



Board Meeting

Video-conference

1:00 pm

May 20, 2020

AGENDA

ROLL CALL

Agenda Review MOTION

Declarations of Interest (written)

1. Watershed Condition and Outlook (verbal - Jenn North)
2. Approval of Minutes – Board Meeting, April 15, 2020. See attached.
3. Approval of Minutes – Special Board Meeting, April 15, 2020. See attached.
4. Business arising:
 - a. Lower Mississippi Flood Plain Mapping update (verbal - Sally McIntyre)
 - b. COVID-19 update (verbal - Sally McIntyre)
5. Kashwakamak Lake Dam Project Update, Report 3057/20 (Juraj Cunderlik)
6. Regulatory Permits (January-April 2020), Report 3058/20 (Matt Craig)
7. 2019 Poole Creek Stewardship Project, PowerPoint attached. (verbal - Amy Tenbult)

Other Business

ADJOURNMENT

BOARD OF DIRECTORS TELECONFERENCE

Mississippi Valley Conservation Centre
Carleton Place

MINUTES

April 15, 2020

MEMBERS PARTICIPATING:

J. Mason, Chair
G. Gower, Vice-Chair;
J. Atkinson;
F. Campbell;
E. El-Chantiry;
T. Fritz;
B. Holmes;
J. Inglis;
J. Karau;
W. King;
P. Kehoe;
C. Lowry;
P. Sweetnam;
K. Thompson.

MEMBERS UNAVAILABLE:

E. Burke;
R. Darling;
G. McEvoy.

STAFF PRESENT:

S. McIntyre, General Manager;
A. Millar, Treasurer;
M. Craig, Manager, Planning and Regulations;
J. Cunderlik, Director, Water Resource Engineering;
J. North, Water Resources Technologist;
E. Levi, Recording-Secretary.

J. Mason called the teleconference to order at 1:38 p.m.

BUSINESS:

J. Mason advised Item # 7 and Item # 5 would be switched to allow for the Board to go in-camera at the end of the meeting to discuss topics contained in Item # 5.

1. B04/15/20-1

MOVED BY: C. Lowry

SECONDED BY: F. Campbell

Resolved, That the Agenda for the April 15, 2020 Board of Directors Meeting be adopted as amended.

“CARRIED”

2. Watershed Condition and Outlook

J. North noted that flows have peaked and are beginning to drop in the Mississippi River and

Mississippi Valley Conservation Authority
Board of Directors Teleconference
April 15, 2020

tributaries. She commented that it was an average spring. She advised that a flood watch was still in effect for Dalhousie Lake and that the water should recede in next couple weeks. She noted that the upper lakes are currently on track to achieve summer levels and that the Authority will do its best to maintain levels for spawning.

3. Approval of Minutes – Board of Directors Meeting February 19, 2020

B04/15/20-2

MOVED BY: J. Atkinson

SECONDED BY: C. Lowry

Resolved, That the Minutes of the Mississippi Valley Conservation Authority Board of Directors meeting held February 19, 2020 be received and approved as printed.

“CARRIED”

4. Business Arising

J. Karau asked for an update on the legal obligations of MVCA in regards to the Mill of Kintail. S. McIntyre advised that the courts have shut down for now so the judge’s interpretation is somewhat in limbo at the moment. She advised that the lawyer has been contacted to provide a checklist of items that may be required by the courts when sessions do resume.

5. Kashwakamak Lake Dam Project

S. McIntyre introduced Juraj Cunderlik, the new Director of Water Resources Engineering.

J. Cunderlik reviewed Staff Report #3056/20, attached. He noted that the cost to repair the weir was found to have increased to \$300,000 in 2019 from the original estimate of \$96,000 in 2016. He advised that even if the repair went ahead with the new pricing, the whole structure would still need to be replaced within 5 years. Staff is seeking approval to proceed with a risk assessment study to help determine if the repair should proceed or if the Authority can move directly to replacement.

J. Inglis asked what the consulting firm had been paid in 2016. S. McIntyre advised that they had been paid roughly \$19,000 to prepare the detailed design for repairing the dam. She noted that the same firm could not provide the risk assessment as it’s not within the scope of the services offered by the consulting firm.

S. McIntyre advised that the Board will receive the results of the risk assessment at the meeting in May, as well as information on whether the province has approved the project for 50% funding through the WECI program.

B04/15/20-3

MOVED BY: J. Karau

SECONDED BY: T. Fritz

Resolved, That the Board approve allocation of \$25,000 from the Kashwakamak Lake Dam capital budget towards completion of a Risk Assessment of the weir.

“CARRIED”

6. Lower Mississippi River Flood Plain Mapping Study

M. Craig reviewed Staff Report # 3054/20 summarizing the analysis completed and findings document in the study report. He reviewed maps addressing changes to the flood plain mapping in major tributaries and downstream of Carleton Place to the Mississippi River's confluence with the Ottawa River. He noted the study report was a very large document, so it was not on the MVCA website, but is available upon request.

B04/15/20-4

MOVED BY: C. Lowry

SECONDED BY: J. Inglis

Resolved, That the Board of Directors adopt the report Lower Mississippi River Flood Plain Mapping Study dated September 2019 and the associated GIS-based flood hazard limit lines and flood plain maps as the delineation of areas along the Lower Mississippi River system that are susceptible to flooding during the Regional flood standard as defined in Schedule 1 of the Ontario Regulation 153/06; and that the report, maps and Regulation Limit be used in the implementation of Ontario Regulation 153/06.

“CARRIED”

7. Epidemic/Pandemic Preparedness and Response Plan

S. McIntyre reviewed Staff Report #3052/20, attached. She noted this was a revision to the document provided at the March teleconference. She advised that the staff were seeking official approval of the pandemic management approach.

S. McIntyre commented on the regular monitoring of what the Authority can do to mitigate risk with the constant changes during the pandemic. She advised that the Eastern Ontario GMs are meeting twice weekly to keep up to date with what each authority is doing. She noted there is not a unanimous approach amongst Ontario CAs given different geographical locations, operational requirements and municipal responses.

S. McIntyre commented that most staff are working remotely, when possible. She advised field staff have divided into two teams and alternating work weeks. People who don't have productive time have been asked to exhaust their leave banks, but if they run out, they will be given paid leave as approved in-principle by the Board in March.

F. Campbell asked how many contract employees would benefit from the 2-week sick leave. S. McIntyre stated four, two of whom had already used days when they became symptomatic.

B04/15/20-5

MOVED BY: J. Karau

SECONDED BY: E. El-Chantiry

Resolved, That the Board

- 1. Approve the Epidemic/Pandemic Preparedness and Response Plan set out in Staff Report 3052/20**
- 2. Approve allocation of 2-weeks paid sick leave for 2020 to contract staff who do not have such leave**

3. **Approve provision of one or more staff with Paid Declared Emergency Leave, as needed.**
4. **Direct the GM to review the scope of powers and actions of peers under emergency conditions and report back with recommendations to the Board.**

“CARRIED”

8. Budget Control Report

A. Millar reviewed Staff Report #3053/20 that addressed year-to-date results compared to the approved 2020 budget and to provide initial year-end projections given the pandemic scenario. She noted the authority is on target for first quarter. Revenues were strong over the winter months and the province has confirmed that the Authority will receive the same amount of approximately \$128,000 in 2020 as it did in 2019.

