



## REGULAR MEETING OF CITY COUNCIL AGENDA

Monday, February 23, 2015

4:30 p.m.

Council Chambers

	Pages
<b>1. ADOPTION OF MINUTES</b>	9 - 26
Mover : Councillor T. Sheehan Seconder : Councillor M. Bruni	
Resolved that the Minutes of the Regular Council Meeting of 2015 02 09 be approved.	
<b>2. QUESTIONS AND INFORMATION ARISING OUT OF THE MINUTES AND NOT OTHERWISE ON THE AGENDA</b>	
<b>3. DECLARATION OF PECUNIARY INTEREST</b>	
<b>4. APPROVE AGENDA AS PRESENTED</b>	
Mover : Councillor T. Sheehan Seconder : Councillor M. Bruni	
Resolved that the Agenda for 2015 02 23 City Council Meeting as presented be approved.	
<b>5. PROCLAMATIONS/DELEGATIONS</b>	
<b>5.1 Rogers Hometown Hockey Community Festival Weekend</b>	
Virginia McLeod, Supervisor, Community Services - Recreation and Culture Division	
<b>5.2 2017 Brier</b>	
Ian McMillan, Tourism SSM will be in attendance.	
Mover : Councillor T. Sheehan Seconder : Councillor F. Fata	

Whereas the Brier, Canada's National Men's Curling Championship provides a significant economic benefit to the host community; and

Whereas Sault Ste. Marie hosted the 1990 Brier which was a huge success, along with other major curling events, including the 2010 Scotties Tournament of Hearts; and

Whereas Sault Ste. Marie is the hometown of Team Jacobs, a club that took home a gold medal in curling at the 2014 Winter Olympics and also won the 2013 Brier and a number of other major bonspiels; and

Whereas the Soo Curlers Association, City of Sault Ste. Marie and Tourism Sault Ste. Marie are now exploring the possibility of bidding on the 2017 Brier; and

Whereas any future bid of the Brier would be significantly stronger with a large number of ticket deposits from area citizens and business;

Now Therefore Be It Resolved that City Council endorse the preliminary bid process into the 2017 Brier and encourage citizens to support the process by placing a refundable deposit on tickets for the event.

### **5.3 Physician Recruitment and Retention Committee**

Christine Pagnucco, Manager – Sault Ste. Marie Physician Recruitment and Retention will be in attendance concerning item 7.8.1.

### **5.4 Budget Presentations**

27 - 37

Chief R. Keetch, Sault Ste. Marie Police Service will be in attendance.

### **5.5 Transportation Master Plan**

Elizabeth Szymanski, Senior Project Manager – HDR Consulting will be in attendance concerning agenda item 7.3.1.

## **6. COMMUNICATIONS AND ROUTINE REPORTS OF CITY DEPARTMENTS, BOARDS AND COMMITTEES**

Mover : Councillor T. Sheehan

Seconder : Councillor F. Fata

Resolved that all the items listed under date 2015 02 23 – Part One – Consent Agenda be approved as recommended.

### **6.1 Staff Travel**

38 - 38

A report of the Chief Administrative Officer is attached for the consideration of Council.

Mover : Councillor T. Sheehan

Seconder : Councillor F. Fata

Resolved that the report of the Chief Administrative Officer dated 2013 02 23

concerning Staff Travel be approved as requested.

- 6.2 Tender for Cisco UCS Mini Server System & Nimble SAN Storage System (2015IA01T)** 39 - 41

A report of the Manager of Purchasing is attached for the consideration of Council.

Mover : Councillor T. Sheehan

Seconder : Councillor M. Bruni

Resolved that the report of the Manager of Purchasing dated 2015 02 23 be received and the recommendation that the tender submitted by CDW to supply, deliver and install a Cisco UCS Mini Server System and Nimble SAN Storage System, as required by the Information Technology Division, at their low tendered price of \$74,682.28 plus H.S.T., be approved.

- 6.3 Outstanding Resolutions** 42 - 44

The listing of outstanding resolutions complete with expected reporting dates is attached for the information of Council.

- 6.4 Pump Track at Esposito Park** 45 - 46

A report of the Commissioner of Community Services is attached for the consideration of Council.

Mover : Councillor T. Sheehan

Seconder : Councillor M. Bruni

Resolved that the report of the Commissioner of Community Services dated 2015 02 23 concerning the update to the Pump Track at Esposito Park be received as information.

- 6.5 Donation Policy – City Parks and Recreation** 47 - 50

A report of the Commissioner of Community Services is attached for the consideration of Council.

Mover : Councillor T. Sheehan

Seconder : Councillor M. Bruni

Resolved that the report of the Commissioner of Community Services dated 2013 02 23 concerning Donation Policy – City Parks and Recreation be received and the recommendation to implement the policy be approved.

- 6.6 Municipal Environmental Initiatives Committee – Operating Increase Request** 51 - 53

A report of the Environmental Initiatives Co-ordinator is attached for the consideration of Council.

Mover : Councillor T. Sheehan

Seconder : Councillor F. Fata

Resolved that the report of the Environmental Initiatives Co-ordinator dated 2015 02 23 concerning Municipal Environmental Initiatives Committee Operating Increase Request be received and that the request be referred to the 2015 budget for consideration.

**6.7 Stormwater Management Master Plan and Guidelines** 54 - 131

A report of the Land Development and Environmental Engineer is attached for the consideration of Council.

Mover : Councillor T. Sheehan  
Seconder : Councillor F. Fata

Resolved that the report of the Land Development and Environmental Engineer dated 2015 02 23 concerning Stormwater Management Master Plan and Guidelines be received as information, and the recommendation that the Stormwater Management Guidelines be implemented be approved.

**6.8 Yellow Fish Road and Urban Stormwater Control and Management** 132 - 141

A report of the Environmental Initiatives Co-ordinator is attached for the consideration of Council.

The relevant By-law 2015-40 is listed under item 11 of the Agenda and will be read with all by-laws under that item.

Mover : Councillor T. Sheehan  
Seconder : Councillor F. Fata

Resolved that the report of the Environmental Initiatives Co-ordinator dated 2015 02 23 concerning Yellow Fish Road and Urban Stormwater Control and Monitoring be received and that the following recommendations be approved:

- Allocate up to \$5,000 from the Green Committee Reserve to be utilized to cover costs associated with the implementation of the Yellow Fish Road Program in 2015;
- Authorize the amendment to the Great Lakes Sustainability Fund Agreement for "Urban Stormwater Control and Monitoring"; and
- Allocate remaining funding to in-kind staff costs for both projects where feasible.

**6.9 Renewal of City's Insurance Program – Jardine Lloyd Thompson Canada Inc.** 142 - 143

A report of the City Solicitor is attached for the consideration of Council.

The relevant By-law 2015-33 is listed under item 11 of the Agenda and will be read with all by-laws under that item.

**6.10 Pointe Des Chenes – Lions Club Operating Agreement** 144 - 146

A report of the Deputy Commissioner of Public Works and Transportation is attached for the consideration of Council.

The relevant By-law 2015-39 is listed under item 11 of the Agenda and will be read with all by-laws under that item.

**6.11 Parking Prohibition – Doncaster Road**

147 - 148

A report of the Deputy Commissioner of Public Works and Transportation is attached for the consideration of Council.

The relevant By-law 2015-42 is listed under item 11 of the Agenda and will be read with all by-laws under that item.

**7. REPORTS OF CITY DEPARTMENTS, BOARDS AND COMMITTEES**

**7.1 ADMINISTRATION**

**7.1.1 Asset Management Plan**

149 - 299

A report of the Commissioner of Finance and Treasurer is attached for the consideration of Council.

Mover : Councillor T. Sheehan  
Seconder : Councillor M. Bruni

Resolved that the report of the Commissioner of Finance and Treasurer dated 2015 02 23 be received and the recommendation that the Asset Management Plan as attached be approved; and

Further that the 2015 budget recommendations of allocating \$1,167,630 of retired debt charges and \$693,000 of the expired hospital levy be allocated to a building asset management plan in 2015 be referred to the 2015 Budget deliberations.

**7.2 COMMUNITY SERVICES DEPARTMENT**

**7.3 ENGINEERING**

**7.3.1 Transportation Master Plan – Notice of Completion**

300 - 334

A report of the Director of Engineering Services is attached for the consideration of Council.

Mover : Councillor T. Sheehan  
Seconder : Councillor M. Bruni

Resolved that the report of the Director of Engineering Services dated 2015 02 23 concerning the Transportation Master Plan – Notice of Completion be received, and that the notice be published for the requisite 30 day public comment period in order to finalize the document

**7.4 FIRE**

**7.5 LEGAL**

<b>7.6</b>	<b>PLANNING</b>	
<b>7.7</b>	<b>PUBLIC WORKS AND TRANSPORTATION</b>	
<b>7.8</b>	<b>BOARDS AND COMMITTEES</b>	
<b>7.8.1</b>	<b>Physician Recruitment and Retention</b>	<b>335 - 359</b>

A report of the Manager, Sault Ste. Marie Physician Recruitment and Retention Program is attached for the consideration of Council.

Mover : Councillor T. Sheehan  
Seconder : Councillor F. Fata

Resolved that the report of the Sault Ste. Marie Physician Recruitment and Retention Office dated February 2015 concerning the Sault Ste. Marie Physician Recruitment and Retention Activity Report and Proposed 2015/2016 Budget request to the City in the amount of \$100,000 for the period of April 1, 2015 to March 31, 2016 to be funded from the Hospital Development Fund be approved.

**8. UNFINISHED BUSINESS, NOTICE OF MOTIONS AND RESOLUTIONS PLACED ON AGENDA BY MEMBERS OF COUNCIL**

<b>8.1</b>	<b>Status of City Reserves</b>	<b>360 - 361</b>
------------	--------------------------------	------------------

Mover : Councillor S. Butland  
Seconder : Councillor P. Christian

Resolved that the Finance Department prepare a report on the status of City reserves as of March 1, 2015. This report would be for the awareness, information and consideration of Council in preparation for the budget process. It is requested that the following outline be followed where practicable:

1. the reserves be separated into discretionary, non-discretionary and trust funds;
2. the present balance in each reserves;
3. the primary purpose of each reserve where not obvious;
4. the short or long term plan to access these reserves.

**8.2 Communication Tower Location Policies**

Mover : Councillor P. Christian  
Seconder : Councillor S. Butland

Whereas many cities in Ontario have adopted Communication Tower location policies for their communities; and

Whereas Sault Ste. Marie does not currently have such a policy; and

Whereas such a policy is needed to establish and articulate clear objectives for the location of communications towers in Sault Ste. Marie; and

Whereas there are currently 14 communications towers in Sault Ste. Marie with

additional towers likely to be placed in the future; and

Whereas Industry Canada requires a Letter of Concurrence from the municipality as part of their approval process;

Now Therefore Be It Resolved that City Council ask the Planning Advisory Committee to prepare a draft Communication Tower location policy for Council's consideration.

**9. COMMITTEE OF THE WHOLE FOR THE PURPOSE OF SUCH MATTERS AS ARE REFERRED TO IT BY THE COUNCIL BY RESOLUTION**

**10. ADOPTION OF REPORT OF THE COMMITTEE OF THE WHOLE**

**11. CONSIDERATION AND PASSING OF BY-LAWS**

Mover : Councillor T. Sheehan

Seconder : Councillor M. Bruni

Resolved that all By-laws under item 11 of the Agenda under date 2015 02 23 be approved.

**11.1 By-laws before Council TO BE PASSED which do not require more than a simple majority**

**11.1.1 By-law 2015-33 (Agreement) Jardine Lloyd Thompson Canada Inc. 362 - 364**

A report from the City Solicitor is on the Agenda.

Mover : Councillor T. Sheehan

Seconder : Councillor M. Bruni

Resolved that By-law 2015-33 being a by-law to authorize the execution of an Agreement between the City and Jardine Lloyd Thompson Canada Inc. for the renewal of the City's insurance program for a period of three (3) years commencing February 28, 2015 to February 28, 2018 be passed in open Council this 23rd day of February, 2015.

**11.1.2 By-law 2015-39 (Agreement) Lions Club Pointe Des Chenes 365 - 370**

A report from Deputy Commissioner Public Works and Transportation is on the Agenda.

Mover : Councillor T. Sheehan

Seconder : Councillor M. Bruni

Resolved that By-law 2015-39 being a by-law to authorize the execution of an agreement between the City and The Lions Club of Sault Ste. Marie, Ontario for the operation and maintenance of Pointe Des Chenes campbround for a period of five (5) years be passed in open Council this 23rd day of February, 2015.

**11.1.3 By-law 2015-40 (Agreement) Environment Canada 371 - 378**

A report from the Environmental Initiatives Coordinator is on the Agenda.

Mover : Councillor T. Sheehan

Seconder : Councillor M. Bruni

Resolved that By-law 2015-40 being a by-law to authorize the execution of an Amendment to the contribution agreement between the City and Environment Canada to amend the existing Great Lakes Sustainability Fund contribution agreement for "Urban Stormwater Control and Monitoring" be passed in open Council this 23rd day of February, 2015.

**11.1.4 By-law 2015-41 (Parking) Municipal Law Enforcement Officers**

379 - 381

Mover : Councillor T. Sheehan

Seconder : Councillor M. Bruni

Resolved that By-law 2015-41 being a by-law to appoint Municipal Law Enforcement Officers to enforce the by-laws on various private properties and to amend Schedule "A" to By-law 90-305 be passed in open Council this 23rd day of February, 2015.

**11.1.5 By-law 2015-42 (Traffic) Amend Schedules A & D to By-law 77-200**

382 - 383

A report from the Deputy Commissioner Public Works and Transportation is on the Agenda.

Mover : Councillor T. Sheehan

Seconder : Councillor M. Bruni

Resolved that By-law 2015-42 being a by-law to amend Schedules "A and D" of Traffic By-law 77-200 be passed in open Council this 23rd day of February, 2015.

**11.2 By-laws before Council for FIRST and SECOND reading which do not require more than a simple majority**

**11.3 By-laws before Council for THIRD reading which do not require more than a simple majority**

**12. QUESTIONS BY, NEW BUSINESS FROM, OR ADDRESSES BY MEMBERS OF COUNCIL CONCERNING MATTERS NOT OTHERWISE ON THE AGENDA**

**13. CLOSED SESSION**

**14. ADJOURNMENT**

Mover : Councillor T. Sheehan

Seconder : Councillor F. Fata

Resolved that this Council now adjourn.



## **REGULAR MEETING OF CITY COUNCIL MINUTES**

Monday, February 9, 2015

4:30 p.m.

Council Chambers

**Present:**

Mayor C. Provenzano, Councillor S. Butland, Councillor P. Christian, Councillor S. Myers, Councillor T. Sheehan, Councillor J. Hupponen, Councillor M. Shoemaker, Councillor L. Turco, Councillor R. Niro, Councillor M. Bruni, Councillor F. Fata, Councillor J. Krmpotich, Councillor R. Romano

J. Fratesi, N. Apostle, J. Dolcetti, B. Freiburger, L. Girardi, N. Kenny, M. Nadeau, P. Niro, M. Provenzano, D. McConnell, S. Hamilton Beach, R. Tyczinski, F. Coccimiglio, R. Toth-Rissanen, M. Figliola, T. Reid, F. Pozzebon, D. Elliott

---

**1. ADOPTION OF MINUTES**

Moved by: Councillor S. Myers

Seconded by: Councillor F. Fata

Resolved that the Minutes of the Regular Council Meeting of 2015 01 26 be approved.

**Carried**

**2. QUESTIONS AND INFORMATION ARISING OUT OF THE MINUTES AND NOT OTHERWISE ON THE AGENDA**

**3. DECLARATION OF PECUNIARY INTEREST**

**3.1. Councillor M. Bruni – OLG**

Employed by OLG

**3.2. Councillor M. Bruni – By-law 2015-38 (Zoning) 65 Northern Avenue East  
(Stubbs/Bressan)**

Uncle of one of the applicants

**3.3. Councillor P. Christian – OLG**

Spouse is employed by OLG

**3.4. Councillor R. Niro – OLG**

Son is employed by OLG

**3.5. Councillor M. Shoemaker – Licence to Occupy City Property Agreement between the City and Algoma Common Elements Condominium Corporation No. 21**

Applicant is a client

**3.6. Councillor M. Shoemaker – By-law 2015-36 (Agreement) Algoma Common Elements Condominium Corporation No. 21**

Applicant is a client

**3.7. Mayor C. Provenzano – Renewal of Lease – Pro Shop Lease – John Rhodes Community Centre**

Lessee is a client

**3.8. Mayor C. Provenzano – By-law 2015-37 (Agreement) 882206 Ontario Inc.**

Lessee is a client

**4. APPROVE AGENDA AS PRESENTED**

Moved by: Councillor T. Sheehan

Seconded by: Councillor M. Bruni

Resolved that the Agenda and Addendum for 2015 02 09 City Council Meeting as presented be approved.

**Carried**

**5. PROCLAMATIONS/DELEGATIONS**

**5.1. Sault Ste. Marie Toastmasters**

Shelli Donofrio Ubriaco, Toastmasters Advanced Communicator Silver – Area Governor, Sault Ste. Marie Toastmasters District 86, Division N, Area 1 was in attendance.

**5.2. Best Practice Presentation – Collector App/Story Map App**

Madison Zuppa, Environmental Initiatives Co-ordinator was in attendance.

**5.3. Departmental Presentations**

Jerry Dolcetti, Commissioner of Engineering and Planning and Nuala Kenny, City Solicitor were in attendance.

**5.4 Sault Ste. Marie Public Library**

Mayor Provenzano congratulated the Sault Ste. Marie Public Library on winning the 2014 Minister's Award for Excellence at the Ontario Library Super Conference for the Searchmont Polar Express.

**5.5 Long Term Service Award**

Rita O'Neill was in attendance.

**5.6 Destination North – NOHFC Application**

Justus Veldman was in attendance concerning item 6.17.

**5.7 Lions Club – Pointe des Chenes Campground**

Janet Gawne, Lions Club Representative was in attendance concerning item 6.19.

**6. COMMUNICATIONS AND ROUTINE REPORTS OF CITY DEPARTMENTS, BOARDS AND COMMITTEES**

Moved by: Councillor S. Myers

Seconded by: Councillor M. Bruni

Resolved that all the items listed under date 2015 02 09 – Part One – Consent Agenda be approved as recommended save and except items 6.9, 6.13, 6.14, 6.15, 6.17, 6.18 and 6.19.

**Carried**

**6.1. Correspondence**

**6.1.1 OLG**

Councillor M. Bruni declared a conflict on this item. (Employed by OLG)

Councillor P. Christian declared a conflict on this item. (Spouse is employed by OLG)

Councillor R. Niro declared a conflict on this item. (Son is employed by OLG)

Quarterly payment from October 1 to December 31, 2014

**6.1.2 Ontario Good Roads Association**

Superior Court Decision Over Road Salt

**6.1.3 Canadian Civil Liberties Association**

Regarding Bill 52, the *Protection of Public Participation Act*

**6.1.4 AMO**

Policy Update – 2015 Pre-Budget Submission

**6.2. Liquor Licence Extension Requests**

Correspondence requesting permission for private property liquor licence extension was received by Council.

Moved by: Councillor T. Sheehan

Seconded by: Councillor F. Fata

Resolved that City Council has no objection to the proposed extended licenced area as detailed in the written request for a liquor licence extension on private property for outdoor events on the following dates and times:

1. February 6, 2015 – 6:00 p.m. to 2:00 a.m. – The Machine Shop (St. Mary's Paper) – Mill Square – 75 Huron St. – Treble Charge Concert
2. February 14, 2015 – 6:00 p.m. to 2:00 a.m. – The Machine Shop (St. Mary's Paper) – Mill Square – 75 Huron St. – Bon Soo Night of Ice and Fire Wine Tasting

**Carried**

**6.3. Staff Travel**

The report of the Chief Administrative Officer was received by Council.

Moved by: Councillor S. Myers

Seconded by: Councillor M. Bruni

Resolved that the report of the Chief Administrative Officer dated 2015 02 09 concerning Staff Travel be approved as requested.

**Carried**

**6.4. Request for Financial Assistance for National/International Sports Competitions  
Canadian Junior Curling Championships**

The report of the Manager of Recreation and Culture was received by Council.

Moved by: Councillor S. Myers

Seconded by: Councillor F. Fata

Resolved that the report of the Manager of Recreation and Culture dated 2015 02 09 concerning request for financial assistance for National/International Sports Competitions for Leah Hodgson and Laura Masters be received and that the recommendation of the Parks and Recreation Advisory Committee that City Council approve a \$400 financial assistance grant for their participation at the 2015 M & M Meat Shops Canadian Juniors Curling Championships held in Cornerbrook, Newfoundland, from January 24 to February 1, 2015 be approved.

**Carried**

**6.5. Request for Financial Assistance for National/International Sports Competitions – Richard MacLennan – Speed Skating**

The report of the Manager of Recreation and Culture was received by Council.

Moved by: Councillor S. Myers

Seconded by: Councillor M. Bruni

Resolved that the report of the Manager of Recreation and Culture dated 2015 02 09 concerning request for financial assistance for National/International Sports Competitions for Richard MacLennan be received and that the recommendation of the Parks and Recreation Advisory Committee that City Council approve a \$200 financial assistance grant for Mr. MacLennan's participation at the International Skating Union's World Cup Championships to be held from February 6 to 8, 2015 in Heerenveen, Netherlands be approved.

**Carried**

**6.6. Committee of Council on Graffiti Update**

The report of the Environmental Initiatives Co-ordinator was received by Council.

Moved by: Councillor T. Sheehan

Seconded by: Councillor F. Fata

Resolved that the report of the Environmental Initiatives Co-ordinator dated 2015 02 09 concerning the Committee of Council on Graffiti Update be received and the following recommendations be approved:

- That the Committee of Council on Graffiti remain in place and continue to meet throughout the year to ensure community engagement and co-ordination of projects; and
- That City staff explore the feasibility of developing a Public Art Policy, including graffiti management, which will be brought back to Council for review and approval.

**Carried**

**6.7. Essar Centre Queen Street Drop Off and Pick-up Area**

The report of the Design and Construction Engineer was received by Council.

Moved by: Councillor S. Myers

Seconded by: Councillor M. Bruni

Resolved that the report of the Design and Construction Engineer dated 2015 02 09 be received and that Council approve including the expansion of the drop off and pick-up area at the Essar Centre in the 2015 Miscellaneous Construction Program.

**Carried**

**6.8. Port of Algoma Offices in Civic Centre – Lease Agreement**

The report of the Commissioner of Engineering and Planning Department was received by Council.

The relevant By-law 2015-34 is listed under item 11 of the Minutes.

**6.10. Paramedic Student Preceptorship Placement Agreement**

The report of Emergency Medical Services was received by Council.

The relevant By-law 2015-27 is listed under item 11 of the Minutes.

**6.11. Northern College Paramedic Student Agreement**

The report of Emergency Medical Services was received by Council.

The relevant By-law 2015-28 is listed under item 11 of the Minutes.

**6.12. Easement – 59 Creery Avenue**

The report of the City Solicitor was received by Council.

The relevant By-law 2015-8 is listed under item 11 of the Minutes.

**6.16. Comprehensive Official Plan Review – Funding Request**

The report of the Planner was received by Council.

Moved by: Councillor T. Sheehan

Seconded by: Councillor F. Fata

Resolved that the Report of the Planner dated 2015 02 09 concerning a funding request of up to \$10,000 for implementing a comprehensive public engagement strategy, and up to \$20,000 to hire a consultant to conduct a land use/traffic impact study of Second Line East between Great Northern Road and Black Road be referred to the 2015 Budget; and further that Council direct the Planning Advisory Committee to take the lead on the Comprehensive Official Plan Review.

**Carried**

**6.20. CAO Selection Committee**

Minutes of January 29, 2015 Committee Meeting were attached for the information of Council.

**6.9. Revised Upton Road Design**

The report of the Design and Construction Engineer was received by Council.

Moved by: Councillor T. Sheehan

Seconded by: Councillor M. Bruni

Resolved that the report of the Design and Construction Engineer dated 2015 02 09 concerning Revised Upton Road Design be received and a road cross section with two 1.5m sidewalks, 0.6m curb and gutter on both sides and 7.5m of pavement width be adopted as the design standard for Upton Road as per the attached drawing.

**Carried**

Recorded Vote	For	Against	Absent/Pecuniary
Mayor C. Provenzano	X		
Councillor S. Butland	X		
Councillor F. Fata		X	
Councillor S. Myers	X		
Councillor J. Krmpotich	X		
Councillor R. Niro		X	
Councillor M. Shoemaker		X	
Councillor R. Romano	X		
Councillor J. Hupponen	X		
Councillor P. Christian	X		
Councillor M. Bruni	X		
Councillor T. Sheehan	X		
Councillor L. Turco	X		

**6.13. Acquisition of Property – Base Line**

The report of the City Solicitor was received by Council.

The relevant By-law 2015-35 is listed under item 11 of the Minutes.

**6.14. Licence to Occupy City Property Agreement between the City and Algoma Common Elements Condominium Corporation No. 21**

Councillor M. Shoemaker declared a conflict on this item. (Applicant is a client)

The report of the Assistant City Solicitor was received by Council.

The relevant By-law 2015-36 is listed under item 11 of the Minutes.

**6.15. Renewal of Lease – Pro Shop Lease – John Rhodes Community Centre**

Mayor C. Provenzano declared a conflict on this item. (Lessee is a client)

The report of the Assistant City Solicitor was received by Council.

The relevant By-law 2015-37 is listed under item 11 of the Minutes.

**6.17. Destination North – NOHFC Application**

The report of the Planning Director was received by Council.

Moved by: Councillor T. Sheehan

Seconded by: Councillor F. Fata

Whereas over the last several years the Ontario government, through the Northern Ontario Heritage Fund (NOHFC), has encouraged Northern Ontario cities to develop major tourist destination projects which would enhance community, economic and tourism and development opportunities throughout the North; and

Whereas the City's "Gateway" site had originally been designated by City Council as the site of a potential project where a proponent could take advantage of the funding that was being offered by NOHFC, initially in the amount of \$15 million and more recently, in the amount of \$5 million; and

Whereas on August 12, 2013, City Council passed a resolution accepting a proposal from Justus Veldman, Riversedge and Blueforest Ventures, known as "Destination North" for the re-development of the former St. Mary's Paper site and authorize City staff to make application to NOHFC for \$5 million in funding contribution towards the development of this exciting tourist attraction; and

Whereas the City of Sault Ste. Marie was advised by NOHFC on December 23, 2013, that the project was "viewed as potentially eligible" and "should proceed for further review" (Stage 1) and the City was invited to submit a full proposal; and

Whereas it is no longer a condition of eligibility for this funding that the City be a proponent in this application;

Now Therefore Be it Resolved that the City of Sault Ste. Marie consents to the transfer and in fact transfers its interest and eligibility for funding in this application to Destination North Discovery Group and encourages NOHFC to fully support the development of "Destination North" on the former St. Mary's Paper site in Sault Ste. Marie.

**Carried**

**6.18. Mausoleum Phase XIV**

The report of the Manager of Cemeteries was received by Council.

## February 9, 2015 Council Minutes

Moved by: Councillor T. Sheehan

Seconded by: Councillor F. Fata

Resolved that the report of the Manager of Cemeteries dated 2015 02 09 concerning Mausoleum Phase XIV be received and that Council approve the construction of Phase XIV of the Mausoleum Master Plan; further that staff be authorized to engage the services of EPOH architects for the planning, registration and tendering of the construction of Phase XIV of the Municipal Mausoleum with funding for the proposed project from the Cemetery Reserve.

**OFFICIALLY READ NOT DEALT WITH**

### 6.19. Pointe des Chenes Campground – Update

The report of the Deputy Commissioner of Public Works and Transportation was received by Council.

Moved by: Councillor S. Myers

Seconded by: Councillor R. Romano

Resolved that the report of the Deputy Commissioner of Public Works and Transportation dated 2015 02 09 concerning Pointe des Chenes Campground – Update be accepted and Council authorize staff to negotiate a new five (5) year agreement with the Lions Club based on the key terms stated therein, with the intent to minimize the City's annual expenses at the campground.

**Postponed**

Recorded Vote	For	Against	Absent/Pecuniary
Mayor C. Provenzano	X		
Councillor S. Butland		X	
Councillor F. Fata	X		
Councillor S. Myers	X		
Councillor J. Krmpotich	X		
Councillor R. Niro		X	
Councillor M. Shoemaker	X		
Councillor R. Romano	X		
Councillor J. Hupponen	X		
Councillor P. Christian		X	
Councillor M. Bruni		X	
Councillor T. Sheehan		X	
Councillor L. Turco		X	

## 7. REPORTS OF CITY DEPARTMENTS, BOARDS AND COMMITTEES

## **7.1. ADMINISTRATION**

### **7.1.1 Recruitment of New Commissioner of Finance and Treasurer**

The report of the Chief Administrative Officer was received by Council.

Moved by: Councillor T. Sheehan

Seconded by: Councillor F. Fata

Resolved that Council authorize the vacancy that will be created out of the announced retirement of Bill Freiburger, Commissioner of Finance and Treasurer, and that such vacancy be filled by way of the selection process described in the City's Guidelines, with the initial steps limited to internal applicants only; further that Council appoints one of its members (Mayor Provenzano) to the Selection Committee to assist in the selection of the next Commissioner of Finance and Treasurer, who will be ultimately appointed by By-Law by City Council on the recommendation of the Chief Administrative Officer.

**Carried**

## **7.2. COMMUNITY SERVICES DEPARTMENT**

## **7.3. ENGINEERING**

### **7.3.1 Port of Algoma – Master Consultant Selection**

The report of the Commissioner of Engineering and Planning was received by Council.

Moved by: Councillor S. Myers

Seconded by: Councillor M. Bruni

Resolved that the report of the Commissioner of Engineering and Planning dated 2015 02 09 be accepted and that Council approve the consulting team of KPMG/AECOM to be retained in carrying out the project, subject to the following condition that:

1. Phase 1 can proceed for an upset limit of \$3,176,945, having a completion target date of October 2015; and
2. Phase 2 can proceed only if the results in Phase 1 indicate a successful 'go forward' action and funding for Phase 3 (implementation/construction) of the expanded harbour is available from the various partners to this project, including the senior levels of government, the private sector and others.

**Carried**

## **7.4. FIRE**

## **7.5. LEGAL**

## **7.6. PLANNING**

## **7.7. PUBLIC WORKS AND TRANSPORTATION**

**7.8. BOARDS AND COMMITTEES**

**8. UNFINISHED BUSINESS, NOTICE OF MOTIONS AND RESOLUTIONS PLACED ON AGENDA BY MEMBERS OF COUNCIL**

**8.1. Heritage Designation Planning Policy**

Moved by: Councillor S. Myers

Seconded by: Councillor T. Sheehan

Whereas City Council recently dealt with an engineering matter that revealed the absence of a Heritage Designation Planning Policy for identified districts or neighbourhoods within the City; and

Whereas the *Ontario Heritage Act* enables municipalities to designate the whole or any part of a community as a heritage conservation district to protect and enhance groups of properties or neighbourhoods that collectively give an area special character;

Now Therefore Be It Resolved that the City Planning Department be requested to report back to City Council and

1. provide information as to the process involved to designate a neighborhood;
2. outline any additional costs to introduce this policy into the City planning process;
3. consult with the Municipal Heritage Committee appointed by City Council as to the value in adding this step to our planning process.

