Bassett Creek Watershed Management Commission

Agenda

11:30 a.m., Thursday, June 18, 2009
Golden Valley City Hall – 7800 Golden Valley Road, Golden Valley 55427

1. CALL TO ORDER
2. APPROVAL OF AGENDA AND CONSENT AGENDA - Items marked with an asterisk (*) will be acted on by one motion. There will be no discussion of these items unless a BCWMC commissioner so requests in which event the item will be removed from the consent agenda and considered in its normal sequence on the agenda.
3. CITIZEN INPUT ON NON-AGENDA ITEMS
4. ADMINISTRATION
   - A. Presentation of May 21st meeting minutes *
   - B. Presentation of Financial Statements *
   - C. Presentation of Invoices for Payment Approval
     - i. Kennedy & Graven – Legal Services through April 30, 2009
     - ii. Barr Engineering – May Engineering Services
     - iii. Barr Engineering – Sweeney Lake TMDL Phase 2 Services
     - iv. Amy Herbert – May Administrative Services
     - v. MMKR – Audit Services through April 30, 2009
5. NEW BUSINESS
   - A. Plymouth Middle School Parking Improvements: Plymouth (*see memo and map from Barr*)
6. OLD BUSINESS
   - A. BCWMC's Missions and Goals *(see memo from Admin Cmtee and excerpt from Plan)*
   - B. Medicine Lake TMDL Update *(see e-mail from Chris Zadak, MPCA, and June 12, 2009, memo from LimnoTech)*
   - C. Sweeney Lake TMDL Update
   - D. Mississippi River E. Coli TMDL Study Update
   - E. Watershed-wide TMDL
   - F. Cliff Aichinger, Ramsey Washington Metro Watershed District, TMDL Load Allocations
   - G. Update on Bassett Creek Main Stem Feasibility Report
   - H. Update on Plymouth Creek Feasibility Report
   - I. Education and Public Outreach Committee
     - i. Report on search for columnist to feature watershed BMPs in local media
7. COMMUNICATIONS
   - A. Chair
   - B. Commissioners
   - C. Committees
   - D. Counsel *
   - E. Engineer
8. INFORMATION ONLY
   - A. Administrative Reviews (*none to report*)
   - B. Inspection Memo (*see memo from Barr*)
9. ADJOURNMENT

Item 4A.
May Minutes

Bassett Creek Watershed Management Commission
Minutes of the Meeting of May 21, 2009

1. Call to Order

The Bassett Creek Watershed Management Commission (BCWMC) was called to order at 11:30 a.m., Thursday, May 21, 2009, at Golden Valley City Hall by Chair Welch. Ms. Herbert conducted roll call.

Roll Call

Crystal	Commissioner Pauline Langsdorf	*Counsel*	Charlie LeFevere
Golden Valley	Commissioner Linda Loomis, Treasurer	*Engineer*	Len Kremer
Medicine Lake	Commissioner Cheri Templeman	*Recorder*	Amy Herbert
Minneapolis	Commissioner Michael Welch, Chair		
Minnetonka	*Not represented*		
New Hope	Commissioner Daniel Stauner		
Plymouth	Commissioner Ginny Black, Vice Chair		
Robbinsdale	*Not represented*		
St. Louis Park	*Not represented*		

Note: Alternate Commissioner Wayne Sicora arrived after roll call

Also present:
Derek Asche, BCWMC Technical Advisory Committee, City of Plymouth
Jack Frost, Metropolitan Council
Ron Leaf, SEH, Inc.
Randy Lehr, Three Rivers Park District
Tom Mathisen, BCWMC Technical Advisory Committee, City of Crystal
Richard McCoy, BCWMC Technical Advisory Committee, City of Robbinsdale
Jeff Oliver, BCWMC Technical Advisory Committee, City of Golden Valley
Jim Renneberg, City of Plymouth
Stu Stockhaus, Alternate Commissioner, City of Crystal
Liz Stout, BCWMC Technical Advisory Committee, City of Minnetonka
Mike Trojan, Minnesota Pollution Control Agency
Chris Zadak, Minnesota Pollution Control Agency

2. Approval of Agenda and Consent Agenda

Chair Welch reordered the Old Business agenda items so that TMDL study discussion items 6E, 6F, and 6G followed item 6A and so that item 6D regarding BCWMC Missions and Goals would be addressed last. Chair Welch also added invoice xi to the Lorenz Bus Service for the watershed tour bus costs. Ms. Black moved to approve the agenda as amended. Ms. Loomis seconded the motion. The motion carried unanimously [Cities of Minnetonka, St. Louis Park, and Robbinsdale absent from the vote]. Ms. Black moved approval of the Consent Agenda. Ms. Loomis seconded the motion. The motion carried unanimously [Cities of Minnetonka, St. Louis Park, and Robbinsdale absent from the vote].

3. Citizen Input on Non-Agenda Items

No citizen input on non-agenda items.

3. Administration

A. Presentation of the April 16, 2009, BCWMC meeting minutes. The minutes were approved as part of the Consent Agenda.

B. Presentation of the Financial Statement. The May financial report was received and approved as part of the Consent Agenda.

The general and construction account balances reported in the May 2009 Financial Report are as follows:

Checking Account Balance	**653,244.19**
TOTAL GENERAL FUND BALANCE	**653,244.19**
Construction Account Balance	**2,802,713.19**
TOTAL CONSTRUCTION ACCOUNT BALANCE	**2,802,713.19**
-Less: Reserved for CIP projects	**3,530,770.14**
Construction cash/ investments available for projects	**(728,056.95)**

C. Presentation of Invoices for Payment Approval.

Invoices:

i. Kennedy & Graven – Legal Services through March 31, 2009 - invoice for the amount of $1,362.82.

ii. Barr Engineering Company – April Engineering Services - invoice for the amount of $63,913.99.

iii. Barr Engineering Company – February Sweeney Lake TMDL Phase II Services - invoice for the amount of $4,258.00.

iv. Amy Herbert – March Recording Administrator Services - invoice for the amount of $4,660.59.

v. MMKR – Audit Services – invoice for the amount of $5,300.

vi. SEH, Inc. – Sweeney Lake TMDL Work through March 31, 2009 – invoice for the amount of $2,730.80.

vii. Rice Creek Watershed District – 2009 Blue Thumb Membership – invoice for the amount of $1,500.00.

viii. Michael Welch – April 22, 2009, Work Session Catering – invoice for the amount of $42.48.

ix. Stuart Stockhaus – Education and Outreach Committee printing expenses – invoice for the amount of $17.10.

x. Liz Thornton - Education and Outreach Committee printing expenses – invoice for the amount of $7.70.

xi. **Lorenz Bus Service – 2009 Watershed Tour – invoice for the amount of $387.00.**

By call of roll, the motion carried unanimously [Cities of Minnetonka, St. Louis Park, and Robbinsdale absent from the vote].

D. **Action to Not Waive Liability Limits of League of Minnesota Cities Insurance Trust Coverage. Ms. Black moved that the BCWMC should not waive the liability limits of the insurance trust coverage. Ms. Loomis seconded the motion. The motion carried unanimously [Cities of Minnetonka, St. Louis Park, and Robbinsdale absent from the vote].**

E. **Action to Receive and File the BCWMC's 2008 Audit. Ms. Black moved to receive and file the BCWMC's 2008 audit. Ms. Loomis seconded the motion. The motion carried unanimously [Cities of Minnetonka, St. Louis Park, and Robbinsdale absent from the vote].**

4. New Business

A. **26th Avenue North Culvert: City of Plymouth. Mr. Kremer explained that a request was received from the City of Plymouth for review of a culvert replacement plan along Plymouth Creek at 26th Avenue. He said the project consists of reconstruction of 0.2 acres and mill and overlay of 1.3 acres and is in front of the Commission because there would be new culvert located below the 100-year floodplain. Mr. Kremer said the Commission Engineer recommends the project be approved on the condition that the contractor submits a diversion and dewatering plan to be reviewed and approved by the Commission Engineer prior to installation of the proposed culvert. Chair Welch asked why the Commission Engineer wants to see that plan. Mr. Kremer responded that the project will involve extensive diversion and the Commission Engineer wants to make sure the diversion is done in a way to prevent significant erosion.**

Ms. Black moved to approve the project with the Commission Engineer's recommendation as explained by Mr. Kremer and stated in the May 14, 2009, memo from Barr Engineering on the project. Mr. Stauner seconded the motion. The motion carried unanimously [Cities of Minnetonka, St. Louis Park, and Robbinsdale absent from the vote].

[Alternate Commissioners Ted Hoshal and Wayne Sicora arrive].

6. Old Business

A. **9209 40 ½ Avenue, New Hope – Update on agreement between property owners and City. Mr. Stauner reported that the agreement between the property owners and the City of New Hope is that the property owners will remove three cubic feet of fill from the floodplain area in their lakeside yard. He said that the City, in conjunction with sediment removal from Northwood Pond and construction of an access point to it, will remove the balance of the 21 cubic yards of mitigation and the homeowners will cover the cost. Mr. Stauner stated that the New Hope City Council has approved the agreement. Chair Welch asked Mr. Kremer if he agrees with the solution reached by the parties. Mr. Kremer responded yes.**

B. **Wirth Lake TMDL Study Update. Mr. Kremer said that in the evaluation of the water quality of Wirth Lake it was determined that one of the principal problems with the lake's water quality is back flow from Bassett Creek. He said the phosphorus content of the creek is a couple of hundred parts per million and the back flow during floods is causing water quality problems in Wirth**

Lake. He said one of the potential BMPs (Best Management Practices) is to try to prevent the back flow from Bassett Creek into Wirth Lake. He said the MPCA authorized Barr Engineering to determine whether it is possible to prevent that backflow from entering Wirth Lake from a flood level perspective. Mr. Kremer said the May 11, 2009, memo regarding the Wirth Lake BMP in the Commission's meeting packet explains the model used and the results of the floodplain analysis.

Mr. Kremer said the model results indicate there would be no significant change in flood levels, there would be a 1/10 foot increase in stage at Bassett Creek where Wirth Lake enters it and a 1/10 foot increase at Fruen Mill. He said there is no damageable property that would be affected by those two stage increases. Mr. Kremer said there would be a very significant increase in stage on Wirth Lake but there is no damageable property along Wirth Lake. He said if there was a project identified that could block off the backflows from Bassett Creek into Wirth Lake, it would be theoretically possible without any significant impact on flooding. Mr. Kremer said there will be Wirth Lake stakeholder meeting in June to talk about BMPs.

Chair Welch introduced Chris Zadak, Minnesota Pollution Control Agency's interim project manager for the Wirth Lake TMDL study, and Mike Trojan, Minnesota Pollution Control Agency's grant writer.

Mr. Mathisen said the Commission has established guidelines for floodplain damage and said that he is concerned about the Commission going down the road of shutting down a lake from backflows from a stream. He commented also that the long-term maintenance of backflow preventers is a nightmare for public works departments.

Mr. Kremer stated that the change in stage on the creek wouldn't be an issue for FEMA because of the amount of the change. He remarked that the BCWMC has historically approved changes to flood levels – both increases and decreases – where damage would not occur. Mr. Sicora asked about FEMA regulations on increase in stage. Mr. Kremer said FEMA rules say you're allowed a one- foot increase in stage for a 100-year event. He said state regulations allow for a one-half of a foot increase in stage and that the BCWMC's rules are that there would be no change in stage unless there is compensating mitigation.

Chair Welch asked what structures are being considered for the prevention of backflows. Mr. Kremer said the May 11, 2009, memo provides examples but that there are a number of possibilities.

C. Medicine Lake TMDL Study Update. Chair Welch reported that there was a Medicine Lake stakeholder meeting last week. He said the load reduction called for is 3,040 pounds of phosphorus, which represents a 35% load reduction in the watershed. Chair Welch said the Committee discussed two issues: 1. How to establish the waste load allocation, and, 2. What BMPs could be implemented and where.

