



City of Hamilton
AUDIT, FINANCE AND ADMINISTRATION COMMITTEE
AGENDA

Meeting #: 23-018
Date: November 16, 2023
Time: 9:30 a.m.
Location: Council Chambers
Hamilton City Hall
71 Main Street West

Tamara Bates, Legislative Coordinator (905) 546-2424 ext. 4102

1. **CEREMONIAL ACTIVITIES**
2. **APPROVAL OF AGENDA**
(Added Items, if applicable, will be noted with *)
3. **DECLARATIONS OF INTEREST**
4. **APPROVAL OF MINUTES OF PREVIOUS MEETING**
 - 4.1 November 2, 2023
5. **COMMUNICATIONS**
6. **DELEGATION REQUESTS**
7. **DELEGATIONS**
8. **STAFF PRESENTATIONS**
 - 8.1 Stormwater Asset Management – Investigation of Recent Sewage Leaks (AUD23010) (City Wide)
 - 8.2 Fraud and Waste Annual Report (AUD23011) (City Wide)
9. **CONSENT ITEMS**

Members of the public can contact the Clerk's Office to acquire the documents considered at this meeting, in an alternative format.

10. DISCUSSION ITEMS

- 10.1 2024 Temporary Borrowing and Interim Tax Levy By-laws (FCS23109) (City Wide)
- 10.2 Recommendation for Sustainable Funding for the Hamilton Anti-Racism Resource Centre (CM20007(e)) (City Wide)
- 10.3 Downtown Hamilton Business Improvement Area Amendment to Schedule of Payments (PED23202) (Ward 2)
- 10.4 Barton Village Business Improvement Area Amendment to Schedule of Payments (PED23203) (Wards 2 and 3)

11. MOTIONS

12. NOTICES OF MOTION

13. GENERAL INFORMATION / OTHER BUSINESS

14. PRIVATE AND CONFIDENTIAL

15. ADJOURNMENT



AUDIT, FINANCE AND ADMINISTRATION COMMITTEE MINUTES 23-017

9:30 a.m.

November 2, 2023

Council Chambers

Hamilton City Hall

Present: Councillors C. Kroetsch (Chair), J. Beattie, B. Clark, T. Hwang, M. Spadafora, M. Tadeson, A. Wilson and M. Wilson

THE FOLLOWING ITEMS WERE REFERRED TO COUNCIL FOR CONSIDERATION:

1. Discussion Items (Items 10.1 to 10.4)

(i) (Hwang/A. Wilson)

That the following Discussion Items be approved as presented:

(a) 2024 Budget Submission Committee Against Racism (CM23026) (City Wide) (Item 10.1)

That the Committee Against Racism Advisory Committee 2024 base budget attached as Appendix "A" to report CM23026 in the amount of \$8,900, be approved and referred to the 2024 budget process for consideration.

(b) 2024 Budget Submission Hamilton Women and Gender Equity Advisory Committee (CM23024) (City Wide) (Item 10.2)

That the Hamilton Women and Gender Equity Advisory Committee 2024 base budget submission attached as Appendix "A" to Report CM23024 in the amount of \$3,500.00, be approved and referred to the 2024 budget process for consideration.

(c) 2024 Budget Submission Advisory Committee for Immigrants and Refugees (CM23023) (City Wide) (Item 10.3)

That the Advisory Committee for Immigrants and Refugees 2024 base budget submission attached as Appendix "A" to Report CM23023 in the amount of \$3,500.00, be approved and referred to the 2024 budget process for consideration.

(d) 2024 Budget Submission Mundialization Committee (CM23022) (City Wide) (Item 10.4)

That the Mundialization Committee 2024 base budget submission attached as Appendix "A" to Report CM23022 in the amount of \$5,890.00, be approved and referred to the 2024 budget process for consideration.

Result: Motion CARRIED by a vote of 8 to 0, as follows:

YES - Ward 1 Councillor Maureen Wilson
YES - CHAIR - Ward 2 Councillor Cameron Kroetsch
YES - Ward 4 Councillor Tammy Hwang
YES - Ward 9 Councillor Brad Clark
YES - Ward 10 Councillor Jeff Beattie
YES - Ward 11 Councillor Mark Tadeson
YES - Ward 13 Councillor Alex Wilson
YES - Ward 14 Councillor Mike Spadafora

2. Governance Review Sub-Committee Report 23-004, October 27, 2023 (Added Item 10.5)

(Hwang/Spadafora)

(a) Advisory Committee for Persons with Disabilities Logo (CM23029) (City Wide) (Outstanding Business List Item) (Item 9.1)

That Report CM23029, respecting Advisory Committee for Persons with Disabilities Logo, be received.

(b) City of Hamilton Flag and Sign Policy (CM23014) (City Wide) (Item 10.1)

- (i) That the City of Hamilton's Flag Protocol (Report 11-003 to Governance Review Sub-Committee) be repealed and replaced with the City of Hamilton Flag and Sign Policy in Appendix A to Governance Review Sub-Committee Report 23-004;
- (ii) That the City of Hamilton Flag and Sign Policy be posted on the City website to guide the raising and lowering of flags and lighting of the 3D Hamilton sign; and,
- (iii) That the City of Hamilton Flag and Sign Policy be brought forward for amendment at such time that the City adopts an official days of recognition policy.

(c) Review and Evaluation of Lobbyist Registry By-law (Added Item 11.1)

WHEREAS the City of Hamilton introduced a Lobbyist Registry By-law in 2015; and

WHEREAS the public interest would be served in having an updated review and evaluation of the Lobbyist Registry By-law, including its exemptions;

THEREFORE, BE IT RESOLVED:

The staff be requested to report back to Governance Review Sub-Committee in Q2 2024 with a review and evaluation of the City of Hamilton's Lobbyist Registry By-law including a scan of best practices in other municipal jurisdictions.

Result: Motion CARRIED by a vote of 8 to 0, as follows:

YES - Ward 1 Councillor Maureen Wilson
YES - CHAIR - Ward 2 Councillor Cameron Kroetsch
YES - Ward 4 Councillor Tammy Hwang
YES - Ward 9 Councillor Brad Clark
YES - Ward 10 Councillor Jeff Beattie
YES - Ward 11 Councillor Mark Tadeson
YES - Ward 13 Councillor Alex Wilson
YES - Ward 14 Councillor Mike Spadafora

FOR INFORMATION:

(a) CHANGES TO THE AGENDA (Item 2)

The Committee Clerk advised of the following changes to the agenda:

10. DISCUSSION ITEMS

10.5 Governance Review Sub-Committee Report 23-004, October 27, 2023

(A. Wilson/Hwang)

That the agenda for the November 2, 2023 Audit, Finance and Administration Committee meeting, be approved, as amended.

Result: Motion CARRIED by a vote of 7 to 0, as follows:

YES - Ward 1 Councillor Maureen Wilson
YES - CHAIR - Ward 2 Councillor Cameron Kroetsch
YES - Ward 4 Councillor Tammy Hwang
YES - Ward 9 Councillor Brad Clark
YES - Ward 10 Councillor Jeff Beattie
YES - Ward 11 Councillor Mark Tadeson
YES - Ward 13 Councillor Alex Wilson
ABSENT - Ward 14 Councillor Mike Spadafora

(b) DECLARATIONS OF INTEREST (Item 3)

There were no declarations of interest.

(c) APPROVAL OF MINUTES OF PREVIOUS MEETING (Item 4)

(i) October 19, 2023 (Item 4.1)

(Clark/Hwang)

That the Minutes of the October 19, 2023 meeting of the Audit, Finance and Administration Committee, be approved, as presented.

Result: Motion CARRIED by a vote of 7 to 0, as follows:

YES - Ward 1 Councillor Maureen Wilson
YES - CHAIR - Ward 2 Councillor Cameron Kroetsch
YES - Ward 4 Councillor Tammy Hwang
YES - Ward 9 Councillor Brad Clark
YES - Ward 10 Councillor Jeff Beattie
YES - Ward 11 Councillor Mark Tadeson
YES - Ward 13 Councillor Alex Wilson
ABSENT - Ward 14 Councillor Mike Spadafora

(d) ADJOURNMENT (Item 15)

(Spadafora/Tadeson)

That, there being no further business, the Audit, Finance and Administration Committee, be adjourned at 9:39 a.m.

Result: Motion CARRIED by a vote of 8 to 0, as follows:

YES - Ward 1 Councillor Maureen Wilson
YES - CHAIR - Ward 2 Councillor Cameron Kroetsch
YES - Ward 4 Councillor Tammy Hwang
YES - Ward 9 Councillor Brad Clark
YES - Ward 10 Councillor Jeff Beattie
YES - Ward 11 Councillor Mark Tadeson
YES - Ward 13 Councillor Alex Wilson
YES - Ward 14 Councillor Mike Spadafora

Respectfully submitted,

Councillor Cameron Kroetsch, Chair
Audit, Finance and Administration
Committee

Tamara Bates
Legislative Coordinator
Office of the City Clerk



**CITY OF HAMILTON
OFFICE OF THE AUDITOR GENERAL**

TO:	Chair and Members Audit, Finance and Administration Committee
COMMITTEE DATE:	November 16, 2023
SUBJECT/REPORT NO:	Stormwater Asset Management – Investigation of Recent Sewage Leaks (AUD23010) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Nancy Hu CIA, CFE (905) 546-2424 Ext. 2207 Brigitte Minard CPA, CA, CIA, CGAP, CFE (905) 546-2424 Ext. 3107 30 Forensic Engineering
SUBMITTED BY:	Charles Brown, CPA, CA Auditor General Office of the Auditor General
SIGNATURE:	

RECOMMENDATION

- (a) That Report AUD23010, respecting Stormwater Asset Management – Investigation of Recent Sewage Leaks be received;
- (b) That the Management Response, as detailed in Appendix “B” to Report AUD23010 be approved; and
- (c) That the General Manager of Public Works be directed to implement the Management Responses (attached as Appendix “B” to Report AUD23010) and report back to the Audit, Finance and Administration Committee by May 2024 on the nature and status of actions taken in response to the audit report.

EXECUTIVE SUMMARY

Between November 2022 and February 2023 three wastewater spills were reported to the City of Hamilton’s Public Works Committee. An order by the Ministry of Environment, Conservation and Parks (MECP) was issued. The OAG retained forensic

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OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

SUBJECT: Stormwater Asset Management – Investigation of Recent Sewage Leaks (AUD23010) (City Wide) **Page 2 of 5**

engineering experts, 30 Forensic Engineering to conduct an origin and cause risk assessment investigation of the incident sewage spills and to undertake a peer review of the Hamilton Water Investigation that responded to the MECP order. The Investigation Report is Appendix “A” to Report AUD23010.

Overall, the Office of the Auditor General (OAG) has made five recommendations to further improve the operations of Hamilton Water to manage relevant risks, Hamilton Water management has agreed with all of the OAG’s recommendations.

Alternatives for Consideration – Not Applicable

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: None

Staffing: None

Legal: None

HISTORICAL BACKGROUND

A total of three spills of wastewater were reported to the City of Hamilton’s Public Works Committee, one on November 28, 2022 and two on February 12, 2023. The three spill events were at three different locations (Wentworth & Burlington, Rutherford & Myrtle, and Kinrade Avenue).

All three spills were reported to the Ministry of Environment, Conservation and Parks (MECP) via their spill reporting processes and were investigated by Hamilton Water. MECP then undertook inspections and investigations into the City’s operations. Following the second spill, an order was issued by the MECP on January 18, 2023. The order prescribed several activities to be executed with report-back to the MECP by specific deadlines. Hamilton Water engaged Stantec Consulting to assist with responding to the MECP order.

The OAG had a Stormwater Management Audit on the 2019-2022 Term of Council Work Plan (AUD19007). This situation of wastewater spilling into the stormwater system was therefore a relevant topic of interest to the OAG. The OAG retained forensic engineering experts, 30 Forensic Engineering to conduct an origin and cause risk assessment investigation of the incident sewage spills and to undertake a peer review of the Hamilton Water Investigation and the report by Stantec consulting that responded to components of the MECP order.

SUBJECT: Stormwater Asset Management – Investigation of Recent Sewage Leaks (AUD23010) (City Wide) **Page 3 of 5**

This report summarizes the findings of 30 Forensic Engineering’s work conducted on behalf of the Office of the Auditor General.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

Provincial Environmental Protection Act, R.S.O. 1990, c. E.19, Part X. (relevant for spills reporting)

Ontario Water Resources Act, R.S.O. 1990, c. O.40. (relevant for discharges from sewer systems)

Ontario Procedure F-5-5 (a supporting document for Guideline F-5 "Levels of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters", combined Sewer Systems must be operated in accordance with this Procedures).

RELEVANT CONSULTATION

Appendix “B” to Report AUD23010 includes responses from management responsible in Hamilton Water.

ANALYSIS AND RATIONALE FOR RECOMMENDATION

30 Forensic Engineering (30FE) conducted this investigation on behalf of the OAG. The OAG maintained oversight of 30FE to ensure the deliverables matched the project scope and objectives, and were of sufficient quality.

The Investigation Report of 30FE’s findings can be found at Appendix “A” to Report AUD23010. The OAG highlights some items of note from the report.

- The legacy approach to water quality from the earlier part of the 20th century resulted in a mixed sewer system that incorporated combined sewers and interconnections, increasing the risk of sewage spills.
- The City’s large and complex system of sanitary storm- and combined-sewer lines made the potential for accidental cross-connections and mislabelled lines more likely.
- The legacy pre-digital drawings remain in service and may provide misleading information. The drawings that were used may have been of relatively poor quality due to age, had multiple naming conventions, and used inconsistent standards.

SUBJECT: Stormwater Asset Management – Investigation of Recent Sewage Leaks (AUD23010) (City Wide) **Page 4 of 5**

- The availability and application of expert staff – both for construction project oversight and CCTV inspection review – is limited. There remains a relative shortage of personnel with optimal and timely expertise involved in higher-risk projects.
- Asset and data management systems are currently spread across three platforms at the City of Hamilton, which are integrated in a limited fashion, meaning that certain parties may have limited or no access to information that may help reduce risk.
- In general, asset management is a risk and source of complexity for owners and operators of linear infrastructure, insofar as the management of data related to design, construction, and operation and maintenance of water, wastewater, and stormwater systems.
- Canada’s relative abundance of fresh water has historically reduced the value placed on risks related to contamination of discharge water bodies such as Lake Ontario, especially related to stormwater systems, though this has been steadily changing over the past 30 to 50 years
- Cities and regions are facing multiple pressures related to stormwater management where trade-offs must often be made regarding protection of upstream property (e.g., basement flood protection) against protection of the natural environment during storm events, in the context of climate change, and increased insurance and municipal operation costs.

Additional Analysis

- The City of Hamilton was amalgamated in 2001, merging its six constituent municipalities into a single-tier city of Hamilton. The amalgamation resulted in the combination of the wastewater and stormwater infrastructure which had prior to that point been the responsibility of the respective former municipalities. There may be residual risks related to the integration of these systems as a result of amalgamation.
- Legacy drawings and maps require manual access and are difficult to read.
- Climate change is increasing the frequency and severity of storms. This may impact the risk of continued reliance on combined systems. There are “natural, environmental” options, which would be a significant infrastructure investment. However, it does align with Council Priorities.

Sustainable Economic and Ecological Development

- Reduce the burden on residential taxpayers

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SUBJECT: Stormwater Asset Management – Investigation of Recent Sewage Leaks (AUD23010) (City Wide) **Page 5 of 5**

- Facilitate the growth of key sectors
- Accelerate our response to climate change
- Protect green space and waterways

The report prepared by 30FE (Appendix “A” to Report AUD23010) contains the findings and recommendations relating to the investigation’s objectives. Five recommendations were made. Management responses were received for all recommendations. Overall management agrees with the five recommendations. We are requesting that Council direct staff to report back on their progress on management response implementation to the Audit, Finance and Administration Committee.

The Recommendations and Management Response can be found in Appendix “B” to Report AUD23010.

ALTERNATIVES FOR CONSIDERATION – Not Applicable

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Clean and Green

Hamilton is environmentally sustainable with a healthy balance of natural and urban spaces.

Built Environment and Infrastructure

Hamilton is supported by state-of-the-art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

Our People and Performance

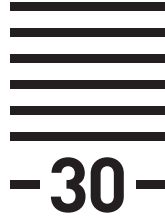
Hamiltonians have a high level of trust and confidence in their City government.

APPENDICES AND SCHEDULES ATTACHED

Appendix “A” to Report AUD23010 – Investigation Into the Origin and Cause of Sewage Spills – Hamilton Harbour (30 Forensic Engineering Report)

Appendix “B” to Report AUD23010 – Recommendations and Management Response

[REDACTED]



30 Forensic Engineering

Vancouver	(604) 674-1100
Calgary	(403) 208-4545
Toronto	(416) 368-1700
Ottawa	(613) 903-6900

30fe.com

**INVESTIGATION INTO THE ORIGIN AND CAUSE OF
SEWAGE SPILLS – HAMILTON HARBOUR**

Location: Wentworth Street North and Burlington Street,
Hamilton, ON
Our File: 230089CON

Prepared for:

City of Hamilton – Office of the Auditor General
21 King Street West, 12th Floor
Hamilton, ON
L8P 4W7

Participating Consultants:

Jeff Reitsma, P.Eng., PMP, MBA

November 2, 2023





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1.0 SUMMARY

We were contacted by the City of Hamilton (the ‘City’), specifically the City’s Office of the Auditor General (‘Auditor General’), regarding the discovery of sewage spills that had been flowing into Hamilton Harbour since 1996. The sewage came from a storm sewer line cross-connected with a sanitary sewer located at the intersection of Wentworth Street North and Burlington Street, in Hamilton, Ontario. Subsequently, two smaller-scale spills were identified, one that began in 1996 and another one from 1982. All three of the identified cross-connections were resolved by the City of Hamilton Water Department (‘Hamilton Water’).

We were retained by the Auditor General to conduct an origin and cause and risk assessment investigation of the incident sewage spills and to undertake a peer review of the Hamilton Water investigation and the report by Stantec Consulting responding to elements of the MECP’s Order. We were specifically requested to comment on the following concerns:

- *“What happened to cause the spills, including immediate and root causes, and how Hamilton Water remediated the spills.”*
- *“What systemic issues may exist within Hamilton Water (or City) that may have contributed to the causes (e.g., process, control, or technology deficiencies, resource constraints, etc.).”*
- *“What challenges may exist to mitigate or remediate the issues.”*

Our work plan was delineated in two proposed action plans issued in response to The City’s RFPs (included in Appendix A), and our report is based on our review of the reported information and provided materials (a complete list of which is attached as Appendix C) and our engineering analysis. This report is therefore limited to the aforementioned scope.

Based on our investigation, it is our opinion that:

- The sewage spills were caused by the following factors:
 - The drawings used in the design and construction were incorrect, which resulted in improper instructions being provided to the design and construction teams.
 - The lack of recognition that the cross-connections were being constructed – and were not deemed a significant risk – during the construction process.
 - The physical piping networks and the drawings illustrating them were large, complex, and interconnected, which made it difficult to identify issues once they existed.
- The Hamilton Water response to the spills and investigation into the origin and cause was appropriate, thorough, and in accordance with the industry’s best practice.
- The MECP Order was reasonable, and the ongoing response to the Order by Hamilton Water and Stantec is appropriate, thorough, and in accordance with the industry’s best practice.



- There do exist other issues related to the City's operation that had indirect contributions to the historic spills and/or continue to present risks, as follows:
 - The legacy approach to water quality from the earlier part of the 20th century resulted in a mixed sewer system that incorporated combined sewers and interconnections, increasing the risk of untreated sewage spills.
 - The City's large and complex system of sanitary-, storm- and combined-sewer lines made the potential for accidental cross-connections and mislabelled lines more likely.
 - The legacy pre-digital drawings remain in service and may provide misleading information. The drawings that were used may have been of relatively poor quality due to age, had multiple naming conventions, and used inconsistent standards.
 - Addressing Combined Sewer Overflow (CSO) interconnections with stormwater systems, as a means to reduce the risk of upstream flooding due to storms (e.g., to protect against residential basement flooding during storms) has been a policy priority for the City with significant improvement over time. This will drive overflows into the natural environment when infrastructure capacity is overwhelmed and reflects a value- and risk-based decision to extreme stormwater flow management.
 - The availability and application of expert staff – both for construction project oversight and CCTV inspection review – is limited. There remains a relative shortage of personnel with optimal and timely expertise involved in higher-risk projects by Hamilton Water and Hamilton ES.
 - Asset and data management systems are currently spread across three platforms at the City of Hamilton, which are integrated in a limited fashion, meaning that certain parties may have limited or no access to information that may help reduce risk.

Going forward, 30FE recommends that:

- The approach prescribed in the Stantec report – which was in many respects already underway within Hamilton Water – be continued, namely:
 - The Existing Sewer Lateral Cross-Connection Program.
 - Existing passive monitoring and complaints-driven processes to identify and investigate suspected cross-connections and spills;
 - Continue and expand the Risk-Based Proactive Pilot Program in the high-risk central Hamilton combined sewer system and use this as a launching pad for a permanent System-wide Unauthorized Discharges Removal and Inspection Program (SUDRIP); and
 - Review and revise these programs over time to ensure they remain a good value from a risk-reward program as infrastructure is renewed, cross-connections are repaired, and high-risk areas are cleared.



- Use and refine Hamilton Water's risk-scaled communication and response (for as-yet-undiscovered leaks/cross-connections). As it is likely that residual risk exists that new leaks/spills may be uncovered; therefore, transparency and response planning remain important.
- Continue with protocols for the validation and integration of asset management information across the IPS, WIMS, and SPIDER systems during design, construction, and maintenance activities. Long-term establishment of a unified asset management database should remain a priority to facilitate inter-divisional collaboration and communication which were a hallmark of the excellent response to the three identified spills.
- Consider the incorporation of risk-based inclusion of Hamilton Water and Hamilton ES expertise across divisions on design and construction projects at key milestones (e.g., pre-tender design reviews, pre-construction field surveys, CCTV inspections) to increase the frequency of personnel with optimal and timely expertise being part of projects, particularly those wastewater projects with higher risks of cross-connections, spills, or other community impacts.
- Continue to evaluate opportunities for improvement on a cost-benefit basis including costs to the natural environment and community, for policies associated with infrastructure investment and operation as they relate to stormwater management.



2.0 INTRODUCTION

2.1 Incident as Understood

We were contacted by the City of Hamilton (the 'City'), specifically the City's Office of the Auditor General ('Auditor General'), regarding the discovery of sewage spills that had been flowing into Hamilton Harbour since 1996. The sewage came from a storm sewer line cross-connected with a combined sanitary sewer located at the intersection of Wentworth Street North and Burlington Street, in Hamilton, Ontario. Subsequently, two smaller-scale spills were identified, one that began in 1996 and another one from 1982. All three identified cross-connections were resolved by the City of Hamilton Water Department ('Hamilton Water').

Following the discovery and remediation of the spills, the City was directed by the Ontario Ministry of Environment, Conservation and Parks ('MECP') to undertake a detailed risk assessment and gap analysis intended to prevent future spills, as described in MECP Order 1-142403769. Subsequently, Hamilton Water engaged Stantec Consulting Ltd. ('Stantec') to carry out the MECP-ordered independent reviews. In parallel, the City requested an independent peer review of both of the Hamilton Water and Stantec activities, as described in RFP 60228, which 30 Forensic Engineering ('30FE') was selected to undertake.

2.2 Investigation

We were retained by the Auditor General to conduct an origin and cause and risk assessment investigation of the incident sewage spills and to undertake a peer review of the Hamilton Water investigation and the report by Stantec Consulting responding to elements of the MECP's Order. We were specifically requested to comment on the following concerns:

- *"What happened to cause the spills, including immediate and root causes, and how Hamilton Water remediated the spills."*
- *"What systemic issues may exist within Hamilton Water (or City) that may have contributed to the causes (e.g., process, control, or technology deficiencies, resource constraints, etc.)."*
- *"What challenges may exist to mitigate or remediate the issues."*

Our work plan was delineated in two proposed action plans issued in response to The City's RFPs (included in Appendix A), and our report is based on our review of the reported information and provided materials (a complete list of which is attached as Appendix C) and our engineering analysis. This report is therefore limited to the aforementioned scope.



2.3 Duty of Experts

This report has been prepared by Mr. Jeff Reitsma, P.Eng., PMP, MBA. A summary of the author's pertinent employment and educational experience is provided within the Curriculum Vitae included as Appendix B. Specific to this investigation, Mr. Reitsma's experience in roughly 15 years of municipal infrastructure design and construction related to wastewater and stormwater management is particularly relevant, in terms of the means and methods that capital projects are conceived, designed, and constructed, as well how such infrastructure is managed and maintained by sophisticated municipalities such as the City of Hamilton and its various technical departments. Further, Mr. Reitsma's activities as an independent forensic engineer from 2014 onward have afforded him extensive experience in reviewing failure situations, opining on standards of care, risk management, and the origin and cause of failure events.

The findings reached as a result of this investigation, and the reasons and basis for these findings, including any assumptions made or research performed, will be discussed in the following sections. The author acknowledges his duty to provide evidence that is objective, non-partisan, and related to areas within his expertise, to assist with an understanding of the matters at hand.

2.4 Background

Beginning in the 1980s, the City implemented several initiatives to improve the water quality in Hamilton Harbour ('the Harbour') and promote clean water in the area. Stormwater management played a crucial role in these efforts, specifically relating to the reduction of untreated stormwater runoff entering the harbour. Stormwater management infrastructure in the City includes a combination of storm sewers, detention ponds, and treatment facilities. Most parts of the City are connected to dedicated storm sewers, which convey stormwater from streets, parking lots, and other impervious surfaces to collection points – some of these are currently connected to treatment systems.

2.4.1 City of Hamilton Organization

The operation and maintenance of the City's water, wastewater, and stormwater systems is the responsibility of Hamilton Water and is governed by the MECP. Engineering and construction support services within the City of Hamilton are provided by The City of Hamilton's Engineering Services ('ES').

The City was amalgamated in 2001, following the dissolution of the Regional Municipality of Hamilton–Wentworth, merging its six constituent municipalities into a single-tier city of Hamilton. The amalgamation resulted in the combination of the wastewater and stormwater infrastructure which had prior to that point been the responsibility of the City and Region, respectively.



