



Mr. Jim de Lambert  
Bassett Creek Watershed Management Commission  
7800 Golden Valley Road  
Golden Valley, MN 55427

Page # 1  
Invoice # 23270051-2017-12  
Project # 23/27-0051  
Client # 59  
February 2, 2018

Invoice of Account with  
BARR ENGINEERING COMPANY

For professional services during the period of  
December 30, 2017 through January 26, 2018

**ENGINEERING**

TECHNICAL SERVICES

Coordination with administrator and Crystal staff regarding Crystal WCA LGU status and history, including review of resolutions; internal discussion regarding draft revised Minneapolis MS4 permit; FEMA modeling; communications with MDNR staff regarding scope, revise scope per MDNR comments, including revised floodway scope, internal meeting to discuss scope changes, provide final scope and budget letter to MDNR staff and to administrator; internal communications regarding plat review cost tracking; communications with administrator regarding 2017 engineering budget; review active/inactive status of development reviews and communications with member cities to confirm project status; Medicine Lake zebra mussels: communications with administrator, TRPD staff, and MAISRC staff regarding meeting to discuss zebra mussel survey, communications regarding zebra mussel meeting, communications with aquatic plant survey consultant regarding cutoff depths for snorkeling/SCUBA, and begin preparing Medicine Lake bathymetric map for meeting; provide Phase 2XP SWMM shapefiles to Minnetonka staff; set up 2018 BCWMC projects and budgets; and provide Flood Control Project O&M manual to administrator via project website.

James P. Herbert, Principal Engineer/Scientist 1.0 hours @ \$190.00 per hour .....	\$ 190.00
Karen L. Chandler, Principal Engineer/Scientist 11.9 hours @ \$175.00 per hour .....	\$ 2,082.50
Jennifer A. Koehler, Engineer/Scientist/Specialist III 5.3 hours @ \$140.00 per hour .....	\$ 742.00
Margaret R. Rattei, Engineer/Scientist/Specialist III 1.1 hours @ \$135.00 per hour .....	\$ 148.50
Ross S. Mullen, Engineer/Scientist/Specialist II 1.5 hours @ \$100.00 per hour .....	\$ 150.00
Josh P. Phillips, Engineer/Scientist/Specialist I 1.0 hours @ \$85.00 per hour .....	\$ 85.00
<i>Subtotal, Technical Services</i> .....	\$ 3,398.00

**MONTHLY MEETING PREPARATION**

Communications/coordination with administrator regarding draft/final agenda and meeting packet for January Commission meeting; review/edit draft December meeting minutes; communications with administrator regarding review of diversion project at BCWMC meeting; prepare presentation regarding AIS Rapid Response Plan for January Commission meeting; review Medicine Lake carp information; prepare memos for January Commission meeting regarding Medicine Lake carp and Schaper budget; review and edit administrator's memo regarding BWSR watershed-based funding; review/edit administrator's agenda memo; internal meeting and communications with administrator regarding zebra mussel survey design; prepare for January Commission meeting, including setting up and attending pre-meeting conference call with Chair de Lambert and administrator; and coordination and communications with administrator and internal staff regarding follow-up items from January Commission meeting and upcoming meeting agenda items.

James P. Herbert, Principal Engineer/Scientist 3.0 hours @ \$190.00 per hour .....	\$	570.00
Karen L. Chandler, Principal Engineer/Scientist 27.1 hours @ \$175.00 per hour .....	\$	4,742.50
Margaret R. Rattei, Engineer/Scientist/Specialist III 5.7 hours @ \$135.00 per hour .....	\$	769.50
Technicians/Administrative.....	\$	<u>670.00</u>
<i>Subtotal, Monthly Meeting Preparation.....</i>	\$	<i>6,752.00</i>

**WCA LGU Administration**

Communications with administrator and internal staff regarding WCA BCWMC contact; and communications with BWSR regarding request to update WCA LGU contact list.

