

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

455 HAYWARD AVENUE, OAKDALE, MINNESOTA 55082
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Regular Meeting of the Middle St. Croix Watershed Management Organization Bayport Public Library, Bayport, MN Thursday, September 12, 2019 6:00PM

1. Call to Order – 6:00PM
 - a. Approval of Agenda
2. Approval of Minutes
 - a. Draft minutes – August 8th, 2019 **pg. 1-6**
4. Treasurer’s Report
 - a. Report of savings account, assets for September 12th, 2019
 - b. Approve payment of bills for September 12th, 2019
5. Public Comment
6. Old Business
7. New Business
 - a. Finalize 2020 Budget **pg. 7**
 - b. 2020 WQ Monitoring **pg. 8-9**
 - c. County Board Budget Workshop
8. Grant and Cost Share Applications
 - a. Lily Lake Bioretention Basin/Alum Treatment Grant Application
 - b. Stillwater Country Club Final Payment Request **pg. 10-12**
9. Plan Reviews/Submittals
 - a. Plan Reviews and Submittal Summary **pg. 13-38**
 - i. Finnegan-**update, no action**
 - ii. Zvago-**update, no action**
 - iii. Moeller-**review**
 - iv. Anderson-**review**
 - v. Stillwater-**review**
10. Staff Report **pg. 39-41**
11. Other
12. Adjourn

Regular Meeting of the Middle St. Croix Watershed Management Organization
Bayport Public Library, Bayport, MN
Thursday, August 8, 2019
6:00PM

Present: Brian Zeller, Lakeland Shores; Mike Runk, Oak Park Heights; Tom McCarthy, Lake St. Croix Beach; John Fellego, Baytown Township; Lakeland; Ryan Collins, Stillwater; Beth Olfelt-Nelson, St. Mary's Point; Dan Kyлло, West Lakeland Township; John Dahl, Bayport; Cameron Blake, WCD; Matt Downing, Interim Administrator

Call to Order

The meeting was called to order at 6:00PM by Manager Zeller.

Approval of Minutes

A motion to approve the June 13th, 2019 minutes was made by Manager Runk and seconded by Manager Zeller. Motion carried.

Treasurer's Report

The treasurer's report was presented by Manager Kyлло. The remaining checking account balance is \$255,277.50. First State Bank CDs are valued at \$38,549.15. The ending balance in the RBC savings account for June 2019 is \$63,381.79 and for July is \$64,277.59.

Bills to be approved this month are: Dragonfly Gardens: \$316.29; Emmons & Oliver: \$1,774.50; Kennedy & Graven: \$54.00; Peterson Companies: \$2,300.00; Washington Conservation District (Water Monitoring- June): \$5,808.23; Washington Conservation District (Administration- June): \$2,131.50; Washington Conservation District (Technical Services- June): \$5,869.68; Washington Conservation District (EMWREP): \$1,575.00; Total: \$19,829.20.

Manager Zeller informed Manager's Kyлло and McCarthy that they needed to meet at the bank to remove former Administrator Isensee's name from applicable documents. Administrator Downing noted that many of the communities' 2nd half payments were received, and informed the board that reminder notices were sent out a few weeks prior. The board noted that both Lakeland and St. Mary's Point both had new treasurers. Manager Runk moved to accept the Treasurer's report and bills, Manager McCarthy seconded, and the motion carried.

Introduction of Interim Administrator – Matt Downing

Manager Zeller introduced Interim Administrator Matt Downing to the board. Jay Riggs, the administrator for the Washington Conservation District posted the administrator position internally, and there was an interview process. Manager Zeller believes Matt Downing has the skillset needed to be a successful administrator, although he noted that Downing's field experience outweighed his grant writing experience. Administrator Downing relayed his experience to the board including sitting on the board of the Upper Rum and Sunrise River WMO's. He explained that Bryan Pynn and Rebecca Nestingen at the WCD will have a more involved role in the grant writing and developmental plan review activities the MSCWMO takes part in. Manager Zeller explained that the

One Watershed One Plan process will lead to less grant writing in the future. Manager Fellegy questioned this and asked to update the board on the 1W1P Policy Committee progress. He noted there were still many uncertainties and questions throughout the process. Administrator Downing explained that local government units are waiting on certain BWSR decisions about funding sources which will not occur until the fall. The board added Manager Fellegy's 1W1P update to the end of the agenda before the administrator update. Manager Zeller moved to accept Matt Downing as the Interim Administrator, Manager Kylo seconded this and the motion carried.

3M PFAS Reimbursement Request #2

MSCWMO staff and our consultant EOR have been reviewing documents and providing technical input on the development of the water supply groundwater model as part of the 3M PFAS settlement. Staff is requesting reimbursement from MPCA totaling \$2,165 (\$390.50 MSCWMO June; \$1,774.50 EOR June). Manager Runk motioned to approve submittal of the 3M PFAS Reimbursement Request totaling \$2,165. Manager Fellegy seconded this and the motion carried.

Manager Kylo asked when Stu Grubb would be able to give the board an update on the situation. Administrator Downing explained there was an update in the admin report at the end of the meeting. Manager Zeller said the MPCA would be coming to the communities to update them. Manager Olfelt-Nelson said her council at St. Mary's point has been asking her about this topic. Manager Zeller invited her to come to the Lakeland Shores Meeting on August 15th where the MPCA will be present to ask any questions she has for them. Manager Fellegy said Baytown Township was told the existing well filters were not going to be replaced for free anymore, but this decision was then reversed.

Revised 2019 MSCWMO – WCD Service Agreement

At the direction of former Administrator Isensee, Administrator Downing prepared a new 2019 agreement for services between the Washington Conservation District and the Middle St. Croix WMO for consideration by the managers. A number of corrections and changes are present in this document; a new agreement rather than an amendment is in order. Manager Zeller asked for a brief summary of the changed and confirmed the funding is already covered by the existing 2019 budget. Administrator Downing explained that there were increases to the administration budget to cover minute taking, and increases to the technical assistance budget that were approved previously by the board to account for the installation and maintenance of the 2019 MSCWMO BMPs. The change to the water monitoring services were to account for E. coli testing in Bayport.

Manager McCarthy motioned to approve the new 2019 WCD-MSCWMO Service Agreement with the recommended changes. Manager Dahl seconded this, and the motion carried.

2020 MSCWMO Draft Budget Approval and Notification Request

The Middle St. Croix WMO has not increased its operating budget since 2015. At the March Board meeting, former Administrator Isensee requested that the WMO provide notice to the townships that are within the WMO that a potential of up to a 9% increase could be considered for the 2020 MSCWMO Budget. This increase would be due to the cost increases associated with the services the WMO solicits, not an expansion of the services provided by the WMO.

Administrator Downing prepared a draft budget for the board's review. In preparing the draft, the considerations included accounting for the increase in the WCD fee schedule, a review of expenditures to line items in 2016-2019 and a review of current funds set aside. The overall increase being proposed is 6.97%.

Manager Zeller asked if Administrator Downing's pay scale would be less than the previous administrators, and Administrator Downing said he was not sure but that he believed it would be the same based on the pay scale the WCD uses. Administrator Downing said the biggest adjustment to the budget was the increased project funds for engineering and technical assistance in order to reflect actual costs. This required an increase in the available cost share in order to have this available as match for future projects. Manager Zeller discussed the current reserve fund and budgeting in preparation for the MSCWMO plan update. He asked Administrator Downing to briefly justify the 6.9% increase so the board can explain to their communities. Administrator Downing said the budget increase is to enable implementation activities, and is also reflective of a cost of living adjustment since 2015. Manager Zeller motioned to approve the draft 2020 MSCWMO budget and to approve staff to send notification of the draft budget to the member communities. Manager Olfelt-Nelson seconded this and the motion carried. Manager Zeller asked Administrator Downing to think about any shovel-ready MSCWMO projects and to keep in mind that organizations such as SCRA occasionally have money left over at the end of the year. He said the MSCWMO often uses administration costs as a match for projects rather than cash matches.

Peoples Church Native Prairie Reimbursement Request

On December 13, 2018 the MSCWMO Board of Managers approved cost share reimbursement of \$1,000 for the Peoples Church native prairie restoration project. The Peoples Church of Bayport has completed the restoration of 2 acres of native prairie located at on the South side of 5th Avenue, across from the Bayport Fire Station. The total cost for the installation materials (the majority of the project was installed and maintained with volunteer labor) was \$5,200.00. In January the total receipts for installation were \$4,290.75. The Washington Conservation District reimbursed costs of \$3,900.00 and on January 10, 2019 the MSCWMO reimbursed costs of \$390.75. The landowner has submitted additional receipts for work conducted in the spring of 2019 totaling \$239.74. Technical staff have confirmed the additional work and expenses and recommend reimbursing costs of \$239.74 bringing the total MSCWMO reimbursement to \$630.43 based on total expenditures of \$4,530.79. Manager Zeller motioned to approve reimbursement of \$239.74 for the People's Church native prairie installation, Manager Olfelt-Nelson seconded this, and the motion carried.

Culligan Addition

The Culligan Water facility at 1435 Curve Crest Blvd in Stillwater proposes an addition to the existing building and parking facility. The project, as revised and resubmitted on July 10th, 2019, meets applicable Performance Standards contained within Section 7.0 of the MSCWMO 2015 WMP. Manager Zeller recalled talking about runoff concerns in the last board meeting. Administrator Downing explained that after the plan resubmittal these concerns have been met. Manager Collins moved to recommend approval of the Culligan Addition project. Manager Runk seconded this, and the motion carried.

Dewall Review/St. Croix Woodlands Development

The Dewall's propose to subdivide approximately 42 acres into 5 residential lots. Four 2.5 acre lots are proposed along with a 32 acre lot in the location of the existing home. The initial application for project review was received on May 23rd, 2019. In the initial iteration of the stormwater management design the applicant was citing shallow bedrock to preclude infiltration and full compliance with MIDS standards. On June 17th, 2019 the MSCWMO requested revisions and resubmittal documenting compliance with MIDS flexible treatment options. On June 27th the MSCWMO received a revised resubmittal which utilizes infiltration to fully comply with MIDS standards, however, further documentation demonstrating 3' of vertical separation between the infiltration basin and shallow bedrock have been requested as of July 5th. Additional soil borings demonstrating separation from bedrock and revised plans were received on July 19, 2019. The project, as revised and resubmitted on July 19th, 2019, meets applicable Performance Standards contained within Section 7.0 of the MSCWMO 2015 WMP.

Manager Zeller asked Administrator Downing for a coordinated effort with the city to ensure inspections and field verification of this project occurs based on concerns he has. Manager Kylo motioned to recommend approval of the Dewall/St. Croix Woodlands development. Manager Runk seconded this, and the motion carried.