**Carried**

**8.2. Electronic Recording of Closed Council Meetings**

Moved by: Councillor M. Shoemaker

Seconded by: Councillor J. Hupponen

Whereas since January 1st 2008, citizens of Ontario have had the right to request that the Ontario Ombudsman investigate closed municipal meetings that they believe may have contravened *The Municipal Act 2001* or municipal procedural bylaws; and

Whereas the Office of the Ontario Ombudsman has recommended that municipalities electronically record closed meetings; and

Whereas electronic records are more complete, definitive and less subject to dispute than written minutes and/or spoken recollections; and

Whereas in the event of a complaint or request to investigate a closed meeting, the availability of an electronic record would provide an accessible and complete account of the meeting, reduce the time, expense and number of interviews needed to conduct the investigation, and lead to faster decisions, recommendations and complaint resolutions;

Now Therefore Be It Resolved that effective March 1, 2015, all closed sessions of meetings of Sault Ste. Marie City Council shall be recorded using digital audio-video recording technology and that the City Clerk's department shall be made responsible for the care and retention of the resulting records.

**Carried**

Recorded	Vote	For	Against	Absent/Pecuniary
Mayor C. Provenzano		X		
Councillor S. Butland		X		
Councillor F. Fata		X		
Councillor S. Myers		X		
Councillor J. Krmpotich		X		
Councillor R. Niro		X		
Councillor M. Shoemaker		X		
Councillor R. Romano		X		
Councillor J. Hupponen		X		
Councillor P. Christian		X		
Councillor M. Bruni		X		
Councillor T. Sheehan		X		
Councillor L. Turco		X		

### **8.3. LED Streetlights**

Moved by: Councillor S. Butland

Seconded by: Councillor P. Christian

Whereas 95 Ontario cities have committed to LED street light conversion and another 30 – 40 are in various stages of implementing the conversion; and

Whereas City costs of energy and maintenance have risen by over \$700,000 this past year; and

Whereas there seemingly are considerable savings in energy consumption and a 50 – 70% reduction in maintenance costs; and

Whereas there is presently in place from Independent Electrical Systems Operators (IESO) an incentive to assist in financing the implementation;

Now Therefore Be It Resolved that the President and CEO of PUC Inc. be requested to attend the meeting of Council on February 23, 2015 with plans of implementation for conversion or provide reasons for not proceeding.

**Carried**

### **8.4. Appointments to Boards and Committees**

Moved by: Councillor R. Romano

Seconded by: Councillor J. Krmpotich

Whereas the policy that governs City Council appointments to boards and committees (A-III-1) is dated November 1, 1982 and has not been updated since; and

Whereas the policy specifically prescribes and requires that City Council will make the appointments to boards and committees in closed session; and

Whereas the policy is silent on whether City Council could or should make appointments or endorsements to share capital corporation boards or any boards and committees that are otherwise private operations or enterprises; and

Whereas the current policy is outdated and does not ensure that City Council makes its appointments openly and transparently; and

Whereas it is good practice to update City Council policy and procedure regularly in order to ensure that City Council is employing best practices;

Now Therefore Be It Resolved that:

1. A Committee be struck consisting of two City Councillors (Councillors Shoemaker and Romano) and the City Clerk to review the appointments policy, research current and best practices as used by other municipalities and redraft the policy in accord with those current and best practices for City Council's consideration and approval; and
2. That the Committee ensure that the policy brought to City Council for review and approval proposes an open and transparent boards and committee appointment process; and
3. That the Committee ensure that the policy brought to City Council for review and approval canvasses and outlines the scope of City Council's authority to make appointments to boards and committees including appointments to or endorsements of directors to share capital corporation boards or any boards and committees that are otherwise private operations or enterprises; and
4. In the meantime, and while City Council awaits the provision of the policy for its review and approval, any appointments to boards and committees made by Council shall be made in an open Council session;
5. In the meantime, and while City Council awaits the provision of the policy for its review and approval, no appointments or endorsements to private or share capital boards shall be made by Council.

**Carried**

## **8.5. Crowdfunding**

Moved by: Councillor T. Sheehan

Seconded by: Councillor J. Hupponen

Whereas crowdfunding is the practice of funding a project or venture by raising monetary contributions from a large number of people, typically via the Internet; and

Whereas one early-stage equity expert described it as "the practice of raising funds from two or more people over the Internet towards a common service, project, product, investment, cause, and experience; and

Whereas the crowdfunding industry is exploding with entrepreneurs, investors, portal operators, third party service providers and experts from around the world who are all jockeying for position to take advantage of a promising and brand new fundraising channel for Small Medium Enterprises ( SMEs) and creative or social projects; and

Whereas the crowdfunding model is fueled by three types of actors: the project initiator who proposes the idea and/or project to be funded; individuals or groups who support the idea; and a moderating organization (the "platform") that brings the parties together to launch the idea; and

Whereas in 2013, the crowdfunding industry grew to be over \$5.1 billion worldwide;  
Now Therefore Be It Resolved that City Council request a report from the Innovation Centre in partnership with the Economic Development Corporation on how a strategy can be developed to improve crowdfunding opportunities that will strengthen new and existing private/public ventures in Sault Ste. Marie.

**Carried**

#### **8.6. Airport Road/Base Line Intersection**

Moved by: Councillor R. Romano

Seconded by: Councillor J. Krmpotich

Whereas the yellow flashing light located at the intersection of Baseline and Airport Road, in Sault Ste. Marie, Ontario has been removed by PWT, due to an operational failure of the said light, in or about October of 2014; and

Whereas the said light was placed at the said intersection on or about the Fall/Winter of 1958/1959 at the direction of the then Township of Korah, which was ultimately amalgamated into the City of Sault Ste. Marie on January 1, 1965; and

Whereas the decisions of the Council of the Township of Korah would have been grandfathered into the City of Sault Ste. Marie; and

Whereas the said light was determined by the then Council of the Township of Korah in or about the Fall/Winter of 1958/1959, to have been necessary in order to alleviate/minimize the safety concerns of motorists traveling through the said intersection; and

Whereas the said intersection was formerly the intersection of Baseline and Point Aux Pins Road; and

Whereas the said decision of the then Township of Korah was prompted following a fatal motor vehicle collision which occurred on July 25, 1958, where the late Ms. Darcy Gartshore lost her life; and

Whereas it was determined by the said Council, at that time, that the geography of the said intersection was such that it is a significant risk to the safety of motorists traveling through said intersection given that the intersection is located within a valley which makes it difficult for motorists on the now Airport Road to see traffic from Baseline, which traffic is traveling through or onto Airport Road, and vice versa, especially during times of inclement weather; and

Whereas it was determined by the then Township of Korah, that a flashing yellow light hanging above the said intersection would alleviate/minimize the said risk, by providing notice of the said intersection to motorists of both Baseline and the now Airport Road; and

Whereas the removal of the said light on or about October of 2014, has resulted in numerous complaints and concerns that have been voiced through numerous telephone calls and

correspondence, by residents of Sault Ste. Marie and the Township of Prince; and Whereas the Township of Prince supports the said light to be replaced immediately or as soon thereafter as is reasonably practicable; and

Whereas this Council passed a resolution on January 26, 2015, to have a study prepared with respect to the necessity of having the said light at the said intersection; and

Whereas that study has not yet been completed; and

Whereas the said study has already been commissioned and will still be necessary in order to provide the Council with a detailed assessment and appreciation of the said intersection and any other potential hazards or concerns that ought to be addressed with respect to it; and

Whereas it is not necessary that the said study be completed before this Council make a decision with respect to the replacement of the said light at the said intersection or a different type of lighting system that would provide the same level of notice to motorists as the former yellow flashing light had provided;

Now Therefore Be It Resolved that this Council immediately make all necessary arrangements to ensure that a replacement light be installed at the said intersection immediately or as soon thereafter as is reasonably practicable, in order to avoid any further accidents and to promote public safety on our roads in Sault Ste. Marie; and

Further that if the same light is no longer available to be placed at the said intersection that, a different lighting system be placed at the said intersection, to provide motorists, both northbound and southbound on Airport Road and motorists both eastbound and westbound on Baseline with proper and adequate notice of the said intersection, immediately or as soon thereafter as is reasonably practicable, in order to avoid any further accidents and to promote public safety on our roads in Sault Ste. Marie.

**Carried**

**9. COMMITTEE OF THE WHOLE FOR THE PURPOSE OF SUCH MATTERS AS ARE REFERRED TO IT BY THE COUNCIL BY RESOLUTION**

**10. ADOPTION OF REPORT OF THE COMMITTEE OF THE WHOLE**

**11. CONSIDERATION AND PASSING OF BY- LAWS**

Moved by: Councillor S. Myers

Seconded by: Councillor F. Fata

Resolved that all By-laws under item 11 of the Agenda under date 2015 02 09 be approved save and except By-laws 2015-35, 2015-36, 2015-37 and 2015-38.

**Carried**

**11.1. By-laws before Council TO BE PASSED which do not require more than a simple majority**

**11.1.1 By-law 2015-8 (Easement) 59 Creery (McCoull)**

Moved by: Councillor S. Myers

Seconded by: Councillor F. Fata

Resolved that By-law 2015-8 being a by-law to authorize the acquisition of an Easement by the City from Robert Gordon McCoull and Crystal McCoull, over a portion of their property at 59 Creery Avenue, being legally described as PCL 9154 SEC AWS; LT 2 PL M381 ST. MARY'S (PIN 31523-0123 LT) for a sanitary sewer be passed in open Council this 9th day of February, 2015.

**Carried**

**11.1.2 By-law 2015-27 (Agreement) Cambrian College**

Moved by: Councillor S. Myers

Seconded by: Councillor F. Fata

Resolved that By-law 2015-27 being a by-law to authorize the execution of an agreement between the City and Cambrian College to continue a preceptor partnership with Cambrian College where they place students with City paramedics to complete their program requirements be passed in open Council this 9th day of February, 2015.

**Carried**

**11.1.3 By-law 2015-28 (Agreement) Northern College**

Moved by: Councillor S. Myers

Seconded by: Councillor F. Fata

Resolved that By-law 2015-28 being a by-law to authorize the execution of a Clinical Placement Agreement between the City and Northern College to allow the continuance of a preceptor partnership with Northern College where they place students with City paramedics to complete their program requirements be passed in open Council this 9th day of February, 2015.

**Carried**

**11.1.4 By-law 2015-32 (Building) Amend Schedule "A" By-law 2008-148**

Moved by: Councillor S. Myers

Seconded by: Councillor F. Fata

Resolved that By-law 2015-32 being a by-law to amend Schedule "A" to By-law 2008-148 (a by-law respecting construction, demolition and change of use permits, inspections and related matters for the City of Sault Ste. Marie) be passed in open Council this 9th day of February, 2015.

**Carried**

**11.1.5 By-law 2015-34 (Agreement) Port of Algoma Inc.**

Moved by: Councillor S. Myers

Seconded by: Councillor F. Fata

Resolved that By-law 2015-34 being a by-law to authorize the execution of an agreement dated February 9, 2015 between the City and Port of Algoma Inc. for a License Agreement to lease a portion of the third floor of the City owned building at 99 Foster Drive be passed in open Council this 9th day of February, 2015.

**Carried**

**11.1.7 By-law 2015-36 (Agreement) Algoma Common Elements Condominium Corporation No. 21**

Councillor M. Shoemaker declared a conflict on this item. (Applicant is a client)

Moved by: Councillor S. Myers

Seconded by: Councillor F. Fata

Resolved that By-law 2015-36 being a by-law to authorize the execution of a Licence to Occupy City Property Agreement between the City and Algoma Common Elements Condominium Corporation No. 21 for the use of lands located at the intersection of Fourth Line West and Crimson Ridge Drive, municipally known as Fourth Line West for a period of five (5) years commencing February 1, 2015 and ending on January 31, 2020 be passed in open Council this 9th day of February, 2015.

**Carried**

**11.1.8 By-law 2015-37 (Agreement) 882206 Ontario Inc.**

Mayor C. Provenzano declared a conflict on this item. (Lessee is a client)

Mayor Provenzano vacated the Chair due to his pecuniary interest. Councillor T. Sheehan took the chair as Acting Mayor.

Moved by: Councillor S. Myers

Seconded by: Councillor F. Fata

Resolved that By-law 2015-37 being a by-law to authorize the execution of an agreement between the City and 882206 Ontario Inc. to renew the lease for the Pro Shop at the John Rhodes Community Centre for a term of five (5) years commencing March 1, 2015 and expiring February 28, 2020 be passed in open Council this 9th day of February, 2015.

**Carried**

**11.1.9 By-law 2015-38 (Zoning) 65 Northern Avenue East (Stubbs/Bressan)**

Councillor M. Bruni declared a conflict on this item. (Uncle of one of the applicants)

Moved by: Councillor S. Myers

Seconded by: Councillor F. Fata

Resolved that By-law 2015-38 being a by-law to amend Sault Ste. Marie Zoning By-laws 2005-150 and 2005-151 concerning lands located at 65 Northern Avenue East (Stubbs/Bressan) be passed in open Council this 9th day of February, 2015.

**Carried**

**11.1.6 By-law 2015-35 (Property Acquisition) Base Line**

Moved by: Councillor S. Myers

Seconded by: Councillor F. Fata

Resolved that By-law 2015-35 being a by-law to authorize the City's purchase of a portion of property located at civic 1915 Base Line, Sault Ste. Marie be passed in open Council this 9th day of February, 2015.

**OFFICIALLY READ NOT DEALT WITH**

**11.2. By-laws before Council for FIRST and SECOND reading which do not require more than a simple majority**

**11.3. By-laws before Council for THIRD reading which do not require more than a simple majority**

**12. QUESTIONS BY, NEW BUSINESS FROM, OR ADDRESSES BY MEMBERS OF COUNCIL CONCERNING MATTERS NOT OTHERWISE ON THE AGENDA**

**13. CLOSED SESSION**

**14. ADJOURNMENT**

Moved by: Councillor T. Sheehan

Seconded by: Councillor F. Fata

Resolved that this Council now adjourn.

**Carried**

---

Mayor

---

Deputy City Clerk



# SAULT STE MARIE POLICE SERVICE



## Presentation to City Council 2015 BUDGET PRESENTATION



**COMMITTED TO EXELLENCE IN OUR COMMUNITY**  
Page 27 of 383





# 2015 BUDGET PRESENTATION

## Factors Affecting Costs of Policing Today

- Technology
- Downloading of Services
- Adequacy Standards/Regulations
- Court Requirements (Charter & Case Law)
- Complexity of Police Investigations (Specialized Units/Court)
- Training
- Infrastructure
- Contract/Arbitration Settlements



**COMMITTED TO EXELLENCE IN OUR COMMUNITY**  
Page 28 of 383





# 2015 BUDGET PRESENTATION

## Background

- Considerable discussion surrounding the perceived increased costs of policing
  - 2012 Police Budget was **19.86%** of total City Budget
  - 2013 Police Budget was **19.97%** of total City Budget
  - 2014 Police Budget was **19.69%** of total City Budget



**COMMITTED TO EXELLENCE IN OUR COMMUNITY**  
Page 29 of 383





# 2015 BUDGET PRESENTATION

## 2015 Budget:

- 2015 presented some challenges to come in at zero percent budget increase
- In 2013/2014 we implemented changes that had an impact on our 2015 budget
  - Drug Enforcement Unit re-location costs
  - Community Mobilization project on Gore Street
  - Mobile Data Terminals in all Patrol vehicles
  - Server expansion and updates due to system overload and failures



**COMMITTED TO EXELLENCE IN OUR COMMUNITY**  
Page 30 of 383





# 2015 BUDGET PRESENTATION

## 2015 Budget Factors:

- 83% of annual police budget is salaries/benefits
- 2015 is a year for bargaining collective agreements within service
- Reportable Calls for Service down 8.2%
- Non-reportable Calls for Service up 11.1%
- Overall Increase in Calls for Service 1.4%



**COMMITTED TO EXELLENCE IN OUR COMMUNITY**  
Page 31 of 383





# 2015 BUDGET PRESENTATION

## 2015 Budget Components

- *Salaries and Benefits* - \$22,049,350.00
  - 2% increase
- *Operating Expenditures* - \$3,168,775.00
  - 1.2% increase
- *Capital Expenditures* - \$394,710.00
  - 5.6% increase (aging infrastructure)

**Average Cost Per Household**  
\$744.41

**Proposed Increase Per Household**  
\$14.27

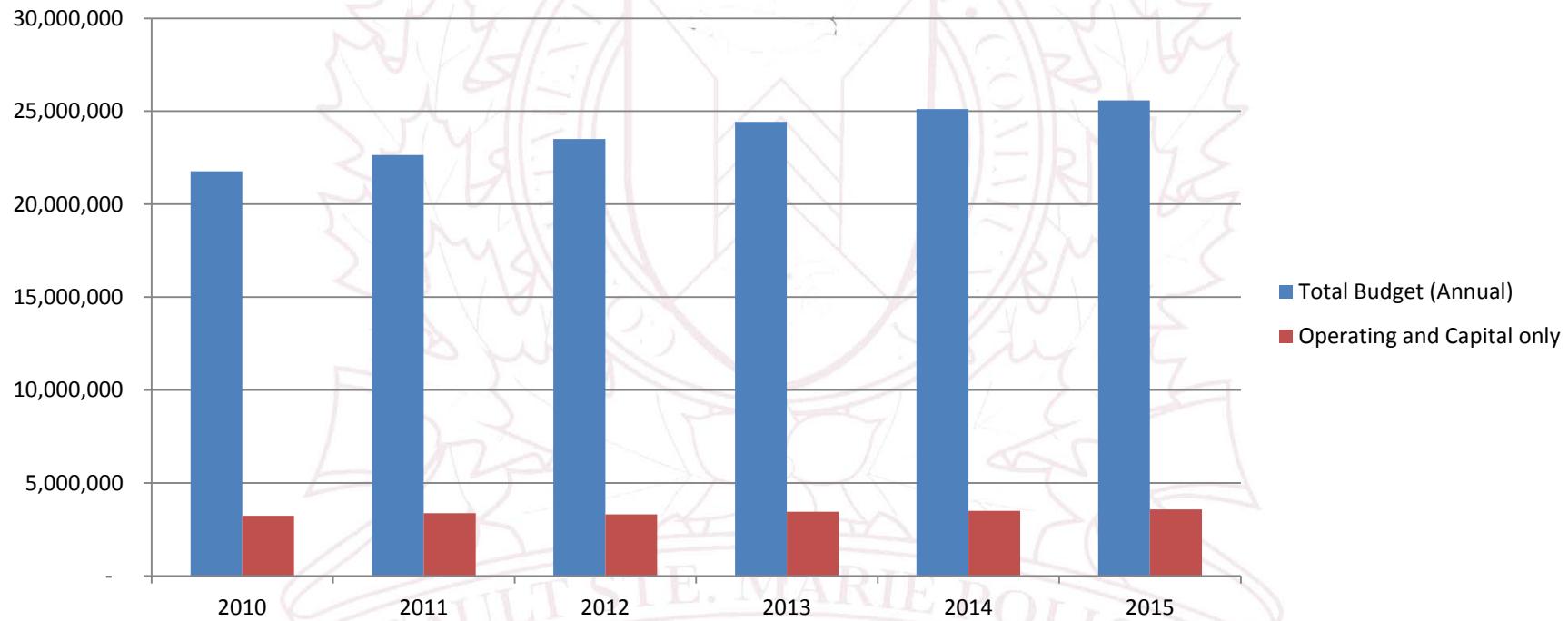


**COMMITTED TO EXELLENCE IN OUR COMMUNITY**  
Page 32 of 383





# 2015 BUDGET PRESENTATION

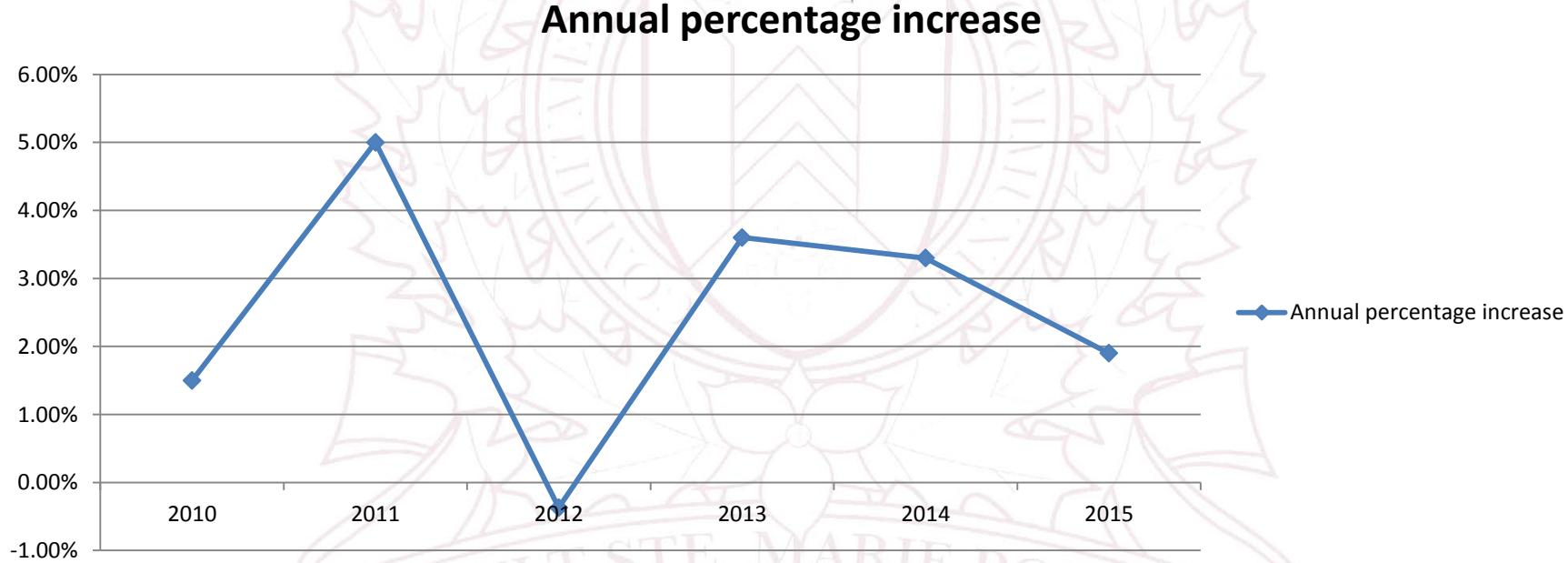


**COMMITTED TO EXELLENCE IN OUR COMMUNITY**  
Page 33 of 383





# 2015 BUDGET PRESENTATION



**COMMITTED TO EXELLENCE IN OUR COMMUNITY**  
Page 34 of 383





# 2015 BUDGET PRESENTATION

UNAVOIDABLE	CRITICAL	CONTRACTED
MDT's \$38,800	Voicemail system \$16,000	Proposed Forensic re-location \$40,000
DEU (Drug) Office \$18,000	Audit system/software \$10,000	
VMWARE/Server load \$17,000		



**COMMITTED TO EXELLENCE IN OUR COMMUNITY**  
Page 35 of 383





# 2015 BUDGET PRESENTATION

## Strategies to Address Policing Costs

- Civilianization of Positions – HR Supervisor vs Administration Insp.
- Strategic Deployment of Resources to Address Overtime Costs
- Framework for Community Well-being and Safety Planning
- Community Policing Model on Gore Street
- “Rapid Response Situation Table”
- Upcoming Collective Bargaining Process – contractual requirements



**COMMITTED TO EXELLENCE IN OUR COMMUNITY**  
Page 36 of 383





# 2015 BUDGET PRESENTATION

## Future:

- Public Expectations
- How do we Measure Performance?
- “Future of Policing” Discussions
- Coordinated Provincial Bargaining Strategy
- Aging Infrastructure



**COMMITTED TO EXELLENCE IN OUR COMMUNITY**  
Page 37 of 383



Joseph M. Fratesi, B.A., J.D. (LL.B.)  
Chief Administrative Officer



99 Foster Drive  
P.O. Box 580, Civic Centre  
Sault Ste. Marie, Ontario  
Canada P6A 5N1  
(705) 759-5347  
(705) 759-5952 (Fax)  
E-Mail:  
[j.fratesi@cityssm.on.ca](mailto:j.fratesi@cityssm.on.ca)  
[b.berlingieri@cityssm.on.ca](mailto:b.berlingieri@cityssm.on.ca)

2015 02 23

Mayor Christian Provenzano and  
Members of City Council

**RE: STAFF TRAVEL REQUESTS**

Dear Council:

The following staff travel requests are presented to you for approval:

1. **Pete Schell – Engineering & Planning – Building Division**  
OBOA Annual Meeting & Training Sessions  
October 5 - 7, 2015  
Toronto, ON  
Estimated total cost to the City - \$ 2,025.42  
Estimated net cost to the City - \$ 2,025.42
2. **Nicole Grisdale – Provincial Offences Office**  
POA Finance Workshop  
June 16, 2015 – June 18, 2015  
Parry Sound, ON  
Estimated total cost to the City - \$ 1,731.75  
Estimated net cost to the City - \$ 1,731.75
3. **Mike Figliola – Fire Services**  
Meeting – Ontario Fire Marshall & Fire Chiefs  
February 26, 2015 – February 27, 2015  
Toronto, ON  
Estimated total cost to the City - \$ 298.75  
Estimated net cost to the City - \$ 298.75

Yours truly,

JMF: bb

Joseph M. Fratesi  
Chief Administrative Officer



## COUNCIL REPORT

February 23, 2015

**TO:** Mayor Christian Provenzano and Members of City Council  
**AUTHOR:** Tim Gowans, Manager of Purchasing  
**DEPARTMENT:** Finance Department  
**RE:** Tender for Cisco UCS Mini Server System & Nimble SAN Storage System (2015IA01T)

---

### PURPOSE

Attached hereto for your information and consideration is a summary of the tenders received for the supply, delivery and installation of a Cisco Mini Server System and Nimble SAN Storage System as required by the City's Information Technology Division.

### BACKGROUND

The tender was publicly advertised and tender documents mailed to all firms on our bidders list. A public opening of the tenders received was held February 11, 2015 with Councillor Susan Myers representing City Council.

### ANALYSIS

The tenders received have been thoroughly evaluated and reviewed with Mr. Frank Coccimiglio, Manager of Information Technology, and the low tendered prices, meeting specifications, have been identified on the attached summary.

### IMPACT

Funding for this equipment comes from the 2013 approved Capital from Current Budget allocation for the Document Management Project (Balance \$27,801.60) and the 2014 Capital from Current Budget allocation for the Enhanced I.T. Back Up Plan (Balance \$50,000.00).

### STRATEGIC PLAN

The acquisition and installation of this equipment comprises a portion of the requirements to Implement a Document Management System for the City – 2011-2014 Corporate Strategic Plan; Strategic Direction 2; Delivering Excellent Services; Objective 2B – Process Management.

**RECOMMENDATION**

Resolved that the report of the Manager of Purchasing dated 2015 02 23 be received and the recommendation that the tender submitted by CDW to supply, deliver and install a Cisco UCS Mini Server System and Nimble SAN Storage System, as required by the Information Technology Division, at their low tendered price of \$74,682.28 plus H.S.T., be approved.

Respectfully submitted,



Tim Gowans  
Manager of Purchasing

Recommended for approval,



W. Freiburger, CPA, CMA  
Commissioner of Finance & Treasurer

TG:nt

attachment

**FINANCE DEPARTMENT  
PURCHASING DIVISION  
Budget Amount: \$77,000.00**

**Received: February 11, 2015  
File: 2015IA01T**

**SUMMARY OF TENDERS  
CISCO UCS MINI SERVER SYSTEM AND NIMBLE SAN STORAGE SYSTEM**

<b><u>Firm</u></b>	<b><u>Components</u></b>	<b><u>Delivery</u></b>	<b><u>Maintenace Agreement</u></b>	<b><u>Total Tendered Price (H.S.T. extra)</u></b>	<b><u>Remarks</u></b>
CDW Canada Etobicoke, ON	CISCO UCS Mini Server w/additional memory Nimble SAN Storage	20 w/days	One (1) Year  Three (3) Years	\$74,682.28	Meets specifications Includes 40 hours of remote installation

Note: The low tendered price, meeting specifications, is boxed above.

Although only one tender was received, it is deemed to be fair and equitable.

The total cost to the City will be \$75,996.69 including the non-refundable portion of the H.S.T.

It is my recommendation that the tendered price submitted by CDW Canada, be accepted.

Tim Gowans  
Manager of Purchasing

## Outstanding Council Resolutions

<b>Meeting Date</b>	<b>Department</b>	<b>Agenda Item</b>	<b>Assigned To</b>	<b>Due Date</b>	<b>Comments</b>	<b>Description</b>	<b>Sponsored By</b>
11-May-09	Police; PWT	Safety measures – Great Northern Road	Police; PWT	Dec-15	Litigation pending	Report on increasing safety measures, possibly lowering speed limit on Great Northern Road from Fifth Line into City	P. Mick & L. Turco
9-May-11	PWT	Parking requirements – Kohler & Simpson Streets, Leo, McGregor & Riverview Avenue	Larry Girardi	Sep-15	After construction is complete	Review of parking requirements – public consultation and report back	M. Bruni & T. Sheehan
14-May-12	Engineering	Heritage Drive	Jerry Dolcetti	Jun-15		Report on petition requesting renaming an existing street to Heritage Drive	F. Fata & T. Sheehan
16-Jul-12	CSD (PRAC), Legal, Police	Motorized devices on Hub Trail	Nick Apostle; Nuala Kenny; Police	April 2015 (interim)		Report on what mobility devices and other motorized vehicles should be allowed access to the Hub Trail	S. Butland & L. Turco
19-Nov-12	EDC	Film and television production	Andrew Ross	Oct-14		Report – film and television production in Sault Ste. Marie	T. Sheehan & L. Turco
4-Feb-13	EDC	International marketplace	Tom Dodds	Oct-14		Preliminary study on possible development of an international marketplace on or near the waterfront, in proximity to the downtown core	P. Christian & S. Butland
4-Mar-13	PWT	Traffic light at Kohler and Queen Streets	Larry Girardi	June 2015 (interim)	After construction of condominium is complete	Report – traffic light at Kohler and Queen Streets	T. Sheehan & S. Butland
9-Sep-13	PWT	Multi-residential recycling	Larry Girardi	June 2015 (interim)		Review of by-law 2004-68 re: increasing cut-off of 5 units or more for multi-residential recycling	R. Niro & S. Butland
23-Sep-13	CSD	Monetary and in-kind contributions for parks	Nick Apostle	Feb-15		Recommendations as to how a policy for monetary and in-kind contributions for parks could be developed	T. Sheehan & P. Christian
18-Feb-14	EDC	Economic Development Corporation Staffing Models	Tom Dodds	Jan-15		Report required from EDC re: EDC staffing models	J. Krmpotich & F. Fata
9-Jun-14	Clerk's	Algoma University	Malcolm White, Rachel Tyczinski	Mar-15	Clerks	Report addressing City representation on Algoma U Board of Directors	J. Krmpotich & S. Butland
23-Jun-14	Engineering	Ontario Avenue Flooding	Jerry Dolcetti, Benita Brogno	Apr-15		Report regarding issues around storm water runoff from Summit Avenue to Ontario Avenue	S. Myers & R. Niro

## Outstanding Council Resolutions

14-Jul-14 PWT	Queensgate Boulevard Speed Bumps	Larry Girardi	Oct-15 Pending installation of services for extension of road into new subdivision	Investigate criteria to install speed bumps on Queensgate Blvd. S. Butland & P. Christian
8-Sep-14 Library	East End Library - John Rhodes Community Centre	Roxanne Rissanen	Sep-15	Report regarding mordernization and enhancement of library services in the east end. S. Myers & T. Sheehan
8-Sep-14 Legal	Taxi Licences	Nuala Kenny	Jun-15	Review current taxi by-law and report back required amendments.
8-Sep-14 Engineering	Gateway Site Parkland	Jerry Dolcetti	Sep-15	Review and report concerning possible timelines and funding for Gateway site parkland development. (Report to include timelines and funding for an accessible pathway.) P. Mick & R. Niro
29-Sep-14 Engineering	Sault Ste. Marie Harbour Improvement Project	Tom Dodds, Jerry Dolcetti	Mar-15	Report regarding regional harbour – assessment and recommendations on the economic development and employment impacts, opportunities and benefits resulting from establishing regional harbour, etc. S. Myers & P. Christian
29-Sep-14 PWT	John Rowswell Hub Trail Snow Removal	Larry Girardi	May-15	Report to Council regarding costs associated with Hub Trail snow removal. S. Myers & T. Sheehan
29-Sep-14 PWT	Tree Preservation	Don McConnell	Sep-15	Report to Council regarding tree preservation policy.
29-Sep-14 Planning	Student Housing Plan	Don McConnell	Sep-15	Research how other communities address student housing and how to implement comprehensive student housing plan T. Sheehan & S. Myers
26-Jan-15 PWT	Base Line & Airport Road Flashing Light	Larry Girardi	Mar-15	Report to Council – study as to whether or not a yellow flashing light is required on Airport Road R. Romano & J. Krmpotich
26-Jan-15 PWT	Pine Street – Pleasant Drive	Larry Girardi	May-15	Report as to the need for additional traffic measures on Pine Street between Northern Avenue and McNabb Street M. Shoemaker & J. Hupponen

## Outstanding Council Resolutions

26-Jan-15	PWT	Sidewalk snow removal	Larry Girardi	Sep-15	Report outlining possible efficiencies within sidewalk snow removal operations; and review current policies and those of other municipalities and recommend a set of criteria that can be used in the future to determine which city sidewalks warrant snow removal.	P. Christian & M. Bruni
9-Feb-15	Planning	Heritage Designation Planning Policy	Don McConnell		Report on process to designate a neighbourhood as a heritage conservation district	S. Myers & T. Sheehan
9-Feb-15	EDC/Innovation Centre	Crowdfunding	Tom Vair, Tom Dodds		Report on a strategy to improve crowdfunding opportunities	T. Sheehan & J. Hupponen



## COUNCIL REPORT

February 23, 2015

**TO:** Mayor Christian Provenzano and Members of City Council  
**AUTHOR:** Nicholas J. Apostle, Commissioner Community Services  
**DEPARTMENT:** Community Services Department  
**RE:** Pump Track at Esposito Park

---

### PURPOSE

The purpose of this report is to update Council on this project.

