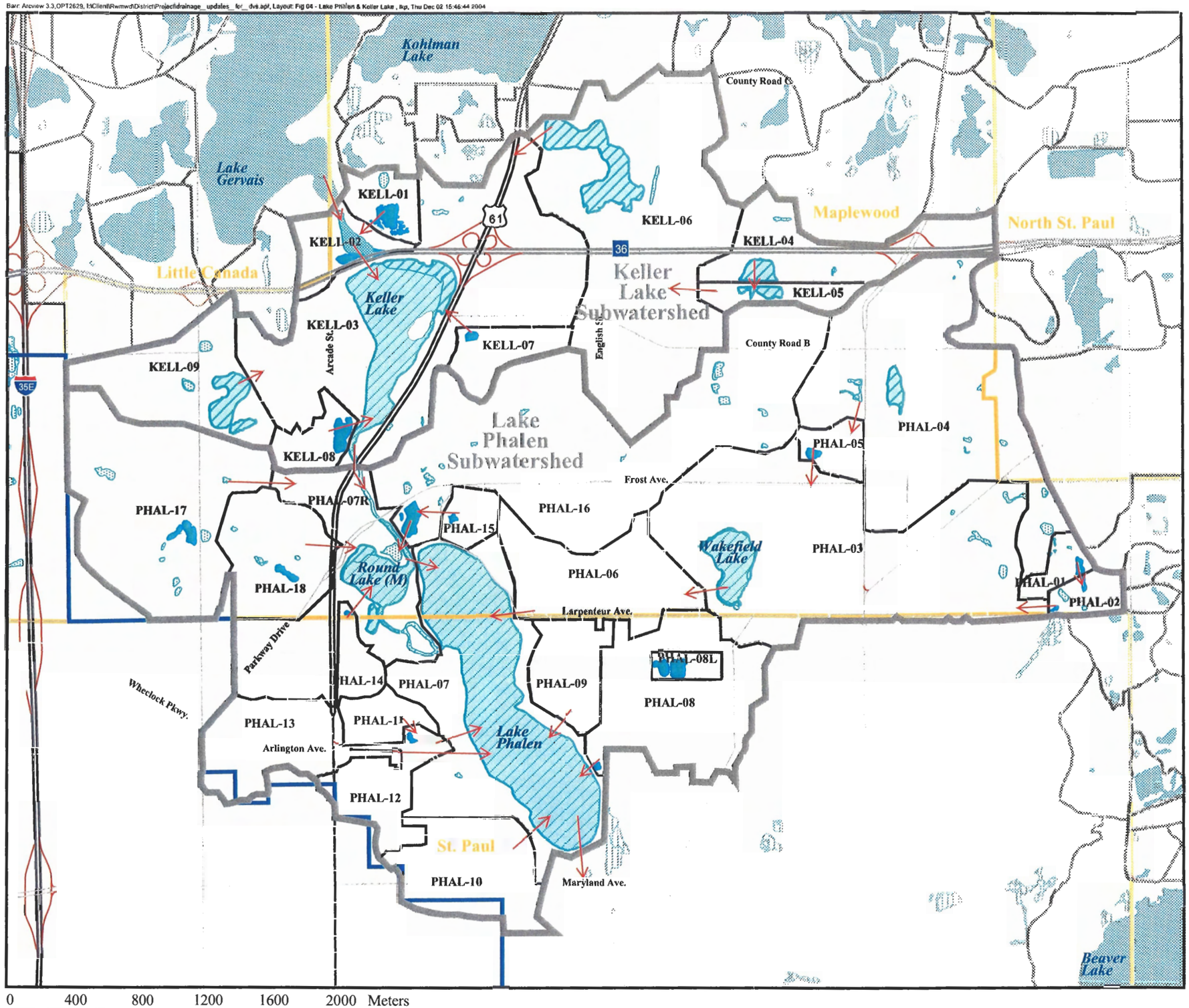
Figure 3

DRAINAGE PATTERNS
GERVAIS CREEK (COUNTY DITCH 16),
KOHLMAN LAKE, AND GERVAIS LAKE
SUBWATERSHEDS



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0 2000 4000 6000 Feet

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Ramsey-Washington Metro Watershed District

