



## **PUBLIC WORKS COMMITTEE**

### **REPORT 15-009**

**9:30 a.m.**

**Monday, June 15, 2015**

**Council Chambers**

**Hamilton City Hall**

**71 Main Street West**

**Present:** Councillors S. Merulla (Chair), C. Collins, S. Duvall, T. Jackson, T. Whitehead, D. Conley, L. Ferguson, A. VanderBeek (Vice Chair), R. Pasuta

**Also Present:** Councillors M. Green and M. Pearson

### **THE PUBLIC WORKS COMMITTEE PRESENTS REPORT 15-009 AND RESPECTFULLY RECOMMENDS:**

#### **1. 2015 Special Events Requiring Temporary Road Closures (PW150047) (Wards 1 and 2) (Item 5.1)**

That each of the following applications:

- (a) Core Entertainment for the temporary closure of Bay Street between King Street and York Boulevard on Thursday August 20, 2015, for a Kenny Chesney Pre-Show Party (refer to Appendix A to PW Report 15-009);
- (b) Slide in the City for the temporary closure of Macklin Street between Dufferin Street and Longwood Road on Saturday August 29, 2015, for a Slide in the City Event (refer to Appendix B to PW Report 15-009);
- (c) Supercrawl Productions for the extension of the previously approved temporary closure of James Street between King Street and Murray Street, to include James Street from King Street to Main Street, and King Street from John Street to MacNab Street from Friday September 11, 2015 to Sunday September 13, 2015 (refer to Appendix C to PW Report 15-009); be approved,

Subject to the following conditions:

- (i) That the City may revoke the temporary road closure at any time to gain access for emergency services;
- (ii) That no property owner or resident within the barricaded area be denied access to their property upon request;
- (iii) That the applicant ensure that clean-up operations be carried out immediately before the re-opening of the roads, to the satisfaction of the General Manager of Public Works or designate at the expense of the event organizer;
- (iv) That all barricading and traffic control be supplied by the applicant, and must conform to "Ministry of Transportation Book 7 - Temporary Conditions";
- (v) That all barricading and traffic control be subject to the direction and satisfaction of the General Manager of Public Works or designate with all costs the responsibility of the applicant;
- (vi) That all warning boards and detour signs manufactured and installed by the City of Hamilton in advance of the closure be at the expense of the applicant;
- (vii) That the applicant notify all property owners and tenants along the closed portion of the route of the event in writing a minimum of two weeks in advance of the closure. The notice must be completed prior to the event in a form acceptable to the General Manager of Public Works or designate, providing, but not limited to a 24-hour contact name and telephone number;
- (viii) That the applicant provide proof of \$2,000,000 public liability insurance naming the City of Hamilton as an added insured party with a provision for cross liability, and holding the City of Hamilton harmless from all actions, causes of action, interests, claims, demands, costs, damages, expenses and loss;
- (ix) That the applicant pay the required full road closure fee of \$621.75 made payable to "The City of Hamilton" prior to road closure.

**2. Gold Seal Certification of Superintendents from Outside Contractors (PW15049) (City Wide) (Outstanding Business List Item) (Item 5.2)**

- (a) That PW Information Report 15049 respecting the Gold Seal Certification of Superintendents from Outside Contractors, be received; and
- (b) That the strategies outlined in PW Report 15049 for moving forward, be implemented.

**3. Algae Growth and Drinking Water Concerns (PW15045) (City Wide) (Item 5.3) (Outstanding Business List Item)**

That PW Information Report 15045 respecting Algae Growth and Drinking Water Concerns, be received.

**4. Drinking Water Quality Management System Operational Plan Summary Report (PW15046) (City Wide) (Item 5.4)**

- (a) That Appendix D attached to PW Report 15-009 respecting the Drinking Water Quality Management System Operational Plan Summary Report be approved;
- (b) That the Mayor, City Clerk, General Manager of Public Works and Director of Hamilton Water, be authorized and directed to execute the Drinking Water Quality Management System Operational Plan Summary Report by signing the Commitment and Endorsement page within the Summary Report.

**5. PRESTO Fare Card System Project (PW04117(g)) (City Wide) (Item 5.5)**

- (a) That the Council of the City of Hamilton, as the sole shareholder of The Hamilton Street Railway Company, approve a resolution in the form set out in Appendix E to PW Report 15-009 authorizing the renewal of the Greater Toronto and Hamilton Area (GTHA) Fare System Operating Agreement, made as of the 27<sup>th</sup> day of October, 2006 between The Hamilton Street Railway Company, the Province of Ontario, Metrolinx, and other participating municipalities and transit authorities (the "Operating Agreement"), for a period of three (3) years, from October 27, 2016, to October 27, 2019;

- (b) That the Mayor and City Clerk be authorized and directed to execute the resolution referred to in subsection (a) and any necessary documents to give effect to subsection (a) on behalf of the City of Hamilton as the Sole Shareholder of The Hamilton Street Railway Company;
- (c) That, prior to any corporate restructuring or dissolution of The Hamilton Street Railway Company,
  - (i) the Council of the City of Hamilton, as the sole shareholder of The Hamilton Street Railway Company offer, and the City of Hamilton accept, the assignment and assumption of the Operating Agreement referred to in subsection (a), including any renewals thereof;
  - (ii) the General Manager of Public Works be authorized to enter into an agreement on behalf of the City of Hamilton, in a form satisfactory to the City Solicitor, and any other necessary documents to give effect to paragraph (c)(i);
- (d) That the General Manager of Public Works or designate be authorized to negotiate a new operating agreement for the future management of the GTA Fare System (PRESTO).

**6. Golf Courses – Golf Course Business Plan Update (PW15053) (City Wide)  
(Item 7.1)**

- (a) That the “Golf Course Performance Analysis Follow-up Study” contained in Appendix F to PW Report 15-009 be received;
- (b) That the current Golf Course Business Plan, currently in the ninth of ten years, be extended for an additional five years;
- (c) That staff be directed to explore various opportunities for public-private partnerships and new development, in order to generate new revenues for the purpose of capital reinvestment in the existing golf courses and that staff report back with its results at future date;
- (d) That staff be directed to develop a marketing strategy and a new fee structure for Season Passes & Green Fees for the 2016 golf season, in order to maximize rounds and increase revenues and report back as part of the 2016 Budget Process.

**7. Blanket Support Resolution for Rooftop Solar Projects for Feed in Tariff Program (PW12069(a)) (City Wide) (Item 8.1)**

- (a) That the City of Hamilton support the Independent Electricity System Operator (IESO) Feed in Tariff (FIT) Program Version 4.0 for the construction and operation of rooftop solar photovoltaic (PV) installations within the City of Hamilton by approving the Municipal Council Support Resolution, as shown in Appendix G to PW Report 15-009;
- (b) That all other renewable energy projects (FIT 4.0 or Large Renewable Energy projects) will be reviewed individually by the Planning and Economic Development Department and the Office of Energy Initiatives, and subsequently brought to Council for individual project approval and individual Support Resolutions.

**8. Consultant Services for the Contract Administration of the New Highland Gardens Park Pumping Stations (PW15050) (City Wide) (Item 8.2)**

- (a) That Purchase Order No. 45674 for contract C11-80-08, Professional Engineering Consultant Services required for the Design and Contract Administration of the New Highland Gardens Park Pumping Station be increased by \$130,000; and,
- (b) That this increase be funded from Project ID 5140795752 (PD3 Pump Station Highland Gardens).

**9. New Valve Chamber No. 3 – Budget Increase (PW15052) (City Wide) (Item 8.3)**

- (a) That the budget in capital Project ID 5141061303 (Valve Chamber No. 3) be increased by \$1,000,000 from \$1,800,000 to \$2,800,000, and;
- (b) That the increase be funded with \$500,000 from Project ID 5140795752 (PD3 PS Highland Gardens) and \$500,000 from Project ID 5141195151 (HD007 Highland Road PS).

**10. HSR Bus Traffic on Redfern Avenue (PW15039) (Ward 8) (Item 8.4)**

That the General Manager of Public Works be authorized and directed to take no action on the petition from residents requesting a reduction in HSR bus traffic on Redfern Avenue.

**11. Mountain Brow Boulevard Fencing – Area Rating Special Capital Re-Investment Reserve Funded Projects (Item 9.1)**

- (a) That contract C15-20-16 (HW) being the watermain replacement and road reconstruction of Mountain Brow Boulevard, be amended to upgrade the proposed chain link fencing being item 34 to a decorative fence as identified as item 33 within Contract C15-20-16; and,
- (b) That \$200,000 from Reserve #10856 – Ward 6 Area Rating Special Capital Reinvestment Reserve – be utilized to fund the addition costs incurred as a result of the proposed upgrade to a decorative fence being identified as item 33 within Contract C15-20-16.

**12. Plan for an Approved Corporate Methodology for Employee Surveying (Added Item 10.1)**

That City staff bring back for consideration a plan, including an approved corporate methodology for employee surveying, and that before any new departmental surveys are undertaken, council be provided with this framework.

**FOR THE INFORMATION OF COUNCIL:**

**(a) APPROVAL OF THE AGENDA (Item 1)**

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

- (i) Added as Item 4.2 – a Delegation Request from Isaac Neven, Crown Point Youth Council, respecting the Gage Park Bike Park
- (ii) Added as Item 4.3 – a Delegation Request from Andrew Pliskevicius respecting the Gage Park Bike Park
- (iii) Added as Item 4.4 – Delegation Request from Juno Rinaldi respecting the Gage Park Bike Park
- (iv) Added as Item 4.5 – Delegation Request from Mike Chamberlain, Bike for Mike, respecting the Gage Park Bike Park

- (v) Added as Item 10.1 – a Notice of Motion respecting a Plan for an Approved Corporate Methodology for Employee Surveying

The Agenda for the June 15, 2015 meeting of the Public Works Committee was approved, as amended.

**(b) DECLARATIONS OF INTEREST (Item 2)**

There were no declarations of interest.

**(c) APPROVAL OF MINUTES OF PREVIOUS MEETING (Item 3)**

**(i) June 1, 2015 (Item 3.1)**

The Minutes of the June 1, 2015 Public Works Committee meeting, were approved, as presented.

**(d) DELEGATION REQUESTS (Item 4)**

**(i) Delegation Request from Robyn Lloyd, respecting Allowing Larger-Sized Dogs on the HSR (Item 4.1)**

The delegation request from Robyn Lloyd, respecting Allowing Larger-Sized Dogs on the HSR, was approved for a future meeting.

**(ii) Delegation Request from Isaac Neven, Crown Point Youth Council, respecting the Gage Park Bike Park (Added Item 4.2)**

The delegation request from Isaac Neven, Crown Point Youth Council, respecting the Gage Park Bike Park, was approved for today's meeting.

**(iii) Delegation Request from Andrew Pliskevicius respecting the Gage Park Bike Park (Added Item 4.3)**

The delegation request from Andrew Pliskevicius respecting the Gage Park Bike Park, was approved for today's meeting.

**(iv) Delegation Request from Juno Rinaldi respecting the Gage Park Bike Park (Added Item 4.4)**

The delegation request from Juno Rinaldi respecting the Gage Park Bike Park, was approved for today's meeting.

**(v) Delegation Request from Mike Chamberlain, Bike for Mike, respecting the Gage Park Bike Park (Added Item 4.5)**

The delegation request from Mike Chamberlain, Bike for Mike, respecting the Gage Park Bike Park, was approved for today's meeting.

**(e) CONSENT ITEMS (Item 5)**

**(i) Gold Seal Certification of Superintendents from Outside Contractors (PW15049) (Item 5.2)**

PW Report 15049 respecting the Gold Seal Certification of Superintendents from Outside Contractors was amended by adding the following as subsection (b):

That the strategies outlined in PW Report 15049 for moving forward, be implemented.

For disposition on this matter refer to Item 2.

**(f) PUBLIC HEARINGS/DELEGATIONS (Item 6)**

**(ii) Delegation from Dave Beland, Friends of Gage Park, respecting the Gage Park Pump Track (Item 6.1)**

Mr. David Beland, Friends of Gage Park, addressed the Committee respecting the Gage Park Pump Track. Mr. Beland provided the Committee with a handout. A copy of the handout has been retained for the official record.

Mr. Beland's presentation included, but was not limited to, the following:

- Background on the Friends of Gage Park
- Gore Park Master Plan
- Meeting with Staff
- Reports and Recommendations
- Other Considerations

The delegation from Dave Beland, Friends of Gage Park, respecting the Gage Park Pump Track, was received.



**(iii) Delegation from Isaac Neven, Crown Point Youth Council, respecting the Gage Park Bike Park (Added Item 6.2)**

Mr. Isaac Neven with the Crown Point Youth Council addressed the Committee respecting the Gage Park Bike Park. Mr. Neven was joined by Brett Bailey and Frieda Sinclair.

The presenters feel that the Bike Park will be a great addition to the Park and the community. Bike racing is a great sport as it gets youth outdoors and engaged in physical activities.

The delegation from Isaac Neven, Crown Point Youth Council, respecting the Gage Park Bike Park, was received.

**(iii) Delegation from Andrew Pliskevicius respecting the Gage Park Bike Park (Added Item 6.3)**

Mr. Pliskevicius addressed the Committee respecting the Gage Park Bike Park. Mr. Pliskevicius' presentation included, but was not limited to, the following:

- The benefits of bike racing for both youth and adults
- Bike parks are found in other Cities but lacking in Hamilton
- Bike parks give people a way to engage in physical fitness
- Gage Park needs to evolve and become an even more positive place for the future

The delegation from Andrew Pliskevicius respecting the Gage Park Bike Park, was received.

**(iv) Delegation from Juno Rinaldi respecting the Gage Park Bike Park (Added Item 6.4)**

Ms. Juno Rinaldi addressed the Committee respecting the Gage Park Bike Park. Ms. Rinaldi thanked the Friends of Gage Park for their work in making the Park a beautiful and special place.

Ms. Rinaldi outlined the benefits of bike riding and said that it gives youth a focus and something positive to participate in.

The delegation from Juno Rinaldi respecting the Gage Park Bike Park, was received.

(v) **Delegation from Mike Chamberlain, Bike for Mike, respecting the Gage Park Bike Park (Added Item 6.5)**

Mr. Mike Chamberlain with the Bike for Mike organization was not in attendance.

(g) **PRESENTATION (Item 7)**

(i) **Golf Courses – Golf Course Business Plan Update (PW15053) (City Wide) (Item 7.1)**

Mr. Rom D'Angelo, Director, Facilities Management, introduced the members of the Facilities Management Department who have worked on this report and thanked them for their assistance.

Mr. D'Angelo showed a video to the Committee about the King's Forest Golf Course and then introduced Mr. John Frittenburg with the JF Group to make a presentation to the Committee.

Mr. John Frittenburg made a presentation to the Committee respecting the Golf Facility Performance Analysis with the aid of a PowerPoint presentation. A copy of the presentation has been retained for the official record.

Mr. Frittenburg's presentation included, but was not limited to, the following:

- Background
- State of the Golf Industry
- Review of Performance
- Strategic Initiatives
- Possible Alternatives
- Next Steps

The presentation from John Frittenburg respecting Golf Courses – Golf Course Business Plan Update, was received.

For disposition on this matter refer to Item 6.

(h) **NOTICES OF MOTIONS (Item 10)**

Chair Merulla relinquished the Chair to Vice Chair VanderBeek to allow for the introduction of the following Notice of Motion:

**(i) Plan for an Approved Corporate Methodology for Employee Surveying (Added Item 10.1)**

Whereas, many City departments are looking at individual surveys to assess corporate culture; and,

Whereas, there isn't a city wide, approved methodology to access corporate culture through surveying; and,

Whereas valid metrics are required and can help inform the culture change;

**THEREFORE BE IT RESOLVED:**

That City staff bring back for consideration a plan, including an approved corporate methodology for employee surveying, and that before any new departmental surveys are undertaken, council be provided with this framework.

The rules of order were waived to allow for the introduction of a motion respecting a Plan for an Approved Corporate Methodology for Employee Surveying.

For disposition on this matter refer to Item 12.

**(i) GENERAL INFORMATION/OTHER BUSINESS (Item 11)**

**(i) Outstanding Business List (Item 11.1)**

(a) The following Items were considered complete and removed from the Outstanding Business List:

(i) Gold Seal Certification of Superintendents from Outside Contractors

(ii) Algae Growth and Drinking Water Concerns

(b) The due date of the following Item was revised:

(i) Correspondence from J.P. Pennachette, City Manager, City of Toronto, respecting the Credit Valley, Toronto and Central Ontario Region Sourcewater Protection Plan

Current Date: June 15, 2015

Revised Date: October 19, 2015

**(j) ADJOURNMENT (Item 13)**

That there being no further business, the Public Works Committee be adjourned at 11:18 a.m.