Stordahl Review

The Stordahl home at 1635 Rivercrest Rd N in Lakeland proposes the demolition of a majority portion of an existing home and detached garage and construction of a new home. The project application for project review as submitted on July 3rd, 2019 contained insufficient information to complete the review and additional information from the applicant was requested. The additional information requested was submitted July 10th, 2019. The project is recommended for approval with twelve conditions.

The board requested the wording be clarified for condition 10 to say "provide proof that minimum setbacks are met" or "meet minimum setbacks" from the property line. The board also requested two additional conditions. The first was "Obtain all required permits from the city". The second was "Comply with Washington County septic system requirements". Manager Fellegly asked if there will be inspections of the active construction. Administrator Downing said the MSCWMO inspection program will be re-started. Manager Zeller made a motion to approve the Stordahl project with the revised and additional conditional approval. Manager Fellegly seconded this, and the motion carried. Manager Zeller asked Administrator Downing to send a revised letter to Lakeland with the updated conditional approval and asked that letters of approval not be sent out prior to board approval. He explained that some administrative activities can be added to a consent agenda when the board and administrator feel comfortable.

Finnegan Home Addition

The Finnegan home at 333 Quixote Ave N in Lakeland Shores proposes a home office and porch addition on the north side of the home as well as a deck. A variance request has been submitted to the City of Lakeland Shores and the City advised the applicant on July 8th that the project requires MSCWMO plan review. A plan review application and review fee have not yet been received. Not board action required.

Zvago, Stillwater

This project was formerly submitted as the Ecumen Stillwater Senior Living Center in 2017 and approved with conditions but never completed. The project has since changed ownership and has resubmitted a new plan review application and updated required submittal items on July 17th, 2019. The plan review has been completed and the recommendation is to amend the plans to correct seven items and resubmit the plans for further review. No board action required.

One Watershed One Plan Update

Manager Fellegly updated the board on the 1W1P Policy Committee progress. He explained that the the committee is currently discussing how the plan will actually function, and what the structure could look like. The board expressed concern that the plan will be setting up a new level of government and asked Manager Fellegly to do what he can as the MSCWMO representative to promote a different alternative. Manager Olfelt-Nelson asked what system existed before the 1W1P and why Mike Isensee was in favor of the 1W1P. Manager Zeller explained that the intention of the 1W1P was to streamline funding distribution and to be more equitable for the northern part of the basin. The existing funding system favors organizations who have greater staff capacity to attain competitive grants. Manager Fellegly said most of the Policy Committee was not in favor of a new level of government.

Staff Report

Manager Zeller requested that the MSCWMO Board see the Stillwater Country Club project. The project is funded in part from the cash-in-lieu of treatment payment from Washington County, which has not yet been received. Manager Runk shared his insight into the delayed cash-in-lieu of treatment payment and recommended the MSCWMO take an active role to ensure payment in time to prevent any cash flow issues. Brian Zeller asked Administrator Downing to continue to communicate with, and put pressure on, Washington County about the cash-in-lieu of treatment that the MSCWMO needs by January 1st 2020. He recommended Matt tell the county that the MSCWMO board is concerned and ask if there is a need for them to meet with the County board. This issue needs to be resolved before the county's budgeting process is over at the end of September 2019 in order to get this into the county's 2020 budget.

Administrator Downing updated the board on the Bayport E. coli source testing. There was an issue with the first sampling event but he decided to have the sample tested anyway. There are two more sampling events to occur, and he should have results in time for the October board meeting. The Met council can retain the samples to use for additional testing after confirming if the E. coli is from a human source. If the E. coli is from birds there is not a human health risk. Manager Zeller motioned to move forward as presented with the E. coli testing. Manager Fellegly seconded this, and the motion carried.

Manager Olfelt-Nelson expressed concern about developmental pressures in the MSCWMO and asked about the basis for the current stormwater standards. Administrator Downing explained that the MSCWMO relies on its' communities to be the permitting authority, and that they follow the Minimal Impact Design Standards (MIDS). The board requested Administrator Downing to send them information on MIDS. Manager Olfelt-Nelson expressed concern about increasing precipitation events and wondered if current BMP designs are enough to accommodate those changes. The board discussed how some communities use more restrictive standards for development. Manager Fellegly requested the MSCWMO board to get together sometime in October

to see the completed Stillwater Country Club project, and to say goodbye to Mike Isensee. Manager Olfelt-Nelson asked for BMP inspection information for St. Mary's point, which is something the MSCWMO provides.

Manager Zeller motioned to adjourn the meeting, it was seconded, and the motion carried. Meeting adjourned at 7:06pm.

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MEMORANDUM

TO: Middle St. Croix WMO Board of Managers
FROM: Matt Downing, Interim Administrator
DATE: August 30th, 2019

RE: 7a.) 2020 MSCWMO Draft Budget Finalization

At the August 8th MSCWMO meeting, the board approved the draft 2020 budget and directed that it be sent to the member communities for review. All of the communities were sent a copy of the 2020 draft on August 13th; I have not received any comments from the communities regarding the proposed changes.

Requested Board Action-Finalize the 2020 MSCWMO Budget

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MEMORANDUM

TO: Middle St. Croix WMO Board of Managers
FROM: Matt Downing, Interim Administrator
DATE: August 28th, 2019

RE: 7b.) 2020 MSCWMO Monitoring Recommendations

At my direction the WCD has prepared an estimate for services for 2020 water quality monitoring. A summary of the proposal is as follows:

Lake WQ Monitoring

- Continue monitoring Lily Lake as in 2019
- Reduce Lake McKusick monitoring to not include temperature/dissolved oxygen profiles

Lake Gage Monitoring

- No change

Targeted WQ Monitoring

- No change to Greeley Street Inlet
- Reduce Perro Diversion station to flow monitoring only
- Discontinue the 10 site *E. coli* concentration monitoring on Perro Creek in favor of 4 samples at 4 sites in continuation of the microbial source tracking (MST) work started in mid-2019

The above suggested changes propose to collect the data that will be most valuable to the MSCWMO for making future management decisions, while accounting for a limited monitoring budget. Even with the recommended reductions, the WCD proposal would be \$2,705 over the budgeted 2020 amount for monitoring. Ideally, the MSCWMO would seek to partner with the City of Bayport as was done in 2019 to cover a portion of the lab costs associated with the MST on Perro Creek. Other options would include:

- shifting funds from another line item, likely BMP cost share or Community TA
- reducing the number of samples collected

Requested Board Action-Approve the 2020 WCD-MSCWMO WQ Monitoring proposal, seek partnership with the City of Bayport for \$2,705 for lab costs

2020 MSCWMO Water Monitoring Estimate 08-22-2019

Lake WQ Monitoring	Type	Labor	Time/Mileage	Lab	Total	Notes
Lily Lake	LWQE1	\$1,767	\$0	\$550	\$2,317	14x/year with WQ sampling Deep Lake for DO
McKusick Lake	LWQD1	\$899	\$0	\$550	\$1,449	14x/year with WQ sampling
Total Lake WQ Monitoring		\$2,666	\$0	\$1,100	\$3,766	
Lake Gage Monitoring						
Lake Gage Monitoring	Type	Labor	Time/Mileage	Lab	Total	Notes
Lily Lake	LEA1	\$153	\$0	\$0	\$153	Install and/or Survey and/or Remove. Read during WQ sampling by WCD
McKusick Lake	LEA1	\$153	\$0	\$0	\$153	Install and/or Survey and/or Remove. Read during WQ sampling by WCD
Total Lake Gage Monitoring		\$306	\$0	\$0	\$306	
Lily Lake and Perro Pond Targeted WQ Monitoring						
Lily Lake and Perro Pond Targeted WQ Monitoring	Type	Labor	Time/Mileage	Lab	Total	Notes
Greely Street Inlet to Lily Lake	V1	\$4,867	\$651	\$200	\$5,718	
Perro Diversion Structure & Overflow	1	\$2,961	\$662	\$0	\$3,623	Flow only
Perro Creek E. coli source identification sampling	N/A	\$442	\$180	\$8,525	\$9,147	E. coli grabs (source testing) at 4 locations x 4 samples
TOTAL	N/A	\$8,270	\$1,493	\$8,725	\$18,488	
Report						
Report	Type	Labor	Time/Mileage	Lab	Total	Notes
Water Monitoring Report	NA	\$2,145	\$0	\$0	\$2,145	
2020 Total Monitoring Costs		\$13,387	\$1,493	\$9,825	\$24,705	



MEMORANDUM

TO: MSCWMO Board of Managers
FROM: Bryan Pynn, Washington Conservation District
DATE: September 6, 2019
RE: **8b** - Stillwater Country Club - FINAL Payment Request

In May 2019, the MSCWMO Board of Managers approved encumbrance of up to \$205,196.15 for the combined installation and planting of the Stillwater Country Club Filtration Basin project. The project is a public/private partnership between the MSCWMO, the City of Stillwater, and the Stillwater Country Club. The project utilizes several funding sources (listed below), and provides a pollutant load reduction to the St Croix River of 25 lbs/TP year.

The basin installation was completed as of August 26th. The WCD Engineer and staff verified that all was constructed according to plans and as-built elevations were taken. Shoreline Landscaping (the contractor), is requesting final payment of \$190,045.20 for the project. No previous payments have been made to the contractor. WCD staff recommend payment of the full amount. Any remaining encumbrance will be used for planting of the basin in 2019 and 2020. Final grant reporting will take place before December 31, 2019 for all grants.

GRANTS UPDATE:

FINAL PROJECT COST:
\$190,045.20


GRANT CONTRIBUTIONS (this project only)

FY16 CWF – LSCD Phase II Grant Encumbered: \$90,000.00 Grant Spent (incl. this request): \$90,000.00 Remaining Encumbrance: \$0.00	FY18 CWF – LSCD Phase III Grant Encumbered: \$25,440.00 Grant Spent (incl. this request): \$25,440.00 Remaining Encumbrance: \$0.00	FY18 SCRA Grant Encumbered: \$22,233.17 Grant Spent (incl. this request): \$22,233.17 Remaining Encumbrance: \$0.00	MSCWMO – County CIL Grant Encumbered: \$68,000 Grant Spent (incl. this request): \$52,372.03 Remaining Encumbrance: \$15,627.97
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EXAMPLE BOARD MOTION FOR MINUTES:

Motion by Board Member 1, seconded by Board Member 2, to approve the FINAL PAYMENT of \$190,045.20 to Shoreline Landscaping for the Stillwater Country Club Filtration Basin Project. All members voting yes. Motion carried.