2.4.2 Circumstances of Wastewater Spill Events

The details of the spills of wastewater that are the subject of this report are described in detail in the Hamilton Water presentations to the City's Public Works Committee ('PWC'), on November 28, 2022 – discussing the first spill and subsequent response – and again on February 13, 2023 – discussing the two additional spills discovered. The presentations are extensively referenced herein, and the contents of those reports are not reproduced in the interest of brevity (Table 1).

Table 1: Summary of the spill events.

Spill Discovery Date	Location	Nature of Issue	Est. Leak Volume
22-Nov-22	Wentworth & Burlington	Cross-connection	337 ML
9-Jan-23	Rutherford & Myrtle	Cross-connection	59 ML
19-Jan-23	Kinrade Avenue	Design issue	0.47 ML

2.4.3 City of Hamilton Response to Spill Events

As described in the same presentations to the City's PWC, once the issue was identified, the City undertook rapid activities to a) disconnect the source of the spill, b) contain the active in-pipe spill already in progress using vacuum trucks, and c) install modifications to return the system to normal service while eliminating the potential for future spills. This work was undertaken with coordination between Hamilton Water and Hamilton ES, and all spills were reported to the MECP via their spill reporting processes. The documents provided to the PWC suggest that the total time from the identification of the leak to the restoration of service was less than 48 hours.

2.4.4 MECP Order

Following the discovery of the first spill, the MECP undertook inspections and investigations into the City's operation of its collection system. Following the second spill in early January, an Order was issued by Mr. Tyler Kelly of the MECP on January 18, 2023. The third spill was identified the next day by the City and is not listed in the MECP Order.

Order – 1-142403769 – prescribes several activities to be executed and reported on to the MECP, along with deadlines. These are paraphrased below (Table 2).

Table 2: MECP's Order task list.

Item Number	Description	Deadline
1	Retain a qualified consultant to support with the necessary activities	6-Feb-23
2	Make formal confirmation to the MECP that said consultant has been engaged	6-Feb-23
3	Develop a sampling program to identify potential spills and trigger investigations when necessary	17-Mar-23



Item Number	Description	Deadline
4	Make formal submittal of the sampling program to the MECP	17-Mar-23
5	Develop enhancements to the existing sewer inspection programs to better identify potential spills and undertake a gap analysis, while updating digital records	12-May-23
6	Make formal submittal of the updated inspection and gap analysis to the MECP	12-May-23
7	Create or update policies and procedures for the identification and prevention of spills, including remedies for identified gaps as identified	30-Jun-23
8	Make formal submittal of the policies/procedures to the MECP	30-Jun-23

2.4.5 Hamilton Water Investigation

As described in the presentation to the PWC in November 2022, Hamilton Water and Hamilton ES immediately undertook a risk-based assessment to prioritize potential similar cross-connections from the 1996 contract which could discharge untreated wastewater into the Harbour. These inspections resulting from this plan identified the two subsequent spill locations.

As required in the MECP Order, the City also began immediate investigations into broader issues and engaged Stantec Consulting Ltd. ('Stantec') to provide design expertise in support of the ordered tasks, as required in Order items 1 & 2. Stantec's final report was issued on May 9, 2023.



3.0 OBSERVATIONS

Our observations comprise information collected during our various meetings and a review of the provided materials. The following sections outline the information deemed relevant to our analysis.

3.1 Meetings with the City of Hamilton

We participated in several virtual meetings with members of the Hamilton Water and Hamilton ES teams familiar with the project. Each of these meetings had a defined purpose and the key topics of discussions are listed below.

3.1.1 Meeting of April 11, 2023 – Hamilton Water

The purpose of our initial meeting with Hamilton Water was to receive a general background on the incident and both the identification and response to the discovered spill.

Invitees from the City were:

- Manager of Water Distribution & Wastewater Collection, Hamilton Water;
- Supervisor Wastewater Collection, Hamilton Water; and
- Superintendent Water Distribution, Hamilton Water.

The following key topics were discussed, among others:

- Existing cross-connection identification programs in place and general arrangement of City's stormwater and combined sewer system, especially related to more aged elements of central Hamilton;
- Collaboration with the Infrastructure Renewal teams and Hamilton Water;
- Review of the specifics of the first spill identification and response activities; and
- General update on the evolution of the City of Hamilton's approach to maintenance and proactive investigations.

3.1.2 Meeting of April 13, 2023 – Engineering Services

The purpose of our meeting with Hamilton ES was to review the internal process for validating deliverables from designers (tender drawings for use in construction) and contractors (post-construction as-builts). The goal was to better understand how the sewer in question was mislabelled prior to 1996 and how processes have evolved and are used in the maintenance of the City's master drawings.

Invitees from the City were:

- Director of Engineering Services, Hamilton ES;
- Senior Project Manager, Technical Services, Hamilton ES;



- Senior Project Manager-Infrastructure, Hamilton ES;
- Manager, Geomatics and Corridor Management, Hamilton ES;
- Senior Project Manager Infrastructure Program and Planning, Hamilton ES;
- Manager, Design, Hamilton ES; and
- Manager, Construction, Hamilton ES.

The following key topics were discussed, among others:

- The Geomatics team manages the City's GIS database for the City using the Spatially Indexed Engineering Records ('SPIDER') database, which consolidates all information across departments into a single master database.
- Each division is responsible for updating the information. Hamilton Water maintains its internal Water Infrastructure Management Systems ('WIMS') system and provides updates to be made available for review via SPIDER as new projects are constructed or repairs/modifications are made that are appropriate to be reflected in the overall City model.
- In the past, the system was paper-based using a card-catalogued library of drawings, but Hamilton Water began digitizing in the mid-1990s.
- Prior to the amalgamation in 2001, the City (responsible for water and wastewater assets) and the Region (responsible for stormwater assets) would work on projects separately, but now all plans are merged in the SPIDER system.
- Consultants are overseen by the City's internal teams, with around 10% of major projects involving consultants for construction administration.
- New projects involve a planning phase, where a field survey is done and records from SPIDER are consolidated with any other relevant information from WIMS into a master base plan for use by external design consultants. At this phase, any conflicting or missing information is identified and field-reconciled prior to issuing a design RFP.

3.1.3 Meeting of April 13 – Hamilton Water

The purpose of our meeting with Hamilton Water was to understand the historic digitization and ongoing record-updating process of the City's master drawings and/or inventory of subsurface assets within the City's asset management system by Hamilton Water.

Invitees from the City were:

- Manager of Water Distribution & Wastewater Collection, Hamilton Water;
- Director - Water & Wastewater Operations, Hamilton Water; and
- Superintendent, Plant Maintenance, Hamilton Water.



The following key topics were discussed, among others:

- We reviewed the purpose and contents of WIMS and how it is not geospatially accurate and is focused more on linear (i.e., piping) rather than on vertical (i.e., structures and equipment) assets.
- As new assets are constructed, items are added to WIMS over time, which may lag. Relevant items added or modified in WIMS are made available for download via the City's master database in SPIDER when exported via the Geomatics Group.
- Operational records are maintained in the Hamilton Water work-order maintenance and asset management operational tool Infor Public Sector ('IPS'), informally known as Hansen. IPS includes notes, photographs, work orders, and field observations from Hamilton Water's operation and maintenance activities.
- The possible future use of Enterprise Asset Management ('EAM') to integrate these systems is being explored.

3.1.4 Meeting of April 14 – Hamilton Water

The purpose of our meeting with Hamilton Water was to understand the internal process for reviewing the reports and deliverables from Close-Circuit Television ('CCTV') investigations and how that information may influence infrastructure repair/rehab prioritization.

Invitees from the City were:

- Manager of Water Distribution & Wastewater Collection, Hamilton Water;
- Supervisor Wastewater Collection, Hamilton Water;
- Superintendent Water Distribution, Hamilton Water; and
- Senior Project Manager-Infrastructure, Hamilton ES.

The following key topics were discussed, among others:

- CCTV inspections are typically used:
 - In advance of capital work projects to confirm the integrity of the linear system;
 - In response to emergencies where on-site investigation is needed; and
 - For general asset management on small or critical systems.
- Inspections are done by external consultants using standard processes and with data, video, and reporting provided in a standardized format and logged into the IPS (Hansen) system. Emergency repair needs – if identified – are escalated to Hamilton Water for immediate action.
- Proactive maintenance of access holes and chambers is not done by CCTV but manually. CCTV is used only for piping which cannot be safely accessed.
- A limited number of trained operators are available to support in the field (i.e., during a CCTV inspection) or to review video afterwards. They are looking to increase this capacity and proactively assess more items over time.



3.2 Provided Materials

Materials were provided to 30FE via secured electronic document sharing and email. These were undertaken from March through May 2023 and a full list of all provided documents is included in Appendix C.

The documents provided were reviewed and their relevance to the analysis is included as needed in Section 4.0 of this report.

3.2.1 Document Batch 1 – March 2, 2023 – General Background:

- Public Works meeting PW22088(a) report and supporting materials; and
- MECP Order 1-142403769.

3.2.2 Document Batch 2 – April 3, 2023 – Burlington Street and Wentworth Street North Cross-Connections:

- Internal Hamilton Water Investigation notes and videos;
- 1996 contract materials – Contract RHW-96-20 (HSW); and
- MECP correspondence related to the spill event.

3.2.3 Document Batch 3 – April 19, 2023 – Hamilton Water Asset Transfer Procedures

- April 2022 Transfer of Assets– PW-WW-P-004-003 Issue 5.1; and
- September 2022 Management of Asset Transfer - PW-WW-P-026-004 Issue 1.1.

3.2.4 Document Batch 4 – April 25, 2023 – Master Drawing Procedures

- City of Hamilton Geomatics & Corridor Management Baseplan checklist – 18-Jan-19; and
- City of Hamilton Geomatics & Corridor Management Sectional guidebook – 15-Oct-19.

3.2.5 Document Batch 5 – May 11, 2023 – Sewer Inspection and Maintenance Procedures

- CCTV inspection standards;
- Sample City of Hamilton Proposal for Sewer Inspections (C13-59-21); and
- Hamilton Water internal prioritization criteria and standards.

3.2.6 Document Batch 6 – May 15, 2023 – Master Drawing Management

- PRISM Interactive Mapping Guide; and
- Drawing Management Requirements v0.1, 17-Jan-01.



3.3 Discussions with Other Municipal Experts

In addition to conversations with City of Hamilton professionals, we undertook informal conversations with others within the water and wastewater community in order to seek their opinions and experience on wastewater-stormwater spill events. These conversations were neither recorded nor intended to be definitive standards of each individual, but rather to understand common practices and establish a greater understanding of the level of action by owners and operators of such systems.

The organizations with whom discussions were had included:

- City of Toronto (ON);
- Region of Peel (ON);
- Region of Halton (ON);
- Region of York (ON);
- Ontario Clean Water Agency (ON);
- City of Calgary (AB); and
- Capital Regional District (BC).

From these discussions, we can confirm the following themes and issues were raised:

- Spills of raw wastewater and combined sewage overflow are a common occurrence, especially in locations where sewer systems were constructed prior to the mid-20th century. This can include both overflow spills during heavy storm events as well as cross-connection-related spills, such as those investigated in the City of Hamilton.
- It is common to use passive approaches such as outfall sampling and reliance on complaints from the public to identify leaks and spills.
- Canada's relative abundance of fresh water has historically reduced the value placed on risks related to contamination of discharge water bodies such as Lake Ontario, especially related to stormwater systems, though this has been steadily changing over the past 30 to 50 years.
- Cities and regions are facing multiple pressures related to stormwater management where trade-offs must often be made regarding protection of upstream property (e.g., basement flood protection) against protection of the natural environment during storm events, in the context of climate change, and increased insurance and municipal operation costs.
- Asset management is a central risk and source of complexity for owners and operators of linear infrastructure, insofar as the management of data related to design, construction, and operation and maintenance of water, wastewater, and stormwater systems.



4.0 ANALYSIS

The following sections discuss the relevant aspects of the wastewater spills into the stormwater system, grouped by area of investigation as prescribed by the Auditor General's RFP document.

4.1 Root Cause Analysis of the Spills

As described in the Hamilton Water reports and presentations to the Public Works Committee and the Stantec report, the origin and cause of the three spill events are well understood.

The first – and largest – of the spills was the cross-connection at Burlington Street and Wentworth Street North, identified in December 2022. It is clearly shown in the CC Parker Consultants Ltd. ('Parker') issued for tender drawing 96-H-11, associated with the reconstruction and widening of Burlington Street, that the Contractor was directed to make a connection to the misidentified pipe, as shown in the annotated Figure 1.

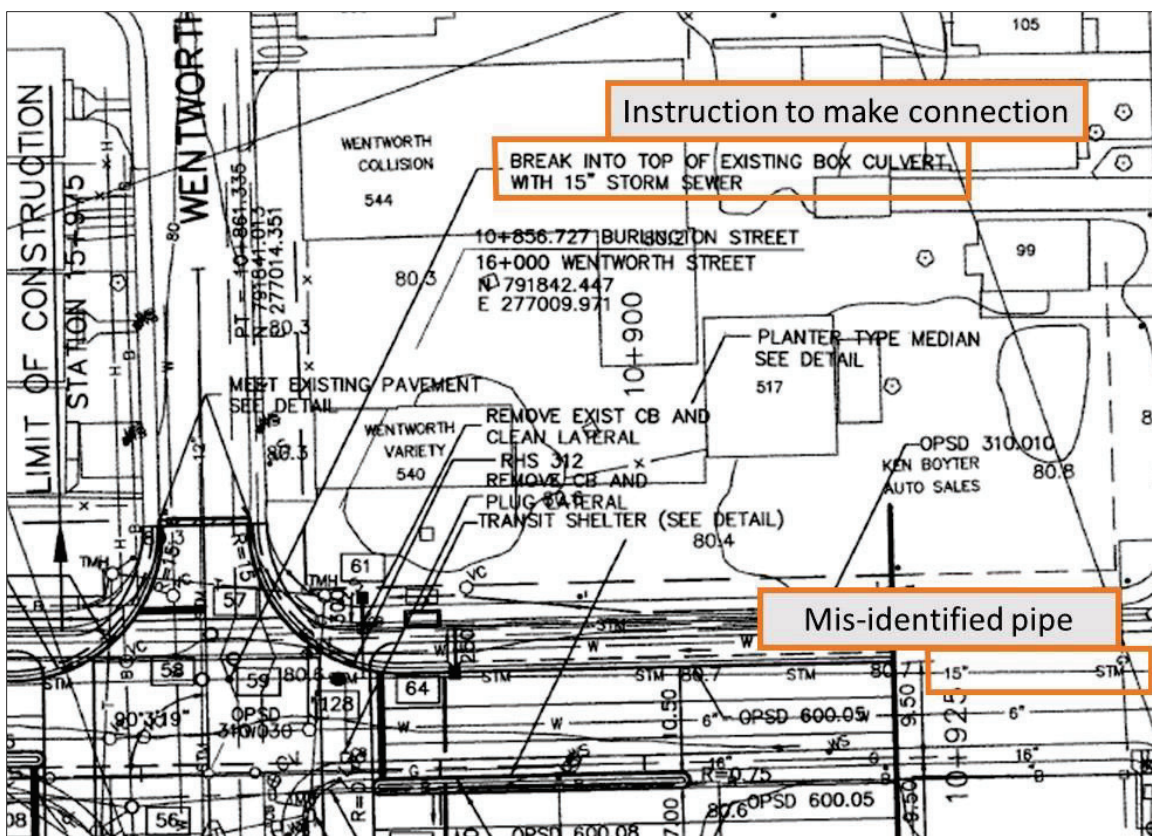


Figure 1: Selection of Parker Drawing 96-H-11 (annotated by 30FE).

Similarly, the second and lesser spill at Rutherford Avenue and Myrtle Avenue was the result of a cross-connection between the combined sewer and the stormwater pipes. The arrangement was clear, as shown in Figure 2, field-verified, and resolved. Fundamentally, this second spill was related to a direct and purposeful connection between combined and storm sewer lines.

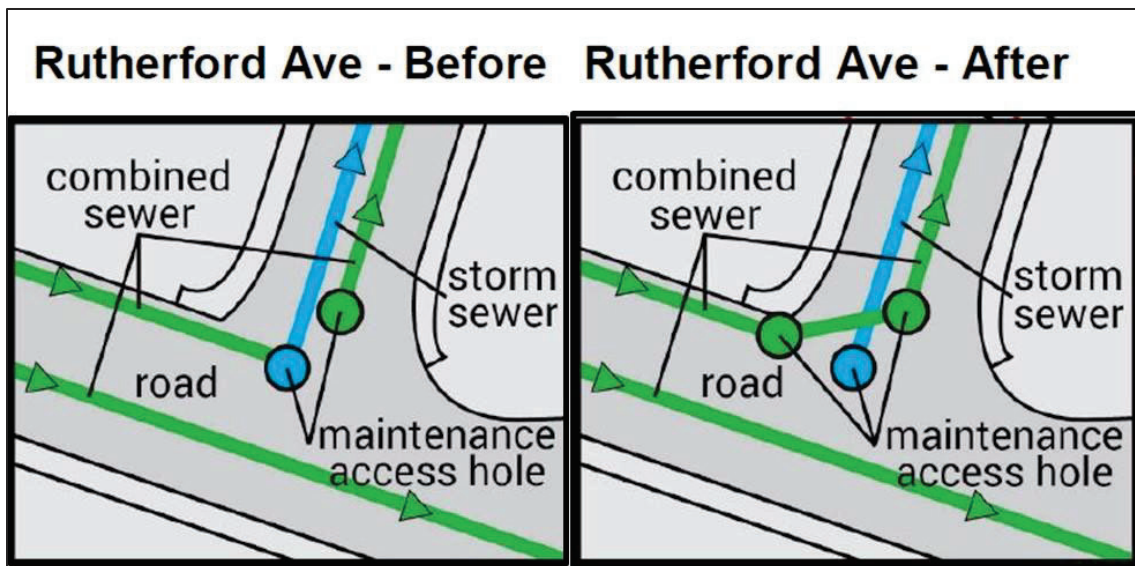


Figure 2: Drawing of Rutherford Avenue before/after (taken from the presentation to the Public Works Committee, Appendix D).

The third spill was slightly different and a result of the unique arrangement whereby the overflow connection between the combined and storm sewers was located in the precise spot where flows were prone to discharge directly into the overflow connection even under dry weather (i.e., low-flow) situations, as shown in Figure 3. In this instance, a lack of consideration of the risk of wastewater flowing into the storm sewer contributed to the origin of the spill.

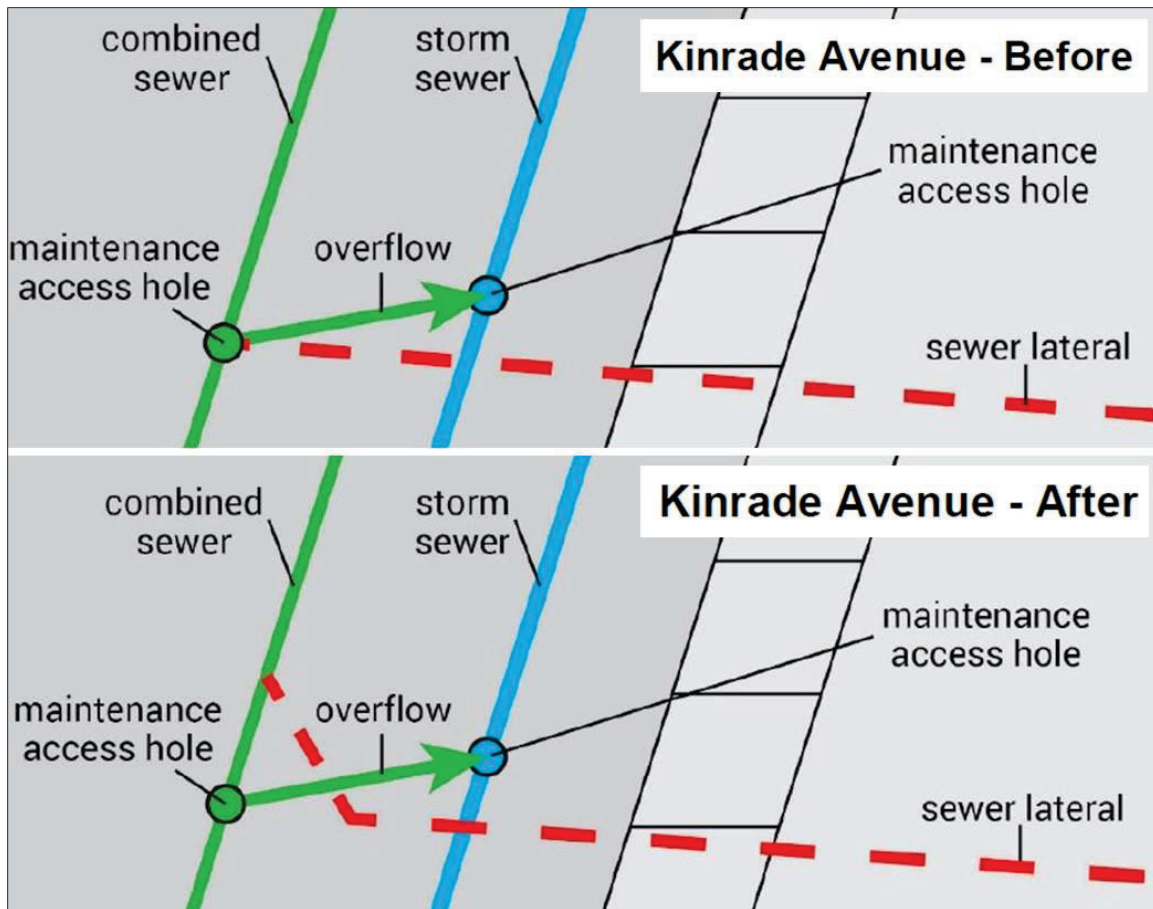


Figure 3: Drawing of Kinrade Avenue before/after (taken from the presentation to the Public Works Committee, Appendix E).

We agree with the root cause investigation undertaken by Hamilton Water, as well as the comments from Hamilton ES. There are themes across all three of the identified spill events which are summarized below.

Broadly, the cause of the spill events was due to:

- The existence of historic cross-connections between combined sewers and storm sewers;
- Design errors instructing Contractors to:
 - Make new cross-connections that were wholly inappropriate (in the case of the first and second spill events); or
 - The arrangement of the piping with a high potential for short-circuiting flow into the stormwater system (in the case of the third spill event); and
- The lack of understanding (or valuation) of the risk caused by these connections for sewage to enter the stormwater system by the construction teams, including the contractors and inspectors at the time of construction.



4.1.1 Legacy Approach to Water Quality

The central theme in all three cases observed is that they are related to older combined sewer systems, which was until relatively recently, a standard approach not in Hamilton but broadly across the world. There has been historically minimal – if any – distinction made between dedicated sewer and combined sewer systems. All sewer wastes were discharged to the nearest body of water and treatment was often simple or non-existent until relatively recently.

Thus, it should not be surprising that these systems may have cross-connections resulting from these legacy approaches, which are systematically being rectified as environmental sustainability and water quality concerns have steadily increased as infrastructure priorities. This general attitude from the early/mid-20th century contributed to these spills due to the relative lack of distinction between combined sewers and dedicated wastewater sewers, resulting in a lower valuation of risk from cross-connections or mislabelling in drawings.

4.1.2 Complexity of Below-Grade Linear Systems

As stated in the Stantec report, the City currently has 3,080 km of sewer pipe, of which 40% is dedicated wastewater/sanitary, 41% is dedicated stormwater, and 19% is combined. The combined sewers are located almost exclusively within the original pre-amalgamated City of Hamilton (Stantec project 163401837, Section 2.1, 9-May-23). This is a vast and complex network of buried infrastructure providing services over a complex topography servicing residential, commercial, and heavy industrial users.

From a practical perspective, this can manifest in two ways, which in this instance were contributors to the spill events:

- 1) The drawings – especially prior to digitization in the 1990s – included a high amount of information that can simply be hard to accurately draw and/or read, leading to a risk of misunderstanding of the design or constructed system.
- 2) The pipes in the field may not be easily identified even by sophisticated users. Indeed, the review of the CCTV video where the main spill was identified was due to “*something seeming off*” in the words of an experienced operator.

Complex systems are equally prone to error when compared to simple systems, but identifying those issues can be far more difficult in complex situations. A re-visitation of Drawing 96-H-11 illustrates this complexity, as shown in Figure 4. There are numerous pipes intersecting and overlapping at the intersection of Burlington Street and Wentworth Street North; identifying these is not simple either in the field or with an ink-and-paper drawing, increasing the risk of a design or construction error.