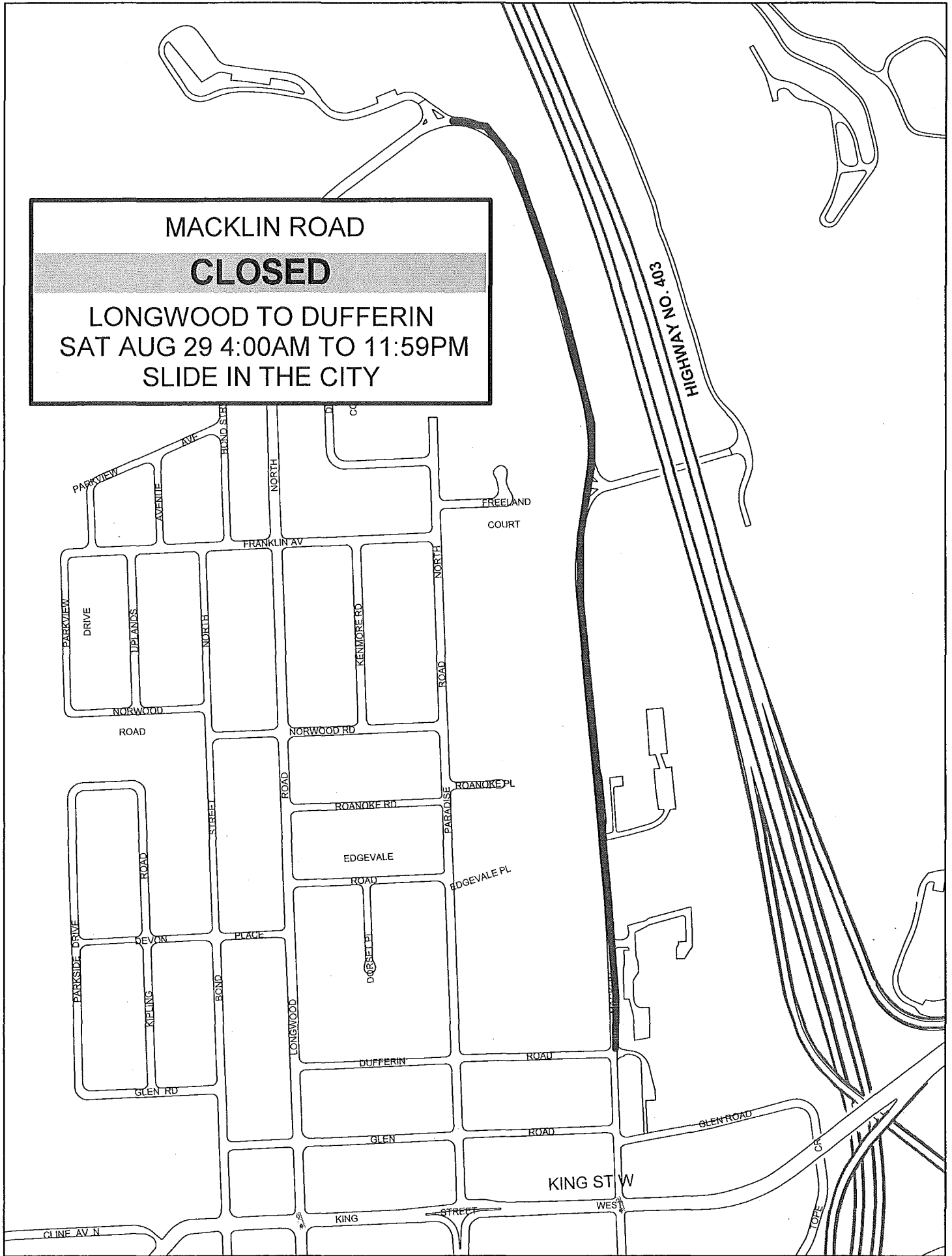
Respectfully submitted,

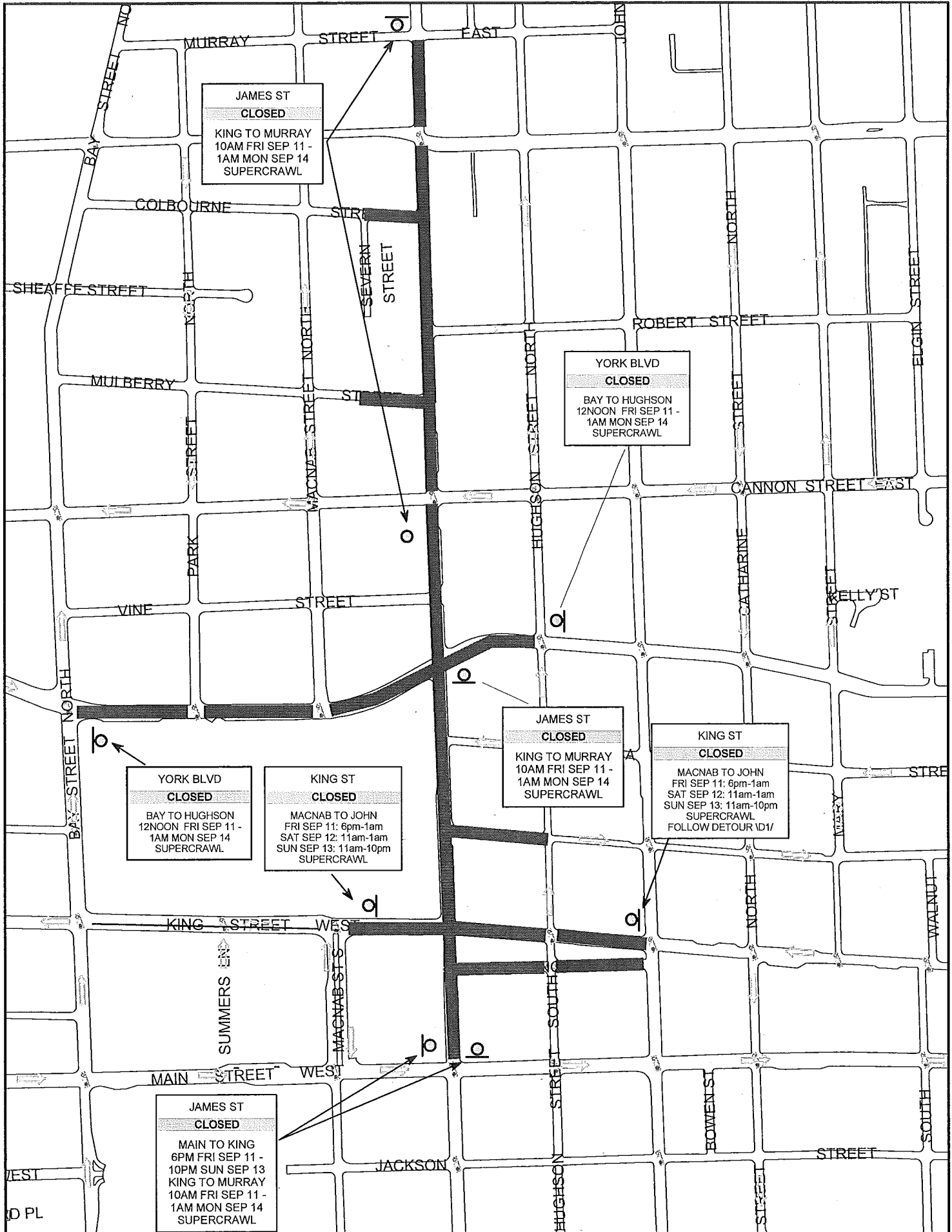
Councillor S. Merulla, Chair  
Public Works Committee

Lauri Leduc  
Legislative Coordinator  
Office of the City Clerk



MACKLIN ROAD  
**CLOSED**  
LONGWOOD TO DUFFERIN  
SAT AUG 29 4:00AM TO 11:59PM  
SLIDE IN THE CITY







<i>Title:</i>	<b>DWQMS Operational Plan Summary Report</b>		
<i>Document #</i>	<i>PW-WW-R-001-002</i>	<i>Document Level</i>	<i>3 (Divisional)</i>
<i>Issue #:</i>	<i>5</i>	<i>Issue Date:</i>	<i>June 2015</i>

*Italicized text reflects new proposed changes*

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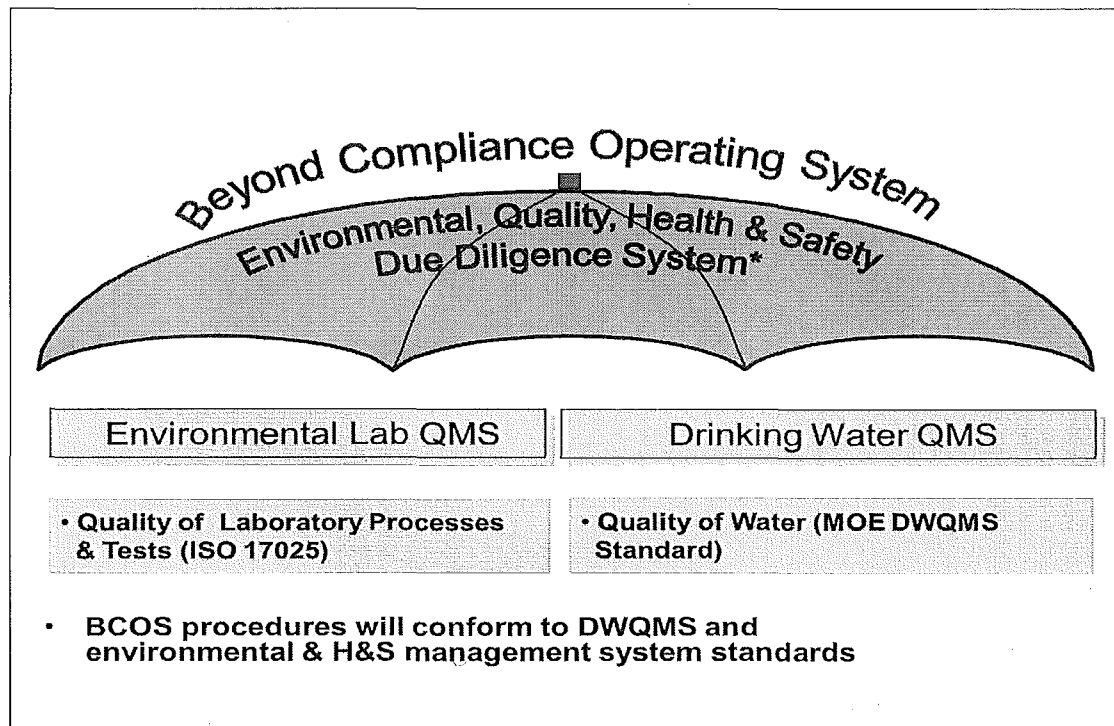
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**Preface**

A key priority of the *Hamilton Water Division (HW)* of the City of Hamilton is to ensure the protection of worker health, public health, property and the environment. To support this objective, *Hamilton Water* has developed the Beyond Compliance Operating System (BCOS). The BCOS System is an environmental, health and safety management system and its successful implementation and use is a key component of continuous improvement and an environment, health and safety (EHS) compliance culture throughout the *Hamilton Water Division*. The BCOS System *will* conform to environmental and occupational health and safety standards and is an umbrella program that oversees the Drinking Water Quality Management System (DWQMS) and the Environmental Laboratory QMS. Select DWQMS elemental procedures have been integrated with the BCOS System procedures. Integrated procedures are identified through the "BCOS + DWQMS" text in the procedure title. Procedures pertaining to DWQMS alone are identified by the "DWQMS" in the procedure title. The figure below identifies the BCOS System as an "umbrella" program that supports other scoped management systems of the *Hamilton Water Division*.

**BCOS Framework & DWQMS Sub-System**



**Access to Reports**

The DWQMS Operational Plan Summary Report is posted on the COH website Public Access

The DWQMS Operational Plan binders are located at four library locations as identified on the COH website.

Staff Access

The DWQMS Operational Plan is accessible to staff through the BCOS Database and the DWQMS website.

**1 QUALITY MANAGEMENT SYSTEM**

1.1 Purpose

The purpose of the DWQMS Operational Plan is to document the City of Hamilton's Drinking Water Quality Management System as part of the City's efforts to ensure that clean, safe and reliable drinking water is supplied to all of its customers. The DWQMS Operational Plan meets and sometimes exceeds the requirements of the Ministry of the Environment and Climate Change's (MOECC's) Drinking Water Quality Management Standard.

1.2 Scope

This DWQMS Operational Plan applies to *Hamilton Water* which is the Operating Authority for the City's drinking water systems (DWSs).

*Hamilton Water* has developed an integrated DWQMS Operational Plan Manual. The majority of the documents in the DWQMS Operational Plan pertain to all five of the City's drinking water systems (DWSs). The use of integrated procedures ensures the DWQMS is efficient and effectively communicates common requirements for the DWSs to water and wastewater staff. The DWS descriptions are system specific descriptions of the City's DWSs. The DWQMS Operational Plan also includes a map entitled "Drinking Water Systems – DWS" which illustrates the geographic scope of the City's water distribution systems.

1.3 Definitions

AWQI	Adverse Water Quality Incident. Any situation where the drinking water in the system (treatment / distribution) does not meet the requirements listed in 0.Reg 170 Schedule 16
BCOS System	Beyond Compliance Operating System – Environmental, Health and Safety Management System for water and wastewater sections of the <i>Hamilton Water</i> Division. BCOS is an umbrella system to the Environmental Laboratory QMS and DWQMS sub-systems

BLT	BCOS Lead Team. Includes SMR, Compliance Support Group, staff representatives (QA Supervisors or equivalent) from the water & wastewater sections of the <i>Hamilton Water</i> Division.
C&R Section	Compliance and Regulations Section
<i>CD Section</i>	<i>Capital Delivery Section</i>
<i>CMMS</i>	<i>Computerized Maintenance Management System</i>
Controlled Document	A document deemed to be important to the functioning of the <i>Hamilton Water</i> Division, as approved by the indicated staff, authorized for release and distribution. The document is available to staff in a format that cannot be modified (i.e. BCOS Database) without appropriate approval. The document available to staff is always the most current version of the document. The document is subject to monitoring, auditing and update. Controlled documents have a unique BCOS issuance number.
COH	City of Hamilton
Corrective Action	Action to eliminate the cause of a detected non-conformance or non-compliance.
CS&CO Section	Customer Service and Community Outreach Section
DWQMS	Drinking Water Quality Management System, as defined in O. Reg. 188/07 and pertaining to the water sections of the <i>Hamilton Water</i> Division.
DWS	Drinking Water System
EQH&S	Environmental, quality, health and safety
<i>IP&amp;SD Section</i>	<i>Infrastructure Planning &amp; Systems Design Section</i>
Lab QMS	Lab Quality Management System - The City of Hamilton's Environmental Lab operates under ISO/IEC 17025 which demonstrates that they operate a quality system, are technically competent and are able to generate technically valid results.
Level III System Procedure	A procedure which relates to the <i>Hamilton Water</i> Division, but may not fall under the scope of the DWQMS. Related to how Divisional activity is conducted. May be related to the DWQMS but does not provide direction on how DWQMS item is being addressed.
Level III DWQMS Procedure	A procedure which relates to the <i>Hamilton Water</i> Division and falls under the scope of the DWQMS.

Level III Document -Scoped	A procedure that relates to one or more but not all sections of the <i>Hamilton Water Division</i>
Level IV Procedure	Sectional Procedure
Level V and Higher Procedure	Procedure within units of the sections within the <i>Hamilton Water Division</i> , broken down / organized based on criteria and requirements set by each section.
OIC	Operator in Charge
ORO	Overall Responsible Operator
Operating Authority	Staff within the <i>Hamilton Water</i> responsible for the operation, maintenance and provision of support services to the COH DWS's (including water treatment and distribution)
Owner (AWQI)	Manager Compliance & Regulations (Owner for the purpose of adverse water notifications) or Superintendent of CHEL or designate (Owner backup).
Owner (DWS)	Every person who is a legal or beneficial owner of the City's Drinking Water systems. Since the City's DWSs are publicly owned and operated, the Mayor and Council of the City of Hamilton have been identified as Owners of the City's DWSs.
PO Section	Plant Operations Section
Preventive Action	Action to eliminate the cause of a <i>potential</i> non-conformance (an action or lack of action that is not a non-conformance, however, over time could lead to a non-conformance).
QA	Quality Assurance - planned and systematic pattern of actions necessary to ensure that management and technical controls are being followed.
Regulators	Regulatory bodies which oversee activities, products and services of the <i>Hamilton Water Division</i> including Ministry of the Environment & <i>Climate Change (MOECC)</i> , Ministry of Labour (MOL), Public Health Services (PHS) and others.
<i>SI Section</i>	<i>Sustainable Initiatives Section</i>
SMR	Systems Management Representative (for both the BCOS and DWQMS Systems) - Manager of Compliance and Regulations Section. Equivalent to QMS Representative as described in the DWQMS Standard.
SMT (DWQMS)	The DWQMS Senior Management Team, includes <i>the Directors and Section Managers of the Hamilton Water Division</i> .

Top Management (DWQMS)      The General Manager of Public Works and *the Director of Hamilton Water* have been identified as Top Management of the DWSSs.

WD&WWC Section      Water Distribution & Wastewater Collection Section

## 2      QUALITY MANAGEMENT SYSTEM POLICY

The DWQMS Policy has been approved and endorsed by the Owner and Top Management of the City's DWSSs. The DWQMS Policy was endorsed by the Owner (Mayor and Council) on June 27, 2007 and has since been re-formatted into the visual aid shown on page 7. The DWQMS Policy is posted internally at several City of Hamilton water and wastewater facilities. It has been communicated to *Hamilton Water* staff during the following events:

- BCOS and DWQMS System Awareness training and DWQMS Refresher training
- Annual internal audits
- New staff BCOS Database and DWQMS training sessions

The DWQMS Policy is communicated to the public through posting on the City's website.

## DWQMS Policy

The City of Hamilton owns, maintains and operates various drinking water systems. The City is committed to:

**S**

**A**

**F**

**E**

**SAFE**

**DRINKING WATER**

*Safe, high quality, consistent supply of drinking water*

*Always improving the Drinking Water Quality Management System*

*Following and complying with applicable legislation*

*Effective and open communication with the community concerning matters of drinking water quality.*

**Hamilton**  
*Water is Life*

**BCOS**  
Beyond Compliance  
Operating System

**Hamilton**  
Public Works

APRIL 2008

### 3 COMMITMENT AND ENDORSEMENT

The Owner (Mayor and Council) and Top Management of the Operating Authority support the development, implementation, maintenance and continual improvement of the DWQMS, which supports the COH's five DWSs. The Owners acknowledge their role through the receipt and review of DWQMS reports related to the adequacy of infrastructure, audits and management reviews and by provision of resources to support the DWQMS. Top Management of the Operating Authority includes the General Manager of the Public Works Department and the Director of *Hamilton Water*. Top Management supports the DWQMS through provision of resources, ensuring staff are aware of relevant legal requirements, and supporting DWQMS communications. Owners (Mayor and Council) and Top Management attended Safe Drinking Water Act Due Diligence Training in May 2008 *and Standard of Care training in 2012 and 2015*. The training sessions included an overview of Ontario's new legal framework for drinking water and Owner and Top Management's roles and responsibilities.

The DWQMS Operational Plan was originally endorsed by Council (Owner) on November 12, 2008 and is re-endorsed at minimum every four years, following the municipal election cycle. The signatures below serve as evidence of the endorsement of the DWQMS Operational Plan Manual.

Fred Eisenberger Mayor DWS Owner Representative	Gerry Davis General Manager, Public Works Department DWS Top Management Representative
Rose Caterini City Clerk <i>(Signing Authority on behalf of Council)</i>	Dan McKinnon Director Hamilton Water Division DWS Top Management Representative

#### 4 QUALITY MANAGEMENT SYSTEM REPRESENTATIVE

The Manager of the Compliance & Regulations Section, has been appointed as the Systems Management Representative (SMR) for the DWQMS and BCOS Systems. The SMR is responsible for:

- Ensuring that the DWQMS is established, implemented and maintained;
- Reporting to Top Management and SMT regarding DWQMS performance including recommended continual improvement initiatives;
- Promoting awareness of the DWQMS and of *Hamilton Water* staff roles and responsibilities;
- Overseeing the document control process including the development, review, approval and release of DWQMS System procedures and revoking obsolete documents;
- Ensuring that *Hamilton Water* and other staff are aware of all applicable legal requirements related to their duties and the DWQMS; and
- Managing the DWQMS Internal Audit Program.

#### 5 DOCUMENT AND RECORDS CONTROL

##### 5.1 Control of Documents

A procedure has been developed that outlines document control processes for the Operating Authority. The procedure entitled BCOS + DWQMS Control of Documents (PW-WW-P-010-001) is an integrated procedure (BCOS + DWQMS) that applies to the Operating Authority. The purpose of this procedure is to control the issue, change and approval of documents, ensuring that only up to date, approved documentation is used by Operating Authority staff. The Control of Documents procedure also ensures that staff can locate and access documents relevant to their work, in the format most suitable to their work, whether the documents are created internally or externally to the Operating Authority.

BCOS and DWQMS documentation can be identified using a unique numbering system specified in the Control of Documents Procedure (PW-WW-P-010-001). The BCOS Database stores and protects DWQMS procedures and also has the ability to track all reviews, revisions and approvals to procedures. *Hamilton Water* staff access DWQMS procedures through the BCOS Database or specialized sectional workspaces (some under development). Sectional workspaces help to ensure efficient access to Level III, IV and V DWQMS procedures.