Drainage Patterns Features

- Creeks
- Selected Flooding Source
- Lakes
- Detention Ponds
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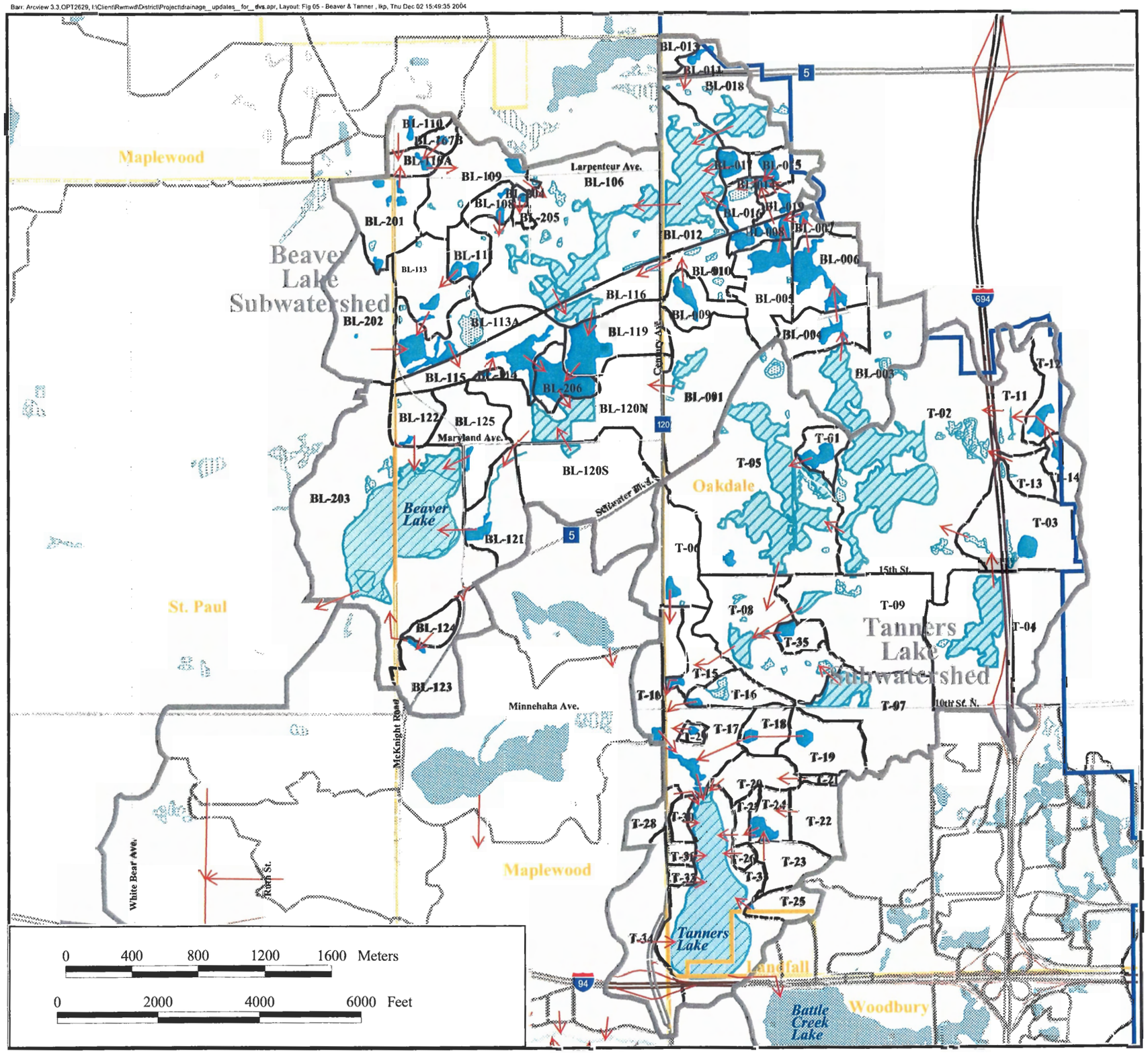
Figure 4