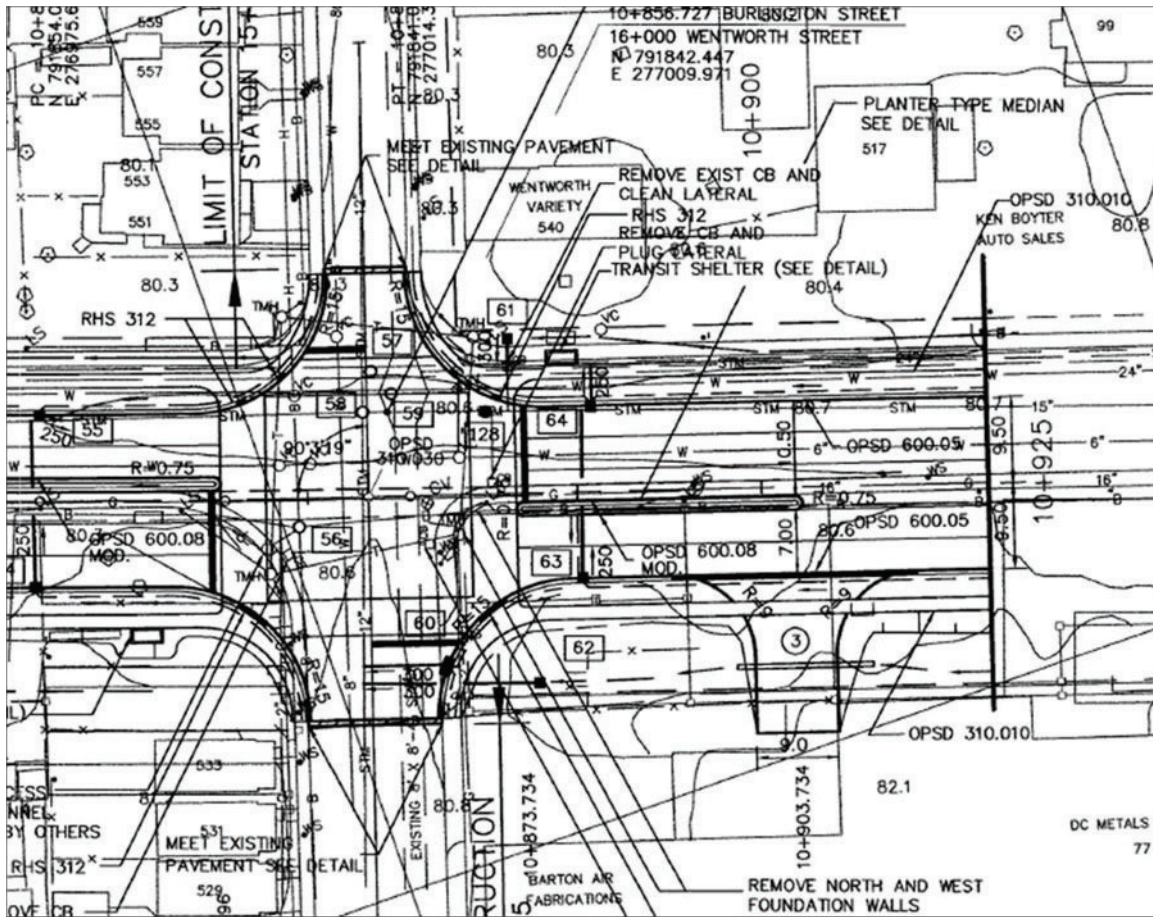


Figure 4: Selection from Parker Drawing 96-H-11.

4.1.3 Legacy Pre-Digital Drawings

As noted above, it is clear that in Drawing 96-H-11, a combined sewer was mislabelled as a storm sewer, which led to instructions to the Contractor to make the inappropriate connection, which led to the spill event. The origin of the incorrect labelling of the line in question is unclear, but it is likely that a combination of the following factors contributed to the issue being carried forward over time:

- The sewage system in question – related to the first spill event – was originally constructed in the 1910s and was modified repeatedly during the 20th century. Hand-drawn (manual) drawings are prone to aging over time, physically making them harder to read due to fading, degradation of paper/vellum, and environmental impacts such as staining or smudging.
- The City water review identifies manual drawings through to 1987 associated with this location and the first digital drawing is shown in 1994.
- Terms such as “sewer,” “sanitary,” and “interceptor” are used to describe multiple lines at different points in time.



- Prior to the amalgamation in 2001, the Region of Hamilton-Wentworth was responsible for stormwater systems, while the City of Hamilton was responsible for wastewater systems. There would therefore be two parallel sets of both physical and digital records to assess to consolidate a 'master' drawing showing all services.

The timing of the 1996 contract, where the cross-connection led to the first spill event, is at a precise time when both digitization and consolidation of records are underway. It is quite plausible that the designer at this time (i.e., Parker) made a mistake due to one of the above-noted issues that was not identified at the time of the tender in a quality assurance process.

4.2 Review of Hamilton Water Response

The Hamilton Water response to the first identified spill, and the subsequently discovered second and third spills, is well-documented in the submittals to the Public Works Committee, particularly in the materials related to meeting 22-105 on November 28, 2022, and 22-088(a) on February 13, 2023.

4.2.1 Immediate Response

The Hamilton Water team undertook the following activities in response:

- Immediate isolation of flows to prevent ongoing discharges;
- Immediate modifications to the physical arrangements to prevent future spills;
- Communication with relevant partners (public, MECP, City departments); and
- Initiation of a risk-based inspection process (identified as a pilot program) to identify additional spills (resulting in the identification of spills 2 and 3).

The response to the spills represents best-in-class practice and the speed of resolution (in all cases less than 48 hours elapsed from identification to reconstruction) is exceedingly commendable.

4.2.2 Response to MECP Order

In parallel, the MECP issued its Order 1-142403769 and instructed Hamilton Water to undertake several activities. Some of these were already underway prior to the issuance of the MECP Order.

The MECP's directions and associated deadlines are reasonable given the MECP's mandate to ensure that owners & operators take all reasonable precautions to protect the natural environment and to ensure good and proper operation and maintenance of their water, wastewater and stormwater systems.

As prescribed in the Order, Hamilton Water acted and engaged Stantec as a first step, who then led the following on the City's behalf:

- Assessed the feasibility of a City-wide in-pipe inspection plan;



- Assessed the feasibility of a risk-based inspection plan;
- Undertook a gap analysis of current programs and procedures; and
- Assessed physical and analytical inspection programs.

The Stantec report appears to comply with the MECP Order and identifies several proactive steps to take – considering feasibility and resource constraints in a very risk and solution-focused manner. While some of the Stantec recommendations are longer-term or experimental in nature, many are focused on high-value risk-focused measures. The report lays out a roadmap for improvement using both new and expanded programs (such as the Sewer Lateral Cross-Connection Program) and confirmation that the City's approach is consistent with industry good practice.

4.3 Systemic Issues and Contributors to Spills

As listed in 4.1, there are several issues associated with the root causes of the spills in question. Namely, that:

- 1) The drawings used in the design and construction were incorrect.
- 2) It was not recognized at the time of construction that a cross-connection was made even though the line identified as a stormwater pipe was indeed a combined sewer pipe. There is no evidence that such a cross-connection was considered a significant risk.
- 3) The physical piping networks and the drawings illustrating them were large, complex, and interconnected, making it hard to identify these issues once they existed.

Beyond these root cause issues, there do exist other considerations and issues which are ancillary to the specific situations, but which bear discussion as they may have longer-term implications and risks for the City.

4.3.1 CSO-Storm Interconnections

As listed in Section 4.1.1, there remains an inherent risk-based value calculation that requires the City to balance multiple facets of the challenges posed by stormwater infrastructure, namely:

- Climate change is driving an increase in the frequency and severity of storm events globally.
- Combined systems are intermittently subject to overflow loadings from these storms.
- Overflow can be directed either out of the system downstream into the natural environment or upstream toward the source, namely residential, commercial, or industrial users.

Investment in new infrastructure – be it 'grey' infrastructure in the form of pipes, holding tanks and treatment facilities, or 'green' in the form of natural stormwater management ponds, parks, or marshes – is costly. Balancing the net costs between overflow-driven back-ups in combined systems into the built environment against the overflow of combined systems downstream into the natural environment is a value-based situation. To date, improvements to both of these



situations may have been possible, and the City has made significant strides in reducing the frequency and impact of upstream back-ups as well as outfall water quality, in part by adding greater wet-weather stormwater management and treatment capabilities. However, as long as the City continues to have combined storm- and waste-water systems with overflow connections during wet weather events into the stormwater network, there remains a potential for spill events and tension between the extent that upstream or downstream users will bear any impacts.

4.3.2 Availability and Application of Expert Staff

One of the central themes in both the initial identification of the spill cause (i.e., the cross-connection at Burlington Street and Wentworth Street North), as well as in discussion with Hamilton Water and Hamilton ES, was the issue of expertise being applied in critical situations – having the “*right eyes at the right time.*” Specifically, this was noted as the key moment in the review of the 2013 CCTV inspection video leading to the discovery of the first spill in December 2022.

Construction Project Oversight

Implied but not explicitly stated, the lack of optimal expertise during construction in 1996 would have prevented (or immediately diagnosed) the connection from the combined sewer line into the storm sewer. This issue speaks to the quantity of staff available with valuable expertise, their roles and responsibilities, and the balance between the need for technical specialization and collaboration across teams. In our opinion, both Hamilton Water and Hamilton ES house best-in-class experts, who expressed in our meetings and demonstrated in their response to the spill events and subsequent investigations a strong sense of pride, ownership, and responsibility for good outcomes in operation and project execution along with a desire for continuous improvement.

However, not all parties with highly specialized expertise can be everywhere at all times. As noted in our discussion with Hamilton ES, in most projects, the City will use in-house construction supervision during projects, as opposed to engaging outside consultants for this role, as is common in other jurisdictions. Engagement of outside consultants to oversee construction would not have changed the likelihood of a spill event, but it confirms that Hamilton ES and Hamilton Water staff have additional demands and requirements as part of their core service requirements. To have the maximum ability to oversee a breadth of projects – which may involve multiple technical activities and nuances that change from day to day – it is not possible (or frankly necessary) to have at all times the most senior and expert construction administration team in place. This may result in instances when subtle clues related to cross-connections are missed during construction.



In our discussions, Hamilton Water and Hamilton ES demonstrated transparency and a cooperative outcome-focused approach to the resolution of the spill events and discussions of potential root cause issues, but it may be that a greater level of staffing or review of risk-based project support across the two divisions may be of benefit to increase the likelihood of personnel with optimal expertise being in place at critical moments in construction projects.

CCTV Inspections

As described in both our discussions with Hamilton Water and the presentations to the Public Works Committee, it was the review of a CCTV inspection by a senior member of the team which led to the “*something doesn't look right*” observation, which led to the identification of the cross-connection and spill. This was a moment of chance. Had that video not been reviewed, the cross-connection and all three of the spill situations would likely remain ongoing.

Generally, Hamilton Engineering Services use CCTV inspections only to assess the structural integrity of relatively large-diameter pipes in advance of capital works projects or in response to emergencies, relying on a specialty contractor using a standardized approach for assessment of pipe condition as part of the Hamilton Water asset renewal program. This is a reasonable approach but also presents a missed opportunity for insights. As many inspections occur, having some measure of either a) involvement of senior members of Hamilton Water and/or Hamilton ES, or b) adding additional scope to the contractor's inspection may be beneficial. There is further potential for use of automated AI-based tools to supplement or screen video in advance of a risk-based approach.

4.3.3 Asset and Data Management

As noted in Stantec's report, the City maintains over 3,000 km of buried linear infrastructure and relies on – in the case of Hamilton Water alone – three separate data management tools (IPS, SPIDER and WIMS), which are used to store and disseminate data to be shared among those responsible for the overall water, wastewater, and stormwater systems. This is over and above the financial systems and tools and beyond the scope of this investigation.

This multi-system approach is better than the legacy paper-based systems, but still is prone to siloed information storage, if not mismatching information, as individual systems may be updated. The systems related to WIMS and IPS appear well synchronized but do not always export detailed information for download via SPIDER and gaps may exist. Moreover, for those new to the City, the potential may be to presume that these systems are fully integrated and to not actively verify other sources of information. Consequently, there may well be information not available to important parties that ought to be; design consultants, internal City staff, and contractors engaged in various activities all rely on a shared understanding of the work being done. As was noted, the development of an integrated EAM system would facilitate greater data-sharing across divisions in the City and a greater chance of identifying issues.



A secondary consideration is one of departmental collaboration. Within even the simplest of organizations, there are risks that information is not shared, particularly across groups or departments. It is reasonable to assume that part of the data gaps that led to the misunderstanding of the stormwater and combined sewer systems at Burlington Street and Wentworth Street North in the mid-1990s was simply related to the fact that the information was in two separate organizations, namely the City of Hamilton and Region of Hamilton-Wentworth. Consolidating these organizations certainly led to better information sharing over time, but this would have taken place after 1996 when the construction occurred. As the City is presently a fully amalgamated entity, this should remain a non-issue.



5.0 CONCLUSIONS & RECOMMENDATIONS

Based on our investigation, it is our opinion that:

- The cause of the sewage spills were:
 - The drawings used in the design and construction were incorrect, which resulted in improper instructions being provided to the design and construction teams.
 - The lack of recognition that the cross-connections were being constructed – and were not deemed a significant risk – during the construction process.
 - The physical piping networks and the drawings illustrating them were large, complex, and interconnected, which made it difficult to identify issues once they existed.
- The Hamilton Water response to the spills and investigation into the origin and cause was appropriate, thorough, and in accordance with the industry's best practice.
- The MECP Order was reasonable, and the ongoing response to the Order by Hamilton Water and Stantec is appropriate, thorough, and in accordance with the industry's best practice.
- There do exist other issues related to the City's operation that had indirect contributions to the spills, as follows:
 - The legacy approach to water quality from the earlier part of the 20th century resulted in a mixed sewer system that incorporated combined sewers and interconnections, increasing the risk of untreated sewage spills.
 - The City's large and complex system of sanitary storm- and combined-sewer lines made the potential for accidental cross-connections and mislabelled lines more likely.
 - The legacy pre-digital drawings remain in service and may provide misleading information. The drawings that were used may have been of relatively poor quality due to age, had multiple naming conventions, and used inconsistent standards.
 - Addressing Combined Sewer Overflow (CSO) interconnections with stormwater systems, as a means to reduce the risk of upstream flooding due to storms (e.g., to protect against residential basement flooding during storms) has been a policy priority for the City with significant improvement over time. This will drive overflows into the natural environment when infrastructure capacity is overwhelmed and reflects a value- and risk-based decision to extreme stormwater flow management.
 - The availability and application of expert staff – both for construction project oversight and CCTV inspection review – is limited. There remains a relative shortage of personnel with optimal and timely expertise involved in higher-risk projects by Hamilton Water and Hamilton ES.



- Asset and data management systems are currently spread across three platforms at the City of Hamilton, which are integrated in a limited fashion, meaning that certain parties may have limited or no access to information that may help reduce risk.

Going forward, 30FE recommends that:

- The approach prescribed in the Stantec report – which was in many respects already underway within Hamilton Water – be continued, namely:
 - The Existing Sewer Lateral Cross-Connection Program.
 - Existing passive monitoring and complaints-driven processes to identify and investigate suspected cross-connections and spills;
 - Continue and expand the Risk-Based Proactive Pilot Program in the high-risk central Hamilton combined sewer system and use this as a launching pad for a permanent System-wide Unauthorized Discharges Removal and Inspection Program (SUDRIP); and
 - Review and revise these programs over time to ensure they remain a good value from a risk-reward program as infrastructure is renewed, cross-connections are repaired, and high-risk areas are cleared.
- Use and refine Hamilton Water's risk-scaled communication and response (for as-yet-undiscovered leaks/cross-connections). As it is likely that residual risk exists that new leaks/spills may be uncovered; therefore, transparency and response planning remain important.
- Continue with protocols for the validation and integration of asset management information across the IPS, WIMS, and SPIDER systems during design, construction, and maintenance activities. Long-term establishment of a unified asset management database should remain a priority to facilitate inter-divisional collaboration and communication which were a hallmark of the excellent response to the three identified spills.
- Consider the incorporation of risk-based inclusion of Hamilton Water and Hamilton ES expertise across divisions on design and construction projects at key milestones (e.g., pre-tender design reviews, pre-construction field surveys, CCTV inspections) to increase the frequency of personnel with optimal and timely expertise being part of projects, particularly those wastewater projects with higher risks of cross-connections, spills, or other community impacts.
- Continue to evaluate opportunities for improvement on a cost-benefit basis including costs to the natural environment and community, for policies associated with infrastructure investment and operation as they relate to stormwater management.



APPENDIX A: CITY OF HAMILTON RFP



Hamilton

Office of the City Auditor

Mailing Address:71 Main Street West
Hamilton, Ontario
L8P 4Y5**Office Location:**50 Main Street East, 3rd Floor
Hamilton, Ontario
L8N 1E9**Fraud and Waste Report #60228
Request for Proposal****Background**

- On November 22, 2022, Hamilton Water maintenance staff uncovered a hole in a combined sewer pipe spilling into a large storm sewer that was discharging into Hamilton Harbour. The section of pipe is in the area of Burlington Street and Wentworth Street North.
- After a preliminary investigation and consultation of City records, Hamilton Water staff believe the hole was put in the combined sewer pipe in 1996. It appears that the contractor at the time was under the impression that all pipes were storm sewers and were designed to directly connect to box culverts leading out to the harbour. The catchment area for the combined sewer system is approximately 50 properties that are tied into this pipe.
- The volume of this discharge was estimated by Hamilton Water to be approximately \$337 million liters of sanitary sewage discharge over a duration of 26 years.
- Hamilton Water completed a repair and sewer realignment of this leak on November 23, 2022.
- Since the first spill in November 2022, Hamilton Water piloted a risk-based inspection program that focuses on other areas of the combined sewer system where similar sewer cross connections could be present. This program includes 292 maintenance hole inspections, of which 150 inspections had been completed as of January 18, 2023.
- As a result of the proactive inspections, two more spills have been detected to date. Immediate action was taken to stop the leaks and permanent fixes were being worked on. Continued inspections are on-going to detect other possible leaks.
- On January 9, 2023 a second spill was discovered near Rutherford Avenue and Myrtle Avenue. A 100-year-old combined sewer pipe was connected into a newly constructed storm sewer, also traced back to work done in 1996. As many as 11 residential properties have been discharging wastewater directly to the storm sewer and into the harbour. The volume of this second discharge was estimated by Hamilton Water to be approximately \$59 million liters of sewage into the harbour.
- On January 19, 2023 a third spill was discovered from a single home on Kinrade Avenue. Hamilton Water staff found there was a design issue that allowed some of the sanitary sewage from this home to impact a storm sewer. At the location there is a designed overflow connection from the combined sewer to the storm sewer that can be active during wet weather. Based on preliminary investigations by Hamilton Water, it looks like sewage from the home has been leaking into the storm sewer since 1982.



Hamilton

Office of the City Auditor

Mailing Address:

71 Main Street West
Hamilton, Ontario
L8P 4Y5

Office Location:

50 Main Street East, 3rd Floor
Hamilton, Ontario
L8N 1E9

- On January 18, 2023, the Ministry of the Environment, Conservation and Parks (MECP) issued a Provincial Officer's Order to the City of Hamilton to address the sewage spills identified as of that date.

Scope of Work

- Prepare a proposed investigation plan focused on the sewage spills noted above as well as any which may be subsequently discovered for review and approval by the Office of the City Auditor.
- The plan should include but not be limited to gaining an understanding of-
 - What happened to cause the spills, including immediate and root causes, and how Hamilton Water remediated the spills.
 - What systemic issues may exist within Hamilton Water (or City) that may have contributed to the causes (e.g. process, control, or technology deficiencies, resource constraints, etc.).
 - What challenges may exist to mitigate or remediate the issues.
- Prepare investigation report, including relevant recommendations and best practices.

Proposal Requirements

- An overall estimated cost for the planning phase is to be provided, with hourly rates to be provided for future phases.
- The pricing includes all costs associated with the work being done by the vendor such as salary, benefits, overhead, general administrative costs such as photocopying, courier costs, travel expenses, payroll burden and other related costs.
- Proposal to break down work by service roles (e.g. engagement lead, manager, senior professional, professional) with an estimate of the number of hours for each role and the hourly rate for each role for the planning phase.
- Details of staff being put forward for this potential assignment to be provided, summary of relevant professional experience to be included in proposal.



APPENDIX B: CURRICULUM VITAE

CURRICULUM VITAE



Jeff Reitsma, MBA, PMP, P.Eng. *(he/him)*

(604) 674-1100 | jreitsma@30fe.com

555 Burrard Street, 15th Floor, Suite 110, Vancouver, BC V7X 1M8



PROFESSIONAL SUMMARY

Mr. Jeff Reitsma is Vice President and Practice Lead of 30 Forensic Engineering's Construction group, with over 20 years of experience in the engineering consulting and construction industries. Jeff specializes in leadership of multidisciplinary forensic investigations and post-loss remediation projects nationwide and has led design and construction teams for some of the biggest engineering firms in North America. He has overseen municipal capital infrastructure projects from conception to completion and has designed and directed environmental assessment works involving indoor air quality, chemical engineering, mould, asbestos, and fire and flood impact mapping. Jeff is an ODACC-Registered adjudicator supporting dispute resolution under the Construction Act in Ontario.

In his role as Vice President and Practice Lead at 30 Forensic Engineering, Jeff provides leadership across multiple business lines in support of both small-scale forensic investigations and large-scale remediation, environmental, construction claims, and catastrophic event support projects. Jeff's position on the Board of 30 Forensic Engineering allows him to conceive and oversee the execution of strategic initiatives and continuous improvement in the operation and sustainability of the firm. Jeff's commitment to collaboration, mentorship and project management best practices allows him to continually build highly effective project teams and deliver innovative solutions to clients across Canada.

SPECIALIZED PROFESSIONAL COMPETENCIES

Construction

- Project Management – Roles, Responsibilities and Standards of Care
- Contract Administration – Bid and Tender, Scope, Cost and Schedule Review
- Project Scheduling and Financial Controls
- Multidisciplinary Design Coordination and Delivery
- Construction and Demolition Sequencing
- Peer Review and Forensic Analysis of Remediation Scope, Schedule and Cost
- Construction Dispute Resolution (ODACC and ADRIO-registered)



CURRICULUM VITAE

Jeff Reitsma, MBA, PMP, P.Eng.

Environmental / Chemical Engineering

- Indoor and Outdoor Air Quality and Odour Control
- Environmental Hazards, Designated Substances and Health and Safety
- Industrial Ventilation, Pollution Controls and HVAC
- Chemical and Process Engineering
- Regulatory Framework – Permits and Approvals, Pollution Controls and Monitoring
- Resilient Design and Sustainable Infrastructure
- Stormwater and Wastewater Management and Design

Catastrophic Loss

- Disaster Response and Emergency Management (ICS/IMS-certified)
- Multi-team Logistics and Program Management
- Multidisciplinary Investigations, Triage and Remediation Design
- Large-scale and Complex Municipal and Transportation Infrastructure Assessment

Infrastructure

- Infrastructure Analysis and Design – Water, Wastewater and Stormwater Conveyance and Treatment
- Climate Change and Flood Risk Analysis and Design
- Municipal Asset Management and Emergency Response

ACADEMIC BACKGROUND

Master of Business Administration (With Distinction), University of Adelaide, 2003

Bachelor of Applied Sciences (With Honours) — Environmental-Chemical Engineering, University of Waterloo, 2000

ADDITIONAL COURSES

- Adjudication for Administrative Agencies, Boards & Tribunals, York University Law School, 2019
- Incident Management System (IMS-100), OFMEM, Toronto, 2017
- Incident Command System (ICS-100, -200), AEMA, Calgary, 2017
- B&V Project Management Essentials, B&V, Kansas City, 2014
- Joint Health & Safety Committee Member Certification, OSG, Toronto, 2014
- B&V Engineering Management Essentials, B&V, Kansas City, 2012
- Project Management for Construction, University of Toronto SCS, Toronto, 2010



CURRICULUM VITAE

Jeff Reitsma, MBA, PMP, P.Eng.

- Essentials of Project Management, University of Toronto SCS, Toronto, 2009
- Technical & Proposal Writing, IWCC, Markham, 2008
- Comprehensive Project Management, Procept, Markham, 2008

EMPLOYMENT BACKGROUND

30 Forensic Engineering

Vice President & Practice Lead, Construction
2023 – Present, Vancouver, BC

- Member of the executive leadership team responsible for the management, strategic planning, and governance of 30 Forensic Engineering.
- Provide technical project leadership, senior review and program management services on construction, environmental, health & safety, CAT Loss, multi-disciplinary, large-scale and complex loss projects.
- Lead property team marketing, sales and client delivery efforts across multiple business lines.
- General business leadership including forecasting, strategic planning, quality, team performance management, liaison with human resources, accounting and finance.
- Construction responsibilities include:
 - Provision of expert opinion related to schedule, scope and pricing of construction and remediation-related disputes
 - Peer review of cost submittals in multi-disciplinary claims, subrogation, surety, and dispute reviews
 - Dispute resolution activities in support of construction and insurance administrative justice settings (appraisal, adjudication, mediation)
 - ODACC-registered adjudication of disputes under the Construction Act in Ontario
- Environmental & Chemical Engineering responsibilities include:
 - Direction of environmental assessment works including indoor air quality, mould, asbestos
 - Loss impact assessment – smoke, soot, and water impact mapping
 - Review of analytical results and process information (e.g. MSDS, toxicological data, designated substance testing results) in the development of cleaning & access protocols and assessment of health & safety risks
 - Oversight of environmental abatement & remedial construction contractors
 - Coordination with internal practice leads to help manage talent development and workload
 - Provision of construction, infrastructure, chemical and environmental engineering expertise in support of legal dispute files; certified as Expert Witness
- Remediation responsibilities include:
 - Leadership of multi-discipline engineering teams
 - Management of quality, scope, budgets and schedule
 - Provision of project and construction management expertise across client service delivery groups



CURRICULUM VITAE

Jeff Reitsma, MBA, PMP, P.Eng.

- Liaison with owners, contractors and regulators in development of permits and project execution plans
- Leadership team responsibilities include:
 - Secretary of Board of Directors
 - Chair – Finance, Planning & Risk Management; and Joint Health & Safety Committees
 - Board Sponsor – 30 Ventures and Innovation Committee
 - Provision of strategic, marketing and governance input into overall firm operations in conjunction with leadership
 - Ongoing review of risks, opportunities, and liaison on financial and strategic opportunities in collaboration with the leadership team

Vice President & Practice Lead, Remediation
2018 – 2023, Toronto, ON

Practice Lead, Remediation Group
2016 – 2018, Toronto, ON

Senior Associate
2014 – 2016, Toronto, ON

Black & Veatch Canada

Civil Infrastructure Team
2010 – 2014, Markham, ON

- Provided full-range of project and engineering management services for projects ranging from small investigations and studies through to complex multidisciplinary municipal capital infrastructure upgrades.
- Stewarded projects through life cycle, including management aspects such as business development and client relationship management, development of project budgets and schedules, management of contractual, schedule, and financial issues and general conformance with client and internal QA/QC requirements. Technical execution aspects included leadership of internal team including coordination of workloads and design activities and incorporation of inputs from external sub-consultants and specialty service providers.
- Lead project reviews of constructability, health and safety, designated substances & hazardous materials, operations and maintenance, risk, and procurement within broader best-practices project management framework.

AECOM Canada (formerly EarthTech Canada)

Environmental & Air Quality Group
2003 – 2010, Markham, ON

- Provided project management services for small- and medium-sized environmental and air quality projects, and engineering management leadership on large municipal capital infrastructure upgrades. Project responsibilities included oversight of scope, budget and schedules, satisfaction of client invoicing, progress- and earned-value-reporting requirements.