James P. Herbert, Principal Engineer/Scientist 0.5 hours @ \$190.00 per hour .....	\$	95.00
Karen L. Chandler, Principal Engineer/Scientist 1.4 hours @ \$175.00 per hour .....	\$	245.00
Karen S. Wold, Engineer/Scientist/Specialist II 0.5 hours @ \$125.00 per hour .....	\$	<u>62.50</u>
<i>Subtotal, WCA LGU Administration .....</i>	\$	<i>402.50</i>

***Subtotal Technical Services ..... \$ 10,552.50***

**PLAT REVIEW**

**Douglas Drive (2015-32)**

Communications with City staff and project closeout.

James P. Herbert, Principal Engineer/Scientist 0.3 hours @ \$190.00 per hour .....	\$	<u>57.00</u>
<i>Subtotal, Douglas Drive.....</i>	\$	<i>57.00</i>

Mortenson Headquarters Addition (2016-14)

Communications with City staff and project closeout.

James P. Herbert, Principal Engineer/Scientist 0.3 hours @ \$190.00 per hour .....	\$	57.00
<i>Subtotal, Mortenson Headquarters Addition .....</i>	\$	57.00

CSAH 66 Culvert Replacement (2017-19)

Communications with applicant; review revised grading, drainage and erosion control plans, and XP-SWMM model; and prepare draft approval/comment letter to city staff.

James P. Herbert, Principal Engineer/Scientist 1.0 hours @ \$190.00 per hour .....	\$	190.00
Ross S. Mullen, Engineer/Scientist/Specialist II 2.6 hours @ \$100.00 per hour .....	\$	260.00
Josh P. Phillips, Engineer/Scientist/Specialist I 4.3 hours @ \$85.00 per hour.....	\$	365.50
<i>Subtotal, CSAH 66 Culvert Replacement .....</i>	\$	815.50

Quail Ridge Drainage Improvements (2017-39)

Coordination with applicant regarding missing application fee payment.

Josh P. Phillips, Engineer/Scientist/Specialist I 0.4 hours @ \$85.00 per hour.....	\$	34.00
<i>Subtotal, Quail Ridge Drainage Improvements .....</i>	\$	34.00

2018-2019 PMP (2017-40)

Review concept plans and supporting information (XP-SWMM and P8 models) for proposed diversion of surface water runoff from the Medicine Lake Direct subwatershed to the Main Stem subwatershed; and prepare and send comment letter to city staff.

James P. Herbert, Principal Engineer/Scientist 1.5 hours @ \$190.00 per hour .....	\$	285.00
Karen L. Chandler, Principal Engineer/Scientist 0.5 hours @ \$175.00 per hour .....	\$	87.50
Ross S. Mullen, Engineer/Scientist/Specialist II 4.9 hours @ \$100.00 per hour .....	\$	490.00
Kimberly S. Baker, Engineer/Scientist/Specialist I 4.3 hours @ \$90.00 per hour .....	\$	387.00
Josh P. Phillips, Engineer/Scientist/Specialist I 7.6 hours @ \$85.00 per hour.....	\$	646.00
Technicians/Administrative.....	\$	57.00
<i>Subtotal, 2018-2019 PMP.....</i>	\$	1,952.50

**Subtotal Plat Review.....\$ 2,916.00**

PRELIMINARY COMMUNICATIONS AND NON-FEE REVIEWS

PRELIMINARY COMMUNICATIONS

Provide 100-year floodplain elevation check for Ridgedale Apartments project; preliminary review and determination of watershed jurisdictional boundary for Capri Theater expansion project in Minnetonka; review proposed building addition for Plymouth Commons; and communications with contractor regarding proposed bridge/road/home project in Plymouth, and follow-up communications with administrator and Plymouth staff.

James P. Herbert, Principal Engineer/Scientist		
1.0 hours @ \$190.00 per hour .....	\$	190.00
Karen L. Chandler, Principal Engineer/Scientist		
0.8 hours @ \$175.00 per hour .....	\$	140.00
Josh P. Phillips, Engineer/Scientist/Specialist I		
1.3 hours @ \$85.00 per hour.....	\$	<u>110.50</u>
<b>Subtotal, Preliminary Communications.....</b>	<b>\$</b>	<b>440.50</b>

NON-FEE REVIEWS

BLUE LINE LRT WCA LGU ADMIN

Golden Valley

Issue third extension on wetland replacement plan decision.