DISTRICT TECHNICAL REPRESENTATIVE

Signed  Date: 9/6/2019

Stillwater Country Club - Filtration Basin

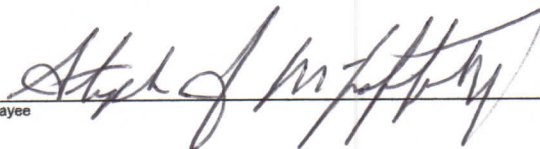
REVISED BID with CHANGE ORDERS

created: B.J.P 9.3.19

RED = Changes in Qty or New Items

ITEM NO.	ITEM DESCRIPTION	Shoreline Landscaping - Original Bid				CHANGE ORDER		
		UNITS	UNIT PRICE	Est. Qty	Est. AMOUNT	Actual Qty	Actual AMOUNT	Difference
2021.501	MOBILIZATION	LS	\$ 5,000.00	1	\$ 5,000.00	1	\$ 5,000.00	
2101.505	CLEARING	ACRE	\$ 15,500.00	0.6	\$ 9,300.00	0.6	\$ 9,300.00	
2101.505	GRUBBING	ACRE	\$ 14,000.00	0.6	\$ 8,400.00	0.6	\$ 8,400.00	
2104.502	REMOVE CONCRETE APRON	EACH	\$ 100.00	1	\$ 100.00	1	\$ 100.00	
2104.503	REMOVE SEWER PIPE (STORM)	LF	\$ 40.00	150	\$ 6,000.00	150	\$ 6,000.00	
2104.503	REMOVE BITUMINOUS CURB	LF	\$ 5.00	20	\$ 100.00	20	\$ 100.00	
2404.504	REMOVE BITUMINOUS PAVEMENT	SY		34	\$ -		\$ -	
2106.507	EXCAVATION - CHANNEL AND POND	CY	\$ 6.00	1959	\$ 11,754.00	1959	\$ 11,754.00	
2106.507	COMMON EMBANKMENT (CV)	CY	\$ 6.00	45	\$ 270.00	45	\$ 270.00	
2211.507	AGGREGATE BASE (CV) CLASS 5	CY	\$ 60.00	15.0	\$ 900.00	56.0	\$ 3,360.00	\$ 2,460.00
2231.509	BITUMINOUS PATCHING MIXTURE	TON	\$ 235.00	7.7	\$ 1,809.50	7.7	\$ 1,809.50	
2451.507	FINE FILTER AGGREGATE (CV)	CY	\$ 64.00	202	\$ 12,928.00	202	\$ 12,928.00	
2535.503	BITUMINOUS CURB	LF	\$ 30.00	20	\$ 600.00	20	\$ 600.00	
2511.507	RANDOM RIPRAP CLASS II	CY	\$ 90.00	13	\$ 1,170.00	28.5	\$ 2,565.00	\$ 1,395.00
2511.516	GEOTEXTILE FILTER TYPE IV	SY	\$ 5.00	36	\$ 180.00	36	\$ 180.00	
2540.518	CONCRETE PAVERS	SF	\$ 12.00	500	\$ 6,000.00	550	\$ 6,600.00	\$ 600.00
2502.503	4" PVC PIPE DRAIN	LF	\$ 11.00	80	\$ 880.00	80	\$ 880.00	
2502.503	4" PERF PE PIPE DRAIN	LF	\$ 5.00	220	\$ 1,100.00	220	\$ 1,100.00	
2502.502	4" PVC PIPE DRAIN CLEANOUT	EACH	\$ 80.00	6	\$ 380.00	7	\$ 420.00	\$ 60.00
2504.602	4" GATE VALVE & BOX	EACH	\$ 300.00	1	\$ 300.00	1	\$ 300.00	
2501.502	18" RC PIPE APRON	EACH	\$ 900.00	1	\$ 900.00	1	\$ 900.00	
2501.502	TRASH GUARD FOR 18" PIPE APRON	EACH	\$ 700.00	1	\$ 700.00	1	\$ 700.00	
2503.503	15" RC PIPE SEWER DES 3006 CL V	LF	\$ 85.00	414	\$ 26,910.00	414	\$ 26,910.00	
2503.503	18" RC PIPE SEWER DES 3006 CL III	LF	\$ 70.00	98	\$ 6,860.00	98	\$ 6,860.00	
2503.502	18" PIPE PLUG	EACH	\$ 150.00	1	\$ 150.00	1	\$ 150.00	
2503.502	CONNECT TO EXISTING STORM SEWER	EACH	\$ 1,200.00	1	\$ 1,200.00	1	\$ 1,200.00	
2503.502	CONSTRUCT BULKHEAD	EACH	\$ 500.00	1	\$ 500.00	1	\$ 500.00	
2506.502	ADJUST FRAME & RING CASTING	EACH	\$ 900.00	1	\$ 900.00	1	\$ 900.00	
2506.502	CASTING ASSEMBLY	EACH	\$ 490.00	5	\$ 2,450.00	5	\$ 2,450.00	
2506.503	CONST DRAINAGE STRUCTURE DESIGN 48-4020 (B/B-1)	LF	\$ 490.00	21.9	\$ 10,731.00	22.9	\$ 11,221.00	\$ 490.00
2506.503	CONST DRAINAGE STRUCTURE DESIGN 60-4020 (C/C-1)	LF	\$ 527.00	4.6	\$ 2,424.20	4.6	\$ 2,424.20	
2506.503	CONST DRAINAGE STRUCTURE DESIGN SD	LF	\$ 1,500.00	3.3	\$ 4,950.00	3.3	\$ 4,950.00	
2506.502	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	\$ 1,200.00	1	\$ 1,200.00	1	\$ 1,200.00	
2506.501	INFILTRATION AND FILTRATION SYSTEMS	LS	\$ 11,600.00	1	\$ 11,600.00	1	\$ 11,600.00	
2506.502	CONSTRUCT CONTROL STRUCTURE	EACH	\$ 3,800.00	1	\$ 3,800.00	1	\$ 3,800.00	
2573.501	STABILIZED CONSTRUCTION EXIT	LS	\$ 1,500.00	1	\$ 1,500.00	1	\$ 1,500.00	
2573.502	SEDIMENT CONTROL LOG TYPE COMPOST	LF	\$ 3.50	80	\$ 280.00	80	\$ 280.00	
2573.502	STORM DRAIN INLET PROTECTION	EACH	\$ 200.00	4	\$ 800.00	4	\$ 800.00	
2573.503	SILT FENCE, TYPE HI	LF	\$ 2.00	225	\$ 450.00	225	\$ 450.00	
2574.505	SOIL BED PREPARATION	ACRE	\$ 1,500.00	0.7	\$ 1,050.00	0.7	\$ 1,050.00	
2574.505	SUBSOILING	ACRE	\$ 78,000.00	0.1	\$ 7,800.00	0.1	\$ 7,800.00	
2574.507	FILTER TOPSOIL BORROW	CY	\$ 82.70	197	\$ 16,291.90	197	\$ 16,291.90	
2574.507	COMPOST GRADE 2	CY	\$ 91.90	24	\$ 2,205.60	24	\$ 2,205.60	
2574.508	FERTILIZER TYPE 3	LB	\$ 30.00	18	\$ 540.00	18	\$ 540.00	
2575.504	EROSION CONTROL BLANKETS CATEGORY 0	SY	\$ 1.50	2556	\$ 3,834.00	3330	\$ 4,995.00	\$ 1,161.00
2575.504	EROSION CONTROL BLANKETS CATEGORY 3N	SY	\$ 1.25	689	\$ 861.25	720	\$ 900.00	\$ 38.75
2575.504	TURF REINFORCEMENT MAT CATEGORY 2	SY	\$ 8.00	74	\$ 592.00	74	\$ 592.00	
2575.505	SEEDING	ACRE	\$ 3,500.00	0.7	\$ 2,450.00	0.7	\$ 2,450.00	
2575.505	WEED SPRAYING	ACRE	\$ 1,000.00	0.3	\$ 300.00	0.3	\$ 300.00	
2575.506	WEED SPRAY MIXTURE	GAL	\$ 60.00	0.2	\$ 12.00	0.2	\$ 12.00	
2575.502	SEED MIXTURE 21-111	LB	\$ 2.00	13.0	\$ 26.00	13.0	\$ 26.00	
2575.508	SEED MIXTURE 25-151	LB	\$ 6.00	6.0	\$ 36.00	6.0	\$ 36.00	
2575.508	SEED MIXTURE SPECIAL - WOODLAND EDGE	LB	\$ 180.00	6.0	\$ 1,080.00	6.0	\$ 1,080.00	
2575.508	SEED MIXTURE SPECIAL - SEDGE BASIN	LB	\$ 240.00	2.0	\$ 480.00	2.0	\$ 480.00	
2575.523	WATER	M GAL	\$ 1,000.00	0.6	\$ 600.00	0.6	\$ 600.00	
NEW	CAMERA INSPECTION	EACH				1.0	\$ 225.00	\$ 225.00
					\$ 183,615.45		\$ 190,045.20	\$ 6,429.75

Actual TOTAL \$ 190,045.20


 Date: 9/4/2019

Technical Assistance Provider

Date

PERCENT BASED - VOUCHER AND PRACTICE CERTIFICATION FORM

PAYEE AND COST INFORMATION

Name: Stillwater Country Club Contract No.: C16-7292; C18-9787; 18-01 SCRA; MSCWMO
 Address: 1421 N 4th St
 City, State, Zip: Stillwater, MN 55082
 Total Amount Authorized: \$190,045.20 % Approved: 61% (CWF Combined) 39% (SCRA & local)
 (from contract)

Item	Quantity	Unit	Unit Price	Cost
See attached invoice	1	job	\$190,045.20	\$190,045.20
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
PROJECT COST:				\$190,045.20

PAYMENT AND CERTIFICATION INFORMATION

A. Type of request (partial or final): Final
 B. Total cost of practice to date: \$190,045.20
 C. Eligible amount (total cost x % approved): \$115,440.00 (CWF Combined) \$74,605.20 (SCRA & local)
 D. Total other state payment amount (SCRA): \$22,233.17
 E. Total non-state payment amount (MSCWMO): \$52,372.03
 F. Total previous partial payments: \$0.00
 H. Maximum payment amount \$190,045.20

Amount Approved for This Voucher: **\$190,045.20**
 (cannot exceed Total Amount Authorized)

I certify that this is an accurate and true summation of the actual costs and quantities of material, labor, and equipment used on the above project. In cases where the receipts included items not used on the project, I have corrected them accordingly.

 Payee Signature _____
Date

I certify that an inspection has been performed and as-built received and that the items identified under the Cost Information section of this form have been completed and are in accordance with the requested practice standards and specifications.