CURRICULUM VITAE

Jeff Reitsma, MBA, PMP, P.Eng.

- Design & assessment work within air quality team (indoor air quality, odour control, demolition and process-mechanical) included on-site investigation, testing and data gathering, review of chemical and environmental hazards, design of control systems, process engineering calculations (exposure limits, flow-rate calculations, process design, drawings and specifications as well as identifying and obtaining required permits and approvals.

Stantec Consulting

Industrial Group, Environment & Air Quality Team
2000 – 2002, Mississauga, ON

- Supported small scale industrial ventilation and air quality projects by executing site assessments (mould & IAQ assessments, process analyses), design calculations and sketches, writing reports, review of MSDS and toxicological reports and development of air quality control systems.
- Lead execution of permits and approvals (Ontario Air & Noise, NPRI, TRCA Development, municipal building permits) and leading air contaminant dispersion modelling for commercial and industrial clients and review of applicable air quality codes and standards.

Co-op Assignments

- Stantec Consulting – Air Quality Team, Mississauga, ON – ventilation system design and air permitting for chemical, steel & metals, and automotive industrial clients.
- Petro-Canada (Lubricants) – Environmental Team, Mississauga, ON – logistics optimization and hazardous emissions management.
- Polycon Canada – Process Improvement Team, Guelph, ON – chemical optimization team and paint shop H&S review.
- Domtar Fine Papers – Quality Control, Cornwall, ON – quality trials coordination and support to production team.
- Tunnel Systems Inc. – Steel & Welding Team, Guelph, ON – materials handling & production support.
- Environment Canada – Hazardous Materials Branch, Hull, QC – review and support of federal regulatory framework development for life-cycle analyses.

PROFESSIONAL SOCIETIES AND ASSOCIATIONS

- Society for Construction Law, Member
- Alternative Dispute Resolution Institute of Ontario (ADRIO), Member
- Ontario Dispute Adjudication for Construction Contracts (ODACC), Registered Adjudicator
- Society of Ontario Adjudicators and Regulators (SOAR), Member
- Ontario Association of Emergency Managers (OAEM), Member
- Professional Engineers of Ontario (PEO), Member & Licensed Professional
- Association of Professional Engineers and Geoscientists of Alberta (APEGA), Member, Licensed Professional, Responsible Member



CURRICULUM VITAE

Jeff Reitsma, MBA, PMP, P.Eng.

- Association of Professional Engineers and Geoscientists of British Columbia (APEGBC), Member & Licensed Professional
- Ordre des ingénieurs du Québec, Member
- Team Rubicon, Member
- Project Management Institute (PMI), Member
- PMI Construction Community of Practice, Member

AWARDS AND ACHIEVEMENTS

- 30 Forensic Engineering 2016 Outstanding Leadership Award
- 30 Forensic Engineering 2016 Outstanding Innovation Award (*shared with J. Burns, S. d’Obrenan, P. Robalino, R. Parkinson*)
- EarthTech 2007 President’s Award for Technical Excellence—Facilities (Gold)—OPG Darlington Dry Storage Facility

PUBLICATIONS AND SPEAKING ENGAGEMENTS

Speaking Engagements

- “*After the Smoke Has Cleared – Secondary Risks in Fire Loss Events*”, Subject Matter Expert, CURIE Atlantic Canada Risk Management Conference, October 2019.
- “*Environmental and Remediation Risks*”, Subject Matter Expert, Service Master Canada National Meetings (West, Central, East Sessions), March 2018.
- “*Consulting at 30 Forensics*”, Subject Matter Expert & Lead Instructor, 30 University (Internal), November 2017.
- “*The Future of Infrastructure*”, Presenter and Discussion Panel Member, JLT Canada Public Sector Summit, October 2017.
- “*Project Management Boot Camp*”, Subject Matter Expert & Lead Instructor, GK University (Internal), June – August 2016.
- “*Effective Communications & Soft Skills Workshop*”, Subject Matter Expert & Panel Member, WEAO Young Professionals, Ryerson University, January 2015.
- “*Foundations of Project Management*”, Primary Technical Lead, B&V Water College (United Kingdom & Middle East), August – November 2014 (various engagements).
- “*Foundations of Project Management*”, Subject Matter Expert – Integration, Quality, Procurement & Stakeholder Management, B&V Water College (Americas), January 2013 – November 2014 (various engagements).

Publications

- Gilkinson, M., Pelkman, D., Reitsma, J., “*PV Systems Today—How They Fail & Why*”, In: CURIE Risk Management Newsletter, Volume 34 Issue 21, June 2019.
- Ciasnocha, C., Reid, J., Reitsma, J., “*The Hazards of Adjusting*”, In: Canadian Underwriter, February 2018.



CURRICULUM VITAE

Jeff Reitsma, MBA, PMP, P.Eng.

- Barrett, M., Reitsma, J., “Project Management in Large Loss Property Claims”, In: PLRB Claims Conference, March 2017.
- Reitsma, J., “Multi-disciplinary Approach to Remediation”, In: Insurance People, November 2016.
- Allan, W., Reitsma, J., “Odor Control System for Nashville Central WWTP Bio-solids Handling Facility”, In: WEF Odors and Air Emissions Conference, April 2008.
- Carciumaru, A., Reitsma, J., “Clarkson WWTP - Odour Control System Design and Installation”, In: WEAO Technical Symposium, April 2007.



APPENDIX C: LIST OF PROVIDED MATERIALS



List of Provided Materials

- Scope of Work, City of Hamilton #60228, received February 8, 2023;
- Report to Public Works Committee and Presentation, including appendices, received March 2, 2023;
- Provincial Officer's Order, dated January 18, 2023;
- Contractor Video Information;
 - C11-29-04 RFP for Zoom Camera *PDF*;
 - C11-39-15 - RFP Zoom Camera Inspections – FINAL *PDF*;
 - C11-86-10_HJ05E063 *Video*;
 - Contract No. RHW-96-20 (HSW) *PDF*;
 - HAMI-AZ-09_HJ05E063_2009-04-03_03-42-52_T-27_1 *Video*;
 - HJ05E002 - HJ05A061 Post Installation Conditions *Video*;
 - HJ05E063 Chamber *Image*;
 - Properties Connected to Combined Sewer *Image*;
 - smh inspection report (301-400) *PDF*;
- Investigation and Drawings;
 - Drawings;
 - 974(Burlington Widening Geotechnical) *PDF*;
 - 1910 W-41-S_1(Wentworth Local) *PDF*;
 - 1911 G-3_S(Burlington Local) *PDF*;
 - 1911 W-42_S - 1911 Drawing *PDF*;
 - 1912 N-8_S(Niagara Local) *PDF*;
 - 1924 B-130_S4(Western) *PDF*;
 - 1924 B-130_S4A (Western) *PDF*;
 - 1926 W-105-S_2(Storm) *PDF*;
 - 1930 B-195-S_1(Western) *PDF*;
 - 1958 S-269-H_1(1998 Inlets) *PDF*;
 - 1987 HAM SEW_J-05 *PDF*;
 - 1994 94-H-55_3(Hatch) *PDF*;
 - 1996 96-H-11_3 - Burlington @ Wentworth 1996 *PDF*;
 - 1996 96-H-11_3(Parker) *PDF*;
 - 1996 96-H-11_9(Parker) *PDF*;



- 1996 96-H-11_9 *PDF*;
 - Investigation Notes;
 - Burlington and Wellington Intersection *Powerpoint*;
 - Burlington and Wentworth Intersection *Image*;
 - Open Notebook *Note*;
 - References *Note*;
 - Records;
 - 96-H-11_3 - Burlington @ Wentworth 1996 *PDF*;
 - 96-H-11_9 *PDF*;
 - Drawing and Pictures - FW_ Spill at Burlington St and Wentworth St N (HJ05E063) *Email Correspondence*;
 - ES Capital Sewer Inspection Program *Word Document*;
 - HAM SEW_J-05 *PDF*;
 - Initial Report - FW_ Spill at Burlington St and Wentworth St N (HJ05E063) *Email Correspondence*;
 - W-42_S - 1911 Drawing *PDF*;
- MOE;
 - Items 3 and 4 - Sampling Program;
 - 2023 March 16 Report on MECP Burlington St Order Task No. 3 *PDF*;
 - 2023 March16 Final Report on MECP Burlington StE Order task3_Clean FINAL *PDF*;
 - Preliminary CSS and Storm Sewer Overview _Figure 1 FINAL for report *PDF*;
 - Re Final Report attached - with updated Figure 1 *Email Correspondence*;
 - MOE Correspondence;
 - Burlington Wentworth Update *Email Correspondence*;
 - Burlington Street Spill - Contract Diaries Scans - Burlington Street Reconstruction *Email Correspondence*;
 - Burlington Street Spill - Contractor Inspection Reports for CCTV Videos *Email Correspondence*;
 - Burlington Street Spill - Follow-up Action Items from MECP Meeting - December 1 2022 *Email Correspondence*;
 - Burlington Street Spill - MECP Meeting - December 1 2022 *Email Correspondence*;
 - Burlington Street Spill - Reports and Videos *Email Correspondence*;



- Burlington Street Spill Samples - Final Reports Approved - November 28 2022 *Email Correspondence*;
 - Burlington Wentworth Incident Provisional Results *Email Correspondence*;
 - City of Hamilton - Burlington Street Estimated Sewage Spill Volume *Email Correspondence*;
 - FW Response No. 2 - Burlington Street Spill - Follow-up Action Items from MECP Meeting - December 1 2022 *Email Correspondence*;
 - FW Sewage Spill - FILE 1-29OZAO *Email Correspondence*;
 - FW Spill at Burlington St and Wentworth St N (HJ05E063) *Email Correspondence*;
 - Meeting Request - FILE 1-29OZAO1-106755872 *Email Correspondence*;
 - RE Burlington Street Spill - Reports and Videos *Email Correspondence*;
 - RE City of Hamilton - Burlington Street Estimated Sewage Spill Volume *Email Correspondence*;
 - RE Notification of sample submission - SR#16685048 _ Provisional Results *Email Correspondence*;
 - RE Sewage Spill - FILE 1-29OZAO *Email Correspondence*;
 - Sewage Spill - FILE 1-29OZAO *Email Correspondence*;
 - Update to Council Environmental and Infrastructure Issue - Burlington Street Sewage Spill *Email Correspondence*
- Received April 19, 2023;
 - Transfer of Assets (PW-11-P-004-003), dated April 2022;
 - Management of Asset Transfer V1.1;
 - Email correspondence, dated April 20, 2023;
 - Received April 25, 2023;
 - Pre-Engineering Baseplan Checklist, City of Hamilton, dated 2019;
 - Pre-Engineering Sectional Guidebook, dated 2019;
 - Received May 11, 2023;
 - Appendix A – Specification for Sewer Pipe Materials and CCTV Inspection;
 - Proposal for Contractor Required for Maintenance Hole, Mainline and Lateral Sewer Inspection;
 - CCTV Decision Matrix;
 - City's Criteria Summary;
 - Sewer Inspection Prioritization Program;



- Received May 15, 2023;
 - Hamilton Drawing Management Req Definition V.2;
 - PRISM Interactive Mapping Guide;
- Received June 13, 2023;
 - Proposal for Services, City of Hamilton #60228; and
- Received July 18, 2023;
 - City of Hamilton Purchase Order.



30 Forensic Engineering

Vancouver	(604) 674-1100
Calgary	(403) 208-4545
Toronto	(416) 368-1700
Ottawa	(613) 903-6900

30fe.com



Hamilton

OFFICE OF THE
AUDITOR GENERAL

Stormwater Asset Management – Investigation of Recent Sewage Leaks

Recommendations and Management Responses

November 16, 2023

**Office of the Auditor General
Nancy Hu, Senior Auditor
Brigitte Minard, Deputy Auditor General
30 Forensic Engineering**

Introduction

As a result of the investigation completed by 30 Forensic Engineering on behalf of the Office of the Auditor General, opportunities for improvement were identified and five recommendations were made (as noted in Appendix "A" to Report AUD23010).

The Office of the Auditor General requested management responses from the Hamilton Water Division in the Public Works Department.

Recommendation 1

The approach prescribed in the Stantec report – which was in many respects already underway within Hamilton Water – be continued, namely:

- The Existing Sewer Lateral Cross-Connection Program.
- Existing passive monitoring and complaints-driven processes to identify and investigate suspected cross-connections and spills;
- Continue and expand the Risk-Based Proactive Pilot Program in the high-risk central Hamilton combined sewer system and use this as a launching pad for a permanent System-wide Unauthorized Discharges Removal and Inspection Program (SUDRIP); and
- Review and revise these programs over time to ensure they remain a good value from a risk-reward program as infrastructure is renewed, cross-connections are repaired, and high-risk areas are cleared.

Management Response

Agree.

Hamilton Water will continue to action the programs highlighted in recommendation one. Hamilton Water took a recommendation report to Public Works Committee on September 8, 2023, recommending the implementation of the System-wide Unauthorized Discharges Removal and Inspection Program (SUDRIP). The recommendations were approved by Council on September 13, (PW22088(b)).

Estimated Completion: Council approved the resources needed to implement the System-wide Unauthorized Discharges Removal and Inspection Program (SUDRIP) program. Hamilton Water is currently working to create the new

positions and begin recruiting. It is expected that the 11 positions will be posted in October or early November of 2023 with the intent to fill them in Q1 2024.

Hamilton Water's quality management systems requires Hamilton Water to continually review its programs and make improvements.

Recommendation 2

Use and refine Hamilton Water's risk-scaled communication and response (for as-yet-undiscovered leaks/cross-connections). As it is likely that residual risk exists that new leaks/spills may be uncovered; therefore, transparency and response planning remain important.

Management Response

Agree.

Council approved the Hamilton Water Sewage Spills Communications Guideline on February 22, 2023 (PW22088(a)). As a result, Hamilton Water created the procedure "PW-WW-P-012-018 - Sewage Spills Communication Plan" under Hamilton Water's wastewater quality management system. Procedures are reviewed at a minimum every 3 years. Since this is a new procedure that is critical to ensuring effective and transparent communication with Council, the community, and the City's partners this procedure is scheduled for a review in Q1 2024.

Estimated Completion: Complete/Ongoing. The new communications procedure is currently in use and will be reviewed in the first quarter of 2024 and at a minimum of every 3 years thereafter or earlier if required.

Recommendation 3

Continue with protocols for the validation and integration of asset management information across the IPS, WIMS, and SPIDER systems during design, construction, and maintenance activities. Long-term establishment of a unified asset management database should remain a priority to facilitate inter-divisional collaboration and communication which were a hallmark of the excellent response to the three identified spills.

Management Response

Agree.

The existing protocols that have been refined over time will continue to be followed for the verification and integration into the different systems noted in

recommendation three. Currently there is a Public Works project to implement an Enterprise Asset Management (EAM) system that will consolidate the various asset management systems used across Public Works. This system is expected to be operational for Hamilton Water by quarter one 2026.

Estimated Completion: EAM is being implemented across the various Divisions of Public Works in a phased approach and is expected to be operational for Hamilton Water by Q1 2026.

Recommendation 4

Consider the incorporation of risk-based inclusion of Hamilton Water and Hamilton ES expertise across divisions on design and construction projects at key milestones (e.g., pre-tender design reviews, pre-construction field surveys, CCTV inspections) to increase the frequency of personnel with optimal and timely expertise being part of projects, particularly those wastewater projects with higher risks of cross-connections, spills, or other community impacts.

Management Response

Agree.

The current Engineering Services Division capital delivery process incorporates cross divisional scope collection and design reviews at key milestones. These activities will continue to evolve as part of an overall effort and commitment to continuous improvement and quality management.

Action Items:

Develop and establish a process for Infor Public Sector (IPS) data collection standard so that all stakeholders undertaking CCTV sewer inspection capture and record the data in IPS.

1. Establish and formalize a process for data collection for CCTV sewer inspection and escalation.
2. Training – Ensure staff are being trained and updated on sewer inspection standards and methodologies.

Estimated Completion: Q4 2024. Lead Responsibility: Engineering Services Division with support from the Hamilton Water Division.

Recommendation 5

Continue to evaluate opportunities for improvement on a cost-benefit basis including costs to the natural environment and community, for policies associated with infrastructure investment and operation as they relate to stormwater management.

Management Response

Agree

The City will continue to look for and evaluate opportunities for improvement in the areas noted in recommendation five as they relate to stormwater management. This will be done in accordance with Hamilton Water's Wastewater Quality Management System, the City's Water, Wastewater and Stormwater Master Plan and industry best practices.

Estimated Completion: Ongoing.



Hamilton

Office of the Auditor General

STORMWATER ASSET MANAGEMENT –
INVESTIGATION OF RECENT SEWAGE LEAKS

Brigitte Minard, Deputy Auditor General

Jeff Reitsma, 30 Forensic Engineering

November 16, 2023

- Gained an understanding of wastewater processes.
- Gained an understanding of operational processes and standards regarding wastewater spill inspections, maintenance best practices and common issues.
- Procured 30 Forensic Engineering to complete the investigation on our behalf, while maintaining oversight of the investigation process to ensure quality and value were received.

30 Forensics Investigation Summary

- 30 Forensics Background
- Investigation:
 - Mandate from OAG: review 3 issues as follows...
 - What happened to cause the spills, including immediate and root causes, and how Hamilton Water remediated the spills.
 - What systemic issues may exist within Hamilton Water (or City) that may have contributed to the causes.
 - What challenges may exist to mitigate or remediate the issues.
 - Review of documentation, meetings with Hamilton Water & Engineering Services.
 - Summary of findings.
- Report provided late August (draft for comments); finalized early November.

- Five recommendations made to Hamilton Water
 - Management agreed with all recommendations.
- Management is currently working on implementing their management responses.
- OAG is recommending that Council directs Hamilton Water to report back was a status update in May 2024.




Hamilton

THANK YOU



CITY OF HAMILTON
OFFICE OF THE AUDITOR GENERAL

TO:	Chair and Members Audit, Finance and Administration Committee
COMMITTEE DATE:	November 16, 2023
SUBJECT/REPORT NO:	Fraud and Waste Annual Report (AUD23011) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Brigitte Minard, CPA, CA, CIA, CGAP, CFE (905) 546-2424 Ext. 3107 Cindy Purnomo Stuve, IAP (905) 546-2424 Ext. 2257
SUBMITTED BY:	Charles Brown, CPA, CA Auditor General Office of the Auditor General
SIGNATURE:	

RECOMMENDATIONS

- (a) That Appendices "A" and "B" to Report AUD23011 be received.
- (b) That the creation of one Full Time Equivalent (FTE) employee for a Senior Auditor which was previously referred to the 2024 Operating Budget be deferred to the 2025 Operating Budget.

EXECUTIVE SUMMARY

This report is the Annual Report of Fraud and Waste activity and includes the reporting period of July 1, 2022 to June 30, 2023. A total of 159 reports were received and assessed by the Office of the Auditor General (OAG) during this reporting period. Thirteen investigations were launched by the OAG, and there was an overall substantiation rate of 31%.

A detailed report containing the types of reports received, investigations opened, and report examples can be found in Appendix "A" to Report AUD23011.

Alternatives for Consideration – Not Applicable

SUBJECT: Fraud and Waste Annual Report (AUD23011) (City Wide) - Page 2 of 4**FINANCIAL – STAFFING – LEGAL IMPLICATIONS**

Financial: None.

Staffing: None.

Legal: None.

HISTORICAL BACKGROUND

By-law 19-181 (Whistleblower By-law), Section 19 – Responsibility of the Auditor General requires reporting to Council semi-annually, in the aggregate, on the number, nature and outcome of disclosures of serious wrongdoing made under this By-law.

On June 27, 2018, Council directed the Auditor General to implement a Fraud and Waste Hotline with intake performed by an independent third party as part of a three-year pilot project. The City's Fraud and Waste Hotline launched in July 2019 and was made permanent in March 2023.

The third Fraud and Waste Annual Report (AUD23003) was presented to the Audit, Finance and Administration Committee on February 16, 2023. Report AUD23003 fulfilled the semi-annual reporting requirement for January to June 2022, as it contained the information required by the Whistleblower By-law.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

Whistleblower By-law No. 19-181

To Appoint the City Auditor as an Auditor General under Section 223.19 of the *Municipal Act, 2001* By-law No. 19-180

RELEVANT CONSULTATION

Human Resources and Legal and Risk Management Services were consulted as required during the assessment and investigation of Fraud and Waste Hotline reports.

Management was informed of reports relating to their area of responsibility.

ANALYSIS AND RATIONALE FOR RECOMMENDATIONS

This report is the Annual Report of Fraud and Waste activity and includes the reporting period of July 1, 2022 to June 30, 2023. The 2022 year-end reporting requirement for

SUBJECT: Fraud and Waste Annual Report (AUD23011) (City Wide) - Page 3 of 4

whistleblower disclosures was fulfilled with Report AUD23009 (July 2023) and this report fulfils the 2023 mid-year reporting requirement for whistleblower disclosures. Since the Fraud and Waste Hotline launch, there has been an increased level of awareness by employees and management to report fraud, waste and whistleblower matters to the Office of the Auditor General. The Office of the Auditor General would like to acknowledge the reports submitted by employees and management, along with the assistance provided to complete assessments and investigations. Reporting these matters so they can be assessed and investigated increases the City of Hamilton's transparency and accountability.

A detailed report containing the types of reports received, investigations opened, and report examples can be found in Appendix "A" to Report AUD23011. This report does not represent an overall picture of fraud, waste or other wrongdoing at the City of Hamilton as there may be items that were not reported to the Office of the Auditor General or items that remain undetected.

An infographic summarizing the activity can be found in Appendix "B" to Report AUD23011.

The Office of the Auditor General would like to thank members of the public that submitted reports and for providing additional information as requested by the Office of the Auditor General.

Future Reporting

The City of Hamilton's Whistleblower By-law (19-181) has a semi-annual reporting requirement. Information about the number, nature, and volume of whistleblower disclosures for the first six months of 2023 are included in this report. The 2023 year-end reporting requirement will be met with the next Semi-Annual Fraud and Waste Report, which is expected to be presented in March or April 2023.

Referral to 2024 Budget of Request for Additional FTE

In July of this year, OAG brought forward a request for one additional full-time FTE to respond to the growing volume of fraud and waste complaints. In that Report (AUD23009) a recommendation was made and approved by Council for referral to the 2024 Budget process.

However, OAG is cognizant of the challenges of this year's budget pressures, and takes seriously the direction to carefully consider such requests in light of Council priorities and the financial impact on residents. Accordingly, we recommend that this request be deferred to the 2025 Operating Budget.

SUBJECT: Fraud and Waste Annual Report (AUD23011) (City Wide) - Page 4 of 4

ALTERNATIVES FOR CONSIDERATION

Not applicable.

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Community Engagement and Participation

Hamilton has an open, transparent and accessible approach to City government that engages with and empowers all citizens to be involved in their community

Our People and Performance

Hamiltonians have a high level of trust and confidence in their City government.

APPENDICES AND SCHEDULES ATTACHED

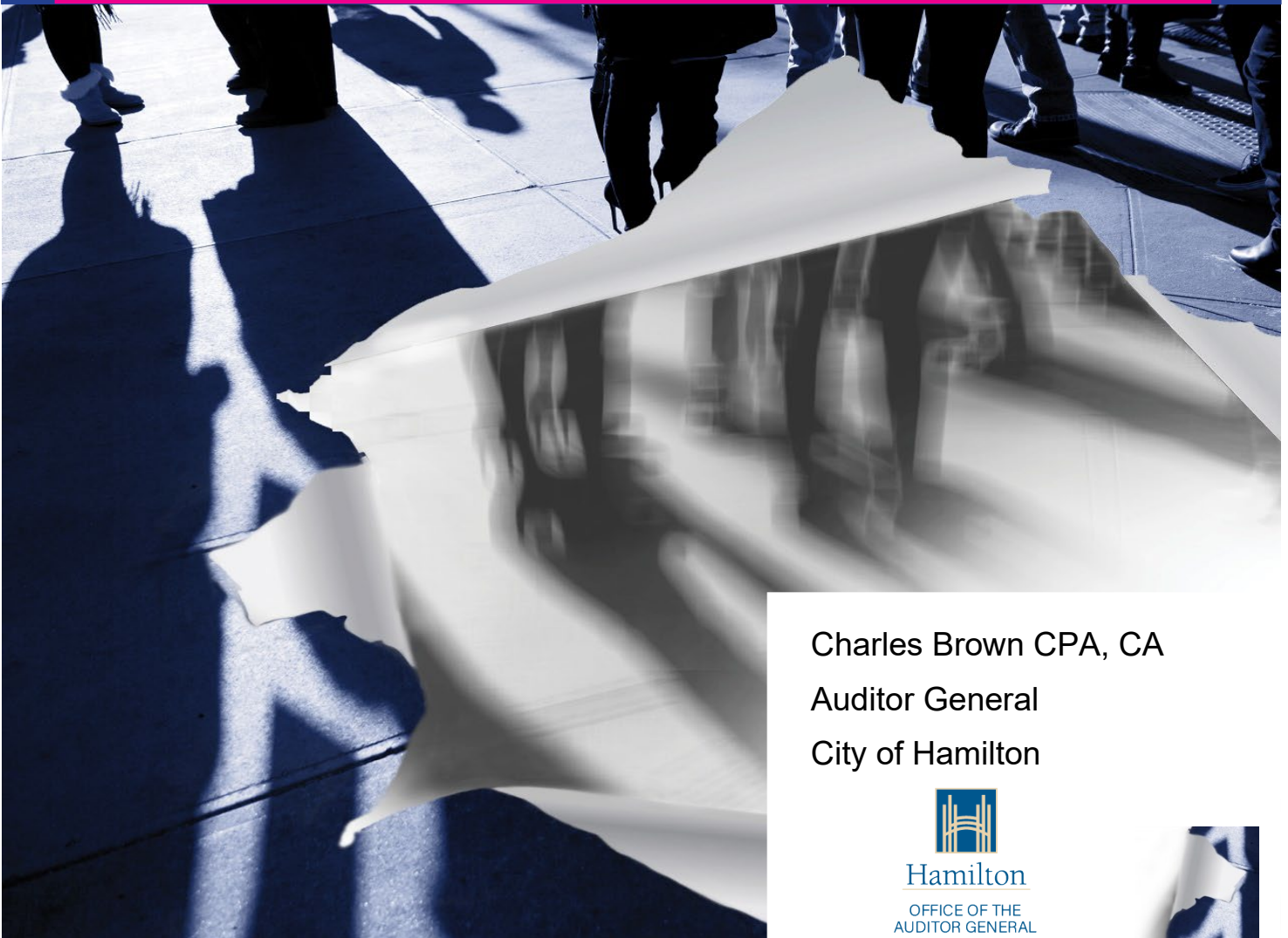
Appendix “A” to Report AUD23011 – Fraud and Waste Annual Report 2022-2023

Appendix “B” to Report AUD23011 – Fraud and Waste Annual Report Infographic

City of Hamilton
Office of the Auditor General

FRAUD AND WASTE ANNUAL REPORT

July 1, 2022 to June 30, 2023



Charles Brown CPA, CA
Auditor General
City of Hamilton



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Summary and Commentary

This year's Fraud and Waste Annual Report reflects the fourth year of activity of the hotline since it was launched in July 2019. It provides a summary of the complaints received, the investigations launched, and the results and actions that took place related to allegations of fraud and government waste.