Level III procedures which apply to all *Hamilton Water* Sections are considered Non-Scoped and procedures which apply to 2 or more but not all Sections of *Hamilton Water* are considered Scoped procedures. Level III procedures are developed by the Compliance Support Group (CSG) or by an individual with the technical background. Level III procedures are reviewed by BLT Members, SMT and other



staff, if applicable.

Final approval of Level III procedures is completed by the Director of *Hamilton Water*, for scheduled reviews, and by the Manager of Compliance & Regulations for non-scheduled reviews. As stated, the BCOS Database tracks the document release, review and approval process. The need for Level IV and V Sectional Documents is determined by each Section Manager and/or other Senior Sectional staff. A Sectional staff member is assigned responsibility for development of the draft procedure. The corresponding Section Manager approves Level IV procedures.

Electronic copies of documents are considered to be Controlled Documents. Hard copies of these documents are considered to be uncontrolled copies unless categorized as controlled with an electronic or physical stamp stating "This is a Controlled Document. Do Not Photocopy" printed or stamped in the footer or other location on the page. Hardcopy-Controlled documents are stored in designated locations and are updated by CSG, the QA or equivalent, Administrative Assistant or the Section representative.

The review cycle of all DWQMS procedures is *listed in BCOS + DWQMS Control of Documents (PW-WW-P-010-001), Operational Plan Procedure Review Frequency (PW-WW-L-010-004) and in the BCOS Database. Should there be discrepancies between the procedure, the list and BCOS, the frequency in the list will be taken as the correct review period.* Obsolete documents are retained within the BCOS Database but only limited staff have access to obsolete documentation.

## 5.2 Control of Records

A procedure has been developed that outlines record control processes for the Operating Authority. Control of Records (PW-WW-P-016-001) is an integrated procedure (BCOS + DWQMS) that applies to all *Hamilton Water* sections. The purpose of this procedure is to ensure that both City of Hamilton (COH) and externally generated non-COH records identified as critical to the BCOS and DWQMS Systems are properly collected, identified, accessed, filed, stored, maintained, reviewed and disposed of after their designated retention times.

Record profiles are developed in the BCOS Database which identify record type, record name, record identification method, storage location, retention time, person responsible and review frequency. At minimum, record profiles are created for critical records which are records related to regulatory or legal requirements. In some cases, records are uploaded or attached to the record profiles. Record retention times are defined in individual BCOS Database record profiles. All retention times stated are minimum times and do not supersede legal, governmental or other requirements. After the indicated storage period, unless otherwise specified, all records are destroyed by deletion, shredding, disposal in trash or recycling as determined by the controlling Supervisor, Director of *Hamilton Water*, or the Manager of the C&R Section, as relevant. Electronic copies are removed from the active BCOS Database and labeled "obsolete".

## 6 DRINKING WATER SYSTEM PROCESS DESCRIPTION

The City of Hamilton owns and operates the Hamilton DWS (treatment, distribution and the Fifty Road Subsystem) as well as, the communal well DWSs (Carlisle, Freelton, Greensville and Lynden). Process descriptions including process flow charts are found in the following procedures:

- DWQMS Description of Hamilton Drinking Water System (PW-WWW-P-030-001)
- DWQMS Description of Carlisle Drinking Water System (PW-WWW-P-030-02)
- DWQMS Description of Freelton Drinking Water System (PW-WWW-P-030-003)
- DWQMS Description of Greensville Drinking Water System (PW-WWW-P-030-004)
- DWQMS Description of Lynden Drinking Water System (PW-WWW-P-030-005)

The map entitled "Drinking Water Systems – DWS" (PW-WWW-V-030-001) illustrates the geographic scope of the City of Hamilton's water distribution systems.

## 7 RISK ASSESSMENT

A procedure entitled DWQMS Risk Assessment (PW-WWW-P-031-001) has been developed that documents the process followed by the City of Hamilton's Operating Authority in planning, completing, documenting, reviewing and maintaining its DWQMS Risk Assessment. The DWQMS Risk Assessment examines all aspects of the water uptake, treatment and distribution processes controlled by the Operating Authority.

Members of the DWQMS Risk Assessment Team are drawn from the *IP&SD, SI, CD, WD&WWC, PO* and *C&R* Sections as outlined in the DWQMS Risk Assessment procedure (PW-WWW-P-031-001) and may include additional staff or technical representatives from other sections. Separate meetings are scheduled to review risks to vertical and horizontal infrastructure. The DWQMS Risk Assessment Team examines each of the City of Hamilton's drinking water systems to identify potential hazards and hazardous events that could compromise the performance of any or all of the systems and subsequently impact the COH's ability to deliver clean, safe drinking water to its customers.

The Risk Assessment Team evaluates each identified hazard against criteria as outlined in the DWQMS Risk Assessment procedure (PW-WWW-P-031-001) and identifies critical control points (CCPs), taking into account the redundancy and reliability of equipment. Any hazards that relate to drinking-water disinfection are considered to be CCPs.

Critical Control Limits (CCLs) for each CCP are established based on regulatory and operational conditions in place. Any changes made to a CCP or CCL are communicated to BLT so that the changes are incorporated into the next Risk Assessment review.

The Risk Assessment Team ensures that hazards are mitigated and controlled

through the use of monitoring, maintenance, inspections/checks, standard operating procedures, emergency response procedures or infrastructure improvements as documented in the Risk Assessment matrices.

The DWQMS Risk Assessment is reviewed annually to verify the currency of the DWS information and any assumptions made in completing the Assessment. A new DWQMS Risk Assessment is conducted every three years.

## 8 RISK ASSESSMENT OUTCOMES

The DWQMS Risk Assessment was initially completed in the summer of 2008. Core outcomes are reviewed annually with the Risk Assessment *being redone in 2011 and 2014*. Risk Assessment outcomes relating to DWQMS requirements have been documented in the Risk Assessment database created in 2009.

A summary of relevant Critical Control Points identified during the Risk Assessment exercise is documented in the DWQMS Risk Assessment Critical Control Point Summary Chart (*PW-WW-R-032-009*). Outcomes of the DWQMS Risk Assessment are stored in the Risk Assessment Database and included in the Operational Plan.

## 9 ORGANIZATIONAL STRUCTURE, ROLES, RESPONSIBILITIES AND AUTHORITIES

The BCOS + DWQMS Roles, Responsibilities and Authorities Procedure (PW-WW-P-006-001) is an integrated procedure for the BCOS System and DWQMS Sub-system that describes how roles, responsibilities and authorities are defined, communicated and maintained to ensure accountability in the implementation of these Systems.

The BCOS + DWQMS Roles, Responsibilities and Authorities Procedure applies to all sections of the *Hamilton Water Division*. Roles, responsibilities and authorities relating to other sub-systems under the BCOS umbrella are defined in Level IV procedures and do not fall within the scope of the DWQMS.

The following Organizational Charts identify key roles and/or titles within the *Hamilton Water Division*:

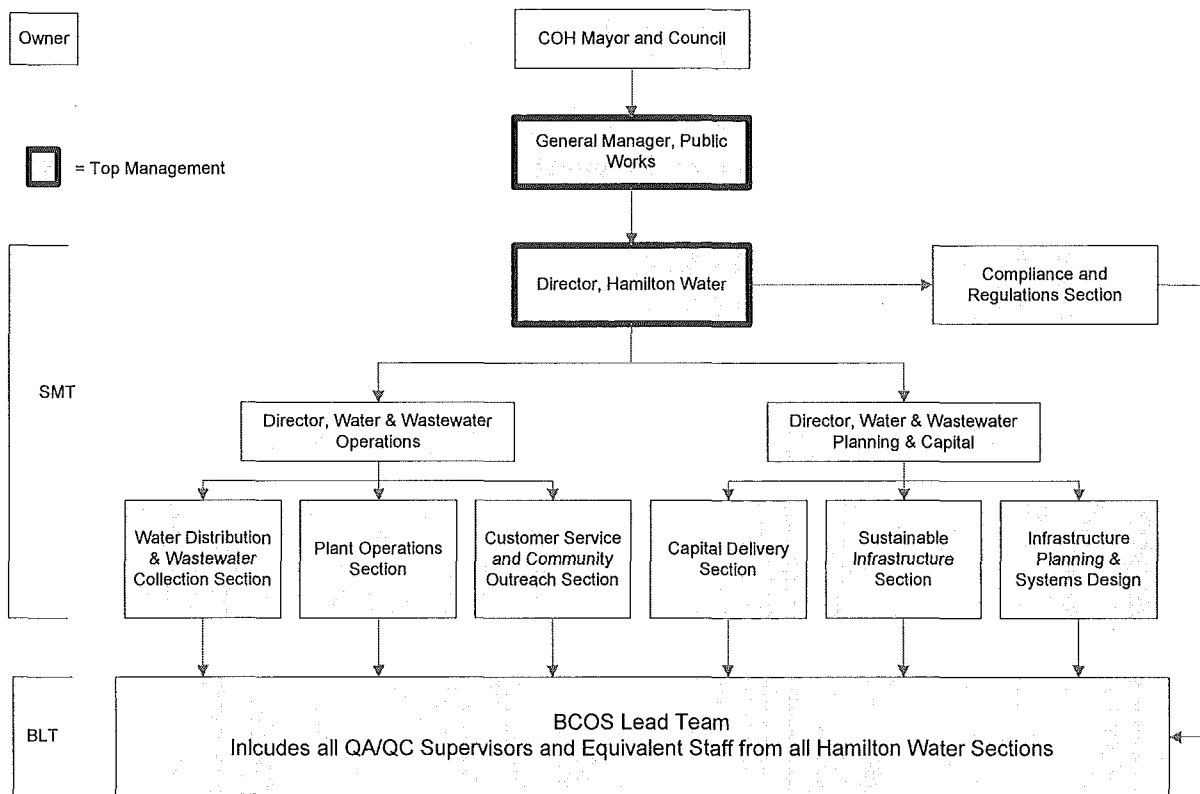
- *Hamilton Water Senior Management (PW-WW-R-006-002),*
- *Compliance and Regulations (PW-WW-R-006-003),*
- *Plant Operations (PW-WW-R-006-004),*
- *Customer Service & Community Outreach (PW-WW-R-006-005),*
- *Water Distribution & Wastewater Collection (PW-WW-R-006-006),*
- *WWW Planning and Capital (PW-WW-R-006-007),*
- *Woodward Upgrades (PW-WW-R-006-012),*

- *WWW Operations (PW-WW-R-006-013)*

The DWQMS Competency Matrix (PW-WW-L-033-001) lists the core competencies required by the *Hamilton Water* staff involved in the operation and maintenance of the COH's DWSs. The roles, responsibilities and authorities relating to the BCOS and DWQMS Systems are defined in BCOS + DWQMS Roles, Responsibilities and Authorities Matrix (PW-WW-R-006-001). These documents are reviewed every three years or sooner if significant organizational changes occur within the *Hamilton Water* Division.

CSG and BLT are responsible for ensuring that Operating Authority staff are kept aware of their respective roles, responsibilities and authorities as they relate to the DWQMS. BCOS and DWQMS System Awareness Training was conducted across the Operating Authority in the summer of 2008. A refresher course was delivered in the spring of 2010. *Awareness training for new staff is on-going. Refresher training is offered to staff, as required.* All Operating Authority staff are expected to be aware of their roles, responsibilities and authorities. The following is an Organizational Chart defining the Owner, Top Management, the Senior Management Team and the BCOS Lead Team. This organizational chart delineates only water related positions and sections.

## Organizational Structure (Operating Authority)



## 10 COMPETENCIES

The BCOS + DWQMS Competency and Training Procedure (PW-WWW-P-033-001) is an integrated procedure (BCOS and DWQMS) that applies across the Operating Authority and to all types of training including, but not limited to, water quality, environmental, and health and safety training. The procedure defines the framework for identification, delivery and tracking of training requirements related to the Operating Authority and documents how the Operating Authority ensures competencies of staff that could have a direct input on water quality.

The *Hamilton Water Division Core Training Guideline* (PW-WWW-G-033-002) lists required core and developmental competencies for job positions that could potentially impact the quality of water. Training requirements listed are established and approved by the respective Section Managers. Positions potentially impacting the quality of water have been identified as follows:

- Positions that require a Drinking-Water Operator's Licence (Treatment Operator, Distribution Operator, or Water Quality Analyst);
- Positions that supervise licensed Operators or Water Quality Analysts; and
- Other positions as recommended by the respective Section Manager.

*Supervisors and Superintendents review training requirements with staff during an annual meeting or during their performance appraisals with the purpose of the development and/or maintenance of job position Training Plans.*

Training can include a mix of training methods including classroom, hands-on, web-based, self paced, on-the-job, equipment/site specific training, conferences, seminars, off-site training, operational meetings, one-to-one training, job shadowing and video presentations. Inputs to Training Plans are identified in the BCOS + DWQMS Competency and Training Procedure (PW-WWW-P-033-001).

DWQMS Awareness Training is considered to be a Core Training requirement for all staff of the Operating Authority. This training may also be provided to other City staff outside of the Operating Authority, as required, as well as to Vendors providing essential supplies and services (refer to Section 13.0 of this Operational Plan).

Training records may include Certificates/Licenses, training matrices, sign-in sheets, registration forms, attendance lists, tests/quizzes, comment sheets, etc. These records are managed according to the Control of Records procedure (PW-WWW-P-016-001).

*In order to better connect staff to available training (e.g. catalogue), use training resources more effectively (e.g. competency tests) and help us manage our training records, Hamilton Water is rolling out a new IT tool; the Learning Management Database (LMD).*

## 11 PERSONNEL COVERAGE

The DWQMS Personnel Coverage Procedure (PW-WWW-P-034-003) is a DWQMS-specific procedure that describes how adequate staffing and personnel coverage are ensured and maintained within the Operating Authority. The procedure describes personnel coverage measures followed during regular business hours as well as during evenings, weekends and holidays, and applies to both water and wastewater operations as relevant to the Operating Authority. Level IV (Sectional) Personnel Coverage procedures should be referenced for Section-specific processes, where applicable.

## 12 COMMUNICATIONS

### 12.1 Internal Communications

The BCOS + DWQMS Internal Communications procedure (PW-WWW-P-008-001) has been developed to describe *Hamilton Water* communication processes with internal stakeholders. The annual DWQMS Communication Plan has been developed to support the implementation and communication needs of the Drinking Water Quality Management System (DWQMS) and ensures the Owner (Mayor and Council), *Hamilton Water* staff, suppliers, contractors and customers understand the

efforts and measures being put in place to protect the City's drinking water systems.

Top Management ensures that Council is aware of the DWQMS and communicates with Council to seek decisions/approval and input through Council meetings, informal DWQMS meetings and Council Update documents.

DWQMS Refresher Training for *Hamilton Water* staff is undertaken as needed. DWQMS Refresher Training should include quality management systems, roles and responsibilities under the DWQMS, elements of the DWQMS, including the Operational Plan and impacts to staff. Staff can access the Operational Plan using the DWQMS website. Staff meetings may also be used as a forum for informing staff of DWQMS news, changes and updates.

## 12.2 External Regulatory and Other Communications

The BCOS + DWQMS External Regulatory and Other Communications procedure (PW-WWW-P-008-002) is an integrated procedure for the BCOS and DWQMS Systems. The purpose of this procedure is to describe *Hamilton Water* communication processes with regulatory and other external environmental stakeholders.

The External Regulatory and Other Communications procedure (PW-WWW-P-008-02) discusses DWQMS external communications. Provisions for communication with the public are established in the DWQMS Communication Plan for each calendar year. The C&R and CS&CO Sections work together to provide the public with updated information regarding the DWQMS Operational Plan, the DWQMS Financial Plan, and Water Quality Reports. These documents are made available for review in hard copy at specific City locations or electronically (City website). The Control of Records procedure (PW-WWW-P-016-001) describes the control and management of these documents. Communication with suppliers is completed according to the DWQMS Essential Supplies & Services Procedure (PW-WWW-P-023-001) and the annual DWQMS Communication Plan.

The External Regulatory and Other Communications procedure (PW-WWW-P-008-002) also discusses processes for communication with the Accreditation Body, the Ministry of the Environment & *Climate Change*, and other related environmental regulatory communications.

## 12.3 Licencing and Permitting Procedure

The procedure entitled DWQMS Approvals Process for Alterations of Drinking Water Systems (PW-WWW-P-004-001) outlines the approvals process and identifies specific requirements needed to make alterations to the COH's DWSs under the licencing and permitting process. This procedure applies to all DWS alterations including: additions, modifications, replacements, or extensions of watermains as well as treatment, storage and pumping infrastructure. Activities deemed to be maintenance and/or repair to infrastructure are not subject to the approvals requirements specified in this procedure. Alterations to service lines are also outside the scope of this

procedure. The procedure applies to staff of the *Hamilton Water Division* as well as select staff from the P&ED Department.

### 13 ESSENTIAL SUPPLIES AND SERVICES

The DWQMS Essential Supplies and Services Procedure (PW-WWW-P-023-001) is a DWQMS-specific procedure that describes the processes by which the Operating Authority identifies the supplies and services that are deemed essential to water-related operations. The procedure also documents the process followed by the Operating Authority in completing quality assurance reviews for the essential supplies and services. This procedure pertains to the essential supplies and services related to the DWQMS only.

The BCOS Database module entitled "Supplier Management" lists the Operating Authority's water essential supplies and services. A supply or service is identified as essential if, and only if, it meets at least one of the following requirements:

- Essential to the safe delivery of water
- Related to drinking-water disinfection (primary or secondary).

A QA Review of all DWQMS essential supplies and services is undertaken at minimum once per year. Vendor ratings are logged into the Supplier Management Module of the BCOS Database. Vendor nonconformances are logged into the Supplier Nonconformance Module of the BCOS Database and are communicated to the appropriate Section Manager, as they are identified. Vendor QA reviews, vendor nonconformances, and resolution actions are discussed as an input to DWQMS Management Review.

*All vendors providing essential supplies and services will be informed of their role in the DWQMS and records will be maintained by the Operating Authority. Quality requirements for supplies and services are determined through provincial regulations, City standards, industry best practices and purchasing practices.*

### 14 REVIEW AND PROVISION OF INFRASTRUCTURE

The DWQMS Review and Provision of Infrastructure procedure (PW-WWW-P-025-001) has been developed to document the process followed by the Operating Authority in reviewing the adequacy of its drinking-water system infrastructure. This is a DWQMS-specific procedure that applies to all of the City's DWS-related infrastructure, including both horizontal and vertical infrastructure.

The DWQMS Infrastructure Review Team is comprised of three sub-teams including the Horizontal Infrastructure Team, the Vertical Infrastructure Team and the Infrastructure Coordination Team. Members of each Team are identified in the DWQMS Review and Provision of Infrastructure procedure (PW-WWW-P-025-001).

Inputs to Infrastructure Review can include but are not limited to the Current 10-Year Capital Plan, results from previous infrastructure reviews, operational maintenance &



customer complaint data, asset & infrastructure data, the Asset Management risk assessment matrix, information regarding water quality initiatives, Section-specific system improvement initiatives, results of the site specific risk assessments, relevant Master Plans, water quality data (LIMS), upsizing project list (Planning), Small Capital Needs List, and the Large Valve Replacement List and any other relevant information.