Karen S. Wold, Engineer/Scientist/Specialist II		
0.1 hours @ \$125.00 per hour .....	\$	<u>12.50</u>
<i>Subtotal, Golden Valley.....</i>	<i>\$</i>	<i>12.50</i>

Minneapolis

Issue third extension on wetland replacement plan decision.

Karen S. Wold, Engineer/Scientist/Specialist II		
0.1 hours @ \$125.00 per hour .....	\$	<u>12.50</u>
<i>Subtotal, Minneapolis.....</i>	<i>\$</i>	<i>12.50</i>

Robbinsdale

Issue third extension on wetland replacement plan decision.

Karen S. Wold, Engineer/Scientist/Specialist II		
0.1 hours @ \$125.00 per hour .....	\$	<u>12.50</u>
<i>Subtotal, Robbinsdale.....</i>	<i>\$</i>	<i>37.50</i>
<i>Subtotal Blue Line LRT WCA LGU Admin.....</i>	<i>\$</i>	<i>37.50</i>
<i>Subtotal Blue Line LRT &amp; Blue Line LRT WCA LGU Admin.....</i>	<i>\$</i>	<i>37.50</i>

**Subtotal Non-Fee Reviews .....\$ 37.50**

**Subtotal Preliminary Communications and Non-Fee Reviews .....\$ 478.00**

COMMISSION AND TAC MEETINGS

Attend January 18 Commission meeting, including providing technical assistance for AIS Rapid Response Plan agenda item.

Karen L. Chandler, Principal Engineer/Scientist  
 3.2 hours @ \$175.00 per hour .....\$ 560.00

Margaret R. Rattei, Engineer/Scientist/Specialist III  
 2.1 hours @ \$135.00 per hour .....\$ 283.50

Expenses (Mileage) .....\$ 17.44

**Subtotal, Commission and TAC Meetings.....\$ 860.94**

SURVEYS & STUDIES

**Subtotal Surveys & Studies .....\$ 0.00**

WATER QUALITY/MONITORING

Sweeney Lake Aeration Study

Analyze 2017 monitoring data; prepare inputs for lake water quality modeling; and communications with administrator and Golden Valley staff regarding project schedule.

Gregory J. Wilson, Consultant/Advisor  
 18.1 hours @ \$160.00 per hour .....\$ 2,896.00

*Subtotal, Sweeney Lake Aeration Study.....\$ 2,896.00*

**Subtotal, Water Quality/Monitoring.....\$ 2,896.00**

WATER QUANTITY

Measure and review lake level elevations as part of the lake-gauging program.

Technicians/Administrative.....\$ 405.00

Expenses (Mileage/2WD Field) .....\$ 56.25

**Subtotal, Water Quantity.....\$ 461.25**

XP-SWMM Model Updates

Update XP-SWMM model to include changes resulting from constructed Liberty Crossing project in Golden Valley.

Ross S. Mullen, Engineer/Scientist/Specialist II  
 3.2 hours @ \$100.00 per hour .....\$ 320.00

Katelyn Turpin-Nagel, Engineer/Scientist/Specialist II  
 13.8 hours @ \$95.00 per hour ..... \$ 1,311.00  
**Subtotal, XP-SWMM Model Updates ..... \$ 1,631.00**

**FLOOD CONTROL PROJECT INSPECTION**

Prepare and send letters to Crystal, Golden Valley, Minneapolis, Plymouth, and MnDOT staff with annual inspection information/results and maintenance checklists; and communications with administrator.