A. Millar highlighted the revenue areas that may be at risk due to the pandemic and compensating savings, as listed in the staff report. She advised that there is currently a projected deficit of \$158,000. She advised that at the end of 2019 a surplus of \$199,000 was placed into the operating reserve which could affect the predicted \$15,000 deficit in 2020.

B04/15/20-6

MOVED BY: E. El-Chantiry

SECONDED BY: C. Lowry

Resolved, That the committee move to in-camera session for discussion of labour relations or employee negotiations.

“CARRIED”

B04/15/20-7

MOVED BY: E. El-Chantiry

SECONDED BY: T. Fritz

Resolved, That the committee move out of in-camera discussions.

“CARRIED”

J. Mason stated that a closed meeting was held. There was a discussion regarding labour or employee related matters and there is nothing to report.

ADJOURNMENT

The meeting was adjourned at 3:00 p.m.

B04/15/20-3

MOVED BY: F. Campbell

SECONDED BY: B. Holmes

Resolved, That the Board of Directors meeting be adjourned.

“CARRIED”

MISSISSIPPI VALLEY CONSERVATION AUTHORITY

BOARD OF DIRECTORS SPECIAL TELECONFERENCE

Mississippi Valley Conservation Centre
Carleton Place

MINUTES

April 15, 2020

MEMBERS PARTICIPATING:

J. Mason, Chair
G. Gower, Vice-Chair;
J. Atkinson;
F. Campbell;
E. El-Chantiry;
T. Fritz;
B. Holmes;
J. Inglis;
J. Karau;
W. King;
P. Kehoe;
C. Lowry;
G. McEvoy;
P. Sweetnam;
K. Thompson.

MEMBERS UNAVILABLE:

E. Burke;
R. Darling.

STAFF PRESENT:

S. McIntyre, General Manager;
E. Levi, Recording-Secretary.

J. Mason called the teleconference to order at 1:04 p.m.

BUSINESS:

S. McIntyre advised members that the meeting will be recorded and posted on the website for public transparency.

1. B04/15/20-1

MOVED BY: J. Atkinson

SECONDED BY: E. El-Chantiry

Resolved, That the Agenda for the April 15, 2020 Special Board Meeting be adopted as presented.

“CARRIED”

2. Administrative By-Law Amendment to Implement Ministerial Directive

S. McIntyre reviewed Staff Report #3055/20 regarding the March 26, 2020 Ministerial directive to allow electronic meetings and establishment of an Executive Committee during emergencies. She presented the proposed changes to the Administrative By-Law and noted three minor typos.

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Board of Directors Special Teleconference
April 15, 2020

J. Karau questioned the necessity of the executive committee to have all the powers underlined in Attachment 3 of the report. S. McIntyre noted that the intent is not for the committee to use the extreme powers of what the items would allow, but provide the GM with input and support where needed, particularly in situations where electronic communication is limited. G. Gower commented on the prudence of the proposed changes so that if circumstances do arise for emergency reasons, then the executive committee would be able to make decisions to allow MVCA to continue to operate, especially in the event of quorum of the full Board can't be achieved.

Members agreed that the executive committee can proceed with the recommended powers, but every effort should be made to meet as a complete Board first.

B04/15/20-2

MOVED BY: T. Fritz

SECONDED BY: E. El-Chantiry

Resolved, That the Board approve amendment of the MVCA Administrative By-Laws as set out in Attachment 1 of Staff Report #3055/20.

“CARRIED”

ADJOURNMENT

The meeting was adjourned at 1:37 p.m.

B04/15/20-3

MOVED BY: E. El-Chantiry

SECONDED BY: B. Holmes

Resolved, That the Board of Directors meeting be adjourned.

“CARRIED”

“E. Levi, Recording Secretary

J. Mason, Chair”

REPORT

3057/20

TO:	Board of Directors, Mississippi Valley Conservation Authority
FROM:	Juraj Cunderlik, Director, Water Resources Engineering
RE:	Kashwakamak Lake Dam Risk Assessment Results
DATE:	May 13, 2020

Recommendations:

That the Board direct staff to:

- a) Postpone major repair of the Kashwakamak Lake Dam overflow weir for up to five years;
- b) Carry out topo-bathymetric survey and underwater dam inspection in 2020 and finalize the Dam Safety Review update in 2021; and
- c) Complete an Environmental Assessment and detailed design for replacement of the entire structure within the next five years.

1.0 PURPOSE

The purpose of this report is to summarize the results of the Kashwakamak Lake Dam Risk Assessment study that was conducted in April 2020. The goal of the study was to confirm or refute the need for an extensive and costly repair of the overflow weir and determine the potential risk of postponing the repair for up to 5 years.

2.0 BACKGROUND

A 2016 study of the Kashwakamak Lake Dam recommended repair of the weir at an estimated cost of \$96,000. In December 2019, field work carried out during detailed design of the repair found that the weir required more extensive work than originally estimated, and the cost estimate increased to approximately \$300,000.

Given that the entire structure is slated for replacement within 5-years at an estimated cost of \$990,000 (2006 CND), the rationale of investing so much in the short-term was questioned. In response, MVCA retained Hatch Ltd. to perform a structural assessment of the Kashwakamak Lake Dam to evaluate risks associated with continuing operation of the Dam until its replacement.

3.0 RISK ASSESSMENT RESULTS

The engineering study “Assessment of the Kashwakamak Lake Dam Safety Risks” was completed by Hatch Ltd. in April 2020. The study was performed in accordance with the Canadian Dam Association (CDA) dam safety guidelines and best practices summarized in technical bulletins of the Ministry of Natural Resources and Forestry (MNRF) Lakes and Rivers Improvement Act (LRIA).

The risk assessment was performed for summer, flood, and post-earthquake conditions considering structural failures at the base of the weir and along the deteriorated horizontal lift joint. The study used assessment tools used by both MNRF and Hatch Ltd. The MNRF approach determines the Factors of Safety (FOS) for each condition and compares it against recommendations of the MNRF. Hatch’s proprietary tool uses probabilistic modeling to help quantify likelihood of failure. The main findings of the study are summarized below:

- **Site inspection: observed defects do not appear to be structural and are not expected to compromise the safety or performance of the dam within the next five years.** A dam inspection was conducted for all water retaining structures including the saddle dam, spillway structure, overflow weir, and the right abutment of the overflow weir. In general, the saddle dam, spillway, and right abutment concrete was observed to be in fair to good condition. A significant level of deterioration has occurred along one horizontal lift joint in the center monolith of the overflow weir with several seepage points along the joint, but is not expected to impact performance or safety.
- **Hazard Potential Classification: the dam should be reclassified as a structure having MODERATE Incremental Hazard Potential.** During the 2006 Dam Safety Review (DSR), the Kashwakamak Lake Dam was classified as a LOW Incremental Hazard Potential Classification (IHPC) structure. A preliminary consequence analysis completed during the April study revealed more significant economical and environmental impacts of dam failure suggesting that the dam has a higher (moderate) IHPC.
- **Standards Based Assessment: structure meets or exceeds the recommendations of the MNRF for both LOW and MODERATE IHPC structures when updated shear resistance parameters were applied.** The shear resistance parameters defined by Trow in 2006 found that the stability of the weir met or exceeded the recommendations of the MNRF for both low and moderate IHPC structures, except for the normal summer loading condition which was found to be marginally below the recommended minimum value. However, based upon current practice, the parameters assumed by Trow were found to be overly conservative for assessment of concrete gravity dams and were updated for this analysis. With the updated parameters the stability of the weir met MNRF recommendations for normal summer loading condition.