The Vertical Infrastructure Team is responsible for completing the review of vertical drinking-water system infrastructure, including the Woodward Water Treatment Plant, pumping stations, reservoirs, towers and other DWS infrastructure controlled and maintained by the PO Section. A report is generated from this review and serves as an input to the Infrastructure Coordination Review.

The Horizontal Review Team is responsible for completing the review of horizontal drinking-water system infrastructure including all watermains and other infrastructure controlled and maintained by the WD&WWC Section. A report is generated from this review and serves as an input to the Infrastructure Coordination Review.

The Infrastructure Coordination Team reviews and coordinates the findings of Vertical and Horizontal Infrastructure Reviews with the goal of providing overall infrastructure recommendations that balance the needs of both vertical and horizontal DWS infrastructure. An Infrastructure Review Report is provided to Top Management for approval and is subsequently presented to the Director of the Engineering Services Group and to Council via the budget reporting process.

The *IP&SD* Section generally leads the infrastructure renewal process for the Operating Authority's vertical infrastructure. For water infrastructure, the Senior Project Manager, Water Planning oversees master planning studies, servicing studies and generation of asset management data related to vertical assets (i.e. water treatment plant, wells and outstations). Once necessary approvals are in place, the *Capital Delivery* Section oversees the building of new water vertical infrastructure (i.e. improvements to water treatment plant, wells and outstations) on behalf of the Operating Authority. In some cases other Departments or Divisions oversee the construction, however, the *Capital Delivery* Section manages the transfer of infrastructure to the PO Section. The Engineering Services Group is responsible for overseeing the renewal or replacement of linear (i.e. water mains) water assets and the WD&WWC Section is responsible for operational control of these assets. The Engineering Services Group utilizes an asset management database to track the conditional data related to linear water assets.

## 15 INFRASTRUCTURE, MAINTENANCE, REHABILITATION AND RENEWAL

The procedure entitled DWQMS Infrastructure Maintenance, Rehabilitation & Renewal (PW-WWW-P-026-001) describes how the Operating Authority undertakes maintenance and infrastructure renewal programs related to the water infrastructure. Infrastructure maintenance is addressed by both planned and unplanned maintenance.

Planned maintenance is scheduled and records are stored in the *CMMS* (PO Section) and Hansen (WD&WWC Section) databases. Server files are backed up daily. Planned maintenance tasks are communicated to the person responsible by issuance of work orders from *CMMS* (PO Section staff) or Hansen (WD&WWC Section staff). Completed work orders are reviewed and signed or stamped by the designated Superintendent or Maintenance Technician of the respective Section.

Unplanned maintenance tasks result from equipment malfunction or breakage and / or customer complaints. Measures to prepare for and expedite unplanned maintenance include equipment redundancy (back-up units), spare parts inventory, availability of updated GIS maps water infrastructure, as well as documented repair and safety procedures.

Replacement of aging fixed heavy equipment, as well as upgrades, expansions, and in-ground systems improvements are planned by the infrastructure review teams as described in Section 14 of this DWQMS Operational Plan Summary Report.

## 16 SAMPLING, TESTING AND MONITORING

### 16.1 General Sampling, Testing and Monitoring

The DWQMS Sampling, Testing and Monitoring procedure (PW-WWW-P-013-004) describes how the Operating Authority undertakes water sampling, testing and monitoring to ensure the production and distribution of safe drinking water. A description of how results are communicated and how regulatory requirements are met is also provided in this procedure.

Sampling, testing and monitoring requirements are identified and incorporated into various sampling plan and schedule documents such as the City of Hamilton Drinking Water Sampling Plan (PW-WWW-P-013-002). The plans and schedules are reviewed and updated as necessary to incorporate regulatory and/or operational sampling, testing and monitoring requirements.

The DWQMS Sampling, Testing and Monitoring procedure includes both grab sampling (i.e. discrete samples representing water characteristics at a particular time) and continuous sampling (i.e. the measurement of parameters and processes through the use of online monitors and instruments). All grab samples brought for analysis to the City of Hamilton's Environmental Laboratory are collected according to protocols as specified by the City of Hamilton Environmental Laboratory General Sampling Protocols (PW-WWW-CR-EL-V-011) and Ontario Regulation 170/03 Sampling Protocols for Lead (PW-WWW-CR-EL-V-012). Continuous samples are collected and analyzed through the use of online analyzers and instruments as per the Real Time SCADA Data Assessment (PW-WWW-PO-P-011-001).

As required, and/or regulated, sampling, testing and monitoring results are communicated to: the Operating Authority, Owner (AWQI), Owner (DWS), Regulators and to the public. In the event of an AWQI, staff follow the steps outlined in the procedure Adverse Water Quality Incidents (AWQIs) and Corrective

Actions (PW-WW-P-015-001).

## 16.2 Regulatory Lead Sampling

To ensure the COH's Lead Sampling Program is implemented in accordance with Ontario Regulation 170/03, Schedule 15.1, the BCOS + DWQMS Regulatory Lead Sampling Program (PW-WW-P-013-009) was developed. This procedure applies to the COH's DWSs and to all aspects of the Lead Sampling Program from the initial point of contact with the consumer to delivery of the Final Report. The Program includes both Industrial/Commercial/Institutional and residential customers.

## 17 MEASUREMENT AND RECORDING EQUIPMENT CALIBRATION AND MAINTENANCE

The procedure entitled DWQMS Calibration & Maintenance of Measurement & Recording Equipment (PW-WW-P-036-001) describes the requirements for the calibration and verification of measurement and recording equipment used for sampling, testing and monitoring.

Types of recording equipment used for sampling testing and monitoring *may* include:

- Chlorine field kits
- Continuous chlorine analyzers
- Flow meters
- Fluoride meters
- pH meters
- Turbidity analyzers
- U.V intensity analyzers

For each type of recording equipment, the procedure provides information including maintenance frequency, methods and a description of how records of maintenance activities are kept. Also provided is a listing of who is responsible for the maintenance of equipment and related record keeping.

## 18 EMERGENCY MANAGEMENT

The *Hamilton Water Emergency Response Plan* (PW-WW-P-012-001) is an integrated procedure for the BCOS System and DWQMS Sub-system. This procedure describes processes developed to meet Emergency Preparedness and Response requirements of the DWQMS. The procedure also *describes* the City's Corporate, Divisional and Sectional Emergency Response *structure*.

The procedure includes a list of emergencies that could potentially impact one or more of the City's drinking-water systems. A Risk Assessment approach is used to identify possible risks and to highlight risks requiring *Emergency Response*

*Instructions.*

Annual testing of the City of Hamilton (Corporate) Emergency Response Plan, the *Hamilton Water Response Plan*, and the *Plant Operation's E2 Plan* is required. Upon completion of testing, a *debrief* is held to determine possible improvement actions and document any procedural upgrades that may be required.

*Hamilton Water* staff must receive training for all emergency response plans and/or procedures related to their job or responsibilities. Divisional training requirements are listed in the *Hamilton Water Division Core Training Guideline* (PW-WW-G-033-002). The City's Emergency Management Office determines training requirements for the City of Hamilton Emergency Response Plan.

**19 INTERNAL AUDIT**

The BCOS + DWQMS Internal Auditing procedure (PW-WW-P-017-001) is an integrated procedure that describes how *Hamilton Water* conducts objective and systematic internal audits as a means of measuring the performance of its BCOS System and its DWQMS. DWQMS Internal Audits assess DWQMS-related processes against the DWQMS Standards and relevant system procedures.

Internal auditors are appointed by *Hamilton Water* SMT and are identified in the BCOS + DWQMS Internal Auditor List (PW-WW-L-017-003). Auditors must remain objective and unbiased in their assessments of DWQMS processes and procedures, and are prohibited from auditing their own work.

The SMR holds overall responsibility for ensuring that internal audits are planned and executed according to the requirements of the DWQMS Standard and of the BCOS + DWQMS Internal Auditing procedure (PW-WW-P-017-001). The SMR appoints a Lead Auditor on a per-audit basis to assist in planning the internal audit and to oversee the execution of the internal audit.

At minimum, all elements or clauses of the DWQMS must be audited once annually.

Audit findings may indicate the need for corrective, preventive or improvement actions. Corrective, preventive and improvement actions are recorded in the BCOS Database (See Section 21.0 of this Operational Plan).

Once scheduled internal audits are completed, the SMR (or designate) reviews audit findings and compiles the information for presentation to SMT. Audit findings must be considered in future relevant audits. In addition, the Internal Audit Program is reviewed on an annual basis as an input to DWQMS Management Review.

**20 MANAGEMENT REVIEW**

The DWQMS Management Review procedure (PW-WW-P-018-001) is a DWQMS-specific procedure that has been developed to document the process followed in planning, executing and documenting DWQMS Management Reviews. This includes provision of feedback to *Hamilton Water* sections and reporting of review

results to the Owner (DWS). The Management Review process ensures that all levels of the organizational structure are kept informed and aware of DWQMS and DWS performance.

The SMR has a significant role in the DWQMS Management Review process, including the coordination and facilitation of Management Review meetings and the compilation of required input data for presentation to Top Management. Required inputs to Management Review are listed in the DWQMS Management Review procedure (PW-WWW-P-018-001). Other Managers or Operating Authority staff may be invited to assist in presenting information to the Management Review Team or to assist in the review of information where they offer additional expertise or insight. Top Management is responsible for reviewing the input materials presented and generating outputs as specified in the DWQMS Management Review procedure (PW-WWW-P-018-001).

Management Review Meetings are held at minimum on an annual basis. The Management Review can be conducted as one meeting per year or be split into several smaller meetings over the course of the year. Either method is acceptable as long as all required review inputs and agenda items are addressed over the course of the year.

DWQMS Management Review outputs must be documented and retained as proof of completion. The SMR or delegate prepares minutes of Management Review meetings for this purpose. Top Management or their delegates are responsible for communicating Management Review results to the Owner as per the DWQMS Management Review procedure (PW-WWW-P-018-001).

Results of management reviews are summarized in the annual DWQMS Summary Report which is circulated to the Owner (DWS) (Mayor and Council). In addition, the DWQMS Management Review minutes are posted on the DWQMS website.

## 21 CONTINUAL IMPROVEMENT

*The City of Hamilton is committed to continually improving its drinking water QMS. Several methods of improvement are embedded in and essential to the system:*

- *Management Review*
- *Internal Audits*
- *External Audits*
- *Document Review*
- *Document Change Requests*
- *Nonconformities (NC), Potential Nonconformities (PNC) and Opportunities for Improvement (OFI)*
- *Commitments to environmental management (future ISO 14001 System)*

The integrated BCOS + DWQMS Non-conformance, Corrective & Preventive Action

Process procedure (PW-WW-P-015-002) applies to both the BCOS and DWQMS Systems. This procedure documents the process to be taken to ensure the effective resolution of BCOS and DWQMS system nonconformances, potential nonconformances and legal noncompliances. The process includes a root cause analysis, identification of corrective / preventive actions and verification of completeness and effectiveness, as required. *Corrective actions are generated through audits and management reviews, and on an ongoing basis through NC/PNC/OFI submissions.* The scope of the procedure does not include the management of adverse water quality events. This process is documented in Adverse Drinking Water Quality Incidents (AWQIs) and Corrective Actions (PW-WW-P-015-001).

The BCOS + DWQMS Corrective and Preventive Action procedure (PW-WW-P-015-002) specifically illustrates how DWQMS nonconformances are resolved. Nonconformances are entered into the "Quality Nonconformance" Module of the BCOS Database. Once details of the nature of the nonconformance are entered into BCOS, a root cause analysis can be completed and an action plan can be developed to correct or prevent the nonconformance. All action plans are verified as being complete. Verification for effectiveness may occur at the discretion of the SMR. All of the above information must be entered into the BCOS Database. Once the completion of the plan has been verified, the nonconformance report can be closed out.

**BCOS software tracks the revision history of document.**

**THE HAMILTON STREET RAILWAY COMPANY**  
(the "Corporation")

**RESOLUTION OF THE SOLE SHAREHOLDER**

**Renewal of GTHA Fare System Operating Agreement**

**WHEREAS** by section 11.9, subsection (1) of the *City of Hamilton Act, 1999*, S.O. 1999, c.14, the City of Hamilton is authorized to hold the shares in the Corporation and to exercise the rights attributed thereto;

**AND WHEREAS** by subsection (2) of the aforesaid subsection of the said Act, the City of Hamilton is mandated to manage the affairs of the Corporation;

**AND WHEREAS** the City of Hamilton is the sole shareholder of the Corporation ("Sole Shareholder");

**AND WHEREAS** on June 28, 2006 the Sole Shareholder authorized the execution of the GTA Fare System Operational Agreement made as of the 27<sup>th</sup> day of October, 2006 ("Operating Agreement");

**AND WHEREAS** the Sole Shareholder on behalf of the Corporation wishes to exercise the option to renew the Operating Agreement for a period of three years from October 27, 2016 to October 27, 2019;

BE IT RESOLVED:

1. That the City of Hamilton as the Sole Shareholder approves the renewal of the Greater Toronto and Hamilton Area (GTHA) Fare System Operating Agreement, made as of the 27th day of October, 2006 between The Hamilton Street Railway Company, the Province of Ontario, Metrolinx, and other participating municipalities and transit authorities (the "Operating Agreement"), for a period of three (3) years, from October 27, 2016 to October 27, 2019.

The foregoing resolution is, by signature below of the Sole Shareholder of the Corporation entitled to vote on such resolutions, passed as a resolution of the Corporation pursuant to the *Business Corporations Act* (Ontario).

Dated as of this \_\_\_\_\_ day of \_\_\_\_\_, 2015.

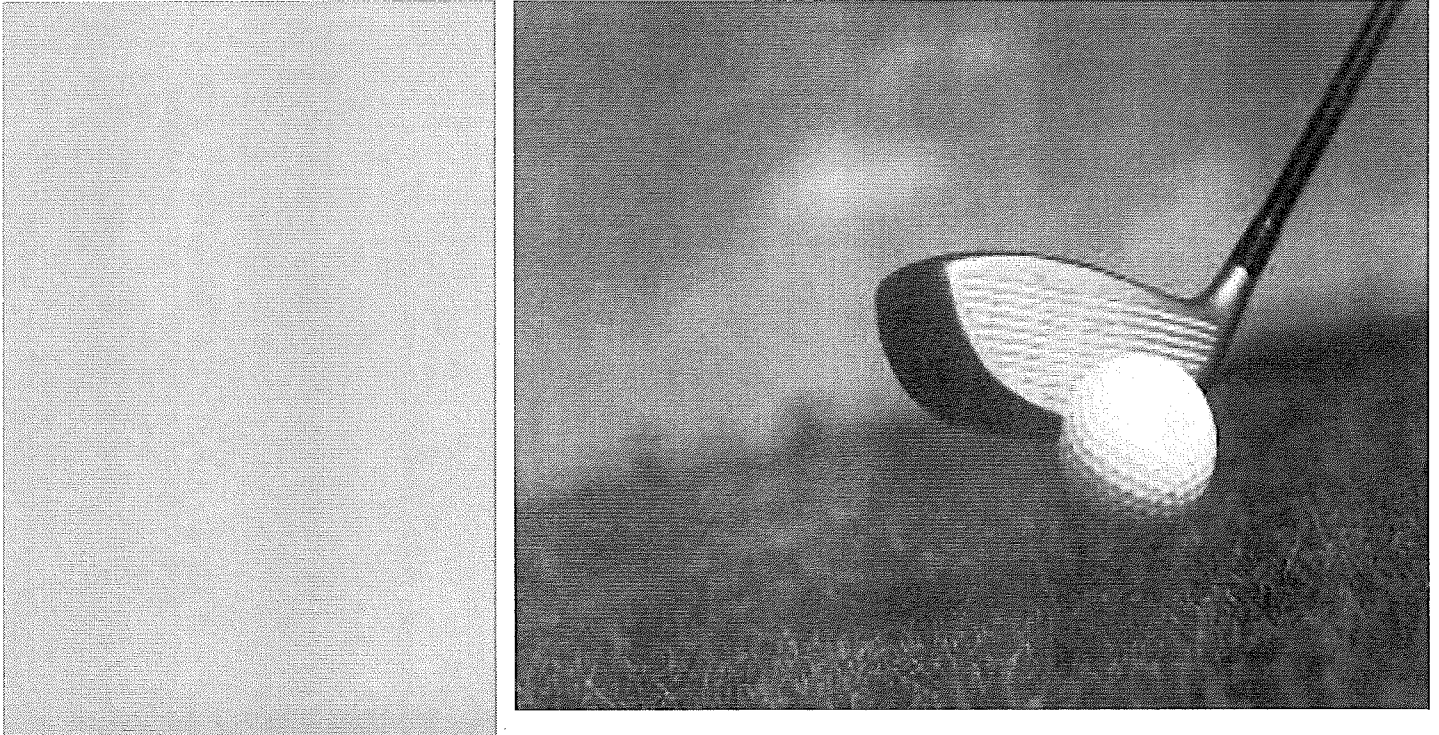
City of Hamilton

\_\_\_\_\_  
Fred Eisenberger  
Mayor

\_\_\_\_\_  
Rose Caterini  
City Clerk



City of Hamilton



## Golf Course Performance Analysis Follow-up Study

Prepared by:



Final Report  
May 2015

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## Introduction

### BACKGROUND

In the fall of 2005, Hamilton City Council directed staff to prepare a Request for Proposals (RFP) in pursuit of a contract arrangement for the management and operation of Hamilton's civic golf courses - Kings Forest and Chedoke (Martin and Beddoe). The RFP advised all proponents that City Council decided that the process would involve an in-house staff submission. The internal bid responded to all of the assessment criteria and provided information about staff's intention to meet the City's long term objectives for its golf operations. Staff's proposal was based on the principle that the City's municipal golf courses are recreational amenities that should be enjoyed by as many people as possible. The content of the proposal addressed staff's intention to:

- maintain a commitment to excellence;
- remain sensitive to the City's past, to golf members and to the public;
- ensure public accessibility;
- ensure equity, regardless of age, race or gender;
- make physical and operational changes to encourage efficiency, act responsibly, maintain service levels and provide additional value; and
- provide self sustaining facilities.

Staff's proposal indicated that the internal submission had received support and participation by CUPE 5167.

On behalf of the City, a Selection Committee evaluated all submissions against a series of preset assessment criteria to determine the proponent that seemed most qualified to fulfill the objectives of the RFP. The process resulted in the selection of the in-house staff bid. As the successful proponent, the staff team was to assume the management and operating responsibilities of the golf courses in time for the 2007 golf season.

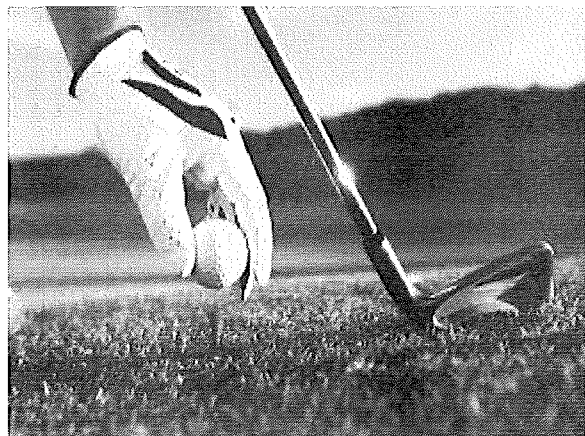
### GOLF BUSINESS AND OPERATING PLAN

The objectives of the renewed business and operating plan were:

- (1) to find efficiencies that would help to reduce operating expenses;
- (2) to enhance revenues by increasing user fees and creating new revenue opportunities through the implementation of the capital re-development plan; and
- (3) to implement a water conservation strategy – as part of the re-development plan - to be more efficient and to reduce operating costs.

