



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

Page # 1
Invoice # 23270051-2016-11
Project # 23/27-0051
Client # 59
January 06, 2017

Invoice of Account with
BARR ENGINEERING COMPANY

For professional services during the period of
November 26, 2016 through December 30, 2016

ENGINEERING

TECHNICAL SERVICES

Attend meeting with Hennepin County Mesonet staff and administrator regarding county weather and other data collection efforts and potential BCWMC involvement, and follow-up communications with Hennepin county staff regarding Mesonet narrative; follow-up with Crystal staff regarding flood control structures in the city, reviewed O&M and dam safety information, and prepare/send email to city staff; communications with Minneapolis staff regarding status of Commission XP-SWMM model; communications with administrator regarding local plan requirements, BWSR, BMPs, and Hennepin County Governance study; meeting with administrator regarding AIS Hennepin County grant, and 2017 projects; preliminary review of Minnetonka Wellhead Protection Plan and communications with administrator regarding review; and internal discussion regarding IBI calculator for MPCA TALU rules; edits to BCWMC project review flow chart as graphic for website; and provide draft local water management plan checklist to administrator.

James P. Herbert, Principal Engineer/Scientist 2.0 hours @ \$180.00 per hour	\$ 360.00
Karen L. Chandler, Principal Engineer/Scientist 11.6 hours @ \$165.00 per hour	\$ 1,914.00
Gregory J. Wilson, Consultant/Advisor 1.0 hours @ \$155.00 per hour	\$ 155.00
Margaret R. Rattei, Engineer/Scientist/Specialist III 0.7 hours @ \$130.00 per hour	\$ 91.00
Sterling G. Williams, Engineer/Scientist/Specialist III 6.0 hours @ \$130.00 per hour	\$ 780.00
Technicians/Administrative.....	\$ 28.00
<i>Subtotal, Technical Services.....</i>	<i>\$ 3,328.00</i>

MONTHLY MEETING PREPARATION

Communications/coordination with administrator regarding draft/final agenda and meeting packet for December 2016 meeting; review/edit draft November meeting minutes; prepare work scope and cost estimate for AIS pathways, suitability, vulnerability analyses and management plan for Hennepin County AIS grant application agenda item; prepare draft text regarding Hennepin County AIS grant for administrator's memo for December meeting; prepare for December Commission meeting, including set up and attend pre-meeting conference call with chair de Lambert, vice chair Mueller, and administrator to review meeting agenda; provide grant tracking information to administrator; and coordination and communications with administrator and internal staff regarding follow-up tasks from December Commission meeting and upcoming meeting agenda items.

James P. Herbert, Principal Engineer/Scientist 8.4 hours @ \$180.00 per hour	\$ 1,512.00
Karen L. Chandler, Principal Engineer/Scientist 13.9 hours @ \$165.00 per hour	\$ 2,293.50
Margaret R. Rattei, Engineer/Scientist/Specialist III 2.0 hours @ \$130.00 per hour	\$ 260.00
Technicians/Administrative.....	\$ <u>266.00</u>
<i>Subtotal, Monthly Meeting Preparation.....</i>	<i>\$ 4,331.50</i>

TECH ANALYSES (H&H ETC.)

Update Medicine Lake Road and Winnetka Avenue (DeCola Ponds) XP-SWMM model to incorporate the City of New Hope's Rosalyn Court flood mitigation storage project into the model; attend meeting with New Hope staff and city consultant regarding Rosalyn Court flood mitigation storage evaluation; follow-up with city consultant; and QAQC combined model and run for 1, 2, 5, 10, 25, 50, 100 year events (per administrator's authorization).

Jennifer A. Koehler, Engineer/Scientist/Specialist III 4.4 hours @ \$125.00 per hour	\$ 550.00
Charles M. Hinds, Engineer/Scientist/Specialist I 2.6 hours @ \$75.00 per hour.....	\$ <u>195.00</u>
<i>Subtotal, Tech Analyses (H&H, Etc.)</i>	<i>\$ 745.00</i>

TAC PREPARATION

Prepare for November 28 TAC meeting.