- **Probability of Dam Failure: Kashwakamak Lake Dam meets Canada Dam Association thresholds.** The estimated probability of failure for the Kashwakamak overflow weir was calculated to be an order of magnitude below generally accepted tolerable limits and well below the upper societal threshold for tolerable risk defined by the Canadian Dam Association.
- **Risk Assessment: continued operation over the next five years in accordance with historic practices meets industry accepted risk thresholds.** An analysis of the probability of dam failure against incremental economic losses found that the overflow weir meets the basic safety objective threshold *and* industry accepted risk standards for potential economic losses.

4.0 CONCLUSION

The results of this assessment indicate that major interim stabilization measures are not needed within the next 5 years provided that MVCA continues current routine maintenance and dam condition monitoring, and does not change current operating procedures that might impact the safety of the structure.

5.0 NEXT STEPS

The following workplan is proposed for the Kashwakamak Lake Dam replacement capital project for the next 5 years:

1. Continue with routine dam maintenance and inspection:
 - a. Provide regular dam maintenance as specified in the dam operation manual;
 - b. Undertake annual visual dam inspections and document results;
 - c. Inspect dam after major all flood events and document results.
2. Complete a topo-bathymetric survey of downstream areas that may potentially be affected by dam failure.
3. Complete a Dam Safety Review (DSR) update for the Kashwakamak Dam. The last DSR for this dam was performed in 2006, prior to the publication of the current CDA and MNRF dam safety technical guidelines, and is due for an update. The DSR will address:
 - a. A comprehensive inspection of all water retaining structures of the dam, including an underwater inspection;
 - b. An update of shear resistance parameters for the dam;
 - c. Detailed dam breach inundation mapping and consequence analysis;
 - d. An assessment and update of the current IHPC for the dam;
 - e. An update of inflow design flood (IDF) and design basis earthquake (DBE);
 - f. Confirmation of interim minor repairs, including joint repair and resurfacing of the concrete structure; and

- g. Establishment of timelines for dam replacement.
- 4. Complete an Environmental Assessment (EA) study for the Kashwakamak Dam replacement. The EA will address:
 - a. Baseline environmental inventory;
 - b. Development of dam replacement alternatives; and
 - c. Evaluation of alternatives and environmental impacts.
- 5. Implement the dam replacement project:
 - a. Detailed dam design;
 - b. Permits and approvals;
 - c. Dam construction;
 - d. Site restoration; and
 - e. Monitoring and maintenance.

REPORT

3058/20

TO:	The Chair and Members of the Mississippi Valley Conservation Authority Board of Directors
FROM:	Matt Craig, Manager, Planning and Regulations
RE:	Ontario Regulation 153/06 Permits Development, Interference with Wetlands and Alterations to Shorelines and Watercourses
DATE:	May 11, 2020

1.0 PURPOSE

The purpose of this report is to provide the Board with a summary of permits issued over the current reporting period: November 27, 2019 to May 11, 2020 (refer to Attachment 1 for details.) Permit applications are reviewed for control of flooding, erosion, pollution, and the conservation of land. Wetlands are regulated to ensure the protection of their hydrologic and ecological functions.

2.0 UPDATE

MVCA issued 71 permits during the reporting period, as summarized below. (Note: some permits may involve more than one type of use.) Forty (40) applications were received over the same period last year.

<u>Permits Issued</u>	
Shoreline	12
New Building/Raising	20
Wetland	12
Septic	5
Culverts	9
Other (decks, additions, fill)	10
	<hr/>
	71

Based upon ongoing queries and applications to date, we expect permit activity to remain above average in 2020 as landowners continue to make improvements/repairs to their properties due to flood damage.

PERMITS ISSUED FOR 27 NOV 2019 TO 11 MAY 2020 FOR ALL MUNICIPALITIES

Row	CAID	Approved	Permit No.	Expiry	Municipality	Water Body
1	RBWPM-485	Mar 06,2020	W20/018	Mar 06,2022	BECKWITH	Mississippi Lake
Street / Lot/ Con: 129 Elm Street						
Description: Raise and Floodproof an Existing Cottage within the Regulatory Flood Plain of Mississippi Lake						
2	RBWPM-486	Feb 04,2020	W20/009	Feb 04,2022	BECKWITH	Wetland
Street / Lot/ Con: 102 Heron Lane / LOT 3 / CON 8 and 9						
Description: Install a Septic System within the 120 m Regulation Limit of a Provincially Significant Wetland						
3	RBWPM-491	Apr 20,2020	W20/059	Apr 20,2022	BECKWITH	
Street / Lot/ Con: n/a / LOT 26 / CON 12						
Description: Clean Out and Lower the Moore Branch of the Munro Municipal Drain						
4	RCFPM-55	Dec 20,2019	W19/292	Dec 20,2021	CENTRAL FRONTENAC	Wetland
Street / Lot/ Con: 2910 Henderson Road, Arden / LOT 30 / CON 6						
Description: Construct a Cabin and Leaching Pit within the Regulation Limit of an Unclassified Wetland						
5	RCFPM-56	Mar 20,2020	W20/008	Mar 20,2022	CENTRAL FRONTENAC	Wetland
Street / Lot/ Con: 2417 Zealand Road / LOT 15 / CON 3						
Description: Upgrade an Existing Roadway for a New Entrance to an Aggregate Pit Through a Wetland						
6	RCFVL-1	Feb 04,2020	W20/013	Feb 04,2020	CENTRAL FRONTENAC	Bass Lake
Street / Lot/ Con: 1102 DUNCAN LANE / LOT PT 12 / CON 6						
Description: Placement of Material and Site Grading within Weland and along the Shoreline of Bass Lake						

7	RCP-80	Mar 09,2020	W20/035	Mar 09,2022	CARLETON PLACE	Mississippi River
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Street / Lot/ Con: Lake Ave West and Mississippi Road

Description: Permit Application to Install Gas Pipeline within the Regulation Limit of the Mississippi River

8	RFTPM-261	Mar 06,2020	W19/193	Mar 06,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 139 Lighthouse Lane / LOT 27 / CON 06

Description: Raise Existing Dwelling within the Regulatory Flood Plain of the Ottawa River

9	RFTPM-266	Dec 11,2019	W19/278	Dec 11,2021	OTTAWA	Ottawa River
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Street / Lot/ Con: 104 Moorhead Drive, Fitzroy Harbour / LOT 38

Description: Raise the Driveway on Property within the Regulatory Flood Plain of the Ottawa River

10	RFTPM-267	Feb 07,2020	W20/020	Feb 07,2022	OTTAWA	Trib Of Constance Creek
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Street / Lot/ Con: Thomas A Dolan Parkway, Burnt Lands Road, Fitzroy Street