Specifically, the business plan called for the following operational, marketing and pricing adjustments.

- Increase revenue through a new season pass structure and implement a pass pricing strategy that incorporates rate increases exceeding inflation for the first five years of the 10 year plan.
- Increase revenues by increasing greens fee prices to reflect market conditions.
- Improve efficiencies through consolidating the administration functions for the golf courses, reduced labour costs through restructuring of the management positions and changing the staff deployment strategy.
- Increase the amount of play accommodated by each course through adjustments to playing parameters and maintenance schedules.
- Maximize greens fee play by restricting season pass holders' access to 40% of tee times.
- Promote golf to beginners and core golfers and market the value of the municipal facilities through the introduction of a golf newsletter.
- Maximize tournament revenue by concentrating on mid-sized events that can be accommodated in the existing food and beverage facilities.
- Maximize revenue generated by golf cart rentals by "tightening up" the cart strategy.
- Reduce labour costs by downsizing the number of unionized personnel assigned to turf and grounds maintenance.
- Internalize the food and beverage operation.
- Add to the value inherent in each golf course by improving the level of service experienced by each golfer and maintain a quality customer experience each and every time a golfer visits one of the facilities.



## CONTEXT TO THIS STUDY

In accordance with its management responsibilities, staff review and report on the golf unit's financial results as part of the City's annual budgeting process. To augment these annual reviews, in 2010 staff commissioned an independent analysis of the provincial and local golf environments as well as the City's operational and financial circumstances with a view to optimizing the unit's performance. The external audit reported that several aspects of staff's original business plan were impeded by a variety of uncontrollable influences. These impediments had a negative effect on revenue production as well as overall operational efficiencies. For example, inclement weather in the first two (full) years of the plan resulted in a significant number of lost golf days that cut almost ¼ million dollars from anticipated greens fee and tournament revenue. Furthermore, storm damage to Kings Forest caused the course to close for an additional ten days impacting revenue by more than \$100,000.

Staff's original business plan conformed to Council's overarching directive – which was that golf services remain financially self sustaining. Specifically, golf revenue was to support the operations of the golf courses as well as fund re-investments in golf infrastructure (i.e. turf, bunkers, greens, clubhouses, maintenance buildings, etc.). Net revenue was to be contributed to a capital reserve fund that would be employed to underwrite the cost of facility improvements. Therefore, golf net revenue production would need to remain at sufficient levels for the reserve to adequately fund required capital maintenance and planned infrastructure upgrades. The facility maintenance and infrastructure improvement strategy was a foundational element of the business plan's critically important to support the projected revenue streams because an improved golfer experience would distinguish Hamilton's courses from local competitors thereby attracting more greens fee players. Unfortunately, the aforementioned impacts on golf rounds played at the City's courses coupled with the lingering effects of the global economic crisis eroded net revenue production and restricted the unit's capacity to sufficiently contribute to the golf capital reserve. As a result, clubhouse renovations, practice facilities and course irrigation projects were unfunded and either deferred or abandoned.



A funded improvement project was the construction of two retention ponds adjacent to Red Hill Creek on the King's Forest course - at a cost of \$671,000. The ponds capture excess runoff from the creek which has reduced the cost of water by between \$100,000 and \$120,000 per year. This project typifies the operational and financial benefits associated with a robust capital re-investment strategy.

Staff remain committed to the concept of financial sustainability and are dedicated to maximizing Hamilton's golf unit's ability to meet the needs and expectations of golfers while producing sufficient net revenue to protect and enhance golf infrastructure. In support of this

commitment, the City commissioned this study to re-examine the golf environment and to update the analysis of the golf unit's operational and financial performance. The structure and work plan for this update study were developed accordingly.

#### **THE PURPOSE OF THIS REPORT**

This study was to build on previous analysis and reports by undertaking an examination of the operating and financial performance of the City's two golf facilities with a view to identifying opportunities to maximize the full potential of Hamilton's golf services. The JF Group has reviewed the operating and financial data provided by staff, examined the operations of other municipal golf course operations, reviewed and analyzed general golf participation trends and performed an analysis of key performance indicators.

The purpose of this report is to provide observations, key findings and recommendations for optimizing golf's contribution to the objectives contemplated by the original golf renewal business plan. Additionally, the study is to provide insight into areas where the golf courses' infrastructure and operating circumstances could be enhanced through creative and/or proactive initiatives: such as developing partnerships with outside interests to augment municipal improvements to the golf facilities or enhancements to the golf experience through the development of supplementary amenities (i.e. practice facilities).

## Trends and Issues Influencing Golf Course Performance

### GOLF'S FINANCIAL CONTRIBUTION TO THE ECONOMY

In 2009<sup>1</sup> golf accounted for an estimated \$11.3 billion of national GDP and \$29.4 billion in total gross production (direct, indirect and induced spending impacts). Nationally this included:

- 341,794 jobs;
- \$7.6 billion in household income;
- \$1.2 billion in property and other indirect taxes; and
- \$1.9 billion in income taxes.

Within Ontario, golf accounted for an estimated \$4.4 billion of national GDP and \$11.5 billion in total gross production (direct, indirect and induced spending impacts). Provincially this included:

- 123,566 jobs;
- \$2.9 billion in household income;
- \$496.4 million in property and other indirect taxes; and
- \$693.5 million in income taxes.

#### Canadian Tourism and the Role of Golf

- 'Golfing experiences' is the main reason for more than 1 million trips (of one night or more), made by Canadian travelers
- Canadian golfers spend an estimated \$1.8 billion annually on golf-related travel within Canada and \$1.7 billion on golf related travel outside of Canada
- 2004-2005, 13.6% (3,377,089) of Canadian adults played golf while on an out of town, overnight trip of one or more nights
- Golf is reported as an activity for as many as 1.7% of all international over-night visitors to Canada (461,200 visitors) and is reported as an activity by 1.5% of all US visitors, 1.8% of visitors from Latin America, 2.7% of all European visitors (including Israel), and 4.2% of all visitors from Asia and Pacific

Source: National Allied Golf Associations (Conducted by Strategic Networks Group) "Economic Impact of Golf for Canada: Findings Report" (2009)

### DEMAND

#### Canadian Golf Population and Demographics

According to Canadian Heritage and Statistics Canada's General Social Survey (GSS), golf has remained the most popular sport among Canadians since 1998<sup>2</sup>. Golf participation rates within Canada are amongst the highest globally<sup>3</sup>. Ipsos Reid and the National Allied Golf Association estimate that there are currently between 5.7 million and 6 million Canadian golfers<sup>4</sup> representing approximately 20% of the Canadian population. Of this population:

<sup>1</sup> Strategic Networks Group on behalf of National Allied Golf Associations completed "Economic Impact of Golf for Canada" in 2009. Currently data collection for the 2014 Economic Impact Study is underway.

<sup>2</sup> Source: Canadian Heritage "Sport Participation 2010 Research Paper" (2013)

<sup>3</sup> Source: National Allied Golf Associations (Conducted by Strategic Networks Group) "Economic Impact of Golf for Canada: Findings Report" (2009)

<sup>4</sup> Those who will play at least one round of golf this year.

- 70% are male;
- 62% are post-secondary graduates;
- 26% earn \$50,000-\$75,000 and 42% earn more than \$75,0000;
- Professions largely include executives, professionals, management, sales & service, trades and retired; and
- Represent very little ethnic diversity.

Of the approximate 15.4 million Canadians who know how to golf but currently do not play, 12% are very interested in the game, while another 3% have plans to participate within the next 3-5 years.

Nearly 40% of today's Canadian adult golfers took up the sport between the ages of 6-17. The National Allied Golf Associations infers that there has been a decline in youth (ages 6-17) golf participation based on the number of Canadian adult golfers with a youth that plays.

#### PLAYING BEHAVIOUR

The Strategic Network Group of Canada estimates that the number of rounds played in 2008 (70 million) declined by 10% from prior years. Further estimates for 2010 showed another 10% decline from prior years<sup>5</sup>. This decline in golf is not unique to the sport, where for years overall Canadian sport participation has been in decline<sup>6</sup>. However, among the population of Canadian golfers, the number of people entering the game equals the number of people leaving the game<sup>7</sup> – indicating that the decline in demand is a result of lower frequency of play rates. The proportion of Canadian golfers playing fewer rounds (38%) outnumbered those playing more rounds (14%). Golfers can be categorized into 4 general groups:

#### Exhibit 1: Golfer Categorization by Frequency of Play

Category	Number of Rounds Played Annually	Number of Golfers	% Of Total Golfers	% of Annual Rounds
Avid	26+	684,000	12%	48%
Frequent	9-25	798,000	14%	24%
Occasional	4-8	2,052,000	36%	21%
Infrequent	1-3	2,166,000	38%	8%

Source: Source: National Allied Golf Associations (Conducted by NAVICOM) "Canadian Golf Consumer Behaviour Study: Findings Report" (2012)

<sup>5</sup> Source: National Allied Golf Associations (Conducted by Strategic Networks Group) "Economic Impact of Golf for Canada: Findings Report" (2009) Conducted by Strategic Networks Group for the National Allied Golf Associations and Niagara Parks Commission Golf Operational Review Internal Audit Report No. 2012-04 (2013)

<sup>6</sup> Sport' is defined by Sport Canada as an activity that involves two or more participants for the purpose of competition. Despite decline in sport participation, Canadians are increasingly engaged in physical activity.

<sup>7</sup> Source: National Allied Golf Associations (Conducted by NAVICOM) "Canadian Golf Consumer Behaviour Study: Findings Report" (2012)



As illustrated in Exhibit 1, slightly more than one in four of Canadian golfers are considered avid or frequent golfers – this group of devoted golfers is often referenced as “core golfers”. Most often these enthusiasts tend to play at private golf clubs or semi-private courses offering memberships or season passes. As has been the case for the past decade, the vast majority of Canadian golf rounds are played by core golfers – who play 70% of all annual rounds. Nearly half of core golfers are 50 years



of age or older – over 32% of this group of players are men over 50. Core golfers are also relatively affluent – one in four earns more than the \$75,000 per year. On average, these enthusiastic golfers play about 44 times per year with the balance of the core golfing group playing an average of 28 times per year. In contrast, occasional and infrequent golfers play an average of three times per year. Occasional golfers tend to be younger and less affluent – 75% of this group is 49 years of age and under and earns less than \$75,000 per year.

Evidence suggests that approximately 6.5% of golfers leave private and semi-private clubs annually, representing a growth opportunity for public golf courses. Currently 16% of golfers are members of a club, while 84% frequent courses offering green fee play opportunities<sup>8</sup>.

Golf experience value judgments are almost always linked to customer service issues such as the effectiveness and “fairness” of the course’s booking system, treatment upon arrival at the course (convenient bag drop area, amiable and attentive reception by pro shop staff, etc.), speed of play (4½ hours maximum), courteous and helpful “player assistance representatives” to resolve on-course issues, availability of concession cart, etc. To survive in a highly competitive market, the top performing facilities develop and implement aggressive service delivery strategies to ensure an uncompromised golf experience is enjoyed by all course patrons.

#### FACTORS CONSTRAINING GOLF PARTICIPATION

The two largest factors impacting golf participation include time and money. In 2008 following the global financial crisis, the golf bubble burst. Participation in leisure pursuits suffered because individuals became increasingly concerned about personal finances at the same time as they experienced a decline in leisure time (due to an increase in working or commuting hours plus elevated personal responsibilities – such as family commitments). As a result, individuals are likely to be less inclined to participate in slow moving games such as golf - requiring 4 to 5 hours per round. In the past, golf clubhouses experienced significant and sustained pre and post round traffic – especially on weekends, whereas today golfers on

<sup>8</sup> Source: National Allied Golf Associations (Conducted by NAVICOM) “Canadian Golf Consumer Behaviour Study: Findings Report” (2012)

average spend no more than one hour at the clubhouse<sup>9</sup>. Furthermore corporations have adopted more conservative spending policies, where corporate expense accounts are increasingly monitored. In light of Revenue Canada not recognizing golf expenses as a tax deductible expense, golf memberships are more difficult to justify as an employee benefit. Other factors related to time and money that act as barriers to golf participation include:

- the perception that golf is a sport for the wealthy, elite and aging population;
- participation in other leisure activities; and
- family responsibilities<sup>10</sup>.

## SUPPLY

Throughout Canada, the golf sector is over-saturated - i.e. there is an over-supply of golf courses in relation to demand. According to the Strategic Networks Group, Ontario has an estimated 2.32 million resident golfers (representing about 20% of the Provincial population – mirroring the national participation rate) and over 848 golf course facilities<sup>11</sup>. While this facility supply translates into a ratio of 2,735 Ontario based golfers per course, 74% of these players golf eight or fewer rounds per year. Assuming that the vast majority of avid and frequent golfers play at private facilities and that the remaining greens fees or seasons-pass golfers play (on average) 4 to 6 rounds per year, the total number of available round equals about 38% of the number of rounds that could be reasonably accommodated by the non-private golf courses in the province. As a result of this over-supply situation, golf courses are increasingly facing declining revenues (caused by fewer golfers and deep price discounting to appeal to an increasingly cost conscious consumer) deepening operating losses and diminishing capital replacement and maintenance standards province wide<sup>12</sup>.

## DECLINING REVENUES

In 2009, total direct sales resulting from Ontario's golf industry was estimated at \$4,992.6 million of which \$1,655.9 million was generated by golf courses and associated facilities<sup>13</sup>. Research from PKF Consulting indicates a 10% decline in private club membership over the last five years throughout North America<sup>14</sup>. As a result, golf course facilities are increasingly

<sup>9</sup> Source: Niagara Parks Commission Golf Operational Review Internal Audit Report No. 2012-04 (2013)

<sup>10</sup> Source: Niagara Parks Commission Golf Operational Review Internal Audit Report No. 2012-04 (2013), PKF Consulting Golf Course Sector Update (2014) and National Allied Golf Associations (Conducted by NAVICOM) "Canadian Golf Consumer Behaviour Study: Findings Report" (2012)

<sup>11</sup> Source: "Economic Impact of Golf for Canada: Findings Report" (2009) Conducted by Strategic Networks Group for the National Allied Golf Associations

<sup>12</sup> Source: Niagara Parks Commission Golf Operational Review Internal Audit Report No. 2012-04 (2013)

<sup>13</sup> Source: National Allied Golf Associations (Conducted by Strategic Networks Group) "Economic Impact of Golf for Canada: Findings Report"(2009)

<sup>14</sup> Source: PKF Consulting Golf Course Sector Update (2014)

offering pricing mechanisms that provide greater flexibility and added value, such as season passes, discounted greens fees and value added packages providing golf experiences to other golf facilities and service providers. The issue of declining revenues is amplified for publicly owned golf facilities (such as courses owned by municipalities or parks commissions) as in general these facilities try to remain financially accessible and therefore offer reasonably priced greens fees or season passes<sup>15</sup>.

Emerging trends related to golf course facilities' revenues include the following.

- The average entrance fee for top-tier private clubs is \$38,934, representing non-equity initiation fees at most clubs (anticipated to remain constant for at least the next three years).
- The majority of clubs have never analyzed funding requirements to set initiation fees (based on average member turnover and capital funds) irrespective of the climate of the market.
- Average greens fee rates in Canada (not including cart fee) at 18-hole golf facilities is \$43.92 for weekdays and \$45.25 during weekends.
- Average cart fee rates in Canada is \$27 (18-holes) and \$16 (9-holes).
- A small proportion of clubs require the purchase of an equity certificate (trading at an average price of \$6,717) to join. A majority of these clubs also charge an initiation fee;
- Average initiation fees and annual dues nationally are \$7,500 and \$2,125 respectively.
- In general, wait lists no longer exist or are generally shrinking at most private clubs. A small proportion (5%) of clubs have a growing wait list.
- Most clubs now offer a financing option to intermediates and/or juniors to amortize entrance fees over a number of years. Most clubs either allow or would be open to allowing intermediates to sponsor full members. These fee adjustments were largely expressed as contributing to club success<sup>16</sup>.

Results from National Allied Golf Associations' "Canadian Golf Consumer Behaviour Study" (2012) highlight that golf consumer spending has generally remained flat or decreased, as highlighted in Exhibit 2.

<sup>15</sup> Source: Global Golf Advisors "2013 Canadian Private Club Symposium: Post Symposium Survey Results" (2013) and Tyandaga Municipal Golf Course Burlington Ontario, Phase One Alternative Business Models Study (2008)

<sup>16</sup> Source: Smith, C., *Niagara Falls Review "Keeping Niagara's Greens in the Black"* (2013)

**Exhibit 2: Golf Consumer Spending**

Area of Spend	% Spend Increased	% Stayed the Same	% Spend Decreased	% Change
Greens Fees	25	60	15	+10
Club Membership Dues	14	68	18	-4
Golf Equipment	19	62	19	-
Golf Apparel	18	64	18	-
Golf Travel and/or Vacations	14	64	22	-8
Golf Lessons	12	64	24	-12
Golf Accessories	17	64	19	+2

*Source: National Allied Golf Associations (Conducted by NAVICOM) "Canadian Golf Consumer Behaviour Study: Findings Report" (2012)*

In addition to declining revenues, golf course facilities are increasingly facing rising operating costs. According to PKF Consulting, maintenance costs are the single greatest expense for golf courses. In particular these increasing costs can be largely allocated to turf maintenance and general labour costs. In 2009, operating expenses per hole ranged from \$93,000 to \$132,000.



Emerging trends related to golf course operating costs include the following:

- The majority of golf course facilities own all of their equipment, where public facilities tend to have a random assortment of owned and leased equipment.
- Average annual operational expenditures is \$550,000.
- 9- hole private and municipal facilities employ an average of 9 staff, while 18-hole facilities average 31 staff (with numbers varying depending on season).
- On average greens maintenance for an 18-hole golf course in Canada is \$450,000.
- Most public courses do not employ full-time equipment technicians, whereas 73% of respondents (private, semi-private public courses) have a full-time technician.

- A majority of golf course facilities spend between \$10,000 and \$40,000 annually on equipment repairs and maintenance, with 5% spending more than \$60,000<sup>17</sup>.

#### DIMINISHING CAPITAL REPLACEMENT AND MAINTENANCE STANDARDS

Although providing a quality golf experience - such as top quality turf, well kept bunkers and first class amenities – is critical to attracting and retaining golfers, capital investments or re-investment projects are increasingly being added to a growing list of deferred maintenance items. According to a Global Golf Advisors’ survey, only half of respondents have an up-to-date capital reserve study. Furthermore only half of respondents have an allocated cash reserve on their balance sheets. In general, capital funding contributions come from annual charges or a reserve fund for capital maintenance<sup>18</sup>. Annual capital expenditures for an 18-hole golf course facility averaged \$250,000<sup>19</sup>.