### BACKGROUND

The Pump Track project has been in the development stage for just over two years.

The estimated cost of the project, as determined by the consultant, Kresin Engineering, is \$250,000.

In June 2013, Council earmarked \$50,000. towards the project and in April 2014 a further \$125,000. was allocated.

Private sector funding has been confirmed in the amount of \$75,000.

It was anticipated that the project would proceed in 2014; however the reconstruction of the aqueduct which runs through the park meant that it was postponed. Part way through the reconstruction of the aqueduct it was realized that additional work would be required resulting in the site being under construction for all of 2014 and possibly 2015.

In late 2014, the Committee was preparing to submit a grant application to the Ontario Trillium Foundation (OTF) when it was announced that the OTF was revamping their entire grant application structure and were not taking applications until 2015.

We have recently learned that the OTF expects the new application criteria and process to be released in late spring or early summer this year with

**Pump Track at Esposito Park**

**February 23, 2015**

**Page 2.**

approvals/denials being communicated in late summer or early fall. This process essentially means that the project will not proceed this summer.

**ANALYSIS**

Ontario Trillium Foundation staff have advised that if construction commences prior to granting decisions, then we will not be able to recoup those associated expenses and further, it is very likely that our application would not be considered.

**IMPACT**

The Ontario Trillium Foundation staff have been verbally apprised of the project and have stated that the project fits the granting criteria. Therefore, it is prudent for an application to be made to the OTF even if it means the project will be delayed.

**STRATEGIC PLAN**

This project is identified in the Corporate Strategic Plan - Strategic Direction 3: Enhancing Quality of Life - Objective 3A – Recreational/Cultural Infrastructure.

**RECOMMENDATION**

It is therefore recommended that Council take the following action:

Resolved that the report of the Commissioner of Community Services concerning the update to the Pump Track at Esposito Park be received as information.

Respectfully submitted,



Nicholas J. Apostle  
Commissioner Community Services



## COUNCIL REPORT

February 23, 2015

**TO:** Mayor Christian Provenzano and Members of City Council  
**AUTHOR:** Nicholas J. Apostle, Commissioner Community Services  
**DEPARTMENT:** Community Services Department  
**RE:** Donation Policy – City Parks and Recreation

---

### PURPOSE

This report is in response to the following resolution:

*Whereas Sault Ste. Marie's public parks are thoroughly enjoyed by all of its citizens; and Whereas the City of Sault Ste. Marie is approached with various offers of donations for public parks individuals, private businesses and public sector organizations; Therefore Be It Resolved that City Council requests that appropriate City Staff advise how a policy could be developed that would cover both monetary and in-kind donations for our beautiful public parks.*

### BACKGROUND

The Community Services Department has experience in dealing with varied requests to donate, with the most recent request being to donate funds for playground equipment at MacDonald Park.

Numerous meetings were held with various City departments to develop a policy that addresses a process for dealing with various forms of requests.

A recommended policy is attached for Council's consideration.

### ANALYSIS

This section does not apply to this matter.

### IMPACT

This section does not apply to this matter.

**STRATEGIC PLAN**

This matter is not specifically addressed in the Corporate Strategic Plan.

**RECOMMENDATION**

It is therefore recommended that Council take the following action:

Resolved that the report of the Commissioner of Community Services concerning the Donation Policy – City Parks and Recreation be received and the recommendation to implement the policy be approved.

Respectfully submitted,



Nicholas J. Apostle  
Commissioner Community Services

attachment



# INFORMATION MANUAL

D-IV-34

---

<b>Subject:</b>	<b>DONATION POLICY – CITY PARKS AND RECREATION</b>
<b>Department/Division:</b>	Community Services Department & Public Works and Transportation Department
<b>Source:</b>	Commissioner/Manager of Recreation & Culture
<b>Date:</b>	2015 02 23

---

Page: 1 of 2

<b>PURPOSE</b>	The following policy guides the acceptance and administration of monetary and in-kind donations made to the Corporation of the City of Sault Ste. Marie in support of Parks and Recreation.
<b>PROCEDURE</b>	A Donor is required to provide a written submission to the Commissioner of Community Services Department detailing their proposed donation including relevant background information.  A meeting will be co-ordinated with the donor and appropriate City staff to review and clarify details of the donation and parameters outlined in the City's Donation Policy.
<b>PROCESS</b>	A time line will be developed by City staff detailing the review process based on the information gathered during the meeting between City staff and the Donor.  Community Services Department staff will meet with appropriate City Departments and Committees of Council regarding the project details. These departments could include: Public Works and Transportation Engineering and Planning Legal Finance Parks & Recreation Advisory Committee  Additional consultation may be necessary depending on the nature of the donation such as community open houses. These consultation sessions will be identified in the time line.
	It is understood that some donations could create future expenses to the Corporation. This will be identified during the assessment stages. Projects that have ongoing expenses may be categorized as partnerships requiring cost sharing agreements with the donor. Projects that commit the City to ongoing expenses will require the approval of City Council.



# INFORMATION MANUAL

D-IV-34

**Subject:** DONATION POLICY – CITY PARKS AND RECREATION

**Department/Division:** Community Services Department & Public Works and Transportation Department

**Source:** Commissioner/Manager of Recreation & Culture

**Date:** 2015 02 23

Page: 2 of 2

## DONATION OPTIONS

Donors may choose to give to parks and recreation for a variety of purposes. Programs are available to donate in memory of a loved one which include:

- Commemorative Bench at Bellevue Park
- Rose Garden at Bellevue Park
- Commemorative Tree at the Cemetery
- Commemorative Brick at the Old Stone House

Donors may also choose to direct monetary or in-kind donations to specific City projects that support the goals and objectives of the Parks and Recreation Master Strategy or other Parks and Recreation projects approved by City Council.

If a financial donation is provided to the City of Sault Ste. Marie for general Recreation and Parks usage it will be directed to the Parks and Recreation Reserve Fund for future developments that support the goals and objectives of the Parks and Recreation Master Strategy.

## RECOGNITION

Commemorative donations will be recognized with an inscription of the person(s) to be commemorated on a plaque or inscribed in a brick. Monetary or in-kind donations will be recognized with the donors name inscribed on a plaque at the project site.

## FINAL RECOMMENDATION

The Commissioner of Community Services or designate will submit a report with recommendations to City Council for final approval. The donor will receive a copy of the report.



## COUNCIL REPORT

February 23, 2015

**TO:** Mayor Christian Provenzano and Members of City Council  
**AUTHOR:** Madison Zuppa, Environmental Initiatives Coordinator  
**DEPARTMENT:** Engineering and Planning Department  
**RE:** Municipal Environmental Initiatives Committee – Operating Increase Request

---

### PURPOSE

The purpose of this report is to request Council's consideration for an increase of \$50,000 to the Municipal Environmental Initiatives Committee annual operating budget.

### BACKGROUND

The Municipal Environmental Initiatives (Green) Committee was established by Council resolution in September 2007 in an effort to reduce the City of Sault Ste. Marie's corporate carbon footprint. A Terms of Reference was established for the Green Committee that focused primarily on greenhouse gas emission reduction, and subsequent operating costs, related to municipal operations, waste management practices, fleet management, and public/staff awareness.

In 2009, a permanent full-time employee was hired, the Environmental Initiatives Coordinator, to implement the proposed corporate programs and strategies envisioned by the Committee. Given this position was new to the City, a small portion of the budget was dedicated to travel and training to ensure the Environmental Initiatives Coordinator was well informed about new technologies, programs, services and best practices from across the province.

The cost centre has also supported an NOHFC intern and one summer student to provide young people of Sault Ste. Marie a unique opportunity to gain valuable transferable skills for their transition into the workforce. This student assists in the implementation of the annual "Green Days event", which is a corporate environmental education and awareness campaign led by summer students from various Departments across the Corporation.

Seven municipal facilities have been audited through the Green Committee, including Civic Centre, Public Works and Transportation, Fire Hall #1, Fire Hall #2, John Rhodes Community Centre, Bellevue Park Greenhouse, and Bellevue Park Canteen. Many recommendations that resulted from these assessments have been implemented either through the individual facility budgets, the Green Committee budgets or a combination of contributions. Many projects qualify for external funding, including the audits themselves, through Union Gas enerSmart and Ontario Power Authority saveONenergy programs. Projects have included:

- major infrastructure retrofits (i.e. Civic Centre lighting retrofit);
- minor retrofits (i.e. programmable thermostats, aerators and low flow shower heads);
- educational programs that have resulted in policy change, lowered operating costs (i.e. Idle Free Sault Ste. Marie);
- contributed to community beautification (i.e. 20-Minute Makeover);
- improved recycling at city facilities (i.e. super sorter 3-in-1 bins);
- brought in a number of experts on various environmentally related topics (i.e. Gord Miller, Environmental Commissioner of Ontario);
- explore pilot projects to determine if technologies and best practices are locally feasible (i.e. solar powered lights, Paverdeck).

Over the past six years the Green Committee has experienced a great deal of success and many accomplishments with the limited resources available. This includes winning a Community Conservation Award in 2013 for the City's energy conservation initiatives, particularly the environmental initiatives map. The City's Green Committee has been open to developing community partnerships with private, public and non-profit organizations. Sponsorship for events has been sought to reduce costs.

City staff have participated and attended local and regional conferences and tradeshows to showcase the success that has been achieved. In the formative years of the Green Committee much of the focus was on energy management; however, there have been several other endeavours that have been given to the Green Committee and Environmental Initiatives Coordinator to explore and implement, including water conservation and pollution prevention, local food and community gardens, graffiti, and climate change adaptation.

## **ANALYSIS**

In 2014, the City of Sault Ste. Marie was required to complete an Energy Conservation and Demand Management Plan for corporate facilities. Several of these items have been included in the City's Asset Management Plan. To continue to implement these projects, leverage external funding, and maintain the added priorities additional operating funds would realize cost savings. Energy efficient technology and equipment often have higher capital cost; however result in cost savings over the life of the project (i.e. LED wall packs).

Municipal Environmental Initiatives Committee – Operating Increase Request

2015 02 23

Page 3

**IMPACT**

The initial budget allocated to the Municipal Environmental Initiatives Committee in 2008 was \$150,000, which includes staff salary and benefits. In 2015, with salary and benefit increases, the budget is \$179,395. City staff is requesting an increase of \$50,000 to the annual operating budget.

Although the priority areas would change from year to year, the additional funding in 2015 would focus on upgrades to municipal parking lot lighting from high pressure sodium fixtures to LED. If the operating increase request is declined than the proposed energy efficiency project would have to be deferred. With the rising cost of electricity, energy efficiency projects provide an opportunity to avoid increased operating cost and in some instances result in reductions.

As an alternative, Council may want to consider this particular request for LED parking lot lighting under the Capital from Current in 2016 to fund a portion of the project. This would allow staff to commence the project and complete the remainder as funds become available.

**STRATEGIC PLAN**

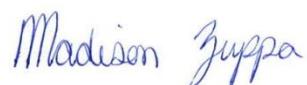
Environmental initiatives were included in the 2011-2014 Corporate Strategic Plan under Strategic Directive 3: Enhancing Quality of Life and Objective 3B Planning for the Future.

**RECOMMENDATION**

It is therefore recommended that Council take the following action:

Resolved that the report of the Environmental Initiatives Coordinator dated 2015 02 23 concerning the Municipal Environmental Initiatives Committee Operating Increase Request be received and that the request be referred to the 2015 budget for consideration.

Respectfully submitted,

  
Madison Zuppa, MES  
Environmental Initiatives Coordinator

Recommended for approval

  
Jerry Dolcetti, RPP  
Commissioner, Engineering & Planning



## COUNCIL REPORT

February 23, 2015

**TO:** Mayor Christian Provenzano & Members of City Council  
**AUTHOR:** Catherine Taddo, P. Eng., Land Development and Environmental Engineer  
**DEPARTMENT:** Engineering and Planning Department  
**RE:** Stormwater Management Master Plan and Guidelines

---

### PURPOSE

The purpose of this report is to advise Council of the completion of the Stormwater Management Master Plan, and obtain approval of the Stormwater Management Guidelines.

### BACKGROUND

The City has held two Public Information Centres, and Council has approved five resolutions related to the above noted work. A summary of the events are as follows:

- **September 24, 2007** – Council approved the principle of hiring of a consultant to conduct a Stormwater Management Study
- **December 15, 2008** – Council approved retaining Dennis (R.V. Anderson) and Wm. R. Walker Engineering/Hydro-Com to conduct the Stormwater Investigative study.
- **March 23, 2009** – Council authorized the Engineering Agreement.
- **December 17, 2009** – The City held a Public Information Centre and presented an overview of the watershed along with stormwater quality and quantity information.
- **June 28, 2010** – Council authorized additional fees related to the Stormwater Management Master Plan.
- **May 19, 2011** – The City held a Public Information Centre and presented the alternative solutions, and the preliminary preferred solution identified as a City-wide approach.
- **September 9, 2013** – Council authorized the Notice of Completion, and commencement of the thirty-day comment period.

## **ANALYSIS**

The thirty-day comment period has concluded. Any comments received were reviewed and where applicable, incorporated into the final document. The final Stormwater Management Master Plan and Guideline document is now complete.

The preferred option is to implement a city wide stormwater approach. The plan includes implementation of a stormwater management guideline, oil grit separators, improved snow disposal sites, education, a point source monitoring plan, improved stormwater conveyance at known problem areas, and retrofitting of existing ponds. The new guidelines and Master Plan sets a framework for consistent stormwater management practices across the City. Please refer to a copy of the guideline which is attached.

## **IMPACT**

The total estimate for proposed works included in the study is approximately \$40,000,000. This value does not include maintenance costs. It is important to note that the City is not being mandated at this point in time to implement all of the works. There is currently no funding mechanism in place for significant stormwater related projects. The City may be required to implement a user-fee program in order to complete many of the projects outlined in the Master Plan.

The impact to the City will include increased capital costs, and maintenance costs. The existing urban only account which is used to construct storm sewers under reconstruction projects is limited. Although sanitary sewer projects are funded through the sanitary sewer surcharge which is a monthly charge to property owners that use municipal water, stormwater does not have a similar funding mechanism. Stormwater infrastructure is currently underfunded through the tax base.

Municipalities are working to resolve stormwater funding issues. In the City of Kitchener for instance, stormwater funding was transferred from property taxes to a user-fee program, where a monthly fee is charged based on property type, and size. This funding model allows dollars to be dedicated specifically to stormwater. It must be recognized that the capital projects recommended in the stormwater management Master Plan cannot be implemented until a funding mechanism is in place.

## **STRATEGIC PLAN**

This activity is linked to Strategic Direction 1, Developing Solid Infrastructure, although it is not specifically identified.

## **RECOMMENDATION**

It is therefore recommended that Council take the following action:

Resolved that the report of the Land Development and Environmental Engineer dated 2015 02 23 be received as information, and the recommendation that the Stormwater Management Guidelines be implemented, be approved.

Stormwater Management Master Plan and Policy

2015 02 23

Page 3

Respectfully submitted,

*C. Taddo*

Catherine Taddo, P. Eng.  
Land Development &  
Environmental Engineer  
Attach.

Recommended for approval,

*Jerry Dolcetti*

Jerry Dolcetti, RPP  
Commissioner  
Engineering & Planning Department

C: Bill Freiburger, Commissioner of Finance/Treasurer

Attach.

## **APPENDIX K**

# **STORMWATER MANAGEMENT GUIDELINES**

Prepared for:

The Corporation of the City of Sault Ste. Marie

Engineering and Planning Department



436 Westmount Avenue Unit 6  
Sudbury Ontario P3A 5Z8 Canada  
Tel 705 560 5555 Fax 705 560 5822  
[www.rvanderson.com](http://www.rvanderson.com)

Prepared for:

The City of Sault Ste. Marie  
Engineering and Planning Department  
Civic Centre, P.O. Box 580, 99 Foster Drive  
Sault Ste. Marie, ON P6A 5N1

Prepared By:

R. V. Anderson Associates Limited  
436 Westmount Avenue, Unit 6  
Sudbury, ON P3A 5Z8

## GLOSSARY

Aquifer:	A geologic formation of which all voids are full of groundwater.
Approval:	The approval of the Commissioner of Engineering and Planning, whose decisions will be final and binding in matters of design and construction. Prior to construction the Ministry of the Environment's Environmental Compliance Approval (ECA) will be required, as necessary.
Assimilative Capacity:	The capacity of natural water to receive wastewaters or toxic materials without negative effects and without damage to aquatic life or humans who consume the water.
Attenuation Pond:	A stormwater management pond that is designed to reduce the peak rate of stormwater flow by temporary storage of runoff (also known as a detention pond or retention pond).
Bacterial Water Contamination:	The introduction of unwanted bacteria into a water body.
BMP:	"Best Management Practice" Activities, projects or management approaches that achieve environmental objectives. Includes structural and nonstructural stormwater management controls.
Base Flows:	Flow remaining in a channel once runoff has stopped.
Branch Sewer:	A sewer that receives stormwater from a relatively small area and which discharges into a main sewer serving more than one area served by branch sewers.
City:	The Department of Engineering and Planning appointed by Council in the City of Sault Ste. Marie, or their designated representative.

Channel Morphology:	The physical make –up of a channel (e.g. slope, depth, width, bed and bank material, alignment).
Commissioner of Engineering and Planning:	The person appointed by Council to oversee all capital works of the City of Sault Ste. Marie Engineering and Planning Department, or their designated representative.
Contractor:	The firm that performs the construction work under a construction agreement with the developer and in accordance with plans, specifications, and other documents as may be prepared by the Engineer and approved by the Engineer.
Design Storm:	The magnitude of precipitation from a storm event measured in probability of occurrence (e.g., 50 year storm) and duration (e.g., 24 hours), and used in designing stormwater management control systems.
Developer:	The owner of the area of land proposed for development, or their designated representative.
Development:	Development includes any erection, construction, addition, alteration, replacement, or relocation of or to any building or structure and any change or alteration in land use.
Engineer:	The professional engineer who performs the planning and design of the stormwater system. The professional engineer must be a member of Professional Engineers Ontario (PEO).
Detention Basin:	A basin designed to retard stormwater runoff by temporarily storing the runoff and releasing it at a predetermined rate. This basin is designed to drain completely after a storm event.

- Detention Storage:** Precipitation detained on the surface during a storm, and which does not become runoff until sometime after the storm has ended.
- Drainage Area:** (1) The area tributary to a single drainage basin, expressed in hectares. The drainage area may also be referred to as the catchment area, watershed, sub watershed, drainage basin, or drainage sub basin. (2) The area served by a drainage system receiving storm sewer discharge and surface water runoff. (3) The area tributary to a watercourse.
- Drainage Master Plan:** The compilation of data and mapping that delineates watersheds, indicates routes of the major and minor drainage systems, defines floodplains, indicates constraints associated with water quality and quantity; indicates erosion and bank stability problems, and indicates specific flood control and environmental objectives in the watershed.
- Evapotranspiration:** The loss of moisture due to transpiration from vegetation and evaporation.
- Flood Plain:** The relatively flat or low-lying area adjacent to a watercourse which has been, or may be, temporarily covered with floodwater during storms of specified frequency.
- Grassed Swales:** Natural depressions or engineered shallow ditches that convey and can infiltrate stormwater runoff. The grass or emergent vegetation in the swale acts to reduce flow velocities, prevent erosion, and filter stormwater contaminants.
- Groundwater:** Water within the earth that supplies wells and springs; water in the zone of saturation where all openings in rocks and soil are filled, the upper surface of which forms the water table.
- Groundwater Hydrology:** The branch of hydrology that deals with groundwater.

Hydraulics:	The determination of water flow characteristics in the channels, pipes, streams, ponds, and rivers which convey stormwater.
Hydrograph:	A graph showing the discharge of water with respect to time for a given point within a watershed.
Hydrotechnical:	Term encompassing both engineering hydrology and hydraulics. Hydrotechnical engineering is a general term for fields of civil engineering related to the investigation, development, protection, and management of water bodies and water resources.
Hyetograph:	A graph showing average rainfall, rainfall intensity, or rainfall volume with respect to time within a watershed.
Impervious:	A term applied to a material through which water cannot pass, or through which water passes with great difficulty over a prolonged duration of time.
Infiltration:	(1) The migration of water through a soil or other porous medium. (2) The quantity of groundwater which enters into a sewerage system through cracks and defective joints. (3) The entrance of water from the ground into a sewer or drain through breaks, defective joints, or porous walls. (4) Absorption of liquid water by the soil, either as it falls as precipitation, or from a stream flowing over the surface.
Infiltration Trench:	A shallow, excavated trench that has been backfilled with stone to create a narrow underground storage reservoir from which water drains into the subsoil and eventually to the water table. Enhanced infiltration trenches also include pre-treatment systems to remove sediment and oil.
Intensity:	The rate of precipitation expressed as a quantity of precipitation per unit of time.

Interflow:	The flow of water through near-surface soils.
Lag Time:	The time from the center of a unit storm (or hyetograph) to the peak discharge or center of volume of the corresponding unit hydrograph.
Lateral Sewer:	A sewer that discharges into a branch or other sewer and has no other common sewer tributary to it.
Main Sewer:	In small urban drainage systems, the main sewer refers to the sewer with one or more tributary branch sewers.
Major Storm:	A storm used for design purposes – the runoff from which is used for design and sizing the major storm drainage system. The frequency of such a storm is 1 in 100 years (1% probability of being equaled or exceeded in any year). A historic large storm that results in major flow. (Timmins Storm)
Major Storm Drainage System:	The stormwater drainage system which will discharge stormwater during a major storm when the capacity of the minor system is exceeded. The major system usually includes features such as streets, curb and gutter systems, swales, and major drainage channels. Minor stormwater drainage systems may reduce the flow in many parts of the major stormwater drainage system by storing and conveying water underground. Design of a major system is based on a storm frequency of 1 in 100 years and the Regional Storm.
Minor Storm:	A storm used for design purposes – the runoff from which is used for design and sizing the minor storm drainage system.
Minor Storm Drainage System:	The stormwater drainage system which is designed to eliminate or minimize inconveniences or disruption of activity resulting from runoff

produced by more frequent, less intense storms. The minor stormwater drainage system is sometimes termed the “convenience system”, or “initial system”. The minor system may include features such as curbs and gutters, storm sewer pipes and open drainage channels. Design of a minor system is based on a storm frequency of 1 in 10 years.

MOE: The Ontario Ministry of the Environment.

MTO: The Ontario Ministry of Transportation.

Municipal Service Systems: Municipal service systems include all sanitary sewerage systems, stormwater drainage systems, water distribution systems, streets, sidewalks and miscellaneous appurtenances within the City which are owned, operated, and maintained by the City.

**Oil and Grit**

Separators (OGS): Engineered stormwater treatment structures that remove oil and sediment from storm runoff. They consist of one or more chambers that remove sediment, screen debris, and separate oil from stormwater. OGS are also referred to as oil and water separators, water quality inlets, and oil and sediment separators (OSS).

Non-point Source: Source of pollution from which wastes are not released at one specific, identifiable point but from an area, making this source of pollution difficult to identify and control. Non-point source pollutants commonly carried in stormwater runoff include solids, nutrients, and pesticides.

Open Channels: Natural streams and their flood plains, and artificial channels used to convey stormwater.

Outfall Sewer:	A sewer that receives water from the drainage system and discharges it to a treatment area or to a receiving water body.
Overland Flow:	The concentration and conveyance of stormwater runoff over the ground surface.
Peak Discharge:	The maximum rate of flow of water at a given point and time resulting from a predetermined storm.
Pervious:	A term applied to a material through which water passes relatively freely over a short duration of time.
Point Source:	A source of pollution collected and conveyed in pipe works or other well defined path that is discharged at one location.
Precipitation:	Any moisture that falls from the atmosphere, including snow, sleet, rain, and hail.
Regulatory Storm:	Storm events that have been selected as the approved standard(s) to be used in particular watershed(s) to define the limits of the flood plain for regulatory purposes. The Timmins Storm, which occurred on August 31, 1961 and into September 1, 1961. It is a 12 hour storm with 193 mm of rainfall and was selected to be used for regulatory purposes in North and Central Ontario.
Retention Basin:	A basin or pond containing a permanent pool of water and designed to retard stormwater runoff by temporarily storing the runoff and releasing it at a predetermined rate.
Runoff (Direct):	The total amount of stormwater that reaches stream channels.
Runoff Characteristics:	The surface components on any water shed which, either individually or in any combination thereof, directly affect the rate, amount and direction of stormwater runoff. These may include, but are not limited

to, vegetation, soils, slopes and any type of manmade landscape alterations.

SCS: Soil Conservation Service, U.S. Department of Agriculture.

Sewer: A pipe or conduit that carries wastewater or drainage water.

Stream: A general term for a body of water flowing in clearly defined natural channels to progressively lower levels.

Storm Drain: An entrance into the underground stormwater pipe system.

Stormwater Drainage

System: A system receiving, conveying, and controlling discharges in response to precipitation and snowmelt. Such systems consist of ditches, culverts, swales, subsurface interceptor drains, roadways, curb and gutters, catch basins, maintenance holes, pipes, attenuation ponds, and sewers.

Stormwater Runoff: That part of the precipitation which is concentrated and conveyed as overland flow.

Stormwater Runoff

Depression Storage: Precipitation retained in small depressions and surface irregularities that does not become part of the stormwater runoff.

Storm Service Lateral: A pipe that conveys foundation drain water from the outer side of the wall through which the pipe exits the building to the storm sewer.

Storm Sewer: A sewer that carries only surface runoff, street wash, and snow melt from the land. In a separated sewer system, storm sewers are completely separate and isolated from sewers that carry domestic and commercial wastewater (sanitary sewers).

Subdivision:	(1) The division of any area of land into parcels, including a re-subdivision or a consolidation of two or more parcels. (2) Area of predominantly residential development.
Surcharge:	The flow condition occurring in closed conduits when the hydraulic grade line (or water surface) is above the conduit crown, or the transition from open channel flow to pressurized flow.
Surface Water:	All water naturally open to the atmosphere, including rivers, lakes, reservoirs, ponds, streams, impoundments, seas, estuaries and wetlands.
Time of Concentration:	The time required for stormwater runoff to concentrate and flow from the hydraulically most remote point of a watershed to reach the point in question.
Total suspended solids:	A water quality measurement, usually abbreviated TSS, of solid material suspended in water and retained by a filter. It is a pollutant. Measurement is by a dry-weight of particles trapped by a filter, of a specified pore size.
Watershed:	A land area from which water drains to a particular water body.
Wetland:	Land that either periodically or permanently, has a water table at, near or above the land's surface or that is saturated with water, and sustains aquatic processes as indicated by the presence of hydric soils, hydrophytic vegetation and biological activities adapted to wet conditions.