Description: Replacement of 8 Road Culverts in the City of Ottawa

11	RFTPM-268	Apr 15,2020	W20/032	Apr 15,2022	OTTAWA	Wetland
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Street / Lot/ Con: Ottawa Road 29 / LOT 23, 24 and 25 / CON 1

Description: Infill and Compensate For 4.4 ha of Wetland on Ontario Power Generation Lands

12	RFTPM-269	Apr 01,2020	W20/053	Apr 01,2022	OTTAWA	Watercourse
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Street / Lot/ Con: Ottawa Road 29 / LOT 23, 24 and 25 / CON 1

Description: Replace an Existing Culvert and Install a New Culvert on Ontario Power Generation Lands

13	RGLPM-109	Jan 29,2020	W20/005	Jan 29,2022	OTTAWA	Hazeldean Drain
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Street / Lot/ Con: West side of Westridge Road / LOT 21 & 22 / CON 10 & 11

Description: Top of Bank/Side Slope Brushing and Bottom Cleanout

14	RGLPM-110	Jan 30,2020	W20/007	Jan 30,2022	OTTAWA	Carp Creek
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Street / Lot/ Con: 159 Old Colony Road / LOT 32 / CON 11

Description: Construct a Pedestrian Bridge within the Regulatory Floodplain, Meander Belt and Regulation Limit of Carp Creek

15 RGLPM-111 May 04,2020 W20/071 May 04,2022 OTTAWA Poole Creek

Street / Lot/ Con: 5 Orchard Drive / LOT 26 and 27 / CON 11

Description: Place Fill and Construct a Berm within the Regulation Limit of Poole Creek

16 RHTPM-126 Dec 09,2019 W19/280 Dec 09,2021 OTTAWA Wetland

Street / Lot/ Con: 4039 Old Almonte Road, West Carleton / LOT 9 / CON 11

Description: Construct a Dwelling and Septic System within the Regulation Limit of Manion Corners (Long Swamp) Provincially Significant Wetland Complex

17 RHTPM-127 Dec 05,2019 W19/282 Dec 05,2021 OTTAWA Wetland

Street / Lot/ Con: 155 Lady Slipper Way, Carp

Description: Permit to Build a Gazebo within the Regulation Limit of the Huntley Provincially Significant Wetland (PSW) and an Unevaluated Wetland

18 RHTPM-128 Feb 03,2020 W19/283 Feb 03,2022 OTTAWA Trib Of Carp River

Street / Lot/ Con: 1500 Thomas Argue Road, Carp

Description: Realignment of Two Watercourse

19 RHTPM-131 Mar 19,2020 W20/036 Mar 19,2022 OTTAWA Wetland

Street / Lot/ Con: 159 Rocky Creek Way / LOT 14 / CON 7

Description: Construction of House, Garage and Septic System within the Regulation Limit of a Wetland

20 RHTPM-132 Mar 17,2020 W20/042 Mar 17,2022 OTTAWA Feedmill Creek

Street / Lot/ Con: 195 Huntmar Drive / LOT 1 and 2 / CON 1

Description: Place Fill and Construct a Berm within Regulatory Limit of Feedmill Creek

21 RLHPM-217 Jan 15,2020 W19/069 Jan 15,2021 LANARK HIGHLANDS Dalhousie Lake

Street / Lot/ Con: 203 Maple Hollow Dr / LOT 13 / CON 12

Description: Raise an Existing Dwelling within the Regulatory Floodplain of Dalhousie Lake

22 RLHPM-232 Nov 28,2019 W19/252 Nov 29,2021 LANARK HIGHLANDS Dalhousie Lake

Street / Lot/ Con: 633 North Shore Road, Mc Donalds Corners / LOT 14 / CON 10

Description: Adding 2 Detached Auxiliary Buildings within the Regulatory Flood Plain of Dalhousie Lake

23 RLHPM-234 Dec 11,2019 W19/284 Dec 11,2021 LANARK HIGHLANDS Dahousie Lake

Street / Lot/ Con: 232 Hall Shore Road, Mc Donalds Corners / LOT 10 / CON 9

Description: Install a New Septic System within the Regulatory Flood Plain of Dalhousie Lake

24 RLHPM-235 Dec 16,2019 W19/288 LANARK HIGHLANDS Mississippi River

Street / Lot/ Con: 567 River Drive / LOT part lot 4 / CON 5

Description: Permit to Install a Septic System within the Regulation Limit of the Mississippi River

25 RLHPM-236 Feb 28,2020 W20/027 Feb 28,2022 LANARK HIGHLANDS Clyde River

Street / Lot/ Con: 154 Caldwell / LOT 1 / CON 2

Description: Replacement of a Bridge Over the Clyde River

26 RLWPM-3 Jan 24,2020 W20/010 Jan 24,2020 LANARK HIGHLANDS Various
Watercourses

Street / Lot/ Con: Tatlock Road, Wolfgrove Road, Elphin Maberly Road

Description: Permit to Replace Existing Culverts at Various Locations

27 RMMVL-4 Feb 06,2020 W20/022 Feb 06,2022 MISSISSIPPI MILLS Wetland

Street / Lot/ Con: 146 MAPLE DRIVE / LOT PART 23 / CON 1

Description: Unauthorized Development within the Regulation Limit of a Wetland, Construction of an Open Addition onto Existing Dwelling within 120m of a PSW

28 RMRPM-63 Dec 16,2019 W19/285 Dec 16,2021 OTTAWA Shirleys Brook

Street / Lot/ Con: Shirley's Brook near 335 Sandhill Road / LOT 10 / CON 4

Description: Removal of a Concrete Culvert within the Regulatory Flood Plain and Along the Shoreline of Shirley's Brook

29 RMRPM-64 Feb 18,2020 W19/291 Feb 18,2022 OTTAWA Watercourse

Street / Lot/ Con: John Aselford Drive

Description: Replacement of a Culvert on an Unnamed Watercourse

30 RMRPM-65 Jan 17,2020 W20/003 Jan 17,2022 OTTAWA Shirleys Brook

Street / Lot/ Con: Shirley's Brooke Drive and Sand Hill Road / LOT 9 / CON 4

Description: Installing a Gas Pipeline within the Regulatory Floodplain and Regulation Limit of Shirley's Brook

31 RMRPM-69 Jan 29,2020 W20/011 Jan 29,2022 OTTAWA Watts Creek

Street / Lot/ Con: Easement from Herzberg Road / LOT 2, 3 & 4 / CON 1

Description: Construct the Kanata North Sewer within the Regulation Limit and Regulatory Floodplain of Watt's Creek and Kizell Drain

32 RMRPM-70 Jan 23,2020 W20/012 Jan 23,2022 OTTAWA Wetland

Street / Lot/ Con: 2565 Dunrobin Road / LOT 25 / CON 3

Description: To Build a Two-Storey Building and Associated Septic System within the Regulation Limit of a Wetland

33 RMRPM-71 Feb 24,2020 W20/002 Feb 24,2022 OTTAWA Carp River

Street / Lot/ Con: 450 Huntmar Drive / LOT 3 / CON 1

Description: Permit Application to Place Fill and for the Construction of a Stormwater Management Facility within the Regulation Limit and Flood Plain of the Carp River