I certify that I have reviewed this voucher and all supporting information, including invoices and paid receipts, and that to the best of my knowledge and belief, the quantities and billed cost or disbursements are accurate and are in accordance with terms of the contract identified.

Rebecca Nestingen

 Technical Assistance Provider
 9/6/2019

 Date

 Administrative Sign-off

 Date



MEMORANDUM

TO: Matt Downing, Interim Administrator
FROM: Rebecca Nestingen, PE
DATE: September 5th, 2019

RE: 9a) Plan Reviews/Submittals

The following is a summary of recent activity on projects submittals which qualify for plan review under the MSCWMO 2015 Watershed Management Plan (WMP):

- **Finnegan Home Addition.** The Finnegan home at 333 Quixote Ave N in Lakeland Shores proposes a home office and porch addition on the north side of the home as well as a deck. A variance request has been submitted to the City of Lakeland Shores and the City advised the applicant on July 8th that the project requires MSCWMO plan review. A MSCWMO review application was received on August 1st, 2019. The project is within the St. Croix Riverway and adds over 500 square feet of impervious surface and therefore requires stormwater management. Additional application materials such as updated impervious areas and rain garden grading plans and cross sections have been requested from the applicant on August 19th, 2019 but materials have not yet been received to complete the review.
- **Zvago Stillwater.** This project was formerly submitted as the Ecumen Stillwater Senior Living Center in 2017 and approved with conditions but never completed. The project has since changed ownership and has resubmitted a new plan review application and updated required submittal items on July 17th, 2019. The plan review recommendation was sent on August 13th, 2019 to amend the plans to correct seven items and resubmit the plans for further review. Revisions and a resubmittal has not yet been received.
- **Moeller Retaining Wall Replacement.** The existing retaining wall at 2199 River Rd S in St. Mary's Point was severely damaged from the spring flooding on the St. Croix River and requires replacement. An application for MSCWMO project review was received on August 8th, 2019 and a review was completed. The project will involve minor grading within 40 feet of the bluff line and within the St. Croix River buffer to reconstruct the retaining wall. *Staff recommends approval with four conditions.*
- **Anderson 2019 Parking Lot Improvements.** The Anderson Corporation located at 100 4th Ave N in Bayport proposes improvements to two existing parking lots referred to as the south lot and lot east of building 30A. The existing lots are gravel which are proposed to be paved with bituminous. Soil borings indicate that the existing surface material is fill material which will serve as the pavement subbase and native soils below the existing fill material will not be exposed or disturbed therefor the bituminous paving is categorized as resurfacing as opposed to reconstruction. The project involves greater than 100 cubic yards of grading and requires a variance from the City of Bayport therefor a project review for compliance with MSCWMO erosion and sediment control standards is applicable however stormwater management standards are not triggered. An application for MSCWMO project review was received on August 21st, 2019. The project goes above and beyond the erosion and sediment control standards by reducing impervious surfaces by 0.2 acres and

including stormwater management with two raingardens adjacent to the south lot. *Staff recommends approval with four conditions.*

- **Stillwater Riverbank Stabilization and Trail.** The City of Stillwater proposes to stabilize a section of riverbank and construct a new trail for public recreation along the St. Croix River from south of Dock Café and north of Shoddy Mills. The project will create 0.32 acres of new linear impervious surface. The MSCWMO received the application and materials for project review on August 23rd, 2019. *Staff recommends the revision and resubmittal of materials to address ten comments including documenting MSCWMO rate control standards are satisfied and that there are qualifying restrictions on site which preclude meeting the MSCWMO volume control standards.*

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

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P h o n e 6 5 1 . 3 3 0 . 8 2 2 0 x 2 2 f a x 6 5 1 . 3 3 0 . 7 7 4 7 w w w . m s c w m o . o r g



MSCWMO Project Review ID: 19-009

Project Name: Moeller Retaining Wall Replacement

Applicant: Carol Moeller

Purpose: Replacement of retaining wall

Location: 2199 River Rd S, St. Mary's Point

Review date: 8/8/2019

Recommendation:

Approval with the following contingencies:

- Add the Ordinary High Water (OHW) elevation, bluff line and floodplain areas to the survey/site plan.
- Indicate extent of disturbed soils and how they will be stabilized (e.g. hard cover such as pavers or vegetated and covered with mulch or erosion control blanket) on the plan view. Note the estimated quantity and the 7 day time frame from when construction activities have temporarily or permanently ceased.
- Indicate the estimated quantity (linear feet) of silt fence used for sediment control.
- Add notes to the general notes sheet on inspection and maintenance, pollution prevention, and final stabilization requirements. These requirements can be copied from the checklist.

Applicability:

- Any project undertaking grading, filling, or other land alteration activities that involve movement of 100 cubic yards of earth or removal of vegetation on greater than 10,000 square feet of land
- Any project that creates or fully reconstructs 6,000 square feet or more of impervious surface
- All major subdivisions or minor subdivisions that are part of a common plan of development. Major subdivisions are defined as subdivisions with 4 or more lots.
- Any project with wetland impacts
- Any project with grading within public waters
- Any project with grading within buffers
- Any project with grading within 40-feet of the bluff line

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Phone 651.330.8220 x22 fax 651.330.7747 www.mscwmo.org



- Development projects that impact 2 or more of the member communities
- New or redevelopment projects within the St. Croix Riverway that require a building permit that adds five hundred (500) square feet or more of additional impervious surface
- Any project requiring a variance from the current local impervious surface zoning requirements for the property
- Any land development activity, regardless of size, that the City determines is likely to cause an adverse impact to an environmentally sensitive area or other property, or may violate any other erosion and sediment control standard set by the member community.

ALL SUBMITTALS MUST CONTAIN THE FOLLOWING ITEMS:

- 1. Review Fee: Single lot residential \$350 fee.
- 2. Grading plan showing grading limits, existing and proposed contours related to NAVD 1988 datum (preferred) or NGVD 1929.
- 3. Location of existing and proposed permanent structures.
- 4. Ordinary High Water (OHW) elevations and location of all existing water bodies.
- 5. Location of all bluff lines.
- 6. Lowest floor elevations of structures built adjacent to stormwater management features and other water bodies must be a minimum of two feet above the 100-year flood elevation.
- 7. Delineation of existing wetland, shoreland, ordinary high water levels, drain tiling, and floodplain areas.
- NA 8. Details of proposed buffer upslope of water resources including size and vegetation characteristics (when applicable).
- 9. Erosion/sediment control plan demonstrating locations, specifications, and details of the following items:
 - A. Erosion Prevention
 - i. Stabilize all exposed soil areas (including stockpiles) with temporary erosion control (seed and mulch or blanket) within 7 days after construction activities in the area have temporarily or permanently ceased.

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ii. Identify location, type and quantity of temporary erosion prevention practices.

iii. Identify permanent vegetation.

B. Sediment Control

i. Sediment control practices will be placed down-gradient before up-gradient land disturbing activities begin.

ii. Identify the location, type and quantity of sediment control practices.

iii. Vehicle tracking practices must be in place to minimize track out of sediment from the construction site. Streets must be cleaned if tracking practices are not adequate to prevent sediment from being tracked onto the street. – *NA if site will be accessed from river*

C. Inspections and Maintenance

i. Applicant must inspect all erosion prevention and sediment control practices once every 7 days or after a ½" rain event to ensure integrity and effectiveness. All nonfunctional practices must be repaired, replaced or enhanced the next business day after discovery.

ii. Plans shall include contact information including email and a phone number of the person responsible for inspection and compliance with erosion and sediment control.

D. Pollution Prevention

i. Solid waste must be stored, collected and disposed of in accordance with state law.

ii. Provide effective containment for all liquid and solid wastes generated by washout operations (concrete, stucco, paint, form release oils, curing compounds).

iii. Hazardous materials that have potential to leach pollutants must be under cover to minimize contact with stormwater.

E. Final Stabilization

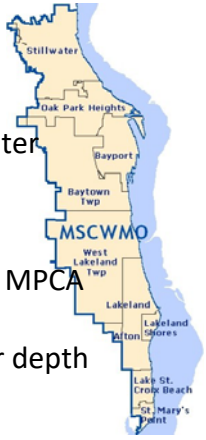
i. For residential construction only, individual lots are considered final stabilized if the structures are finished and temporary erosion protection and downgradient sediment control has been completed.

ii. Grading and landscape plans shall include soil tillage and soil bed preparation methods that are employed prior to landscape installation to a minimum depth of 8" and incorporate amendments to meet Minnesota State Stormwater Manual predevelopment soil type bulk densities.

1. Observe minimum setbacks for areas within the dripline of existing trees, over utilities within 30 in of the surface, where compaction is required by design and inaccessible slopes.

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

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NA 10. Details of proposed structural stormwater practices (Meets Minnesota Stormwater Manual guidelines)

- A. Stormwater flows are diverted away from bluffs whenever feasible.
- B. Volume control facilities must drain down within 48 hours, as required by the MPCA NPDES Construction Stormwater Permit.
 - i. The period of inundation shall be calculated using the maximum water depth below the surface discharge elevation and the soil infiltration rate.
- C. The maximum water depth for volume control facilities is 1.5 feet.
- D. Planting plan identified vegetation suitable for the hydrology of the basin.
- E. Separation from seasonally saturated soils or bedrock is 3 feet or more for bioretention and infiltration practices.

F. Volume control facilities meet the following setback requirements:

Setback	Minimum Distance (ft)
<i>Property line</i>	10
<i>Building foundation*</i>	10
<i>Private well</i>	50
<i>Public water supply well</i>	50
<i>Septic system tank/leach field</i>	35
<i>*Minimum with slopes directed away from the building</i>	

G. Volume control is provided for the first 1.1" inch of runoff for all impervious:

Volume Retention Required (cu. ft.)	Volume Retention Provided (cu. ft.)
xxxx sf * 1.1" = xxx cf xxx cf total required	BMP #1 Volume = BMP #2 Volume = Total =

H. Construction Standards

- i. To prevent soil compaction, the proposed volume control facility must be staked off and marked during construction to prevent heavy equipment and traffic from traveling over it.
- ii. Facilities may not be excavated within 2.0 feet of final grade until the contributing drainage area has been constructed and fully stabilized.
- iii. Facilities are in-place during construction activities, all sediment and runoff must be diverted away the facility, using practices such as pipe capping or diversions.
- iv. Facilities installation must occur in dry soil conditions. Excavation, soil placement and rapid stabilization of perimeter slopes must be accomplished prior to the next precipitation event.

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Phone 651.730.7744

Excavation shall be performed by an excavator with a toothed bucket. Use excavator bucket to place materials. Construction equipment shall not be allowed into the basin.

vi. Prior to the release of any remaining fee or security, the owner must provide documentation that constructed volume control facilities perform as designed.