Karen L. Chandler, Principal Engineer/Scientist 1.6 hours @ \$165.00 per hour	\$ <u>264.00</u>
<i>Subtotal, TAC Preparation.....</i>	<i>\$ 264.00</i>

Subtotal Technical Services \$ 8,668.50

PLAT REVIEW

SWLRT Minneapolis (2016-17)

Review Metro Transit's responses to BCWMC comment letter; review revised grading, drainage and erosion control plans; prepare review memo for December Commission meeting and provide to administrator; prepare and send approval letter to city staff; and communications with Metro Transit and consultant.

James P. Herbert, Principal Engineer/Scientist 5.0 hours @ \$180.00 per hour	\$ 900.00
Karen L. Chandler, Principal Engineer/Scientist 2.2 hours @ \$165.00 per hour	\$ 363.00
Jennifer A. Koehler, Engineer/Scientist/Specialist III 4.8 hours @ \$125.00 per hour	\$ 600.00
Candice H. Kantor, Engineer/Scientist/Specialist II 0.3 hours @ \$100.00 per hour	\$ 30.00
Josh P. Phillips, Engineer/Scientist/Specialist I 6.5 hours @ \$70.00 per hour.....	\$ <u>455.00</u>
<i>Subtotal, SWLRT Minneapolis</i>	\$ 2,348.00

Liberty Crossing Flood Mitigation (2016-28)

Coordination regarding application fee payment.

James P. Herbert, Principal Engineer/Scientist 0.2 hours @ \$180.00 per hour	\$ 36.00
Technicians/Administrative.....	\$ 27.00
Expenses (Postage)	\$ <u>0.47</u>
<i>Subtotal, Liberty Crossing Flood Mitigation</i>	\$ 63.47

@glenwood Campus (2016-29)

Communications with Minneapolis staff and internal regarding upcoming meeting.

James P. Herbert, Principal Engineer/Scientist 1.7 hours @ \$180.00 per hour	\$ 306.00
Karen L. Chandler, Principal Engineer/Scientist 0.4 hours @ \$165.00 per hour	\$ <u>66.00</u>
<i>Subtotal, @glenwood Campus</i>	\$ 372.00

Ridgedale Corner Shoppes (2016-34)

Review revised submittals; communications with applicant's consultant; and prepare and send approval letter to city staff.

James P. Herbert, Principal Engineer/Scientist 2.5 hours @ \$180.00 per hour	\$ 450.00
Josh P. Phillips, Engineer/Scientist/Specialist I 3.3 hours @ \$70.00 per hour.....	\$ <u>231.00</u>
<i>Subtotal, Ridgedale Corner Shoppes.....</i>	<i>\$ 681.00</i>

Crest Ridge Senior Housing (2016-37)

Plat review set up; and mail check to deputy treasurer.

Technicians/Administrative.....	\$ <u>54.00</u>
<i>Subtotal, Crest Ridge Senior Housing.....</i>	<i>\$ 54.00</i>

Subtotal Plat Review.....\$ 3,518.47

PRELIMINARY COMMUNICATIONS AND NON-FEE REVIEWS

PRELIMINARY COMMUNICATIONS

Communications with consultant regarding treatment requirements for Plymouth development project; communications with consultant regarding Plymouth site and refer to Plymouth staff; communications with consultant regarding MIDS site requirements; coordination with TKDA regarding BNSF railroad crossing of backwater area at TH 55, review old files and historic approvals; communications with Minneapolis staff regarding Commission development criteria.

James P. Herbert, Principal Engineer/Scientist 4.8 hours @ \$180.00 per hour	\$ 864.00
Karen L. Chandler, Principal Engineer/Scientist 0.9 hours @ \$165.00 per hour	\$ 148.50
Candice H. Kantor, Engineer/Scientist/Specialist II 0.5 hours @ \$100.00 per hour	\$ 50.00
Josh P. Phillips, Engineer/Scientist/Specialist I 1.5 hours @ \$70.00 per hour.....	\$ <u>105.00</u>

Subtotal, Plat Review – Preliminary Communications.....\$ 1,167.50

NON-FEE REVIEWS

BLUE LINE LRT/BOTTINEAU TRANSITWAY

Communications with Blue Line LRT consultant regarding impact of Atlas 14 flood elevations on project; conference call with Blue Line LRT consultant regarding potential impact of Atlas 14 flood elevations on project, including floodplain fill/mitigation and bridge low chord elevations; follow-up communications with Blue Line LRT consultant, administrator, and internal staff; meeting with administrator and internal staff, and prepare memo for December Commission meeting regarding application of Atlas 14 flood elevations to Blue Line LRT project.