34 RMRPM-73 Mar 12,2020 W20/043 Mar 12,2022 OTTAWA Ottawa River

Street / Lot/ Con: 1620 6th Line Road, Dunrobin / LOT 16 / CON 7

Description: Reconstruct a Cabin and Deck within the Erosion Hazard of the Ottawa River

35 RMRPM-75 Mar 19,2020 W20/047 Mar 01,2021 OTTAWA Carp River

Street / Lot/ Con: Campeau Drive / LOT 03 / CON 01

Description: Construction of Temporary Steel Bridge within the Regulation Limit and Regulatory Flood Plain of the Carp River as part of Campeau Drive Extension (permit #W19/048)

36 RNFPM-168 Apr 24,2020 W20/056 Apr 24,2022 NORTH FRONTENAC

Street / Lot/ Con: Road Allowance

Description: Replacement of Existing Culverts, Roadside Ditching and Rehabilitation of Harlowe and Myers Cave Road

37 RNFVL-3 Jan 24,2020 W19/286 Jan 24,2022 NORTH FRONTENAC Marble Lake

Street / Lot/ Con: 1011 Perry Road / LOT Pt 22 / CON 7

Description: Unauthorized Fill Placement and Site Grading within the Regulation Limit of a Wetland

38 ROWPM-5 Feb 14,2020 W20/025 Feb 14,2022 OTTAWA Watercourse

Street / Lot/ Con: Barlow Cres, Vances Side Rd, Breezy Heights Rd, John Shaw Rd and Old Second Line Rd

Description: Culvert Replacements on Barlow Cres, Vances Side Rd, John Shaw Rd, Breezy Heights Rd and Old Second Line Rd

39	RTBPM-825	Dec 19,2019	W18/131	Dec 19,2021	OTTAWA	Ottawa River
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Street / Lot/ Con: 858 Bayview Drive / LOT 19 / CON 04

Description: Reconstruct a Dwelling and Septic System and Raise the Driveway within the Regulatory (1:100 Year) Flood Plain of the Ottawa River

40	RTBPM-867	Mar 30,2020	W19/122	Mar 30,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 922 Bayview Drive / LOT 18

Description: Reconstruct an Existing Dwelling and Install a New Septic System within the Regulatory Flood Plain of the Ottawa River

41	RTBPM-889	May 06,2020	W19/178	May 06,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 653 Bayview Drive / LOT 39

Description: Reconstruct Dwelling and Septic System within the Regulatory Flood Plain of the Ottawa River

42	RTBPM-908	Dec 04,2019	W19/232	Dec 04,2021	OTTAWA	Ottawa River
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Street / Lot/ Con: 554 Bayview Drive, Woodlawn / LOT 2 / CON Plan 416

Description: Alteration to Shoreline to Replace Existing Retaining Wall with Armour Stone Retaining Wall along the Shoreline of the Ottawa River

43	RTBPM-909	Dec 04,2019	W19/233	Dec 04,2021	OTTAWA	Ottawa River
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Street / Lot/ Con: 558 Bayview Drive, Woodlawn / LOT 3 / CON Plan 416

Description: Alteration to Shoreline to Replace Existing Retaining Wall with Armour Stone Retaining Wall along the Shoreline of the Ottawa River

44	RTBPM-910	Dec 06,2019	W19/234	Dec 06,2021	OTTAWA	Ottawa River
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Street / Lot/ Con: 550 Bayview Drive Woodlawn / LOT 1

Description: Alteration to Shoreline to Replace Existing Retaining Wall with Armour Stone Retaining Wall along the Shoreline of the Ottawa River

45	RTBPM-915	Mar 03,2020	W19/246	Mar 03,2022	OTTAWA	Wetland
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Street / Lot/ Con: 105 Constance Creek Drive, Dunrobin / LOT 1 / CON 4

Description: Replace an Existing Deck within the Regulation Limit of a Provincially Significant Wetland

46	RTBPM-923	Jan 16,2020	W19/269	Jan 16,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 3808 Armitage Ave / CON 7

Description: Alteration to Shoreline to Construct Armour Stone Retaining Wall Along the Shoreline of the Ottawa River

47	RTBPM-924	Dec 20,2019	W19/270	Dec 20,2021	OTTAWA	Ottawa River
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Street / Lot/ Con: 759 Bayview Dr, Woodlawn / LOT 89

Description: Reconstruct Dwelling and Replace Septic System within the Regulatory Flood Plain of the Ottawa River

48	RTBPM-925	Feb 24,2020	W19/272	Feb 24,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 782 Bayview Drive, Woodlawn / LOT 37 and 38

Description: Reconstruct Dwelling and Septic System within the Regulatory Flood Plain of the Ottawa River

49	RTBPM-928	Apr 22,2020	W19/276	Apr 22,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 132 Bayview Drive, Woodlawn

Description: Reconstruct Dwelling and Replace Septic System within the Regulatory Flood Plain of the Ottawa River

50	RTBPM-929	Dec 13,2019	W19/281	Dec 13,2021	OTTAWA	Ottawa River
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Street / Lot/ Con: 5232 Woodkilton Road, woodlawn

Description: Permit to Install a Sewage Disposal System within a Stable Slope Hazard

51	RTBPM-930	Dec 16,2019	W19/287	Dec 16,2021	OTTAWA	Ottawa River
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Street / Lot/ Con: 270 Ballie Ave, Woodlawn / LOT 2

Description: Alteration to Shoreline to Add Rip Rap Along Existing Retaining Wall

52	RTBPM-931	Jan 28,2020	W19/289	Jan 28,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 609 Bayview Drive, Woodlawn / LOT 23

Description: Reconstruct Dwelling and Replace Septic System within the Regulatory Flood Plain of the Ottawa River

53	RTBPM-932	Jan 27,2020	W19/293	Jan 27,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 756 Bayview Drive, Woodlawn / LOT 19 / CON 5

Description: Reconstruct Dwelling and Replace Septic System within the Regulatory Flood Plain of the Ottawa River

54	RTBPM-933	Apr 01,2020	W20/001	Apr 01,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 127 Lane Street / LOT 74 & 75

Description: Floodproof a Septic Tank within the Regulatory Flood Plain of the Ottawa River

55	RTBPM-935	Jan 28,2020	W20/004	Jan 28,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 934 Bayview Drive, Woodlawn

Description: Raise Existing Dwelling with New Foundation within the Regulatory Flood Plain of the Ottawa River

56	RTBPM-936	Feb 13,2020	W20/014	Feb 13,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 424 Bayview Drive

Description: Alteration to Shoreline to Install Armour Stone Retaining Wall along the Shoreline of the Ottawa River

57	RTBPM-937	Feb 13,2020	W20/015	Feb 13,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 428 Bayview Drive

Description: Alteration to Shoreline to Install Armour Stone Retaining Wall along the Shoreline of the Ottawa River

58	RTBPM-938	Feb 06,2020	W20/017	Feb 06,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 534 Bayview Drive, Woodlawn / LOT 90 / CON V

Description: Alteration to Shoreline to Install Rip Rap Erosion Protection along the Shoreline of the Ottawa River