# STORMWATER MANAGEMENT POLICY

## TABLE OF CONTENTS

	<u>Page</u>
<b>1.0 INTRODUCTION .....</b>	<b>1-1</b>
<b>2.0 ENGINEERING RESPONSIBILITY .....</b>	<b>2-1</b>
<b>3.0 EFFECTS OF URBAN DEVELOPMENT.....</b>	<b>3-1</b>
<b>4.0 STORMWATER MANAGEMENT.....</b>	<b>4-1</b>
<b>4.1 Planning for Stormwater Management .....</b>	<b>4-1</b>
<b>4.2 Quantity Control .....</b>	<b>4-1</b>
<b>4.3 Quality Control.....</b>	<b>4-2</b>
4.3.1 Total Suspended Solids.....	4-3
<b>4.4 Downstream Effects .....</b>	<b>4-6</b>
4.4.1 General .....	4-6
4.4.2 Discharges to Existing Drainage Infrastructure .....	4-6
4.4.3 Discharges to Stormwater Control Facilities .....	4-7
4.4.4 Discharges to Adjacent Properties.....	4-8
4.4.5 Stormwater Drainage Blocks .....	4-9
<b>4.5 Fluvial Floods .....</b>	<b>4-10</b>
<b>5.0 DESIGN APPROACH .....</b>	<b>5-1</b>
<b>5.1 Dual Drainage Systems.....</b>	<b>5-1</b>
5.1.1 Dual Drainage Concept .....	5-1
5.1.2 Minor System .....	5-1
5.1.3 Major System .....	5-2
5.1.4 Climate Change.....	5-2
5.1.5 System Discharge .....	5-3
<b>5.2 Basis of Design.....</b>	<b>5-4</b>
5.2.1 Return Periods .....	5-4
5.2.2 Meteorological Data.....	5-5
5.2.3 Synthetic Design Storms .....	5-7
5.2.4 Regional Design Storms .....	5-8
5.2.5 State of Development .....	5-8
<b>5.3 Runoff Methodology.....</b>	<b>5-8</b>

<b>5.4</b>	<b>Hydrologic Design Criteria .....</b>	<b>5-10</b>
5.4.1	Rational Method Runoff Coefficients .....	5-10
5.4.2	US SCS Curve Numbers .....	5-12
5.4.3	Time of Concentration and Lag Time.....	5-13
<b>6.0</b>	<b>ON-LOT STORMWATER MANAGEMENT .....</b>	<b>6-1</b>
<b>6.1</b>	<b>Lot Grading .....</b>	<b>6-1</b>
<b>6.2</b>	<b>On-Lot Storage .....</b>	<b>6-1</b>
<b>6.3</b>	<b>Infiltration Trenches .....</b>	<b>6-2</b>
6.3.1	Hydrotechnical Considerations .....	6-2
6.3.2	Location.....	6-3
6.3.3	Construction and Maintenance .....	6-3
<b>6.4</b>	<b>Buffer and Filter Strips.....</b>	<b>6-4</b>
<b>6.5</b>	<b>Storm Sewers.....</b>	<b>6-5</b>
6.5.1	Hydrotechnical Considerations .....	6-5
6.5.2	Dimensions and Layout .....	6-6
6.5.3	Location.....	6-6
6.5.4	Material .....	6-7
6.5.5	Required Pipe Strength .....	6-7
<b>6.6</b>	<b>Maintenance Holes .....</b>	<b>6-8</b>
6.6.1	Hydraulic Considerations.....	6-8
6.6.2	Dimensions and Layout .....	6-8
6.6.3	Location.....	6-9
6.6.4	Material .....	6-9
<b>6.7</b>	<b>Oil and Grit Separators (OGS) .....</b>	<b>6-9</b>
6.7.1	Design Considerations .....	6-9
6.7.2	Location and Maintenance.....	6-10
<b>6.8</b>	<b>Service Connections .....</b>	<b>6-11</b>
6.8.1	Dimensions and Layout .....	6-11
6.8.2	Location.....	6-11
6.8.3	Material .....	6-11
<b>6.9</b>	<b>Foundation and Roof Drains .....</b>	<b>6-12</b>
<b>6.10</b>	<b>Catch basins .....</b>	<b>6-13</b>
6.10.1	Hydrotechnical Considerations .....	6-13

6.10.2 Dimensions and Layout .....	6-13
6.10.3 Location.....	6-14
<b>6.11 Inlets .....</b>	<b>6-14</b>
<b>6.12 Outfalls .....</b>	<b>6-14</b>
<b>7.0 MAJOR DRAINAGE SYSTEM DESIGN REQUIREMENTS .....</b>	<b>7-1</b>
<b>7.1 Hydrotechnical Considerations.....</b>	<b>7-1</b>
<b>7.2 Open Channels .....</b>	<b>7-1</b>
<b>7.3 Grassed Swales .....</b>	<b>7-2</b>
7.3.1 Hydrotechnical Considerations .....	7-2
7.3.2 Dimensions and Layout .....	7-2
7.3.3 Location.....	7-2
7.3.4 Construction and Maintenance .....	7-3
<b>7.4 Streets .....</b>	<b>7-3</b>
7.4.1 Roadway Drainage.....	7-3
7.4.2 Curbs and Gutters .....	7-4
7.4.3 Roadway Ditches .....	7-5
<b>7.5 Culverts .....</b>	<b>7-5</b>
7.5.1 Hydrotechnical Considerations .....	7-5
7.5.2 Dimensions and Layout .....	7-6
7.5.3 Inlet and Outlet Headwalls.....	7-6
7.5.4 Inlet and Outlet Grates .....	7-7
7.5.5 Culvert Materials .....	7-7
<b>7.6 Stormwater Attenuation Ponds .....</b>	<b>7-7</b>
7.6.1 Dry Versus Wet Ponds .....	7-7
7.6.2 Hydrotechnical Considerations .....	7-8
7.6.3 Dimensions and Layout .....	7-8
<b>8.0 DESIGN DOCUMENTATION .....</b>	<b>8-1</b>
<b>8.1 General Submissions .....</b>	<b>8-1</b>
<b>8.2 Drainage Plans.....</b>	<b>8-2</b>
<b>8.3 Drainage Design Reports.....</b>	<b>8-2</b>
<b>8.4 Engineering Design and As-Built Drawings.....</b>	<b>8-3</b>
<b>9.0 BIBLIOGRAPHY .....</b>	<b>9-1</b>

## **LIST OF FIGURES**

Figure 5.1: Rainfall Intensity-Duration-Frequency Curves for Sault Ste. Marie Airport

## **LIST OF TABLES**

Table 4.1 Limits for Storm Sewer Discharges

Table 4.2 Typical Stormwater Particle Size Distribution and Settling Velocities

Table 5.1 Rainfall Intensity-Duration-Frequency Values for Sault Ste. Marie Airport

Table 5.2 AES Type 2 One Hour Storm Distribution

Table 5.3 Runoff Coefficients

Table 5.4 US SCS Hydrologic Soil Groups

## **APPENDICES**

### APPENDIX 1

Plan 1 – Stormwater Management Requirements

## 1.0 INTRODUCTION

The City of Sault Ste. Marie spans a geographic area of 222 square kilometers and has a population of approximately 75,000. One of the oldest European settlements in Canada, Sault Ste. Marie was incorporated as a City in 1912.

In order to meet provincial and federal objectives the City developed the following Stormwater Management Guideline, which is to be implemented for projects undertaken in the City of Sault Ste. Marie. Projects would include any projects dealing with the drainage system.

A stormwater drainage system receives, conveys, and controls stormwater runoff in response to precipitation and snow melt. Such systems include: channels, ditches, culverts, swales, subsurface interceptor drains, roadways, curb and gutters, catch basins, maintenance holes, pipes, attenuation ponds and service lateral lines. In the City of Sault Ste. Marie, stormwater drainage systems are owned, operated, and maintained by the City, the Sault Ste. Marie Region Conservation Authority (SSMRCA), private landowners, or a combination of these entities.

All stormwater drainage systems that are connected or may be connected to the City's system shall be designed to:

- Prevent adverse effects of stormwater on human health and safety;
- Protect property, structures and public infrastructure from damage;
- Preserve natural watercourses and wetlands; and
- Minimize the effects of development on surface water and groundwater quantity and quality.

The guidelines, recommendations, and design standards presented in these general specifications are intended to promote uniformity of the design and construction of stormwater drainage systems within the City of Sault Ste. Marie. Stormwater drainage systems must be carefully designed in accordance with general technical, municipal, provincial and federal guidelines and standards. In addition to the specifications for drainage infrastructure in the City of Sault Ste. Marie (as presented in this document), all stormwater drainage systems shall conform to any applicable requirements established by the Ontario Ministry of the Environment (MOE). Furthermore, no system shall be constructed until the design has been accepted by the City and reviewed and approved by the MOE as evidenced by the issuance of an Environmental Compliance Approval under the Ontario Water Resources Act (OWRA), if applicable. These

specifications for drainage infrastructure can be used by the City and regulatory authorities in the evaluation of drainage system designs.

A complete description and documentation of all parameters relating to the design and construction of stormwater drainage systems is beyond the scope of this document. However, an attempt has been made to define the parameters of greatest importance, and to present the policies and accepted methods of the City of Sault Ste. Marie's Engineering and Planning Department in conjunction with the requirements of the approval authorities. Designs submitted to the City of Sault Ste. Marie's Engineering and Planning Department for approval should be accompanied by a written statement that the designs have been completed in accordance with these guidelines and that appropriate contact has been made with the SSMRCA, Department of Fisheries and Oceans Canada (DFO) and other agencies as required.

## 2.0 ENGINEERING RESPONSIBILITY

The planning and design of urban stormwater drainage systems requires knowledge of two basic fields:

- Hydrology, which is the estimation of runoff produced from rainfall and/or snowmelt, and understanding the factors which influence it; and
- Hydraulics, which is the determination of water flow characteristics in channels, pipes, streams, ponds, and rivers.

A Professional Engineer, Licensed in the Province of Ontario, is responsible for the selection of the method(s) best suited for a design. Proposed stormwater drainage systems must be based on sound engineering design with due consideration of potential environmental impacts. For stormwater design, good quality hydrologic and hydraulic modeling is required.

The design of municipal services, when submitted to the City of Sault Ste. Marie's Engineering and Planning Department for approval, must bear the seal of a Professional Engineer licensed with Professional Engineers Ontario (PEO). Acceptance by the City of Sault Ste. Marie's Engineering and Planning Department of a drainage infrastructure design does not relieve the professional engineer of the responsibility for proper design. The Engineer will retain full responsibility for their work as a Professional Engineer.

It should be noted that Stormwater Management is rapidly evolving. It is important to be aware of developments in this field in jurisdictions throughout North America when implementing the policy and to consider the adoption of new and innovative approaches. In addition data in support of holistic stormwater management is known to provide benefits such as energy savings and thermal mitigation. Alternate approaches will be considered for approval. If an Engineer proposes variations from this document, and the Engineer can show that alternate approaches can produce acceptable results, such approaches may be considered satisfactory. In considering requests for variations from these specifications for drainage infrastructure, the Engineer shall take into consideration such factors as safety, nuisance, sustainability, maintenance costs, environmental impacts, constructability, compatibility with adjacent land use, etc. Where the Engineer uses standards other than those outlined in this document, they shall be clearly indicated in all relevant documents and plans.

The Engineer has the responsibility of supplying 1) the Developer with adequate information as needed to make decisions concerning the proposed project, 2) the Contractor with detailed plans and specifications as needed to construct the stormwater drainage system and 3) the City with accurate and timely as-builts of the completed works. The City of Sault Ste. Marie requires that works that become part of the City's system, and which will be maintained by the City, will be inspected by an Engineer approved by the Commissioner of Engineering and Planning.

### 3.0 EFFECTS OF URBAN DEVELOPMENT

Urbanization alters natural conditions by increasing impervious areas and possibly creates new pathways of stormwater conveyance. This results in an increase in direct runoff, degradation of water quality and decreases in base flow and evapo-transpiration. The net effect of development on the hydrologic regime of receiving streams could include an increase in the net effects of runoff events, a greater proportion of annual flow as surface runoff rather than base flow or interflow, and increased flow velocity during storms. The decrease in infiltration that occurs with urbanization also reduces soil moisture replenishment and groundwater recharge. The response to rainfall and snowmelt in urban areas differs from that in natural basins in the shape of their hydrographs (they tend to be more intense and have a shorter duration). The imperviousness of urban areas along with the greater hydraulic efficiency of urban drainage infrastructure causes greater runoff volumes and greater peak flows compared to natural basins.

Stream channels in urban areas respond and adjust to the altered hydrologic regime that accompanies urbanization. The severity and extent of stream adjustment is a function of the stream's characteristics and the hydrologic changes. Stream adjustments could include adjustments to channel size and shape (channel degradation, scour and erosion) to accommodate higher flows, modification of the streambed (typically a change in the size of stream bed material), and changes in stream alignment or sinuosity. Research results imply that a threshold for urban stream stability exists at approximately 10% to 15% imperviousness of a watershed, beyond which unstable and eroding channels would result. A stable stream and channel system is a fundamental goal of stormwater management.

Urban stormwater runoff may contain contaminants such as suspended solids, nutrients, bacteria, heavy metals, oil and grease, and pesticides. Suspended solids may interfere with photosynthetic activity and fish feeding by reducing light penetration in the receiving watercourse.

Water temperature is a concern regarding fish and their habitat, especially where discharge is to a cold water stream. Stormwater ponds can compound this increase in water temperature since open water will tend to acclimate with the ambient air temperature. Where impacts on water temperature are a significant concern, it is recommended that the Engineer consult with the DFO during the design process.

The ecology of aquatic habitat can be altered by major shifts in hydrology, in channel morphology, and in water quality that may accompany the development process. The health and diversity of fish, plant, animal, and aquatic insect communities in urban watercourses could be affected. In Sault Ste. Marie, developers should attempt to minimize the potential for adverse effects of development on aquatic habitat by using best practices with respect to subdivision design and construction. Riparian buffers along urban streams should be preserved. Urban drainage systems should be designed to reduce negative impacts to receiving watercourses (urban streams and wetlands) caused by changes to the hydrologic cycle.

In Sault Ste. Marie, stormwater management and the design of drainage infrastructure should aim to preserve the ecology of streams in urban areas, including but not limited to: Fort Creek, Bennett Creek, Central Creek, Clark Creek, Root River and Davignon Creek.

The Conservation Authority notes that all of the above streams listed (except Root River) have been altered to serve as flood control channels to some extent. While preserving the ecology is a consideration, a primary goal is the water flow continuity during high flow events. As such the decrease in sedimentation from storm water discharge to these water courses is of prime importance.

## **4.0 STORMWATER MANAGEMENT**

### **4.1 Planning for Stormwater Management**

The process of planning for stormwater management should consider the entire upstream drainage area including basin characteristics (size, vegetation, land use planning and topography), runoff conditions (the rate and amount of runoff, and water quality), existing and future development and actual and proposed alterations to natural drainage patterns. The design of drainage infrastructure within the City of Sault Ste. Marie should conform to this policy unless a separate Watershed Study has been completed and approved by the Commissioner of Engineering and Planning. Prior to initiating design of drainage infrastructure within the City of Sault Ste. Marie, it is recommended that the Engineering and Planning Department be contacted to review the proposed stormwater management plans, and assess the potential impact of these plans. A pre-design meeting shall be held to understand the design approach (conventional or innovative) and to review the approval process. The need for in-ground stormwater infrastructure and measures to control stormwater quality and quantity should be assessed considering both the incremental and total effects of changes in development on the drainage basin.

### **4.2 Quantity Control**

Controlling the quantity of stormwater implies reductions in the total volume and/or the rate of runoff. Control of the rate of runoff (peak stormwater flow) from areas of new development will be required. For all development, peak post-development flows should not exceed pre-development flows for all storms up to the major drainage system design storm at the discretion of the Commissioner of Engineering and Planning or his Designate.

Specific methods of stormwater quantity control are addressed elsewhere in this document. Various methods of stormwater quantity control can be found in the MOE's "Stormwater Management Planning and Design Manual" (2003).

For the purposes of quantity control a hydrologic / hydraulic model is required to compare pre-development and post-development site runoff and the stormwater management quantity control facilities. The rational method shall not be used as the sole method of analysis for designing these facilities.

### 4.3 Quality Control

The City of Sault Ste. Marie expects developers to consider the “treatment train” approach when developing plans for stormwater management. The treatment train approach involves a series of structural and non-structural water quality management measures aimed at minimizing stormwater pollution wherever possible through appropriate reductions of pollutants at their source, during transit, and, if necessary, in receiving waters. Controlling stormwater pollution at its source includes controls on construction site runoff, better land use practices, reduced lot grading, the construction of litter traps, and on-site detention with rain barrels or infiltration trenches. Stormwater contaminants at the source can be minimized if a large percentage of the area being developed is kept vegetated or is re-vegetated quickly during and after construction.

Floatable pollutants such as oil, debris, and scum can be reduced with separator structures. Other methods of pollutant removal include sedimentation / settling, filtration, plant uptake, ion exchange, adsorption, and bacterial decomposition. Within these processes, there are generally three levels of treatment:

- Primary treatment including screening of gross pollutants, sedimentation of coarse particles;
- Secondary treatment including sedimentation of fine particulates, filtration; and,
- Tertiary treatment including enhanced sedimentation and filtration, biological uptake.

Pollutants in urban stormwater typically includes suspended solids (e.g., sand, silt); metals (e.g., copper, lead, and zinc); nutrients (e.g., nitrogen and phosphorous); bacteria and viruses; and organics (e.g., petroleum hydrocarbons and pesticides). The water quality parameters that are addressed in the City of Sault Ste. Marie Sewer Use By-law (By-law No. 2009-50), as amended from time to time, include the following limits for Storm Sewer Discharge.

Parameter	Limit (mg/L)	Parameter	Limit (mg/L)
Biochemical Oxygen Demand	15	1, 2-Dichlorobenzene	0.0056
Cyanide (Total)	0.02	1, 4-Dichlorobenzene	0.0068
Phenolics (4AAP)	0.008	cis-1,2-Dichloroethylene	0.0056
Phosphorous (Total)	0.4	Trans-1, 3-Dichloropropylene	0.0056
Suspended Solids (Total)	15.0	Ethyl benzene	0.002
Oil & Grease – Mineral & Synthetic	15.0	Methylene chloride	0.0052
Aluminum (Total)	1.0	1, 1, 2, 2 - Tetrachloroethane	0.017

Ammonia	10.0	Tetrachloroethane	0.0044
Arsenic (Total)	0.02	Toluene	0.002
Barium (Total)	1.0	Trichloleethylene	0.0076
Cadmium (Total)	0.008	Xylenes (Total)	0.0044
Chlorine (Free)	0.1	Di-n-butyl phthalate	0.015
Chromium (Total)	0.08	Bis (2-ethylhexyl) phthalate	0.0088
Chromium (Hexavalent)	0.04	Nonylphenol	0.001
Copper (Total)	0.04	Nonylphenol ethoxylates	0.01
Lead (Total)	0.12	Aldrin/dieldrin	0.00008
Manganese (Total)	0.05	Chlordane	0.04
Mercury (Total)	0.0004	DDT	0.00004
Nickel (Total)	0.08	Hexachlorobenzene	0.00004
Selenium (Total)	0.02	Mirex	0.04
Silver (Total)	0.12	PCBs	0.0004
Tin (Total)	1.0	3, 3' – Dichlorobenzidine	0.0008
Zinc (Total)	0.04	Hexachlorocyclohexane	0.04
Benzene	0.002	Pentachlorophenol	0.002
Chloroform	0.002	Total PAHs	0.002

Note - spelling corrections have been made on this chart for Dichloroethylene and bichlorobenzidine.

**Table 4.1: Limits for Storm Sewer Discharges**

#### 4.3.1 Total Suspended Solids

Total Suspended Solids (TSS) has been selected by the City as a surrogate for the above water quality parameters as sediment is also a carrier of trace metals and toxicants associated with stormwater runoff.

As well, historically, the priority of stormwater management facilities with respect to water quality has typically been the control of suspended solids. Many stormwater management facilities can also successfully remove other stormwater contaminants as well.

As shown in Table 4.1 above, the City's Sewer Use By-Law limits TSS storm sewer discharge to 15.0 mg/L.

The MOE's "Level of Protection" for stormwater quality facilities are shown below. The areas where the different levels of protection are to be implemented are defined in the MOE's "Stormwater Management Planning and Design Manual" (2003). The Level of Protection is further defined as:

- Basic protection corresponds to the end-of-pipe storage volumes required for the long-term average removal of 60% of suspended solids.
- Normal protection corresponds to the end-of-pipe storage volumes required for the long-term average removal of 70% of suspended solids.
- Enhanced protection corresponds to the end-of-pipe storage volumes required for the long-term average removal of 80% of suspended solids.

Levels of Protection by geographic area within Sault Ste. Marie are shown on the drawing in Appendix 1.

Particle size distribution and settling velocities have an effect on TSS removal efficiencies. Settling velocities are not linearly related to particle sizes. Particle size distribution varies depending on site use and storm events.

Particle Size ( $\mu\text{m}$ )	% of Particle Mass	Average Settling Velocities (m/s)
$\leq 20$	0 - 20	0.00000254
20 - 40	20 - 30	0.00001300
40 - 60	30 - 40	0.00002540
60 - 130	40 - 60	0.00012700
130 - 400	60 - 80	0.00059267
400 - 4000	80 - 100	0.00550333

**Table 4.2: Typical Stormwater Particle Size Distribution & Settling Velocities**

For the purposes of computer modeling, the overall solids removal efficiency shall be assessed using settling velocities corresponding to the particle size distribution provided in Table 4.2, which is excerpted from Table 3.3 of the Stormwater Management Practices Planning and Design Manual, Ontario Ministry of Environment and Energy, 1994. This table should be used when there is no data supporting particle size distribution and settling velocities other than those shown above.

The City's Sewer Use By-Law 2009-50, Section 12.5 of the By-Law states:

*Sediment interceptors:*

- (i) *Every owner or operator of any land or premise from which sediment may directly or indirectly enter a sewer, included but not limited to a ramp drain, an area drain, a construction area or parking area which is maintained for winter use and has capacity of 12 or more vehicles or car and vehicle wash establishments, shall take all necessary measures to ensure that sediment is prevented from entering a sewer; [AMENDED BY BY-LAW 2009-185]*
- (ii) *Every owner or operator required to have a sediment interceptor pursuant to Section 12.5(i) shall ensure that each and every sediment interceptor is properly and adequately maintained to prevent sediment from entering a sewer.*

At the discretion of the Commissioner of Engineering and Planning sediment interceptors may be required on properties smaller than that stated in Sewer Use By-Law 2009-50 Section 12.5 (i).

Developments that have less than 10% imperviousness should be considered to be exempt from stormwater management. This type of development would be typical of Estate Lot developments. In this type of development the Engineer is to consider controls at any areas of concentrated runoff such as level spreaders or buffer strips.

## 4.4 Downstream Effects

### 4.4.1 General

The drainage facilities (both minor and major system components) for each new development shall be adequately sized to drain onsite runoff and convey estimated future runoff from upstream areas that have traditionally drained through a property. All drainage infrastructure shall be contained within the property boundaries of each development. Concentrated stormwater runoff leaving a development site must be discharged directly into an existing storm sewer (minor system) or into a well-defined, natural, or constructed channel (as part of the major system). The downstream stormwater drainage system shall have adequate capacity to convey the discharge from the proposed new stormwater drainage system. Designers shall confirm that the downstream capacities are not exceeded.

The potential for adverse downstream impact, such as flooding or erosion, because of an increased rate of discharge or increased runoff volume, shall be considered by the Engineer. As stated in the previous section, new development is not to result in an increase in peak flows. The extent of these impacts, if any, will be assessed by the Engineer. Depending upon the nature of any adverse impacts, the City of Sault Ste. Marie's Engineering and Planning Department may require measures to prevent or alleviate such adverse impacts.

Consideration must be given to public health and safety, provincial and federal government regulations (including those of MOE, SSMRCA, DFO and Environment Canada), and maintenance implications of ditches, open channels, and drainage courses. Attempts shall be made to limit the number of partial enclosures of a ditch, open channel, or natural drainage course by driveways, roadways, and other crossings.

### 4.4.2 Discharges to Existing Drainage Infrastructure

New development shall not result in an increase in peak flows for all storm events up to and including the peak runoff from a storm event with a 100-year return period and the Timmins Storm.

However, if a proposed development is expected to increase stormwater runoff to an existing drainage system, the existing system needs to be completely analyzed to ensure that the system will convey the additional flows without problems. Prior to making submission, the proponent must consult with the City and the SSMRCA to determine the specific technical analyses that will be required to support higher site release flows.

For each component of the stormwater drainage system (such as a storm sewer, open channel, watercourse, or culvert), the hydraulic capacity of that portion of the system needs to be determined and compared to the flow determined from the hydrologic calculations. To determine the capacity of open channels, ditches, and watercourses, the Manning equation may be used where grades are greater than 1%, considering the runoff from the major storm event at appropriate points. Where grades are less than 1%, it may be necessary to account for backwater effects using the energy equation and the direct-step or standard-step methodologies. The water surface elevation at the outlet of the ditch, watercourse, or channel should be determined. To calculate the hydraulic capacity of a culvert, both inlet control and outlet control must be checked.

The conveyance capacity of the minor storm sewer system should be checked for the 10-year return period storm. Analysis should account for pipe friction losses, junction and bend losses, and transition losses through maintenance holes, outlet tail water elevation, and capacity constraints of the downstream system. The hydraulic grade line (HGL), as determined by the standard-step method, the direct-step method, or acceptable energy equation principles, should be plotted on the profile drawing to ensure that the water surface profile is contained in the pipe, there is no back-up into service laterals or basements, and that no surcharging of the minor storm sewer system will occur during the 10-year return period design flow subject to the extent of downstream constraints.

#### **4.4.3 Discharges to Stormwater Control Facilities**

The design of a stormwater storage facility required as part of a new development shall be carried out using appropriate methods and sound engineering principles. To check the performance of a stormwater attenuation pond, a hydrograph shall be generated considering all design storms including the Regulatory (Regional) storm and the 1 – hour AES distribution for 2, 5, 10, 25, 50 and 100-year return periods applied to the watershed. Consideration should also be given to using the Chicago storm distribution (4 hour duration) for the 2, 5, 10, 25, 50 and 100-year return periods for fast draining urban sites. The design shall take into consideration various factors including, but not limited to, watercourse protection, erosion, and sediment control, impact on adjacent property, maintenance requirements, public safety, access, liability, and nuisance. Such storage facilities shall be designed to control the peak runoff conditions for the 100 year and Regional storm.

Where new drainage infrastructure discharges to existing stormwater control facilities (such as attenuation ponds) it will be necessary to determine the inlet and outlet hydrographs of the stormwater control facilities. The use of simple instantaneous peak flow will not be adequate to analyze storage facilities. The inflow and outflow at this pond shall be calculated, taking into consideration the outlet structure design parameters. The maximum flood elevation shall be calculated as part of this work. Downstream capacities shall be checked to properly convey any control facilities' overflows.

#### **4.4.4 Discharges to Adjacent Properties**

No stormwater drainage is to flow onto, through, or over private property, other than by a natural watercourse, excavated ditch or swale, minor stormwater drainage system, with an agreement as necessary. Natural drainage may flow onto a neighbouring property if the cross-property boundary discharge existed in the pre-development condition. If the cross-property boundary discharge did not exist pre-development, directed drainage may not flow onto a neighbouring property without permission from the receiving property owners. Proposed drainage is not to adversely impact natural drainage or impact neighbouring properties (i.e. natural drainage may not be "cut-off" and the construction of hydraulic controls may not cause off-property flooding). Runoff from a property may be directed to a natural watercourse, or to a municipal stormwater drainage system, with approval.

The grading along the limits of a property shall be carefully controlled to avoid disturbance of adjacent properties or an increase in the discharge of stormwater to those properties.

Temporary drainage of all blocks of land within multiple-parcel properties that are intended for future development should be considered. During the design of stormwater drainage systems, provision must be made to accommodate natural drainage from adjacent properties by means of an interceptor swale or other system component.

Where a drainage channel to service one property is to be constructed on an adjacent property, written permission from the adjacent property owner(s) for such construction shall be required. A copy of the document which grants said approval shall be submitted to the Engineering and Planning Department and the SSMRCA.

#### 4.4.5 Stormwater Drainage Blocks

For access to stormwater drainage systems, a municipal service block of adequate width shall be deeded to the City of Sault Ste. Marie when a need to accommodate future upstream drainage is identified to ensure proper functioning of the stormwater drainage system of a development. Generally, a municipal block will be required for stormwater conveyance from a development onto adjacent properties other than in a natural watercourse. Service blocks may be required for both the minor and major stormwater drainage systems. No development or placement of fences, barriers and the like shall be permitted on any block unless otherwise approved by the Commissioner of Engineering and Planning.

The minimum width of a block for a stormwater pipe shall allow safe access to excavate the minor system components in accordance with the requirements of the Occupational Health and Safety Act (OHSA) for the Province of Ontario, or 6.0 m, (whichever is larger). Depending upon the length and location of the block, the City may require a travel way to be provided within the block for access and maintenance purposes.

Drainage blocks for open channels shall be of sufficient width to contain the open channel, with the top of banks one meter or more within the Block. If the design flow for the open channel exceeds  $1.0 \text{ m}^3/\text{s}$ , the Block shall include a 4.0-m wide maintenance access road on one side of the channel. Turning room for vehicles operating on the service road should be provided at 250 metre intervals.

Where a development is traversed by a natural channel or stream, a drainage block conforming substantially to the limits of such a watercourse at flood stage may be required by the Commissioner of Engineering and Planning. Generally, no development should encroach upon a watercourse so that its flow conveyance is reduced. A hydrotechnical study by a qualified professional engineer will be required prior to changes in dimensions or alignment of a stream and shall be reviewed by the City and the SSMRCA. It should be noted that buffers or other requirements may be required through the review processes of the City, SSMRCA, MNR or DFO.

The minimum municipally owned land area for an attenuation pond shall include the area of the pond for the required storage volume plus freeboard, and the area required for associated facilities and maintenance access around the entire perimeter of the pond. A maintenance road to the pond from a municipal road will also be required. Maintenance road widths shall be

sufficient for vehicles to access the pond and work to maintain the pond. Discussion shall be held with City staff prior to detailed design.

#### **4.5 Fluvial Floods**

Fluvial flooding of low-lying areas at rivers and streams occurs due to upstream snow and ice melt. In Sault Ste. Marie, flooding can occur along Fort Creek in the John Street and Wellington Street area and south of Cathcart Street and at the Central Creek / Davignon Creek area.

Fluvial flooding should be considered with respect to development and land use within the City of Sault Ste. Marie, and with respect to the design of stormwater systems.

Flood risk mapping and inundation mapping is available from the SSMRCA for parts of Sault Ste. Marie and should be consulted and fully considered prior to any design.

## 5.0 DESIGN APPROACH

### 5.1 Dual Drainage Systems

#### 5.1.1 Dual Drainage Concept

Stormwater drainage systems consist of underground pipes and associated structures designed to transport flows for minor or low intensity storms. This system is unable to accommodate major storm events. Since consideration was not given in the past to controlling runoff from major storm events, localized flooding in low areas, due to inadequate drainage system capacity would occur periodically.

The solution is to make allowances for these major storm events in the planning and design of new developments. The division of the urban drainage system into major and minor systems became known as the “Dual Drainage Concept”. The minor system provides a basic level of service by conveying flows from the more common (low intensity, more frequent) storm events. The major system conveys runoff from the extreme (high intensity, less frequent) storm events that produce runoff in excess of the minor system capacity. Proper planning and design are critical to successful stormwater management. All areas of new development within the City of Sault Ste. Marie shall be designed using the Dual Drainage Concept (Minor/ Major systems) to achieve specific levels of service.

Developments within the City of Sault Ste. Marie shall continue to be serviced by a dual drainage system consisting of a minor stormwater drainage system (piped system) and a major stormwater drainage system (overland system). Design of stormwater drainage systems shall include consideration of drainage for both minor and major storms. The design of the dual stormwater drainage system shall be carried out to ensure that no proposed or existing structure shall be damaged by the runoff generated by a major storm event. This requires proper design of streets, curb and gutters, catch basins, pipes, open channels, grading of lots and road profiles, setting of elevations and openings into buildings, foundation drains, roof drains, or other “off-street” connections. In the event that the Engineer identifies existing infrastructure that may be damaged by runoff, the Engineer shall notify the Commissioner of Engineering and Planning so that the situation may be reviewed and resolved.

#### 5.1.2 Minor System

The minor stormwater drainage system includes the underground pipe network, maintenance holes, outfalls, roof drains, lot drainage, and drain tiles. The minor system can contain public

infrastructure (sewer piping and catch basins) and private infrastructure (drain tile and roof drains). The minor stormwater drainage system is designed to provide a basic level of service that ensures safe and convenient use of streets, lot areas, and other areas. In Sault Ste. Marie, the minor system is to be designed to convey the runoff produced by a 10-year return period storm event. Detailed requirements and specifications associated with the design and construction of the minor system are presented in Section 6 of this policy.

#### **5.1.3 Major System**

The major stormwater drainage system conveys runoff that exceeds the conveyance capacity of the minor system. Components of the major system typically include overland flow pathways (including drainage channels and floodwater diversion channels), streets, swales, stormwater detention and retention ponds, outfalls, and culverts. Drainage pathways for major events will always exist whether planned or not, but proper planning of a major system will reduce or eliminate unnecessary flooding and associated damages. The overland flow of stormwater during major storm events (return period of 100 years and the Timmins Storm) is preferably via public roadways, City blocks or trails. The use of utility rights-of-way as part of the major system might be acceptable subject to the approval of the Commissioner of Engineering and Planning and the utility owner.

#### **5.1.4 Climate Change**

In Sault Ste. Marie, the major storm system has typically been designed to accommodate the runoff produced by a 100-year return period storm event and / or the Regional design storm – the Timmins Storm. Due to uncertainty surrounding the effects of climate change the City of Sault Ste. Marie will be more frequently updating the rainfall data (intensity-duration-frequency) used to establish municipal design standards. As such, it is recommended that the major system continue to be designed based on the 100-year return period storm as well as the Timmins Storm.

Detailed requirements and specifications associated with the design and construction of the major system are presented in Section 7 of this policy.

Dual System Design of stormwater drainage systems shall include consideration of both a minor stormwater drainage system and a major stormwater drainage system.