Mr. Chris Zadak, MPCA, explained that there are three basic ways to approach waste load allocation:

1. **Each separate MS4 gets its own individual waste load allocation;**
2. **Categorical allocation, where all MS4 waste load allocations are lumped together; and**
3. **A hybrid of the first two options, where the MS4s and Hennepin County are categorical and Mn/DOT gets its own individual allocation.**

Chair Welch noted that Mn/DOT was represented at the stakeholder meeting and indicated a

preference for getting an individual allocation. Mr. Zadak said the stakeholder group indicated a preference for the hybrid approach. Chair Welch said the decision that comes back to the Commission with regard to the waste load allocation is does the Commission want to take on the categorical waste load allocation and be the convener of the MS4s' efforts. He said another issue for the BCWMC's consideration is whether Mn/DOT would be part of the group in the categorical allocation or not. Chair Welch said he has some concerns about not including Mn/DOT in the group and reminded the Commission of the issues with Mn/DOT on the Wirth Lake project. Chair Welch also said the Commission needs to consider how the BMPs implemented to reach the load reduction goal are funded. Chair Welch said the stakeholder group is looking for feedback from the Commission about the approach to the waste load allocation and the Commission needs to identify what it needs in order to make a decision.

Mr. Asche said he would have a concern with the hybrid approach if it somehow lessened the load allocated to Mn/DOT and leading to additional burden falling on the cities.

Ms. Black commented that as each of the BCWMC's TMDL studies is completed, the BCWMC will need to examine its CIP.

Mr. LeFevere remarked that the BCWMC has no enforcement authority over Mn/DOT, which might not be a bad reason for leaving it out of the group allocation. Mr. LeFevere commented that the individual waste load allocation doesn't mean that there wouldn't be collaborative efforts. He commented that making a decision on the approach may be a bigger philosophical question than just looking at the Medicine Lake TMDL study. Mr. LeFevere said before the Commission can make it decision it needs to know what it looks like at the far end as in what BMPs will be built, how will they get built and funded.

Chair Welch said that Mr. LeFevere made a good point in that the individual waste load allocation doesn't preclude collaboration.

Mr. Sicora stated that he currently supports the hybrid approach. Ms. Loomis suggested that commissioners check in with their cities for their opinions. Chair Welch asked what commissioners want in terms of more information. Mr. Sicora asked about the timeframe for a decision. Chair Welch remarked that other work can continue on the TMDL even if the Commission isn't ready to make a decision regarding the allocation approach.

Ms. Black mentioned that one of her concerns with the categorical approach is who would do the maintenance of the BMPs. She said currently the maintenance of Commission projects is handled by the cities, which would mean that cities would have ongoing maintenance costs. Ms. Black said the Commission should consider whether there should be a policy change about maintenance and whether the maintenance costs should be shared. Chair Welch said commissioners should let Mr. Kremer and Ms. Herbert know if there is anything they would like more information on about the load allocation approaches. Chair Welch said he would communicate with Mr. Kremer about what materials may be helpful for Commission review for the June or July meeting and the Commission's representatives will attend the next Medicine Lake Steering Committee meeting.

Mr. Kremer asked Mr. Zadak about the schedule for the Commission receiving the draft implementation plan. Mr. Zadak replied that he thinks they are on the verge of getting it out.

7. Communications

A. Chair:

i. **Chair Welch announced that Hennepin County has $500,000 out of the Clean Water Legacy bill. Chair Welch directed the Commission Engineer to follow up with Hennepin County.**

6. Old Business (continued)

D. **Sweeney Lake TMDL Study Update. Mr. Leaf reported that there was a Sweeney Lake TMDL study technical team meeting held on April 23rd and mentioned that the meeting summary and notes were included in the Commission's meeting packet. He stated that SEH also met with some members of the City of Golden Valley and some lake residents to discuss the project to date and possible implementation strategies. Mr. Leaf reported that 60% of precipitation becomes runoff into the lake, which is a high number and means that the area is fully developed and indicates tight soils. He said that the external load is more dependent on the amount of precipitation than on whether or not the aerators are operating. He said it is hard to tell if the aerators' effects are good or bad but they do affect the development of the thermocline, which affects where the phosphorus is located in the lake but doesn't affect the amount of phosphorus in the lake.**

Mr. Leaf discussed preliminary load reduction targets and stated that results show that an external load reduction of 70% would be necessary to meet the in-lake phosphorus concentration target. He stated that an exclusive internal load reduction of 45% would be needed to meet the in-lake phosphorus concentration target. Mr. Leaf mentioned that the MPCA wants to see the MS4s do as much as they can to reduce the load to the lake and will expect the MS4s to do the best they can to reduce their loads. Mr. Leaf explained that possible implementation strategies could be to assign individual load allocations, to take a categorical approach, or to combine those two approaches such as assigning a categorical load allocation to Golden Valley and St. Louis Park and an individual load allocation to Mn/DOT.

Ms. Black asked if a decision on the implementation strategy should be made prior to the public stakeholder meeting that is currently scheduled for June 3rd or if there are plans to hold a third public meeting. Chair Welch said a third public meeting is not currently in the project plan or budget. The Commission decided to go ahead and hold the June 3rd public meeting.

[Chair Welch departs meeting. Vice Chair Black takes over as Acting Chair]

E. **BCWMC's Proposed 2010 Operating Budget. Mr. Kremer said that line 49 listing the proposed 2010 Capital Projects should be changed to $1,000,000. Mr. Sicora moved to adopt the 2010 operating budget as amended. Ms. Templeman seconded the motion. The motion carried unanimously [Cities of Minneapolis, Minnetonka, and St. Louis Park absent from vote].**

F. **Order Publication and Distribution of 2008 Annual Report. Mr. Kremer suggested a change to the second bullet of the Capital Improvements Program to clarify that the BCWMC participated in the funding of the in-lake treatments. Ms. Black commented that there were four treatments and the BCWMC participated in three of them. Ms. Loomis moved to order the publication and distribution of the 2008 annual report as amended. Mr. Stauner seconded the motion. The motion carried unanimously [Cities of Minneapolis, Minnetonka, and St. Louis Park absent from vote.]**

G. **Education and Public Outreach Committee**

i. **Education Grant Recommendation – Meadowbrook School. Ms. Black reported that the Committee recommends the Commission enter into a grant agreement with the school for $1,000 for its outdoor classroom project. Ms. Langsdorf moved approval. Ms. Templeman seconded the motion. The motion carried with five votes in favor. The City of Golden**

Valley abstained from the vote. The Cities of Minneapolis, Minnetonka, and Robbinsdale were absent from the vote.

ii. **Update on Grant Outreach. Mr. Stockhaus said that he and Ms. Thornton compiled a list of all of the public, parochial and private schools in the watershed and distributed to those schools a packet of information about the grant program including the application. He said that over the last month he and Ms. Thornton have been meeting with principals and directors of schools to explain the grant program and what the BCWMC was looking for in terms of grant proposals. Ms. Loomis asked if the Commission asks the schools what practices they are currently implementing such as parking lot sweeping. Ms. Black said the Education Committee has not discussed it but it could discuss it at a future meeting. Ms. Loomis asked if the Commission asks the applicants how they will maintain the projects. Ms. Black said the Meadowbrook School did address maintenance in its application. Mr. Sicora suggested a Channel 12 video about the grant program.**

[Commissioner Sicora departs]

H. TAC Recommendations

i. **60-Day Rule. Mr. Oliver said the TAC concluded that with the one exception of the New Hope property discussed earlier in the meeting, there hasn't been an issue for the Commission so the TAC doesn't think any action by the Commission is necessary.**

ii. **TMDL Load Allocations. Mr. Oliver said the TAC anticipates continuing this discussion after more information comes in about the Medicine Lake TMDL.**

iii. **Resource Management Plan. Mr. Oliver said the TAC had no comments on the Resource Management Plan. Acting Chair Black stated that in the future, the BCWMC wants to see draft copies before they are sent out. Mr. Kremer noted that the RMP submitted to the Army Corps of Engineers is a draft and the Commission Engineer is waiting for comments on the draft before the final copy is distributed. Ms. Black directed Ms. Herbert to send the draft Resource Management Plan to the Commission.**

I. BCWMC's June 11th Watershed Tour – Information Only. Acting Chair Black announced that the BCWMC's Watershed Tour will be at 8:30 a.m. on Thursday, June 11th and that the meeting packet included a map to West Medicine Lake Park, which is the starting location of the tour. She noted that the tour bus will depart the West Medicine Lake Park parking lot at 8:45 a.m.

J. BCWMC's Missions and Goals – Deferred to next month.

7. Communications (continued)

B. Commissioners:

i. **Ms. Loomis mentioned that the University of Minnesota is doing a study of pond dredging and how to treat for polyaeromatic hydrocarbons.**

C. Committees:

Education Committee

i. **Ms. Langsdorf reported that the Committee is out of seed packets and the Commission should let the Committee know if it anticipates needing any seed packets this year.**

ii. **Ms. Langsdorf stated that the next Education and Public Outreach Committee meeting will be held on May 28th at 9:00 a.m. in the Medicine Lake Room at Plymouth City Hall and the Committee will be reviewing the Commission's Web site.**

iii. **Ms. Langsdorf stated that the Committee is moving forward with plans for the writing and publication of the "real people articles."**

iv. **Ms. Langsdorf had an example of the brochure designed by the Joint Education and Public Outreach Committee and announced that the Committee will be taking orders at the Joint EPOC's next meeting on June 2nd at 8:30 a.m. in the Parkers Lake Room at Plymouth City Hall.**

D. Counsel*

E. Engineer:

i. **Mr. Kremer mentioned that the new Twins Stadium is not on the watershed tour but the Commission could arrange a separate tour if people are interested. Ms. Black directed Ms. Herbert to send out an e-mail to the Commission to find out how many people would be interested in such a tour.**

8. Adjournment

The meeting adjourned at 2:24p.m.

Michael Welch, Chair	**Date**	**Amy Herbert, Recorder**	**Date**
Pauline Langsdorf, Secretary	**Date**		

Bassett Creek Watershed Management Commission General Account
General Fund (Administration) Financial Report
Fiscal Year: February 1, 2009 through January 31, 2010
MEETING DATE: June 18, 2009

Item 4B. Financial Statement

CHECKING ACCOUNT 0100339

BEGINNING BALANCE	**13-May-09**				**$653,244.19**
ADD:					
Other Revenue:					
	Permit Fees				
	State of MN	Sweeney TMDL	12,850.80		
		Total Other Revenue			**12,850.80**
Transfers In:					
	From Construction Fund	Projects	5,391.17		**5,391.17**
		Total Revenue and Transfers In			**18,241.97**
DEDUCT:					
Transfers Out:					
	To Construction Fund	Sweeney TMDL	12,850.80		
		Total Transfer to Construction Fund			**12,850.80**
Checks:					
	2163 Barr Engineering	May Services		24,674.93	
	2164 Amy Herbert	May Services		2,228.46	
	2165 Kennedy & Graven	April Services		1,552.60	
	2166 MMKR	Audit Services		2,000.00	
		Total Checks			**30,455.99**
Outstanding from previous month:					
	2153 Amy Herbert	Apr Services		4,660.59	
	2155 Kennedy & Graven	Mar Legal Service		1,362.82	
	2156 S E H	Mar Sweeney TMDL		2730.8	
	2157 Rice Creek Watershed Dist	Blue Thumb Membership		1,500.00	
	2159 Liz Thornton	Education Printing		7.70	
	2161 S E H	Apr Services		10,020.80	
		Total Expenses and Transfers Out			**43,306.79**
ENDING BALANCE	**10-Jun-09**				**$628,179.37**