59	RTBPM-939	Feb 13,2020	W20/023	Feb 13,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 4350 Armitage Ave

Description: Alteration to Shoreline to Install Armour Stone Retaining Wall along the Shoreline of the Ottawa River

60	RTBPM-941	Apr 15,2020	W20/029	Apr 15,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 656 Bayview Drive

Description: Raise Existing Dwelling within the Floodplain of the Ottawa River

61	RTBPM-942	Mar 06,2020	W20/030	Mar 06,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 704 Bayview Drive

Description: Raise Existing Dwelling and Install New Foundation within the Floodplain of the Ottawa River

62	RTBPM-943	Apr 08,2020	W20/031	Apr 08,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 800 Bayview Drive / LOT 19 / CON 05

Description: Reconstruct Dwelling and Septic System within the Floodplain of the Ottawa River

63	RTBPM-944	Mar 10,2020	W20/033	Mar 10,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 4504 Tranquility Lane / LOT 18 / CON 4

Description: Construction of a New Drainage Channel along Tranquility Lane into the Ottawa River

64	RTBPM-946	Mar 11,2020	W20/038	Mar 11,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 1276 Bayview Drive, Woodlawn / LOT 16 / CON 4

Description: Renovation and Addition to an Existing Dwelling Within the Regulation Limit of the Ottawa River

65	RTBPM-947	Apr 08,2020	W20/049	Apr 08,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 633 Bayview Drive / LOT 18 / CON 05

Description: Raise Existing Dwelling with New Foundation and Construct Addition within the Regulatory Flood Plain of the Ottawa River

66	RTBPM-949	Apr 15,2020	W20/055	Apr 15,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 4222 Armitage Ave

Description: Alteration to Shoreline to Address Erosion with the Addition of Fill along the Shoreline of the Ottawa River

67	RTBPM-951	Apr 20,2020	W20/058	Apr 20,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 750 Bayview Drive / CON 05

Description: Raise Driveway and Repair Retaining Wall along the Shoreline of the Ottawa River

68	RTBVL-8	Apr 01,2020	W20/024	Apr 01,2022	OTTAWA	Ottawa River
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Street / Lot/ Con: 709 Bayview Drive / LOT Pt 19 / CON 5

Description: Raise a Dwelling and Place Fill for a Fill Apron within the Regulatory Flood Plain of the Ottawa River

69	RTVPM-60	Feb 07,2020	W20/021	Feb 07,2022	TAY VALLEY	Wetland
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Street / Lot/ Con: 314 Maberly Station Road / LOT 14 / CON 7

Description: Construct a Dwelling and Install a Septic System within the Regulation Limit of a Provincially Significant Wetland

70	RTVPM-62	May 04,2020	W20/070	May 04,2022	TAY VALLEY	Watercourse
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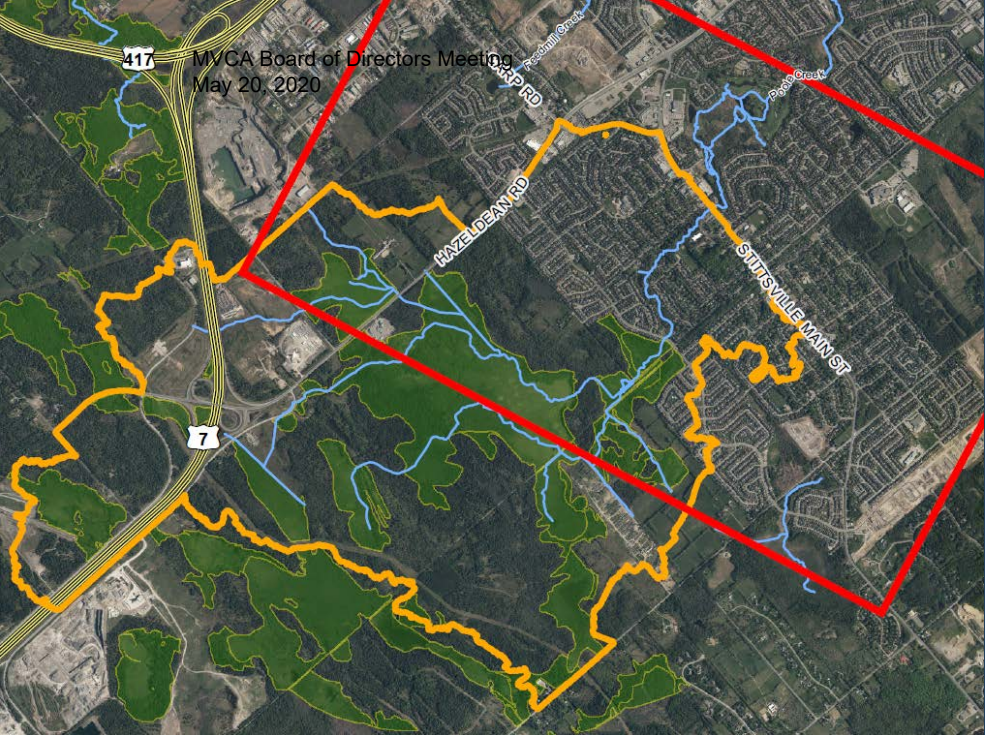
Street / Lot/ Con: Lot 8, Concession 9 / LOT 8 / CON 9

Description: Permit to Replace Culvert

71	RTVVL-1	Dec 23,2019	W19/290	Dec 23,2021	TAY VALLEY	Wetland
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Street / Lot/ Con: 134 Ennis Road / LOT 19 / CON 10

Description: Unauthorized Development within the Regulation Limit of Bennett Lake Provincially Significant Wetland



Upper Poole Creek Stewardship Project

2019 Work Plan and Accomplishments

Board of Directors

May 20, 2020

Background Upper Poole Creek

- One of a few cold/cool water streams in the City
- Headwaters originate in the Upper Poole Creek Wetland Complex - a Provincially Significant Wetland (PSW).
- Flows north-east through Stittsville and drains into the Carp River.
- Subwatershed study completed in 2000
 - established targets for water quality objectives
 - identified potential impacts of development pressure on the subwatershed.
- Enhanced monitoring and stewardship based on objectives of the subwatershed study.
- MVCA carried out projects in 2014 and 2019
- Funded via development project fees within Upper Poole Creek