I. Details

- i. Include a standard cross section of the infiltration device similar to those identified in the Minnesota Stormwater Manual
- ii. The cross section must detail the infiltration media used in the device. Typically, devices use Mix B as described in the Minnesota Stormwater Manual: A well-blended, homogenous mixture of 70 to 85 percent washed construction sand; and 15 to 30 percent MnDOT Grade 2 compost .





PROJECT REVIEW

MSCWMO Project Review ID: 19-010

Project Name: Anderson 2019 Parking Lot Improvements

Applicant: Anderson Corporation

Purpose: Repave existing bituminous parking lot, pave existing gravel lots, and install raingardens

Location: 100 4th Ave N

Review date: 9/5/19

Recommendation:

Approval with the following conditions:

- SWPPP must include tabulated quantities of all erosion prevention and sediment control BMPs.
- SWPPP must show stormwater flow directions and surface water divides for all pre- and post-construction drainage areas.
- Include the following construction plan notes for the raingardens:
 - Installation of volume control facilities must occur in dry soil conditions. Excavation, soil placement and rapid stabilization of perimeter slopes must be accomplished prior to the next precipitation event.
 - Excavation shall be performed by an excavator with a toothed bucket. Use excavator bucket to place materials. Construction equipment shall not be allowed into the basin.
 - Prior to the release of any remaining fee or security, the permit holder must provide documentation that constructed volume control facilities perform as designed.
- Raingarden planting media is not consistent with recommended media in the latest version of the Minnesota Stormwater Manual. The planting soil specified is close to Mix C, however, the percent fines specified is too high.

Applicability:

- Any project undertaking grading, filling, or other land alteration activities that involve movement of 100 cubic yards of earth or removal of vegetation on greater than 10,000 square feet of land
- Any project that creates or fully reconstructs 6,000 square feet or more of impervious surface
- All major subdivisions or minor subdivisions that are part of a common plan of development. Major subdivisions are defined as subdivisions with 4 or more lots.
- Any project with wetland impacts
- Any project with grading within public waters

- Any project with grading within buffers
- Any project with grading within 40-feet of the bluff line
- Development projects that impact 2 or more of the member communities
- New or redevelopment projects within the St. Croix Riverway that require a building permit that adds five hundred (500) square feet or more of additional impervious surface
- Any project requiring a variance from the current local impervious surface zoning requirements for the property
- Any land development activity, regardless of size, that the City determines is likely to cause an adverse impact to an environmentally sensitive area or other property, or may violate any other erosion and sediment control standard set by the member community.

SUBMITTAL ITEMS:

Electronic submittals are highly encouraged

- A completed and signed project review application form and review fee
- Grading Plan/Mapping Exhibits
 - a. Property lines and delineation of lands under ownership of the applicant.
 - b. Delineation of existing on-site wetlands, shoreland and/or floodplain areas (including any buffers).
 - c. Ordinary High Water (OHW) elevations and datum, as determined by the MDNR (if applicable).
 - d. Existing and proposed site contour elevations related to NAVD 1988 datum (preferred) or NGVD, 1929. Datum must be noted on exhibits.
 - e. Drainage easements covering land adjacent to ponding areas, wetlands, and waterways up to their 100-year flood levels and covering all ditches and storm sewers. Access easements to these drainage easements and to other stormwater management facilities shall also be shown.
 - f. Minimum building elevation for each lot.
 - g. Identification of downstream water body.
- NA Permanent Stormwater Management System in compliance with the requirements of the NPDES SDS Construction Stormwater Permit and MSCWMO Performance Standards.
 - a. Impervious areas (Pre- and Post-Construction).
 - b. Construction plans and specifications for all proposed stormwater management facilities.
 - c. Location(s) of past, current or future onsite well and septic systems (if applicable).
- Other exhibits required to show conformance to these Performance Standards

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary's Point, Stillwater and West Lakeland Township

- A Stormwater Pollution Prevention Plan in compliance with the requirements of the NPDES SDS Construction Stormwater Permit
- Grading Plan/Mapping Exhibits:
 - a. Delineation of the subwatersheds contributing runoff from off-site, proposed and existing on-site subwatersheds, and flow directions/patterns.
 - b. Location, alignment, and elevation of proposed and existing stormwater facilities.
 - c. Existing and proposed normal water elevations and the critical (the highest) water level produced from the 100-year 24-hour storms.
 - d. Location of the 100-year flood elevation, natural overflow elevation, and lowest floor elevations.
- NA Hydrologic/Hydraulic Design Exhibits:
 - a. All hydrologic and hydraulic computations completed to design the proposed stormwater management facilities shall be submitted. Model summaries must be submitted. The summaries shall include a map that corresponds to the drainage areas in the model and all other information used to develop the model.
 - b. A table (or tables) must be submitted showing the following:
 - i. A listing of all points where runoff leaves the site and the existing and proposed stormwater runoff rates and volumes.
 - ii. A listing of the normal water levels under existing and proposed conditions and the water levels produced from the storm and runoff events listed above for all on-site wetlands, ponds, depressions, lakes, streams, and creeks.
- NA Dedications or easements for the portions of the property which are adjacent to the facility and which lie below the 100 year flood level. For sites within public right-of-way, no easement is required.
- NA A proposed maintenance agreement, which may be in the format of Appendix K, or other form approved by the city.

HISTORY & CONSIDERATIONS:

SPECIAL OR IMPAIRED WATER

- This site drains to, and is within one mile of special or impaired water and complies with enhanced protections.
 - a. Scenic or Recreational river C.1., C.2., C.3.
 - b. Scientific and Natural area C.1., C.2., C.3.
 - c. Waterbody with a TMDL C.1., C.2.
 - C.1. Stabilization initiated immediately and all soils protected in seven days/provide temp basin for five acres draining to common location.

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary's Point, Stillwater and West Lakeland Township

- C.2. Treat water quality volume of one inch of runoff by retaining on site unless not feasible due to site conditions (See Part III.D.1. design requirements).
- C.3. Maintain buffer zone of 100 linear feet from Special Water.

EROSION AND SEDIMENT CONTROL [*A checked box indicates compliance*]

- A Stormwater Pollution Prevention Plan (SWPPP) that meets the National Pollutant Discharge Elimination System (NPDES) requirements.

Narrative

- Identify the person knowledgeable and experienced who will oversee the implementation of the SWPPP; the installation, inspection, and maintenance of the BMPs.
 - a. Identifies the person who will oversee the BMP inspection and maintenance.
 - b. Identify the training requirements are satisfied.
 - c. Inspections performed once every 7 days.
 - d. Inspections performed within 24 hours of a rain event greater than 0.5 in/24 hours.
 - e. Inspection and Maintenance records include:
 - i. Date and time of inspection.
 - ii. Name of person(s) conducting inspections.
 - iii. Finding of inspections, including the specific location where corrective actions are needed.
 - iv. Corrective actions taken (including dates, times, and party completing maintenance activities).
 - v. Date and amount of rainfall events greater than 0.5 in/24 hours.
 - vi. Rainfall amounts must be obtained by a properly maintained rain gauge installed onsite, or by a weather station that is within one mile or by a weather reporting system.
 - vii. Requirements to observe, describe, and photograph any discharge that may be occurring during the inspection.
 - viii. All discovered nonfunctional BMPs must be repaired, replaced, or supplemented with functional BMPs within 24 hours after discovery, or as soon as field conditions allow.
- Describes procedures to amend the SWPPP and establish additional temporary ESC BMPs as necessary for site conditions.
- Describes the installation timing for all Erosion Sediment Control (ESC) Best Management Practices (BMPs).
- Describes final stabilization methods for all exposed areas.
- Methods used to minimize soil compaction and preserve topsoil must be described.
- NA Describes dewatering technique to prevent nuisance conditions, erosion, or inundation of wetlands?
- NA Identifies any specific chemicals and the chemical treatment systems that may be used for enhancing the sedimentation process on the site, and how compliance will be achieved with the permit requirements.

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary's Point, Stillwater and West Lakeland Township

- Describes pollution prevention management measures
 - a. Storage, handling, and disposal of construction products, materials, and wastes.
 - b. Fueling and maintenance of equipment or vehicles; spill prevention and response.
 - c. Vehicle and equipment washing.
 - d. No engine degreasing allowed on site.
 - e. Containment of Concrete and other washout waste.
 - f. Portable toilets are positioned so that they are secure.

Plan sheets

NA *Temporary Sediment Basins required (10 acres draining to common location or 5 acres App. A) Basin design meets the following criteria:*

- a. Adequately sized – 2-year, 24-hour storm, minimum 1,800 ft³/acre; or no calculative minimum 3,600 ft³/acre.
 - b. Designed to prevent short circuiting.
 - c. Outlets designed to remove floating debris.
 - d. Outlets designed to allow complete drawdown.
 - e. Outlets designed to withdraw water from the surface
 - f. Outlets have energy dissipation.
 - g. Have a stabilized emergency spillway.
 - h. Situated outside of surface waters and any natural buffers.
- Locations and types of all temporary and permanent Erosion Control BMPs.
 - a. Exposed soils have erosion protection/cover initiated immediately and finished within 7 days.
 - b. Wetted perimeters of ditches stabilized within 200 feet of surface water within 24 hours.
 - c. Pipe outlets have energy dissipation within 24 hours of connecting.
 - Locations and types of all temporary and permanent Sediment Control BMPs.
 - a. Sediment control practices established on down gradient perimeters and upgradient of any buffer zones.
 - b. All inlets are protected.
 - c. Stockpiles have sediment control and placed in areas away from surface waters or natural buffers.
 - d. Construction site entrances minimize street tracking?
 - e. Plans minimize soil compaction and, unless infeasible to preserve topsoil.

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary's Point, Stillwater and West Lakeland Township

f. 50 foot natural buffers preserved or (if not feasible) provide redundant sediment controls when a surface water is located within 50 feet of the project's earth disturbances and drains to the surface water.

- Tabulated quantities of all erosion prevention and sediment control BMPs.
- Stormwater flow directions and surface water divides for all pre- and post-construction drainage areas.
- Locations of areas not to be disturbed (buffer zones).
- NA Location of areas where construction will be phased to minimize duration of exposed soil areas.
- Blufflines are protected from construction activities in urban (40 foot buffer) areas and rural areas (100-foot buffer).

LAKE, STREAM AND WETLAND BUFFERS

- A buffer zone of unmowed natural vegetation is maintained or created upslope of all water bodies (wetlands, streams, lakes).
- A 50 foot natural buffer or (if a buffer is infeasible) provide redundant sediment controls when a surface water is located within 50 feet of the project's earth disturbances and stormwater flows to the surface water.
- If adjacent to a Special or Impaired Water an undisturbed buffer zone of not less than 100 linear feet from the special water is maintained both during construction and as a permanent feature post construction.