During the first year, July 2019 to June 2020, the volume of reports received by the Office of the City Auditor exceeded initial expectations, with 85 reports being received. For the second year, July 2020 to June 2021, the volume of activity continued to exceed expectations with 80 reports received. For the third year, the volume increased significantly with 107 reports received.

In this fourth year, volume rose to even higher levels, with 159 reports being received, a 49% year over year increase in reports. During the first three months of the fifth year of implementation there were 22 complaints reported. Clearly, the hotline continues to be well used.

With 159 complaints received in the most recent reporting year we have noted that 48% come from self-identified employees and 52% from the public. While most of the complaints we receive are dealt with through referral and report back, a significant number (13), involved investigation by our Office. Overall the substantiation rate of complaints received was 31%. We also continued to follow the approach of the previous year by making it a practice to initiate spontaneous system or process audits in response to issues that could have systemic repercussions. In that regard we launched audits and/or reviews of Stormwater Asset Management – Investigation of Recent Sewage Leaks (AUD23010), and we are in the final stages of fieldwork of a significant audit of Real Estate Leases and Licensing that is expected to be reported to the Audit, Finance, and Administration Committee in Q1 2023. Due the high volume employee benefits fraud reports received by the OAG, an audit of employee extended health and dental benefits administration has also been launched, with audit planning work underway.

The purpose of the hotline and ensuing investigation of complaints is to ensure honesty, integrity and accountability in the operations of the City. One of the significant benefits is that it affords an opportunity to identify systemic problems, themes or emerging issues that can be considered by City management in their operations and Council in their governance.

An item to note is that for losses substantiated, there were more losses due to fraud rather than waste for the first time since the launch for the Fraud and Waste Hotline. This is due, primarily, to a new, and significant issue that came to prominence in this reporting period – employee benefits fraud. There was a total of 10 reports made involving current or former City employees, and their dependents. Some of the matters were investigated by HR, but one complex,

multi-respondent investigation was completed by the OAG for six of these employees, with the expert support of an external forensic firm. There were several instances where benefits fraud was substantiated, with confirmed losses of over \$43,400. Due to the serious nature of the investigation's findings, the OAG considers this to be a high-risk area for the organization, and the OAG has serious concerns about the organization's current profile of fraud risk pertaining to benefits claims.

One issue that OAG is bringing forward for the third year in a row is the apparent difficulty that management experiences in properly dealing with conflict of interest (COI) situations that arise with employees of the City. Since the hotline was implemented, the OAG has investigated no fewer than 19 instances (more if reports where conflict of interest is one of several topics being looked into are considered) where either the disclosure process or the related mitigation of the conflict of interest has been an issue. Conflicts of interests continue to be one of the most persistent, serious, and time-consuming types of complaints received and investigated by the OAG. The OAG does note that a new version of the Code of Conduct for Employees was approved by Council in 2023, and the reporting process for COI's was revamped, but it is too soon for the OAG to comment on the effectiveness of these process changes. Accordingly, we recommend that senior leadership continue its review of its current process to rationalize and improve the effectiveness with which conflicts of interest are both disclosed and mitigated, and most importantly to elevate the importance of proper disclosure of potential conflicts.

In addition to the recurring theme of conflict of interest policies and processes, we also site emerging issues with the veracity of the City's contract management processes. In a previous audit of the Grightmire Arena project we noted needed improvements, and some of those same issues in the lack of vigorous contract oversight have been evident in some of the cases, both in contracted services and also in transfer payments made to third parties. Further, we have continuing concerns over the risks to the City in protecting against cyberfraud as evidenced by the investigation this year in which the City directed over \$52,000 in payments to an imposter vendor.

Finally, in March of this year Council gave its approval for making the Fraud and Waste Hotline permanent. In doing so it gave authorization for the OAG to enter into negotiations with the existing provider of hotline services toward the establishment of a new contract due to expiry of the old one. The hotline annual service cost during the previous contract was fixed at \$12,500 per year and ran for four years. Under a newly negotiated arrangement OAG has agreed to pay the vendor \$14,750 for an initial three year term, with the option of extending for two more years at modest increases. In its approval Council directed that funds previously approved for the pilot be exhausted first so there will be no effect on the tax operating budget until 2025.

About the Fraud and Waste Hotline

The Fraud and Waste Hotline provides City of Hamilton employees, contractors, vendors, and members of the public a convenient, confidential, and anonymous way to report suspicion or proof of wrongdoing. Wrongdoing is defined as any activity that could be illegal, dishonest, wasteful, or violates a City of Hamilton policy.



Fraud encompasses any array of irregularities and illegal acts characterized by intentional deception.



Waste involves taxpayers not receiving reasonable value for money in connection with any government funded activities, due to mismanagement or an inappropriate or careless act or omission by those with control over or access to government resources.



Whistleblower By-law No. 19-181 is intended to help uncover serious wrongdoing at the City, by bringing it to the attention of management and the Auditor General or their designate, and to ensure it is addressed appropriately, including by means of an investigation where required. The City of Hamilton has had a Whistleblower By-law in force since 2010 (previously By-law No. 09-227).

The Fraud and Waste Hotline enables the City of Hamilton to operate with a high level of honesty and integrity. The Fraud and Waste Hotline is managed by the Office of the Auditor General (OAG), an independent and objective office accountable to Council.

The Office of the Auditor General reviews and assesses every Hotline report to ensure it was made in good faith and if necessary, launch an investigation. The Office of the Auditor General conducts an objective and impartial assessment of each report, regardless of the alleged wrongdoer's position, title, length of service, or relationship with the City.

Alignment to the 2016-2025 Strategic Plan

The Fraud and Waste Report supports the following City strategic objectives:

Community Engagement and Participation

Hamilton has an open, transparent and accessible approach to City government that engages with and empowers all citizens to be involved in their community.

Our People and Performance

Hamiltonians have a high level of trust and confidence in their City government.

Alignment to 2023-2026 Council Priorities

The Fraud and Waste Report supports the following Council priorities:

Responsiveness & Transparency

Government plays an important role in people's lives through the provision of vital services, programs and support systems. To fulfill those responsibilities, City Hall must continue to develop its approach to public engagement, respond effectively and efficiently to public need and feedback, and communicate its approach in an accessible and transparent manner.

Outcome 3: Build a high performing public service

Introduction

This is the Fraud and Waste Annual Report on fraud, waste and whistleblower matters at the City of Hamilton and includes information about the activities of the Fraud and Waste Hotline.

It highlights the reports that have been communicated to the Office of the Auditor General from July 2022 to June 2023. It does not represent an overall picture of fraud, waste, or other wrongdoing across the City of Hamilton.

Fraud and Waste Hotline Program

**Pilot launched
July 2019, made
permanent in
March 2023**

The Fraud and Waste Hotline was established to help protect City of Hamilton assets and reduce losses. Since its launch in July 2019, the cumulative total of actual and potential losses investigated is approximately \$1,287,000, with about \$35,900 recovered via repayments/restitution/asset recovery. Effective March 2023, City Council made the Fraud and Waste Hotline a permanent program. Additionally, the Fraud and Waste Hotline provides the following benefits that cannot be quantified:

- Deterring fraud, waste, and wrongdoing,
- Strengthening internal controls and mitigation of risks,
- Improving policies and standard operating procedures,
- Building a culture of accountability,
- Better value in service delivery through increasing operational efficiencies,
- Using hotline report data to identify trends, manage risks, make results-oriented recommendations to management, and inform future audits for the Office of the Auditor General work plan, along with spontaneous audits for high-risk areas.

**No dedicated
Fraud and
Waste team**

The Office of the Auditor General operates the Fraud and Waste program in addition to their other audit assignments. The Office of the Auditor General are a team of professionals who collectively possess the expertise to assess a broad range of reports and conduct investigative work into allegations ranging from simple to complex. When required, the Office of the Auditor General engages outside experts to assist on complex investigations or specialty work due to the small size of the team. Investigation costs are recovered from the home department, per the Fraud Policy and Protocol.

**Independent
oversight**

The Office of the Auditor General also provides independent oversight of management-led investigations by reviewing the adequacy of work performed and evaluating mitigation plans to protect City of Hamilton assets, reduce the risk of future losses, and prevent and deter future fraud, waste, or wrongdoing.

Anonymity of the Fraud and Waste Hotline

Fraud and Waste Hotline intake is independently operated by a third party, Whistleblower Security Inc. Whistleblower Security Inc. provides IntegrityCounts, a Certified Ethics Reporting System, which is a confidential way to report important information and ethical misconduct. Providing any personal information, such as your name, is optional. For any person willing to identify themselves, their information will remain confidential and will not be disclosed unless the Auditor General is compelled to do so by law.

The Office of the Auditor General may have questions or require additional information about a reported incident and will communicate using the Fraud and Waste Hotline anonymous messaging system.






All participants in a fraud and waste investigation are required to keep the investigation details and results confidential.

Role of the Auditor General

The City of Hamilton has appointed the Auditor General as an Auditor General under the Municipal Act (via By-law No. 19-180, and previously No. 12-073) since 2012. This position has the responsibility to assist City Council in holding itself and its administrators accountable for stewardship over public funds and value for money in City operations. This responsibility is fulfilled by completing audits, operating the Fraud and Waste Hotline and conducting investigations as required.

Report Sources

Reports in good faith are made in one of the following ways:

-  **Online** at hamilton.ca/fraud
-  **Email** to cityofhamilton@integritycounts.ca
-  **Phone** 1-888-390-0393
-  **Mail** to PO Box 91880, West Vancouver, BC, V7V 4S4
-  **Fax** to 1-844-785-0699

Overview

53 Reports
Directly Received by the
Office of the Auditor
General (Proxy)

31 Proxy Reports Sent by
City Staff, Management,
HR, Finance, Council
Members

Total Investigations
Launched (Current Year)
13

\$132,000 Loss or
Waste/Mismanagement
Substantiated
(\$1.287M since
Hotline launch)

Number of Reports

159

Number of Reports
Since Hotline Launch

431

Number of Reports by Source

58



Online

62



Email

37



Phone/
In Person

2



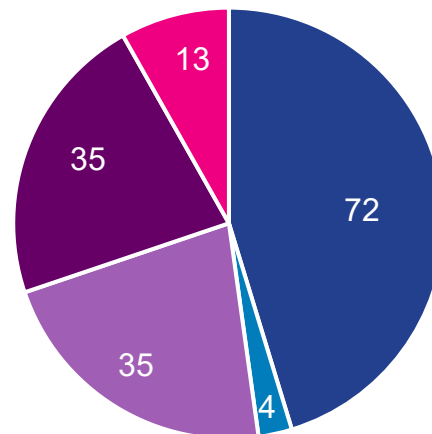
Mail

0



Fax

Report Types July 1, 2022 to June 30, 2023



Referral – Response Required – 72

Referral – No Action Required – 35

No Response Required/ Out of Jurisdiction/ Not Enough Information – 35

Investigations Launched (Current Year) - 13

Pending/In Progress - 4

Investigation Type

2



Fraud

3



Waste

5



Combined Fraud and
Waste/Mismanagement

3

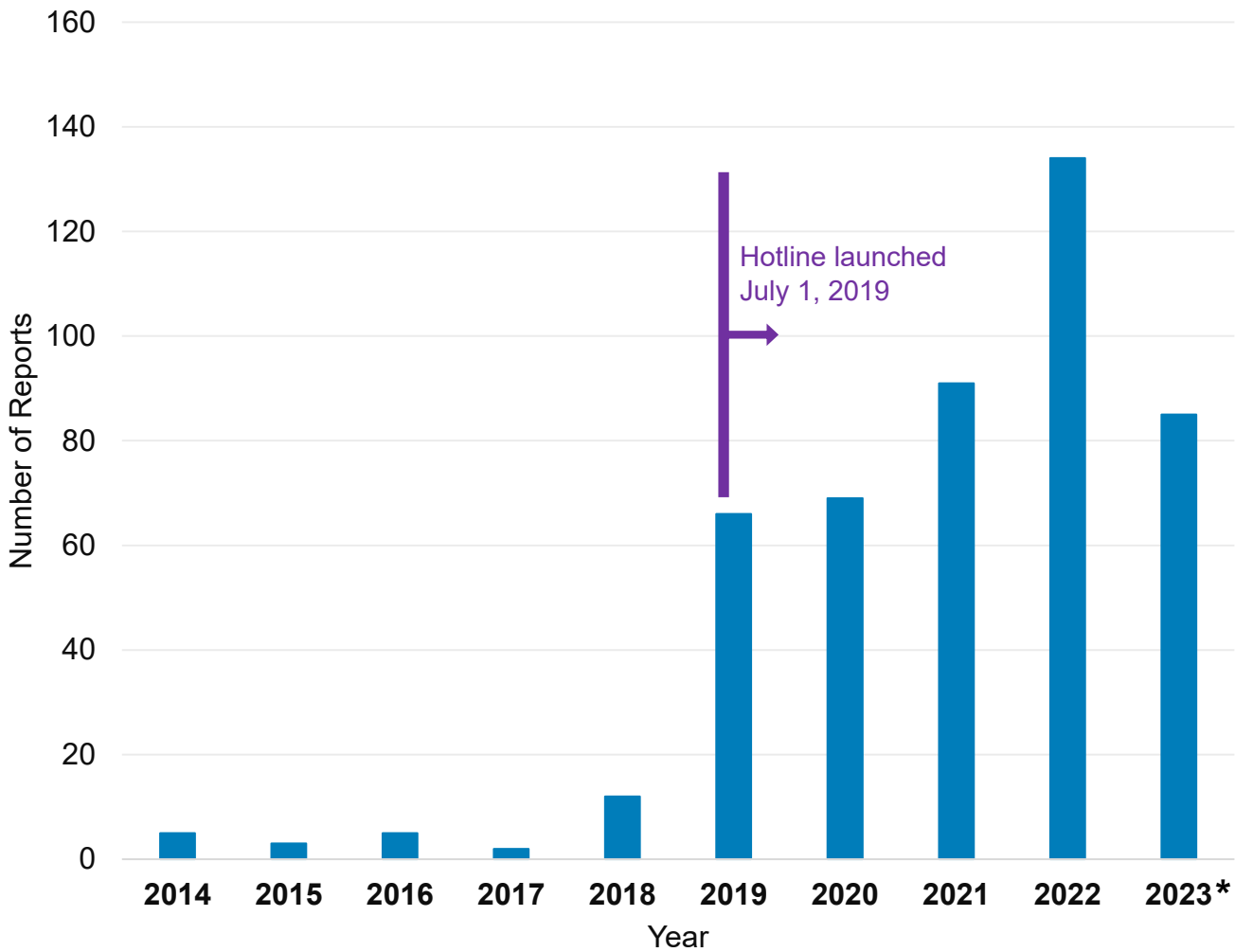


Whistleblower

Historical Volume

This chart depicts the number of fraud, waste, and whistleblower reports from 2014 to June 2023. Between 2018 to 2022, the Office of the Auditor General saw a large increase in reports since the Fraud and Waste Hotline was announced in late 2018 and launched in July 2019. This trend continued into the first half of 2023.

City of Hamilton Fraud, Waste, and Whistleblower Report Volume January 1, 2014 to June 30, 2023



*as at
June 30, 2023

Work Volume

A total of 159 reports were assessed by the Office of the Auditor General in the twelve-month period between July 1, 2022 to June 30, 2023.

There are no staff dedicated solely to the Fraud and Waste Hotline Pilot Program. Existing staff are used to complete assessments and investigations, with some limited usage of external specialty expertise for investigations that require additional support.

In total, about 3,744 hours were spent on Fraud and Waste Hotline administration, assessment, investigations and reporting during this 12-month period. This is approximately equivalent to 2.0 frontline audit FTEs annually (excluding management's time spent on hotline matters). Another way of looking at the resource requirements, the effort is similar to having completed 4 to 5 audits of significant scope and complexity. There are a total of 5 frontline employees in the OAG, when the OAG is fully staffed, there have been significant vacancy and recruiting challenges experienced during this reporting period. It is estimated that management spends between 30-50% of their time on Fraud and Waste matters, depending on the active number of files at any given point in time. Compared to the prior year, a slightly decreased amount of time was spent on Fraud and Waste Hotline matters (prior reporting period was 2.3 FTEs), however this nevertheless had a serious impact as the OAG had 2 of 5 frontline audit FTE positions vacant during this reporting period. The amount of time spent on Hotline matters has been significant in each 12-month reporting period since Hotline's launch.

Reports

From July 2022 to June 2023, a total of 159 reports were received and assessed.

Of the 159 reports received, 106 (67%) reports were received via the third-party hotline operation. Another 53 (33%) reports were received directly by the Office of the Auditor General and were entered as a proxy into the case management system that is provided as part of the IntegrityCounts service contract. Of the 53 proxy reports received directly by the OAG, 29 were made by City staff and management, 22 items were received directly from residents, and two were received directly from City Council members.

For reports received regarding Ontario Works (OW) and Housing Services social services matters, these were referred to OW and Housing Services for assessment and investigation. The investigations were handled by OW/Housing Services, not the OAG. The substantiation status is reported to the OAG for the tracking of aggregate statistics. The OAG reserves the right to investigate any

matter which is not found to be satisfactorily investigated. In this reporting period, there was an uptick in the volume of hotlines cases received by the OAG team relating to OW that were substantiated and actioned by the OW team.

Employee Reports

Seventy-seven (77) of these 159 reports were reported by City of Hamilton employees (48% vs 64% in the prior year). Thirty-four (34) of the 77 employee reports were made anonymously (44% vs 51% prior year). The remaining 43 reports were employees that identified themselves. Many of these 43 reports where the employee identified themselves were employees working in HR, Finance, and Management where they had an awareness of the Fraud Policy and Protocol and of their responsibility to report matters to the Office of the Auditor General as part of their job duties.

The Office of the Auditor General continues to encourage employees and management to submit reports and thanks all those that submitted reports for this reporting period, and for their cooperation during report assessments and investigations.

Reports from the Public

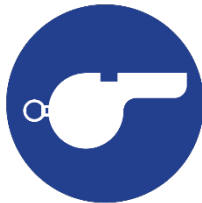
All reports received from the public were assessed and investigated as appropriate. The Office of the Auditor General continues to encourage members of the public to submit reports and thanks all those that submitted reports for this reporting period and for providing additional information as requested.

Anonymous Reports

When a report is made anonymously, it automatically does not qualify as a whistleblower disclosure per the Whistleblower By-law, although it may meet the definition of serious wrongdoing. The vast majority of the reports the Office of the Auditor General received do not qualify as a whistleblower matter due to the fact that they come from citizens or else employees that wish to remain anonymous. In fact, a sizeable proportion of employee reports (34 of 77) do not qualify as a whistleblower disclosure because of anonymity. Overall, 93 of the 159 (59%) reports received for the current 12-month reporting period were anonymous.

It should be noted that anonymous reports are able to be effectively assessed and investigated if the Reporter provides a sufficient level of information. The OAG is able to communicate with an anonymous reporter in the case management system, as long as the Reporter chooses to enable this feature and periodically returns to the online system for exchange of messages. City of Hamilton employees continue to prefer making anonymous reports to the Hotline. While anonymity is not necessarily a constraint to the Office of the Auditor General investigations, the ability to dialogue with a Reporter through the IntegrityCounts online messaging system has proven effective in assisting with investigations.

Reports Involving Whistleblower



3

1

July to December 2022
(Previously Reported)

January to June 2023

Whistleblower Disclosure

By-law 19-181 (Whistleblower By-law), Section 19 - Responsibility of the Auditor General requires reporting to Council semi-annually, in the aggregate, on the number, nature and outcome of disclosures of serious wrongdoing made under this By-law. Activity for July to December 2022 was reported to Council in July 2023.

There were four qualifying Whistleblower disclosures from July 2022 to June 2023.

Three items were reported in the Fraud, Waste, and Whistleblower Semi-Annual Update (AUD23009) covering the period July 2022 to December 2022.

For the first item, the report category is Multiple Categories Applicable (Vendor/Contractor Wrongdoing, Theft/Misuse of Assets and Other-Safety Concerns). The outcome is that the report was partially substantiated.

For the second item, the report category is Conflict of Interest. The outcome is that the report was substantiated, and the (former) employee resigned. For the third item, the report category is Conflict of Interest. The outcome is that the report was unsubstantiated.

There was one report received from January to June 2023. The report's category was Multiple Categories Applicable (Employee Misconduct/Code of Conduct, Fraud) and the outcome is substantiated, and the (former) employee was permitted to resign through a confidential settlement.

Report Categories

A wide variety of reports were received by the Office of the Auditor General for the 12-months covered in this reporting period. The most common report categories were the following:

Top Report Categories (Current Year) Period Summary: July 1, 2022 to June 30, 2023

Multiple Categories Applicable	32
Social Services – Fraud/Wrongdoing	32
Service Complaint/Concern	28
Out of Jurisdiction	19
Time Theft and/or Misconduct	7
Employee Benefits Fraud	6
Conflict of Interest	5
Phishing/Identity Theft	5
Improper Financial Reporting/Budgeting	4
Waste/Mismanagement	4
Theft/Misappropriation	2
Contractor/Vendor Wrongdoing	1
Fraud	1
Public Safety	1
Other Various Categories	12
Total Reports	159

Having the top report category be "Multiple Categories Applicable" is indicative of the growth in complexity of the reports we receive, many of which contain multiple allegations that need to be assessed and investigated (if applicable).

Prior Year Reports

Seventeen open reports were reported at the time the 2021-2022 Fraud and Waste Annual Report was issued. The assessments and investigations were completed by the Office of the Auditor General with the following outcomes: 6 were substantiated, 1 was partially substantiated, 2 were unsubstantiated, 1 had a status "Not Applicable", and 7 are in progress or have an outcome pending.

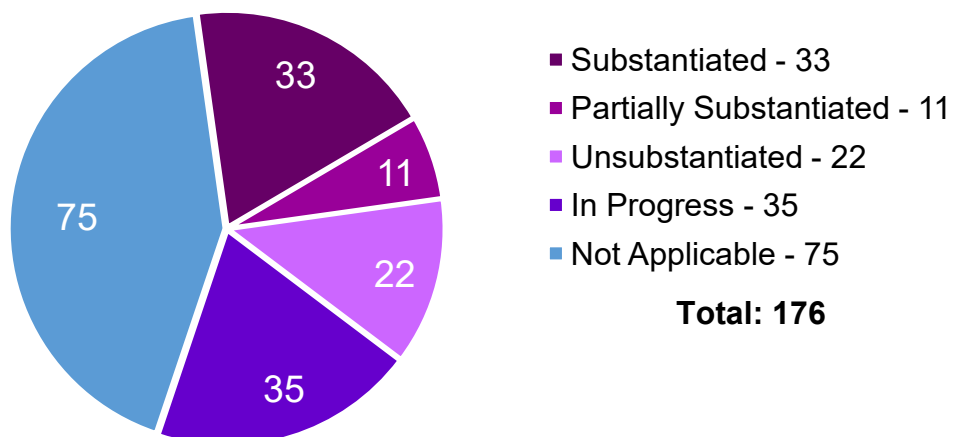
The most common reason for the seven reports being in progress or having an outcome pending are that an audit is in progress, with results expected to be reported in 2024, employees being on leave so the outcome remains as pending, or the OAG is waiting on management to provide information. Outcomes are included in the section above for reports that were closed during the current reporting period.

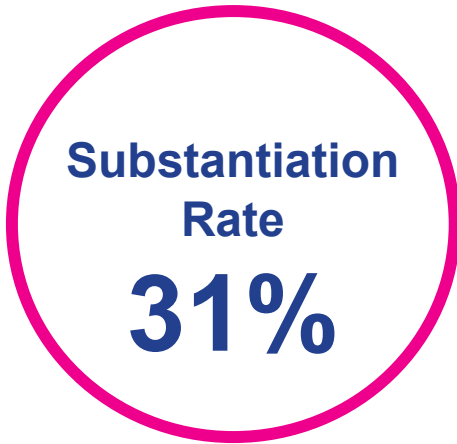
Substantiation

One way of summarizing outcomes is to report on the volume of reports that were substantiated, that is the number of reports where the allegation(s) were found to have merit and were able to be proven by reviewing evidence or with findings from interviews.

Of the reports received from July 2022 to June 2023 (plus any carryforward reports from prior years) the following is a summary of substantiated status. A substantiation result is not applicable (N/A) if a report was out of jurisdiction, the assessment result was that no action was to be taken, or if the report was to be referred elsewhere with no response required.

Volume of Reports Substantiated





Typically, a result is “pending” if the report is still in process of being assessed and/or investigated. Overall the current substantiation rate including carryforward reports from the previous reporting period (both substantiated and partially substantiated) is 31%.

The City of Hamilton’s substantiation rate for the prior reporting period was 32%. For comparative purposes, in the City of Toronto Auditor General’s 2022 Annual Report on the Fraud and Waste Hotline, 10% of complaints from 2022 that were investigated were substantiated in whole or in part. In the City of Ottawa’s 2022 Report on the Fraud and Waste Hotline, 27% of reports closed in 2022 were substantiated. The substantiation rate will vary annually, depending on the mix of reports received by the OAG and the number of reports in progress at the end of reporting period, which have their substantiation rate counted in the reporting period that the work is completed and the report is closed.