DRAINAGE PATTERNS
KELLER LAKE AND LAKE PHALEN
SUBWATERSHEDS

Barr: Arcview 3.3,OPT2629, I:\Client\Rwmwd\District\Project\drainage__updates__for__dvs.apr, Layout: Fig 05 - Beaver & Tanner , lkp, Thu Dec 02 15:49:35 2004

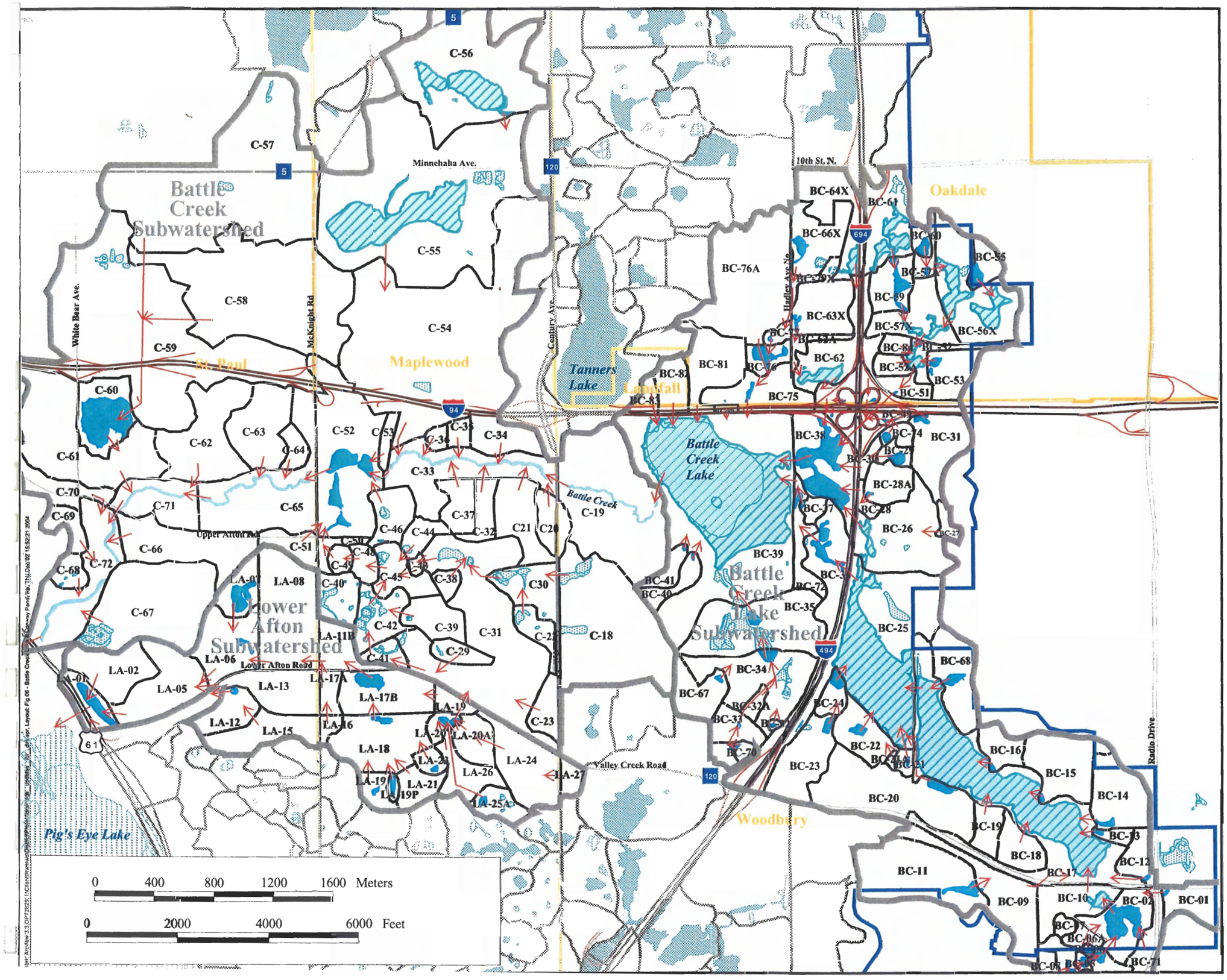


Drainage Patterns Features

- Creeks
- Selected Flooding Source
- Lakes
- Detention Ponds
- Wetlands (not modeled)
- Subwatershed Boundary
- Flow Direction
- Municipal Boundaries
- Ramsey-Washington Metro Watershed District Boundary
- C-58 Drainage Area