When adequate downstream capacity does not exist, one option is to upgrade downstream infrastructure, however this is not the only option. The Developer and/or Engineer may reduce peak flow through the use of storage. The MOE's "Stormwater Management Planning and Design Manual" (2003) states that post-development peak runoff must not exceed pre-development runoff for storms with return periods ranging from 2 to 100 years. According to the manual, new development projects should manage runoff from average rainfall events using a variety of methods, such as directing impervious runoff onto lawns, side and rear yard swales and road gutters and from larger events by directing runoff down streets, to large storm sewers, storage ponds and other structures before being discharged to a water body.

It is the responsibility of the Engineer to ensure that the proposed development does not exacerbate or aggravate existing downstream problems. Further, it is the responsibility of the Engineer to exercise engineering design solutions, approved by the Commissioner of Engineering and Planning, including various methods of on-site storage to mitigate the detrimental effects of their development by any design storm.

#### **5.1.5 System Discharge**

The dual stormwater drainage system shall discharge to an existing stormwater drainage system, or to a natural watercourse. This stormwater peak flow requirement may be satisfied by either integrating new development into City of Sault Ste. Marie stormwater management plans (which attempt to control the drainage and management of stormwater through the use of area-wide measures for selected sections of the City), or through the use of development-specific stormwater management measures and controls (e.g. lot-based or development-based stormwater quantity best management practices).

If connecting to an existing stormwater drainage system, the downstream stormwater drainage system must have adequate capacity to convey the discharge from the existing and proposed stormwater drainage systems (Section 4.4). The potential for adverse impacts (such as flooding or erosion) from the combined discharges on the downstream stormwater drainage system must be considered. When downstream capacity in the existing stormwater drainage systems is inadequate, downstream infrastructure must be upgraded or peak flow to the downstream systems reduced with stormwater retention and storage to a point where the existing stormwater drainage systems becomes adequate.

If discharging to a receiving watercourse, water quantity and quality impacts on the receiving water body shall be assessed by the Engineer. Depending upon the nature and severity of potential adverse impacts, the City of Sault Ste. Marie's Engineering and Planning Department may require the implementation of measures to prevent or alleviate these potential adverse impacts.

## **5.2 Basis of Design**

### **5.2.1 Return Periods**

Return period (or recurrence interval) is the average time between occurrences of an event with a given magnitude, e.g. a 10-year return period flood means that a flood with a similar or larger magnitude would occur once every ten years, given a long period and assuming hydro-climatic conditions do not change. The return period is based on past records, in the case of Sault Ste. Marie from 1962-2006. Probability is the inverse of return period; e.g. a 10-year storm event has a 10% chance of occurring in any year. The choice of a return period for the design of drainage infrastructure depends on what is considered to be an acceptable risk to property and public safety, and the desired level of service.

The minor stormwater drainage system shall be designed to convey stormwater runoff from the 10-year return period storm, without surcharging. Surcharging of the minor system can be prevented by either increasing the capacity of minor system components, or (following approval of the Engineering and Planning Department) reducing the magnitude of the flow entering the minor system by directing more flow towards the major (overland) stormwater drainage system.

The major stormwater drainage system shall be designed to convey stormwater runoff from the major storm event (the 100-year return period storm and the Timmins Storm), thereby protecting structures and property from damage. The capacity of the major stormwater drainage system shall be adequate to convey the runoff from a major storm event when the capacity of the minor stormwater drainage system is exceeded. The design of the major system shall include measures to limit the degree of surcharging of the minor system during a major storm event. These measures may include inlet control devices and flow relief to the major system at the discretion of the Commissioner of Engineering and Planning. The degree of minor system surcharging during major storm events shall be controlled so as to prevent flooding of buildings connected to the minor system.

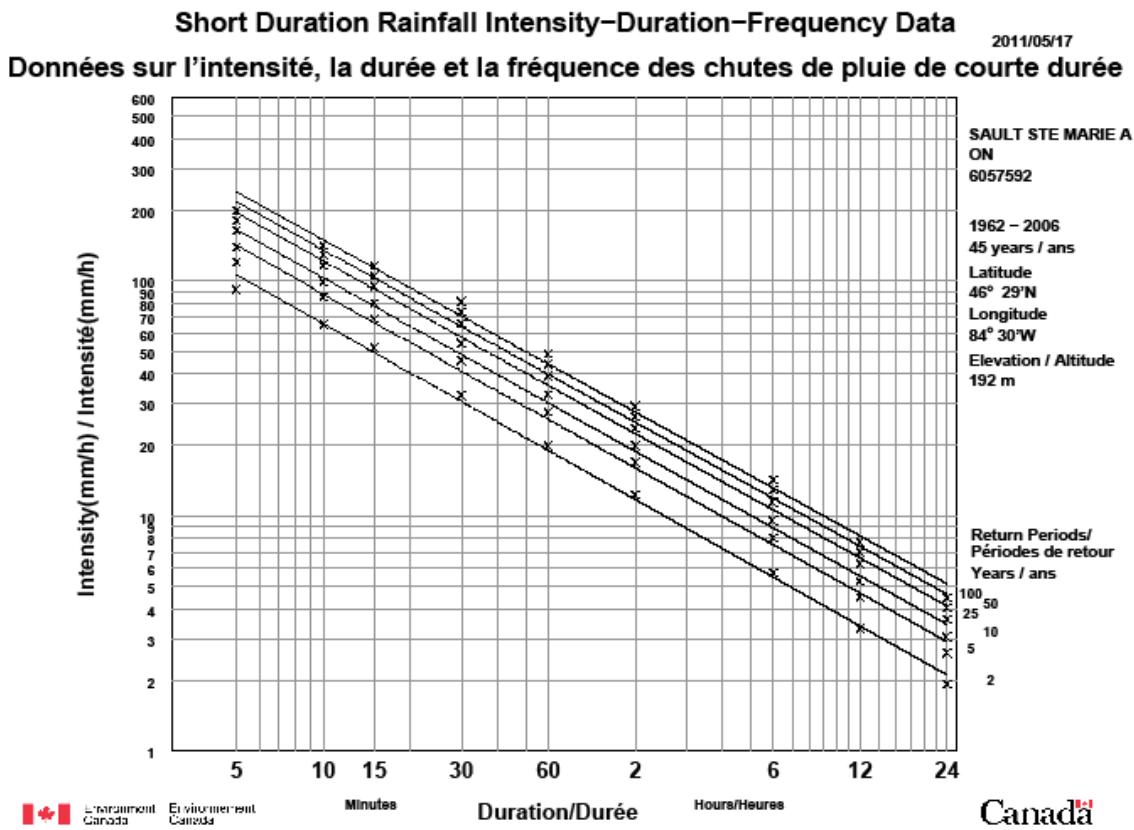
### 5.2.2 Meteorological Data

Rainfall data is used in a variety of forms including Intensity-Duration-Frequency (IDF) Curves, synthetic design storms, historical design storms, and historical long-term rainfall records. Data selection depends upon the type of computational procedure to be used, the type of problem to be solved and the level of analysis required.

Design storms can be generated from IDF Curves derived from the Sault Ste. Marie Airport climate station operated by the Atmospheric Environment Service (AES). Recent IDF curves for the Sault Ste. Marie Airport are presented in Figure 5.1.

For the Rational Method an initial time of concentration of 10 minutes is recommended for single family residential development using a design storm with a 10 year return period. This results in an initial rainfall intensity of approximately 102 mm/hr.

Advanced procedures for the design of stormwater drainage systems require the input of rainfall hyetographs, which specify rainfall intensities for successive time increments during a storm event. For this purpose, both synthetic and historical design storm hyetographs can be used.



**Figure 5.1 Rainfall Intensity-Duration-Frequency Curves for Sault Ste. Marie Airport**

	<u>2 year</u>	<u>5 year</u>	<u>10 year</u>	<u>25 year</u>	<u>50 year</u>	<u>100 year</u>
Mean of R	31.6	42.2	49.2	58.1	64.7	71.2
Std. Dev. Of R	31.7	41.4	47.8	56.0	62.0	68.0
Std. Error	5.3	8.0	9.8	12.1	13.9	15.6
Coefficient, A	18.9	25.6	30.1	35.7	39.9	44.1
Exponent, B	-0.691	-0.685	-0.682	-0.679	-0.678	-0.677
Mean % error	5.7	7.5	8.2	8.8	9.2	9.5

interpolation equation:  $R = A \times T^B$  Where R = rainfall rate  
T = time in hours

**Table 5.1 Rainfall Intensity-Duration-Frequency Values for Sault Ste. Marie Airport**

### 5.2.3 Synthetic Design Storms

Synthetic design storm hyetographs are intended to represent some of the long-term statistical properties of recorded rainfall. There are a number of approaches that specify the total depth of design rainfall events and the distribution of rainfall intensity during these design rainfall events. They include the distributions listed below.

- a) Atmospheric Environment Service (AES) type 2 distribution. This distribution is based on the analysis of one-hour duration rainfall data, and is specific to different regions in Canada.
- b) HYDROTEK distribution. This distribution is similar to the AES type 2 distribution described above, is based on the same one-hour duration rainfall data, and is specific to different regions in Canada.
- c) SCS type II distribution. This distribution is similar to the AES type 2 and HYDROTEK distributions described above, but the SCS Type II distribution is based on 6, 12, 24, and 48 hour duration rainfall data.
- d) Chicago distribution. This distribution assumes that for a given return period, the design storm (which can be derived from local IDF information) should contain all of the maxima corresponding to the various durations (i.e. the peak 5 minute duration intensity of a 1 hour duration storm should be equal to the 5 minute intensity specified by the local IDF curves).

The AES Type 2, HYDROTEK, and SCS Type II distributions are invariable with respect to time (i.e. the distribution is the same for different duration storms), while the last distribution (the Chicago distribution) is variable with respect to time (i.e. the “relative resolution” of the hyetograph ordinates is less for shorter storm durations). The use of rainfall distributions that are invariable with respect to time results in more conservative designs than the use of rainfall distributions that are variable with respect to time for storm durations less than one hour, and less conservative designs for storm durations longer than one hour.

The AES type 2 distribution is the preferred rainfall distribution for a design storm for the City of Sault Ste. Marie. The AES Type 2 one hour storm distribution is presented in Table 5.2 below. Faster draining sites should consider the Chicago distribution design storms.

Percentage of total storm rainfall in the interval	1	3	8	16	31	15	11	7	4	2	1	1	100
Interval (5 min)	1	2	3	4	5	6	7	8	9	10	11	12	60

**Table 5.2 AES Type 2 One Hour Storm Distribution****5.2.4 Regional Design Storms**

In certain instances the design of stormwater drainage systems requires the input of historical design storms. Regional design storm hyetographs are intended to represent a specific recorded rainfall. Detailed historical rainfall information is available through the Atmospheric Environment Service (AES) of Environment Canada. For the City of Sault Ste. Marie the Timmins Storm is the Regional design storm. The Timmins storm and the 1:100 year storm are used for the design of flood control structures, overland flow, major drainage channels and aqueducts.

**5.2.5 State of Development**

Design of the dual stormwater drainage system shall be based on the state of development anticipated to exist for both the area being developed (e.g. the limits of the development) and the upstream watershed areas, when all areas are completely developed in accordance with the land-use zoning in place at the time of design. Peak post-development flows are not to exceed the pre-development flows for all storms up to and including the major design storm event (the 100-year return period storm) and the Timmins Storm.

**5.3 Runoff Methodology**

There are numerous techniques and models available to the Engineer for use in the determination of stormwater runoff. Selection of an appropriate method must be based on an understanding of the principles and assumptions underlying the method and of the problem under consideration. It is, therefore, essential that appropriate techniques and models be selected and used by qualified engineers.

The City of Sault Ste. Marie does not exclude or limit acceptable computational methods for design. A commentary on a few widely-used computational methods is presented below. The

listing of computational methods is neither complete nor comprehensive. Methods other than those listed below may be used if their use is justified by the Engineer and accepted by the City of Sault Ste. Marie.

The Rational Method: The Rational method is a widely used empirical equation for predicting instantaneous peak discharge from a small watershed. The peak rate of runoff is assumed to occur at a rainfall duration equal to the time of concentration. The peak rate of runoff at each inlet in a storm sewer system is determined using the Rational Method. The rate of runoff is determined using the total time of concentration to that point in the system, which may include time to flow to an upstream inlet and travel time from that inlet through the storm sewer system to a given point in the system. After the peak rate of runoff arriving at each inlet has been established, the storm drain conduits can be designed to carry this discharge. The Engineering and Planning Department considers the Rational Method as generally acceptable for the determination of instantaneous peak runoff for the design of stormwater drainage systems up to 20 hectares ( $0.20 \text{ km}^2$ ) in area; for preliminary design of systems serving larger areas; and as a check on flows determined by other methods. This method should not be used to determine the size or hydraulic performance of storage or retention facilities.

The SCS Methods: Methods described in the United States Soil Conservation Service (US SCS) Technical Report No. 20 and No. 55 may be used to determine peak flow and volume for rural areas, to determine the hydrologic impacts of urbanization, and to evaluate the performance of storage facilities.

Simulation Modeling: Commonly used models include:

- The United States Environmental Protection Agency (USEPA), Stormwater Management Model (SWMM) computational engine, and the University of Ottawa version of the model (OTTSWMM) may be used for the design of piped systems and to model overland flow in a major system. SWMM can simulate backwater, surcharging, pressure flow, and looped connections. It also contains several approaches for water quality simulation. The City of Sault Ste. Marie's Engineering and Planning Department considers the SWMM-based models to be valuable tools for the design of stormwater systems for new development. It is especially useful for the design of stormwater drainage systems larger than 20 ha; the evaluation of measures to control peak flow magnitudes (such as attenuation ponds); and

for the assessment of the hydraulic performance of drainage infrastructure under surcharged conditions.

- The HYMO (Hydrologic Model) and the University of Ottawa version OTTHYMO may be used for the development of stormwater drainage Master Plans, and the analysis of stormwater management proposals for new development. The model includes capability for storage calculations and stream channel routing.
- The Storage-Treatment-Overflow-Runoff Model, (STORM), was developed for the US Army Corps of Engineers in the 1970s. The model applies the Rational Method to compute stormwater runoff to a storage-treatment control structure. The model provides a simple but useful method for checking stormwater system designs.
- The Microcomputer Interactive Design of Urban Stormwater Systems (MIDUSS) model facilitates the design of conveyance or detention facilities in a drainage network. The model is interactive and allows the user to perform alternative trials before processing the final design. As the design proceeds, a file records the commands, design decisions and data which are input by the user.

Regardless of the model used, the Engineer should ensure that the model has been properly applied considering model limitations and data requirements, and calibrated using flow measurements or compared against an independent method.

## 5.4 Hydrologic Design Criteria

The parameters that are used in the design of stormwater drainage systems are primarily a function of the percentage of the drainage area that is impervious (e.g. pavement or roof areas), the soil type, and the vegetation cover. To accommodate the variability in design parameters resulting from these site conditions, the City of Sault Ste. Marie suggests minimum design parameters, including runoff coefficients used in the Rational Method and the curve numbers used in the SCS Method.

### 5.4.1 Rational Method Runoff Coefficients

The Engineer shall develop a composite runoff coefficient based on the percentage of different types of surfaces in the drainage area. The Engineer is responsible for selecting the runoff coefficients appropriate for the catchment area considering proposed development. Rational Method runoff coefficients associated with a general character of surface, considering land use, can be selected from tables in trustworthy engineering publications. The Ministry of the

Environment's Design Guidelines for Sewage Works 2008 recommends the runoff coefficients in Table 5.3 for use in the Rational Method, while the City of Sault Ste. Marie has in the past accepted the factors in the third column.

Under the current Ministry of the Environment Environmental Compliance Approval application process the Ministry requires a rationale if the design runoff coefficient do not fall within their recommended range. The Engineer should be able to provide the rationale based on Engineering principles.

<b>Surface</b>	<b>Recommended Runoff Coefficients (MOE)</b>	<b>Runoff Coefficients Sault Ste. Marie</b>
Asphalt, Concrete, Roofs	0.90 – 1.00	0.90
Gravel	0.80 – 0.85	
Grassed Areas, Parkland	0.15 – 0.35	0.20
Commercial	0.75 – 0.85	0.75 – 0.90
Industrial	0.65 – 0.75	0.60 – 0.75
Single Family Residential	0.40 – 0.45	0.30 – 0.40
Semi-detached Residential	0.45 – 0.60	-
Row housing, Townhouses	0.50 – 0.70	0.60
Apartments	0.60 – 0.75	-
Institutional	0.40 – 0.75	-

**Table 5.3 Runoff Coefficients**

These minimum values must be increased to accommodate the hydrologic effects of steeply sloped areas, longer duration events, and return periods greater than 10 years to account for antecedent precipitation. For urban areas, the values of the runoff coefficient may be increased for the high magnitude storms under urban conditions. For the 25, 50 and 100-year events, it is

recommended to increase the coefficient by 10, 20 and 25% respectively up to a maximum value of 0.95. (MTO Drainage Management Manual Chapter 8, Page 19). The MTO further notes that no adjustments are recommended for rural drainage areas.

The runoff coefficients in any design, if different than the MOE Coefficients, must be supported by detailed calculations and be approved by the Commissioner of Engineering and Planning.

#### 5.4.2 US SCS Curve Numbers

The US SCS categorizes soils into one of four Hydrologic Soil Groups (HSG) contingent upon its surface infiltration rate, and subsurface permeability, as provided in Table 5.5.

<b>US SCS Hydrologic Soil Group (HSG)</b>	<b>Description</b>
A	Very low runoff potential Very high infiltration rate (consistent with a well-drained sand and gravel)
B	More moderate runoff potential Moderate infiltration rate (consistent with silt and sand)
C	High runoff potential Low infiltration rate (consistent with clay and silt)
D	Very high runoff potential Very low infiltration rate (consistent with saturated clays and high water tables)

**Table 5.4 US SCS Hydrologic Soil Groups**

Using the City of Sault Ste. Marie Geotechnical Study (1977, The Trow Group), the predominant soil types found in the Sault Ste. Marie area are classified as either lacustrine clay, lacustrine sands and silts, gravel with sand, glacial till, alluvial deposits, organic deposits, sandstone and man-made fill. In the absence of detailed soils analyses, the Engineer should review available

geologic maps to select US SCS curve numbers. The City will consider other Hydrologic Soils Groups provided that the selection is based on a site specific geotechnical investigation.

The Engineer shall develop a composite SCS curve number based on the percentage of different types of surfaces in the drainage area, and shall be responsible for selecting the SCS curve numbers appropriate for the catchment area considering proposed development. The minimum CN number for impervious areas shall be 95 and for pervious areas shall be 70.

#### 5.4.3 Time of Concentration and Lag Time

The Rational Method and the US SCS curve number based simulation models require the estimation of the time of concentration ( $T_c$ ) defined as the time required for surface runoff from the far end of a sewershed to reach the sewershed outlet, or the lag time ( $T_l$ ), the time between the peak rainfall and the peak runoff flow. For minor system drainage design, the time of concentration or lag time should include inlet time (time associated with overland flow) and travel time (time associated with flow through sewer pipes).

Commonly used methods for the determination of the inlet time (the time associated with overland flow) are listed below:

Kirpitch Method: This method was developed for natural drainage areas. Inlet time is a function of drainage length and slope only, while the effects of soil type and land use are not accounted for. Estimates of inlet time are shorter than the majority of other methods.

Airport Drainage Method: This method was developed for the design of airport drainage systems. Inlet time is a function of length, slope and runoff coefficient (soil type and land use). Estimates of inlet time are generally longer than the majority of other methods resulting in a lower estimate of peak flow. Typically this method is used for areas where C-factors are less than 0.40.

SCS Upland Method: This method was developed for flow overland and through gullies and grassed waterways. Inlet time is a function of length, slope, and land use, while soil type is not accounted for. Estimates of inlet time are similar to the Bransby Williams Method although they vary with the type of conveyance.

SCS Curve Number Method: This method was developed for natural drainage areas. Inlet time is a function of length, slope, and curve number (soil type and land use). Estimates of inlet time are generally longer than the majority of other methods.

Bransby Williams Method: This method was developed for natural drainage areas. Inlet time is a function of drainage length, slope and area, while the effects of soil type and land use are not accounted for. Estimates of inlet time are average when compared against other methods. Typically this method is used for areas where the C-factor is greater than 0.40.

M.J. Simas and R.H. Hawkins Method: This method was developed for natural rural drainage areas using a database of measured inlet times from a large number of rainfall-runoff events. Inlet time is a function of drainage length, slope, area and curve number (soil type and land). Estimates of inlet time are generally substantially shorter than the majority of other methods.

The Bransby Williams and Airport methods have been used successfully in the past within the City and should continue to be the method to estimate minimum inlet times. The estimated inlet time should not be less than five minutes.

Urban development design in the City of Sault Ste. Marie typically uses an initial time of concentration of 10 minutes. This should not preclude the use of the above methods to estimate inlet times.

It should be noted that the SCS Curve Number method estimates of inlet time are expressed as lag time, while the Rational Method requires estimates of inlet time expressed as time of concentration. The City recommends that the conversion between these two different inlet time estimates be based on a ratio of 1.67 as follows:

$$T_c = 1.67 \times \text{Lag Time}$$

Travel times ( $T_t$ ) in piped systems should be based on velocities at peak design flow. As the roughness factor or resistance coefficient of the pipe material affects travel time, the City of Sault Ste. Marie specifies a minimum Manning's resistance coefficient of 0.013 for all non-corrugated pipes. For corrugated pipes a minimum Manning's  $n$  shall be 0.022.

## 6.0 ON-LOT STORMWATER MANAGEMENT

### 6.1 Lot Grading

Carefully controlled lot grading can provide effective stormwater management. In Sault Ste. Marie, if properties drain front-to-back (away from the street), a designed swale or stormwater collection channel or natural watercourse has to be present along the back of each property to drain the lots.

A lot grading plan (scale 1:750 or larger) is a requirement for subdivision approval. The plan is to show the drainage pattern for individual lots, the limits of the entire development as well as the surrounding areas including all rear yard catchbasins, pipes, swales, proposed grades and slopes including steepness.

Reduced lot grading can be implemented, subject to the approval of a geotechnical engineer, in areas that have more permeable soil types (a minimum infiltration rate of 15 mm / hr is recommended). In these cases, the grading can be flattened to 0.5% to promote greater depression storage and natural infiltration, except within 2 m to 4 m of buildings where a 2% minimum grade away from the building should be maintained and soils should be well compacted in order to avoid foundation drainage problems. The proposed finished elevations of the front lot corners shall be graded at 2% above the design back of curb at the street.

### 6.2 On-Lot Storage

On-lot retention of runoff reduces downstream flooding and erosion, and includes rooftop and surface storage. Rooftop storage is only deemed suitable for commercial, industrial, and institutional sites. Structural supports must be adequate to support the additional weight of the ponded water, scuppers must be employed and the design of rooftop storage requires a qualified professional engineer and coordination with the stormwater management design and the building design.

Surface storage can be utilized for medium density residential, high density residential, commercial, industrial or institutional development, and is one of the most cost effective ways to implement stormwater management.

Surface storage areas (or ponding areas) on single detached and low density residential lots is not allowed.

Surface storage areas should not interfere with access to, and egress from, the above developments. Storage of stormwater on parking lots should not result in water depths in excess of 300 mm during the 100-year storm or Timmins Storm.

Depending on the type of On-Lot storage proposed, the Engineering and Planning Department may require a deposit to ensure final construction conforms to the design and the receipt of associated as-built information.

### **6.3 Infiltration Trenches**

This section is intended to provide general guidance on the use of infiltration trenches within the City of Sault Ste. Marie. Details regarding the design and use of infiltration trenches can be found in the MOE's "Stormwater Management Planning and Design Manual" (2003) and in technical literature, the more prominent of which are listed in Chapter 9.0 (Bibliography).

#### **6.3.1 Hydrotechnical Considerations**

- The design of an infiltration trench should be done by a professional engineer with experience in stormwater management.
  - The Engineer should consider specific site conditions, such as soil type, depth of water table, topography, and contributing area conditions.
  - The Engineer should aim to improve the quality of stormwater runoff by removing particulate and soluble pollutants by means of the infiltration trenches. Effective removal of sediment, phosphorus, nitrogen, trace metals, coliforms, and organic matter is accomplished through adsorption by soil particles, and biological and chemical conversion in the soil. Rates of pollutant removal are affected by the type of soil.
- Infiltration trenches and basins should reduce runoff volumes normally directed toward minor drainage systems.
- Infiltration trenches and basins should be designed to collect and temporarily store surface runoff and to promote subsequent infiltration, considering the volume of stormwater from a 10-year return period storm.
- Infiltration basins should drain within 72 hours to maintain aerobic conditions (which favour bacteria that aid in pollutant removal) and to ensure there is capacity to receive the next storm.

- Infiltration trenches shall have a cleaning / excavation and disposal regimen established prior to implementation.
- The use of infiltration galleries can be used for roof water providing soils parameters and distance from the building are properly engineered.

### 6.3.2 Location

- Infiltration basins can be used as recharge devices for compact residential developments (less than 2 ha). Infiltration trenches differ from on-lot infiltration systems in that they are generally constructed to manage stormwater flow from a number of lots in a developed area, not a single property.
- Infiltration trenches should only be used where the soil is porous and can absorb the required quantity of stormwater.
- Potential contamination of groundwater should be considered when examining runoff quality directed to an infiltration trench or basin.
- Infiltration trenches and basins are not recommended for use in commercial or industrial areas because of the potential for high-contaminant loads or spills, depending on actual property use, that may result in groundwater contamination.
- Infiltration trenches and basins should not be built under parking lots or other multiuse areas, within 2.0 m (measured vertically) of bedrock, near a septic field, on fill material, where the underlying soils have a low percolation rate of less than 15 mm/hour, or where runoff is likely to be highly polluted.

### 6.3.3 Construction and Maintenance

- Only clear stone of appropriate diameter should be used in the construction of an infiltration trench.
- Regular inspections and maintenance including the cleaning of inlets to prevent clogging is required to maintain proper operation, and to prevent the nuisances of insect infestations, odours, and soggy ground. A guide for maintenance procedures is available in the MOE's "Stormwater Management Planning and Design Manual" (2003) Chapter 6.0.

## 6.4 Buffer and Filter Strips

Buffer and filter strips are practical and low-cost measures that provide stormwater quality control. The following is intended to provide general guidance on the use of buffer and filter strips within the City of Sault Ste. Marie. Details regarding the design and use of buffer and filter strips (as well as other Best Management Practices) can be found in the MOE's "Stormwater Management Planning and Design Manual" (2003) as well as in technical literature, the more prominent of which are listed in Chapter 9.0 (Bibliography).

Buffer strips remove pollutants from overland runoff due to the fact that vegetation promotes pollutant filtration and infiltration of stormwater.

- Whenever possible, natural buffer strips should be maintained within 30 meters of the natural boundary of a wetland or the banks of a watercourse. Within the buffer strip, land should not be disturbed, vegetation removed, soil removed, or materials deposited.

Filter strips are bands of close-growing vegetation, usually grass, planted between a source area and receiving watercourse, to provide a degree of stormwater quality control. The filtering action of the vegetation, sediment deposition, and infiltration of pollutant-carrying water reduces pollution to watercourses from sediment, organic matter, and trace metals, but are not considered reliable for the removal of soluble pollutants. Filter strips are used primarily in residential areas around streams or ponds, where runoff does not tend to be heavily polluted.

- When planning a stormwater management system for a drainage area, all filter strips should be considered ineffective for runoff velocities greater than 0.75 m/s, and for runoff volumes greater than that produced from a two-hectare catchment during a 25-year return period, 24-hour duration storm.
- The actual width of the filter strip should be determined considering topography, the characteristics of the upstream development, and the types of soil and vegetation at the site, with 10 m considered the minimum practical width.
- The maintenance of filter strips should be arranged during the design and construction of filter strips and as a critical component of stormwater quality control. Filter strips require periodic repair, such as re-seeding and the removal of dead vegetation.

Components of the minor drainage system include storm sewers, maintenance holes, oil and grit separators, foundation and roof drains, catch basins, and inlets and outfalls. The following subsections present design and construction specifications for these components.

## 6.5 Storm Sewers

### 6.5.1 Hydrotechnical Considerations

- Minor stormwater drainage systems shall be designed to convey, without surcharge, the peak design flow associated with a 10-year return period storm, subject to downstream constraints.
- The capacity of a proposed storm sewer system or an existing storm sewer system shall be checked by accounting for the head loss through the pipe system and through any junctions including maintenance holes and bends. As a preliminary check on the capacity of a piped storm system, the Manning's equation can be used. This will be particularly useful for preliminary sizing of pipes; however, a more detailed analysis of the system as a whole will be required.
- This more detailed analysis will determine the hydraulic grade line (HGL) when the storm system is conveying the 10-year return period flows, and will take into account losses at maintenance holes, other junctions, transition maintenance holes, the head loss through the pipes, and any backwater conditions at the outlets of the minor drainage system.
- Contingent upon the results of the HGL analysis, the Engineer shall revise as necessary the storm sewer design (e.g. diameter, slope, invert elevations, etc.).
- The flow should be subcritical with no backwater adversely affecting upstream properties.
- To help mitigate the potential that the minor drainage system is not surcharged to a degree that could result in flooding of property when the system is subjected to flows greater than its design capacity (i.e. major storm events), it is required that the Engineer check the individual and total inlet capacity for the entire system, at the discretion of the Commissioner of Engineering and Planning.
- This analysis may determine that during a major storm flows greater than a 10-year return period storm will enter the storm sewer system and, if there is evidence it will, then the Engineer will need to specify control measures (such as inlet control devices (ICDs) or limits on the surcharging of catch basin grates) in order to limit the quantity of stormwater runoff

entering the minor drainage system, at the discretion of the Commissioner of Engineering and Planning.

- The sewer must have an adequate gradient to maintain a velocity to minimize sedimentation. For a peak design flow from the tributary area, when fully developed, stormwater flow velocities must exceed 0.76 m/s but be less than 6.0 m/s.

#### **6.5.2 Dimensions and Layout**

- Storm sewer diameter shall not be less than 300 mm.
- Storm sewer diameter must not decrease in the downstream direction.
- Maintenance holes are to be provided where the storm sewer diameter changes.
- Ideally, storm sewers shall be deep enough such that all service connections accommodating surface and foundation drainage from upstream lots can be drained to the storm sewer system by gravity.
- The minimum depth of cover of storm sewers, measured from the design grade of the finished surface to the top of the pipe, is 1.5 m. Where this minimum cover cannot be provided, an explanation of the reasons and pipe loading calculations shall be submitted with the proposed method of pipe protection (insulation thickness and details, or frost tapers) to the Commissioner of Engineering and Planning.
- The maximum depth of storm sewers, measured from the design grade of the finished surface to the top of the pipe, is 4.0 m. Under special conditions, if justifiable reasons are given, the maximum depth of storm sewers may be increased with approval of the Commissioner of Engineering and Planning.
- The minimum pipe slope for permanent dead-end storm sewer mains is 0.5%. For other storm sewers lesser slopes are allowed if self-cleansing velocities under full flow conditions are maintained.

#### **6.5.3 Location**

- Wherever possible, all storm sewers and appurtenances shall be located within the street right-of-way or block of land owned by the City. Sewers shall be located 3 meters south and west of the centre line of the roadway. All storm drainage outfalls shall be located within land owned by the City.

- Where Master Planning indicates a need to accommodate future upstream lands naturally tributary to the drainage area, a municipal block of land shall be provided from the edge of the street right-of-way to the upstream limit of the subdivision.

#### 6.5.4 Material

Pipe, when installed within the street right-of-way or a City Block shall be either:

- Reinforced concrete pipe (RCP) manufactured to conform to CAN/CSA-A257.2-M92 Reinforced Circular Concrete Culvert, Storm Drain, Sewer Pipe and Fittings, or
- Polyvinyl Chloride Pipe (PVC) pipe to conform to CAN/CSA B182.1-99 Plastic Drain and Sewer Pipe and Pipe Fittings, or
- Polyvinyl Chloride Pipe (PVC) pipe, smooth inside wall, corrugated to conform to CSA Standard B182.4. Minimum pipe stiffness shall be 320 kPa supplied by IPEX (Ultra-RIB and Ultra X2), or Royal Pipe (Kor-Flo), or reviewed equivalent. Pipe up to 750 mm diameter shall have joints certified to 100 kPa. 900 mm dia. pipe shall have joints certified to 75 kPa.