	2009/10 BUDGET	CURRENT MONTH	YTD 2009/10	BALANCE
OTHER GENERAL FUND REVENUE				
ASSESSEMENTS	449,875	0.00	449,874.00	1.00
PERMIT REVENUE	55,000	0.00	3,500.00	51,500.00
REVENUE TOTAL	504,875	0.00	453,374.00	51,501.00
EXPENDITURES				
ENGINEERING				
ADMINISTRATION	110,000	5,943.50	46,723.33	63,276.67
PLAT REVIEW	55,000	2,920.00	13,317.00	41,683.00
COMMISSION MEETINGS	13,000	1,733.90	3,887.70	9,112.30
SURVEYS & STUDIES	20,000	5,757.30	6,658.80	13,341.20
WATER QUALITY/MONITORING	49,000	55.00	13,151.94	35,848.06
WATER QUANTITY	11,000	585.10	2,044.40	8,955.60
WATERSHED INSPECTIONS	8,000	1,020.50	2,060.50	5,939.50
ANNUAL FLOOD CONTROL INSPECTIONS	10,000	0.00	0.00	10,000.00
REVIEW MUNICIPAL PLANS	6,000	0.00	0.00	6,000.00
ENGINEERING TOTAL	282,000	18,015.30	87,843.67	194,156.33
ADMINISTRATOR	35,000	0.00	0.00	35,000.00
LEGAL COSTS	18,500	1,552.60	4,682.17	13,817.83
AUDIT, INSURANCE & BONDING	13,000	2,000.00	8,900.00	4,100.00
FINANCIAL MANAGEMENT	3,000	0.00	0.00	3,000.00
MEETING EXPENSES	5,100	762.06	2,147.79	2,952.21
SECRETARIAL SERVICES	45,000	1,983.61	13,199.44	31,800.56
PUBLICATIONS/ANNUAL REPORT	4,000	1,010.00	1,696.50	2,303.50
WEBSITE	1,575	128.25	433.00	1,142.00
PUBLIC COMMUNICATIONS	3,000	0.00	600.22	2,399.78
WOMP	10,000	0.00	3,890.00	6,110.00
DEMONSTRATION/GRANTS/EDUC PARTNERSHIPS	18,200	0.00	6,888.58	11,311.42
EDUCATION / PUBLIC OUTREACH	8,200	0.00	454.81	7,745.19
EROSION/SEDIMENT (CHANNEL MAINT)	25,000	0.00	0.00	25,000.00
LONG TERM MAINTENANCE (moved to CF)	25,000	0.00	0.00	25,000.00
TMDL STUDIES (moved to CF)	10,000	0.00	0.00	10,000.00
GRAND TOTAL	506,575	25,451.82	130,736.18	375,838.82

BCWMC Construction Account (802-1119576)
Fiscal Year: February 1, 2009 through January 31, 2010
June 2009 Financial Report

Beginning Balance	13-May-09			2,802,713.19
ADD:	Interest			1,703.98
	Transfers In:			
	From General Fund		12,850.80	
		Total Transfers from General Fund		12,850.80
				2,817,267.97
DEDUCT:				
	Transfers Out:			
	To General Fund (Const Costs)	Construction Costs	5,391.17	
				5,391.17
Ending Balance:	10-Jun-09			2,811,876.80

Total: Construction Fund Cash/Investments	2,811,876.80
Less: Reserved for CIP Projects	3,515,358.17
Construction Cash/Investments Available for projects	(703,481.37)

BCWMC Second Generation Projects	Budget	Current	YTD	Project Total	Balance
Approved CIP Projects:					
2003 Floodproofing-Engineering/Legal -expected completion 2006	700,000	0.00	0.00	698,225.40	1,774.60
2005 Medicine Lake In-Lake Treatment	105,000	0.00	0.00	77,127.39	27,872.61
2006 Medicine Lake In-Lake Treatment	110,000	0.00	0.00	54,676.12	55,323.88
2005 Northwood Lake Proj-expect complete 2005	182,700	0.00	0.00	152,853.29	29,846.71
2006 Parkers Lake Water Quality Project	42,000	0.00	0.00	1,133.75	40,866.25
Twin Lake-expected completion 2006	140,000	0.00	0.00	4,111.90	135,888.10
Westwood Lake	312,000	0.00	51,495.42	225,864.90	86,135.10
2005 Wirth Lake Project-expect completion 2006	254,000	0.00	0.00	84,090.72	169,909.28
Medicine Lake: Geese Reduction		0.00	0.00	500.00	(500.00)
Proposed CIP Projects:					
Lakeview Park Pond-expected completion 2007		0.00	0.00	637.50	(637.50)
West Medicine Lake Park Pond	900,000	0.00	310.00	6,937.66	893,062.34
Northwood Lake East Pond	107,250	0.00	0.00	61,077.13	46,172.87
Twins Stadium	0	0.00	0.00	13,469.22	(13,469.22)
Sweeney Lake Branch Channel	500,000	0.00	0.00	385,756.57	114,243.43
2008 Medicine Lake Herbicide	0	0.00	0.00	15,389.40	(15,389.40)
Ramada Pond	90,000	0.00	0.00	39.00	89,961.00
Plymouth Creek Restoration	550,000	0.00	620.00	60,397.60	489,602.40
Resource Management Plan	0	235.47	43,762.58	50,572.08	(50,572.08)
TMDL Projects					
TMDL Studies	115,000	1,942.70	4,426.45	60,140.72	54,859.28
Sweeney Lake TMDL	119,000	3,213.00	28,707.05	165,403.40	(46,403.40)
Annual Flood Control Projects:					
Flood Control Emergency Maintenance	500,000	0.00	0.00	0.00	500,000.00
Flood Control Long-Term Maintenance	748,373	0.00	0.00	13,566.33	734,806.67
Annual Water Quality					
Channel Maintenance Fund	175,000	0.00	0.00	2,994.75	172,005.25
	5,650,323	**5,391.17**	**129,321.50**	**2,134,964.83**	
Project Reimbursements					
Twins Stadium		0.00	0.00	20,261.74	
Sweeney Lake TMDL		12,850.80	24,355.65	144,786.59	

Tax Levy Revenues	Levy	Received YTD	Received ITD	Balance
2009 Balance: Tax Levy	1,000,000		0.00	1,000,000
2008 Balance: Tax Levy	882,350		868,826.00	13,524
2007 Balance: Tax Levy	185,818		185,120.00	698
2006 Balance: Tax Levy	511,868		510,699.00	1,169
2005 Balance: Tax Levy	433,417		433,082.00	335
2004 Balance: Tax Levy	945,412		946,112.00	(700)

Bassett Creek Project Analysis

	2006 Medicine Lake - In Lake Treatment	2006 Parkers Lake Water Quality Proj	Westwood Lake	Medicine Lake - Goose Reduction	Flood Control Emergency Maintenance	Flood Control Long-Term Maintenance	Channel Maintenance	West Medicine Lake Park Pond	Lakeview Park Pond	Northwood Lake East Pond	Crane Lake - Ramada Inn Pond	Plymouth Creek Channel Restoration	Twins Stadium	Sweeney Lake Branch Channel	2008 Medicine Lake Herbicide	Resource Mgmt Plan	TMDL Studies	Sweeney Lake TMDL
Original Budget	**110,000.00**	**42,000.00**	**312,000.00**		**500,000.00**	**748,373.00**	**175,000.00**	**900,000.00**		**107,250.00**	**90,000.00**	**550,000.00**		**500,000.00**	**0.00**	**0.00**	**115,000.00**	**119,000.00**
Expenditures:																		
Feb 2004 - Jan 2005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	637.50	0.00	0.00	0.00	0.00	0.00			0.00	0.00
Feb 2005 - Jan 2006	0.00	983.75	11,724.12	0.00	0.00	3,954.44	2,994.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00	0.00
Feb 2006 - Jan 2007	54,676.12	150.00	162,645.36	500.00	0.00	9,611.89	0.00	1,789.25	0.00	0.00	0.00	0.00	156.75	0.00			637.20	0.00
Feb 2007 - Jan 2008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,835.70	0.00	858.45	0.00	0.00	13,312.47	13,228.26			23,486.95	89,654.49
Feb 2008 - Jan 2009	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,002.71	0.00	60,218.68	39.00	59,777.60	0.00	372,528.31	15,389.40	6,809.50	31,590.12	47,041.86
Feb 2009 - Jan 2010	0.00	0.00	51,495.42	0.00	0.00	0.00	0.00	310.00	0.00	0.00	0.00	620.00	0.00	0.00	0.00	43,762.58	4,426.45	28,707.05
Total Expenditures:	**54,676.12**	**1,133.75**	**225,864.90**	**500.00**	**0.00**	**13,566.33**	**2,994.75**	**6,937.66**	**637.50**	**61,077.13**	**39.00**	**60,397.60**	**13,469.22**	**385,756.57**	**15,389.40**	**50,572.08**	**60,140.72**	**165,403.40**
Project Balance	**55,323.88**	**40,866.25**	**86,135.10**	**(500.00)**	**500,000.00**	**734,806.67**	**172,005.25**	**893,062.34**	**(637.50)**	**46,172.87**	**89,961.00**	**489,602.40**	**(13,469.22)**	**114,243.43**	**(15,389.40)**	**(50,572.08)**	**54,859.28**	**(46,403.40)**

	2006 Medicine Lake - In Lake Treatment	2006 Parkers Lake Water Quality Proj	Westwood Lake	Medicine Lake - Goose Reduction	Flood Control Emergency Maintenance	Flood Control Long-Term Maintenance	Channel Maintenance	West Medicine Lake Park Pond	Lakeview Park Pond	Northwood Lake East Pond	Crane Lake - Ramada Inn Pond	Plymouth Creek Channel Restoration	Twins Stadium	Sweeney Lake Branch Channel	2008 Medicine Lake Herbicide	Resource Mgmt Plan	TMDL Studies	Sweeney Lake TMDL
Project Totals By Vendor																		
Barr Engineering	355.00	911.00	11,320.87	500.00	0.00	9,549.32	0.00	5,899.91	592.50	0.00	39.00	21,574.25	12,064.49	6,791.28	0.00	50,572.08	57,694.02	54,238.96
Kennedy & Graven	0.00	222.75	503.25	0.00	0.00	24.75	354.75	1,037.75	45.00	858.45	0.00	0.00	1,404.73	938.10	389.40	0.00	734.55	2,864.39
City of Golden Valley	0.00	0.00	0.00	0.00	0.00	0.00	2,640.00	0.00	0.00	0.00	0.00	0.00	0.00	378,027.19	0.00	0.00	0.00	0.00
City of New Hope	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60,218.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City of Plymouth	54,321.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City of St. Louis Park	0.00	0.00	214,040.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38,823.35	0.00	0.00	15,000.00	0.00	0.00	0.00
Com of Trans	0.00	0.00	0.00	0.00	0.00	3,992.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City of Minneapolis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
S E H	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Misc	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	95,526.05
																	1,712.15	12,774.00
Total Expenditures	**54,676.12**	**1,133.75**	**225,864.90**	**500.00**	**0.00**	**13,566.33**	**2,994.75**	**6,937.66**	**637.50**	**61,077.13**	**39.00**	**60,397.60**	**13,469.22**	**385,756.57**	**15,389.40**	**50,572.08**	**60,140.72**	**165,403.40**

Item 4C.
Invoices

Amy Herbert · Recording Administrator Services

733 Preakness Lane, Chanhassen, MN 55317
bcra@barr.com · 952-832-2652

June 7, 2009

Bassett Creek Watershed Management Commission (BCWMC)
Attn: Sue Virnig, Deputy Treasurer
7800 Golden Valley Road
Golden Valley, MN 55427

For contracted services May 1, 2009 through May 31, 2009

Administrative Services to BCWMC

-Created May 21st BCWMC meeting agenda; organized packet materials for copying, copied and assembled meeting packets, stuffed and addressed meeting packet envelopes, delivered envelopes to Barr Engineering mail room for Barr to weigh, add postage, and mail; e-mailed meeting packet; mailed and e-mailed agenda to agenda list.

- Maintained BCWMC files; Communicated with BCWMC attorney, Chair, engineers, Deputy Treasurer and commissioners.

- Organized BCWMC monthly invoices through May 5th; E-mailed invoices to Deputy Treasurer; Distributed invoice payments;

- Finalized document that details the BCWMC's 2010 operating budget to member cities and mailed it with the adopted 2010 operating budget and assessment to member cities for comment; Mailed and e-mailed watershed tour invites to member cities, Hennepin County Board of Commissioners, and Hennepin County; Finalized bus arrangements for watershed tour; Mailed Sweeney Lake TMDL public meeting notice to public stakeholders/ residents; E-mailed draft RMP to BCWMC; Coordinated 2009 contract with Met Council for CAMP participation.