Figure 5

DRAINAGE PATTERNS
BEAVER LAKE AND TANNER LAKE
SUBWATERSHED



Ramsey-Washington Metro Watershed District

Drainage Patterns Features

- Creeks
- Selected Flooding Source
- Lakes
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Figure 6

DRAINAGE PATTERNS
BATTLE CREEK LAKE AND CONWAY POND
SUBWATERSHED

Tables

Table 1
Kohlman Creek Watersheds

Watershed	Sub watershed	100 Year Flood Elevation	Known Name Flooding Source	DNR Lake ID	Hydrology Model	Year Completed	Hydraulics Model	Year Completed	Critical Storm Duration
Kohlman Creek									
	SB18-02	993.1		62-239, 62-240	Barr	2002	Barr	2002	10 DAY
	SB18-03	891.7	Southwood Park wetland	62-269	Barr	2002	Barr	2002	6 HR
	SB18-07	937.4	Sod Farm Site		Barr	2002	Barr	2002	2 HR
	SB18-9	918.5		62-149	Barr	2002	Barr	2002	12 HR
	SB18-10	910.9		62-150	Barr	2002	Barr	2002	24 HR
	SB18-12	928.2	Casey Lake	62-5	Barr	2002	Barr	2002	12 HR
	SB18-13	888.3	Kohlman Creek		Barr	2002	Barr	2002	24 HR
	SB18-14	886.0	Markham Pond	62-139 62-141	Barr	2002	Barr	2002	10 DAY
	SB18-15B	947.9		62-254	Barr	2002	Barr	2002	6 HR
	SB18-16	903.8		62-151	Barr	2002	Barr	2002	2 DAY
	SB18-17A	874.0			Barr	2002	Barr	2002	10 DAY
	SB18-18	935.9	Target Pond	62-148	Barr	2002	Barr	2002	12 HR
	SB18-24	953.9			Barr	2002	Barr	2002	1 HR
	SB18-28	1013.4			Barr	2002	Barr	2002	10 DAY
	SB18-29	1003.7			Barr	2002	Barr	2002	10 DAY

Table 2
Kohlman Gervais Watersheds

Watershed	Sub watershed	100 Year Flood Elevation	Known Name Flooding Source	DNR Lake ID	Hydrology Model	Year Completed	Hydraulics Model	Year Completed	Critical Storm Duration
Kohlman Lake									
Kohl-KBA	KOHL-01B	870.5			Barr	2002	Barr	2002	6 HR
	KOHL-01E	865.1			Barr	2002	Barr	2002	2 DAY
KBB	KOHL-02	861.4	Kohlman Lake	62-6	Barr	2002	SWMM	2004	10 DAY
KBC	KOHL-03	868.5			Barr	2002	Barr	2002	6 HR
KBD	KOHL-05A	862.7		62-142	Barr	2002	Barr	2002	24 HR
GervaisCreek									
CD 16-18 A	CD-16-05	874.2	Owasso Basin		Barr	2002	Barr	2002	6 HR
" B	CD-16-18	869.3	Gervais Mill Pond BJL		Barr	2002	Barr	2002	12 HR
" C	CD-16-19	861.2			Barr	2002	Barr	2002	~~12 HR~~
" D									
Gervais Lake									
	GERV-01	864.0		62-155 62-156	Barr	2002	Barr	2002	4 DAY
	GERV-02	868.0		62-154	Barr	2002	Barr	2002	10 DAY
	GERV-03	862.9		62-147	Barr	2002	SWMM	2004	10 DAY
	GERV-04	861.4	Gervais Lake	62-7	Barr	2002	SWMM	2004	10 DAY