Pipe joints are to satisfy requirements with respect to leakage, durability, and performance throughout the life cycle of a storm sewer, which is generally considered to be 50 years or more. All pipe lines must meet leakage test requirements as set forth in the Ontario Provincial Standards, if required by the Commissioner of Engineering and Planning.

#### 6.5.5 Required Pipe Strength

- Required pipe strength should be determined using the Marston and Spangler equations, or by nomograph method as published by the American Concrete Pipe Association for reinforced concrete pipe or the Uni-Bell PVC Pipe Association for PVC pipe.
- Separate calculations for pipes of deeper bury may be required at the discretion of the Commissioner of Engineering and Planning.
- A factor of safety (FS) of 1.5 should be applied when determining required pipe strength.
- All pipes shall be clearly identified with the manufacturer's name and strength class or category.

## 6.6 Maintenance Holes

### 6.6.1 Hydraulic Considerations

- A maintenance hole must be hydraulically designed wherever two or more incoming laterals greater than 750 mm in diameter enter a maintenance hole. The design should be done by a professional engineer with experience in stormwater sewer design.
- The Engineer shall take into consideration energy losses at maintenance holes during peak flow conditions to ensure that surcharging of the system does not occur.
- Sufficient change in sewer invert elevation must be provided across maintenance holes and at junctions and bends to account for energy losses due to flow transitions, turbulence, and incoming flows.
- Junction maintenance hole calculations shall be required at locations where incoming and outgoing pipe velocities differ by more than 0.6 m/s.
- A specially designed drop maintenance hole may be required to address hydraulic requirements due to the elevation change for drops greater than 1 m. Large drops in elevation should be avoided where possible.

### 6.6.2 Dimensions and Layout

- Overall layout of storm maintenance holes shall be in accordance with Ontario Provincial Standard Drawings and Ontario Provincial Standard Specifications (OPSD / OPSS).
- The minimum internal diameter of a maintenance hole shall be 1200 mm. The Engineer shall ensure that the internal diameter is adequate to accommodate all pipe and appurtenances in accordance with manufacturer's recommendations. Safety appurtenances (ladders and rungs) must be in accordance with OPSD 404 to OPSD 406, as amended.
- The obvert of a downstream pipe shall not be higher than the obvert of an upstream pipe unless approved by the Commissioner of Engineering and Planning.
- Where no change in pipe diameter occurs, a minimum drop of 30 mm is required in a maintenance hole where there is a deflection of 135 degrees or greater. A 60 mm drop is required where there is a deflection from 135 to 90 degrees. Incoming pipes should not be at an angle less than 90 degrees.
- Drop maintenance holes shall be in accordance with OPSD 1003 series of drawings.

- All storm maintenance holes shall be benched and channeled.

#### 6.6.3 Location

- A maintenance hole must be provided on a storm sewer at:
  - Any change in diameter, material, horizontal alignment, or vertical alignment;
  - Pipe intersections; and at
  - The upper end of a sewer for maintenance purposes.
- Maintenance holes at non-permanent storm sewer terminations shall have a sewer stub that shall extend beyond the limit of development sufficient to allow excavation to the Ontario OHSA.
- Maintenance holes shall ideally be located 3 m south or west of the centre line of the road and generally 3 m upstream or downstream of sanitary maintenance holes if they are paired.
- Maintenance hole spacing shall not exceed 100 m for storm sewers up to 750 mm diameter. For storm sewers greater than 750 mm diameter, maximum spacing shall not exceed 150 m.
- Transitions in direction of sewer pipes are to be accomplished by means of maintenance holes, except in the case of curved sewers. Modifications to maintenance hole spacing may be required where sewers are curved.

#### 6.6.4 Material

- All maintenance holes shall be reinforced concrete and conform to CSA A257.4.
- Concrete used in maintenance holes shall be air entrained in accordance with CAN/CSA A23.1.

### 6.7 Oil and Grit Separators (OGS)

#### 6.7.1 Design Considerations

- Oil and grit separators are intended to remove sediment, debris and hydrocarbons (oil and grease) from stormwater, and may consist of commercial in-ground structures, ponds, or other Best Management Practices (BMPs).
- The cases where oil and grit separators may be required are described in section 4.3 of this document.

- The oil and grit separators should be designed such that high flows from infrequent rainfall events do not result in the re-suspension of contaminants in the separator and the discharge of these contaminants into the receiving environment or the storm sewer system.
- The design of oil and grit separators or the selection of commercially available oil and grit separators should be done by a Professional Engineer with experience in stormwater management. The Engineer should consider the specific site conditions, such as soil type, depth of water table, topography, the expected types and amounts of pollutants, and overall stormwater management for the catchment. The specifications for any oil and grit separators models proposed for a development must be signed and sealed by a Professional Engineer. The required submission of information for review and approval by the City must include design computations including estimated performance, supported with well-documented sizing (computer modeling) program and CADD details.
- The oil and grit separators make and model specified on the approved Stormwater Management Report cannot be substituted with an “equivalent” model later, without the approval of City staff. Requests for substitution must be accompanied by certification of equivalency by the Professional Engineer who prepared the approved Stormwater Management Report with additional supporting documentation required for certification and approvals.
- The OGS performance criteria must meet the requirements specified in Table 4.2 and the associated TSS Removal requirements from the Stormwater Management Requirements Plan in Appendix 1.

#### 6.7.2 Location and Maintenance

- Oil and grit separator structures should be installed underground as a component of the minor drainage system. Location should allow access for maintenance activities at any time of the year, typically in a street setting. Oil and grit separator ponds or other non-structural BMPs should generally be installed in the most downstream portion of a property.
- Oil and grit separators should be located so as to allow the collection of all runoff from a property and prevent the discharge of contaminated runoff into the minor stormwater system or receiving watercourses.
- Oil and grit separators should be designed and constructed to ensure easy access for inspection and cleaning.

- Oil and grit separators should be cleaned of sediment, accumulated oils and grease, debris and other pollutants as needed to ensure the continued proper operation of the system. The maintenance protocol for oil and grease separators shall be reviewed and given to the City of Sault Ste. Marie prior to installation.
- For private oil and grit separators, an acceptable written maintenance protocol shall be supplied to the City as part of the Site Plan Control Agreement. Maintenance for private oil and grit separators shall be by the property owner.

## **6.8 Service Connections**

### **6.8.1 Dimensions and Layout**

- The storm sewer service connection shall be laid at a minimum grade of 2.0% to 3.0 m beyond the limit of the street right-of-way to a depth of 1.5 m.

### **6.8.2 Location**

- For single residential lots, one storm sewer service connection is to be supplied to each existing lot or potential future lot which could be created under the zoning in effect at the time of approval by the City. For semi-detached lots, one storm sewer service connection is required for each side of the lot.

### **6.8.3 Material**

Where manufacturer's names or products are mentioned alternates will be allowed with approval of the Commissioner of Engineering and Planning.

- Storm sewer service connections shall be PVC DR28.
- Any change in vertical or horizontal alignment of storm sewer service connections shall be made with a "long sweep" bend, PVC DR28.
- Storm sewer service connections to concrete pipes, with all saddles secured in place with an appropriate seal to render the connection water tight, shall be one of the following:
  - Multi-fitting PVC service saddle with two, one-piece stainless steel straps and a solid lip protruding into the main by no more than 10 mm.
  - Canron polypropylene service saddle with two, one-piece stainless steel straps and a solid lip protruding into the main by no more than 10 mm.
  - Appropriately specified Fowler Inserta-Tee.

- Kor-N-Tee service saddle.
- DFW/HPI flexible rubber service saddle.
- Storm sewer service connections to PVC pipe, with all saddles secured in place with an appropriate seal to render the connection water tight, shall be one of the following:
  - Multi-fitting PVC service saddle with two, one-piece stainless steel straps and a solid lip protruding into the main by no more than 10 mm.
  - Appropriately specified Fowler Inserta-Tee.
  - Gasketed one-piece PVC Tee.
  - DFW/HPI flexible rubber service saddle.

## 6.9 Foundation and Roof Drains

- Foundation drainage will normally be pumped or gravity fed to the minor stormwater drainage system to minimize the likelihood of basement flooding or foundation damage in accordance with the City Sewer Use By-Law as amended.
- Where a minor stormwater drainage system does not exist, other options are permitted as specified in the Ontario Building Code.
- Foundation drains shall not be permitted to discharge to ground surface in such a way as to direct stormwater runoff to the street surface, curb, walkway, or adjacent private property as stipulated in the City Streets By-Law.
- Roof drains from buildings with a roof area less than 250 m<sup>2</sup> or from single family / semi-detached homes shall not be connected to storm drains, but shall discharge onto splash pads at the ground surface a minimum of 600 mm from the foundation wall in a manner that will carry water away from the foundation wall.
- Roof drains from buildings with a roof area equal to or larger than 250 m<sup>2</sup> may be directly connected to a stormwater drainage system pending available system capacity. In order to limit the surcharging of the minor drainage system during storm events with a return period in excess of 10 years, the maximum discharge from roof drains with a roof area equal to or larger than 250 m<sup>2</sup> into the stormwater drainage system should be restricted to the stormwater surface flow from a 10-year return period storm event.

## 6.10 Catch basins

### 6.10.1 Hydrotechnical Considerations

- The interception capacity of the catch basins connected to a drainage system should be compatible with the design capacity of the stormwater drainage system. The storm drainage mains will be designed to convey the 10-year return period storm without surcharging.
- The inlet capacity of each catch basin should be sufficient to receive the calculated surface stormwater flow at that location from storm events with a maximum return period of 10 years.
- In order to limit the surcharging of the minor drainage system during storm events with a return period in excess of 10 years, the inlet capacity of each catch basin should be restricted to limit the maximum inflow into the catch basin to the stormwater surface flow from a 10-year return period storm event.
- Catchbasin leads should be graded so that the top of pipe is below the subgrade elevation and such that the pipe grade is maximized for future lot drainage systems.

### 6.10.2 Dimensions and Layout

- All catch basin bodies shall be precast concrete meeting OPSS 1351 unless otherwise approved.
- Typical spacing between catch basins shall be in accordance with the maximum spread and depth of stormwater as noted in subsection 7.4.2, and shall not be more than:
  - 90 m for roads up to 3% grade;
  - 75 m for roads of greater than 3% grade and up to 4.5% grade; and
  - 60 m for roads of greater than 4.5% grade and up to 6% grade.
  - The spacing of curb inlet catchbasins located within roads having grades greater than 1% must be approved by the Commissioner of Engineering and Planning.
- For road grades greater than 6%, twin inlet catch basins shall be placed at 60 m spacing.
- Twin inlet catch basins shall be placed prior to intersections when the road grade beyond the platform exceeds 4.5%.
- Road low points are to have curb inlet catch basins.
- The minimum inside diameter of road catch basin leads shall be 250 mm, rear yard catchbasin leads shall be 200 mm.

- All structures with a catch basin shall have a 600 mm sump to trap silt and gravel.

#### 6.10.3 Location

- Catch basins shall be installed at the curb of the street and shall be adequately spaced to prevent excessive water from flowing in the traveled lanes during storm events corresponding to the design of the minor system.
- Rear yard catch basins shall have a birdcage grate to OPSD 400.120 and shall accept water from a swale of less than 90 meters in length.

### 6.11 Inlets

- All inlets to piped stormwater drainage systems shall be via a catch basin or grated pipe, preferably with an inlet structure.
- Inlets to piped stormwater drainage systems shall, for pipes 300 mm diameter or larger, have grates to prevent entry. The orientation of the bars on the grate shall be vertical.
- The design of the inlet shall take into consideration the effect of the grating on restriction of flow into the pipe.
- All frames and grates shall conform to OPSD 400 series of drawings.

### 6.12 Outfalls

- Design of outfalls from piped stormwater drainage systems into any receiving body of water shall take into consideration such factors as public safety, erosion control and aesthetics.
- Outfalls from piped stormwater drainage systems of 300 mm in diameter and larger shall require a headwall and grate to prevent entry unless otherwise approved by the Commissioner of Engineering and Planning. The headwall and grate shall be as per OPSD 804.
- Inverts of outfall pipes should be installed above the normal winter ice level in the receiving stream wherever possible.
- The maximum outfall discharge velocity is 6.0 m/s. Erosion control measures are to be incorporated in the design of outfalls to prevent the uncontrolled scour of the receiving channel.
- New outfalls should have stormwater management facilities at the end of pipe or placed prior to outletting.

## 7.0 MAJOR DRAINAGE SYSTEM DESIGN REQUIREMENTS

The components of the major drainage system include natural streams and their floodways, artificial channels (including swales), roadways, and ponds. The following subsections present design and construction specifications for these components.

### 7.1 Hydrotechnical Considerations

Historically, the 100-year return period storm and the Regional Storm (Timmins Storm) was used as the basis for major drainage system component design and this will continue to be the City's criteria. In an effort to accommodate any effects of climate change on urban drainage, the City will re-evaluate the IDF chart periodically to include recent precipitation and intensity data.

### 7.2 Open Channels

- The capacity of open channels should be carefully considered during design.
- The most widely used formula for determining the hydraulic capacity of open channels is the Manning Equation:

$$V = \frac{R^{2/3} S^{1/2}}{n}$$

where:

- V = mean velocity of flow, m/s,  
R = the hydraulic radius, defined as the area of flow, A ( $m^2$ ) divided by the wetted flow surface or wetted perimeter  $P_w$  (m),  
S = the slope of hydraulic grade line, m/m, and  
n = Manning roughness coefficient

In terms of discharge, Q, the above formula becomes:

$$Q = AV = \frac{A R^{2/3} S^{1/2}}{n}$$

- For determination of the flow conveyance of natural streams within the City of Sault Ste. Marie, the minimum Manning's coefficient shall be 0.025 for minor natural streams, and

0.030 for major rivers and flood plains. Values of 'n' in excess of these minimum values may be chosen from published values in textbooks on open channel hydraulics (e.g., Chow, V-T. Open Channel Hydraulics. McGraw-Hill Book Company, New York, 1959) considering changes in cross sectional area and shape, vegetation, the irregularity of the channel surface, obstructions and channel alignments. A composite 'n' based on the values of 'n' for the stream and its flood plains should be determined if a large portion of stormwater flow during the major design storm will occur on the flood plains.

- Storm inlets, outlets and areas of concentrated flow shall have erosion protection. It is recommended that an analysis of receiving channel or downstream drainage course conditions be assessed to determine the potential effects of post-development flows, water levels, and flow velocities on erosion. An analysis of erosion potential should be completed downstream to a point where the runoff from the upstream drainage area controlled by the pond represents only 10% of the total drainage area or to a creek or river.

### **7.3 Grassed Swales**

#### **7.3.1 Hydrotechnical Considerations**

- Grassed swales should be designed as open channels using the Manning Equation, using a Manning's coefficient of 0.030 or greater.
- The minimum swale grade shall be 1%, and in special cases 0.5% with approval of the Commissioner of Engineering and Planning
- The maximum length of a rear yard swale to a suitable outlet shall be 90 metres.

#### **7.3.2 Dimensions and Layout**

- A minimum bottom width of 0.3 m should be maintained.
- A minimum depth of 0.2 m should be maintained.
- Side slopes should be no greater than 2.5 horizontal to 1 vertical, but ideally should be less than 4 horizontal to 1 vertical.

#### **7.3.3 Location**

- Grassed swales are not permissible as replacements for curb and gutter systems in commercial and urban residential areas.

- Grassed swales are typically used in more rural areas with rolling or relatively flat land or for rear yard drainage as part of the lot grading process. Grassed swales can be considered as an enhancement to stormwater curb and gutter system.
- Grassed swales should be considered for use at sites where contamination from suspended solids is possible.
- Since many stormwater contaminant particulates are filtered by grassed swales, they should be considered for use at sites where contamination from suspended solids might occur. Grassed swales are not considered effective in filtering contaminants such as organic nitrogen, phosphorus, and bacteria.

#### 7.3.4 Construction and Maintenance

- Grass should be local species or standard turf grass where a more manicured appearance is required.
- The grass should be allowed to grow higher than 75 mm so that suspended solids can be filtered effectively.

### 7.4 Streets

#### 7.4.1 Roadway Drainage

- Provision shall be made to remove runoff from streets into drainage channels, watercourses, and pipe systems at low points and at intervals that will assure that ponding of stormwater on streets does not occur for long durations.
- The maximum depth of stormwater flow on any street shall not exceed 0.3 m, with a maximum flow velocity of 2 m/s.
- For storms greater than the design storm of the minor drainage system (i.e. a storm event with a return period in excess of 10 years), streets shall be designed to temporarily convey flow as part of the major drainage system. The flow conveyance capacity of a street shall be determined using the Manning Equation, with a Manning's resistance coefficient of 0.013 (asphalt surface), 0.015 (concrete surface) and 0.030 (sod surface).
- For storms up to and including the 10-year return period storm, the Engineer must consider that, for all roads, a traveled way of adequate width is maintained to ensure the safe passage of all vehicles in both directions.
- For residential streets and local collector streets, the Engineer must ensure that during storms up to and including the major design storm (the 100-year return period storm), the

depth and spread of flow does not exceed the curb height and does not exceed the right-of-way width (see next section).

- For major collector streets and arterial streets (emergency access routes), the Engineer must ensure that during storms up to and including the major design storm (the 100-year return period storm), a traveled way of adequate width is maintained to ensure the safe passage of vehicles in both directions.

#### 7.4.2 Curbs and Gutters

- A curb should confine the surface water from the roadway to the gutter, which transports water to inlets into the minor drainage system or the major drainage system.
- Curbs and gutters are usually installed along city streets. The gutter should be hydraulically efficient with a smooth surface texture and a minimum grade of 0.3%. Gutter flow can be determined using a modified version of the Manning Equation:

$$Q = (0.375 \ S_o^{0.5} \ d^{2.667}) / (n * S_x)$$

where

- Q = the gutter flow in  $m^3/s$ ,  
S<sub>o</sub> = the longitudinal slope, m/m,  
d = the depth of flow at the curb, m,  
n = Manning's resistance coefficient, and  
S<sub>x</sub> = cross slope over the pavement area, m/m.

- In applying the equation, allowance should be made for changes in the gutter cross section if the slope of the gutter is depressed near the curb.
- The depth and spread of flow during the major design storm (the 100-year return period storm) and the Timmins Storm shall be contained within the right-of-way if the curb acts as a barrier, or discharged from the right-of-way through municipal land designed to convey the overland flow if the curb can and is designed to be overtopped.
- For storms with a magnitude less than or equal to the design storm of the minor drainage system, i.e. the 10-year return period storm, roadways should remain free of water, except for water accumulated between inlets. The maximum spread of water across a street as

measured from the curb should not exceed 3 m or one half of the width of the traffic lane closest to the curb, whichever is less. The calculation of maximum stormwater spread should be based on a road crown of 2.0%, in accordance with the City of Sault Ste. Marie general specifications for road and street design.

- The spacing between two consecutive inlets shall be as shown in Section 6.10.2.
- Inlets along streets should also be provided at:
  - Sag points in the gutter grade, upstream of major street intersections and pedestrian cross walks, and along median barriers,
  - Upstream and downstream of bridges, and
  - Upstream of the starting point of a horizontal curve where there are major changes in cross (transverse) and longitudinal slope.

#### 7.4.3 Roadway Ditches

- Roadway ditches shall be designed as an open channel with maximum side slopes of 2 horizontal to 1 vertical.
- Ditches shall be designed with adequate capacity to carry the expected flow from either the minor storm (10-year storm) or major storm (the 100-year return period storm and Timmins Storm) based upon the use of the ditch.
- The minimum grade of a roadside ditch shall be 0.5% unless otherwise approved by the Commissioner of Engineering and Planning.
- The maximum velocity in an unlined ditch shall be in accordance with Table 7.1.

## 7.5 Culverts

### 7.5.1 Hydrotechnical Considerations

- Culverts are to be sized to convey instantaneous peak flows with a headwater depth (HW) to culvert diameter (D) ratio of 1.0 accounting for both inlet control and outlet control.
- Culverts located under driveways are to have a minimum size of 375 mm, culverts under roadways are to have a minimum size of 600 mm. Both are to be designed to accommodate the 10-year return period storm, unless otherwise directed by the City.

- Culverts located in major drainage courses or natural watercourses are to be a minimum size of 600 mm and be designed to accommodate the major design storm (the 100-year return period storm), and the Timmins Storm unless otherwise directed by the City.
- The maximum culvert outlet velocity is 4.0 m/s.
- A rip rap splash pad and apron or a plunge pool must be designed to transition the culvert outlet velocity to the maximum permissible mean downstream channel velocity. Rip rap should be sized in accordance with the following equation:

$$D_{mean} = 0.019 \times V^2$$

where:

$D_{mean}$  = equivalent spherical diameter of rip rap (m), and  
 $V$  = culvert outlet velocity (m/s).

- Notwithstanding the above guidelines, culverts are not to initiate or aggravate flooding of private or public property.

### 7.5.2 Dimensions and Layout

- Minimum culvert diameter are as per Section 7.5.1.
- No downstream decrease in culvert sizing is permitted.
- Minimum cover for culverts under roadways is 500 mm.
- The Engineer should base maximum cover for culverts on pipe strength calculations including earth loading, live loading, and induced loading, accounting for site conditions and construction practices.

### 7.5.3 Inlet and Outlet Headwalls

- All culverts under roadways are to be equipped with an inlet and outlet headwall, or some other form of embankment stabilization and erosion control, approved by the City.
- Headwalls on driveway culverts are to be in accordance with Public Works and Transportation Standards.

#### 7.5.4 Inlet and Outlet Grates

- Culverts longer than 25 m and smaller than 1.2 m in diameter shall be equipped with inlet and outlet grates.
- Under no circumstances shall a culvert be equipped with an outlet grate and no inlet grate.
- Inlet grates shall be constructed of vertically oriented bars. Outlet grates shall be constructed of horizontally oriented bars.
- Design and sizing of inlet and outlet grates must account for the restriction in flow created by the grate and blockage.
- Placement of any grate shall be as per Ontario Provincial Standards.

#### 7.5.5 Culvert Materials

- For culvert design, material shall consist of the following:
  - Less than 900 mm diameter – concrete, CSP - poly-coated CSP, aluminized CSP;
  - 900 mm to 1800 mm – poly-coated CSP, aluminized CSP, and concrete;
  - Greater than 1800 mm – concrete box culverts only.
- Polyethylene culverts require minimum 600 mm cover.

Exceptions will be allowed with approval of the Commissioner of Engineering and Planning or his designate or by Public Works and Transportation.

### 7.6 Stormwater Attenuation Ponds

This section is intended to provide general guidance on the use of stormwater attenuation ponds within the City of Sault Ste. Marie. Details regarding the design and use of stormwater attenuation ponds can be found in the MOE's "Stormwater Management Planning and Design Manual" (2003) and in technical literature, the more prominent of which are listed in Chapter 9.0 (Bibliography).

Stormwater ponds within a subdivision are to be on lands dedicated to the City of Sault Ste. Marie. Ponds are not considered parkland dedication.

#### 7.6.1 Dry Versus Wet Ponds

- The City of Sault Ste. Marie's Engineering and Planning Department prefers the use of dry ponds over wet ponds.

- Stormwater attenuation ponds can include wet ponds and dry ponds. Wet ponds have a permanent standing body of water. Dry ponds only contain water immediately following a storm event. Wet ponds provide better breeding habitat for insects than dry ponds (and thereby increase the spread of biting insect-borne diseases such as the West-Nile virus) and have a greater potential than dry ponds to increase water temperature to levels detrimental to aquatic life.
- The purpose of a dry pond is to temporarily store stormwater runoff in order to restrict peak discharge to pre-development conditions and reduce the potential of downstream flooding and erosion. Dry ponds are considered effective for volume reduction. As a detention facility, a dry pond should flatten and spread the inflow hydrograph, thus lowering the peak discharge.
- As dry ponds have no permanent pool of water, the removal of stormwater contaminants in dry ponds is a function of the pond's drawdown time. Dry ponds operating in a batch mode are considered more effective than a dry pond operating in a continuous mode. Dry ponds typically have limited effectiveness with regards to quality control and should be used in tandem with other stormwater management measures such as oil grit separators and low impact development measures.
- During the design process, the Engineer is to generate hydrographs to assess the performance of the stormwater pond. Other design considerations include ease of maintenance and use of the pond. In addition, the Engineer could consider alternate means, including fabricated storm drainage detention facilities, to reduce peak flows.

#### **7.6.2 Hydrotechnical Considerations**

- The emergency spillway of the pond should be designed to accommodate overtopping beyond the typical design storms.
- The pond should be designed to empty within 72 hours following the termination of stormwater inflow.

#### **7.6.3 Dimensions and Layout**

The following is to be read in conjunction with Table 4.8 of the MOE's "Stormwater Management Planning and Design Manual" (2003). In general all stormwater management ponds shall meet the requirements of the Ministry of the Environment.

- In order to maximize the water quality benefits from a stormwater attenuation pond, the ratio of effective pond length to width should exceed 3 to 1, and the inlet should be located as far away from the outlet as possible.
- The bottom of dry ponds shall be graded to drain all areas after operation. The minimum bottom slope is 0.5%. The recommended bottom slope is 2.0%.
- In consideration of public safety, the maximum allowable active retention storage depth for a dry pond shall be in accordance with Ministry of the Environment Guidelines.
- The maximum embankment slopes of stormwater retention ponds are 4 horizontal to 1 vertical for interior (inward facing) slopes, and 3 horizontal to 1 vertical for exterior (outward facing) slopes. Consideration is to be given to terracing.
- The minimum pond freeboard is 0.3 m.
- Stormwater treatment measures will need to be accessible to the largest piece of equipment that will be needed for maintenance. Large basins need to have a perimeter access road accessible by heavy vehicles for sediment removal and controlling emergent vegetation. Access shall be from a municipal road allowance via a 4 meter wide gravel access road consisting of 600 mm Granular B and 150 mm Granular A. A hammerhead turn around shall be provided, unless the access road is less than 60 meters length. Access shall be to the inlet, outlet and any point where maintenance is required.
- Signage shall be installed by the City and the City shall collect costs from the developer for the signage.
- At any point where an excavator is to enter the pond a “Turf stone” or similar material shall be utilized on the slopes.
- Material excavated during construction of the pond shall be disposed of appropriately.
- The pond bottom shall be re-established as designed once maintenance is completed.

## 8.0 DESIGN DOCUMENTATION

### 8.1 General Submissions

The submission requirements presented in this document are limited to drainage infrastructure only, and may be superseded by the City of Sault Ste. Marie. A detailed design must be performed for each stormwater system that is to be built in the City of Sault Ste. Marie. The Engineer must retain a copy of all design information supplied to the Developer. Upon request, the Engineer will submit to the Engineering and Planning Department computational sheets, and related model output used to determine design flows, hydraulic capacity of components of the drainage systems and the entire drainage system, and estimates of the depth and extent of flow in open channels.

A Developer must supply in a timely manner to the Engineering and Planning Department all required technical briefs and reports, design drawings and supplementary calculations as may be required by that office. Development is not to proceed until the Commissioner of Engineering and Planning has received and accepted the requested information.

Acceptance of design documents by the Engineering and Planning Department does not relieve the Engineer of the responsibility for proper design, nor does it imply that the Engineering and Planning Department has checked the plans, technical briefs, and supplementary calculations for compliance with this document. Additional copies of any plans, technical briefs, and supplementary calculations as deemed necessary by the Commissioner of Engineering and Planning may be required.

In order to facilitate the overall management of stormwater within the City of Sault Ste. Marie, any development that involves the installation or upgrading of municipal stormwater infrastructure requires that two (2) copies of a **Drainage Plan** (also referred to as the dual drainage plan) and two (2) copies of a **Drainage Design Report** be submitted along with the **Lot Grading Plan** and other required documentation to the City of Sault Ste. Marie's Engineering and Planning Department.

If On-Lot storage is proposed as part of a development, the Engineering and Planning Department may require a deposit to ensure final construction conforms to the design and ensure the receipt of associated record information. The need for this deposit is a function of the type of On-Lot storage, and is at the discretion of the Commissioner of Engineering and Planning.

All Drainage Plans and Drainage Design Reports must be prepared under the direct supervision of, and be signed and sealed by a licensed Professional Engineer, who is a member of Professional Engineers Ontario (PEO). The requirements of the Drainage Plans and the Drainage Design Report are presented in the following subsections.

## **8.2 Drainage Plans**

The intent of the Drainage Plan is to provide a graphical representation of new or upgraded drainage infrastructure, and the manner in which it affects the drainage of, or is affected by the drainage from, surrounding land. The Drainage Plan is to be prepared at a scale of 1:1,000 or larger and must include the following in either graphic and/or tabular form:

- The location of the development within the total topographic drainage area;
- Site layout including proposed streets, lots and approximate location of proposed structures;
- Pre-development contours at an interval adequate to illustrate the topography;
- All existing watercourses including creeks, ponds and wetlands indicating direction of flow;
- Boundaries of catchment and sub-catchment areas tributary to each: set of catch basins, infiltration pond, or drainage channel, indicating the direction of flow, drainage area, and where appropriate, runoff coefficients;
- The location and layout of the proposed stormwater drainage system including swales, maintenance holes, catch basins, and all storm sewers indicating pipe material, diameter, slope, and direction of flow;
- The size and location of any proposed post-development stormwater storage and retention facilities; and
- The location of outfalls, or connections to existing systems.

## **8.3 Drainage Design Reports**

The intent of the Drainage Design Report is to summarize all of the relevant design information associated with the installation or upgrading of municipal stormwater infrastructure. These reports will facilitate the overall management of stormwater within the City of Sault Ste. Marie, and the integration of stormwater drainage infrastructure. All drainage design reports shall include:

- A description of the design methodology used. This shall include the computational methods or computer model(s) and the design storms used.
- For all drainage infrastructure and discharge points from a property, a summary shall be provided of: drainage area, percentage impervious area, runoff coefficient or curve number, and design flows for existing and post-development conditions.
- Model results including outflow hydrographs and hydraulic grade lines associated with the minor and major design flows.
- Design calculations on downstream drainage facilities confirming capacity is available. Where capacity is not available the report shall include specific recommendations on downstream improvements to be made to accommodate the additional drainage.

#### **8.4 Engineering Design and As-Built Drawings**

Engineering Design Drawings and As-built Drawings are to meet the requirements of the City of Sault Ste. Marie.