STORMWATER MANAGEMENT *[A checked box indicates compliance]*

- Water quality treatment is provided prior to direct discharge of stormwater to wetlands and all other water bodies.

Rate and Flood Control Standards

- NA The peak rate of stormwater runoff from a newly developed or redeveloped site shall not exceed the 2-, 10-, and 100-year 24-hour storms with respective 2.8, 4.2, and 7.3-inch rainfall depths with MSCWMO approved time distribution based on Atlas 14 for existing and proposed conditions. The runoff curve number for existing agriculture areas shall be less than or equal to the developed condition curve number. The newly developed or redeveloped peak rate shall not exceed the existing peak rate of runoff for all critical duration events, up to and including the 100-year return frequency storm event for all points where discharges leave a site during all phases of development.
- NA Predevelopment conditions assume "good hydrologic conditions" for appropriate land covers as identified in TR-55 or an equivalent methodology. Runoff curve numbers have been increased where predevelopment land cover is cropland:
 - Hydrologic Soil Group A: Runoff Curve Number 56
 - Hydrologic Soil Group B: Runoff Curve Number 70
 - Hydrologic Soil Group C: Runoff Curve Number 79
 - Hydrologic Soil Group D: Runoff Curve Number 83

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary's Point, Stillwater and West Lakeland Township

- NA Computer modeling analyses includes secondary overflows for events exceeding the storm sewer systems level-of-service up through the critical 100-year event.
- NA In sub-areas of a landlocked watershed, the proposed project does not increase the predevelopment volume or rate of discharge from the sub-area for the 10-year return period event.
- NA Flowage easements up to the 100-yr flood level have been secured for stormwater management facilities (such as ditches and storm sewers).
- NA Lowest floor elevations of structures built adjacent to stormwater management features and other water bodies are a minimum of two feet above the 100-year flood elevation and a minimum of two feet above the natural overflow of landlocked basins.

Volume Control Standards

- NA Calculations/computer model results indicate stormwater volume is controlled for new development and redevelopment requirements per the MSCWMO Design Standards.
 1. New Nonlinear Development 1.1" * new impervious surfaces
 2. Reconstruction/Redevelopment Projects 1.1" * reconstructed impervious surfaces
 3. Linear Projects 0.55" * new and/or fully reconstructed impervious surface and 1.1" from net increase in impervious area
 4. Sites with Restrictions- flexible treatment options documentation has been provided.

Volume Retention Required (cu. ft.)	Volume Retention Provided (cu. ft.)	
xx,xxx sf *1.1" = xxx cu. ft.	BMP	Volume
xx,xxx sf *1.1" = x,xxx cu. ft.	BMP #1	x,xx cu. ft.
	BMP #2	x,xxx cu. ft.
	Total Proposed	x,xxx cu.ft.
Total Required		x,xxx cu. ft.

Flexible Treatment Options (when applicable)

- NA Applicant demonstrated qualifying restrictions as defined in Section 7.2.2 (4) of the 2015 MSCWMO Watershed Management Plan that prohibits the infiltration of the entire required volume.
- NA MIDS calculator submission removes 75% of the annual total phosphorous.

Infiltration/Filtration Design Standards

- Proposed stormwater management features meet or exceed NPDES General Construction Permit requirements are **designed in conformance with the most recent edition of the State of Minnesota Stormwater Manual.**

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:
 Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary's Point, Stillwater and West Lakeland Township

- None of the following conditions exist that prohibit infiltration of stormwater on the site
- Areas where vehicle fueling and maintenance occur.
 - Areas with less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock.
 - Areas where industrial facilities are not authorized to infiltrate industrial stormwater under an National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Industrial Stormwater Permit issued by the MPCA.
 - Areas where contaminants in soil or groundwater will be mobilized by infiltrating stormwater.
 - Areas of Hydrologic Soil Group D (clay) soils
 - Areas within 1,000 feet up-gradient, or 100 feet down-gradient of active karst features unless allowed by a local unit of government with a current MS4 permit.

NA Minimum setbacks from the Minnesota Department of Health for infiltration practices are met

Setback	Minimum Distance (ft)
Property line	10
Building foundation*	10
Private well	35
Public water supply well	50
Septic system tank/leach field	35
*Minimum with slopes directed away from the building	

NA Pretreatment devices(s) remove at least 50% of sediment loads. If downstream from a potential hot spot, a skimmer is in place to facilitate cleanup.

NA Water quality volume will be discharged through infiltration or filtration media in 48 hours or less.

- For bioretention (biofiltration and bioinfiltration) volume control management facilities above ground with vegetation the period of inundation shall be calculated using the maximum water depth below the surface discharge elevation and the soil infiltration rate.
- For infiltration basin volume control management facilities the period of inundation shall be calculated using the maximum water depth below the surface discharge elevation and the soil infiltration rate.

NA Appropriate soil borings have been conducted that meet the minimum standards.

- A minimum of one boring was conducted at the location of the infiltration facility for facilities up to 1,000 ft²; between 1,000 and 5,000 ft², two borings, between 5,000 and 10,000 ft², three borings and greater than 10,000 ft² 4 borings plus an additional boring for every 2,500 ft² beyond 12,500 ft²
- Soil borings extend a minimum of five feet below the bottom of the infiltration practice. If fractured bedrock is suspected, the soil boring goes to a depth of at least ten feet below the proposed bottom of the volume control facility.
- A minimum of three feet of separation to the seasonal water table and/or bedrock.

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

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d. Identify unified soil classification.

NA The least permeable soils horizon identified in the soil boring dictated the infiltration rate.

NA Additional flows are bypassed and are routed through stabilized discharge points.

NA Filtration basin demonstrates a basin draw down between 24 hours and 48 hours.

NA Filtration system Iron Enhanced Sand Filter is sized to bind soluble phosphorous removal for 30 year functional life of the system using the published value of 17lbs.phosphorous removal per 20 yards of 5% by weight iron filings to 95% sand.

NA Identify as build survey and method to demonstrate infiltration or filtration basin is functioning.

Construction plans provide adequate construction guidance to prevent clogging or compaction and demonstrate performance.

a. Excavation within 2.0 feet of final grade for infiltration/filtration systems is prohibited until contributing drainage areas are constructed and fully stabilized.

b. Rigorous sediment and erosion controls planned to divert runoff away from the system.

c. Installation of volume control facilities must occur in dry soil conditions. Excavation, soil placement and rapid stabilization of perimeter slopes must be accomplished prior to the next precipitation event.

d. Excavation shall be performed by an excavator with a toothed bucket. Use excavator bucket to place materials. Construction equipment shall not be allowed into the basin.

e. Prior to the release of any remaining fee or security, the permit holder must provide documentation that constructed volume control facilities perform as designed.

There is a way to visually verify the system is operating as designed.

A minimum 8.0' maintenance access is provided to all stormwater facilities.

WETLAND PERFORMANCE STANDARDS

NA Direct discharge of stormwater to wetlands and all other water bodies without water quality treatment is prohibited.

NA Any potential changes to the hydrology of the wetland (i.e. changes to the outlet elevation or contributing drainage area) must be reviewed to evaluate the impact of both the existing and proposed wetland conditions and approved by the MSCWMO.

NA Land-altering activities shall not increase the bounce in water level or duration of inundation from a 2.0-inch 24-hour storm for any downstream wetland beyond the limit specified in Table 7.2 for the individual wetland susceptibility class.

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PROJECT REVIEW

MSCWMO Project Review ID: 19-011

Project Name: Stillwater Riverbank Stabilization and Trail

Applicant: City of Stillwater

Purpose: Improve riverbank stabilization and provide a new trail for public recreation along the riverfront

Location: Along St. Croix River south of Dock Café and north of Shoddy Mills

Review date: September 5, 2019

Recommendation:

Revise and resubmit. Please address the following in a resubmittal:

1. SWPPP must describe methods used to minimize soil compaction and preserve topsoil.
2. Grading and erosion sediment control note 5 stabilization timeframe should be revised to 7 days, not 14, because the side discharges to a special or impaired water.
3. Redundant sediment controls must be provided when a surface water is located within 50 feet of the project's earth disturbances.
4. Linear projects are not exempt from rate and flood control standards. Provide hydrologic and hydraulic computations and tables summarizing peak discharges for the 2-, 10-, and 100-year 24-hour storms.
5. Volume control requirements are not met. Please demonstrate qualifying restrictions of why infiltration is not feasible or advised. Soils shown in soil boring logs appear to be suitable for infiltration. Options considered and presented shall examine the merits of relocating project elements to address varying soil conditions and other constraints across the site.
6. Provide further evidence and support of the drainage area and impervious surface treated. The ribbon curb does not appear to have sufficient volume or depth to capture the impervious surface runoff volume and significant cross flow would occur. Please also provide evidence of sufficient inlet capacity to route the flow from the ribbon curb into the filter.
7. Provide updated calculations of filtration volume provided. The trapezoidal cross section of the sand filter between the perforated pipes appears to be 8 square feet, not 13 square feet as indicated in the report.
8. Demonstrate the filter drawdown time is less than 48 hours.
9. Filtration devices must have pretreatment which removes 50% of the TSS load. Provide documentation that the sumps are sufficient to remove 50% of the TSS load.
10. Identify as-built survey or test method to demonstrate the sand filter is performing as designed prior to the release of any surety.

Applicability:

- Any project undertaking grading, filling, or other land alteration activities that involve movement of 100 cubic yards of earth or removal of vegetation on greater than 10,000 square feet of land
- Any project that creates or fully reconstructs 6,000 square feet or more of impervious surface
- All major subdivisions or minor subdivisions that are part of a common plan of development. Major subdivisions are defined as subdivisions with 4 or more lots.
- Any project with wetland impacts
- Any project with grading within public waters
- Any project with grading within buffers
- Any project with grading within 40-feet of the bluff line
- Development projects that impact 2 or more of the member communities
- New or redevelopment projects within the St. Croix Riverway that require a building permit that adds five hundred (500) square feet or more of additional impervious surface
- Any project requiring a variance from the current local impervious surface zoning requirements for the property
- Any land development activity, regardless of size, that the City determines is likely to cause an adverse impact to an environmentally sensitive area or other property, or may violate any other erosion and sediment control standard set by the member community.