James P. Herbert, Principal Engineer/Scientist 2.0 hours @ \$180.00 per hour	\$ 360.00
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Karen L. Chandler, Principal Engineer/Scientist
 7.6 hours @ \$165.00 per hour \$ 1,254.00
 Expenses (Mileage) \$ 21.60
Subtotal, Blue Line LRT/Bottineau Transitway..... \$ 1,635.60

SP 2772-111 TH 169 Drainage Improvements (2015-33)

Communications with consultant regarding project inspection meetings.

Karen L. Chandler, Principal Engineer/Scientist
 0.2 hours @ \$165.00 per hour \$ 33.00
Subtotal, SP 2772-111 TH 169..... \$ 33.00

Subtotal Non-Fee Reviews \$ 1,668.60

Subtotal Preliminary Communications and Non-Fee Reviews \$ 2,836.10

COMMISSION AND TAC MEETINGS

Attend November 28 TAC meeting and December 15 Commission meeting.

Karen L. Chandler, Principal Engineer/Scientist
 5.7 hours @ \$165.00 per hour \$ 940.50
Subtotal, Commission and TAC Meetings..... \$ **940.50**

SURVEYS & STUDIES

APM/AIS TASK FORCE

Prepare for and attend November 30 APM/AIS committee meeting; review Hennepin County AIS grant application materials; communications with administrator regarding potential Hennepin County AIS grant application; and internal discussion regarding grant application scope.

Karen L. Chandler, Principal Engineer/Scientist
 7.2 hours @ \$165.00 per hour \$ 1,188.00
 Margaret R. Rattei, Engineer/Scientist/Specialist III
 3.0 hours @ \$130.00 per hour \$ 390.00
 Expenses (Mileage) \$ 15.12
Subtotal, APM/AIS Task Force \$ 1,593.12

Subtotal, Surveys & Studies \$ 1,593.12

WATER QUALITY/MONITORING

Medicine Lake 2016 monitoring: Communications with Three Rivers Park District staff; review Medicine Lake data; data analyses, data summary and prepare data for isopleths; internal communications and prepare files for trend analyses; TRPD invoice for monitoring costs; internal meeting regarding report format; perform zooplankton analyses; and prepare graphs for report;

Northwood and Crane Lakes 2016 monitoring: Review revised PACE lab report for 9/6/16 lake water quality samples; internal communications and prepare files for trend analyses; internal meeting regarding report format; data analyses, data summary; work on plant IBI computations; and prepare graphs for report.

Henry M. Runke, Principal Engineer/Scientist 0.5 hours @ \$175.00 per hour	\$ 87.50
Margaret R. Rattei, Engineer/Scientist/Specialist III 64.6 hours @ \$130.00 per hour	\$ 8,398.00
Erin M. Dietrich, Engineer/Scientist/Specialist III 0.4 hours @ \$135.00 per hour	\$ 54.00
Terri A. Olson, Engineer/Scientist/Specialist III 0.1 hours @ \$130.00 per hour	\$ 13.00
Sterling G. Williams, Engineer/Scientist/Specialist III 0.5 hours @ \$130.00 per hour	\$ 65.00
Christopher J. Bonick, Engineer/Scientist/Specialist II 5.0 hours @ \$120.00 per hour	\$ 600.00
Expenses (Three Rivers Park Dist Admin Ctr).....	\$ <u>3,289.00</u>
Subtotal, Water Quality/Monitoring.....	\$ 12,506.50

WATER QUANTITY

Measure and review lake level elevations as part of the lake-gauging program; and internal communications regarding Northwood Lake outlet control elevation.

James P. Herbert, Principal Engineer/Scientist 0.3 hours @ \$180.00 per hour	\$ 54.00
Karen L. Chandler, Principal Engineer/Scientist 0.2 hours @ \$165.00 per hour	\$ 33.00
Technicians/Administrative.....	\$ 360.00
Expenses (Mileage/2WD field vehicle)	\$ <u>78.62</u>
Subtotal, Water Quantity.....	\$ 525.62

FLOOD CONTROL PROJECT INSPECTION

Revise and prepare final report of annual BCWMC Flood Control Project structures inspection and provide to administrator for December Commission meeting; and communications with Golden Valley staff regarding inspection follow-up.