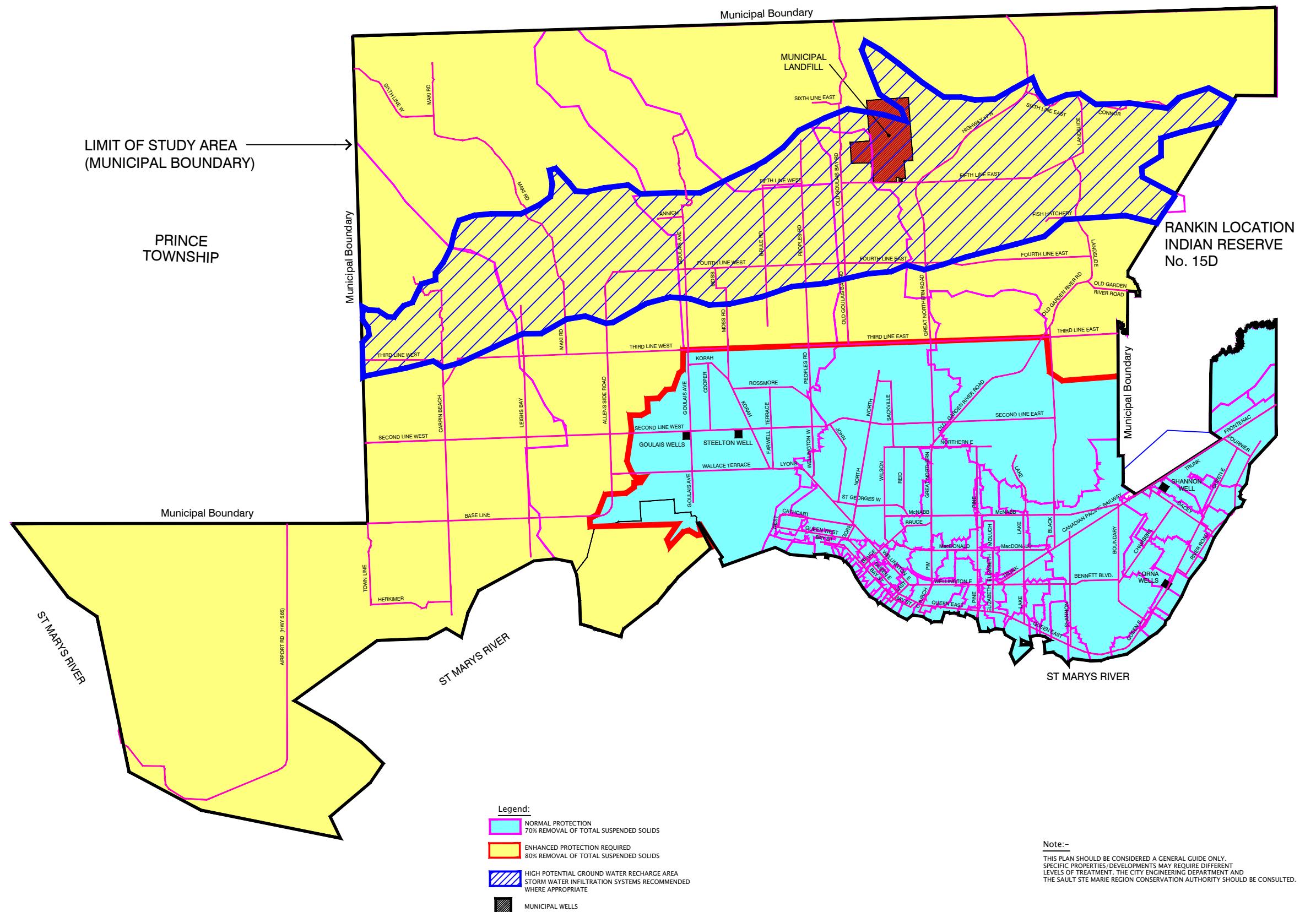
## 9.0 BIBLIOGRAPHY

- Alberta Environmental Protection. 1999. Stormwater Management Guidelines for the Province of Alberta. Municipal Program Development Branch. Pub T/378. ISBN: 0-7732-5149.
- City of Calgary, Alberta, 2000. Stormwater Management and Design Manual.
- City of Cambridge, Ontario. 1997. Stormwater Management Policies and Guidelines. Online: <http://www.city.cambridge.on.ca/relatedDocs/Stormwater%20Mngt.pdf>
- City of Chilliwack, British Columbia. 2002. Policy and Design Criteria Manual for Surface Water Management. Final Draft. Prepared by: CH2MHill. 48 p.
- City of Greater Sudbury, Ontario. 2005. Engineering Design Manual
- City of Greater Sudbury, 2006. Official Plan Stormwater Background Study
- City of Nanaimo, British Columbia. 2003. Manual of Engineering Standards and Specifications. Section 7: Storm Sewer System. Online:  
[http://www.city.nanaimo.bc.ca/a\\_engineering/engineering\\_standards.asp](http://www.city.nanaimo.bc.ca/a_engineering/engineering_standards.asp)
- Environment Canada. 1974. New Brunswick Flood, April-May 1973. Technical Bulletin No. 81, Inland Waters Directorate, Atlantic Region, Halifax, Nova Scotia, 1974.
- Environment Australia (2002). Introduction to Urban Stormwater Management in Australia. Prepared Under The Urban Stormwater Initiative of the Living Cities Program 2002. Department of the Environment and Heritage © Commonwealth of Australia, 2002
- National Research Council, Canada and Federation of Canadian Municipalities. 2003. Source and On-Site Controls for Municipal Drainage Systems. A Best Practice by the National Guide to Sustainable Municipal Infrastructure. © Copyright National Guide to Sustainable Infrastructure. Issue No. 1.
- Ontario Ministry of the Environment. 2003. Stormwater Management Planning and Design Manual. Queen's Printer for Ontario. ISBN 0-7794-2969-9.
- Ontario Ministry of Transportation. 1997. Drainage Management Manual
- Ontario Ministry of Transportation and Communication. 1986. MTC Drainage Manual
- Roads & Transportation Association of Canada. 1987. *Drainage Manual*.
- Trow Group, The. 1977. Geotechnical Study City of Sault Ste. Marie
- Publication 709. Technical Bulletin 30, pp. 51. Canada: Department of Agriculture.

- Chow, V.T. 1959. Open-Channel Hydraulics. McGraw-Hill Book Company. ISBN 07-010776-9

## **APPENDIX 1**

### **PLAN 1 - STORMWATER MANAGEMENT REQUIREMENTS**





## COUNCIL REPORT

February 23, 2015

**TO:** Mayor Christian Provenzano and Members of City Council  
**AUTHOR:** Madison Zuppa, Environmental Initiatives Coordinator  
**DEPARTMENT:** Engineering and Planning Department  
**RE:** Yellow Fish Road and Urban Stormwater Control and Management

---

### PURPOSE

The purpose of this report is to request Council's approval to amend the existing Great Lakes Sustainability Fund contribution agreement for "Urban Stormwater Control and Monitoring".

### BACKGROUND

The Yellow Fish Road Program is a "national conservation education initiative" led by Trout Unlimited Canada (TUC). The Program has been in place since 1991 where participants paint yellow fish on the road near storm drains and hand out door hangers throughout selected neighbourhoods. These actions are an attempt to educate individuals about the negative impact on local waterways when pollution enters the environment by way of a catch basin. Storm water that flows through storm sewers is not subject to the same intensive sanitation treatment as waste water, so reducing the amount of pollution that enters the catch basins is crucial.

A planning meeting was held in October 2013 with Councillor Susan Myers, staff from the Engineering, Legal, Public Works and Transportation, Sault Ste. Marie Police Services, and Sault Ste. Marie Region Conservation Authority to initiate the program locally. Local Girl Guides and the Remedial Action Plan Coordinator were also invited and interested in participating, but were unable to attend.

As a result of the meeting, an application was submitted to the Ontario Community Environment Fund (OCEF) through the Ministry of Environment and Climate Change in November 2013 in an effort to secure funds to implement the program.

A financial commitment was also secured through the Municipal Environmental Initiatives (Green) Committee 2014 operating budget in the event that matching funds were required or if funding was not received.

In September 2014, the City was advised that the Ministry of Environment and Climate Change would not be receiving funding through OCEF. Unfortunately the timing of the announcement did not allow for completion of the project in 2014; however, all partners are still interested in implementing the Program in 2015.

In January 2015, Environment Canada advised us that materials and supplies for the Yellow Fish Road Program could be applied to the surplus budget available through the “Urban Stormwater Control and Monitoring” project funded through the Great Lakes Sustainability Fund, as the Yellow Fish Road Program is in line with the intent of the original project. Great Lakes Sustainability Funding will cover 33% of eligible project costs. A total budget of \$133,399 was approved through Environment Canada for the Urban Stormwater Control and Monitoring project which included a contingency as presented at the October 9, 2012 Council meeting. The Engineering Agreement funded through the project accounts for \$109,676.93 (including 1.76% PVAT), as approved by Council. Environment Canada has also indicated that staff in-kind costs where applicable can be attributed to any remaining funding available.

## **ANALYSIS**

TUC has provided the City with several templates and background information to ensure the successful implementation of the Yellow Fish Road Program in Sault Ste. Marie. Kits can be purchased directly through TUC that include all the necessary supplies to complete the event. Additional items to be purchased may include t-shirts, magnets, and Girl Guide badges. Best practices from the City of Kelowna, Guelph, Windsor, Mississauga, Burlington, Cambridge, Quinte Conservation, Niagara Peninsula Conservation Authority, Toronto and Region Conservation, and Kettle Creek Conservation Authority were also explored.

A meeting has been scheduled with relevant City staff and community stakeholders for early March to finalize the project plan and receive authorization from TUC to implement the Program locally. A Memorandum of Agreement with TUC will be brought back to Council once the project plan has been finalized.

## **IMPACT**

The original budget for the Yellow Fish Road campaign as identified in the OCEF application was \$4,655. Any eligible materials and supplies purchased prior to March 31, 2015 will receive 33% funding through the Great Lakes Sustainability Fund, and the remainder of the program costs are being requested to be covered through the Green Committee Reserve, which has an uncommitted balance of \$67,526.

## **STRATEGIC PLAN**

Yellow Fish Road and Urban Stormwater Control and Management

2015 02 23

Page 3

Yellow Fish Road is not an activity that was included in the 2011-2014 Corporate Strategic Plan; however, may be considered during the 2015-2018 strategic planning process.

**RECOMMENDATION**

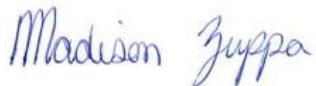
It is therefore recommended that Council take the following action:

Resolved that the report of the Environmental Initiatives Coordinator dated 2015 02 09 concerning Yellow Fish Road and Urban Stormwater Control and Monitoring be received and that the following recommendations be approved:

- Allocate up to \$5,000 from the Green Committee Reserve to be utilized to cover costs associated with the implementation of the Yellow Fish Road Program in 2015;
- Authorize the amendment to the Great Lakes Sustainability Fund Agreement for "Urban Stormwater Control and Monitoring"; and
- Allocate remaining funding to in-kind staff costs for both projects where feasible.

By-laws 2015-40 appear elsewhere on the agenda and are recommended for approval.

Respectfully submitted,



Madison Zuppa, MES  
Environmental Initiatives Coordinator

Recommended for approval



Jerry Dolcetti  
Commissioner, Engineering & Planning



Environment  
Canada

January 19, 2015

Finance ID # 1205286

## Amendment # 1

The Corporation of the City of Sault Ste. Marie  
99 Foster Dr., Box 580  
Sault Ste. Marie  
Ontario  
P6A 5X6

Dear Ms. Catherine Taddo:

We wish to inform you that Environment Canada (EC) intends to approve an amendment to the above noted Agreement. Your concurrence, by signing below and returning a copy of this letter to EC within 10 business days, is required for EC to finalize and implement this amendment.

I concur with this Amendment to the contribution agreement with Environment Canada, and represent and warrant that I am duly authorized to approve this amendment on behalf of

# The Corporation of the City of Sault Ste. Marie

(insert name of organization)

Christian Provenzano, Mayor

February 23, 2015

Malcolm White, City Clerk

February 23, 2015

---

**Name & Title**

---

**Signature**

---

Date

Should you have any questions about this amendment or require additional information, please contact Mark Chambers (416-739-4791).

Sincerely,

rely,  
  
ee  
ger, Great Lakes Areas of C

Jon Gee  
Manager, Great Lakes Areas of Concern

FOR EC USE ONLY

**Amendment approved and completed:**

---

Name & Title

Signature

Date

## Agreement Amendment

This amendment revises the following section(s) of the Agreement:

Change to Section 1 ("Stormwater Outfalls") in Appendix E of the Agreement:

FROM:

- Conduct a review of potential spill response measures for each outfall in year two and three, including:
  - Recommendations for spill response equipment to be used, including any capital upgrades that may be necessary at the outfalls, including safety and cleanup equipment.

TO:

- Conduct a review of potential spill response measures for each outfall in year two and three, including:
  - Recommendations for spill response equipment to be used, including any capital upgrades that may be necessary at the outfalls, including safety and cleanup equipment; and
  - Measures that are proactive and pre-emptive in avoiding spills, including community outreach and education efforts and associated expenses.

ADD:

Change within Appendix B ("Project Cashflow and Environment Canada Funding") to expand "Management and professional service costs" to allow purchase of materials for fostering community outreach/education

**APPENDIX B**

**Project Cashflow and Environment Canada Funding**

**2012-2013**

**Project Cashflow**

		TOTAL		
Contributor	Contributor Type	Cash	In-Kind	All Funding
Great Lakes Sustainability Fund	Environment Canada	560		560
City of Sault Ste Marie	Municipal Government	1,040	2,000	3,040
<b>Total Project Funding</b>		<b>1,600</b>	<b>2,000</b>	<b>3,600</b>

**Project Costs**

		TOTAL		
Cost Detail	Cost Category	Cash	In-Kind	All Funding
Sample collections and analysis, review and meetings	Management and professional service expenditures	1,600	2,000	3,600
<b>Total Project Funding</b>		<b>1,600</b>	<b>2,000</b>	<b>3,600</b>

**EC Funding**

		Apr, May, Jun	Jul, Aug, Sep	Oct, Nov, Dec	Jan, Feb, Mar	TOTAL		
Expenditure Detail	Expenditure Category	Cash	Cash	Cash	Cash	Cash	In-Kind	All Funding
Sample collections and analysis, review and meetings	Management and professional service expenditures			560		560		560
<b>Total Expenditures</b>		<b>0</b>	<b>0</b>	<b>560</b>	<b>0</b>	<b>560</b>	<b>0</b>	<b>560</b>

**2013-2014**

**Project Cashflow**

		TOTAL		
Contributor	Contributor Type	Cash	In-Kind	All Funding
Great Lakes Sustainability Fund	Environment Canada	22,287		22,287
City of Sault Ste Marie	Municipal Government	38,818	2,000	40,818
<b>Total Project Funding</b>		<b>61,105</b>	<b>2,000</b>	<b>63,105</b>

**Project Costs**

		TOTAL		
Cost Detail	Cost Category	Cash	In-Kind	All Funding
Sample collections and analysis, review and meetings	Management and professional service expenditures	18,000	2,000	20,000
Sample collection and analysis, operations review and reporting	Contractors	42,574		42,574
Contingency for equipment needs and community outreach/education	Material and supplies expenditures	531		531
<b>Total Project Funding</b>		<b>61,105</b>	<b>2,000</b>	<b>63,105</b>

**EC Funding**

		TOTAL		
Expenditure Detail	Expenditure Category	Cash	In-Kind	All Funding
Sample collections and analysis, review and meetings	Management and professional service expenditures	6,300		6,300
sample collection and analysis, operations review and reporting	Contractors	15,987		15,987
<b>Total Expenditures</b>		<b>22,287</b>	<b>0</b>	<b>22,287</b>

**2014-2015**

**Project Cashflow**

		TOTAL		
Contributor	Contributor Type	Cash	In-Kind	All Funding
Great Lakes Sustainability Fund	Environment Canada	24,287		24,287
City of Sault Ste Marie	Municipal Government	40,407	2,000	42,407
<b>Total Project Funding</b>		<b>64,694</b>	<b>2,000</b>	<b>66,694</b>

**Project Costs**

		TOTAL		
Cost Detail	Cost Category	Cash	In-Kind	All Funding
Sample collections and analysis, review and meetings	Management and professional service expenditures	19,200	2,000	21,200
Sample collection and analysis, operations review and reporting	Contractors	41,800		41,800
Contingency for equipment needs and community outreach/education	Material and supplies expenditures	3,694		3,694
<b>Total Project Funding</b>		<b>64,694</b>	<b>2,000</b>	<b>66,694</b>

**EC Funding**

		TOTAL		
Expenditure Detail	Expenditure Category	Cash	In-Kind	All Funding
Sample collections and analysis, review and meetings	Management and professional service expenditures	6,720		6,720
sample collection and analysis, operations review and reporting	Contractors	14,067		14,067
Contingency for equipment needs and community outreach/education	Material and supplies expenditures	3,500		3,500
<b>Total Expenditures</b>		<b>24,287</b>	<b>0</b>	<b>24,287</b>

**Grand Total**

**Project Cashflow**

Project Funding		TOTAL		
Contributor	Contributor Type	Cash	In-Kind	All Funding
Great Lakes Sustainability Fund	Environment Canada	47,134		47,134
City of Sault Ste Marie	Municipal Government	80,265	6,000	86,265
<b>Total Project Funding</b>		<b>127,399</b>	<b>6,000</b>	<b>133,399</b>

Project Costs		TOTAL		
Cost Detail	Cost Category	Cash	In-Kind	All Funding
Sample collections and analysis, review and meetings	Management and professional service expenditures	38,800	6,000	44,800
Sample collection and analysis, operations review and reporting	Contractors	84,374		84,374
Contingency for equipment needs and community outreach/education	Material and supplies expenditures	4,225		4,225
<b>Total Project Funding</b>		<b>127,399</b>	<b>6,000</b>	<b>133,399</b>

EC Funding		TOTAL		
Expenditure Detail	Expenditure Category	Cash	In-Kind	All Funding
Sample collections and analysis, review and meetings	Management and professional service expenditures	13,580		13,580
sample collection and analysis, operations review and reporting	Contractors	30,054		30,054
Contingency for equipment needs and community outreach/education	Material and supplies expenditures	3,500		3,500
<b>Total Expenditures</b>		<b>47,134</b>	<b>0</b>	<b>47,134</b>

## **Appendix E**

### **Workplan**

The project will determine what actions should be taken in relation to three distinct areas:

1. ten storm specified sewer outfalls, (see Figure 1 appendix F)
2. the Bellevue Park pond, and
3. the East End Snow Dump

#### **1. Stormwater Outfalls**

This project will conduct monitoring at each of nine outfalls by a recent Stormwater Management Study for the City of Sault Ste. Marie (Figure 1, Appendix F), and determine the current baseline water quality data for possible installation of potential oil/grit separators. One outfall with an existing oil/grit separator will also be monitored as a comparator. Follow-up monitoring is also proposed at the outfall(s) affected by the installation(s) in a complementary project that is outside the scope of work for this agreement.

The specific activities to be undertaken in year 2 and 3 of this project include the following:

- Monitoring program for ten (10) outfalls for eight (8) events per year (June and July) over two years for a total of 16 events at each outfall to include the following, relating to nine (9) potential oil/grit separators, and one (1) existing oil/grit separator:
  - E. Coli once per week
  - Total Suspended Solids (TSS) once per week
  - Total Phosphorus (TP) once every two weeks
  - Total Oil and Grease (O&GT) once per month
  - Biochemical Oxygen Demand (BOD) once per month
  - Total Kjeldahl Nitrogen (TKN) once per month
  - pH once per month
  - Total phenols once per month
  - Particle size distribution
- Collect additional samples during the first flush when possible, which is within one half hour of a rainstorm. It is the intent to collect four (4) first flush events per year.
- Conduct a review potential spill response measures for each outfall in year two and three, including:
  - Recommendations for spill response equipment to be used, including any capital upgrades that may be necessary at the outfalls, including cleanup equipment.
  - Measures that are proactive and pre-emptive in avoiding spills, including community outreach and education efforts and associated expenses.
- On an annual basis, the data will be compiled and an Annual Report prepared and submitted summarizing the test results.

## **2. East End Snow Dump**

This project will conduct monitoring at East End Snow Dump to assess potential impacts to the St Marys River and provide baseline data for a preliminary feasibility study of alternative measures available to mitigate the identified impacts. The specific activities to be undertaken at this site in years 2 and 3 of the project will quantify the potential impacts and provide baseline data for future remedial works, as follows:

- Review operations on site with the City's Department of Public Works and Traffic including a review of geotechnical report(s) for neighbouring property (year two).
- Install 3 groundwater monitoring wells (year two) on site to document groundwater flow patterns and allow sampling of near-surface groundwater quality. Groundwater will be sampled three times per year (spring, summer and fall) for a duration of two years. This will lead to an assessment of potential groundwater discharges to the river and potential impacts from this source.
- Install flow control sampling stations for assessment of snow melt run-off (year two). Snow-melt run-off will be sampled twice per year at two sampling locations each event for a duration of two years. Samples of snow-melt run-off will be obtained and tested at an accredited laboratory for parameters of concern relating to potential impacts to the St. Marys River. Parameters to be tested will include total suspended solids, metals, sodium, chlorides, and oil/grease. Sample waters will also be subjected to a particle size distribution analysis for possible future use in the design of any solids removal remedial works.
- Sample and analyse sediments remaining on site following snow-melt. This will provide baseline information for potential contaminants in run-off to the St. Marys River. Soils will be sampled once per year following snow-melt at three sample locations per year for a period of two years.
- Compile all the above data to quantify and assess the impacts to the river from this site (year three).
- Provide an assessment of remedial measures to mitigate identified impacts to the river and report (year three).

### **Bellevue Park Pond**

The Bellevue Park pond has been identified as a source of contaminants to the St. Marys River, particularly in relation to bacteriological inputs. This project will obtain baseline monitoring data to quantify the potential impairment and provide information to assess potential mitigating actions.

The specific activities to be undertaken as part of this project include the following:

- Review of available information and meetings with regulatory agencies (year two);
- Detailed site survey and Base Plan preparation to analyze the hydraulics of the pond and document the findings. (year two);
- Sampling and analysis of inlet, pond and outlet waters for parameters of concern including total coliforms, e-coli, total solids, nutrients, metals, and oil/grease (year two). Sampling will include four sampling events with four samples per event, all in one year for a total of 16 samples.
- This will provide baseline information for the assessment of any remedial activities (year three) and to measure the performance of any implemented works (future project);
- Assessment of remedial actions to improve water quality and level of water within the pond. An assessment of potential remedial actions to address water quality, water level and aesthetic issues associated with the site will be conducted (year three).



## COUNCIL REPORT

February 23, 2015

**TO:** Mayor Christian Provenzano and Members of City Council  
**AUTHOR:** Nuala Kenny, City Solicitor  
**DEPARTMENT:** Legal Department  
**RE:** Renewal of City's Insurance Program – Jardine Lloyd Thompson Canada Inc.

---

### PURPOSE

The purpose of this report is to recommend to Council the renewal of the City's Insurance Program for a period of three (3) years commencing February 28, 2015 to February 28, 2018. The City's current insurance is provided by Jardine Lloyd Thompson Canada.

### BACKGROUND

In June 2014 the City asked its broker to go to market to determine the best possible insurance available for the City of Sault Ste. Marie. The City received three offers to provide insurance for Sault Ste. Marie. The offers were received from Frank Cowan Company, BFL Canada, and Jardine Lloyd Thompson Canada. Each company had a deductible of Seventy-five Thousand (\$75,000.00) Dollars. The premiums were as follows:

Jardine – One Million Two Hundred Fifty Thousand Two Hundred Fifty-Eight (\$1,250,258.00) Dollars;

Frank Cowan Company – One Million Two Hundred Fifty Thousand Four Hundred Sixty-Seven (\$1,250,467.00) Dollars; and

BFL Canada – One Million Three Hundred Twenty-One Thousand Three Hundred Sixty-One (\$1,321,361.00) Dollars.

### ANALYSIS

Each of the three companies has expertise in municipal insurance. However Jardine has the lowest premium provided. In addition Jardine provides better automobile coverage. Specifically, Jardine includes replacement cost on all vehicles up to 20 years old regardless of whether the vehicles are owned or leased. Cowan does not offer replacement cost for leased vehicles. Only actual

Report to Council – Renewal of City's Insurance Program – Jardine Lloyd

Thompson Canada Inc.

2015 02 23

Page 2.

cash value would be paid. Additionally, Jardine authorizes the local broker to issue certificates of insurance directly. This allows for immediate production of certificates. Both Cowan and BFL require the City to obtain certificates directly from the insurer, adding time to the process. Furthermore, Jardine has committed to meeting the deductible and premium amounts for the next three (3) years provided there are no extraordinary events during the term.

**IMPACT**

Insurance has an obvious financial impact on the City yet it is necessary to insure our continued operations.

**STRATEGIC PLAN**

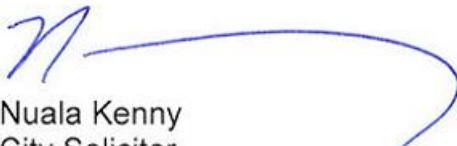
Not applicable.

**RECOMMENDATION**

It is therefore recommended that Council take the following action:

By-law 2015-33 which appears elsewhere on your agenda tonight is recommended for approval (renewal of the City's Insurance Program for a period of three (3) years commencing February 18, 2015 to February 28, 2015 with Jardine Lloyd Thompson Canada.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Nuala Kenny". A blue curved line extends from the end of the signature towards the right.

Nuala Kenny  
City Solicitor  
NK/cf

Staff/Council Reports/2015/Renewal of City Insurance Program feb23.15



## COUNCIL REPORT

February 23, 2015

**TO:** Mayor Christian Provenzano and Members of City Council  
**AUTHOR:** Susan Hamilton Beach, P. Eng. Deputy Commissioner  
**DEPARTMENT:** Public Works and Transportation Department  
**RE:** Pointe Des Chenes – Lions Club Operating Agreement

---

### PURPOSE

The purpose of this report is to address Council's concerns raised during the meeting of February 9, 2015 and to seek Council's approval to enter into a five (5) year term agreement with the Lions Club for the operation and maintenance of the campground at Pointe Des Chenes.

### BACKGROUND

At the last Council meeting, concerns were raised that should either party wish to terminate the agreement within five (5) year term of the agreement, they should be allowed to do so. It was Council's desire to ensure any capital investment made by the Lions Club would be protected.

### ANALYSIS

A review of the draft agreement was conducted and Clause 20 was re-worded such that it has resolved both parties concerns. A copy of the agreement, is presented by the Legal Department for approval at tonight's meeting and is found elsewhere on Council's agenda.

### IMPACT

The budgetary impact of entering into this agreement is positive as it has been negotiated to minimize the City's contribution to the operation and maintenance of the site. It is estimated that the annual expenses will be in the range of \$4,000 - \$8,000 throughout the term of the agreement as opposed to the annual average cost of \$35,000 over the last four (4) years.

Based on this operating agreement, the Lions Club may now proceed with its business plan and continue its work and support throughout the community. The list of the organizations and charities assisted by the Lions Club is attached to this report.

2015 02 23

Page 2.

**STRATEGIC PLAN**

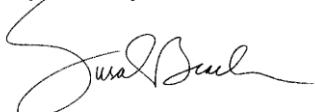
The topic of this report is not mentioned in the Corporate Strategic Plan.

**RECOMMENDATION**

It is therefore recommended that Council take the following action:

“Resolved that the report of the Deputy Commissioner of Public Works dated February 23, 2015 be accepted as information, and furthermore that Council approve By-law No. 2015-39 found elsewhere on Council’s agenda authorizing the Corporation of the City of Sault Ste. Marie to enter into a five (5) year agreement with the Lions Club for the operation and maintenance of Pointe Des Chenes campground.

Respectfully submitted,



Susan Hamilton Beach, P. Eng.  
Deputy Commissioner

Recommended for approval



Larry Girardi  
Commissioner

**List of Recipients of Donations (2009 – 2014) from  
The Lions Club of Sault Ste Marie Ontario**

Sault Star Santa Fund  
Soup Kitchen  
Vincent's Place Soup Kitchen  
Salvation Army Christmas Fund  
Community Assistance Trust – eyeglasses and other special needs  
Christmas Family Program  
City Park Benches  
No Limits Adaptive Ski Club  
Canadian Diabetes Summer Camp  
Canadian Diabetes Association  
Sault Ste Marie Police VIP Program  
Camp Dorset  
Algoma Children's Aid Society  
Cancer Society  
Cancer Related Expenses  
Alzheimer Society  
Canadian Red Cross  
Denture Assistance  
Health Care Travel Assistance  
Half Pint Hooves  
Lions Homes for the Deaf  
Canadian Hearing Society  
Canadian National Institute for the Blind  
Vision Screening for Kindergarten Students  
Lions Foundation Guide Dogs  
Lake Joseph Camp for the Blind  
S.A.H. Foundation Video Conferencing Equipment  
Peace Poster Contest for Elementary Students  
Soo Peewee Hockey  
2310 Royal Canadian Army Cadets  
Dreams Take Flight  
High School Bursaries  
Children's Wish Foundation  
No Child Without  
Lions Quest  
Sault College  
Algoma University  
Back to Basics Children's Centre  
Soo Minor Baseball  
Sault Youth Soccer  
Big Brothers and Big Sisters  
Algoma Family Services  
These donations totalled \$185,000.00. In addition, our club facilitated a donation from Lions Clubs International in the amount of \$125,000.00 for the purchase of an Argon Laser on behalf of the S.A.H. Foundation.



## COUNCIL REPORT

February 23, 2015

**TO:** Mayor Christian Provenzano and Members of City Council  
**AUTHOR:** Susan Hamilton Beach, P. Eng., Deputy Commissioner  
**DEPARTMENT:** Public Works and Transportation Department  
**RE:** Parking Prohibition – Doncaster Road

---

### PURPOSE

To implement a parking and stopping prohibition on Doncaster Road to assist Our Lady of Lourdes Elementary School with traffic access during the morning and afternoon hours of student arrival and dismissal.

### BACKGROUND

Recently St. John's Elementary School was closed and the children were moved to Our Lady of Lourdes Elementary School. The increase in bussing and parental delivery and pickup of students is causing traffic access problems. An additional parking/student pickup area was added to the property, but, access continues to be a problem for school buses.

### ANALYSIS

On February 17, 2015 a meeting was held with representatives of the Huron Superior Catholic School Board, Public Works, Algoma and Huron Superior Transportation Services Consortium, Councillor Krmpotich and Mr. Viotto, School Principal to review the current access problems. During the meeting the recent site improvements and the current access problems were reviewed. It was decided to implement a parking and stopping prohibition on the north side of Doncaster Road. The parking and stopping prohibition would extend from Prentice Ave to the west extent of the school property on Doncaster Road.

### IMPACT

This request results in an addition to Traffic By-law 77-200, Schedule "A", Parking Prohibited (Section 6) and Schedule "D" Stopping Prohibited (Section 19) as noted below. The revision to the Traffic By-law is found elsewhere on Council's agenda tonight.

Schedule A:

Street	Side	From	To	Prohibited Times or Day
Doncaster Road	North	Prentice Avenue	196m west of Prentice Ave.	0830 – 0930 1500 – 1600 hrs Monday to Friday September 1 <sup>st</sup> to June 30 <sup>th</sup> Holidays exempt

Schedule D:

Street	Side	Between	Prohibited Times or Days
Doncaster Road	North	Prentice Avenue and 196m west of Prentice Ave.	0830 – 0930 1500 – 1600 hrs Monday to Friday September 1 <sup>st</sup> to June 30 <sup>th</sup> Holidays exempt

No additional funding will be required as the funding for additional signs will come from the PWT Traffic Division maintenance budget.

**STRATEGIC PLAN**

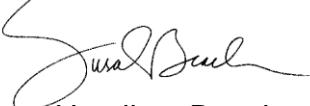
The recommendations of this request are not linked to any activity of the Corporate Strategic Plan.

**RECOMMENDATION**

It is therefore recommended that Council take the following action:

Resolved that the report of the Deputy Commissioner concerning the proposed parking and stopping prohibition be approved and furthermore that the associated By-law amendment found elsewhere on Council's agenda be approved.

Respectfully submitted,

  
Susan Hamilton Beach  
Deputy Commissioner

Recommended for approval,

  
Larry Girardi  
Commissioner



## COUNCIL REPORT

February 23, 2015

**TO:** Mayor Christian Provenzano and Members of City Council  
**AUTHOR:** William Freiburger, Commissioner of Finance and Treasurer  
**DEPARTMENT:** Finance Department  
**RE:** Asset Management Plan

---

### PURPOSE

The purpose of this report is to provide City Council with the attached Asset Management Plan.