SUBMITTAL ITEMS:

Electronic submittals are highly encouraged

- A completed and signed project review application form and review fee
- Grading Plan/Mapping Exhibits
 - a. Property lines and delineation of lands under ownership of the applicant.
 - b. Delineation of existing on-site wetlands, shoreland and/or floodplain areas (including any buffers).
 - c. Ordinary High Water (OHW) elevations and datum, as determined by the MDNR (if applicable).
 - d. Existing and proposed site contour elevations related to NAVD 1988 datum (preferred) or NGVD, 1929. Datum must be noted on exhibits.

Middle St. Croix Watershed Management Organization

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- e. Drainage easements covering land adjacent to ponding areas, wetlands, and waterways up to their 100-year flood levels and covering all ditches and storm sewers. Access easements to these drainage easements and to other stormwater management facilities shall also be shown.
- f. Minimum building elevation for each lot.
- g. Identification of downstream water body.

Permanent Stormwater Management System in compliance with the requirements of the NPDES SDS Construction Stormwater Permit and MSCWMO Performance Standards.

- a. Impervious areas (Pre- and Post-Construction).
- b. Construction plans and specifications for all proposed stormwater management facilities.
- c. Location(s) of past, current or future onsite well and septic systems (if applicable).

Other exhibits required to show conformance to these Performance Standards

A Stormwater Pollution Prevention Plan in compliance with the requirements of the NPDES SDS Construction Stormwater Permit

Grading Plan/Mapping Exhibits:

- a. Delineation of the subwatersheds contributing runoff from off-site, proposed and existing on-site subwatersheds, and flow directions/patterns.
- b. Location, alignment, and elevation of proposed and existing stormwater facilities.
- c. Existing and proposed normal water elevations and the critical (the highest) water level produced from the 100-year 24-hour storms.
- d. Location of the 100-year flood elevation, natural overflow elevation, and lowest floor elevations.

Hydrologic/Hydraulic Design Exhibits:

- a. All hydrologic and hydraulic computations completed to design the proposed stormwater management facilities shall be submitted. Model summaries must be submitted. The summaries shall include a map that corresponds to the drainage areas in the model and all other information used to develop the model.
- b. A table (or tables) must be submitted showing the following:
 - i. A listing of all points where runoff leaves the site and the existing and proposed stormwater runoff rates and volumes.
 - ii. A listing of the normal water levels under existing and proposed conditions and the water levels produced from the storm and runoff events listed above for all on-site wetlands, ponds, depressions, lakes, streams, and creeks.

NA Dedications or easements for the portions of the property which are adjacent to the facility and which lie below the 100 year flood level. For sites within public right-of-way, no easement is required.

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NA A proposed maintenance agreement, which may be in the format of Appendix K, or other form approved by the city.

HISTORY & CONSIDERATIONS:

SPECIAL OR IMPAIRED WATER

- This site drains to, and is within one mile of special or impaired water and complies with enhanced protections.
- a. Scenic or Recreational river C.1., C.2., C.3.
 - b. Scientific and Natural area C.1., C.2., C.3.
 - c. Waterbody with a TMDL C.1., C.2.
 - C.1. Stabilization initiated immediately and all soils protected in seven days/provide temp basin for five acres draining to common location.
 - C.2. Treat water quality volume of one inch of runoff by retaining on site unless not feasible due to site conditions (See Part III.D.1. design requirements).
 - C.3. Maintain buffer zone of 100 linear feet from Special Water.

EROSION AND SEDIMENT CONTROL [A checked box indicates compliance]

- A Stormwater Pollution Prevention Plan (SWPPP) that meets the National Pollutant Discharge Elimination System (NPDES) requirements.

Narrative

- Identify the person knowledgeable and experienced who will oversee the implementation of the SWPPP; the installation, inspection, and maintenance of the BMPs.
- a. Identifies the person who will oversee the BMP inspection and maintenance.
 - b. Identify the training requirements are satisfied.
 - c. Inspections performed once every 7 days.
 - d. Inspections performed within 24 hours of a rain event greater than 0.5 in/24 hours.
 - e. Inspection and Maintenance records include:
 - i. Date and time of inspection.
 - ii. Name of person(s) conducting inspections.
 - iii. Finding of inspections, including the specific location where corrective actions are needed.
 - iv. Corrective actions taken (including dates, times, and party completing maintenance activities).
 - v. Date and amount of rainfall events greater than 0.5 in/24 hours.
 - vi. Rainfall amounts must be obtained by a properly maintained rain gauge installed onsite, or by a weather station that is within one mile or by a weather reporting system.

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vii. Requirements to observe, describe, and photograph any discharge that may be occurring during the inspection.

viii. All discovered nonfunctional BMPs must be repaired, replaced, or supplemented with functional BMPs within 24 hours after discovery, or as soon as field conditions allow.

- Describes procedures to amend the SWPPP and establish additional temporary ESC BMPs as necessary for site conditions.
- Describes the installation timing for all Erosion Sediment Control (ESC) Best Management Practices (BMPs).
- Describes final stabilization methods for all exposed areas.
- Methods used to minimize soil compaction and preserve topsoil must be described.**
- Describes dewatering technique to prevent nuisance conditions, erosion, or inundation of wetlands?
- Identifies any specific chemicals and the chemical treatment systems that may be used for enhancing the sedimentation process on the site, and how compliance will be achieved with the permit requirements.
- Describes pollution prevention management measures
 - a. Storage, handling, and disposal of construction products, materials, and wastes.
 - b. Fueling and maintenance of equipment or vehicles; spill prevention and response.
 - c. Vehicle and equipment washing.
 - d. No engine degreasing allowed on site.
 - e. Containment of Concrete and other washout waste.
 - f. Portable toilets are positioned so that they are secure.

Plan sheets

NA *Temporary Sediment Basins required (10 acres draining to common location or 5 acres App. A)
Basin design meets the following criteria:*

- a. Adequately sized – 2-year, 24-hour storm, minimum 1,800 ft³/acre; or no calculative minimum 3,600 ft³/acre.
- b. Designed to prevent short circuiting.
- c. Outlets designed to remove floating debris.
- d. Outlets designed to allow complete drawdown.
- e. Outlets designed to withdraw water from the surface
- f. Outlets have energy dissipation.
- g. Have a stabilized emergency spillway.
- h. Situated outside of surface waters and any natural buffers.

Middle St. Croix Watershed Management Organization

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- Locations and types of all temporary and permanent Erosion Control BMPs.
 - a. Exposed soils have erosion protection/cover initiated immediately and finished within 7 days.
 - b. Wetted perimeters of ditches stabilized within 200 feet of surface water within 24 hours.
 - c. Pipe outlets have energy dissipation within 24 hours of connecting.
- Locations and types of all temporary and permanent Sediment Control BMPs.
 - a. Sediment control practices established on down gradient perimeters and upgradient of any buffer zones.
 - b. All inlets are protected.
 - c. Stockpiles have sediment control and placed in areas away from surface waters or natural buffers.
 - d. Construction site entrances minimize street tracking?
 - e. Plans minimize soil compaction and, unless infeasible to preserve topsoil.
 - f. 50 foot natural buffers preserved or (if not feasible) provide redundant sediment controls when a surface water is located within 50 feet of the project's earth disturbances and drains to the surface water.
- Tabulated quantities of all erosion prevention and sediment control BMPs.
- Stormwater flow directions and surface water divides for all pre- and post-construction drainage areas.
- Locations of areas not to be disturbed (buffer zones).
- Location of areas where construction will be phased to minimize duration of exposed soil areas.
- Blufflines are protected from construction activities in urban (40 foot buffer) areas and rural areas (100-foot buffer).

LAKE, STREAM AND WETLAND BUFFERS

- A buffer zone of unmowed natural vegetation is maintained or created upslope of all water bodies (wetlands, streams, lakes).
- A 50 foot natural buffer or (if a buffer is infeasible) provide redundant sediment controls when a surface water is located within 50 feet of the project's earth disturbances and stormwater flows to the surface water.
- If adjacent to a Special or Impaired Water an undisturbed buffer zone of not less than 100 linear feet from the special water is maintained both during construction and as a permanent feature post construction.

STORMWATER MANAGEMENT *[A checked box indicates compliance]*

- Water quality treatment is provided prior to direct discharge of stormwater to wetlands and all other water bodies.

Rate and Flood Control Standards

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary's Point, Stillwater and West Lakeland Township

- The peak rate of stormwater runoff from a newly developed or redeveloped site shall not exceed the 2-, 10-, and 100-year 24-hour storms with respective 2.8, 4.2, and 7.3-inch rainfall depths with MSCWMO approved time distribution based on Atlas 14 for existing and proposed conditions. The runoff curve number for existing agriculture areas shall be less than or equal to the developed condition curve number. The newly developed or redeveloped peak rate shall not exceed the existing peak rate of runoff for all critical duration events, up to and including the 100-year return frequency storm event for all points where discharges leave a site during all phases of development.

- Predevelopment conditions assume “good hydrologic conditions” for appropriate land covers as identified in TR-55 or an equivalent methodology. Runoff curve numbers have been increased where predevelopment land cover is cropland:
 - Hydrologic Soil Group A: Runoff Curve Number 56
 - Hydrologic Soil Group B: Runoff Curve Number 70
 - Hydrologic Soil Group C: Runoff Curve Number 79
 - Hydrologic Soil Group D: Runoff Curve Number 83

- Computer modeling analyses includes secondary overflows for events exceeding the storm sewer systems level-of-service up through the critical 100-year event.

- NA In sub-areas of a landlocked watershed, the proposed project does not increase the predevelopment volume or rate of discharge from the sub-area for the 10-year return period event.

- NA Flowage easements up to the 100-yr flood level have been secured for stormwater management facilities (such as ditches and storm sewers).

- NA Lowest floor elevations of structures built adjacent to stormwater management features and other water bodies are a minimum of two feet above the 100-year flood elevation and a minimum of two feet above the natural overflow of landlocked basins.

Volume Control Standards

- Calculations/computer model results indicate stormwater volume is controlled for new development and redevelopment requirements per the MSCWMO Design Standards.
 1. New Nonlinear Development 1.1” * new impervious surfaces
 2. Reconstruction/Redevelopment Projects 1.1” * reconstructed impervious surfaces
 3. Linear Projects 0.55” * new and/or fully reconstructed impervious surface and 1.1” from net increase in impervious area
 4. Sites with Restrictions- flexible treatment options documentation has been provided.

Volume Retention Required (cu. ft.)	Volume Retention Provided (cu. ft.)	
15682 sf *0.55” = 719 cu. ft.	BMP Sand Filter	Volume 0 cu. ft.

Middle St. Croix Watershed Management Organization

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Total Required 719 cu. ft.	Total Proposed 0 cu.ft.
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Flexible Treatment Options (when applicable)

- Applicant demonstrated qualifying restrictions as defined in Section 7.2.2 (4) of the 2015 MSCWMO Watershed Management Plan that prohibits the infiltration of the entire required volume.
- MIDS calculator submission removes 75% of the annual total phosphorous.