**Loss or Waste/
Mismanagement
Substantiated**

It is difficult to measure or substantiate a precise cost of fraud and waste. Incidents sometimes remain undetected for long periods of time. It is also challenging at times to determine the entire time period that a fraud or waste was occurring, which makes it hard to quantify losses.

**\$1.287M
Loss or Waste/
Mismanagement
Substantiated
Since Hotline
Launch**

As at October 31, 2023, the amount of confirmed loss or waste substantiated by the Office of the Auditor General since the last Annual Report was issued was \$132,000. Of this this amount, \$110,000 was fraud and \$22,000 was waste. Since the launch of the Hotline cumulatively \$1,287,000 of loss or waste has been substantiated. Of this amount \$220,600 was fraud, \$1,009,400 was waste, and for \$57,000 a category could not be determined.



Disciplinary Action

The Office of the Auditor General is not responsible for disciplinary actions (including terminations). Investigation results are shared with Management and Human Resources. The Office of the Auditor General is informed of terminations and disciplinary actions, and this information is tracked and compiled for reporting purposes. The number of disciplinary and other actions will vary from year to year. This number is not controlled by the OAG and is reported for information purposes only.

As at the date of report publication, the following disciplinary actions related to investigations had been confirmed by the Office of the Auditor General:

- 9 Terminations,
- 9 Other Actions Taken (includes 5 employee resignations, 1 retirement and no re-hire condition, 2 non-disciplinary letters issued and 1 discipline issued).

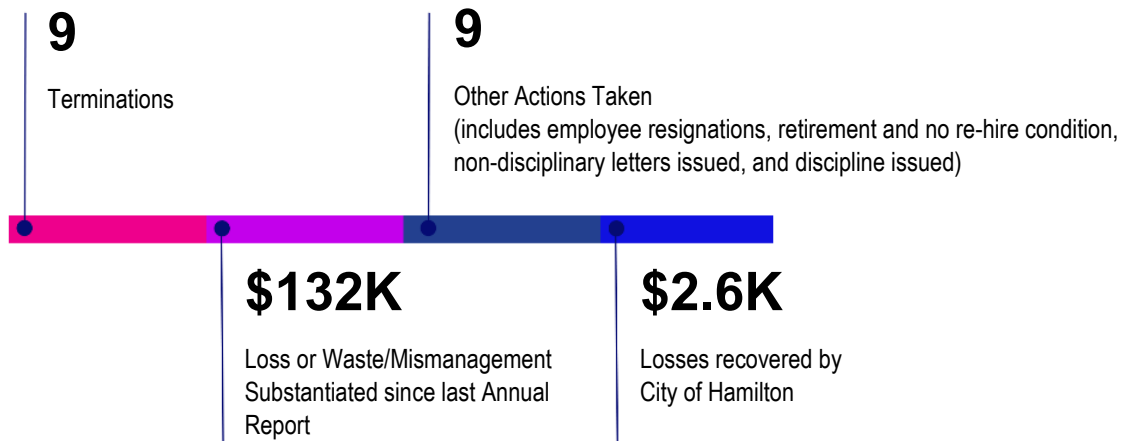
Recoveries and Impact

As at October 31, 2023, the City of Hamilton recovered about \$2,600 of losses since the last Annual Report was issued.

The impact of fraud and waste to an organization goes well beyond financial impact. There are also non-financial impacts such as impact to reputation, impact to other staff working in an affected area. The level of effort to investigate allegations of fraud and waste are quite high.

Sometimes there is a time lag for the completion of an investigation and calculating the losses. As there are 35 open reports at report issuance, there may be additional losses and recoveries that will be reported in the next Fraud and Waste Annual Report.

Report Outcomes



Hotline Service Provider Contract Secured

Council provided direction to the OAG in March 2023 to negotiate, enter into and execute a contract with the OAG's existing hotline and case management service provider, Whistleblower Security Inc. The OAG successfully completed these negotiations and secured advantageous pricing. The hotline's annual services cost during the previous four years was fixed at \$12,500. Under a newly negotiated arrangement OAG has agreed to pay the vendor \$14,750 per year for an initial three year term, with the option of acquiring two additional one-year year terms at modest increases. The new contract came into effect on August 1, 2023.

Report Examples

Introduction

To provide more information about the type of reports that the Office of the Auditor General receives and assesses, several report examples are provided in pages 19 - 29 of this annual report.

The reports included here provide examples of:

- fraud,
- waste/mismanagement; and,
- combined fraud and waste/mismanagement reports.

All items qualifying as a "Serious Matter" per the "Auditor General Reporting of Serious Matters to Council Policy" for the reporting period have been previously reported to Council. There were four items that qualified under this Policy in the 2022-2023 Fraud and Waste Report time period and they were all presented to Council.

1. AUD22009 Auditor General Reporting of Serious Matters to Council (Case #58061 Taxi Scrips)
2. AUD23004 Auditor General Reporting of Serious Matters to Council (Case #60492 Employee Corruption Allegation)
3. AUD23006 Auditor General Reporting of Serious Matters to Council (Case #63146)
4. AUD23007 Auditor General Reporting of Serious Matters to Council (Case #65357)

Report Examples

Multiple Conflicts of Interest due to Social Relationships with a Contractor to the City

It was alleged that a City employee had an undisclosed significant social relationship with a long-time City contractor. Multiple allegations of specific incidents of favourable treatment were reported to the OAG. The initial allegations were regarding one employee, however, during OAG's preliminary

assessment, two additional City employees were identified as possibly having a similar undisclosed significant social relationship with the same contractor, which may also have resulted in favourable treatment.

The OAG investigated and found that the allegations of an undisclosed conflict of interest (via significant social relationships) were ultimately substantiated for the three employees. The significant social relationships included the receipt of hospitality from the contractor in the form of homemade food (provided at work meetings and for the staff members personally), as well as birthday parties at the contractor's home for the staff members and for the spouse of a staff member. No disclosures of the hospitality were made.

All three employees accepted invitations to the contractor's home that were not in the context of a business meeting or interactions, did not serve a legitimate business purpose, and was not appropriate to the business responsibilities of their positions. Disclosures for any of these events were not made.

It was also investigated and found that the allegation of the contractor being afforded favourable treatment in the assignment of work, pricing, awarding of contracts, and invoice processing was substantiated. As a result of the investigation, it was determined that there was an estimated \$9,000 of waste over a 15-month period as a result of favorable pricing and the contractor submitted duplicate invoices that were processed by one of the employees in question totaling \$800. There were additional compliance issues as the contractor was issued work orders by two employees totaling \$2,000 for work that they were not contractually permitted to be issued.

Additionally, after the contractor was unsuccessful in a competitive RFP procurement process for City of Hamilton work, one of the employees helped facilitate an interview for a job at the City of Hamilton for the owner/operator of this contractor. The proper application/hiring process was not adhered to.

During the investigation, OAG found a mitigating factor to the undisclosed significant social relationships with the contractor was that socializing with this contractor in a non-business setting was prevalent amongst other City staff and appears to have been condoned by management. There were also other factors and/or opportunities within the internal control environment that allowed for these issues to occur unchecked.

OAG made five recommendations which would enable progress to be made towards establishing a tone-at-the top that clearly communicates that undisclosed conflicts of interests are not acceptable and in conjunction with new internal controls, will help establish a culture of accountability. As at the date of report publication, HR had not yet informed the OAG of any disciplinary outcomes for these three employees.

Conflict of Interest Due to Another Job in the Private Sector

In the course of investigating a conflict of interest that was reported in the 2021-2022 Fraud and Waste Annual Report, the OAG received additional information about a second COI in the same service area. This service area is responsible for strategic, sensitive, and often high dollar value acquisitions and dispositions of City assets. It was alleged that while working at the City, the individual was also holding a similar position in the same field in the private sector, the duties of which could conflict with their City role, and which is not permissible due to the competing nature of the job duties and confidential nature of the work. The allegation was found to be substantiated and the employee has resigned from the City.

Conflict of Interest at a Taxpayer Funded Service Provider

OAG received a report alleging that a social services provider receiving substantial transfer payments in the form of capital funding had an internal conflict of interest (COI) with respect to the procurement of one of their major service providers. The Reporter raised value for money concerns, and in addition to the COI, made allegations of persistent single sourcing and a lack of competitive procurement for much of their taxpayer-funded work that was being contracted out.

The OAG requested that management perform a fact finding. They reported back to the OAG and found that the conflict of interest exists but had been disclosed to the organization's governing body, and the organization communicated to City management that they have internal mechanisms in place to handle the COI situation.

Even though there was no evidence of wrongdoing or breach of agreements found in this initial review, the OAG still has concerns regarding the potential impact to value for money in situations of non-competitive procurement by third parties funded by the City and other levels of government. Therefore, an audit is being launched for this class of organizations that receive capital funding. The full scope of the audit will be informed by an audit of transfer payments that is currently underway and will be included in the Term of Council Audit Workplan.

Employee Breach of Trust Allegations

In late November 2022, the OAG received information about a City employee who is a Plans Examiner that had been charged with two counts of breach of trust. The charges followed a Police investigation.

While a review of the circumstances has been initiated in order to understand the details of these incidents, and opportunities for improvement, if any, a full investigation is still pending the outcome of the trial which is currently underway.

OAG has conducted some initial fact finding and reviewed court document details via the Legal Services and Risk Management Division, and various documents from the Building Division. Some City assets have also since been recovered by the OAG, and the OAG has engaged an external forensic firm to conduct an investigation.

Per our review of court documents, two charges were laid against a City employee. Both charges were: "being an official with the City of Hamilton, a Plans Examiner did commit Fraud in connection with the duties of his office by entering false information on City of Hamilton documentation and depriving the City of Hamilton fees owed to it contrary to Section 122 of the Criminal Code".

The charges have not yet been proven in court. The trial began in October 2023 and is expected to resume in March 2024.

Ultimately the OAG is looking to understand the full extent of what happened, how it happened, and what lessons, if any, can be learned. OAG work will resume once the criminal trial has concluded.

Employee Receiving Cash for Use of City Facility

Human Resources notified the OAG of allegations that a City employee was receiving cash on a regular basis from customers renting a City sports facility, who wanted the benefit of "extra time" at the facility.

The OAG conducted an investigation, and the allegation was found to be substantiated. The OAG estimates that about \$1,000 to \$1,900 in cash was received by this employee from the customer user group over multiple years. The OAG made three recommendations to management to improve operations and HR informed the OAG that the employee was terminated but was able to submit their resignation through a confidential settlement.

False Benefit Claims

Human Resources (HR) brought forward allegations that five employees and one former employee were suspected of having filed false benefits claims for orthotics and compression stockings in a scheme involving an outside party that defrauded the City. Manulife, the City's benefits administrator, had identified several false/misrepresented claims submitted by the employees. After a review of the information Manulife and HR provided regarding the allegations, the OAG decided to conduct an independent investigation and engaged a forensic expert.

Ultimately the allegations of false benefits claims were found to be substantiated for all 6 employees. The total amount of the false claims that were confirmed across the six people was close to \$31,000. All of the false claims were from the same medical provider for orthotics and compression stockings. The scheme

involved claims being submitted with the involvement and assistance of the medical provider, including falsified medical documents (e.g. gait analysis, orthotic fabrication specifications, etc.) and payment receipts for goods/services rendered, made directly to Manulife on behalf of the employees.

It was substantiated that when Manulife paid the claim/reimbursed the claim to the benefits plan member, the plan member gave a portion of the amount received to the medical provider. Additionally, it was found that the employees did not always receive orthotics or compression stockings from the medical provider as noted on the submitted claims.

The investigation found that all of the benefits plan members personally benefited from these false or misrepresented claims. Based on the evidence reviewed, it was determined that the plan members either knew or should have known that the claims were false.

The OAG provided the investigation findings to HR. Four employees were terminated and for the other two individuals, the OAG has not yet received information regarding any disciplinary actions.

In addition to the above, HR separately investigated four other employees for false benefit claims and informed the OAG of the result as follows:

An employee was found to have presented false claim submissions. The total of the false claims was about \$2,700. The employee has since retired and is not eligible for re-hire.

An employee was found to have filed false claim submissions (35 in all) totalling over \$2,600. The false claims were repaid and the employee (and their dependents) are no longer permitted to submit online claims. HR informed the OAG that the employee was issued discipline.

An employee was found to have filed false claim submissions (50 in all) totalling close to \$4,600. HR informed the OAG that the employee was terminated.

An employee was found to have filed false claim submissions (38 in all) totalling about \$2,800. HR informed the OAG that the employee was terminated.

As a result of these issues OAG is bringing forward in its Audit Workplan, a proposed audit of the processes used to administer benefits claims and protect against fraud.

City Targeted by Imposter Vendor Scam

OAG received notification from City Finance staff of a situation whereby someone posed as an existing vendor to the City – a vendor that was owed substantial monies. The imposter vendor contacted the City to change the

banking details of the legitimate vendor. As a result of a misstep in applying the City's existing procedures for such requests, the banking information was changed, and over \$52,000 was paid into a new bank account as directed by the imposter. The legitimate vendor subsequently contacted the City wondering where their payment was, which led to further enquiries that revealed the diverted payment.

The OAG engaged a forensic investigative firm to assist in looking into the matter, and to report the exact circumstances of the diverting of funds. The OAG also reported the incident to the police and will be making recommendations for process improvement in its final report to management.

Around the same time as the above incident, multiple similar phishing attempts were made regarding vendor payments. None of these additional attempts were successful, and all of them were reported to the OAG. Further, these attempts were provided to the forensic investigative firm engaged by the OAG.

Employee Working Full-Time at Two Different Cities

Through the Fraud and Waste Hotline OAG received an anonymous complaint of a full-time City employee that was allegedly working full-time at a similar job at another municipality. The overlap occurred during the period that COVID-19 working from home policies were in effect. At the time OAG investigators met with the respondent to follow-up on the complaint, the employee had already resigned from the City after management had attempted to meet with them to discuss repeated absences.

The (former) employee admitted to the fact that they occupied two full-time jobs at the same time for two different municipalities, but claimed the duties were executed at different times during the day with no overlap. OAG requested information from the respondent to substantiate this claim, however as of this date it has not been provided, even after many months. OAG has substantiated the allegation that the employee was also working for another municipality without the knowledge of management, and is continuing to investigate the matter.

Hiring Former Employees Via Sole Source Procurement

It was alleged that proper procurement processes were not followed when a sole source contract was awarded to a consulting company, that is owned by a recently retired employee. Based on OAG's review of pertinent documentation it was found that current City policies are silent on hiring previous employees as vendors. The OAG is currently working with HR to recommend process improvements.

Abuse of Short-Term Disability Benefits (2)

Human Resources reported to the Office of the Auditor General (OAG) that they conducted an investigation into suspected Short-Term Disability (sometimes referred to as "sick time") benefits by a City employee. The allegations were substantiated, and Human Resources informed the OAG that the (former) employee was allowed to resign via a confidential settlement. There were no indications of any systemic issues within this work Division.

In another case the OAG received reports alleging that an employee was misusing their short-term disability benefits by working at their own business. The OAG requested that HR investigate. HR investigated, and communicated workplace expectations to the employee numerous times, and there was ongoing, active management of the file for an extended period of time. The matter was concluded when HR informed the OAG that the (former) employee had resigned.

Employee Theft and Other Misconduct

The OAG received a report that an employee allegedly was committing theft of City property and of the general public, along with allegedly operating a Zamboni while under the influence of drugs and alcohol.

Additionally, a separate incident was reported to the Hamilton Police Service, wherein the same employee was apprehended for pilfering a payment card belonging to a member of the public while they were attending a City facility. This incident involved a fraudulent purchase that was substantiated by security footage.

The OAG requested that HR investigate this matter. HR conducted an investigation, which substantiated the report of the pilfered payment card. HR informed the OAG that they negotiated a resignation in exchange for a confidential settlement.

Employee Misuse of City Corporate Account

Human Resources reported to the Office of the Auditor General allegations of misuse of a corporate account at a building supply store, the OAG requested that HR investigate the matter. HR informed the OAG that the allegations were substantiated with six fraudulent purchases made for approximately \$1,400 and that the employee was terminated.

Personal Use of City Assets

The OAG received a report from Management alleging that an employee in a position of trust was utilizing a City asset for significant personal use, and that another employee had knowledge of the personal usage but failed to report it to management. After a preliminary assessment, OAG decided to investigate and several additional issues were identified.

It was ultimately substantiated that one employee was living in and/or making personal use of a vacant City-owned housing unit for an extended period of time without the knowledge or authorization of management. Further, they made unauthorized repairs and other modifications to the unit for their personal use and benefit.

It was further substantiated that another employee accountable for oversight of the unit in question, was aware of the personal usage by the other employee and they did not report it to management.

Other items that were substantiated in this investigation included improper cash handling and mishandling of confidential client files.

Overall waste of about \$9,900 was substantiated. To enable management to establish a robust internal control environment for the impacted processes, the OAG made 15 recommendations such as regular, unannounced checks on City assets, better tracking and inventory management, adequate segregation of duties, review of relevant job duties for the impacted role, to review relevant security technology, and to improve cash handling processes.

HR ultimately informed the OAG that both employees were terminated.

Other Report Examples

Although the Office of the Auditor General may find some reports not to be substantiated, there are reports that show significant control weaknesses. Some unsubstantiated examples are also provided for insight into the varying outcomes that can occur when cases are assessed and investigated.

Vehicle Safety Concerns

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The OAG received a complaint regarding the safety and cost-effectiveness of the fleet of vehicles used by a specific City of Hamilton service area. The allegations included: vehicles being modified seasonally, inappropriate vehicle specifications, non-compliance with Ministry of Transportation (MTO) requirements, and operational inefficiencies.

The OAG retained a fleet management expert to perform a preliminary assessment of the allegations and conduct a site visit. The assessment included consideration of MTO requirements for relevant vehicles, existing operational practices, and any other relevant risk exposures to the City of Hamilton.

Overall, the allegations were found to be unsubstantiated, and no non-compliance with MTO requirements were found. However, the OAG did make four recommendations to management to more assuredly provide for continuing compliance and for process improvement.

Fraudulent Apartment Vacancy Ads

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The Office of the Auditor General received a report of potential fraudulent apartment vacancy advertisements posted on Facebook Market and Kijiji. Although this type of report is out of jurisdiction for the OAG to review, the Reporter was provided with the information regarding how to file a report through Hamilton Police Service and the Canadian Anti-Fraud Centre.

Allegations of Unfair Procurement with Respect to Roster

.....

A business contacted the OAG after being dissatisfied with the response they received from management regarding an issue of their inclusion on the roster for their category of service. Specifically, the business expressed their concerns regarding a particular service that has two categories: residential and commercial. The business told the OAG that they had residential experience, and felt it was unfair that they City decided in mid-2022 to institute a change to only qualify vendors that had commercial experience. The Reporter expressed

concerns that smaller businesses would be excluded from bidding for work that they were experienced in and capable of performing.

The OAG was concerned that waste or inefficiency could arise in this situation, because larger firms tend to have higher overhead costs and more sophisticated machinery that is not necessarily required for the residential category, and this could potentially increase the cost of this service for this City.

The OAG requested that management review this matter and provide a response back to the OAG. The outcome of the management review was that the process was revised, the RFT closing date was extended and the requirement to allow only pre-qualified bidders with commercial experience was removed.



**Allegations of
Unfair
Procurement
Regarding
Single Sourcing**

A business submitted a report to the OAG regarding the fairness of City's procurement processes for the project they submitted a bid for but were not awarded the work. Ultimately for this competitive procurement process, no one was awarded this work.

The OAG reviewed the allegation and determined the complaint was not regarding the Procurement By-law where the bidder was unsuccessful, rather, the business was concerned about not being able to re-bid because the City decided to utilize a single sourced procurement after no bidders met the required benchmark in the original procurement.

The OAG's review of this matter found the By-law (specifically Policy 5.4 Request for Proposal) was not violated and the single sourced procurement approach for this project was properly approved and documented. The OAG provided contact details of the Ontario Ombudsman's office to the business.

OAG did make one observation regarding the composition of Request for Proposal Evaluation Committee members. Specifically, there were two external evaluators from the community on the evaluation committee. Even though this does not technically violate Policy #5.4, there is a need for Section 4.5.4 (3) to be clearly defined, as this approach to include external evaluators was an exception to regular practice and could invite criticism of the City and engender risk of inconsistent administration of procurement practices.

The OAG is concerned that without policy guidance, external evaluators could be seen to have biases, real or perceived, in the evaluation of a proposal, or that practices would vary from the norm. Therefore we made a recommendation to management to clearly define the eligibility and qualifications of evaluation committee members for City of Hamilton procurements.

**Unsubstantiated
Conflict of
Interest**

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A concern was reported to the OAG that a City-owned property was being arranged for sale to a City employee without going through the standard disposition process. The OAG investigated the matter and found the report to be unsubstantiated and that, in fact, a competitive process was being used to dispose of the property. In the course of investigating the matter OAG did note some areas for possible improvement and therefore decided to include an audit of real estate acquisitions and disposals on its Audit Workplan.

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**Phishing
Attempt**

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An individual impersonating a member of City Council sent an email to Payroll staff requesting a change to their payroll direct deposit banking information. The phishing attempt was ultimately unsuccessful and Human Resources reported the incident to the Hamilton Police Service.

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**Concerns About
Heritage Tree**

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Concerns about heritage trees were reported to the Office of the Auditor General. While the complaint did not raise fraud or waste concerns, the OAG referred the concerns to management. Management completed a review and the OAG found that appropriate action had been taken.

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Conclusion

The Fraud and Waste Hotline was launched in July 2019 as a pilot program and was made permanent by Council in March 2023. Overall, the first four years of the Fraud and Waste Hotline operation have seen a high volume reports assessed and investigations launched as appropriate. Over 430 reports have been assessed and investigated.

Without a Fraud and Waste Hotline in place, it is likely that many of these reports would not have been received by the Office of the Auditor General and wrongdoing involving City resource may have continued and the scale of fraud and waste would have remained undisclosed and not publicly reported. Generally speaking, it indicates Hamiltonians and employees alike share the commitment in protecting the City of Hamilton's revenue, property, information and other assets and resources from fraud, waste and other wrongdoing.

**Office of the
Auditor General**

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Auditor General

Brigitte Minard, CPA, CA, CIA, CGAP, CFE
Deputy Auditor General

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SPEAK UP – Reporting Fraud and Waste

Online: Hamilton.ca/fraud

Phone: 1-888-390-0393

Mail: PO Box 91880, West Vancouver, BC V7V 4S4

Email: cityofhamilton@integritycounts.ca

Fax: 1-844-785-0699

Copies of our audit reports are available at: hamilton.ca/audit

Alternate report formats available upon request.



Hamilton
OFFICE OF THE
AUDITOR GENERAL

Appendix "B" to Report AUD23011

FRAUD AND WASTE ANNUAL REPORT

July 1, 2022 to June 30, 2023

Total Reports

Current Year	159
Prior Year Carryforward	17
Reports Since Hotline Launch	431

Number of Reports by Source

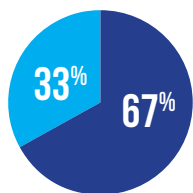


Investigations Launched by Office of the Auditor General	13
Current Year Reports	13
Carryforward Reports from Prior Reporting Period	0

Top Report Categories (Current Year)

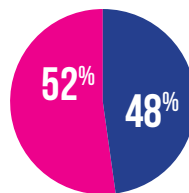
Multiple Categories Applicable	32
Social Services – Fraud/Wrongdoing	32
Service Complaint/Concern	28
Out of Jurisdiction	19
Time Theft and/or Misconduct	7
Employee Benefits Fraud	6
Conflict of Interest	5
Phishing/Identity Theft	5
Improper Financial Reporting/Budgeting	4
Waste/Mismanagement	4
Theft/Misappropriation	2
Contractor/Vendor Wrongdoing	1
Fraud	1
Public Safety	1
Other Various Categories	12
Total Reports	159

Reports Directly Received by the Office of the Auditor General (Proxy)



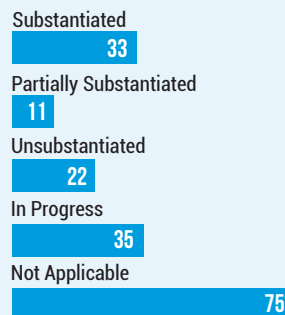
Proxy 53 (33%)
Hotline 106 (67%)

Employee Reports



Self-Identified 77 (48%) as an Employee
Non-Employee 82 (52%)

Volume of Reports Substantiated (Total Current and Carryforward Prior Year Reports)



Report Types

Referral – Response Required	72
Referral – No Action Required	35
No Response Required / Not Enough Information / Out of Jurisdiction	35
Investigations Launched (Current Year)	13
In Progress	4

Investigation Type (Current Year)



Loss or Waste Substantiated	\$132,000
Current Year Recovery/Restitution	\$2,600
Loss or Waste Substantiated since Hotline Launch	\$1,287,000



Hamilton

OFFICE OF THE
AUDITOR GENERAL

FRAUD AND WASTE ANNUAL REPORT

July 1, 2022 to June 30, 2023

**Charles Brown - Auditor General
Brigitte Minard - Deputy Auditor General**

What is a Fraud and Waste Hotline?

The general public, City staff, and those doing business with the City can report **suspected fraud, waste or wrongdoing involving City resources**.