- Prepared meeting notices for following meetings: May 28th Education Committee; June 3rd Sweeney Lake Public Stakeholder; June 2nd Joint Education and Public Outreach Committee.

22.0 hours @ $57.00 per hour $1,254.00

Web Site Services to BCWMC
Discussed Web site upgrades with the BCWMC Education and Public Outreach Committee; Updated calendar; Updated roster
2.25 hours @ $57.00 per hour $128.25

Coordination with BARR Engineering
Discussed June 11th watershed tour and tour materials; Coordinated with Barr on meeting packet materials; Prepared task list; Discussed June BCWMC agenda and meeting packet materials
2.0 hours @ $57.00 per hour $114.00

BCWMC Meetings
Coordinated and attended May 20th conference call with Chair Welch and Karen Chandler; Set up and attended May 21st BCWMC meeting (coordinated room reservation; ordered and received catering; prepared and provided handouts not provided in meeting packet; recorded meeting)
6.00 hours @ $57.00 per hour $342.00

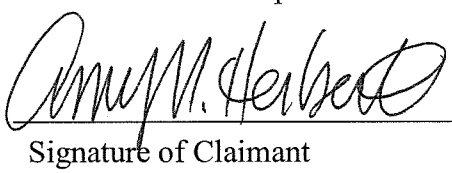
Administrator Budget Charges
No Administrator Budget Charges for May
0.00 hours @ $57.00 per hour..... $0.00

Expenses
June 2009 meeting catering expenses ($375.06)..... $375.06

Mileage
Mileage from Barr Engineering to Golden Valley City Hall for May 21st meeting (10.39 miles x 0.585 = $6.08); Mileage from Chanhassen to Plymouth City Hall for May 28th Education Committee meeting (15.5 miles x 0.585 = $9.07)..... $15.15

Subtotal Administrative Services	$1,725.15
Subtotal Web Site Services	$128.25
Subtotal Meeting Catering Expenses	$375.06
Subtotal Administrator Budget Charges	$0.00
Total Current Billing:	**$2,228.46**

I declare, under penalty of law, that this account, claim or demand is just and correct and that no part of it has been paid.



Signature of Claimant

ACE Drop-Off Catering
PO Box 1521 Dept 1154
Minneapolis, MN 55480
V/612.238.4016 F/612-238-4040

Invoice

INVOICE #
43504

BILL TO
Barr Engineering Amy Herbert 4700 W 77th Street Edina, MN 55435-4803

SHIP TO
Golden Valley City Hall-2nd Fl-Council Rm 7800 Golden Valley Road Site Contact: Judy N 763/593-3991 PO#23270512008300 952/832-2652 fax: 832-2601

P.O. NUMBER	TERMS		DELIVERY DATE	DAY	PPL	DELIVERY TIME
see above	Credit Card		6/18/2009	Thursday	18	11 AM (10:45-11:15)

QUANTITY	DESCRIPTION	PRICE EACH	AMOUNT
18	Executive Sandwich and Wrap Buffet with the Sauce On the Side	12.95	233.10T
1	Vegetable Sandwich with Shredded Vegetables, Lettuce, Cheddar Cheese and Hummus on the Side	0.00	0.00T
2	Chicken Salad with Leaf Lettuce on Croissant	0.00	0.00T
5	ACE Club Sandwich with Turkey, Bacon, Swiss, Lettuce, Tomato on Foccacia Bead and Roasted Red Pepper Sauce on the Side	0.00	0.00T
4	Grilled Chicken Breast Sandwich with Pepper Jack Cheese, Peppers, Onions, Lettuce and Tomato with Chipolte Aioli on the Side	0.00	0.00T
2	Deli Stacker with Ham, Turkey, Salami, Provolone, Lettuce, Tomato on Foccacia Bread and Garlic Mayonnaise Sauce on the Side	0.00	0.00T
2	Deli Ham & Swiss Sandwich with Tomato, Lettuce on Foccacia Bread and Honey-Mustard Sauce on the Side	0.00	0.00T
2	Roast Beef Sandwich with Sweet Onions, Peppers, Cheddar Cheese, Tomato, Lettuce and Dijon-Horseradish Sauce on the Side	0.00	0.00T
18	Gourmet Pasta Salad	0.00	0.00T
18	Seasonal Fresh Fruit	0.00	0.00T
1	Fresh Seasonal Vegetables Platter with Lemon Dill Sauce - 12-15 PPL	37.75	37.75T
18	Assorted Bars & Cookies	0.00	0.00T
1	DOZEN-Assorted Bars & Cookies-Set Aside for Break	18.00	18.00T
6	Assorted Sodas-2 Each	1.25	7.50T

Picnic Menus Available!!	Total

Please make checks payable to "D'Amico Catering". Reference invoice number and date on your check, unless paid by credit card.

Agreed to by (customer): _____

ACE Drop-Off Catering
PO Box 1521 Dept 1154
Minneapolis, MN 55480
V/612.238.4016 F/612-238-4040

Invoice

INVOICE #
43504

BILL TO
Barr Engineering Amy Herbert 4700 W 77th Street Edina, MN 55435-4803

SHIP TO
Golden Valley City Hall-2nd Fl-Council Rm 7800 Golden Valley Road Site Contact: Judy N 763/593-3991 PO#23270512008300 952/832-2652 fax: 832-2601

P.O. NUMBER	TERMS		DELIVERY DATE	DAY	PPL	DELIVERY TIME
see above	Credit Card		6/18/2009	Thursday	18	11 AM (10:45-11:15)

QUANTITY	DESCRIPTION	PRICE EACH	AMOUNT
4	Mineral Water	1.25	5.00T
4	Lemonade	1.75	7.00T
18	Spring Water	1.25	22.50T
	Subtotal		330.85
	Delivery Charge	20.00	20.00T
	Sales Tax	6.90%	24.21

Picnic Menus Available!!

Total $375.06

Please make checks payable to "D'Amico Catering". Reference invoice number and date on your check, unless paid by credit card.

Agreed to by (customer): _____

Barr Engineering Company
4700 West 77th Street • Minneapolis, MN 55435-4803
Phone: 952-832-2600 • Fax: 952-832-2601 • www.barr.com
An EEO Employer

Minneapolis, MN • Hibbing, MN • Duluth, MN • Ann Arbor, MI • Jefferson City, MO • Bismarck, ND

Bassett Creek WMO
7800 Golden Valley Road
Golden Valley, MN 55427

Invoice # 2327051-LJKC-14
Project # 23/27-051
Client # 59
June 5, 2009

Invoice of Account with
BARR ENGINEERING COMPANY

For professional services during the period of
May 2, 2009 through May 29, 2009

SWEENEY LAKE TMDL STUDY – PHASE II

Objective 3 Public Meeting #2 - (32003) Barr Task No. 305

Project management, coordination and communication with SEH and internal Barr staff regarding work tasks; prepared maps for total phosphorus, chlorophyll, dissolved oxygen for north and south bays; reviewed bathymetry data for Sweeney Lake and prepared volume calculations; reviewed BATHTUB model; prepared climate files for P8 model; prepared P8 model of Sweeney Lake watershed; prepared for and attended Sweeney Lake TMDL meeting; prepared Sweeney Lake in-lake model, performed load allocation development for Sweeney Lake; prepared Sweeney Lake BMP analysis.

James P. Herbert, Principal Engineer/Scientist	
0.5 hours @ $140.00	$ 70.00
Brian J. Huser, Senior Engineer/Scientist	
1.6 hours @ $105.00	$ 168.00
Keith M. Pilgrim, Senior Engineer/Scientist	
22.8 hours @ $120.00	$ 2,736.00
Subtotal, Public Meeting #2	$ 2,974.00

Objective 8 Project Coordination - (32008) Barr Task No. 803

Sweeney project management

James P. Herbert, Principal Engineer/Scientist	
0.6 hours @ $140.00	$ 84.00
Subtotal, Project Meeting	$ 84.00
TOTAL PAYABLE	**$ 3,058.00**

Barr declares under the penalties of law that this account, claim or demand is just and that no part of it has been paid.

Leonard J. Kremer

MMKR
CERTIFIED PUBLIC ACCOUNTANTS
MALLOY MONTAGUE KARNOWSKI RADOSEVICH & CO., P.A.
5353 Wayzata Boulevard • Suite 410 • Minneapolis, MN 55416
Telephone: 952-545-0424 Fax: 952-545-0569

Ms Sue Virnig
Bassett Creek Water Management Commission
City of Golden Valley
7800 Golden Valley Road
Golden Valley, MN 55427

Invoice No. 24449

Date 04/30/2009
Client No. 6355

FOR PROFESSIONAL SERVICES

Progress billing for services completed through 04/30/2009 on audit of financial statements for the year ended 01/31/2008. $ 2,000.00

Kennedy & Graven, Chartered

200 South Sixth Street
Suite 470
Minneapolis, MN 55402

(612) 337-9300
Tax ID No. 41-1225694

May 21, 2009

Statement No. 89695

Bassett Creek Water Management Commission
Sue Virnig

7800 Golden Valley Road
Golden Valley, MN 55427

Through April 30, 2009

BA295-00001 General	1,552.60
Total Current Billing:	**1,552.60**

I declare, under penalty of law, that this account, claim or demand is just and correct and that no part of it has been paid.

Signature of Claimant

Kennedy & Graven, Chartered

200 South Sixth Street
Suite 470
Minneapolis, MN 55402

Bassett Creek Water
Sue Virnig

April 30, 2009

BA295-00001 General

Through April 30, 2009

For All Legal Services As Follows:

			Hours	Amount
4/3/2009	CLL	Review draft minutes	0.30	57.30
4/13/2009	CLL	Work on budget and exchange emails with S. Virnig regarding same	0.25	47.75
4/14/2009	CLL	Review agenda materials	0.25	47.75
4/16/2009	CLL	Attend commission meeting	3.55	678.05
4/22/2009	CLL	Prepare for and attend meeting with M. Welch, D. Ascher and J. Herbert regarding 60-day rule and city enforcement of commission rules	2.85	544.35
4/25/2009	CLL	Review LMCIT insurance application; review draft minutes	0.65	124.15
4/27/2009	CLL	Email to A. Herbert regarding insurance matter	0.25	47.75
		Total Services:	**$**	**1,547.10**

For All Disbursements As Follows:

4/16/2009	Charles L. LeFevere; Mileage Expense		5.50
	Total Disbursements:	**$**	**5.50**

Total Services and Disbursements:$ 1,552.60

Item 5A.

Barr Engineering Company
4700 West 77th Street • Minneapolis, MN 55435-4803
Phone: 952-832-2600 • Fax: 952-832-2601 • www.barr.com *An EEO Employer*

Minneapolis, MN • Hibbing, MN • Duluth, MN • Ann Arbor, MI • Jefferson City, MO

Memorandum

To: Bassett Creek Watershed Management Commission

From: Barr Engineering Company

Subject: Item 5A – Plymouth Middle School Parking Improvements
BCWMC June 18, 2009 Meeting Agenda

Date: June 10, 2009

Project: 23/27 051 2009 003

5A. BCWMC 2009-6: Plymouth Middle School Parking Improvements: Plymouth

Summary

Proposed Work: Institutional redevelopment (parking/bus staging area improvements)
Basis for Commission Review: Alternative treatment: stormwater treatment vault
Change in Impervious Surface: increase 0.28 acres (12,200 sq. ft.)
Recommended Commission Action: additional information has been requested, recommendation will be provided at the meeting.

General Background & Comments

A request was received from the City of Plymouth for review of a grading, drainage and erosion control plan for improvements at Plymouth Middle School. The school is located along 36th Avenue N. approximately ½ mile east of Highway 169. The project includes reconstruction of the existing "east" parking lot and construction of a new bus staging area located south of the "east" lot. The proposed project includes grading and redeveloping 1.7 acres of the 28.03 acre site to accommodate the parking improvements. The proposed improvements result in an increase of impervious surface of 12,200 square feet and are subject to the BCWMC's non-degradation water quality treatment standards for redevelopment projects. Runoff from the site will be directed to an underground stormwater treatment vault for rate control and water quality treatment. Due to their relatively new use, the TAC recommended that the BCWMC continue to review projects that incorporate underground vaults for approximately 2 years after approval of the Requirements for Development Proposals document (July 2008).