James P. Herbert, Principal Engineer/Scientist 7.3 hours @ \$180.00 per hour	\$ 1,314.00
Karen L. Chandler, Principal Engineer/Scientist 1.8 hours @ \$165.00 per hour	\$ 297.00

Patrick E. Brockamp, Engineer/Scientist/Specialist I		
1.0 hours @ \$85.00 per hour.....	\$	85.00
Technicians/Administrative.....	\$	62.50
Subtotal, Flood Control Project Inspection	\$	1,758.50
TOTAL ENGINEERING	\$	32,347.31

SECRETARIAL SERVICES

TOTAL SECRETARIAL SERVICES EXPENSES	\$	0.00
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ANNUAL REPORT

TOTAL ANNUAL REPORT	\$	0.00
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PUBLIC COMMUNICATIONS

TOTAL PUBLIC COMMUNICATIONS	\$	0.00
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WEBSITE

TOTAL WEBSITE	\$	0.00
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WATERSHED OUTLET MONITORING PROGRAM (WOMP)

TOTAL WOMP	\$	0.00
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DIGITIZE HISTORIC PAPER FILES

TOTAL DIGITIZE HISTORIC PAPER FILES.....	\$	0.00
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CAPITAL IMPROVEMENT PROJECTS (Funded through tax levy)

FOUR SEASONS MALL AREA WATER QUALITY PROJECT (NL-2)

Review initial submittal and communications with Agora consultant regarding questions/issues; set up meeting with Agora consultant; internal meeting regarding review of proposed BMPs on Agora development for compliance with Commission water quality requirements; prepare for and attend meeting with Agora consultants regarding proposed BMPs; provide P8 subwatersheds to Agora consultant and follow-up communications with consultant regarding P8 model; prepare memo regarding potential BCWMC financial contributions to Agora project for December Commission meeting; meeting with administrator and internal staff to review information; calculate annual costs and annual TP removal

costs; communications with developer's consultant regarding project costs, off-site drainage, and other issues; final edits to memo; communications with developer's consultant regarding treatment train figures; prepare for December Commission meeting, including developing financial contribution recommendation, and look into Plymouth staff comments; communications with developer's consultant and administrator regarding meeting follow-up; prepare letter to Plymouth staff regarding December Commission meeting actions; communications with Plymouth staff regarding infiltration BMP question; respond to Plymouth staff question regarding winter conditions and peat; prepare for Agora regulators meeting; and communications with administrator.

James P. Herbert, Principal Engineer/Scientist 2.5 hours @ \$180.00 per hour	\$	450.00
Karen L. Chandler, Principal Engineer/Scientist 29.1 hours @ \$165.00 per hour	\$	4,801.50
Gregory J. Wilson, Consultant/Advisor 2.5 hours @ \$155.00 per hour	\$	387.50
Candice H. Kantor, Engineer/Scientist/Specialist II 23.0 hours @ \$100.00 per hour.....	\$	2,300.00
Expenses (Mileage)	\$	<u>22.68</u>
<i>Subtotal, Four Seasons Mall Area Water Quality Project (NL-2).....</i>	\$	<i>7,961.68</i>

BASSETT CREEK PARK & WINNETKA PONDS DREDGING FEASIBILITY STUDY

Review revised sediment sample analytical laboratory reports; expenses for laboratory analysis of sediment samples (Pace Analytical Services Inc.); coordinate, prepare for and attend Technical Evaluation Panel (TEP) meeting for wetland delineations at Bassett Creek Park Pond and Winnetka Pond East; revise wetland delineation report figures based on TEP feedback; communications with the DNR regarding the ordinary high water elevation for Bassett Creek Park Pond and Winnetka Pond East; coordinate with USACE regarding wetland delineation report revisions; complete review of Notice of Decision for wetland delineations; coordinate scheduling of stakeholder/agency meeting for project; and communications with Crystal staff and administrator.