Confidential and anonymous service

Independently operated by a third party

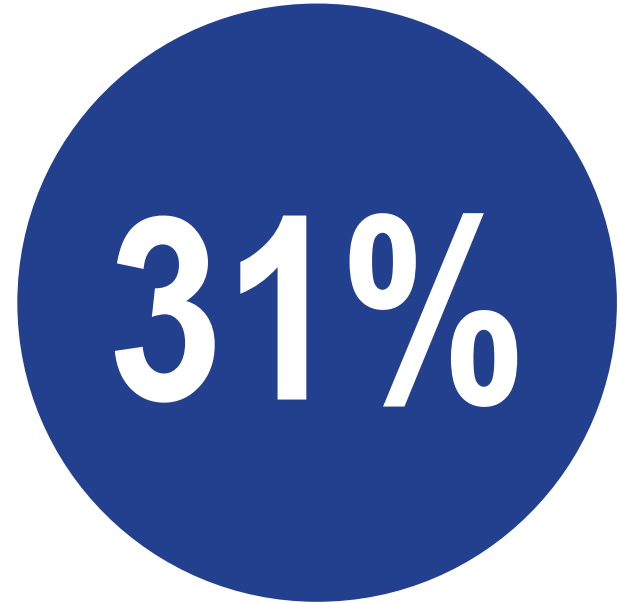
Accessible by phone or online

Available 24 hours a day 7 days a week



Reports

Received between
July 1, 2022 and June 30, 2023

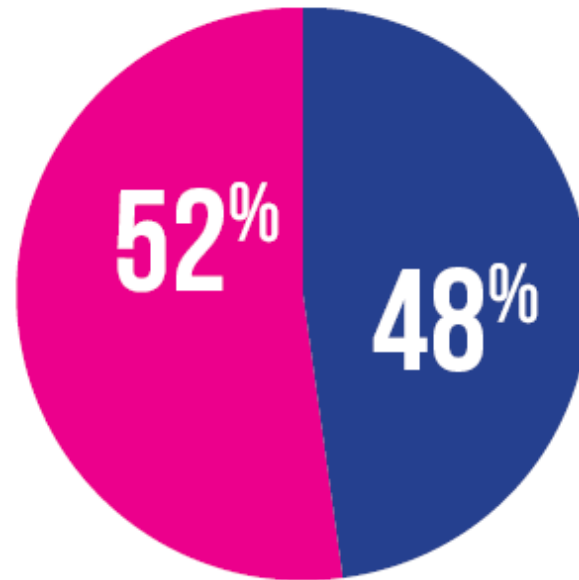


Substantiation Rate

Top Report Categories

Multiple Categories Applicable	32
Social Services – Fraud/Wrongdoing	32
Service Complaint/Concern	28
Out of Jurisdiction	19
Time Theft and/or Misconduct	7
Employee Benefits Fraud	6
Conflict of Interest	5
Phishing/Identity Theft	5
Improper Financial Reporting/Budgeting	4
Waste/Mismanagement	4
Theft/Misappropriation	2
Contractor/Vendor Wrongdoing	1
Fraud	1
Public Safety	1
Other Various Categories	12
Total Reports	159

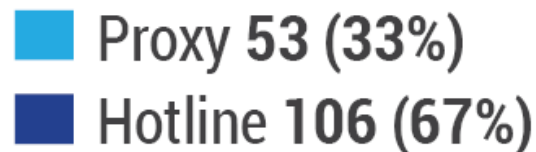
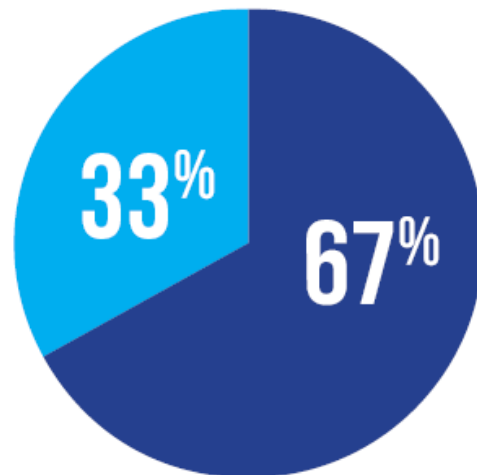
Statistics - Employee Reports



- Self-Identified 77 (48%)
as an Employee
- Non-Employee 82 (52%)

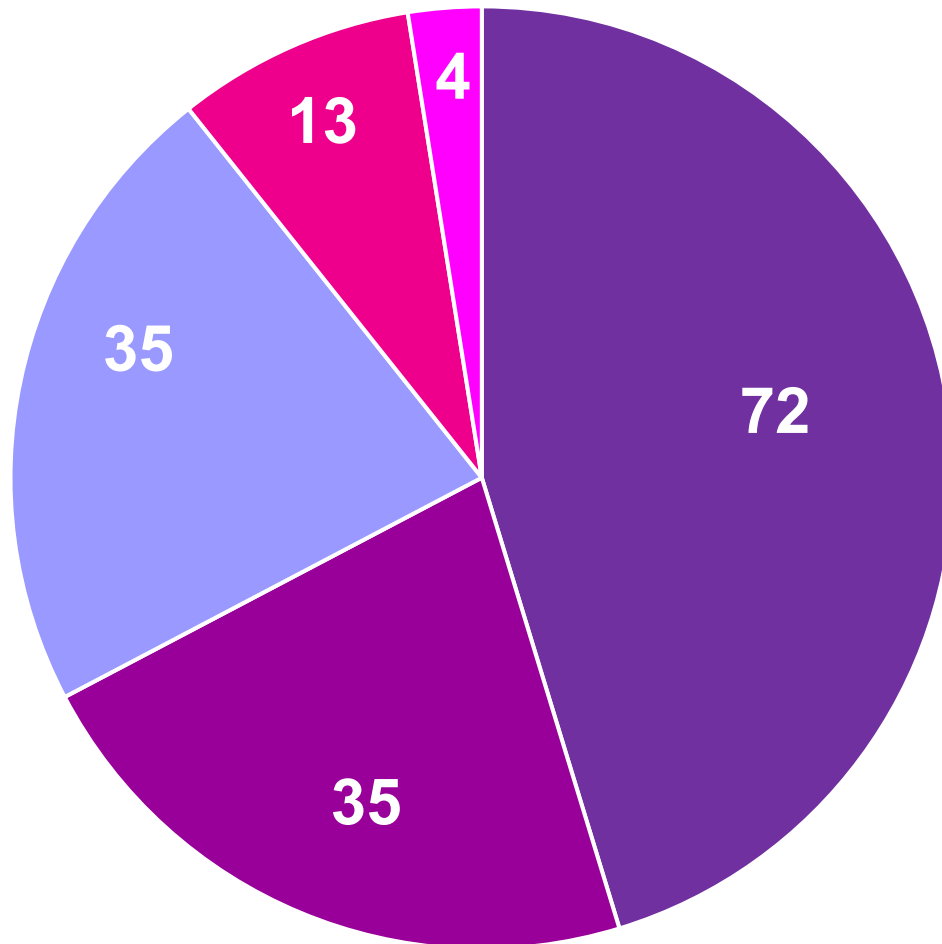
Statistics - Direct vs. Proxy Reports

Of these 159 reports, 53 were made directly to the OAG, remainder were made using the Hotline service provider.

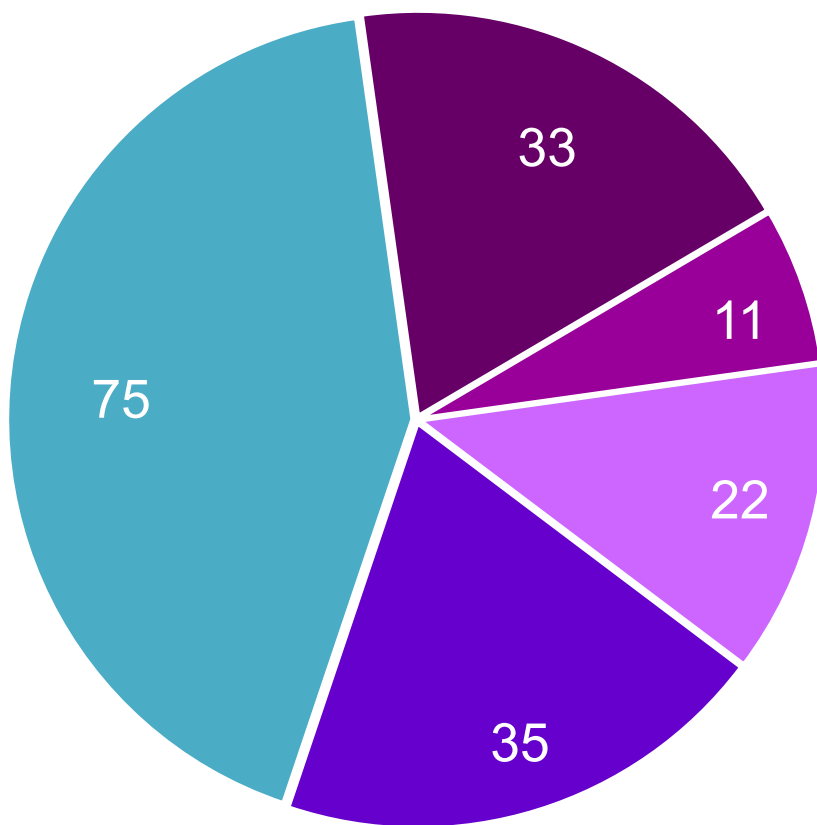


Proxy Reports from Management, Finance, Human Resources –
25 of 53

What We Did With The Reports



- Referral - Response Required (72)
- Referral - No Action Required (35)
- No Response Required/Out of Jurisdiction/Not Enough Information (35)
- Investigations Launched - Current Year (13)
- In Progress (4)



- Substantiated - 33
- Partially Substantiated - 11
- Unsubstantiated - 22
- In Progress - 35
- Not Applicable - 75

Total: 176

9

Terminations

9

Other Actions Taken (includes employee resignations, retirement and no re-hire condition, non-disciplinary letters and discipline issued)

\$132K

Loss or
Waste/Mismanagement
Substantiated since last
Annual Report

\$2.6K

Losses recovered by
City of Hamilton

Multiple Conflicts of Interest/Social Relationships with a Contractor

- Alleged that a City employee had undisclosed significant social relationship with a contractor and gave them favourable treatment. Overall the allegations of conflicts of interest were substantiated for 3 employees. Findings included staff receiving hospitality, attending social gatherings in a non-business setting. No disclosures were made. Contractor was also found to have been afforded favourable treatment by all 3 staff.

Employee Breach of Trust Allegations

- The OAG received information about City employee (Plans Examiner) that had been charged with two counts of breach of trust, including allegations that fraud had been committed by “entering false information on City of Hamilton documentation and depriving (the city) of fees owed”. The charges have not been proven in court. The trial began in October 2023 and is expected to resume in March 2024. OAG is looking to understand the full extent of what happened, how it happened, and what lessons, if any, can be learned. OAG work will resume once the criminal trial has concluded.

Employee Receiving Cash for Use of City Facility

- Alleged that an employee was receiving cash under the table from a user group renting a City Sports Facility. OAG investigated, allegation was substantiated, it is estimated that about \$1,000 to \$1,900 in cash was received over multiple years. Employee was terminated.

False Benefit Claims

- Four reports were received from HR regarding false claims by 4 employees and their dependents. False claims totalled \$2,700, \$2,600, \$4,600 and \$2,800. The reports were substantiated and there were a variety of outcomes – retirement (not eligible for re-hire), two terminations, and one other disciplinary action.
- 5 employees and 1 former employee investigated for filing false benefits claims for orthotics and compression stockings. The scheme involved collusion with an outside party. Allegations were substantiated for the 6 people, total of false claims was close to \$31,000. Resulted in 4 terminations. Decisions on remaining 2 cases are pending.

City Targeted by Imposter Vendor Scam

- Someone posing as an existing vendor contacted the City to change the vendor’s banking details for electronic deposit. As a result of a misstep in following City procedures over \$52,000 that was owed to the legitimate vendor was transferred to the imposter’s bank account. The scam became apparent when the legitimate vendor made enquiries wondering why they hadn’t been paid.

Employee Working Full Time at Two Different Cities

- An anonymous complaint was received about a full-time City employee working full-time at a similar job in another municipality. The now former employee (resigned) admitted to having the two jobs but claimed the duty times did not overlap. OAG requested information to substantiate this claim but after many months it has still not been provided.

Hiring Former Employees Via Sole Source Procurement

- It was alleged that proper procurement processes were not followed when a sole source contract was awarded to a consulting company that is owned by a recently retired employee. Based on OAG’s review of pertinent documentation it was found that current City policies are silent on hiring previous employees as vendors.

Abuse of Short-Term Disability Benefits

- Human Resources reported to the Office of the Auditor General (OAG) that they conducted two investigations into abuse of Short-Term Disability benefits by City employees. The allegations were substantiated, and Human Resources informed the OAG that the employees resigned.

Employee Theft and Other Misconduct

- The OAG received a report that an employee allegedly was committing theft of City property and of the general public, along with allegedly operating a Zamboni while under the influence of drugs and alcohol.
- Additionally, a separate incident was reported to the Hamilton Police Service, wherein the same employee was apprehended for pilfering a payment card belonging to a member of the public while they were attending a City facility. The allegations relating to the payment card were substantiated and the employee resigned.

Conflict of Interest Due to Another Job in the Private Sector

- OAG received information about an employee who while working for the City held a similar position in the same field in the private sector, the duties of which would conflict with their City role. The allegation was substantiated and the employee has resigned from the City.

Employee Misuse of Corporate Account

- Human Resources reported to the OAG allegations of misuse of a corporate account at a building supply store. The OAG requested that HR investigate the matter. The allegations were substantiated with six fraudulent purchases made for approximately \$1,400. The employee was terminated.

Personal Use of City Assets

- It was alleged and later substantiated that an employee was living in and/or making personal use of a vacant City-owned housing unit for an extended period without the knowledge or authorization of management. Further, they made unauthorized repairs and other modifications to the unit, at City expense, for their personal use and benefit.
- It was also substantiated for another employee that they were aware of the personal usage of the unit by the employee and did not report it to management. Both employees were terminated.

Closing Remarks: Auditor General Reflections

Current Year Themes and Risks

- Substantiated a significant number of false benefit claims.
- Conflicts of interest continue to be a systemic issue.
- Overall high volume of reports, 49% year over year increase.
- Poor contract administration and oversight emerging as a frequent issue.
- Need for continued vigilance with respect to phishing scams.

confidential
anonymous

SPEAK UP

Report any wrongdoing



Hamilton

OFFICE OF THE
AUDITOR GENERAL

Use the Fraud and Waste Hotline

www.hamilton.ca/Fraud

Call Toll Free 24/7

1-888-390-0393



Online

hamilton.ca/fraud



Email

cityofhamilton@integritycounts.ca



Phone

1-888-390-0393



Mail

PO Box 91880, West Vancouver, BC V7V 4S4




Fax

1-844-785-0699



CITY OF HAMILTON
CORPORATE SERVICES DEPARTMENT
Financial Planning, Administration and Policy Division

TO:	Chair and Members Audit, Finance and Administration Committee
COMMITTEE DATE:	November 16, 2023
SUBJECT/REPORT NO:	2024 Temporary Borrowing and Interim Tax Levy By-laws (FCS23109) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Gloria Rojas (905) 546-2424 Ext. 6247
SUBMITTED BY:	Brian McMullen Director, Financial Planning, Administration and Policy Corporate Services Department
SIGNATURE:	

RECOMMENDATION

- (a) That Appendix "A", attached to Report FCS23109, "By-law to Authorize the Temporary Borrowing of Monies to Meet Current Expenditures Pending Receipt of Current Revenues for 2024", be enacted;
- (b) That Appendix "B", attached to Report FCS23109, "By-law to Authorize an Interim Tax Levy for 2024", be enacted.

EXECUTIVE SUMMARY

The Temporary Borrowing By-law ensures that the City can borrow funds to offset any cash flow challenges related to the timing of incurring expenses versus the collection of billed property taxes.

The Interim Tax Levy By-law ensures that the City has access to a continuing cash flow to fund operations until a final 2024 tax operating budget has been approved.

Alternatives for Consideration – Not Applicable

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**SUBJECT: 2024 Temporary Borrowing and Interim Tax Levy By-laws (FCS23109)
(City Wide) - Page 2 of 3**

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: The City would have to pay negotiated interest payments should it have to borrow funds under the Temporary Borrowing By-law. In order to bill and collect the planned February and April 2024 property tax instalments, an Interim Tax Levy By-law must be passed.

Staffing: N/A

Legal: The Temporary Borrowing By-law is required under Section 407 of the *Municipal Act, 2001* if the municipality needs to borrow funds to address short-term cash flow issues. An Interim Tax Levy By-law may be passed under Section 317 of the *Municipal Act, 2001*.

HISTORICAL BACKGROUND

Appendix “A” to Report FCS23109 is a Temporary Borrowing By-law allowing the City to ensure that it has access to adequate cash flow to meet operating commitments. The allowable percentages to borrow, as set out in Section 407 of the *Municipal Act, 2001*, are 50% of estimated revenues prior to September 30 and 25% afterward. It is important to note that actual borrowings under this provision have historically been very limited in both magnitude and duration. The most recent case of the City taking advantage of this provision was in late 1998 and 1999 under the Current Value Assessment conversion, when the Province was adjusting the rules and regulations for taxation of commercial and industrial properties, which delayed final tax bills to August and September, respectively.

Appendix “B” to Report FCS23109 is an Interim Tax Levy By-law. In the course of its operations, before a final budget has been approved, the City incurs expenses on a regular basis. These expenses, including such items as employee wages, material expenditures and School Board tax payments, would require significant temporary borrowing without the ability to levy taxes in advance of the final tax bills being issued. Section 317 of the *Municipal Act, 2001* permits the levy of up to 50% of the prior year’s taxes (annualized for adjustments such as supplementary taxes or tax appeals). The Interim Tax Levy By-law provides the formal mechanism whereby Council can affect this pre-levy. The due dates of the instalments for the 2024 Interim Levy are proposed to be February 29, 2024 and April 30, 2024.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

Report FCS23109 complies with provisions within Sections 317 and 407 of the *Municipal Act, 2001*.

**SUBJECT: 2024 Temporary Borrowing and Interim Tax Levy By-laws (FCS23109)
(City Wide) - Page 3 of 3**

RELEVANT CONSULTATION

The Legal Services and Risk Management Division was consulted to confirm adherence to the *Municipal Act*. The Taxation Section of the Financial Services and Taxation Division has also been consulted as they are responsible for the tax billing and collection.

ANALYSIS AND RATIONALE FOR RECOMMENDATION

By-laws are required under the *Municipal Act, 2001*. Both the Temporary Borrow and Interim Tax Levy By-laws ensure the City has adequate funding to run day-to-day operations.

ALTERNATIVES FOR CONSIDERATION

N/A

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" to Report FCS23109 – 2024 Temporary Borrowing By-law

Appendix "B" to Report FCS23109 – 2024 Interim Tax Levy By-law

GR/dt

Authority:

Bill No.

CITY OF HAMILTON**BY-LAW NO.****To Authorize the Temporary Borrowing of Monies to Meet Current Expenditures Pending Receipt of Current Revenues for 2024**

WHEREAS the Council for the City of Hamilton deems it necessary to pass and enact a by-law to authorize the temporary borrowing of monies by the City to meet current budget expenditures for the year 2024 pending receipt of current revenues; and,

WHEREAS section 407(1) of the *Municipal Act, 2001*, provides as follows:

"At any time during a fiscal year, a municipality may authorize temporary borrowing, until the taxes are collected and other revenues are received, of the amounts that the municipality considers necessary to meet the expenses of the municipality for the year and of the amounts, whether or not they are expenses for the year, that the municipality requires in the year"; and,

WHEREAS Section 407(2) of the *Municipal Act, 2001*, imposes certain limitations on the amounts that may be borrowed at any one time.

NOW THEREFORE the Council of the City of Hamilton hereby enacts as follows:

1. (a) The City of Hamilton is hereby authorized to borrow from a Bank or person by way of Promissory Notes or Bankers Acceptances from time to time a sum or sums of monies not exceeding at any one time the amounts specified in subsection 407(2) of the *Municipal Act, 2001* to pay off temporary bank overdrafts for the current expenditures of the City for the year 2024, including amounts for sinking funds, principal and interest falling due within such fiscal year and the sums required by law to provide for the purposes of the City.
- (b) The amount of monies that may be borrowed at any one time for the purposes of subsection 407(1) of the *Municipal Act, 2001*, together with the total of any similar borrowings that have not been repaid, shall not, except with the approval of the Ontario Municipal Board, exceed the prescribed percentages of the total of the estimated revenues of the City as set forth in the estimates adopted for the year, which percentages are set out in section 407 of the *Municipal Act, 2001* as it may be amended from time to time.

**Appendix "A" to Report FCS23109
Page 2 of 2**

2. (a) Until estimates of revenue of the City for the 2024 year are adopted, borrowing shall be limited to the estimated revenues of the City as set forth in estimates adopted for the next preceding year.
- (b) The total estimated revenues of the City, including the amounts levied for Education purposes, adopted for the year 2024 are One Billion, Nine Hundred Million Dollars (\$1,900,000,000).
3. All sums borrowed pursuant to the authority of this By-law, together with any and all similar borrowings in the current year and in previous years that have not been repaid shall, together with interest thereon, be a charge upon the whole of the revenues of the City for the current year and for all preceding years, as and when such revenues are collected or received.
4. The Treasurer shall, and is hereby authorized and directed to, apply in payment of all sums borrowed pursuant to this By-law, together with interest thereon, all of the monies thereafter collected or received for the current and preceding years, either on account or realized in respect of taxes levied for the current year and preceding years or from any other sources which may lawfully be applied for such purpose.
5. That the Mayor and failing such person, the Deputy Mayor of the City Council and failing such person, the City Manager, together with the Treasurer or any one of the Temporary Acting Treasurers be authorized and directed to sign and execute the aforesaid Promissory Notes and Bankers Acceptances, hypothecations, agreements and such other documents, writings and papers which shall give effect to the foregoing.
6. This By-law shall come into force and effect on the 1st day of January 2024 and shall remain in force and effect until December 31, 2024.

PASSED this _____ day of _____, 2023

Mayor

City Clerk

**Appendix “B” to Report FCS23109
Page 1 of 3**

Authority:

Bill No.

**CITY OF HAMILTON
BY-LAW NO.**

To Authorize an Interim Tax Levy for 2024

WHEREAS the Council for the City of Hamilton deems it necessary to pass a by-law to levy on the whole of the assessment for each property class in the local municipality rateable for a local municipality purpose, a sum not to exceed that which would be produced by applying the prescribed percentage (or 50 percent if no percentage is otherwise prescribed) of the total amounts billed to each property for all purposes in the previous year on the properties that, in the current year, are in the property class as provided for in Section 317 of the *Municipal Act, 2001*; and,

WHEREAS Section 317 of the *Municipal Act, 2001*, also authorizes a Municipal Council, by by-law, to adjust the interim taxes on a property if the Council is of the opinion that the Interim Levy on a property is too high or too low in relation to its estimate of the total taxes which will be levied on the property in 2024.

NOW THEREFORE the Council of the City of Hamilton enacts as follows:

1. The interim tax levies shall be levied and collected upon the whole of the rateable property categories in columns 1 and 2, shown below:

Appendix “B” to Report FCS23109
Page 2 of 3

<u>Column 1</u>	<u>Column 2</u>
Class	Class Code
Residential	RT
Farmlands Awaiting Development	C1/R1/M1
Multi-Residential	MT
New Multi-Residential	NT
Commercial	CT
Commercial Excess Land / Small-scale on farm	CU/C7/C0
Commercial Office Building / Excess Land	DT/DU
Commercial Parking Lot / Vacant Land	GT/CX
Commercial Shopping Centre / Excess Land	ST/SU
Industrial	IT
Industrial Excess / Vacant land /Small-scale on farm	IU/IX/I7/I0
Industrial Large/Excess Land	LT/LU
Landfills	HT
Pipeline	PT
Farmland	FT
Managed Forest	TT
Rail Right of Way	WT CN
Rail Right of Way	WT CP
Utility Right of Way	UT
Shortline Railway Right-of-Way	BT

2. The interim tax levy shall become due and payable in two instalments as allowed under Section 342(1)(a) of the *Municipal Act, 2001*, as follows:

Fifty percent of the interim levy, rounded, shall become due and payable on the 29th day of February 2024 or 21 days after an interim tax bill is mailed out, whichever is later, and the balance of the interim levy shall become due and payable on the 30th day of April, 2024, and non-payment of the amounts due on the dates stated, in accordance with this section, shall constitute default.

3. That when payment of any instalment or any part of any instalment of taxes levied by this by-law is in default, penalties and where applicable interest, shall be imposed respectively in accordance with City of Hamilton policies.

Appendix “B” to Report FCS23109
Page 3 of 3

4. Section 342(1) (b) of the *Municipal Act, 2001* allows for alternative instalment due dates to spread the payment of taxes more evenly over the year. Therefore, notwithstanding the payable dates provided for in section 2, the interim tax levy for those on a 12-month pre-authorized automatic withdrawal payment plan shall be paid in 6 equal instalments due and payable on or after the first or fifteenth day of each month January to June, inclusive. For those on the 10-month pre-authorized automatic withdrawal payment plan, the interim levy shall be paid in 5 equal instalments due and payable on or after the first day of each month February to June, inclusive. The pre-authorized payment plans shall be penalty and interest free for as long as the taxpayer is in good standing with the terms of the plan agreements.
5. The interim tax levy rates shall also apply to any property added to the assessment roll after this by-law is enacted.
6. This by-law shall come into force and effect on the 1st day of January 2024.


PASSED this _____ , 2023

Mayor

City Clerk



CITY OF HAMILTON
CITY MANAGER'S OFFICE
Government Relations and Community Engagement

TO:	Mayor and Members Audit, Finance & Administration
COMMITTEE DATE:	November 16, 2023
SUBJECT/REPORT NO:	Recommendation for Sustainable Funding for the Hamilton Anti-Racism Resource Centre (CM20007(e)) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Morgan Stahl (905) 546-2424 Ext. 2178
SUBMITTED BY:	Morgan Stahl Director, Government and Community Relations
SIGNATURE:	

RECOMMENDATION

- (a) That the annualized amount of \$190,000.00 to support the ongoing operations of the Hamilton Anti-Racism Resource Centre be referred for Council's consideration to the 2024 Operating Budget;
- (b) That, if approved as part of the 2024 Operating Budget, any funding from the City of Hamilton for Hamilton Anti-Racism Resource Centre be allocated to Hamilton Anti-Racism Resource Centre annually through a transfer payment agreement facilitated by the Government Relations and Community Engagement division, and that each year's funding be conditional on the submission to the City of an annual report and audited financial statements produced by Hamilton Anti-Racism Resource Centre, and;
- (c) That any City funding for Hamilton Anti-Racism Resource Centre be used for the purposes of advancing education about race, racism, discrimination, racial equality, anti-racist theory and practice within the City of Hamilton, in alignment with Hamilton Anti-Racism Resource Centre mandate and by-laws attached as Appendix "A" and Appendix "B" to Report CM20007(e).