Floodplain

The project does not result in floodplain impacts.

Wetlands

The project does not result in wetland impacts.

Stormwater Management

Runoff from the existing "east" parking lot currently discharges to existing catch basins and is directed to the north toward 36th Avenue North. Runoff rates will increase due to the additional impervious surface associated with construction of the bus loading area. An underground stormwater storage system is proposed to provide temporary stormwater storage to maintain existing stormwater rates leaving the site (in accordance to the city's rate control requirements). The underground storage system is described further in the "water quality management" section.

Diversions of Surface Water Runoff

Generally, the north side of the parcel discharges to the North Branch subwatershed and the south side of the parcel discharges south to the Medicine Lake subwatershed. The proposed improvements are located on the north side of the parcel and will discharge to the North Branch subwatershed. Approximately 0.55 acres of the site that currently discharges to the Medicine Lake subwatershed will be diverted to the North Branch subwatershed as part of the grading for the bus loading area.

Water Quality Management

Since the increase in impervious surface exceeds 10,000 sq. ft. (based on parcels greater than 5 acres), the site must meet the requirements of Policy 4.2.2.4 of the BCWMC's Watershed Management Plan for redevelopment. Policy 4.2.2.4 requires implementation of best management practices (BMPs) to prevent an increase in phosphorus loading. The proposed improvements will increase phosphorus loading approximately 0.39 lbs/year. The following BMPs have been proposed by the applicant:

- Underground Vault: An underground proprietary stormwater treatment system (StormTech Chamber System) is proposed to meet the non-degradation requirements. The underground treatment system consists of a pretreatment vault and several underground chambers resulting in approximately 3,800 cubic feet of water quality storage (dead storage) and approximately 16,000 cubic feet of storage for rate control (live storage). The proposed layout of the StormTech system consist of several connected chambers over a 116-ft by 55-ft area to provide treatment for 1.01 acres (44,000 sq. ft.) of impervious surface and 0.37 acres (16,000 sq. ft.) of pervious surface. Since the system is not consistent with the BCWMC requirements for underground wet vaults, additional

information has been requested from the applicant regarding the phosphorus removal efficiency of the system.

- Sweeping Program: The applicant also provided documentation regarding its proposed parking lot sweeping program and requested phosphorus reduction credits to meet the BCWMC's non-degradation requirements. The applicant was informed that the BCWMC supports and encourages sweeping as a maintenance BMP but has not adopted sweeping as an approved phosphorus reduction BMPs.

- Existing Pond: The Plymouth Middle School site has undergone significant building and site renovations over the past 3 years. As part of those renovation projects, approximately 1.0 acre of additional impervious surface was constructed at the school site. A stormwater pond, which collects stormwater runoff from approximately 2.5 acres of the sites impervious surfaces and 1.2 acres of the sites pervious surfaces, was constructed in conjunction with the previous renovation projects. Project plans for those renovation projects were submitted to, and approved by, the Bassett Creek Watershed Management Commission in 2006 (BCWMC #2006-6). The applicant may review the efficiency of the pond for any excess phosphorus reduction and may request credit for any excess reduction for the proposed project, if necessary to demonstrate compliance.

Erosion and Sediment Control

Temporary erosion control features include silt fence, rock construction entrances and inlet protection.

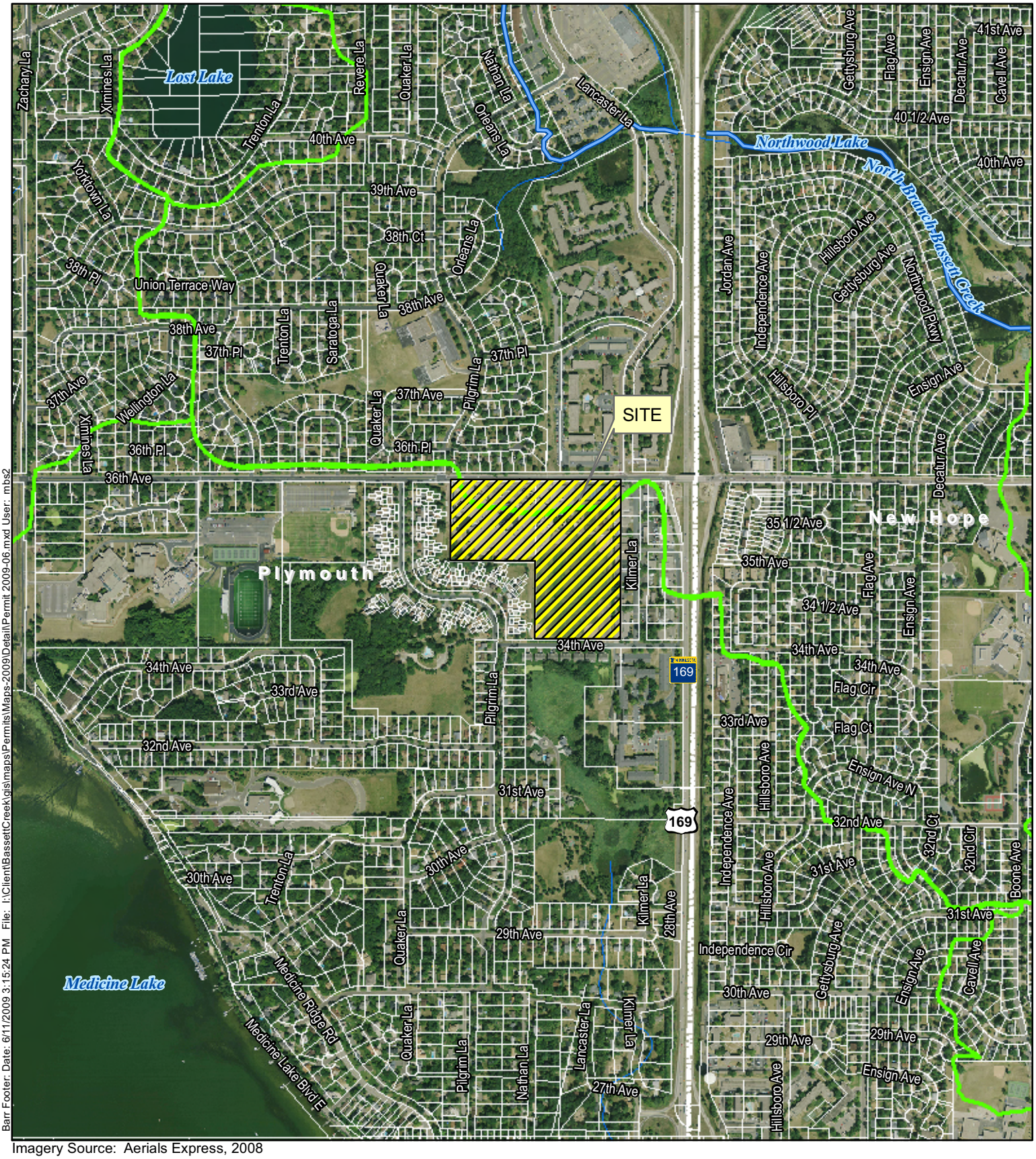
Recommendation

A recommendation will be provided at the meeting.

The following comments have been provided to the applicant.

a. Applicant must provide supplemental information that demonstrates compliance to the non-degradation requirements of Policy 4.2.2.4 of the BCWMC's Watershed Management Plan.

b. A maintenance agreement must be established between the city and owner to ensure the StormTech Chamber System will be properly maintained in accordance to manufacturer recommendations.



Barr Footer: Date: 6/11/2009 3:15:24 PM File: I:\Client\BassettCreek\gis\maps\Permits\Maps-2009\Detail\Permit 2009-06.mxd User: mbs2

Imagery Source: Aerials Express, 2008

- Bassett Creek
- Stream
- Permit Location
- WMC Boundary
- Major Subwatershed
- Municipality
- Parcel Line

N

Feet

0 500 1,000 1,500 2,000

Bassett Creek Watershed Management Commission

LOCATION MAP
APPLICATION 2009-06
Plymouth Middle School
Plymouth, MN

Item 6A

Bassett Creek Watershed Commission
Memorandum

Date: March 13, 2009

From: Administrative Services Committee

To: Bassett Creek Commission Members

Subject: Commission Mission and Goals suggestions

Below are the previous goals submitted for the Commission consideration with the addition of the brainstorming ideas from the Administrative Committee Options meeting on March 5th. These goals are meant to supplement the overarching goals in the commission's watershed plan, and serve to guide the commission's priorities (budgeting and otherwise) for the remainder of 2009 and, more particularly, for 2010 and the budgeting process that will begin soon. This is by no means meant to be a comprehensive effort, nor is the ideas listed in any particular order, but rather an idea generator for the discussion at the March Commission meeting:

* Draft and adopt an organizational mission.

* Review and, as necessary, redesign and reorganize the BCWMC website.

* Draft and approve job descriptions for commissioners, officers, TAC members, consulting staff.

* Define additional administrative and technical services needed to improve commission function and reorganize existing committees, contracted services provides, including contracting additional services as identified, to meet identified needs.

* Review and, if necessary, propose revisions to the BCWMC joint powers agreement.

* Review and, if necessary, revise BCWMC bylaws.

* Establish and maintain commissioner liaisons to the TAC, TMDL stakeholder groups, EPOC and other working groups as selected by the commission.

* Identify and address commissioner watershed-management education needs.

* Review and, if necessary, revise process by which capital improvement projects are identified and proposed for additional to the BCWMC implementation plan and CIP.

* Identify medium- and long-term water-quality improvement initiatives (other than capital projects).

* Review and restructure the BCWMC project-review procedures to effectively integrate with member city permitting programs, then communicate protocols to member cities to ensure consistent application.

Additional potential goals from the 3-5-2009 Administrative Services Committee meeting:

Additional Water Quality monitoring
Develop a watershed wide watershed model(??)
Complete the TMDL's for:

- Medicine Lake
- Sweeney Lake
- Wirth Lake

Evaluate continued participation in

- WOMP
- CAMP
- Metro Bloom
- Blue Thumb
- Grant Program

Evaluate CIP projects
Develop Mission Statement

1.2 Purpose and Goals of BCWMC

1.2.1. BCWMC Overall Purposes

The Metropolitan Water Management Act requires local units of government in the seven-county metropolitan area to prepare and implement watershed management plans through membership in a watershed management organization. A watershed management organization can be organized as either a watershed district, a function of county government, or a joint powers agreement organization (such as the BCWMC). The act states that the purposes of WMO water management programs (quoted from Minnesota Statutes 103B.201) are as follows:

1. Protect, preserve, and use natural surface and groundwater storage and retention systems.
2. Minimize public capital expenditures needed to correct flooding and water quality problems.
3. Identify and plan for means to effectively protect and improve surface and groundwater quality.
4. Establish more uniform local policies and official controls for surface and groundwater management.
5. Prevent erosion of soil into surface water systems.
6. Promote groundwater recharge.
7. Protect and enhance fish and wildlife habitat and water recreational facilities.
8. Secure the other benefits associated with the proper management of surface and groundwater.

In 1992, the Minnesota Board of Water and Soil Resources (BWSR) developed rules (Minnesota Rules Chapter 8410) for the content of watershed management plans. The rules require, among other items, more specificity in citizen participation, control of erosion and sedimentation, wetland assessment, and the design of new stormwater conveyance, ponding, and treatment systems. The rules also require the establishment of the necessary authorities to ensure implementation of programs.