#### IMPLICATIONS AND BEST PRACTICE LESSONS

As a result of the realities facing golf course facilities, the industry is deemed to be at a pivotal point in its evolution. According to National Allied Golf Associations<sup>20</sup>, “the game today is both vulnerable and on the cusp of greatness”, where there is an opportunity to grow the sport through greater golfer engagement (increasing the base of avid and frequent golfers). New coordinated strategies are therefore required to deliver golf products and services that provide a value-added experience reflective of changing consumer tastes while generating operating effectiveness and efficiencies. Golf management best practice lessons related to marketing, organizational structure and strategic planning, golf course maintenance and design, membership protocol and programming provide examples of how the Canadian golf industry can sustain and grow the game.

#### Exhibit 3: Golf Management Best Practice Lessons

Theme	Best Practice Lessons
Membership Protocol	<ul style="list-style-type: none"> <li>▪ Most clubs have a progressive disciplinary policy enforced by the General Manager, Board of Directors, Disciplinary Committee, Heritage Committee and Club Captain.</li> <li>▪ Restricted-use guidelines are weaning, where denim, cellular phones and other technological devices are increasingly becoming accepted.</li> </ul>

<sup>17</sup> Source: Global Golf Advisors “2013 Canadian Private Club Symposium: Post Symposium Survey Results” (2013) and Tyandaga Municipal Golf Course Burlington Ontario, Phase One Alternative Business Models Study (2008)

<sup>18</sup> Source: Global Golf Advisors “2013 Canadian Private Club Symposium: Post Symposium Survey Results” (2013)

<sup>19</sup> Source: Tyandaga Municipal Golf Course Burlington Ontario, Phase One Alternative Business Models Study (2008)

<sup>20</sup> Source: National Allied Golf Associations (Conducted by NAVICOM) “Canadian Golf Consumer Behaviour Study: Executive Report” (2012)

Theme	Best Practice Lessons
Marketing	<ul style="list-style-type: none"> <li>▪ Important to market the game as a game for life (inclusive of all age groups).</li> <li>▪ Increasing usage of 'grow the game' initiatives to introduce new players to the game.</li> <li>▪ Referrals through existing members is generally considered to be the most effective marketing method.</li> <li>▪ Innovative member events have largely been expressed as effective in retaining members.</li> <li>▪ Websites, e-newsletters and newspaper advertisements are considered to be the most effective media for marketing private clubs, while social media marketing is considered to be the least effective.</li> </ul>
Organizational Structure and Strategic Planning	<ul style="list-style-type: none"> <li>▪ Top-tier clubs regularly update their strategic plans (on average every 2.7 years) where a number of clubs indicating that strategic planning has contributed to their success.</li> <li>▪ Recognize the importance of women on club boards. Although women continue to be under-represented on private club boards, they play a key role in decision making for new membership.</li> <li>▪ Improved staff management (better communication, competitive compensation, more recognition) in order to retain quality staff and offset high turnover rates.</li> <li>▪ Support an environment that encourages innovation organization-wide (important for learning about possible methods to improve operating efficiency).</li> </ul>
Programming	<ul style="list-style-type: none"> <li>▪ Ensure existing and new members feel welcome through customer relations software that familiarizes staff with clients, securing convenient tee times, finding play partners etc.</li> <li>▪ Support a family-friendly atmosphere.</li> <li>▪ Introduce integrated golf skills training programs such as group learning, internet lessons and virtual learning.</li> <li>▪ Host focus groups and surveys to understand what clients would like to add or change to current facilities.</li> </ul>
Food and Beverage	<ul style="list-style-type: none"> <li>▪ Providing multiple mediums through which golfers can access food and beverage offerings: Introduce mobile apps with menu listings and ordering capability.</li> <li>▪ Capitalizing on the 'local food' trend by adding local produce, wines and beers on the menu.</li> <li>▪ Tightening menu offerings to reduce cost of sales, particularly during known off-peak times.</li> </ul>

Theme	Best Practice Lessons
Golf Course Maintenance and Design	<ul style="list-style-type: none"> <li>▪ Focus on operating methods that represent a shift back to basics: a sophisticated step-cut triplex unit with digital height adjustment to cut greens, collars and tees with the same unit – reducing equipment profiles, equipment budgets and labor budgets while maintaining conditioning capabilities.</li> <li>▪ Shortened courses to reduce playing times helps to overcome the time constraint while simultaneously offsetting maintenance costs.</li> <li>▪ Implement methods to simplify the game for new players include simplified courses, graded courses, beginner times to play and fewer holes.</li> <li>▪ Adopt environmentally friendly maintenance costs such as restricted watering patterns and planting of low maintenance turf (brown or naturalized areas).</li> </ul>

#### A SUMMARY OF RELEVANT TRENDS AND INFLUENCES

- Over the past decade, the number of Canadians playing golf has remained relatively flat – the number of individuals who have taken up the sport is equivalent to the number of those who have stopped playing.
- The number of annual rounds played per golfer has been in decline for almost 10 years.
- Each year, almost three quarters all golf rounds are played by avid and frequent (core) golfers who represent about 25% of the golfing public. These core golfers most often play at private clubs or golf facilities offering season passes.
- While only 16% of the golfing public are members of private clubs, membership rosters at these clubs are in decline – implying that former members are migrating to less expensive golf experiences.
- Golfers assess the “value of the golf experience” based on the quality of the course (especially the condition of the greens, bunkers and tees), the pace of play, the clubhouse’s amenities and the quality/consistency) of the facility’s customer service including interactions with clubhouse and on-course staff. To be successful in attracting and retaining golfers, courses must to ensure that the standards of these “quality measures” are constantly maintained and commensurate with the price of a round of golf.
- There is a significant over supply of golf courses in Ontario. According to industry analysts, there are more than double the number of public and pay-as-you-play privately owned facilities to accommodate the golfing needs non-club member golfers – and this over-supply issue is especially acute in Southern Ontario.

- The convergence of the golf participation trends (fewer rounds per golfer) and the golf course over-supply situation has resulted in a sharp reduction in greens fee and season pass revenue across the golf sector. In turn, this has led to dramatic price discounts and other aggressive marketing tactics that have exacerbated the golf revenue decline. Golfers have reacted to this increasingly competitive marketplace by “price shopping”, waiting for last minute deals or making use of on-line golf discounters (e.g. GolfNow.com) which further erodes the levels of greens fee revenue to golf courses.
- To remain financially viable – and in the absence of sustainable golf revenue - course operators have been forced to re-evaluate their cost structures from both an operating and capital perspective. Unfortunately, cost cutting decisions have sometimes led to a reduction in course condition or an erosion of the aforementioned quality measures (e.g. fewer or poorly trained customer service staff) which has resulted in further revenue declines as golfers have migrated to facilities offering superior playing conditions or experiences.

In conclusion, the golf environment in Southern Ontario is far more competitive than ever, which requires course owners and operators to be consistently on top of their game. To remain financially viable, they must now employ leading edge management techniques to ensure they capture a sufficient portion of the market. This includes paying constant attention to the day-to-day operational imperatives – such as consistent high quality customer service – while maintaining a strategic yet financially prudent perspective related to facility maintenance and capital upgrades.

Industry experts suggest that the golf environment is ripe for near term correction which would lead to either business failures or marginal courses becoming targets for re-development. Strategically wise and far-sighted course owners will rise above this turbulence to position themselves to capitalize upon the future state which will undoubtedly be a normalized competitive and economic state of the sector.



## Analysis of Hamilton Golf's Performance 2007 - 2014

### BACKGROUND

The Golf Course Performance Analysis that was undertaken in 2010 examined all aspects of the City's golf business. In doing so, it looked at the year over year financial and operating results compared to assumptions and projections contained in the original business plan. The analysis also examined revenue and expense items taking into consideration applicable operating metrics pertinent to other similar golf environments.

The 2010 analysis study revealed that staff had successfully deployed cost containment initiatives proposed in the initial business plan. The study's Final Reports stated:

"Substantial gains have been made in (containing) all expense categories with the exception of labour costs. However, based upon our review of the operations, it appears that the size of the staff complement responsible for golf course and exterior grounds maintenance is appropriate – especially now that the King's Forest turf technician position has been filled. Although it may be possible to make modest day-to-day adjustments to part time labour schedules, it is unlikely that major additional labour savings are possible during the summer months without negatively impacting the golf experience at either one or both facilities".

In view of these findings, the majority of the 2010 Final Report's recommendations related to the development and implementation of initiatives intended to improve revenues. Accordingly, while this follow-up study also examined all aspects of the golf services operations, its main focus was assessing the factors and influences on golf services' ability to produce income.

### GREENS FEE ANALYSIS

As illustrated in the trends section of this report, golfer buying preferences coupled with the significant pressures inherent with an over-saturated golf market have caused most golf course owners to competitively price their greens fees and memberships (or seasons pass). To examine Hamilton's golf prices relative to the City's courses' market position, the consultants replicated the fee analysis that was presented in the 2010 study. In doing so, we focused attention on greens fee prices rather than the cost of seasons passes because golfers' interest in pay-as-you-play experiences is eclipsing the more traditional membership type relationship.

The following table presents the comparative adult and senior rates for an 18-hole round of golf played on weekdays and weekends. The rates are inclusive of the cost of a power cart rental per individual.

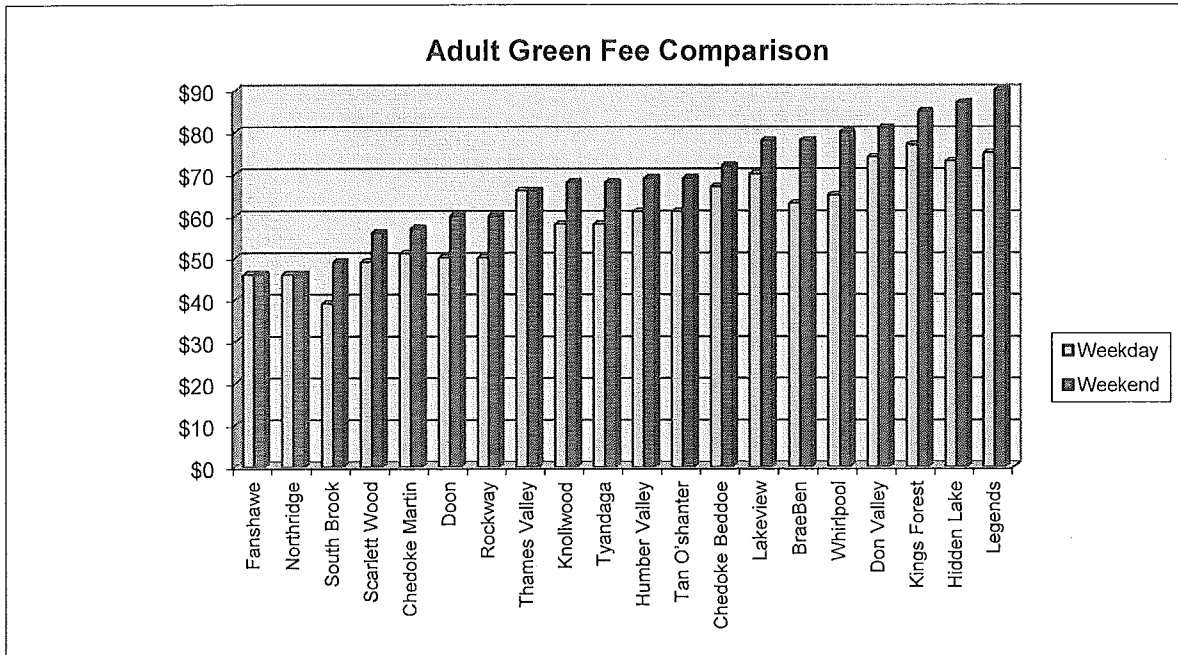
Exhibit 4: 2014 Greens Fee Rates – 18-Hole Round of Golf

	Adult		Senior	
	Weekday	Weekend	Weekday	Weekend
BraeBen	\$63	\$78	\$55	\$78
Chedoke Beddoe	\$67	\$72	\$57	\$60
Chedoke Martin	\$51	\$57	\$47	\$49
Don Valley	\$74	\$81	\$50	\$57
Doon	\$50	\$60	\$50	\$60
Fanshawe	\$46	\$46	\$46	\$46
Hidden Lake	\$73	\$87	\$65	\$70
Humber Valley	\$61	\$69	\$45	\$49
King's Forest	\$77	\$85	\$63	\$70
Knollwood	\$58	\$68	\$53	\$68
Lakeview	\$70	\$78	\$60	\$77
Legends	\$75	\$90	\$75	\$90
Northridge	\$46	\$46	\$46	\$46
Rockway	\$50	\$60	\$50	\$60
Scarlett Wood	\$49	\$56	\$39	\$44
South Brook	\$39	\$49	\$39	\$49
Tan O'shanter	\$61	\$69	\$45	\$49
Thames Valley	\$66	\$66	\$66	\$66
Tyandaga	\$58	\$68	\$30	\$40
Whirlpool	\$65	\$80	\$65	\$80
Average	\$60	\$68	\$52	\$60
Median	\$61	\$69	\$50	\$60

Including a golf cart, the average 18-hole adult greens fee is \$60.00 on weekdays and \$68.00 on weekend days for courses included in the analysis. The median adult rate – which reflects the mid-point of all fees with one-half of values being above the median and one-half of fees being below it - are \$61.00 on week days and \$69.00 on weekends. The median is a useful measure as it is less likely than the average to be distorted by dramatic high or low fees in fees charged by only a few courses.

As illustrated in the preceding table, the City's Martin course's greens fee for 18 holes of golf is below the median and average price charged by competitors in the marketplace. The price of the Beddoe course is positioned in the middle of the cost range of the market whereas the King's Forest facility is among the more expensive golf courses in the area. Based on each of the City's three facilities' locations, layouts, reputation, club amenities and golf experience, the consultants suggest that these price points are entirely appropriate given the courses' market position within the trade area.

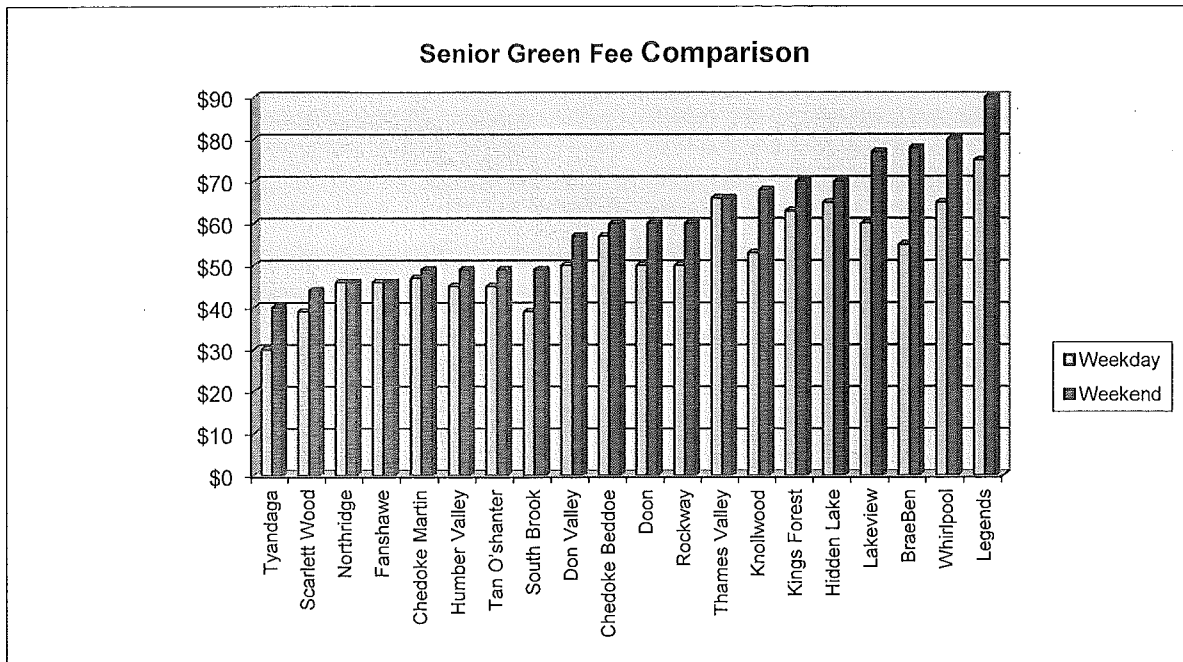
The following chart illustrates the comparative weekday and weekend adult greens fees charged for an 18-hole round by golf courses in the sample.



The weekend premium – which is the incremental price increase to play golf on Fridays, Saturdays, Sundays and holidays – ranges from no increase to 25%. At the City’s courses, weekend prices are between 4% and 11% higher than week day greens fees. Hamilton’s incremental price increase between weekday and weekend play has been reduced since we performed the same fee analysis in 2010 - when the difference between weekday and weekend prices was between 11% and 14% at the City’s facilities.

Sixty per cent (60%) of the golf courses in the general trade area of Hamilton’s golf facilities discount prices for senior golfers. Courses that do not offer a blanket senior price normally provide special packages that may be appealing to seniors – i.e. golf and ride packages, play a round with a friend special, etc. In other cases, courses provide senior discounts during the week but not on weekends. Our research has revealed that there are 10% fewer facilities that offer senior discounts compared to the analysis that was performed in 2010 – when 71% of golf courses offered a senior rates.

For the courses that offer senior rates, the price reduction ranges from 8% to 48% discounts compared to the same fee category for adults (i.e. weekday or weekend). In Hamilton, senior rates are between 8% (Martin) and 18% (King’s Forest) less expensive for senior golfers – which represent a narrowing of the price differentials compared to our finding in 2010. While golf services discounting approach is at the bottom of aforementioned range, it would seem to be consistent with the price positioning of the City’s courses. The following chart illustrates the weekday and weekend senior rates charged by golf courses in the sample.



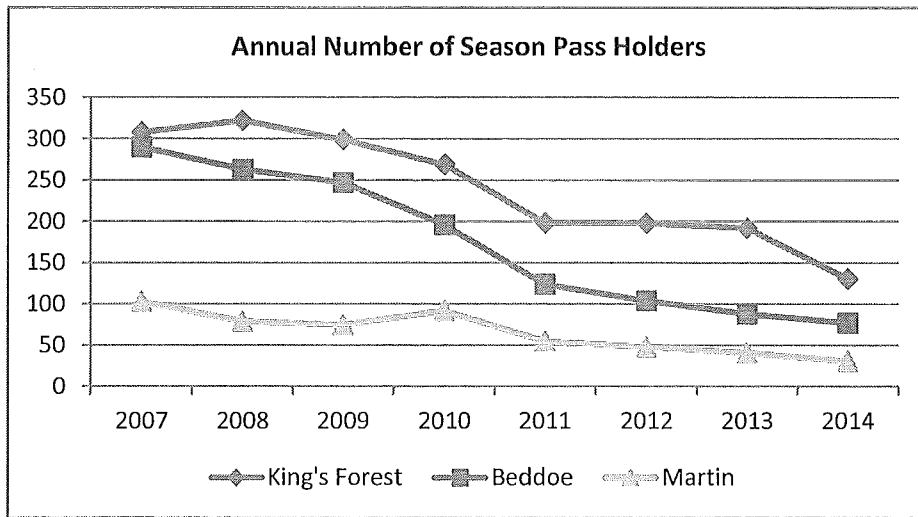
Consumer buying preferences and the extremely competitive nature of the golf environment coupled by the lingering effects of the world financial crisis have caused most golf course operators to competitively price their products and services. In fact, the published 18-hole rates at nearly half the courses included in this year's analysis are as much as 20% less than the 2010 published rates. Furthermore, facility operators are being much more liberal in their packaging of products and services to entice golfers to their courses. Nine 'n dine, discounted Mondays and half price cart fees are common themes advertised in golf journals, discount books or local newspapers. It is therefore advisable for Hamilton golf services to remain abreast of the pricing environment within its trade area and annually adjust golf fees accordingly.