EXECUTIVE SUMMARY

Over the past several years, the City of Hamilton has been leading the development and implementation of a broad range of policies, procedures, strategic initiatives,

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SUBJECT: Recommendation for Sustainable Funding for the Hamilton Anti-Racism Resource Centre (CM20007(e)) (City Wide) - Page 2 of 4

investments and action plans to address issues of hate in the community and promote the creation of a safe, welcoming, and inclusive city for all.

Hamilton Anti-Racism Resource Centre (HARRC) was established to provide resources and support to residents experiencing racism, to collect and report statistically on incidents and trends of racism, and to provide information, education and advocacy to foster community capacity and understanding of anti-racism and anti-discrimination in Hamilton.

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: That the associated annualized program budget of \$190,000.00 be referred to the 2024 operating budget for the Government Relations and Community Engagement division, to facilitate a service agreement with the HARRC, in order to provide the necessary resources and sustainability to the support on-going operations of the Centre.

Staffing: There are no staffing implications

Legal: There are no legal implications

HISTORICAL BACKGROUND

In December 2019, Council approved recommendations which outlined next steps enabling the re-opening of the HARRC, this included extensive consultation and community-led engagement ensuring that voices of racialized individuals were foundational to the re-opening and continuation of HARRC's mission and mandate. This was a significant demonstration of the City's commitment to addressing issues of racism and providing community-based supports for equity deserving communities.

In 2021, Council approved a \$203,846 commitment from the Tax Stabilization Reserve to support HARRC operations for the remainder of the 26-month commitment to facilitate start up and resumption of operations. This was disbursed to HARRC in September 2021 in order to coincide with the September 7, 2021 start-date of their newly appointed Executive Director, Lyndon George, and appointment of Board of Directors. These funds came to completion in November 2023 which covers HARRC's operating costs for the original 26-month term.

Lyndon George, Executive Director, attended the July 13, 2023 Audit, Finance and Administration meeting to provide a status update on HARRC inclusive of the services provided through the agreement of the previously Council approved \$203,846 commitment, the Executive Director's presentation, Update and Progress for HARRC was provided as Appendix "A" to Report CM20007(d). Within Report CM20007(d),

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SUBJECT: Recommendation for Sustainable Funding for the Hamilton Anti-Racism Resource Centre (CM20007(e)) (City Wide) - Page 3 of 4

Council approved a one-time payment of \$75,000.00 from Tax Stabilization Fund #110046 be provided to the HARRC for the period of December 2023 – April 2024. As part of the presentation, staff were directed to work with HARRC to discuss their operational and sustainability plan ahead of the 2024 budget process identifying the role that the City will play to support their sustainability for the future.

Staff met with HARRC throughout the months of August, September and October 2023 to discuss the comprehensive plan, in detail. As a result, staff are recommending that the associated annualized program budget of \$190,000.00 be referred to the 2024 operating budget for the Government Relations and Community Engagement division, to facilitate a service agreement with the HARRC, in order to provide the necessary resources and structure to the support ongoing operations of the Centre.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

N/A

RELEVANT CONSULTATION

N/A

ANALYSIS AND RATIONALE FOR RECOMMENDATION

Equity, diversity and inclusion are key priorities for the City of Hamilton's 25-year community vision and Term of Council Priorities. From 2015 – 2016, the City's Our Future Hamilton community visioning initiative engaged with nearly 55,000 residents and community partners to create a new shared community vision that would guide long-term planning efforts. Throughout the year-long engagement process, Hamiltonians told us they want a safe, caring, and supportive city that is free from all forms of discrimination and is a place where culture, diversity and inclusivity are embraced.

Through comparative research efforts and municipal jurisdictional scans we heard: a multi-pronged approach is needed; a single one size fits all municipal model is not appropriate or effective; while municipalities are able to use various levers to influence behaviour, mitigating hate requires coordinated action well beyond municipal control; and no single municipality has currently addressed or alleviated issues of hate, racism and discrimination, but Hamilton can learn from the composite experience of others and collaborative partnerships with organizations like HARRC.

The Hamilton Community Safety and Well-Being Plan Advisory Plan approved by Council in July 2021, which names hate incidents as one of its six local priorities and contains a goal to reduce individual and organizational incidents of Islamophobia, anti-

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SUBJECT: Recommendation for Sustainable Funding for the Hamilton Anti-Racism Resource Centre (CM20007(e)) (City Wide) - Page 4 of 4

Black and anti-indigenous racism, xenophobia, anti-Semitism, transphobia, homophobia, and other forms of discrimination.

On August 13, 2021, Council approved 18 recommendations of the Hate Prevention and Mitigation Initiative, presented in report CM19006(e). The recommendations stemmed from research and stakeholder engagement by Rebecca Sutherns of Sage Solutions retained by the City of Hamilton as a part of response to high numbers of hate-related incidents reported to police in recent years.

City-led initiatives that further support and align with the mandate of Hamilton Anti-Racism Resource Centre and Hate Prevention, Mitigation and Community Initiatives Action Plan objectives include:

- 25-Year Community Vision (Our Future Hamilton)
- Community Safety and Well-Being Plan
- Economic Development Action Plan 2021 – 2025
- Hamilton’s 10-year Housing and Homelessness Action Plan
- Internal Equity, Diversity & Inclusion Framework & Workplan
- One-Time Enhancement Grant Relief Program
- Placemaking Grant Program
- Corporate-wide Public Engagement Policy and Administrative Framework
- Urban Indigenous Strategy
- Youth Engagement Strategy

While the above work is underway, recent incidents of hate and racism in Hamilton indicate that more work is needed. These incidents leave a long-lasting impact on the individuals and communities who are victims, and they affect all Hamiltonians by impugning the city’s reputation and diminishing community sense of belonging for many equity-deserving populations.

ALTERNATIVES FOR CONSIDERATION

N/A

APPENDICES AND SCHEDULES ATTACHED

Appendix “A” to Report CM20007(e) – The Hamilton Anti-Racism Resource Mandate & Summary

Appendix “B” to Report CM20007(e) – The Hamilton Anti-Racism Resource Centre By-laws



MANDATE:

The Hamilton Anti-Racism Resource Centre (HARRC) is committed to advancing education about race, racism, discrimination, racial equality, and anti-racist theory and practice in Hamilton. We do so by holding workshops, programs, and events, and offering support services to the community. We directly support affected members of our community by receiving complaints about racism and referring complainants to appropriate community resources.

We gather data and monitor incidents of racism and hate crimes in Hamilton and encourage compliance with existing anti-discriminatory legislation. Our mandate also involves liaising with community agencies, organizations, and community leaders, and proposing, drafting, and advocating for legislative changes to address systemic racism. We also consider and confront related topics such as anti-discrimination, anti-oppression, human rights related issues, ableism, intersectionality, trauma, and decolonization.

STATEMENT OF ANTI-COLONIAL PRINCIPLES:

Colonialism remains embedded in the social, legal, political and economic context of Canada. HARRC recognizes the need to decentralize power and share leadership as it works toward fulfilling its mandate. As such, it will oppose or resist practices that perpetuate colonialism by adhering to a set of agreed upon principles that are anti-colonial in nature and practice. These principles are a set of broad value statements that provide guidance and clarity for making ethical choices. These principles should be evident within the strategic direction of HARRC and must be actioned in every aspect of the organization's work.

- **Equity - We promote the fair and respectful treatment of all.**
HARRC works to build an inclusive community where the dignity of individuals and communities is preserved. It fosters an inclusive environment and invites people to bring their whole selves as they engage in its programs and services. HARRC seeks to move beyond simplistic measures of equity and diversity, to challenge and remove systemic barriers that impede inclusion connected to a broad range of factors, such as language, culture, politics and histories.
- **Accountability – We always act in the best interest of HARRC, with love and service to the community.**
HARRC strives to represent the voices and interests of diverse communities who have been most impacted by historical and contemporary injustices. It is

accountable to the communities it represents and serves. HARRC uses its organizational power to strategically centre and amplify the voices of individuals and groups who are marginalized, under-represented, underserved and most impacted by racism in all its forms.

- **Connection – Our anti-racism work is deeply connected to the land and the people.**

HARRC understands that racism intersects with all other systems of oppression and has both local and global impacts. Its work cannot be separated from the people it serves (Indigenous nations and racialized communities) and the land on which it operates (environment and resources of Turtle Island).

- **Reciprocity – We cultivate mutually respectful relationships, balancing the outcomes of the work with the well-being of everyone.**

HARRC values the participation and contributions of all stakeholders, including Board members, staff, volunteers, funders and community members alike. It works to create a culture that upends traditional power dynamics, showing compassion and care for the well-being of everyone. The time and expertise of volunteers is valued, respected and compensated, by giving back to them in meaningful ways.

BOARD GOVERNANCE:

Governance may be defined as the exercising of responsibility, direction, and management of an organization to ensure that its purpose is achieved. Governance may be alternatively expressed as a process of providing strategic leadership (by) setting direction, making policy, overseeing, and monitoring organizational performance, and ensuring overall accountability.

The Board will govern with an emphasis on outward vision and must be clear on the following:

- who oversees what
- who sets the direction and the parameters within which the direction is to be pursued
- who makes decisions about what
- who sets performance indicators, monitors progress, and evaluates results; and
- who is accountable to whom and for what

Governance includes the structures, responsibilities, and processes that the Board of an organization uses to direct and manage its general operations.

The four key components of governance are:

- **Accountability:** the capacity of the membership (currently the Board) and other key stakeholders to call decision-makers to account for their actions. Effective accountability has two components: 'answerability' and 'consequences'. The first is the requirement to respond periodically to questions concerning one's official

actions. The second is the need for the application of measures for breach of policies.

- **Transparency:** timely access by the membership (currently the Board) and other key stakeholders to low-cost relevant, reliable information about finances, products or services and management of resources.
- **Predictability:** refers to the conduct or actions of elected officials (Board members) and appointed staff. Predictability results primarily from policies and role definitions that are clear, known in advance, fair, and uniformly and effectively exercised.
- **Participation (or engagement):** the involvement of the membership (currently the Board) and other key stakeholders in planning, decision processes and evaluation. This allows the Board to obtain reliable information, serves as the overseer, spurs operational efficiency, and provides feedback by users of public services necessary for monitoring access to and quality of services.

Essential Governance Tasks of a Board

All Boards, regardless of the type or size of the organization have the same basic tasks as set out earlier. The extent to which responsibility for these tasks is formalized in writing and/or the degree to which they are relevant to a particular organization will depend on the size and complexity of the organization and the resources available to support the Board in its work.

These tasks include:

- **Defining** and/or safeguarding the mission, the values framework, and operating principles within which it expects the organization to be administered, and to review and update these periodically to ensure that they remain current and responsive.
- **Overseeing** development and approval of a longer-term organizational plan or strategic priorities and develop or approve annual budgets and operating plans
- **Monitoring performance** of the organization overall in relation to achievement of its mission, strategic goals, and objectives:
- **Seeking or securing sufficient resources** for the organization to adequately finance its operational and capital requirements
- **Being accountable** to members, financial investors, other key stakeholders, and the public for the services of the organization and expenditure of funds
- Ensuring prudent and proper **management** of the organization's resources
- **Anticipating, mitigating, and managing risks** to the organization, its staff, clients, and other key stakeholders
- **Establishing** the general **values framework** within which the organization's human resources will be managed and periodically monitoring key human resource performance indicators
- **Approving** and periodically review **personnel policies** within which human resources will be managed:

- **Approving a mandate** (upper financial limits) within which **pay and benefits** agreements with staff (if there are any) are to be negotiated
- **Regularly reviewing** the organization's **services** to ensure that they are consistent with the purpose of the organization and that its programs are effective and relevant to community needs:
- **Providing continuity/stability** for the organization. Preserve the corporate memory
- **Providing opportunities** for student and stakeholder participation
- **Representing the organization** and its programs positively to key stakeholders and the community at large.
- **Being a good ambassador** of the organization
- **Ensuring fair arbitration of complaints** from the community about services or products, through a formal complaint procedure.

BY-LAWS**HAMILTON ANTI-RACISM RESOURCE CENTRE (HARRC)**

(hereafter the "Corporation")

As at Feb 17, 2022

BE IT ENACTED as a by-law of the Corporation as follows:

1. Definitions

In this by-law and all other by-laws of the Corporation, unless the context otherwise requires:

"Act" means the *Canada Not-For-Profit Corporations Act* S.C. 2009, c. 23 including the Regulations made pursuant to the Act, and any statute or regulations that may be substituted, as amended from time to time;

"articles" means the original or restated articles of incorporation or articles of amendment, amalgamation, continuance, reorganization, arrangement or revival of the Corporation;

"board" means the board of directors of the Corporation and "director" means a member of the board;

"by-law" means this by-law and any other by-law of the Corporation as amended and which are, from time to time, in force and effect;

"meeting of members" includes an annual meeting of members or a special meeting of members; "special meeting of members" includes a meeting of any class or classes of members and a special meeting of all members entitled to vote at an annual meeting of members;

"ordinary resolution" means a resolution passed by a majority of not less than 50% plus 1 of the votes cast on that resolution;

"proposal" means a proposal submitted by a member of the Corporation that meets the requirements of section 163 (Member Proposals) of the Act;

"Regulations" means the regulations made under the Act, as amended, restated or in effect from time to time; and

"special resolution" means a resolution passed by a majority of not less than two-thirds (2/3) of the votes cast on that resolution.

2. Interpretation

In the interpretation of this by-law, words in the singular include the plural and vice-versa, words in one gender include all genders, and "person" includes an individual, body corporate, partnership, trust and unincorporated organization.

Other than as specified above, words and expressions defined in the Act have the same meanings when used in these by-laws.

3. Corporate Seal

The Corporation may have a corporate seal in the form approved from time to time by the board. If a corporate seal is approved by the board, the secretary of the Corporation shall be the custodian of the corporate seal.

4. Execution of Documents

Deeds, transfers, assignments, contracts, obligations and other instruments in writing requiring execution by the Corporation may be signed by any two (2) of its officers or directors. In addition, the board may from time to time direct the manner in which and the person or persons by whom a particular document or type of document shall be executed. Any person authorized to sign any document may affix the corporate seal (if any) to the document. Any signing officer may certify a copy of any instrument, resolution, by-law or other document of the Corporation to be a true copy thereof.

5. Financial Year End

The financial year end of the Corporation shall be December 31 in each year.

6. Banking Arrangements

The banking business of the Corporation shall be transacted at such bank, trust company or other firm or corporation carrying on a banking business in Canada or elsewhere as the board of directors may designate, appoint or authorize from time to time by resolution. The banking business or any part of it shall be transacted by an officer or officers of the Corporation and/or other persons as the board of directors may by resolution from time to time designate, direct or authorize.

7. Borrowing Powers

The directors of the Corporation may, without authorization of the members,

- a. borrow money on the credit of the corporation;
- b. issue, reissue, sell, pledge or hypothecate debt obligations of the corporation;
- c. give a guarantee on behalf and
- d. mortgage, hypothecate, pledge or otherwise create a security interest in all or any property of the corporation, owned or subsequently acquired, to secure any debt obligation of the corporation.

8. Annual Financial Statements

The Corporation shall send to the members a copy of the annual financial statements and other documents referred to in subsection 172(1) (Annual Financial Statements) of the Act or a copy of a publication of the Corporation reproducing the information contained in the documents.

9. Membership Conditions

Subject to the articles, there shall be one class of members in the Corporation. Membership in the Corporation shall be available only to individuals interested in furthering the Corporation's purposes and who have applied for and been accepted into membership in the Corporation by resolution of the board or in such other manner as may be determined by the board. Each member shall be entitled to receive notice of, attend and vote at all meetings of the members of the Corporation.

Pursuant to subsection 197(1) (Fundamental Change) of the Act, a special resolution of the members is required to make any amendments to this section of the by-laws if those amendments affect membership rights and/or conditions described in paragraphs 197(1)(e), (h), (l) or (m).

10. Transferring Membership

A membership may only be transferred to the Corporation. Pursuant to Section 197(1) (Fundamental Change) of the Act, a special resolution of the members is required to make any amendment to add, change or delete this section of the by-laws.

11. Notice of Members Meeting

Notice of the time and place of a meeting of members shall be given to each member entitled to vote at the meeting by the following means: by mail, e-mail, courier or personal delivery to each member entitled to vote at the meeting, during a period of 21

to 30 days before the day on which the meeting is to be held; or by telephonic, electronic or other communication facility to each member entitled to vote at the meeting, during a period of 14 to 21 days before the day on which the meeting is to be held.

Pursuant to subsection 197(1) (Fundamental Change) of the Act, a special resolution of the members is required to make any amendment to the by-laws of the Corporation to change the manner of giving notice to members entitled to vote at a meeting of members.

12. Members Calling a Members' Meeting

The board of directors shall call a special meeting of members in accordance with Section 167 of the Act, on written requisition of members carrying not less than 5% of the voting rights. If the directors do not call a meeting within twenty-one (21) days of receiving the requisition, any member who signed the requisition may call the meeting.

13. Termination of Membership

A membership in the Corporation is terminated when:

- a. the member dies or resigns;
- b. the member is expelled or their membership is otherwise terminated in accordance with the articles or by-laws;
- c. the member's term of membership expires; or
- d. the Corporation is liquidated and dissolved under the Act.

14. Effect of Termination of Membership

Subject to the articles, upon any termination of membership, the rights of the member, including any rights in the property of the Corporation, automatically cease to exist.

15. Discipline of Members

The board shall have authority to suspend or expel any member from the Corporation for any one or more of the following grounds:

- a. violating any provision of the articles, by-laws, or written policies of the Corporation;
- b. carrying out any conduct which may be detrimental to the Corporation as determined by the board in its sole discretion;
- c. for any other reason that the board in its sole and absolute discretion considers to be reasonable, having regard to the purpose of the Corporation.

In the event that the board determines that a member should be expelled or suspended from membership in the Corporation, the chair, or such other officer as may be designated by the board, shall provide twenty (20) days notice of suspension or expulsion to the member and shall provide reasons for the proposed suspension or expulsion. The member may make written submissions to the chair, or such other officer as may be designated by the board, in response to the notice received within such twenty (20) day period. In the event that no written submissions are received by the chair, the chair, or such other officer as may be designated by the board, may proceed to notify the member that the member is suspended or expelled from membership in the Corporation. If written submissions are received in accordance with this section, the board will consider such submissions in arriving at a final decision and shall notify the member concerning such final decision within a further twenty (20) days from the date of receipt of the submissions. The board's decision shall be final and binding on the member, without any further right of appeal.

16. Proposals Nominating Directors at Annual Members' Meetings

Subject to the Regulations under the Act, any proposal may include nominations for the election of directors if the proposal is signed by not less than 5% of members entitled to vote at the meeting at which the proposal is to be presented.

17. Cost of Publishing Proposals for Annual Members' Meetings

The member who submitted the proposal shall pay the cost of including the proposal and any statement in the notice of meeting at which the proposal is to be presented unless otherwise provided by ordinary resolution of the members present at the meeting.

18. Place of Members' Meeting

Subject to compliance with section 159 (Place of Members' Meetings) of the Act, meetings of the members may be held at any place within Canada determined by the board or, if all of the members entitled to vote at such meeting so agree, outside Canada.

19. Persons Entitled to be Present at Members' Meetings

The only persons entitled to be present at a meeting of members shall be those entitled to vote at the meeting, the directors and the public accountant of the Corporation and such other persons who are entitled or required under any provision of the Act, articles or by-laws of the Corporation to be present at the meeting. Any other person may be admitted only on the invitation of the chair of the meeting or by agreement of the members.

20. Chair of Members' Meetings

In the event that the chair of the board and the vice-chair of the board are absent, the members who are present and entitled to vote at the meeting shall choose one of their number to chair the meeting.

21. Quorum at Members' Meetings

A quorum at any meeting of the members (unless a greater number of members are required to be present by the Act) shall be a majority of the members entitled to vote at the meeting. If a quorum is present at the opening of a meeting of members, the members present may proceed with the business of the meeting even if a quorum is not present throughout the meeting.

22. Voting at Members' Meetings

At any meeting of members every question shall, unless otherwise provided by the articles or by-laws or by the Act, be determined by a majority of the votes cast on the questions. In case of an equality of votes either on a show of hands or on a ballot or on the results of electronic voting, the chair of the meeting in addition to an original vote shall have a second or casting vote.

23. Participation by Electronic Means at Members' Meetings

If the Corporation chooses to make available a telephonic, electronic or other communication facility that permits all participants to communicate adequately with each other during a meeting of members, any person entitled to attend such meeting may participate in the meeting by means of such telephonic, electronic or other communication facility in the manner provided by the Act. A person participating in a meeting by such means is deemed to be present at the meeting. Notwithstanding any other provision of this by-law, any person participating in a meeting of members pursuant to this section who is entitled to vote at that meeting may vote, in accordance with the Act, by means of any telephonic, electronic or other communication facility that the Corporation has made available for that purpose.

24. Members' Meeting Held Entirely by Electronic Means

If the directors or members of the Corporation call a meeting of members pursuant to the Act, those directors or members, as the case may be, may determine that the meeting shall be held, in accordance with the Act and the Regulations, entirely by means of a telephonic, electronic or other communication facility that permits all participants to communicate adequately with each other during the meeting.

25. Number of Directors

The board shall consist of the number of directors specified in the articles. If the articles provide for a minimum and maximum number of directors, the board shall comprise of the fixed number of directors as determined from time to time by the members by ordinary resolution or, if the ordinary resolution empowers the directors to determine the number, by resolution of the board. In the case of a soliciting corporation the minimum number of directors may not be fewer than three (3), at least two of whom are not officers or employees of the Corporation or its affiliates.

26. Term of Office of Directors

The directors shall be elected to hold office for a term expiring not later than the close of the second annual meeting of members following the election.

27. Calling of Meetings of Board of Directors

For newly-incorporated corporations Meetings of the board may be called by the chair of the board, the board or any two (2) directors at any time; provided that for the first organization meeting following incorporation, such meeting may be called by any director or incorporator.

28. Notice of Meeting of Board of Directors

Notice of the time and place for the holding of a meeting of the board shall be given in the manner provided in the section on giving notice of meeting of directors of this by-law to every director of the Corporation not less than 10 days before the time when the meeting is to be held. Notice of a meeting shall not be necessary if all of the directors are present, and none objects to the holding of the meeting, or if those absent have waived notice of or have otherwise signified their consent to the holding of such meeting. Notice of an adjourned meeting is not required if the time and place of the adjourned meeting is announced at the original meeting. Unless the by-law otherwise provides, no notice of meeting need specify the purpose or the business to be transacted at the meeting except that a notice of meeting of directors shall specify any matter referred to in subsection 138(2) (Limits on Authority) of the Act that is to be dealt with at the meeting.

29. Regular Meetings Section

The board will meet regularly and at least 9 times per calendar year, on the third Thursday of January, February, March, April, May, June, September, October and November.

30. Voting at Meetings of the Board of Directors

At all meetings of the board, every question shall be decided by a majority of the votes cast on the question. In case of an equality of votes, the chair of the meeting in addition to an original vote shall have a second or casting vote.

31. Committees of the Board of Directors

The board may from time to time appoint any committee or other advisory body, as it deems necessary or appropriate for such purposes and, subject to the Act, with such powers as the board shall see fit. Any such committee may formulate its own rules of procedure, subject to such regulations or directions as the board may from time to time make. Any committee member may be removed by resolution of the board of directors.

32. Appointment of Officers

The board may designate the offices of the Corporation, appoint officers on an annual or more frequent basis, specify their duties and, subject to the Act, delegate to such officers the power to manage the affairs of the Corporation. A director may be appointed to any office of the Corporation. An officer may, but need not be, a director unless these by-laws otherwise provide. Two or more offices may be held by the same person.

33. Officers of the Corporation

Unless otherwise specified by the board (which may, subject to the Act modify, restrict or supplement such duties), the offices of the Corporation, if designated and if officers are appointed, shall undertake the following duties associated with their positions: Chair of the Board – The chair of the board, if one is to be appointed, shall be a director. The chair of the board, if any, shall, when present, preside at all meetings of the board of directors and of the members. The chair shall have such other duties and powers as the board may specify. Vice-Chair of the Board – The vice-chair of the board, if one is to be appointed, shall be a director. If the chair of the board is absent or is unable or refuses to act, the vice-chair of the board, if any, shall, when present, preside at all meetings of the board of directors and of the members. The vice-chair shall have such other duties and powers as the board may specify. Secretary – If appointed, the secretary shall attend and be the secretary of all meetings of the board, members and committees of the board. The secretary shall enter or cause to be entered in the Corporation's minute book, minutes of all proceedings at such meetings; the secretary shall give, or cause to be given, as and when instructed, notices to members, directors, the public accountant and members of committees; the secretary shall be the custodian of all books, papers, records, documents and other instruments

belonging to the Corporation. Treasurer – If appointed, the treasurer shall undertake such duties as the board may specify.

34. Invalidity of Provisions of this By-law

The invalidity or unenforceability of any provision of these By-laws shall not affect the validity or enforceability of the remaining provisions.

35. Omissions and Errors

The accidental omission to give any notice to any member, director, officer, member of a committee of the board or public accountant, or the non-receipt of any notice by any such person where the Corporation has provided notice in accordance with the by-laws or any error in any notice not affecting its substance shall not invalidate any action taken at any meeting to which the notice pertained or otherwise founded on such notice.

36. By-laws and Effective Date

Subject to the articles, the board of directors may, by resolution, make, amend or repeal any by-laws that regulate the activities or affairs of the Corporation. Any such by-law, amendment or repeal shall be effective from the date of the resolution of directors until the next meeting of members where it may be confirmed, rejected or amended by the members by ordinary resolution. If the by-law, amendment or repeal is confirmed or confirmed as amended by the members it remains effective in the form in which it was confirmed. The by-law, amendment or repeal ceases to have effect if it is not submitted to the members at the next meeting of members or if it is rejected by the members at the meeting.

This section does not apply to a by-law that requires a special resolution of the members according to subsection 197(1) (fundamental change) of the Act because such by-law amendments or repeals are only effective when confirmed by members.