1.2.2. BCWMC Goals

With this Plan, the BCWMC's general purposes are similar to those stated above and are reflected in the goals and policies sections stated later in this Plan. The BCWMC's general goals fall under the categories of water quality, flood control, erosion and sediment control, stream restoration, wetland management, groundwater, public ditches, and public involvement and information. The goals are to:

- Manage the water resources of the watershed, with input from the public, so that the beneficial uses of wetlands, lakes, and streams remain available to the community.
- Improve the quality of stormwater runoff reaching the Mississippi River by reducing the nonpoint source pollution (including sediment) carried as stormwater runoff.
- Protect and enhance fish and wildlife habitat and maintain shoreland integrity.
- Reduce flooding along the Bassett Creek trunk system.
- Protect human life, property, and surface water systems that could be damaged by flood events.
- Regulate stormwater runoff discharges and volumes to minimize flood problems, flood damages, and the future costs of stormwater management systems.
- Provide leadership and assist member cities with coordination of intercommunity stormwater runoff planning and design.
- Prevent erosion and sedimentation to the greatest extent possible to protect the BCWMC's water resources from increased sediment loading and associated water quality problems.
- Implement soil protection and sedimentation controls whenever necessary to maintain health, safety, and welfare.
- Implement stream restoration measures whenever necessary to maintain health, safety, and welfare.
- Maintain or enhance the natural beauty and wildlife habitat value of Bassett Creek.

- Achieve no net loss of wetlands in the BCWMC, in conformance with the Minnesota WCA
- and associated rules.
- Protect the quantity and quality of groundwater resources.
- Manage public ditches in a manner that recognizes their current use as urban drainage systems.
- Raise awareness of the watershed's existence and the role that the BCWMC plays in protecting water quality and preserving the watershed's health and aesthetics.
- Enable the target audiences to have confidence in the BCWMC's expertise and participate in a meaningful way in the planning process and ongoing projects conducted by the BCWMC.
- Raise awareness of the impact that individuals, businesses, and organizations have upon water quality and motivate these audiences to change personal/corporate behavior that has a negative impact on water quality and the watershed.

1.3 Land and Water Resource Inventory

The Plan contains information on climate and precipitation, topography, soils, geology and groundwater resources, land use and public utilities, surface water resource information, natural communities and rare species, and pollutant sources in the BCWMC. This information is important because it is the foundation information that describes the condition of the watershed and it affects decisions about infrastructure, development, and ecological preservation.

For example, average weather poses little strain on the typical drainage system, but extremes in precipitation and snowmelt are important design considerations for flood control systems. Understanding the topography of the watershed helps determine drainage patterns. The information gained from a soil survey allows for proper planning of drainage systems and increases the awareness of potential flooding issues. Similarly, information about geology and groundwater resources, land use and public utilities, surface water resource information, natural communities and rare species, and pollutant sources provides the BCWMC with valuable information for planning purposes.

Item 6B.

Bassett Creek Recording Administrator

From: Zadak, Chris [Chris.Zadak@state.mn.us]

Sent: Monday, June 08, 2009 11:53 AM

To: dasche@ci.plymouth.mn.us; black.ginny@att.net; sheila_j_chaffee@uhc.com; KarenChese2@aol.com; terriepc@msn.com; Jack.frost@metc.state.mn.us; lgustafson@eminnetonka.com; khofstede@carlson.com; holte020@umn.edu; gjohnson@ci.new-hope.mn.us; Len Kremer; Loomis@ci.golden-valley.mn.us; fred@emailmoore.net; beth.neuendorf@dot.state.mn.us; nieber@umn.edu; joliver@ci.golden-valley.mn.us; nick.proulx@dnr.state.mn.us; joel.settles@co.hennepin.mn.us; dstauner@ci.new-hope.mn.us; lstout@eminnetonka.com; Templeman@justice.com; mjewelch@gmail.com; Marcey.Westrick@state.mn.us; kyledturner@gmail.com; Karen Chandler; Bassett Creek Recording Administrator; barbara.loida@dot.state.mn.us.; paula.pentel@ci.golden-valley.mn.us.; karla.peterson@health.state.mn.us; jason.quisberg@bonestroo.com

Cc: Randy Lehr; Brian Ross ; Brian Vlach; Erdmann, John; Hans P. Holmberg ; John Barten

Subject: Medicine Lake TMDL status and updated schedule

Hello--What follows is an update of where we're at and a plan to complete the project on schedule (per the work plan and contracts). This is the result of the project team reviewing the status and schedule and trying to ensure as much or more opportunity for stakeholder review as was originally planned.

June 11 Steering Cmte meeting is cancelled.

June 12: You will receive results and output from Hans's watershed modeling effort. This will show the estimated reductions from planned BMPs as well as other broadly applied BMPs/actions in various combinations so that we can see the relative efficacy of different actions towards meeting the reduction goal as well as what it will take overall to achieve the goal. As you review during the two weeks following June 12, if anything is unclear or if you have questions with the info we're providing you can either contact Hans or, if enough interest is expressed, we can arrange an informal meeting or conference call.

Also by June 12: Randy will provide a clarification of the balanced TMDL equation. This was presented at the May 14 meeting, but you may recall that there was some confusion over it. Please note that what was presented then and remains established is that the overall wasteload allocation is estimated to be 3040 lbs of P, which will mean a reduction of approximately 1500 lbs from existing watershed loading of about 4500 (2006 rainfall conditions). While these are preliminary numbers, we do not anticipate them changing significantly.

June 18: Regular meeting of BCWMC. It is expected that the commission will decide whether they are willing to serve as coordinator of a categorical wasteload allocation, as they tabled this at the previous meeting (so that commissioners could go back to their cities to discuss). It is my understanding that the allocation framework that the BCWMC is weighing in on is the so-called hybrid option: Categorical for the cities and Hennepin Co. and individual for Mn/DOT. This was overwhelmingly the preferred option among the Steering Cmte. Should the BCWMC either not make a decision at this meeting or decide not to serve as coordinator then the TMDL will be drafted with individual WLAs for all. [See further below for more on this.]

June 26: We ask that by this date you submit to me by e-mail written comments, questions, suggestions on the info provided by Hans re: the watershed modeling effort you will have received on June 12. By having this in hand Hans can then re-run the model, run additional scenarios, etc. in time for the next steering cmte meeting.

July 23: Any revised or new watershed modeling results will be e-mailed to the steering cmte.

July 30: Next Steering Cmte Meeting 4-6 pm. (This replaces the scheduled July 9 meeting, which Hans is unable to make. Other Thursdays--the preferred day of the week based on group polling early on--besides the 30th are also problematic.)

August 21: Drafts of TMDL report and Implementation Plan sent to Steering Cmte for review.

September 10: Final Steering Cmte Meeting 4-6 pm to discuss the draft reports. (This replaces what was going to be the public meeting for the TMDL from 6:00-7:30). No presentations are anticipated for this meeting; just Q&A and discussion on the drafts.

September 24: Public meeting on the TMDL and Implementation Plan, 6:00-7:30. This will precede the official public notice / 30-day comment period (more on the expected dates for that later).

More on individual WLA option: This may be moot, assuming that the BCWMC agrees to serve as the coordinator of a categorical WLA, but if an individual WLA is needed the project team believes that an areal apportionment of the WLA best meets the Steering Cmte's allocation decision criteria. An areal apportionment approach would basically mean that if your city made up, say, 88% of the watershed area then you would get 88% of the allowable wasteload delivered to Medicine Lake. This seems fair and equitable and accounts for past actions (unlike an equal percent reduction approach for everybody which would require reductions for even minimally contributing areas). Alternatives to this could be proposed by the Steering Cmte (and would need to be agreed upon by same).

Other: Per the work plan a draft monitoring plan will be made available for review and comment. Review date TBD.

That's it for now. Minor changes/adjustments may need to occur as we go, but we'll make every effort to keep on track. If questions please give me a call. Thank you.

Chris Zadak
MPCA
Regional Division - Watershed Section
520 Lafayette Rd. N.
St. Paul, MN 55155
Direct: New #--651-757-2837
Toll free: 800-657-3864
Fax: 651-297-8676

Bassett Creek Recording Administrator

From: Zadak, Chris [Chris.Zadak@state.mn.us]

Sent: Friday, June 12, 2009 3:34 PM

To: dasche@ci.plymouth.mn.us; black.ginny@att.net; sheila_j_chaffee@uhc.com; KarenChese2@aol.com; terriepc@msn.com; Jack.frost@metc.state.mn.us; lgustafson@eminnetonka.com; khofstede@carlson.com; holte020@umn.edu; gjohnson@ci.new-hope.mn.us; Len Kremer; Loomis@ci.golden-valley.mn.us; fred@emailmoore.net; beth.neuendorf@dot.state.mn.us; nieber@umn.edu; joliver@ci.golden-valley.mn.us; nick.proulx@dnr.state.mn.us; joel.settles@co.hennepin.mn.us; dstauner@ci.new-hope.mn.us; lstout@eminnetonka.com; Templeman@justice.com; mjewelch@gmail.com; Marcey.Westrick@state.mn.us; kyledturner@gmail.com; Karen Chandler; Bassett Creek Recording Administrator; barbara.loida@dot.state.mn.us.; paula.pentel@ci.golden-valley.mn.us.; karla.peterson@health.state.mn.us; jason.quisberg@bonestroo.com

Cc: Randy Lehr; Brian Ross ; Brian Vlach; Erdmann, John; Hans P. Holmberg ; John Barten

Subject: Medicine Lake TMDL draft watershed modeling results

Attachments: Medicine_Lake_P8_Modeling_Memo_061209_draft1.pdf

<<Medicine_Lake_P8_Modeling_Memo_061209_draft1.pdf>>
Hello--attached for your review is an explanation and summary of the P8 modeling results completed by Hans. Per my 6/08/09 e-mail I am requesting that you review this and provide comments in writing (e-mail is best) by 6-26-09. However, if you need clarification or wish to discuss the results before then we are certainly willing to do that. For minor clarifications it is fine to contact Hans directly (e-mail or 715-549-6740).

Your comments will be used to make any appropriate adjustments, run additional alternatives or otherwise help in preparing us for the next Steering Committee meeting so we can have as productive a meeting as possible and move us to the next step.

One thing you'll see in the write-up is that the overall reduction changed from the previous estimate: It was ~1500 lbs of P and is now 1221. We will be providing a summary/clarification on the overall TMDL equation and modeling likely on Monday the 15th.

If you want other information or have any questions please give me a call. Thank you.

Chris Zadak
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Fax: 651-297-8676

LimnoTech
Water | Environment | Scientists | Engineers

DATE: June 12, 2009

Draft Memorandum

FROM: Hans Holmberg
PROJECT: Medicine Lake TMDL

TO: Chris Zadak

CC: John Erdmann

SUBJECT: Medicine Lake TMDL P8 Modeling Summary

Overview

This memorandum presents the results of the P8 watershed modeling conducted to support the Medicine Lake Excess Nutrient Total Maximum Daily Load (TMDL). A summary of model development, calibration and comparison of model results to available data is presented. These results demonstrate the model is sufficiently reliable to simulate conditions in the watershed in an effort to support TMDL decision-making. Results of model applications to assess the relative benefit of various phosphorus loading reduction scenarios are also presented.

Model Development, Calibration and Comparison to Data

MPCA provided LimnoTech with the most recent P8 modeling files. Previous P8 modeling of the Medicine Lake watershed had been conducted by Barr Engineering (Medicine Lake Watershed and Lake Management Plan, March 2000). LimnoTech converted the existing P8 model input files to the most recent Windows-based version of P8. LimnoTech reviewed the inputs of the model, specifically characterization of subwatersheds and stormwater ponds, with the cities of New Hope, Golden Valley, Plymouth, and Minnetonka, as well as MnDOT. Model inputs were updated with the most recent information from the cities. These updates included minor changes in watershed boundaries and acreage in Golden Valley, and new stormwater ponds in East Medicine Lake Park and the South Basset Creek watershed. Model inputs were also reviewed to identify any inconsistencies in model parameterization throughout the watershed and minor revisions were made to improve consistency. These included minor adjustments to runoff coefficients in impervious areas and infiltration rates in stormwater ponds. Finally, new model input files were developed to directly correspond to the major subwatersheds as defined by the Three Rivers Park District (TRPD) and used in their Bathtub modeling of Medicine Lake.

LimnoTech developed hourly precipitation and daily temperature files to represent the period from 2004 through 2008. Precipitation was based on the Golden Valley rain gauge, with substitutions from the Zachary rain gauge in Plymouth when hourly data was available, as well as substitutions from the Minneapolis-St. Paul International Airport and the Crystal Lake rain gauges when accurate data were not available otherwise. A summary of the annual precipitation based on water years is presented in Table 1 below.