Infiltration/Filtration Design Standards

- Proposed stormwater management features meet or exceed NPDES General Construction Permit requirements are designed in conformance with the most recent edition of the State of Minnesota Stormwater Manual.
- NA None of the following conditions exist that prohibit infiltration of stormwater on the site
- a. Areas where vehicle fueling and maintenance occur.
 - b. Areas with less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock.
 - c. Areas where industrial facilities are not authorized to infiltrate industrial stormwater under an National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Industrial Stormwater Permit issued by the MPCA.
 - d. Areas where contaminants in soil or groundwater will be mobilized by infiltrating stormwater.
 - e. Areas of Hydrologic Soil Group D (clay) soils
 - f. Areas within 1,000 feet up-gradient, or 100 feet down-gradient of active karst features unless allowed by a local unit of government with a current MS4 permit.

NA Minimum setbacks from the Minnesota Department of Health for infiltration practices are met

Setback	Minimum Distance (ft)
Property line	10
Building foundation*	10
Private well	35
Public water supply well	50
Septic system tank/leach field	35
*Minimum with slopes directed away from the building	

- Pretreatment devices(s) remove at least 50% of sediment loads. If downstream from a potential hot spot, a skimmer is in place to facilitate cleanup.

NA Water quality volume will be discharged through infiltration or filtration media in 48 hours or less.

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- a. For bioretention (biofiltration and bioinfiltration) volume control management facilities above ground with vegetation the period of inundation shall be calculated using the maximum water depth below the surface discharge elevation and the soil infiltration rate.
- b. For infiltration basin volume control management facilities the period of inundation shall be calculated using the maximum water depth below the surface discharge elevation and the soil infiltration rate.

Appropriate soil borings have been conducted that meet the minimum standards.

- a. A minimum of one boring was conducted at the location of the infiltration facility for facilities up to 1,000 ft²; between 1,000 and 5,000 ft², two borings, between 5,000 and 10,000 ft², three borings and greater than 10,000 ft² 4 borings plus an additional boring for every 2,500 ft² beyond 12,500 ft²
- b. Soil borings extend a minimum of five feet below the bottom of the infiltration practice. If fractured bedrock is suspected, the soil boring goes to a depth of at least ten feet below the proposed bottom of the volume control facility.
- c. A minimum of three feet of separation to the seasonal water table and/or bedrock.
- d. Identify unified soil classification.

NA The least permeable soils horizon identified in the soil boring dictated the infiltration rate.

Additional flows are bypassed and are routed through stabilized discharge points.

Filtration basin demonstrates a basin draw down between 24 hours and 48 hours.

Na Filtration system Iron Enhanced Sand Filter is sized to bind soluble phosphorous removal for 30 year functional life of the system using the published value of 17lbs.phosphorous removal per 20 yards of 5% by weight iron filings to 95% sand.

Identify as build survey and method to demonstrate infiltration or filtration basin is functioning.

NA Construction plans provide adequate construction guidance to prevent clogging or compaction and demonstrate performance.

- a. Excavation within 2.0 feet of final grade for infiltration/filtration systems is prohibited until contributing drainage areas are constructed and fully stabilized.
- b. Rigorous sediment and erosion controls planned to divert runoff away from the system.
- c. Installation of volume control facilities must occur in dry soil conditions. Excavation, soil placement and rapid stabilization of perimeter slopes must be accomplished prior to the next precipitation event.
- d. Excavation shall be performed by an excavator with a toothed bucket. Use excavator bucket to place materials. Construction equipment shall not be allowed into the basin.
- e. Prior to the release of any remaining fee or security, the permit holder must provide documentation that constructed volume control facilities perform as designed.

There is a way to visually verify the system is operating as designed.

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A minimum 8.0' maintenance access is provided to all stormwater facilities.

WETLAND PERFORMANCE STANDARDS

- NA Direct discharge of stormwater to wetlands and all other water bodies without water quality treatment is prohibited.

- NA Any potential changes to the hydrology of the wetland (i.e. changes to the outlet elevation or contributing drainage area) must be reviewed to evaluate the impact of both the existing and proposed wetland conditions and approved by the MSCWMO.

- NA Land-altering activities shall not increase the bounce in water level or duration of inundation from a 2.0-inch 24-hour storm for any downstream wetland beyond the limit specified in Table 7.2 for the individual wetland susceptibility class.

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MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

455 HAYWARD AVENUE, OAKDALE, MINNESOTA 55082
Phone 651.330.8220 x22 fax 651.330.7747 www.mscwmo.org



Staff Report- August 2019

Administration

- Notified Communities of 2020 Draft Budget
- Coordinated restarting ESC Inspection Program
- Coordinated 2020 WQ Monitoring Plan with WCD
- Updated List of Public Officials with Campaign Finance Board

Project Reviews

- Finnegan Addition, Lakeland Shores
- Zvago, Stillwater
- Moeller Retaining Wall, St. Mary's Point
- Anderson Parking Lot, Bayport
- Riverway Stabilization and Trail, Stillwater

Lake St. Croix Direct Discharge Phase II and Phase III

Description: \$151,000 (phase II) and a \$34,000 (phase III) grants for stormwater quality improvements in Oak Park Heights, Stillwater and Bayport (2015-2019). Funding is being utilized to work in partnership with the Stillwater Country Club to design a basin to reduce 25.0 lbs. of phosphorus per year discharging into Lake St. Croix.

Activities This Month: Project installed as of August 26. Will be planting in the coming weeks with MCC Crews. Closeout payment with this board packet.

Staff: Bryan Pynn, WCD

SCRA 2018 LSCI Grant

Description: \$30,000 St. Croix River Association Grant to reduce erosion and nutrients discharging to Lake St. Croix.

Activities This Month: Confirmed in June with St. Croix River Association that the remaining \$23,000 can be applied toward the Stillwater Country Club Project. Will be applied toward current construction.

Staff: Bryan Pynn, WCD

Washington County Transportation Cash-In-Lieu-of-Treatment Funding

Description: Due to steep grades, the fully developed downtown area including several historic properties, and presence of shallow bedrock in some areas Washington County Public Works, Transportation Division proposed and agreed to cash-in-lieu of treatment for the CSAH 23 (3rd Street) Reconstruction project approved by the board of managers on June 14, 2018. The total cash in lieu of treatment amount is \$118,720.00. The funding is being utilized (in conjunction with Lake St. Croix Direct Discharge Phase II and Phase III grant funding and St. Croix River Association Lake St. Croix Small Communities Grant) to fund the installation of the Stillwater Country Club bioretention basin.

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Activities This Month: Contacted Allen Brandt and again and requested that date(s) of payments be specified prior to next MSCWMO meeting. Suggested that if meeting with the commissioners is required to please inform me what steps are needed to facilitate that. Response from Allen was that no timeline has been established for payment. A second inquiry resulted in a request for the total amount again.
Staff: Bryan Pynn, WCD Matt Downing, MSCWMO

Lily Lake Final – 45

Description: \$58,000 grant to identify and partially design stormwater practices to reduce phosphorous discharges to Lily Lake by at least 45 lbs. per year.
Activities This Month: Provided materials to BWSR for grant reconciliation (mandatory before closing out grants). Waiting for response.
Staff: Bryan Pynn, WCD

Perro Creek Water Quality Improvements Phase I and Watershed Based Funding

Description: \$63,000 CWF grant and \$39,124 allocation from CWF Watershed Based Funding to design and install stormwater quality practices to reduce nutrients and bacteria discharging directly into Perro Creek and then to Lake St. Croix.
Activities This Month: Construction started week of September 3rd. Will take 3-4 weeks to complete. Will plant with MCC Crews in mid-September.
Staff: Tara Kline/Bryan Pynn, WCD

Watershed Based Funding- Lily Lake Raingardens

Description: \$39,636 CWF Watershed Based Funding allocation to improve water quality. The funding is approved to provide the design and installation of two raingardens on Lily Lake in Stillwater.
Activities This Month: Construction delayed due to rains. Hope to have pre-construction meeting Monday, September 9th. This is the next project on the contractor's schedule.
Staff: Bryan Pynn, WCD

Lake St. Croix Small Communities Phosphorus Reduction Grant

Description: \$200,000 grant for stormwater quality improvement south of Bayport (2019-2021). Planning to work in partnership with City of Lake St. Croix Beach to stabilize the bluff on the north side of town.
Activities This Month: No action. Will reach out to Lake St Croix Beach in late-September to start design and construction budget conversations.
Staff: Bryan Pynn, WCD

3M PFAS Settlement MPCA Staff Reimbursement Grant

Description: Up to \$20,000 reimbursement of staff time for both the Administrator and consultant (Stu Grub with EOR) to participate in the development of the groundwater model for the PFAS contamination in the southern portion of the watershed.

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Activities This Month: Confirmed the MPCA SWIFT Account was transferred to Matt Downing from Mike Isensee. Requesting payment updates from MPCA.
Staff: Matt Downing, MSCWMO Stu Grub, EOR

Microbial Source Tracking of *E. coli* in Perro Creek

Description: The MSCWMO and the City of Bayport agreed to partner on an effort to identify the source of *E. coli* contamination of Perro Creek. 4 location on the creek will be sampled monthly for the rest of the 2019 season for the presence or absence of human DNA in the bacteria. This effort is above and beyond the concentration monitoring already being conducted by the MSCWMO.

Activities This Month: The second of three sampling rounds were collected by WCD staff and the samples were shipped to the contracted laboratory in Florida for analysis. Results for the first sample were received, human markers were present at one of the four sites. Caution is needed while reviewing these results as the hold time was exceeded due to shipping issues.
Staff: Jessica Thiel WCD, Matt Downing MSCWMO

Erosion and Sediment Control Inspections

Description: The MSCWMO has contracted with the WCD to conduct erosion and sediment control inspections for construction projects that have been reviewed and recommended for permit approval by partner communities.

Activities This Month: Partner communities were contacted to gauge the level of inspection intensity currently implemented by partners to maximize use of contract dollars and minimize duplication of effort. WCD staff and the administrator met to establish an inspection workflow. Coordination with partner community inspectors occurred. Contact was made with the Dewall Subdivision project (19-008), and it was found the project has not yet broken ground.

Staff: Matt Downing MSCWMO, Aaron DeRusha WCD, Rebecca Nestingen WCD

Meetings

- Permitting Coordination Meeting, Oak Park Heights, August 14th
- Permitting Coordination Meeting, Oak Park Heights, August 28th
- 1W1P Advisory Committee, Forest Lake, September 12th