James P. Herbert, Principal Engineer/Scientist  
 4.2 hours @ \$190.00 per hour ..... \$ 798.00  
 Josh P. Phillips, Engineer/Scientist/Specialist I  
 2.1 hours @ \$85.00 per hour..... \$ 178.50  
**Subtotal, Flood Control Project Inspection ..... \$ 976.50**

**TOTAL ENGINEERING ..... \$ 20,772.19**

**AIS RAPID RESPONSE PLAN**

AIS RAPID RESPONSE PLAN

Revise and complete draft AIS Rapid Response Plan for BCWMC Priority 1 lakes (Medicine Lake, Northwood Lake, Parkers Lake, Sweeney Lake, Twin Lake, Westwood Lake, and Wirth Lake), and provide plan to administrator for January meeting packet.

Margaret R. Rattei, Engineer/Scientist/Specialist III  
 2.9 hours @ \$135.00 per hour ..... \$ 391.50  
 Technicians/Administrative..... \$ 95.00  
*Subtotal, AIS Rapid Response Plan..... \$ 486.50*

**TOTAL AIS RAPID RESPONSE PLAN ..... \$ 486.50**

**ANNUAL REPORT**

**TOTAL ANNUAL REPORT ..... \$ 0.00**

**PUBLIC COMMUNICATIONS**

**TOTAL PUBLIC COMMUNICATIONS ..... \$ 0.00**

**WEBSITE**

**TOTAL WEBSITE ..... \$ 0.00**

**WATERSHED OUTLET MONITORING PROGRAM (WOMP)**

WATERSHED OUTLET MONITORING PROGRAM (WOMP)

Attempted flow measurement at WOMP station (ice conditions prevented successful measurement); and organize and process flow files from 2017.

Christopher J. Bonick, Engineer/Scientist/Specialist II		
3.2 hours @ \$125.00 per hour .....	\$	400.00
Expenses (Mileage/2WD Field) .....	\$	40.45
<i>Subtotal, Watershed Outlet Monitoring Program</i> .....	\$	440.45
<b>TOTAL WOMP</b> .....	<b>\$</b>	<b>440.45</b>

**CAPITAL IMPROVEMENT PROJECTS (Funded through tax levy)**

DECOLA PONDS B&C IMPROVEMENT PROJECT FEASIBILITY STUDY (2019) (BC-2, BC-3, BC-8)

Follow-up with MDNR regarding ordinary high water level and lowering of normal water level; finalize base map and surface for feasibility study; coordination of test trenching including obtaining quotes; develop concept sketches for 3 feasibility options, based on tree preservation outlines from Golden Valley staff; and prepare and send project updates to administrator and city staff..

Karen L. Chandler, Principal Engineer/Scientist		
0.2 hours @ \$175.00 per hour .....	\$	35.00
Jennifer A. Koehler, Engineer/Scientist/Specialist III		
3.2 hours @ \$140.00 per hour .....	\$	448.00
Jennifer L. Brekken, Engineer/Scientist/Specialist III		
1.4 hours @ \$150.00 per hour .....	\$	210.00
Alex B. West, Engineer/Scientist/Specialist I		
1.0 hours @ \$90.00 per hour .....	\$	90.00
Technicians/Administrative.....	\$	450.00
<i>Subtotal, DeCola Ponds B&amp;C Feasibility Study</i> .....	\$	1,233.00

WESTWOOD LAKE WATER QUALITY IMPROVEMENT PROJECT FEASIBILITY STUDY

Complete project location figure for SHPO; follow-up with architects on project schedule; and prepare and send project updates to administrator and city staff.

Karen L. Chandler, Principal Engineer/Scientist		
0.2 hours @ \$175.00 per hour .....	\$	35.00
Michelle A. Kimble, Engineer/Scientist/Specialist III		
3.6 hours @ \$130.00 per hour .....	\$	468.00
Rachel C. Mitcavish, Engineer/Scientist/Specialist I		
0.7 hours @ \$80.00 per hour .....	\$	56.00
<i>Subtotal, Westwood Lake WQ Feasibility Study</i> .....	\$	559.00

BRYN MAWR MEADOWS WATER QUALITY IMPROVEMENT PROJECT FEASIBILITY STUDY (2019) (BC-5)

Prepare materials for MPRB design charrette; internal meeting and communications regarding design options and design charrette; attend January 9 design charrette at MPRB offices; provide summary email of the design charrette to the project team; prepare for and attend January 16 agency meeting, including communications with USACE staff prior to the agency meeting; prepare wetland delineation report and figures; and prepare and send project updates to administrator, city staff and MPRB staff.