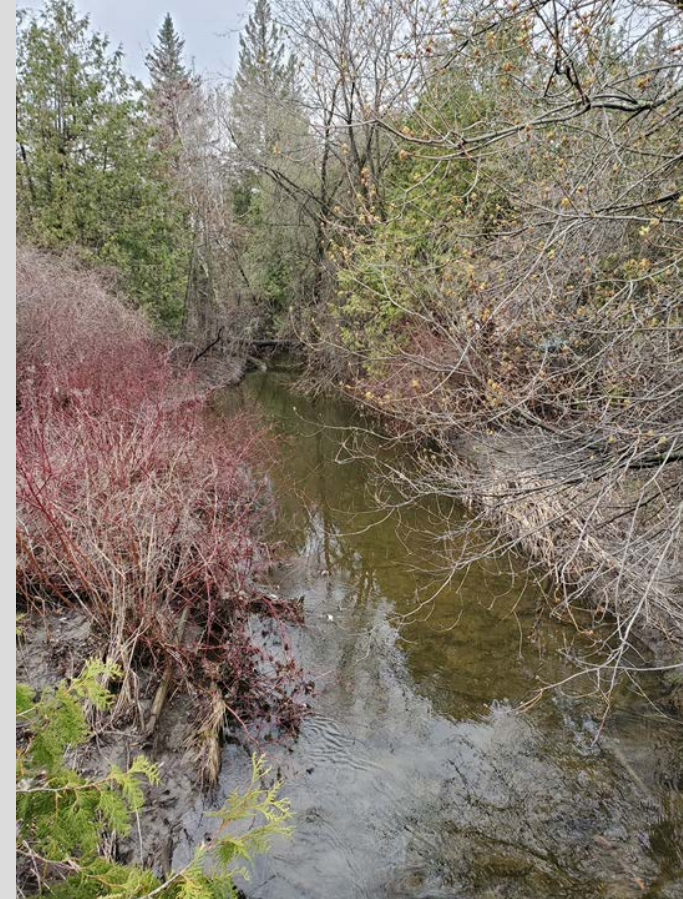
2014 Restoration Work

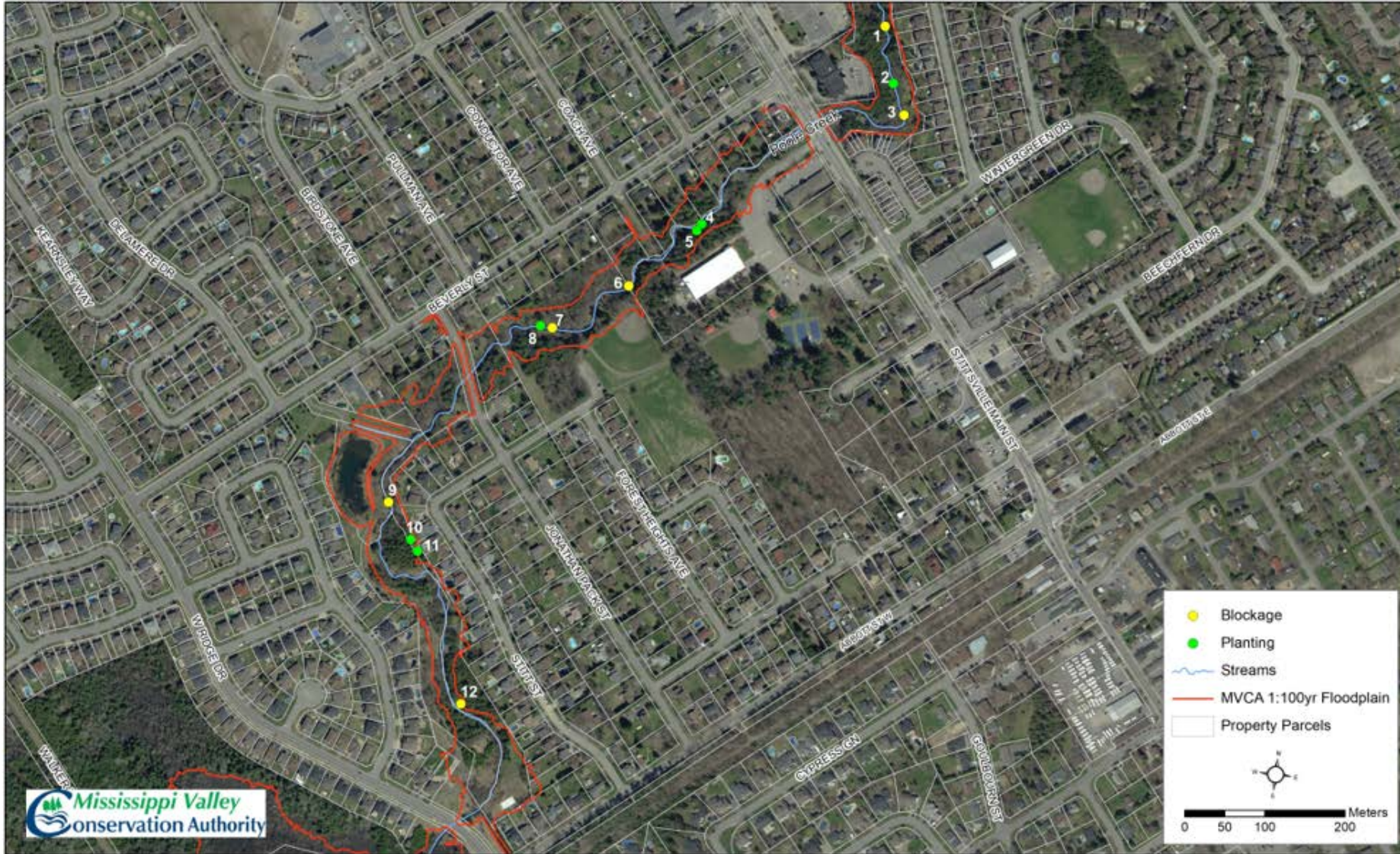
1. Plan Review
 - Identified objectives completed and outstanding work
2. Shoreline Restoration
 - 4 sites, 210 shrubs
3. Blockage Removal
4. In-stream Enhancements
 - 3 half log structure sites installed
 - Cedar log installed in stream bed
 - Repair of existing luncker structure
5. Monitoring
 - Ongoing stream assessments through City Stream Watch (2013, 2018)



2019 Restoration Plan:

- Review and implement outstanding objectives of the Upper Poole Creek Subwatershed Study and identify stewardship opportunities
- Restore area between Main Street and West Ridge Drive





This map is produced in part with data provided by the Ontario Geographic Data Exchange under Licence with the Ontario Ministry of Natural Resources and Forestry and the Queen's Printer for Ontario, 2018

Map of Restoration Activities 2019

2019 restoration and outreach activities

- City Stream Watch (2018)
- Shoreline Restoration
- Invasive Species Removal
- Garbage Clean Up
- Blockage Removal
- In-stream Enhancement
- Stormwater Management Outreach
- Low Impact Development



City Stream Watch

Data collected through City Stream Watch supported the planning of shoreline planting sites, habitat improvements, stream garbage clean ups, invasive species removal, etc.



Monitoring Activity in the City of Ottawa

The City Stream Watch program (CSW) is an in-depth survey of a watercourse where data is collected by wading through the stream and taking detailed observations every 100 meters (m). In 2013, Mississippi Valley Conservation Authority (MVCA) joined the City Stream Watch working group and adopted the program. Since implementing the CSW program, MVCA staff and volunteers have surveyed more than 470 sections across 10 watercourses. This information has fed into the planning of riparian planting sites, habitat improvements, stream garbage pick-ups in Poole Creek and the Carp River, and invasive species removal events.

The CSW Program has three main goals:

- To provide long-term documentation of the aquatic and riparian conditions in our watershed
- To enhance public awareness about the condition and value of freshwater streams through volunteer engagement and the creation of catchment reports
- To encourage community driven restoration projects

When possible, each CSW assessment is enhanced with the application of other monitoring programs such as benthic biomonitoring, fish community sampling, temperature monitoring and assessing headwater drainage features.