Table 3
Phalen Keller Watersheds

Watershed	Sub watershed	100 Year Flood Elevation	Known Name Flooding Source	DNR Lake ID	Hydrology Model	Year Completed	Hydraulics Model	Year Completed	Critical Storm Duration
Keller Lake									
	KELL-03	861.4	Keller Lake & Spoon Lake	62-10	Barr	2004	SWMM	2004	10 DAY
	KELL-04	905.0	Knucklehead Lake	62-162	Barr	2004	Barr	2004	2 DAY
	KELL-05	904.1	Knucklehead Lake	62-163	Barr	2004	Barr	2004	4 DAY
	KELL-06	872.7	Gerten Pond	62-152	Barr	2004	Barr	2004	4 DAY
	KELL-09	895.3	Oehrline Lake	62-14	Barr	2004	Barr	2004	4 DAY
Lake Phalen									
	PHAL-03	891.0	Wakefield Lake (Gladstone)	62-11	Barr	2002	Barr	2002	10 DAY
	PHAL-04	903.3		62-253	Barr	2002	Barr	2002	6 HR
	PHAL-07	861.2	Lake Phalen	62-13	Barr	2002	SWMM	2004	10 DAY
	PHAL-07R	861.2	Round Lake-Maplewood	62-12	Barr	2002	SWMM	2004	10 DAY

Table 4
Beaver Lake Tanner Lake Watersheds

Watershed	Sub watershed	100 Year Flood Elevation	Known Name Flooding Source	DNR Lake ID	Hydrology Model	Year Completed	Hydraulics Model	Year Completed	Critical Storm Duration
Beaver Lake									
	BL-001	1011.3			Barr	1996	Barr	1996	2 HR
	BL-003	1017.1			Barr	1996	Barr	1996	4 DAY
	BL-012	986.3		82-402	Barr	1996	Barr	1996	2 DAY
	BL-018	992.8			Barr	1996	Barr	1996	2 DAY
	BL-106	973.9			Barr	1996	Barr	1996	2 DAY
	BL-119	970.0		82-403	Barr	1996	Barr	1996	4 DAY
	BL-120N	965.4			Barr	1996	Barr	1996	6 HR
	BL-120S	966.7			Barr	1996	Barr	1996	1 HR
	BL-203	951.4	Beaver Lake	62-16	Barr	1996	SWMM	2004	10 DAY
Tanners Lake									
	T-02	1019.4		82-401	Barr	1997	Barr	1997	12 HR
	T-04	1044.1	Willow Pond	82-114	Barr	1997	Barr	1997	4 DAY
	T-05	1017.7			Barr	1997	Barr	1997	4 DAY
	T-07	1046.2			Barr	1997	Barr	1997	12 HR
	T-08	1009.9		82-425	Barr	1997	Barr	1997	10 DAY
	T-09	1017.1		82-427	Barr	1997	Barr	1997	1 HR
	T-33	966.8	Tanners Lake	82-115	Barr	1997	See Note		10 DAY

Note: Tanners Lake Hydraulics is included in the Battle Creek Lake SWMM model

Table 5
Battle Creek Lake Conway Pond Watersheds

Watershed	Sub watershed	100 Year Flood Elevation	Known Name Flooding Source	DNR Lake ID	Hydrology Model	Year Completed	Hydraulics Model	Year Completed	Critical Storm Duration
Battle Creek									
	BC-39	960.4	Battle Creek Lake (Mud Lake)	82-91	Barr	1996	SWMM		4 DAY
Tamarack									
	BC-10	999.3	City Hall Pond		Barr	1996	Barr	1996	4 DAY
	BC-17	1000.1	East Tamarack Swamp	82-442	Barr	1996	Barr	1996	10 DAY
	BC-25	988.6	West Tamarack Swamp	82-437	Barr	1996	Barr	1996	1 HR
	BC-26	987.3			Barr	1996	Barr	1996	1 HR
Interchange									
	BC-52	1013.5			Barr	1994	Barr	1994	4 DAY
	BC-56X	1028.6		82-430	Barr	1994	Barr	1994	10 DAY
	BC-57X	1021.1			Barr	1994	Barr	1994	48 HR
	BC-61	1040.5		82-428	Barr	1994	Barr	1994	12 HR
	BC-62	1009.2		82-429	Barr	1994	Barr	1994	48 HR
	BC-64X	1043.2			Barr	1994	Barr	1994	12 HR
Conway Pond Area									
	C-55	978.9	Conway Pond	62-17, 62-245	Barr	1996	Barr	1996	48 HR
	C-56	999.6		62-243	Barr	1996	Barr	1996	48 HR

CD