Karen L. Chandler, Principal Engineer/Scientist 1.3 hours @ \$165.00 per hour	\$	214.50
Brian K. Burgner, Engineer/Scientist/Specialist II 5.5 hours @ \$95.00 per hour	\$	522.50
Candice H. Kantor, Engineer/Scientist/Specialist II 0.8 hours @ \$100.00 per hour.....	\$	80.00
Technicians/Administrative.....	\$	42.00
Expenses (Pace Analytical Services)	\$	<u>822.80</u>
<i>Subtotal, Bassett Creek Park & Winnetka Ponds Dredging Feasibility Study.....</i>	\$	<i>1,681.80</i>

TOTAL CAPITAL IMPROVEMENTS PROJECTS (Tax Levy)\$ 9,643.48

TMDL WORK

TMDL IMPLEMENTATION REPORTING

Revise/update P8 model for Northwood Lake watershed/Agora-Four Seasons development and for Plymouth Creek watershed.

Gregory J. Wilson, Consultant/Advisor 2.3 hours @ \$155.00 per hour	\$	356.50
Joshua R. Vosejka, Engineer/Scientist/Specialist I 11.0 hours @ \$75.00 per hour.....	\$	825.00
<i>Subtotal, TMDL Implementation Reporting</i>	\$	1,181.50
TOTAL TMDL WORK	\$	1,181.50

XP-SWMM PHASE II

XP-SWMM PHASE II

North Branch & Main Stem Modeling

Calibration of the North Branch Model including model runs, adjustments, and internal meetings to review results for small, large, and validation events; calibration of the Main Stem model to Wisconsin Avenue, including model runs, adjustments, and internal meetings to review results for small, large, and validation events; discussion of baseflow at Wisconsin Avenue and at the WOMP station; channel thalweg survey downstream of Wisconsin Avenue and Winnetka Avenue to identify control locations in channel; flow measurement on the downstream side of the Wisconsin Avenue crossing; re-processing of NEXRAD data for calibration adjustments; discussion of model structure and organization for future distribution and documentation; develop an overall combined model run; QAQC of XP-SWMM model downstream of Hwy 55 and revisions to model based on QAQC; calibration of the Main Stem model at the WOMP station, including model runs, adjustments, and internal meetings to review results for small, large, and validation events; review of the draft modeling report and figures; compare initial XPSWMM results table with table in the BCWMC plan; and addressing comments on report and figures.

James P. Herbert, Principal Engineer/Scientist 2.5 hours @ \$180.00 per hour	\$	450.00
Karen L. Chandler, Principal Engineer/Scientist 1.9 hours @ \$165.00 per hour	\$	313.50
Jennifer A. Koehler, Engineer/Scientist/Specialist III 40.5 hours @ \$125.00 per hour	\$	5,062.50
Christopher J. Bonick, Engineer/Scientist/Specialist II 8.7 hours @ \$120.00 per hour	\$	1,044.00
Matthew A. Comben, Engineer/Scientist/Specialist II 1.0 hours @ \$100.00 per hour	\$	100.00

Ross S. Mullen, Engineer/Scientist/Specialist I 64.6 hours @ \$90.00 per hour	\$ 5,814.00
Josiah J. Hawley, Engineer/Scientist/Specialist I 2.1 hours @ \$90.00 per hour	\$ 189.00
Michael B. McKinney, Engineer/Scientist/Specialist I 0.3 hours @ \$90.00 per hour.....	\$ 27.00
Lulu Fang, Engineer/Scientist/Specialist I 89.3 hours @ \$75.00 per hour	\$ 6,697.50
Technicians/Administrative.....	\$ 495.00
Expenses (Sontek ADV/Real-time GPS/mileage/2WD field vehicle).....	\$ 270.74
<i>Subtotal, XP-SWMM Phase II.....</i>	<i>\$ 20,463.24</i>
TOTAL XP-SWMM PHASE II.....	\$ 20,463.24

SUMMARY TOTALS

Total Engineering	\$ 32,347.31
Total Secretarial Services Expenses	\$ 0.00
Total Annual Report/Website/Public Communications	\$ 0.00
Total WOMP.....	\$ 0.00
Total Digitize Historic Paper Files.....	\$ 0.00
Total Capital Improvement Projects (Tax Levy).....	\$ 9,643.48
Total TMDL Work	\$ 1,181.50
Total XP-SWMM Phase II.....	\$ 20,463.24
TOTAL PAYABLE.....	\$ 63,635.53

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