Corporate Headquarters Ann Arbor, MI
1326 Birch Park Ridge
Houlton, WI 54082
715-549-6740
Fax: 715-549-6741
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Table 1. Summary of Precipitation Inputs to P8 Model.

Water Year	Period	Precipitation (inches)
2004	10/1/2003-9/30/2004	33.8
2005	10/1/2004-9/30/2005	27.9
2006	10/1/2005-9/30/2006	29.7
2007	10/1/2006-9/30/2007	27.3
2008	10/1/2007-9/30/2008	25.6

The model was run to simulate the monitoring period in 2006. TRPD provided assessments of the monitoring data for each sampling site within the Medicine Lake watershed using the Flux program that develops pollutant loading rates from sample data and flow monitoring records. The model, in its updated state, compared favorably to the Flux results for the majority of the Medicine Lake watershed. However, discrepancies were observed at the 18th Avenue monitoring location. The model consistently predicted higher flows and phosphorus loads than what was represented in the data. A review of the modeling inputs indicated that the model representation of Parkers Lake, which is in the watershed upstream of the 18th Avenue monitoring location, simulated an excessive amount of discharge from the lake. Therefore, the representation of Parkers Lake was modified to reduce the amount of flow discharging from the lake. Also, the representation of the Fox Forest stormwater pond/wetland area, which is immediately upstream of the 18th Avenue monitoring location, was modified to represent additional removal of phosphorus in order to be reasonably consistent with the monitoring data. It is difficult to assess where exactly in this watershed the model significantly deviates from actual phosphorus loadings. Further monitoring in this watershed may be beneficial in developing this understanding.

Following the calibration of the model to the 2006 monitoring data, the model was applied to simulate monitoring periods in 2004, 2005, and 2007. A summary of the model-data comparisons for all years at all locations is presented in the figures below. Figure 1 shows the comparison of flow, phosphorus concentration, and phosphorus loads for the 2006 calibration period. Figure 2 shows the relative percent difference between monitored and modeled results for each of the 4 years. In Figure 2, the total load predicted by the Flux results was subtracted from the total load predicted by P8, and then the difference was divided by the Flux results to obtain the relative percent difference.

Overall, the model-data comparisons demonstrate that the P8 model adequately simulates the temporal and spatial variation in phosphorus loads on a major subwatershed basis and does not show a consistent bias in either over-predicting or under-predicting phosphorus loads. Therefore, the model is an acceptable tool to be applied to inform decisions related to achieving phosphorus reductions needed to meet a wasteload allocation.

The model does deviate from data more consistently at the locations monitoring small watersheds, such as Medicine Lake – 5 and Industrial Park 1, generally predicting higher phosphorus concentrations and loads. Prior to applying this model to assess phosphorus loads and reductions on a relatively small scale at a specific location within a subwatershed, additional monitoring data and model calibration should be considered.

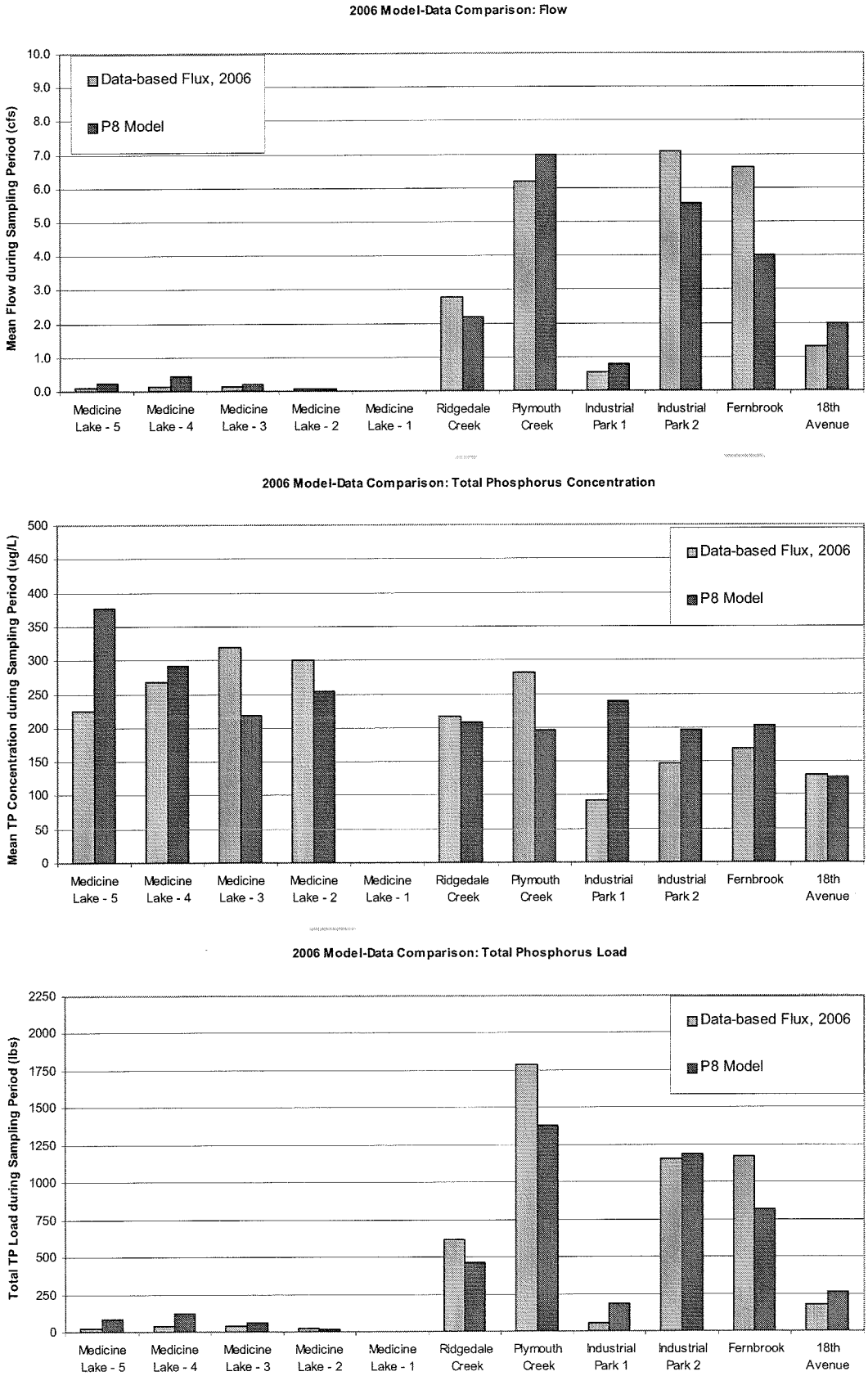

Figure 1. Model-Data Comparison for Calibration Year, 2006.

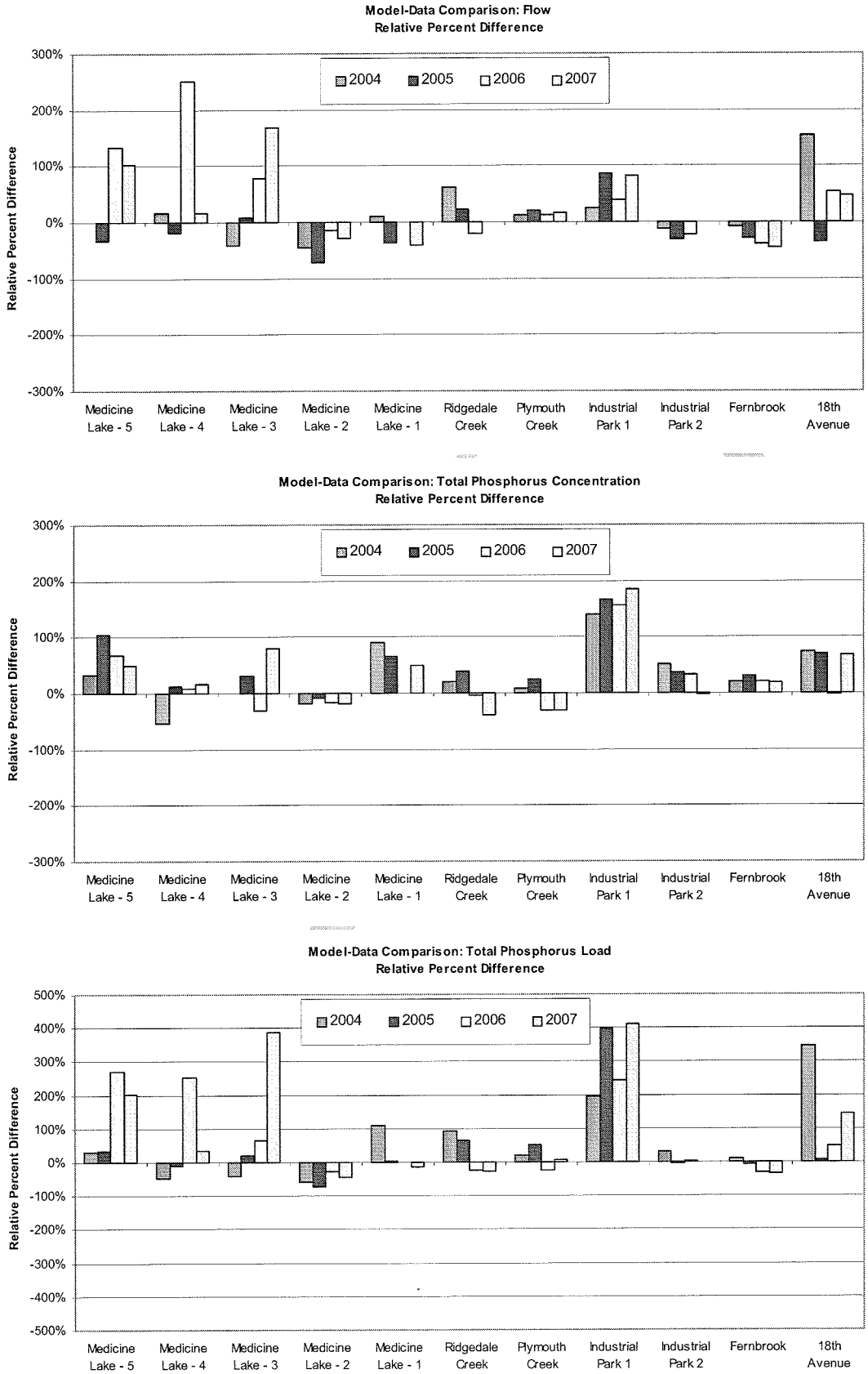

Figure 2. Relative Percent Difference Model-Data Comparison for All Years.

Model Application to Assess Phosphorus Reduction Scenarios

The calibrated model was applied to assess various phosphorus loading reduction scenarios. Existing BMPs in the watershed were used to represent baseline conditions and precipitation and temperatures for water year 2006 (October 1, 2005 through September 30, 2006) were used to represent climatic conditions.

Under baseline conditions, the total phosphorus loading to Medicine Lake for water year 2006 is 4,501 pounds. The preliminary TMDL wasteload allocation allows for 3,280 pounds of total phosphorus to be loaded during these conditions to attain an in-lake total phosphorus concentration of 38 ug/L. This results in a required reduction in the total phosphorus load to Medicine Lake of 1,221 pounds, a 27% reduction from current loadings.

The following screening-level alternatives were simulated. These are screening level alternatives meant to assess the limitations of potential benefits from various BMPs if applied watershed-wide, and are not intended to portray a realistic TMDL implementation plan. The final TMDL implementation plan will likely be comprised of a combination of various BMPs applied at something less than a watershed-wide basis. Steering Committee input will be critical to determining preferred BMPs and extent of implementation.