Kurt A. Leuthold, Principal Engineer/Scientist 2.7 hours @ \$180.00 per hour .....	\$ 486.00
Karen L. Chandler, Principal Engineer/Scientist 1.3 hours @ \$175.00 per hour .....	\$ 227.50
Michelle A. Kimble, Engineer/Scientist/Specialist III 17.7 hours @ \$130.00 per hour .....	\$ 2,301.00
Shanna R. Braun, Engineer/Scientist/Specialist III 3.0 hours @ \$130.00 per hour .....	\$ 390.00
Michael B. Strong, Engineer/Scientist/Specialist II 0.3 hours @ \$110.00 per hour .....	\$ 33.00
Brian K. Burgner, Engineer/Scientist/Specialist II 26.6 hours @ \$100.00 per hour .....	\$ 2,660.00
Josh P. Phillips, Engineer/Scientist/Specialist I 0.7 hours @ \$85.00 per hour .....	\$ 59.50
Rachel C. Mitcavish, Engineer/Scientist/Specialist I 5.7 hours @ \$80.00 per hour .....	\$ 456.00
Expenses (Mileage) .....	\$ 14.17
<i>Subtotal, Bryn Mawr Meadows Feasibility Study .....</i>	<i>\$ 6,627.17</i>

SCHAPER POND EFFECTIVENESS MONITORING (SL-3)

Perform additional water quality testing on November 17; uninstall monitoring equipment and remove shelters from site; download data; clean and store equipment; and expenses for laboratory analysis of water quality samples.

Christopher J. Bonick, Engineer/Scientist/Specialist II 7.0 hours @ \$120.00 per hour .....	\$ 840.00
Kevin D. Menken, Engineer/Scientist/Specialist II 6.0 hours @ \$110.00 per hour .....	\$ 660.00
Heather N. Hlavaty, Engineer/Scientist/Specialist I 6.3 hours @ \$90.00 per hour .....	\$ 567.00
Technicians/Administrative .....	\$ 693.00
Expenses (Pace Analytical Services) .....	\$ 840.00
<i>Subtotal, Schaper Pond Effectiveness Monitoring .....</i>	<i>\$ 3,600.00</i>



**TOTAL CAPITAL IMPROVEMENTS PROJECTS (Tax Levy) .....\$ 12,019.17**

**TMDL WORK**

TMDL IMPLEMENTATION REPORTING

Update P8 modeling inputs/outputs; complete pond prioritization spreadsheet/rankings and pond prioritization mapping; and calibrate Northwood Lake P8 model.

Gregory J. Wilson, Consultant/Advisor 51.5 hours @ \$160.00 per hour .....	\$ 8,240.00
Michael B. McKinney, Engineer/Scientist/Specialist II 3.5 hours @ \$100.00 per hour .....	\$ 350.00
Joshua R. Vosejпка, Engineer/Scientist/Specialist I 11.3 hours @ \$80.00 per hour .....	\$ 904.00
<i>Subtotal, TMDL Implementation Reporting .....</i>	<i>\$ 9,494.00</i>

**TOTAL TMDL WORK .....\$ 9,494.00**

**SUMMARY TOTALS**

<b>Total Engineering .....</b>	<b>\$ 20,772.19</b>
<b>Total Annual Report/Website/Public Communications .....</b>	<b>\$ 0.00</b>
<b>Total AIS Rapid Response Plan.....</b>	<b>\$ 486.50</b>
<b>Total WOMP .....</b>	<b>\$ 440.45</b>
<b>Total TMDL Work .....</b>	<b>\$ 9,494.00</b>
<b>Total Capital Improvement Projects (Tax Levy).....</b>	<b>\$ 12,019.17</b>
<b>TOTAL PAYABLE.....</b>	<b>\$ 43,212.31</b>

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

*Jim Herber*