**SEASON PASS HOLDERS**

As mentioned earlier in this report, consumers are moving towards the more flexible pay-as-you-play relationship with golf facilities rather than committing to a membership or season pass at a single course. This trend would certainly seem to be having a negative impact on Hamilton's success in selling season passes to all three of its golf locations.

Between 2010 and the end of the 2014 season the total number of season pass holders to the City's three facilities slipped by 57% - falling from 558 to 239 memberships throughout the system. While the Beddoe (-64%) and Martin (-61%) courses lost the most significant number of pass holders, King's Forest also ended the period with less than half of its normal pass holder roster.

As was the case in many other leisure sectors, the financial crisis that closed out the last decade resulted in a great degree of labour uncertainty and corporate turbulence that negatively affected new membership sales and member retention in most club environments.



In the golf business, even longstanding members began opting for short term relationships at selected courses or pay-as-you-play arrangements with different providers. It is therefore not surprising that the sharpest decline in the City's season pass sales occurred between 2010 and 2011.

Expectedly, season pass revenue was reduced in direct accordance with the number of passes sold – a decline from approximately \$790,000 in 2007 to \$340,000 in 2014. Interestingly, revenue generated per pass holder has climbed by a total of 26% throughout this period – starting at \$1,130 per pass holder in 2007 and finishing at \$1,423 per pass holder in 2014. Obviously, the City should direct its future marketing efforts at increasing the number of season pass holders to all three golf facilities.

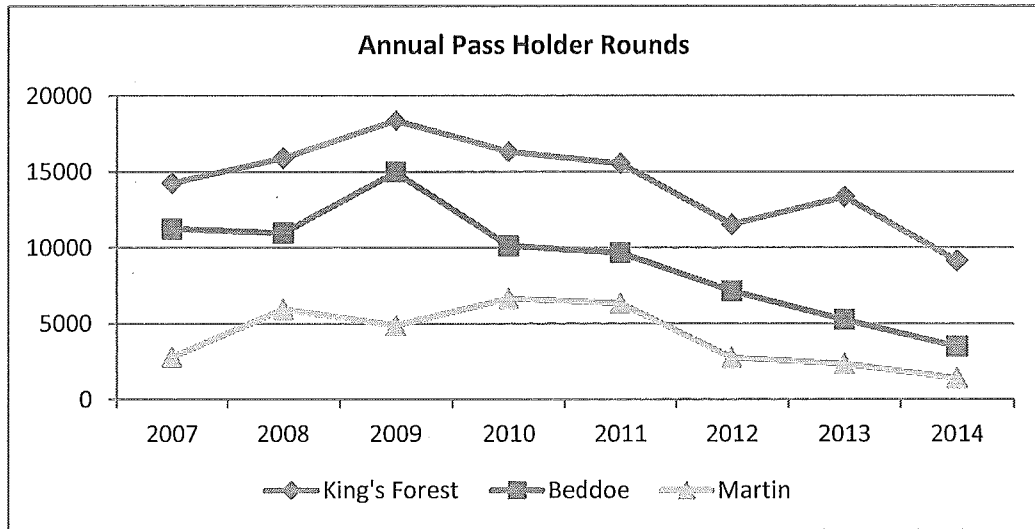
**PASS HOLDERS GOLF PROFILE**

It is reasonable to expect an individual attracted to buy a season pass would be an avid or frequent golfer interested in reducing the cost per round by prepaying for unlimited golf. This certainly appears to be the case given the golf in profile of pass holders to the City's courses. While it is reasonable that the total number of rounds played by pass holders would decline in the general proportion to the number of pass holder sold, it is interesting that the trend line for the decline in play is not nearly as steep as the decline in pass holder sales. This is primarily due to the fact that pass holders played more rounds of golf per season between 2011 and 2014 than they played between 2007 and 2010.

In 2007, pass holders played an average of forty 18-hole rounds over the course of the season. In the next two years pass holders' playing profile increased to an average of 60 rounds per season representing an increase of more than 50% in annual rounds of golf per pass holder. While inclement weather caused a reduction in pass holder play during the 2010 season, annual rounds per pass holder has remained at, or above, 60 games per player over the past four seasons. Presumably, avid golfers will continue to be the primary target market for season pass sales and therefore marketing and promotional efforts should focus on events where golf

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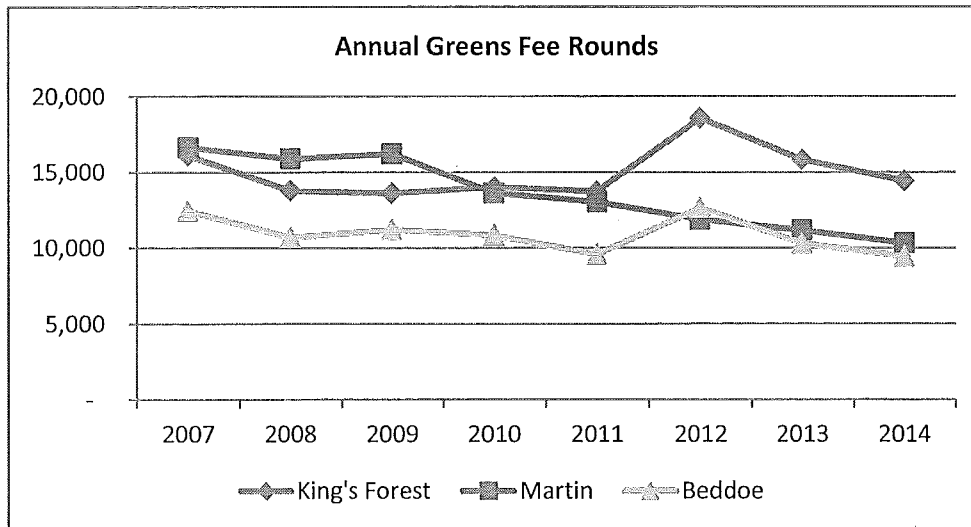
enthusiasts would congregate or in publications popular amongst this important target market- i.e. golf shows, trade magazines, travel and destination publications, etc.



Hamilton's golf services could also promote the fact that season passes are a very economical method of accessing three of the City's top golf facilities. Based upon the number of pass holders and pass revenue per year, each player paid between \$20.00 and \$24.00 per round between 2010 and 2014. This per game expenditure obviously represents very good value given the pay-as-you-play greens fee prices charged by golf courses in Hamilton's trade area.

**GREENS FEE PLAY**

Current pressures stressing the golf sector have also negatively impacted a Hamilton's ability to attract greens fee play. Overall, the City sold 24% fewer greens fee rounds in 2014 than were sold in 2007. The King's Forest and Beddoe experienced an impressive bump in greens fee sales in 2012 (a rise of 35% and 32% respectively compared to 2011) although sales performances slipped yet again in the following two years.



The over-supply of courses in the local marketplace coupled with price sensitivity on the part of pay-as-you-play golfers and the aggressive marketing tactics employed by golf course operators in Hamilton's trade area will

very likely produce headwinds that complicate the City’s ability to sell an increased number of greens fee rounds in the years to come. It will therefore be critical that Hamilton’s golf services staff execute sales, marketing, promotional and operating techniques to ensure that the City’s courses are widely perceived as top quality, value based golf opportunities.

**REVENUE YIELD OF GREENS FEE PLAY**

“Rack rate” is a sector specific term referring to the published price for a pay-as-you-play round of golf. However, the actual revenue generated by each round of golf can be substantially different than the rack rate due to price discounting for less desirable tee times, the price packaging of various golf services, fee reduction arrangements to attract tournament rounds or the reduced price when wholesaling making tee times to web based discounters. The difference between rack rate and the revenue yield per round illustrate the level of discounting inherent with a particular golf operation.

The following table presents a historical perspective of the revenue produced per round of golf at each of the City’s three facilities. It is noteworthy that this revenue yield data represents only the golf income and not any other associated income such as cart rental revenue, food and beverage or pro shop sales, etc. However, the gap between the effective revenue yield and the rack rate at each course suggests a reasonable degree of discounting is currently practiced at the City’s golf facilities. While pricing adjustments may be necessary to remain competitive in the marketplace, staff should explore opportunities to increase the yield per round to augment revenue streams without necessarily increasing the number of rounds sold.

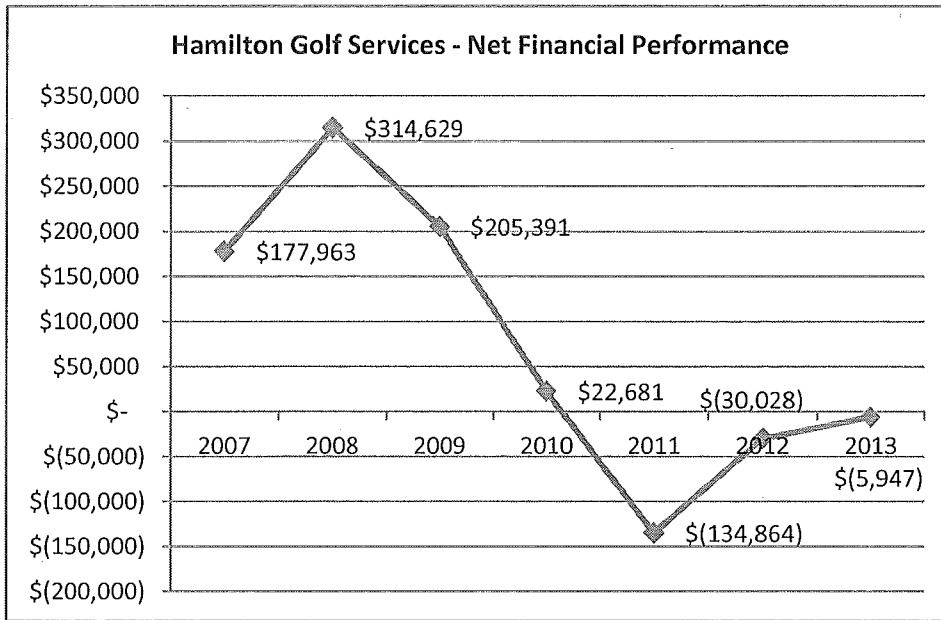
**Exhibit 5: Yield per Round Played**

	2007	2008	2009	2010	2011	2012	2013	2014
King's Forest	\$43.82	\$43.87	\$41.38	\$41.66	\$42.77	\$37.97	\$37.03	\$38.10
Martin	\$22.00	\$22.41	\$21.57	\$23.58	\$24.00	\$23.27	\$23.96	\$24.14
Beddoe	\$31.40	\$31.13	\$31.45	\$32.75	\$33.30	\$30.02	\$31.24	\$32.28
<b>Total</b>	<b>\$32.37</b>	<b>\$32.04</b>	<b>\$30.84</b>	<b>\$32.75</b>	<b>\$33.54</b>	<b>\$31.59</b>	<b>\$31.52</b>	<b>\$32.28</b>

**FINANCIAL PERFORMANCE**

Since 2007, City staff have implemented elements of the original business plan with the intention of ensuring that Hamilton’s golf services achieve and maintain financial self sustainability. As mentioned earlier in this report, golf revenue is not only to support the operations of the golf courses but also to fund re-investments in golf infrastructure (i.e. turf, bunkers, greens, clubhouses, maintenance buildings, etc.). And, improving the quality of golf experience through this re-investment is incredibly important given the extremely competitive environment within which golf services operate. As per the plan, annual net revenue is to be contributed to a capital reserve fund that would be employed to underwrite the cost of future facility maintenance or capital improvements.

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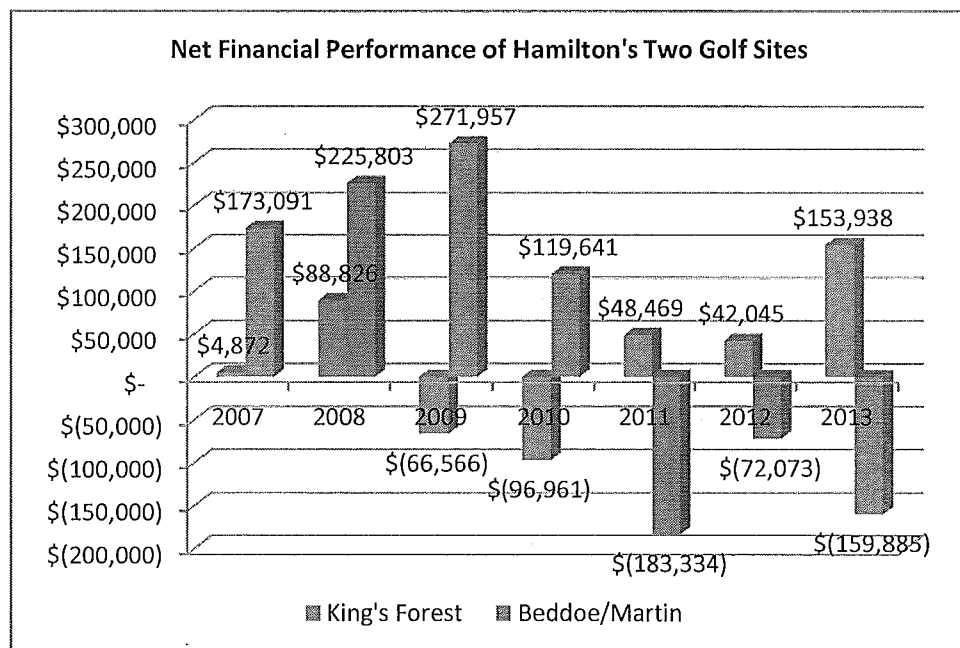
Between 2007 and 2010, total net revenue produced by the City's two golf sites allowed for a total of \$720,000 to be contributed to the golf reserve fund. Between 2011 and 2013 operating and financial pressures created by the economic crisis coupled with an increasingly

competitive marketplace eroded net revenues to the point where total operating losses reduced the reserve account by more than \$170,000.

The winter of 2013-14 was one of the most severe in memory. The ice storm of December 2013 plus excessively cold temperatures in the following three months damaged many golf courses in southern Ontario. The winter inflicted significant harm to the City's Chedoke facility. In particular, most of Chedoke's greens were seriously burned and a significant number of trees were badly injured. Kings Forest also experienced damage but to a lesser extent.

The necessary repairs were not only expensive, but also resulted in both facilities opening later than usual which impacted season pass and greens fee sales. For Chedoke, this occurred at the

worst possible time as the course was already suffering from a decline in sales caused by the competitive forces discussed earlier in this report. The repair cost related to these issues as well as the downward revenue pressure caused by the weaker sales was





realized in the 2014 budget year.

The weather anomalies that negatively affected the 2014 financial results, makes it impractical to compare year over year net financial performance due to the fact that many of the occurrences (and related costs) were “one time events”.

As reported in the 2010 Golf Performance Analysis Study, staff enacted a series of operating cost containment initiatives in the first two years of implementing its business plan. These initiatives streamlined staff deployment strategies, improved operating efficiencies and took advantage of operating savings resulting from capital improvement projects (e.g. creating the retention ponds). More recently, golf services has initiated additional cost saving measures - such changes to the manner in which regular and emergency maintenance is performed on golf course equipment and fleet vehicles.

While golf services is committed to continuously improve its operating efficiencies, the number and extent of cost containment protocols that have been applied to both King’s Forest and Chedoke sites, we suggest that any significant financial improvements will be linked to revenue improvements rather than further cost cutting. In fact, it is not unreasonable to expect that additional expense reduction – especially in the area of payroll – would begin to drag down service levels thereby reducing the quality of the golf experience at the City’s courses. This could result in further slippage in season pass sales and greens fee play as golfers migrate to competing facilities offering higher quality golf course or better customer service.

A detailed review of the financial performance on a site by site basis reveals that the Chedoke courses (Martin and Beddoe) produced consistent positive net revenue between 2007 and 2010. Over the same four year period, King’s Forest financial performance was split between the profitability and operating deficits.

Since 2011, King’s Forest has produced positive net revenues while the Chedoke courses have collectively produced operating deficits. This performance represents an interesting reversal in roles in so much as King’s Forest is now outperforming the combined financial results of the Martin and the Beddoe courses to the extent that King’s Forest is responsible for golf service’s continuous financial improvement between 2011 and 2013. Essentially, the erosion in season pass sales and greens fee play at King’s Forests has been less dramatic over the past number of years than reductions in golf played at the Chedoke site.

#### **RECAP OF RECOMMENDED STRATEGIC INITIATIVES**

The 2010 Golf Performance Analysis Study provided a series of recommendations intended to improve the operating and financial performance of the City’s golf courses. Our examination of the golf environment as well as our more recent review of golf services progress implies that our previous advice continues to be valid. For reference, these recommendations include the following.

- Develop a marketing strategy to promote and sell season passes to golfers within the catchment area of Hamilton's golf courses.
- Develop a marketing strategy to promote and sell greens fee play to golfers within an hour drive time of Hamilton's golf courses.
- Develop a tournament strategy to market Hamilton's golf courses as host venues for a wide variety of organized events.
- Annually review the pass holder/greens fee play ratio and make adjustments that reflect an equitable balance between pass holders play and pay-as-you-go rounds played by the general public.
- Ensure that the annual tee time registration system is adjusted to reflect changes in the pass holder/greens fee play ratio. Additionally, continuously monitor the amount of play by each group of golfer to ensure that the round ratio thresholds are being maintained (please also see Tee Sheet Management recommendation in the Additional Considerations section below).
- Review the prices of season passes in view of the amount of golf played by pass holders. Increase prices to reflect Hamilton's golf course position in the local marketplace as well as appropriate cost recovery threshold.

#### **ADDITIONAL CONSIDERATIONS**

The following strategic operating suggestions are offered as enhancements to the specific marketing and sales tactics reiterated above.

*Protect Hamilton Golf Service's Value Proposition* – as illustrated in the pricing analysis presented earlier in this report, the Chedoke courses are in the mid-range and King's Forest is near the top of the market in terms of their rack rate prices. These market positions are entirely appropriate given the quality of the courses, the variety of facilities and services available at each location, the first class standards of the support amenities and the level of customer service golfers receive at each course. While the above recommendations suggest that the City undertake a more robust effort to attract a higher number of season pass holders and greens fee players, marketing and sales tactics should not inadvertently erode the perceived value of the courses by offering overt discounts or deals that "cheapen" the course's value proposition in the eyes of potential golfers. Certainly pricing strategies should present an appealing and affordable offer but not at the expense of the City's golf service's position in the golf marketplace. This can be achieved by providing lower cost golf rounds within packages – such as tournament play, stay and play packages, etc. –

whereby a golf round's price reduction is bundled with other services and discounting becomes less obvious. This pricing strategy is utilized by other strategically wise golf operations – indeed many entities in the quality brand business - that place a very high regard on maintaining the perception brand quality.