Seasonal weather conditions in 2018 resulted in an above average spring flood followed by a drought which lasted through the summer and into the fall. Given the atypical seasonal conditions in 2018, all assessments were subject to the effects of low water and may not reflect the overall health of the systems. With the efforts of MVCA staff and volunteers, 109 sections in two catchments were assessed in 2018.

Poole Creek was previously monitored in 2013 resulting in 28 sections being surveyed. Where possible, this report will reflect on the differences found since our last survey of the creek.

Figure 1 shows the location of the Poole Creek subwatershed within MVCA's City Stream Watch program area.

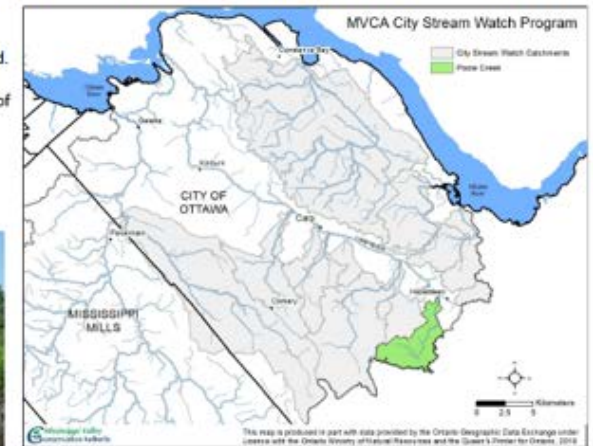


Figure 1: MVCA's City Stream Watch area highlighting the location of the Poole Creek subwatershed.

Shoreline Restoration

- Planting enhancements were completed on 5 sites identified for a total of 90 trees and shrubs.
- Outreach to private landowners for shoreline restoration work.
- An additional 150 trees and shrubs were planted along the outlet of Poole Creek through TD Tree Days with approx. 25 volunteers.



Invasive Species Removal & Clean Up



MVCA staff and 13 volunteers removed garlic mustard and cleaned up garbage, July 2019.



MVCA staff removing multiflora rose, June 2019.

Blockage Removal



Before



After



In-stream Fish Habitat Enhancement

Stormwater Management Outreach and Education Partnership with Envirocentre

- Outreach booths at the Stittsville Farmer's Market, Public Library and the CARDELREC Recreation Complex-communication with approx. 100 residents.
- Development and door to door delivery of educational Brochure including a free plant offering to approx. 100 targeted residents.





What Can You Do To Manage Runoff On Your Property?

- Go outside during a heavy rain to see how and where the water flows from the eaves, downspouts and paved surfaces.
- Make sure the ground around your house slopes away from your foundation.
- Clean your eavestroughs, especially in the spring and fall.
- Direct downspouts 2.4m (8ft) away and downslope from your foundation onto a permeable area (lawn or garden).
- Install a rain barrel underneath your downspouts.
- Create a rain garden or other landscaping that soaks up rain water.
- Keep storm drains clear of debris.
- Consider having sewer backflow prevention valves installed.
- Replace lawn with native grasses and wildflowers. If your property is along the shoreline, do not mow to the water's edge.
- Reduce hardened/paved surfaces.
- Plant native trees and shrubs, especially along shorelines.

Stormwater Management Brochure

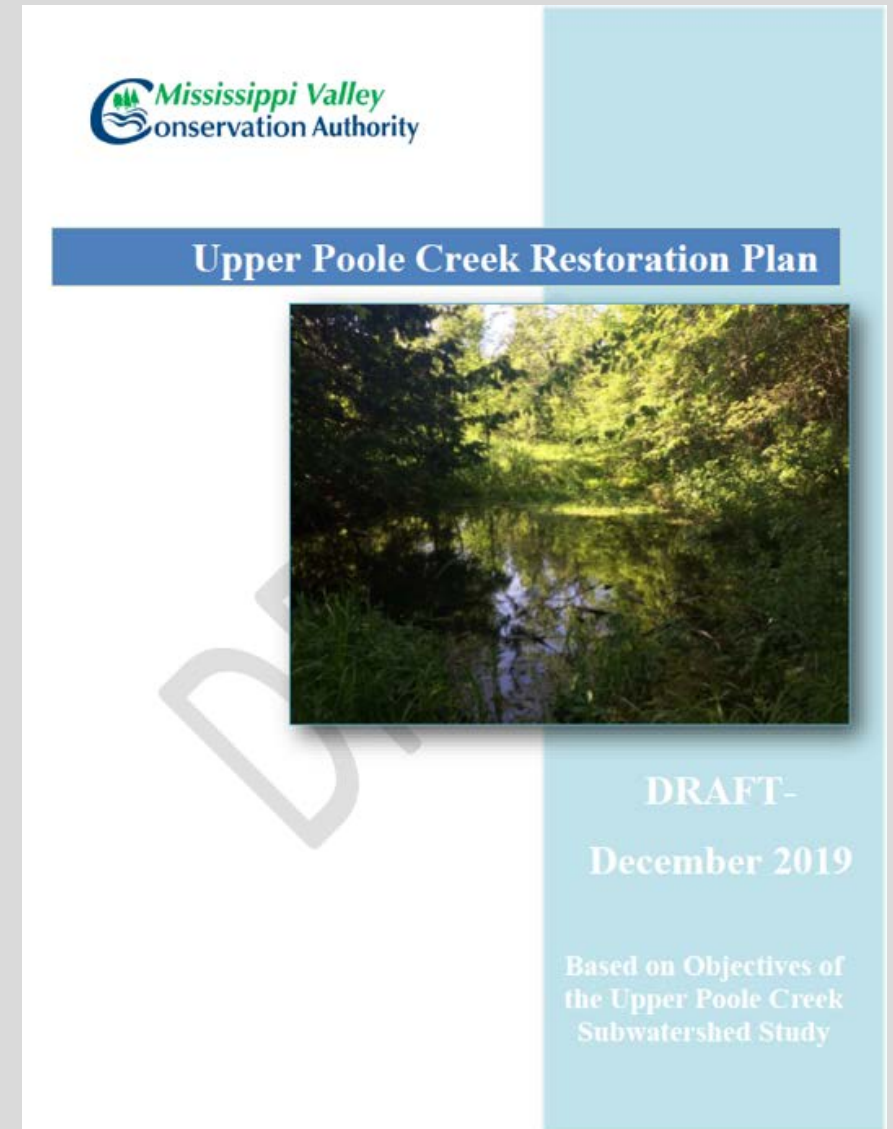
Stormwater Management Options

- Potential plans for Low Impact Development alongside the Johnny Leroux Arena parking lot.
- The site was monitored during spring freshet to determine flow distribution of run off and the most effective and feasible option.
- Benefits include mitigating the impacts of increased runoff and stormwater pollution, enhancing water quality in the creek.



2020 Reporting & Follow-up

- Draft report shared with City of Ottawa in Dec. 2019
 - Meeting objectives of the subwatershed study
 - Several objectives will require ongoing action and monitoring (e.g. water quality and stream temperature, plant survival, shoreline erosion, blockages, habitat assessment, invasive species, public education/outreach)
- Spring plant delivery to landowners completed in May 2020
- Potential LID installation in 2020 (COVID-19 dependent)





Thank You