- Alternative 1: Addition of proposed enhancement to the Medicine Lake Park wetland area in the City of Plymouth and creation of a potential pond/wetland area in Golden Valley.
    - Results: reduction of an additional 50 pounds in the Medicine Lake Park area and 7 pounds in the Golden Valley pond. The reduction for the Medicine Lake Park area is less than expected based on the pre-design studies. Those studies indicated a reduction of 336 pounds (City of Plymouth Phase II Medicine Lake Watershed Implementation and Management Plan). Further investigation into this difference is being conducted. The P8 model predicts a removal rate of only 2.4%. The low removal rate is a reflection of the large removal of particulate phosphorus already occurring in ponds upstream in the watershed, resulting in a relatively high fraction of dissolved phosphorus coming into Medicine Lake Park.
- Alternative 2: New ponds in Alternative 1 along with a 10% reduction in the runoff curve number watershed-wide. This 10% reduction is a way of generally representing reduced runoff from pervious areas within the watershed. Opportunities to reduce runoff from pervious areas may include: increasing infiltration by use of rain gardens or soil amendments; increasing storage by use of rain barrels; improving landscape design to promote storage and infiltration; and increasing tree canopy cover. Additional work is being conducted to more quantitatively link the extent of BMPs to an associated reduction in the curve number or resulting runoff.
    - Results: reduction of 208 pounds. The 10% curve number reduction results in a 7.2% reduction in runoff from the watershed. To put this type of reduction in context, it can be compared to up to the amount of reduction in runoff from demonstration studies. The Burnsville rain garden demonstration study included

the creation of 17 rain gardens, totaling 6,800 square feet, in a 5.3 acre residential area. In the Burnsville study, monitoring data demonstrated that a 90% reduction in runoff was obtained. Using a rough translation from the Burnsville study, achieving the 7.2% reduction in runoff from the Medicine Lake watershed could require creation of approximately 2,600 rain gardens averaging 400 square feet in size.

- Alternative 3: New ponds in Alternative 1 along with an increase in the depression storage in impervious areas from 0.03 inch to 0.1 inch watershed-wide. The depression storage is the amount of rainfall that is initially retained on the impervious landscape before any runoff occurs. An increase to 0.1 inch of depression storage is a way of representing modifications to impervious areas to retain more rainfall on-site, either through storage, infiltration (e.g. porous pavement), or initial abstraction that might be attained by means of additional tree cover. Additional work is being conducted to more quantitatively link the extent of BMPs to an associated increase in depression storage in impervious areas.
    - Results: reduction of 498 pounds. The associated reduction in watershed-wide annual runoff for this alternative was 8.7%. For a similar amount of reduction in runoff for this alternative and Alternative 2, a much greater reduction in phosphorus load was predicted. Further investigation into the modeling results is being conducted to understand this difference.
- Alternative 4: New ponds in Alternative 1 along with a new "generic" pond at the most downstream location in each major subwatershed, just before entering Medicine Lake. The "generic" pond is intended to represent the maximum potential particulate phosphorus removal by creation of new ponds within each subwatershed.
    - Results: reduction of 537 pounds. This level of reduction is the maximum amount that can be expected from construction of additional ponds in the watershed if removal is based solely on settling of particulate material. This result demonstrates that the watershed already attains a high level of particulate removal in the existing ponds and construction of new ponds is not, in and of itself, a means of attaining the necessary load reduction.
- Alternative 5: New ponds in Alternative 1 along with a 10% reduction in the directly connected impervious area throughout the watershed. Similar to Alternative 2, this scenario represents improvements in the watershed to reduce runoff and increase infiltration and/or evapotranspiration, but focuses on the highly impervious areas, such as commercial and industrial developments and large parking structures. This scenario simulates reducing runoff by directly reducing impervious area in the watershed.
    - Results: reduction of 482 pounds. The associated reduction in watershed-wide annual runoff for this alternative was 6.6%.
- Alternative 6: New ponds in Alternative 1 along with improvements in the removal efficiency of all existing ponds. Improved maintenance of ponds and potential retrofits to

optimize phosphorus removal can be simulated in P8. All ponds were adjusted from the standard Particle Scale Factor of 1 to a value of 3 to represent increased removal efficiencies. The literature supporting the P8 model suggests values from 3 to 6 could be used to represent the potential removal efficiencies in ponds.

- Results: reduction of 219 pounds. The Plymouth Phase II plan included an estimated 42 pounds of reductions due to pond maintenance activities and 21 pounds of reduction by implementing barley straw treatment in 34 ponds. Additional improvements could include improving settling characteristics by modifying hydraulics in the ponds and improving aquatic vegetation.

Key Findings

The results of these screening-level alternatives support the assessment of the feasibility of attaining a 1,221 pound reduction in watershed loadings of total phosphorus that is required to meet the wasteload allocation for the Medicine Lake TMDL. These results also help assess the relative benefit of various approaches in reducing phosphorus loads to Medicine Lake.

The results clearly indicate that more ponds are not the answer to reducing phosphorus loads to Medicine Lake. The maximum potential benefit of additional ponds is predicted to be a reduction of 537 pounds based on Alternative 4. This does not mean no ponds should be considered in the implementation plan, but that other means of reducing phosphorus loads are needed and are likely more cost-effective. Improvements or retrofits to existing ponds could reduce loads by 219 pounds, based on Alternative 6, and is likely much more cost-effective per pound than adding new ponds.

The results clearly indicate the benefit of reducing runoff in the watershed. The simulated reductions in runoff from Alternatives 2, 3 and 5 show a resultant reduction in phosphorus load to Medicine Lake ranging from 30 pounds to 73 pounds for each 1% reduction in runoff.

Adding the reductions together from individual alternatives above to assess the total reduction from a combination of measures is not appropriate. Rather, model simulations of the specific combinations are required. Consideration of other approaches that are not possible to represent with the P8 model must also be considered.

The City of Plymouth Phase II Medicine Lake Watershed Implementation and Management Plan from 2004 included a list of recommendations to reduce phosphorus loads by 1,088 pounds. Coordination with the City of Plymouth is being conducted to assess the extent to which these recommendations have been implemented and the timing of their implementation, to determine how to account for them in meeting the required reduction of 1,221 pounds and whether or not to include them in the TMDL implementation plan.

The potential for combinations of BMPs to attain the required loading reduction of 1,221 pounds is presented in the table below. Steering Committee input and additional evaluation of BMP effectiveness and modeling assessments will be required to support the development of the final set of recommendations. Additional details on how to achieve these reductions will be developed.

BMP Description	**Range of Estimated Pounds of Phosphorus Removed Annually for 2006 Conditions**
Erosion Control & Streambank Stabilization	100 - 300
Pollution Prevention: geese management; benefits realized from phosphorus fertilizer ban restrictions and implementation; and increased street sweeping	75 - 350
New Ponds, including Medicine Lake Park Ponds, Golden Valley Pond, and others	50 - 350
Improved maintenance and retrofits to existing ponds	50 - 200
Reduced runoff by means of rain gardens, increased retention on impervious areas, and reduction in impervious area	50 - 500
Total	**325 – 1,700**

Item 6I.

BCWMC Education & Public Outreach Committee Meeting

May 28, 2009 – 9:00 a.m. – Plymouth City Hall – Medicine Lake Room

Members present: Liz Thornton, Ginny Black, Margie Vigoren, Stu Stockhauss and Pauline Langsdorf

Meadowbrook School Grant

Ginny will draw up the grant agreement and send it to the school for their signatures. Grant approval was given at April BCWMC meeting.

Brochure

We concurred with the recommendation from Mayor Loomis that people check their city ordinances regarding lawn regulations for inclusion under point 8 - Replace Turf with Native Plants – in the brochure. This recommendation was forwarded to the Joint EPOC brochure subcommittee. Since we significantly cut back the part of the Education/Public Outreach 2010 budget for brochures we will purchase enough brochures for the next couple of years from our 2009 budget. The information contained in these brochures will not go out of date. The committee decided to order up to 10,000 brochures provided the cost doesn't exceed $1,000. We will give copies to our cities to use in their brochure racks. We also plan to use it at various community functions, give it to teachers in our schools and provide it to our libraries. We also briefly discussed reviewing existing lessons on watershed and non-point source pollution education that could accompany the brochures when we provide brochures to teachers. One suggestion was to hire a teacher to do the lesson reviews.

Hiring a Writer to Produce Articles About People in the Community Involved in Water BMP's

We reviewed and approved the scope of service drawn up by Margie Vigoren and Mary Gwen-Lenth. This will be sent out to several writers with a deadline for submission of their interest and samples of their work due back to Margie Vigoren by June 16. The committee will meet at 10:30 a.m. on June 18 to review and make a recommendation to the BCWMC on who we wish to hire to do this work.

The scope of services included:

- Write an occasional column to be published in local newspapers and other media outlets. The column would feature watershed residents who demonstrate water quality stewardship in some interesting and/or important way. For example, they may have installed a rain garden, led a neighborhood cleanup, worked with neighbors to stabilize a shoreline, etc. The article would personalize these "best management practices" in a way that is both interesting and instructive.
- The individual we are seeking would have the skills to write the articles in an engaging manner, while accurately depicting the method and significance of the practice highlighted. In addition, the individual would get the articles published in – at a minimum – the local newspapers of a majority of the BCWMO member cities. The individual would also take photos to accompany the articles.
- Members of the education committee will assist by identifying individuals to be featured and will provide information on the method and significance of the highlighted practice.

- The education and public outreach committee budget for this activity in 2009 is $900 (for articles from July through December 2009).

Website Review

Amy Herbert joined the committee to review the website. Our website review had technical difficulties when the Barr website went down when we were about to start the review. We then switched to reviewing other watershed organizations websites and referred to a previously printed paper copy of the BCWMC home page and the grant informational pages. We will continue website review at a meeting of the Education and Public Outreach Committee scheduled for 9:00 a.m. on July 21st in the Medicine Lake Room at Plymouth City Hall.

Notes by Pauline Langsdorf

Joint EPOC Meeting

June 2, 2009 – 8:30 a.m. - Parker's Lake Room – Plymouth City Hall

BCWMC members present: Liz Thornton, Margie Vigoren and Pauline Langsdorf

Other organizations represented: Shingle Creek WMO, West Mississippi WMO, Pioneer-Sarah Creek WMO, Elm Creek WMO, City of Minneapolis and Hennepin County Environmental Services

Brochure Final Review

We reviewed the brochure and made recommendations for a few minor changes. Everyone was very pleased with the brochure. All groups were asked to get back to Judie Anderson with the number of copies they want for their organization. Cost per copy will be determined by the number to be printed. BCWMC representatives reported that we have a maximum of $1,000 available for this brochure. The printing is estimated to take two weeks, once we know the number to be printed.

The brochure will have a space of about 1 ½ inches at the bottom of the tri-fold center back where our various organizations can print a brief organization specific message or affix a sticker with information about our organization.

Hennepin County Environmental Services

We were given copies of informational pieces produced by Hennepin County Environmental Services (HCES) which will be on their website. The topics completed so far include:

- Five easy things you can do to improve Minnesota's lakes and streams
- Earth-friendly lawn care tips
- Rain gardens add beauty and benefit the environment
- Adopt a storm drain

Additional pieces will be written and posted on the HCES website. The brochure will also be available there as a PDF. They will probably also write a separate article about rain garden maintenance. We also discussed the possibility of a utility bill insert. It was also suggested that a door-hanger developed that could be used in the immediate neighborhood when groups or individuals are involved in adopt a storm drain programs. The HCES will send out articles to the press on the topics listed above.

HCES will maintain and update the website. It will be revised in November. Following that the website will be reviewed and revised annually. The launch date for the website is July 1. The website address is www.hennepin.us/water

Personal Interest Stories on Water Stewardship Writer

BCWMC representatives reported that we are seeking a writer of personal interest stories that feature local watershed residents whose actions demonstrate water quality stewardship. We asked that names of writers be sent to Margie Vigoren to be included in our outreach for writers.

Next Meeting of Joint EPOC July 15

The Joint EPOC will meet on July 15 at 8:30 a.m. in the Parker's Lake Room of Plymouth City Hall. At that meeting we will report on brochure orders. Crystal Council Member Janet Moore will show us a powerpoint presentation about watersheds that she developed and has presented in classrooms at Forest and Neill elementary schools in Crystal.

Notes by Pauline Langsdorf