*Strive for Operational Self Sufficiency at both Golf Sites*— as a result of a variety of economic and competitive factors cited in this report, Hamilton's golf services are currently producing financial results below their individual and collective potentials. Based upon our review of all circumstances that influence financial performance, we suggest that management strive to produce sufficient revenue from all sources to bring the courses at both the King's Forest and Chedoke sites to a revenue position equaling 2009 performances (approximately \$1.76 M at Chedoke and \$1.6 M at King's Forest) representing a revenue increase of approximately 20% above 2014 projections. Marketing, pricing and sales suggestions contained herein are offered as starting strategies to achieve these proposed targets and other tactics conceived by staff should augment these ideas. Our focus is on revenue production rather than significant cost containment strategies because expense reductions have already been implemented and any additional significant cost savings could begin to affect levels of service.

*Tee Sheet Management* – most successful golf facilities employ a structured, strategic and planned approach to managing the manner in which they deliver golf services. Effective tee sheet management is a very important method of ensuring the golf course and related facilities are utilized to their maximum efficiency. In implementing this type of strategic management approach, each fall, senior golf staff examine and analyze the tee sheets of the previous season looking for obvious trends in terms of use by time of day, day of week and week of the season. Observations should be compared to trends from previous years to establish use patterns and profiles. The analysis will reveal pockets of time that are most popular for greens fee golfers and time slots that are less appealing. This information should be used by management to determine times of days and days of the week that are the most appropriate to preserve for booking by individual greens fee golfers and time slots for which organized events and tournaments are more appropriate. Armed with this information, golf sales staff can strategically market tournament opportunities to potential corporate clients knowing that the event will complement greens fee activity rather than preventing it. Additionally, tournaments of various sizes can be fitted into periods based on the number of tee times available within a particularly soft greens fee sales slot. Furthermore, pricing practices and packaging arrangements can be planned and implemented in accordance with the information mined from the tee sheet management initiative. We understand that Hamilton's golf staff currently utilize a tee sheet management

procedure in an attempt to maximize revenue yield per round. We encourage that this practice be systematized, standardized and advanced to a level that is as sophisticated as possible.

*Create an Added Value Golf Experience* - in the golf business, customer loyalty has traditionally been driven by four key factors: the enjoyment of the golf experience; overall course conditions; the value inherent with the golf experience; and the condition of the greens. Golf course operators report that in the past few years, the "value factor" is playing an increasingly important role in golfers' choice of venue. Given that value is judged by weighing price against products or services received, many operators have either held the line on price increases or are offering special packages which have the effect of reducing the golfer's cost per round. First class golf course operators are continuously striving to "delight" their customers through the delivery of top quality facilities and services that provide a "value added" experience compared to their competitors. These best in class performers cultivate positive relationships with each and every golfer so that they feel special, cared for and are the centre of the operator's attention. In an environment that is as competitive as the golf business today, the benefit of delivering a distinct value proposition (discussed previously) cannot be over stated. Golfers must be treated as though they are the single focus of the entire organization. The residual benefits are described simply – a happy and cared for golfer will become a repeat visitor who will generate additional referral business.

*Capital Re-investment* - as mentioned many times in this report, maintaining the value of the golfer's experience is paramount to attracting and retaining golfers. The quality of the experience will be determined by a combination of factors including the standards of the field of play (the golf course) and the support amenities (the clubhouse, practice facilities, etc.). Therefore, continuously upgrading facilities with capital improvements and ongoing repairs and maintenance is imperative to preserving a quality customer experience. The City works within a disciplined capital reserve process that allows for appropriate capital improvement and maintenance budgeting, which is prudent practice. This process should be continued and the courses should receive ongoing capital investments in accordance with the assets studies and funding that, as revenue improvements occur, should become increasingly available from the reserve account.

## Future Opportunities

### CONTEXT

As mentioned in the previous sections, the golf industry is currently immersed in a state of turbulence caused by a number of factors including shifting trends in golfer preferences, climate change affecting a business that is heavily dependent on weather conditions, an over-supply of golf courses and a reduction in the number of golf rounds available to golf course operators - particularly in Southern Ontario. We have reiterated previous recommendations that we believe will help Hamilton attract a more significant share of the golf market and added supplementary suggestions to strengthen Hamilton's golf services position in the local marketplace.

All evidence suggests that the golf sector will experience ongoing challenges for the foreseeable future. Consequently, we recommend that the City undertake an opportunities analysis to explore any potential changes to its existing physical and/or operating circumstance that might assist in alleviating some of the financial pressures associated with the delivery of golf services.

### GOLF COURSE CAPACITY ANALYSIS

Golf facilities have a tangible capacity to accommodate play (the number of rounds that a course can reasonably handle on an annual basis). A facility's rounds capacity is calculated by considering daylight hours and length of season in combination with operating and policy factors to project the maximum number of 18-hole rounds at a particular venue. The following capacity calculation has been created for the golf courses in Hamilton.

**Exhibit 6: 18-hole Golf Course Capacity Analysis**

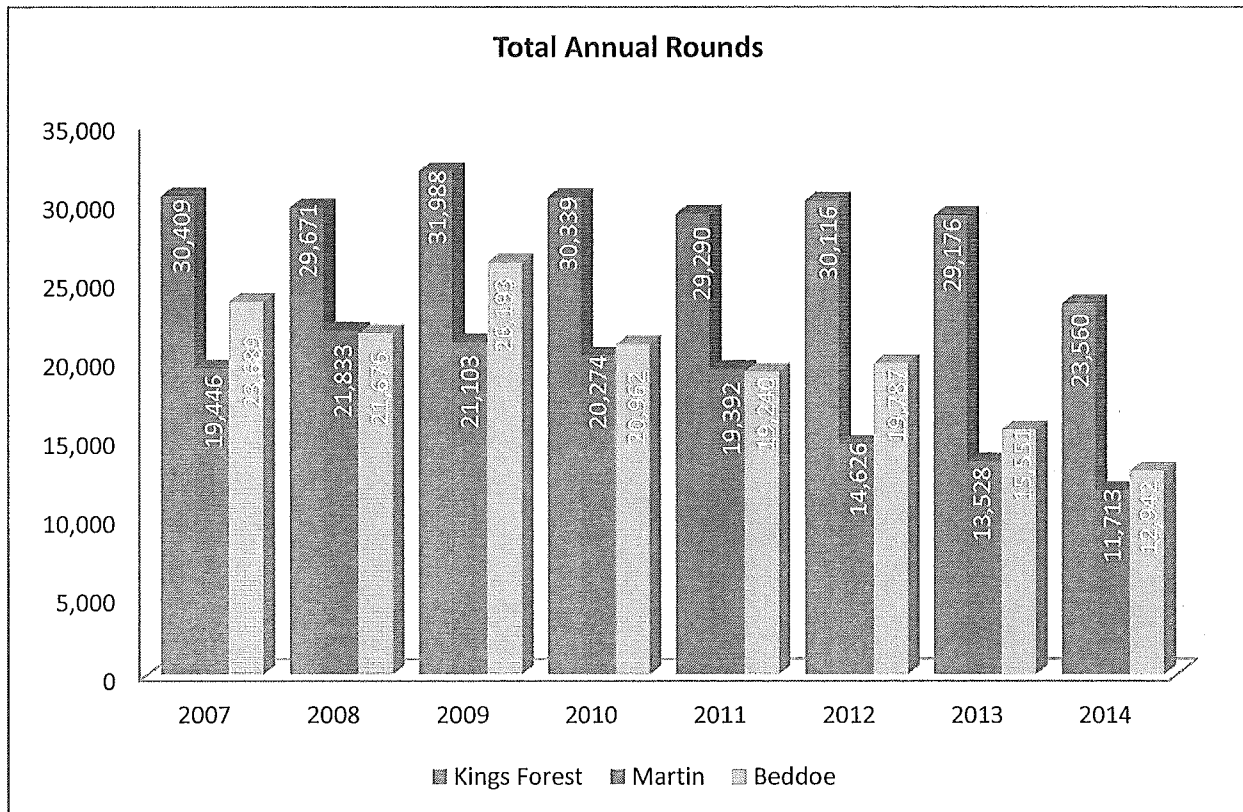
Average Golf Season	April	May	June	July	Aug.	Sept.	Oct.
Total Days	30	31	30	31	31	30	31
Average Daylight Hours	14.25	15.5	16.5	15.5	15	13.5	12
Hours to start 18-hole tee times	9	10.25	11.25	10.25	9.75	8.25	6.75
Tee Time Interval (in minutes)	9	9	9	9	9	9	9
Total Tee Times per day	60	68	75	68	65	55	45
Max. 18-hole rounds per day	240	273	300	273	260	220	180
Max. 18-hole rounds per month	7,200	8,473	9,000	8,473	8,060	6,600	5,580
Normal Capacity (Industry Metric)	65%	65%	65%	65%	65%	65%	65%
Normal 18-hole Round Capacity	4,680	5,508	5,850	5,508	5,239	4,290	3,627

As illustrated in the above estimates, weather conditions and seasonality factors reduce total limit the number of golf rounds that a course can be expected to accommodate. In the Hamilton area, this metric is generally understood to be 65% - with start of the season and the number of rain days the two most significant limiting variables. While each course's utilization profile will differ - in accordance with the makeup of the golf clientele (members vs. pay-as-

you-go players), the number and size of tournaments per season, historical relationship of groups of golfers with the facility (such as the customary morning seniors group that patronize many courses), etc. – the normal round capacity is usually quite predictable. Taking into account all of the factors mentioned above, each of Hamilton’s 18-hole courses has a normal 18-hole round capacity of approximately 34,000 rounds.

**HISTORICAL LEVELS OF PLAY**

The number of annual rounds played at each of the City’s 18-hole golf facilities has been in decline for the past half decade. With the exception of an increase in the number of greens fee rounds played at King’s Forest in 2009 and again in 2012, the number of annual rounds in all other categories of play have dropped year to year.



While the number of rounds at King’s Forest was below acceptable levels in 2014 (partly due to the weather damage related late opening), the volume of golf rounds played during the previous five years was within range of the King’s Forest’s normal capacity. We therefore expect that the implementation of the marketing, pricing and promotional recommendations presented in the earlier section of this report has the ability to increase the number of rounds to near capacity levels at this, the City’s premium golf facility. While achievable, the task of reaching acceptable sales at the Chedoke facility would certainly be more challenging.

**Exhibit 7: Historical Rounds Played vs. Course Capacity**

	2007	2008	2009	2010	2011	2012	2013	2014
<b>Chedoke % Capacity Utilized</b>	63%	64%	70%	61%	57%	51%	43%	36%
<b>Chedoke Annual Change</b>	NA	1%	9%	-13%	-6%	-11%	-16%	-15%
<b>King's Forest % Capacity Utilized</b>	89%	87%	94%	89%	86%	89%	86%	69%
<b>King's Forrest Annual Change</b>	NA	-2%	8%	-5%	-3%	3%	-3%	-19%

**POTENTIAL STRATEGIC DIRECTIONS**

The purpose of the recommendations presented in this report is to frame the City's efforts to capture a larger portion of the available golf market – both seasons pass sales and greens fee play. We have strategically focused recommended improvement initiatives on revenue generation rather than cost containment because the City has already implemented expense controls and further cost reductions could negatively affect course condition or customer service – both of which would be counterproductive to improving golf's financial performance. To reach a satisfactory financial result, golf services will be required to sell a sufficient number of rounds while maintaining an acceptable revenue yield per round so that net income can return the levels sufficient to support annual contributions to the capital reserve account. We anticipate that this targeted outcome is very attainable at the King's Forest facility – an improvement of less than 15% over historical performances would be sufficient to achieve the desired result. While the targeted revenue improvements are also possible at the Chedoke facility, a more significant recovery in the sale of greens fee and season passes would be necessary – an upturn of more than 32% above 2013 revenue levels would be required to achieve to an acceptable level of financial sustainability.

A second strategic alternative would be to consider re-purposing a portion of the land at the Chedoke facility. This potential option could produce new revenue streams – through the sale and or lease of property – while lowering operating costs by reducing the footprint of a facility. The course capacity calculation presented above suggests that allocating a certain proportion of the existing Chedoke lands to another use would not limit the course's ability to accommodate sufficient rounds to meet the recommended revenue target. In fact, even if an entire 18 hole were removed from inventory, the remaining course footprint could handle more than double the number of rounds that occurred at Chedoke in 2013.

Certainly, this alternative must be tested against a variety of municipal policies and planning principles and a robust business case analysis must be developed for each option. In view of all of the available possibilities, we recommend that the City consider and investigate the reasonableness and feasibility of five potential options.

- Option One - Sell a portion of the Chedoke lands for a use acceptable to Council – preferably a use that is compatible with a golf facility adjacency.
- Option Two - Lease a portion of the Chedoke lands for a use acceptable to Council – preferably a use that is compatible with a golf facility adjacency.

- Option Three - Re-purpose a portion of the land to accommodate a golf practice facility.
- Option Four - Create a relationship with an outside partner for the operation of the catering and hospitality services.
- Option Five - Develop a partnership with the private sector (a P3) to attract private capital to the facility – either the entire operation or a defined portion such as the clubhouse.

To begin the process of interpreting the implications of each of the five potential options, the alternatives were tested against applicable strategic objectives that were endorsed in the City's 2012 – 2015 Strategic Plan. This assessment is a simple first step in identifying how potential options can contribute to the three strategic priorities that are believed to have the greatest impact on moving the City of Hamilton forward towards achieving its vision. An "X" appears under an option where it appears that the option would comply with or otherwise contribute to the objectives of the strategic priorities.

#### Strategic Priority #1 – A Prosperous & Healthy Community

Objectives	Option 1	Option 2	Option 3	Option 4	Option 5
Continue to grow the non-residential tax base.	X	X		X	X
Continue to prioritize capital infrastructure projects to support managed growth and optimize community benefit	X	X		X	X
Promote economic opportunities with a focus on Hamilton's downtown core, all downtown areas and waterfronts				X	X
Support the development and implementation of neighbourhood and City wide strategies that will improve the health and well-being of residents	X	X	X	X	X
Enhance Overall Sustainability (financial, economic, social and environmental)	X	X	X	X	X

#### Strategic Priority #2 – Valued & Sustainable Services

Objectives	Option 1	Option 2	Option 3	Option 4	Option 5
Implement processes to improve services, leverage technology and validate cost effectiveness and efficiencies across the Corporation.	X	X	X	X	X
Improve the City's approach to engaging and informing citizens and stakeholders			X	X	
Enhance customer service satisfaction.			X	X	



**Strategic Priority #3 – Leadership & Governance**

Objectives	Option 1	Option 2	Option 3	Option 4	Option 5
Engage in a range of inter-governmental relations (IGR) work that will advance partnerships and projects that benefit the City of Hamilton.	X	X		X	X
Enhance opportunities for administrative and operational efficiencies	X	X		X	

As is evident from the foregoing, the options can make different types of contributions to the pursuit of the City’s strategic priorities. Additional assessments, feasibility studies and business plans will be necessary to accurately predict the suitability of any of the options moving forward.

## INSTRUCTIONS: MUNICIPAL COUNCIL BLANKET SUPPORT RESOLUTION

Section 5.1(g)(i) of the FIT Rules, Version 4.0

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Capitalized terms not herein defined have the meanings ascribed to them in the FIT Rules, Version 4.0.

### INSTRUCTIONS APPLICABLE TO ALL RESOLUTIONS

1. The instruction page is not required to be submitted with the hard copy Application materials.
2. The first page of the resolution must be marked, by the Applicant, with the FIT Reference Number associated with the Application.
3. Where the resolution has multiple pages, the resolution should be stapled.
4. Information provided in the resolution must be consistent with the information provided in the electronic Application Form in order for the Application to be awarded Priority Points.
5. Apart from the completion of any blanks in the template resolution, no amendments, other than those outlined in paragraph 6 below, may be made to the wording of this form.
6. Words in between square brackets (i.e. “[” and “]”) are immaterial to the intent of the template resolution and may be modified to follow standard procedure of the issuing body. Wording not contained within square brackets must not be changed in order for the Application to be awarded Priority Points.
7. The entirety of the resolution (all blanks) must be completed and it must be signed by an appropriate individual(s) in order for the Application to be awarded Priority Points, and all Prescribed Forms must be signed to be considered complete.

### INSTRUCTIONS SPECIFIC TO THE RESOLUTION

8. Local municipal councils have the option of drafting the Template: Municipal Council Blanket Support Resolution on the Council or equivalent governing body letterhead. The language of the Template: Municipal Council Blanket Support Resolution must be the same as shown in the template in order for the Applicant to obtain Priority Points. Priority Points will not be awarded if the blanket support resolution includes additional conditions or delegation of authority to staff for additional approvals.
9. The separate Prescribed Form: Municipal Council Support Resolution Confirmation may be completed and included in the Application by an Applicant that had received a FIT Rules, Version 3.0 Municipal Council Support Resolution (that was not a blanket support resolution) that was issued by the Municipality and that is still in effect in relation to the Applicant and the Project. The Prescribed Form: Municipal Council Support Resolution Confirmation may not be used as a substitute for a Municipal Council Support Resolution where no Municipal Council Support Resolution was previously issued for the Project previously.
10. Where no resolution number exists, insert "N/A" into the appropriate field.



**FEED-IN TARIFF PROGRAM**

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**TEMPLATE: MUNICIPAL COUNCIL BLANKET SUPPORT RESOLUTION**

Section 5.1(g)(i) of the FIT Rules, Version 4.0

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1	Resolution number: _____  Date resolution was passed: _____	FIT Reference Number: _____  <i>(The FIT Reference Number must be inserted by the Applicant in order for the resolution to comply with the FIT Rules, even where Local Municipality letterhead is used. This is not to be inserted by the Local Municipality.)</i>
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2	<p>[WHEREAS] capitalized terms not defined herein have the meanings ascribed to them in the FIT Rules, Version 4.0.</p> <p>[AND WHEREAS] the Province's FIT Program encourages the construction and operation of</p> <p style="text-align: center;">Rooftop Solar (PV)</p> <p>_____ generation projects (the "Projects");</p> <p>[AND WHEREAS] one or more Projects may be constructed and operated in <u>City of Hamilton</u> ;</p> <p>[AND WHEREAS] pursuant to the FIT Rules, Version 4.0, Applications whose Projects receive the formal support of Local Municipalities will be awarded Priority Points, which may result in the Applicant being offered a FIT Contract prior to other Persons applying for FIT Contracts;</p> <p>[NOW THEREFORE BE IT RESOLVED THAT]</p> <p>Council of the <u>City of Hamilton</u> supports the construction and operation</p> <p>of the Projects anywhere in <u>City of Hamilton</u> .</p> <p>This resolution's sole purpose is to enable the participants in the FIT Program to receive Priority Points under the FIT Program and may not be used for the purpose of any other form of municipal approval in relation to the Application or Projects, or for any other purpose.</p> <p>This resolution shall expire twelve (12) months after its adoption by Council.</p>
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3	Signed: _____  Title: _____  Date: _____	Signed: _____  Title: _____  Date: _____
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*(Signature lines for elected representatives. At least one signature required.)*