### BACKGROUND

The Province of Ontario **now requires** municipalities that request provincial infrastructure funding to show how proposed projects fit within a comprehensive asset management plan.

Asset management helps municipalities make the best possible decisions about building, operating, maintaining, renewing and replacing infrastructure over the long-term.

The Province wants municipalities to review all infrastructure needs when recommending new projects. Also, in the future, there may be less grants for programs available from senior levels of governments to fund major infrastructure.

The City's asset management plan covers a 10 year period that includes such items as;

- What the City owns (Inventory);
- What it's worth (Valuation---Historical/Replacement cost);
- The level of operation (Desired Levels of Service);
- The condition of the assets (State of Local Infrastructure),
- What needs to be done (Asset Management Strategy); and
- How much it will cost and how it will be funded? (Financing Strategy).

## **ANALYSIS**

The asset management plan was developed under the direction of Mr. Jacob Bruzas, Manager of Audits & Capital Planning.

The analysis of municipal buildings was undertaken by the firm Morrison Hershfield and was provided to City Council on April 7, 2014.

The City's Engineering Department provided information relating to roads and engaged third party consultants to assist with the valuation and assessment of bridges, storm sewers, sanitary sewers, sewage treatment plants and sewage pumping stations.

The plan is a developing and fluid document. The plan should be updated regularly and we plan a review every three years.

## **IMPACT**

For the 2015 budget, staff recommends the allocation of funds within the current tax levy to fund an asset management plan for our buildings.

The asset management plan identified expenditures of \$26.7 million over a ten year period and we are planning to spend \$2.7 million per year.

Staff are recommending the following sources of funding for this plan.

- |                                     |             |
|-------------------------------------|-------------|
| 1. Retired debenture debt charges – | \$1,167,630 |
|-------------------------------------|-------------|

The debt charges for the contribution to the F. J. Davey home expired at the end of 2014.

## **NO IMPACT IN 2015 TAX LEVY**

- |                                       |            |
|---------------------------------------|------------|
| 2. Retired Sault Area Hospital levy – | \$ 693,000 |
|---------------------------------------|------------|

The original levy was \$1,100,000 and was reduced in 2014 to \$693,000 for the final payment. No funds are required in 2015.

## **NO IMPACT IN 2015 TAX LEVY**

- |   |            |
|---|------------|
| 3. Continued allocation of Casino revenue (2014 budget) – | \$ 431,580 |
|---|------------|

Approved in 2014 budget from casino revenue. Originally requested \$1 million in 2014 to asset management but was adjusted to \$431,580 after \$568,420 of proceeds were allocated for a tax levy reduction.

## **NO IMPACT IN 2015 LEVY – APPROVED IN 2014**

4. Additional budget allocation –

To reach the \$2.7 million total, add \$407,790 to the tax levy. Staff time is required to implement the asset management plan so refer final allocation to the 2016 budget.

<b>REFER TO THE 2016 BUDGET</b>	<b>\$ <u>407,790</u></b>
---------------------------------	--------------------------

<b>TOTAL ANNUAL ALLOCATION</b>	<b>\$<u>2,700,000</u></b>
--------------------------------	---------------------------

Also Staff recommends creating a Facilities Asset Management Staff Committee (FAMSC) that will report to the Senior Management Team on the building asset management plan.

The Committee will be chaired by Mr. Jacob Bruzas, Manager of Audits & Capital Planning, and will consist of senior personnel (department heads with responsibility for buildings) and other senior support staff as required.

The primary objective of the Committee will be to re-assess the building asset management work plan annually as outlined in the Morrison Hershfield reports.

The Committee will take into consideration concerns brought forth to the City through our various Joint Health and Safety committees.

The Facilities Asset Management Staff Committee will take its recommendations to the Senior Management Team and provide a recommendation to City Council based on available funding approved during the annual budget process.

Currently, there are no other recommendations relating to the asset management plan. The City currently budgets approximately \$12 million annually for our road construction program.

### **STRATEGIC PLAN**

The development of an asset management plan is listed under Strategic Direction 1: Developing Solid Infrastructure Objective 1C – Property Management and Development.

**RECOMMENDATION**

It is therefore recommended that Council take the following action:

Resolved that the report of the Commissioner of Finance and Treasurer dated 2015 02 23 be received and the recommendation that the Asset Management Plan as attached be approved;

And Further that the 2015 budget recommendations of allocating \$1,167,630 of retired debt charges and \$693,000 of the expired hospital levy be allocated to a building asset management plan in 2015 be referred to the 2015 Budget deliberations.

Respectfully submitted,



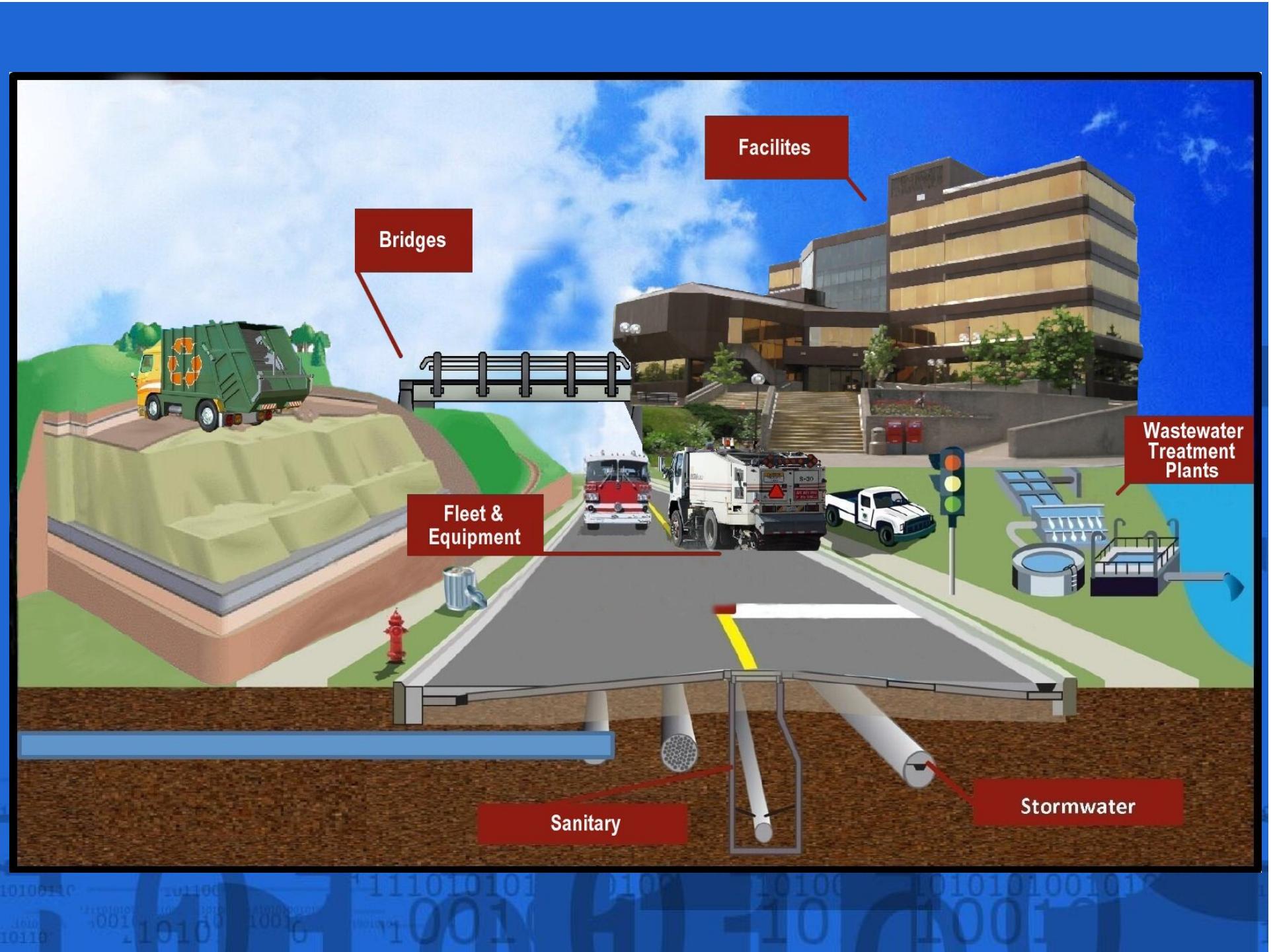
W. Freiburger, CPA, CMA  
Commissioner of Finance & Treasurer

WF/kl

attachment

# City of Sault Ste. Marie Asset Management Plan





# Introduction

- The Province of Ontario requires municipalities to have long term detailed asset management plans in place in order to be eligible to obtain any future capital funding.

# Definition

- Asset management is defined as the process of making the best possible decisions regarding the building, operating, maintaining, renewing, replacing and disposing of assets.

# Goals

- Provides consistent levels of service in accordance with the public's expectations, while mitigating costs.
- Provide guidance for infrastructure investment decisions.
- Demonstrate that projects seeking provincial infrastructure funding were reviewed and included in the asset management plan.

# Backgrounder

- The plan was developed under the direction of Mr. Jake Bruzas, CPA, CA Manager of Capital Planning and Audit along with other senior City staff.
- For certain parts of the plan, the City engaged third party consultants to assist with the valuation and assessment of asset condition. The asset management plan will include financial projections for a minimum of 10 years. The plan should be updated regularly and we plan a review every three years.
- Certain assets, like our facilities assessment, reviewed properties over a 25 year period.
- The asset management plan will be reviewed every 3 years

# Scope

- The Asset Management Plan applies to all physical assets of the City, under the following categories:
  - Buildings
  - Sewage Treatment Plants and Pumping Stations
  - Stormwater Management
  - Bridges
  - Roads, Storm and Sanitary Sewers
  - Fleet and Equipment – In Progress

# Format of Plan

- The City's Asset Management Plan describes:
  - What the City owns (Inventory);
  - What it's worth (Valuation---Historical/Replacement/Repair Cost);
  - The level of operation (Desired Levels of Service);
  - The condition of the assets (State of Local Infrastructure),
  - What needs to be done (Asset Management Strategy); and
  - How much it will cost and how it will be funded? (Financing Strategy).

# BUILDINGS

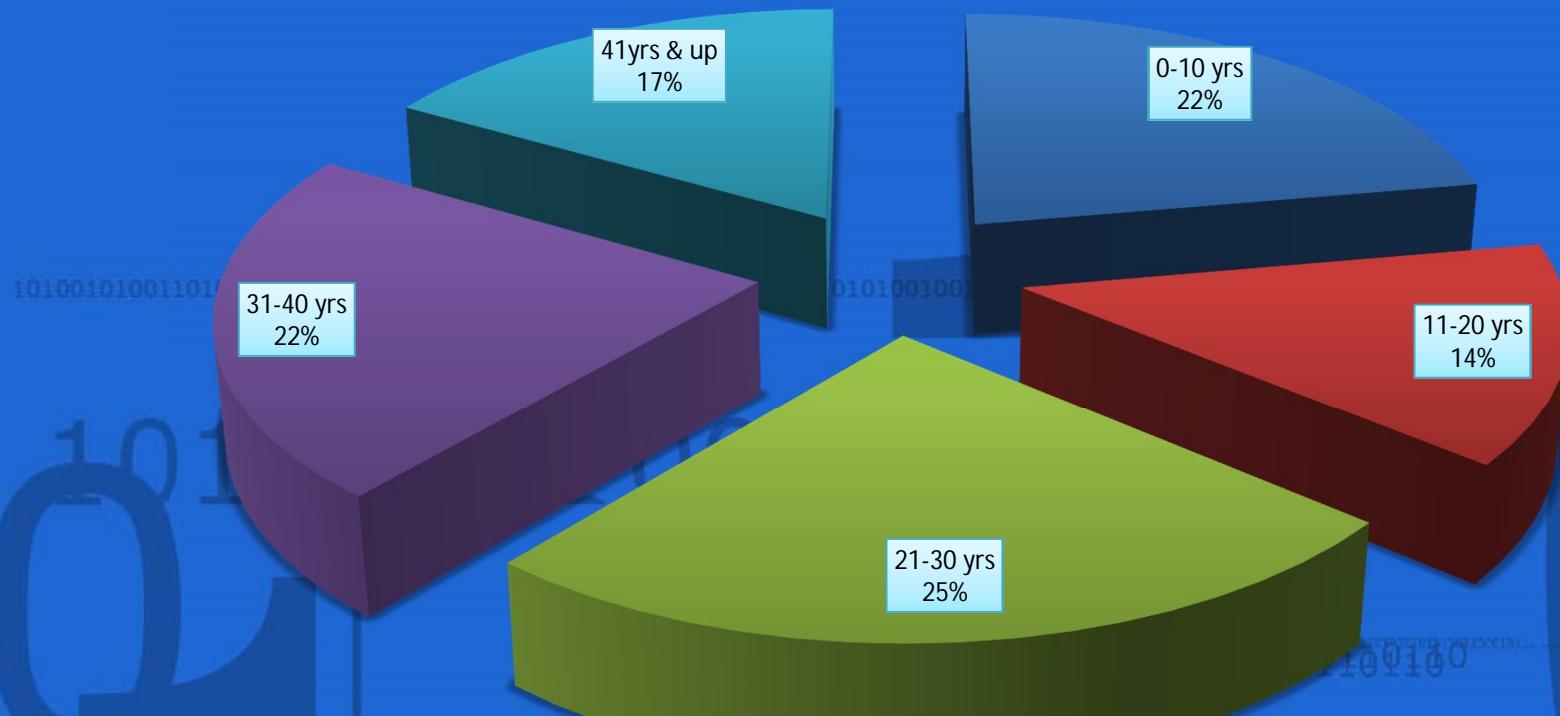


# Inventory

- The City of Sault Ste. Marie owns and operates a variety of buildings providing various services to the residents;
- The policy sets a capitalization threshold of \$100,000, meaning that any building acquired for less than \$100,000 will not be included as part of the Asset Management Plan.
- As of December 31, 2013, the City owned and operated 36 buildings that met the criteria of a capital asset.

Asset	Historical Cost	Accumulated Amortization	Net Book Value, Dec 31, 2013
<b>Buildings</b>	\$ 81,280,848	\$ (25,901,501)	\$ 55,379,348

## AGE OF BUILDINGS



# Condition Assessment

- In 2013, the City engaged a consultant, Morrison Hershfield Ltd., to conduct Building Condition Assessments of 27 buildings located on 22 different City sites.
- For each major building component and system, the consultant documented description, age and history and identified condition, typical life expectancy, estimated remaining useful life and recommendation for capital repairs and replacements over 25 years.
- The top priority building identified in terms of significant capital outlays required in the next 10 years was the Civic Centre, a building that is 40 years old.

# OVERALL BUILDING CONDITION



<b>Excellent</b> (2)	Northern Community Centre, 556 Goulais Avenue CCTV Building, Public Works Yard, 128 Sackville Road
<b>Very Good</b> (1)	Sault Event Centre (Essar Centre), 269 Queen Street East
<b>Good</b>	Main Branch Public Library, 50 East Street Steelton Senior Citizens Centre, 235 Wellington Street West Senior Citizens Drop-in Centre, 619 Bay Street Roberta Bondar Park, 65 Foster Drive Lab Building, Public Works Yard, 128 Sackville Road Fire Station #2, 363 Second Line West Fire Station #3, 100 Bennett Blvd. Fire Hall #4 / EMS Complex, 65 Old Garden River Road John Rhodes Community Centre, 280 Elizabeth Street Ermatinger Old Stone House, 831 Queen Street East SSM Museum, 690 Queen Street East
<b>Fair</b>	Jesse Irving Children's Centre, 84 Ruth Street Maycourt Children's Centre, 13 Salisbury Avenue Civic Centre, 99 Foster Drive Public Works Administration Building, 128 Sackville Road Public Works Garage, Building A, 128 Sackville Road Carpentry Shop Building 'B', 128 Sackville Road Central Fire Station #1, 72 Tancred Street Transit Bus Depot, 111 Huron Street Transit Terminal Building, 160 Queen Street East Police Headquarters, 580 Second Line Ontario Works Building, 540 Albert Street East Cemetery Chapel & Office Building, 27 Fourth Line East Equipment Storage Garage, Public Works Yard, 128 Sackville Rd
(11)	
(13)	

**ESTIMATED REQUIRED CAPITAL OUTLAY BY YEAR**

	<b>2015 to 2024</b>	<b>2025 TO 2029</b>	<b>2030 TO 2035</b>	<b>TOTAL</b>
Main Branch Public Library, 50 East Street	1,115,000	554,000	294,000	<b>1,963,000</b>
Steelton Senior Citizens Centre, 235 Wellington Street West	423,000	247,000	610,000	<b>1,280,000</b>
Senior Citizens Drop-in Centre, 619 Bay Street	235,000	210,000	324,000	<b>769,000</b>
Jesse Irving Children's Centre, 84 Ruth Street	204,000	140,000	150,000	<b>494,000</b>
Maycourt Children's Centre, 13 Salisbury Avenue	219,000	164,000	58,000	<b>441,000</b>
Roberta Bondar Park, 65 Foster Drive	652,000	185,000	1,755,000	<b>2,592,000</b>
Civic Centre, 99 Foster Drive	5,764,000	377,000	1,635,200	<b>7,776,200</b>
Public Works Administration Building, 128 Sackville Road	629,000	8,000	63,000	<b>700,000</b>
Public Works Garage, Building A, 128 Sackville Road	2,458,000	60,000	128,000	<b>2,646,000</b>
Carpentry Shop Building 'B', 128 Sackville Road	87,000	-	-	<b>87,000</b>
Lab Building, Public Works Yard, 128 Sackville Road	17,000	8,000	-	<b>25,000</b>
Central Fire Station #1, 72 Tancred Street	832,000	175,000	346,000	<b>1,353,000</b>
Fire Station #2, 363 Second Line West	59,000	84,000	59,000	<b>202,000</b>
Fire Station #3, 100 Bennett Blvd.	93,000	74,000	48,000	<b>215,000</b>
Fire Hall #4 / EMS Complex, 65 Old Garden River Road	1,653,000	978,000	522,000	<b>3,153,000</b>
Transit Bus Depot, 111 Huron Street	1,573,000	189,000	376,667	<b>2,138,667</b>
Transit Terminal Building, 160 Queen Street East	272,000	-	60,000	<b>332,000</b>
Police Headquarters, 580 Second Line	1,650,500	85,500	703,000	<b>2,439,000</b>
Ontario Works Building, 540 Albert Street East	1,442,000	148,000	321,000	<b>1,911,000</b>
Sault Event Centre (Essar Centre), 269 Queen Street East	2,262,000	263,000	988,000	<b>3,513,000</b>
John Rhodes Community Centre, 280 Elizabeth Street	3,470,000	1,751,000	878,000	<b>6,099,000</b>
Northern Community Centre, 556 Goulais Avenue	85,000	4,000	1,631,000	<b>1,720,000</b>
Ermatinger Old Stone House, 831 Queen Street East	257,000	82,000	112,000	<b>451,000</b>
SSM Museum, 690 Queen Street East	597,000	49,000	37,000	<b>683,000</b>
Cemetery Chapel & Office Building, 27 Fourth Line East	177,000	10,000	12,000	<b>199,000</b>
CCTV Building, Public Works Yard, 128 Sackville Road	-	-	8,000	<b>8,000</b>
Equipment Storage Garage, Public Works Yard, 128 Sackville Rd	493,000	12,000	163,000	<b>668,000</b>
<b>TOTAL</b>	<b>26,718,500</b>	<b>5,857,500</b>	<b>11,281,867</b>	<b>43,857,867</b>

# Facilities Asset Management Staff Committee

- Staff recommends creating a Facilities Asset Management Staff Committee .
- The Committee will be chaired by Mr. Jacob Bruzas, Manager of Audits & Capital Planning, and will consist of senior personnel (department heads with responsibility for facilities) and other senior support staff as required.
- The primary objective will be to re-assess the buildings capital work plan annually as outlined in the Morrison Hershfield reports.
- The concerns brought forth through the City's various Joint Health and Safety committees will be considered.
- Recommendations will be approved by the Senior Management Team.
- Final recommendations will be submitted to City Council based on available funding approved in the annual budget process.

# Financing Plan for Buildings

In order to fund the \$26.7 million maintenance program for buildings, an annual budget of \$2.7M is required.

Staff are recommending the following sources of funding for an annual \$2.7 million annual plan:

Retired debenture debt charges - \$1,167,630  
The debt charges for the contribution to the F. J. Davey home expired at the end of 2014.

**NO IMPACT IN 2015 TAX LEVY**

Retired Sault Area Hospital levy - \$693,000  
The original levy was \$1,100,000 and was Reduced in 2014 to 693,000 for the final Payment. No funds are required in 2015.

**NO IMPACT IN 2015 TAX LEVY**

Continued allocation of Casino revenue (2014 budget) – \$431,580  
Approved in 2014 budget from casino revenue.  
Originally requested \$1 million in 2014 to asset Management but was adjusted to \$431,580 after \$568,420 of proceeds allocated for a tax levy reduction  
**NO IMPACT IN 2015 LEVY – APPROVED IN 2014**

Additional budget allocation of tax levy -

To reach the \$2.7 million total, add \$407,790  
To the tax levy. Staff time is required to implement Asset plan so refer final allocation to the 2016 budget

**REFER TO THE 2016 BUDGET**

\$407,790

## Total Recommended Annual Allocation

**\$2,700,000**

- No changes are planned at this time for financing our current road, storm, sanitary , bridge and aqueduct capital repair programs.

# Facility Expansion

## NORTHERN COMMUNITY CENTRE

- The City has included the proposal of a new arena at the Northern Community Centre to be completed in 2018 at a cost of \$15M in this asset management plan as an upgrade/new asset. In order for the City to proceed with this development, funding of at least 2/3rds needs to be obtained from other sources. The City will consider funding the remaining 1/3<sup>rd</sup> primarily through issuance of debt. As with previously issued City debt, the servicing of this debt will be added to the tax levy.

# WASTEWATER



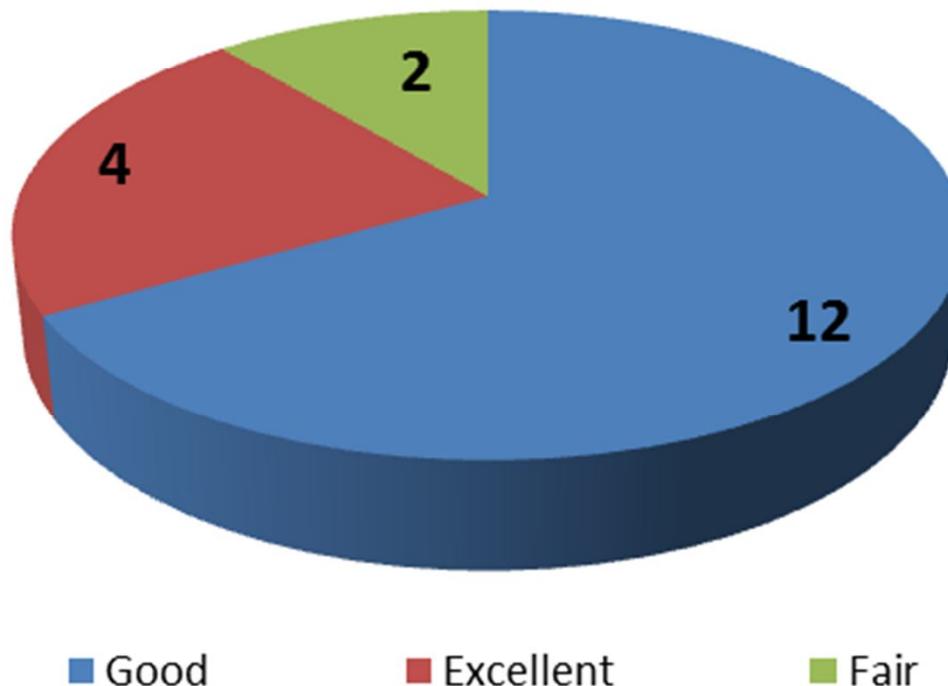
# Inventory

- The City of Sault Ste. Marie's wastewater assets include eighteen small sanitary pump stations, seven large sanitary pump stations, associated forcemains, and two wastewater treatment plants

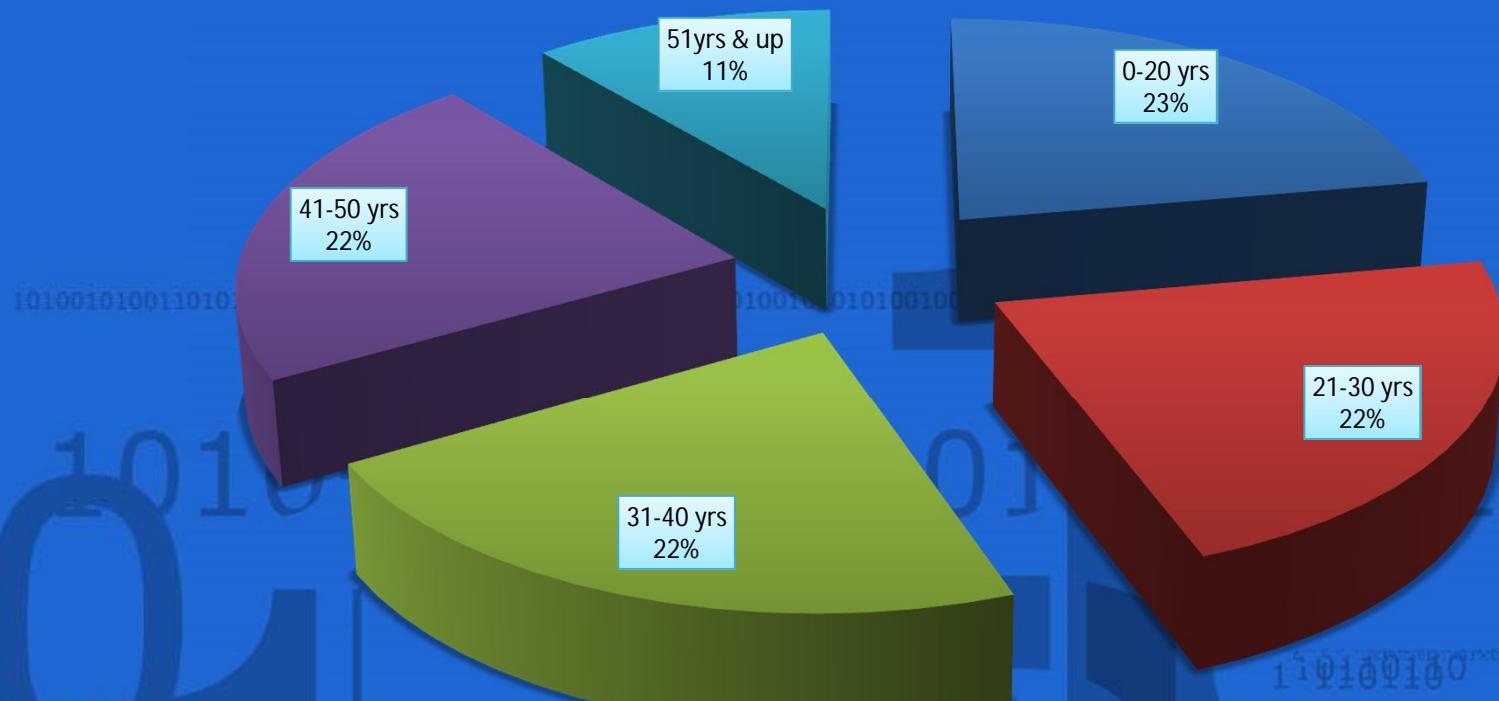
Asset	Number
Small Pumping Stations (sanitary)	18
Large Pump Stations (sanitary)	7
Sewage Treatment Plants	2
• East End Sewage Treatment Plant	
• West End Sewage Treatment Plant	
Sanitary forcemains	22

# Small Pump Stations

Condition of Small Pump Stations



## AGE OF SMALL PUMP STATIONS

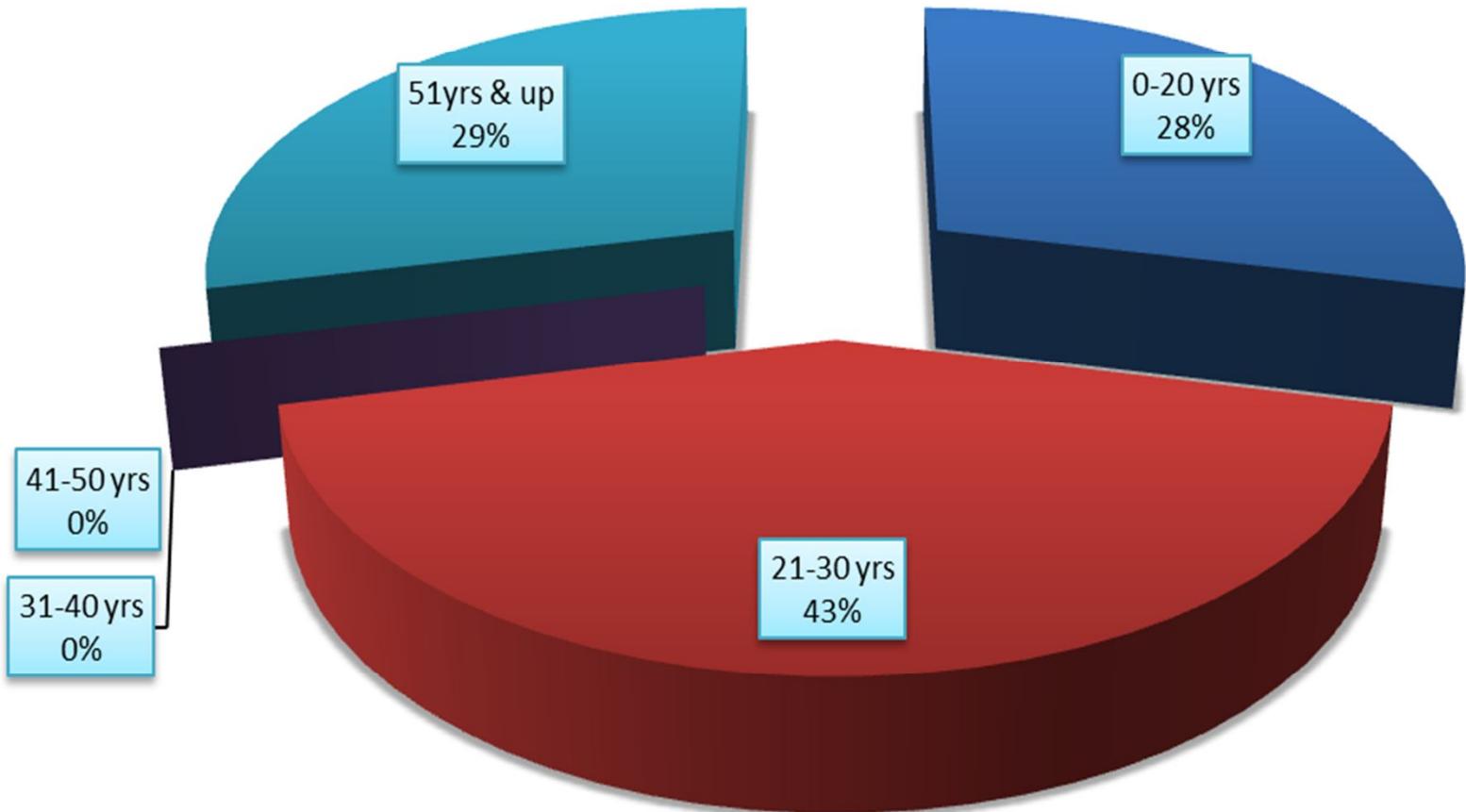


# Large Pump Stations

- The City owns seven large sanitary sewer pump stations as follows:

Number	Location	Estimated Date of Acquisition
NA	Main	1984
PS-ASC	Young Street	1984
PS-23	John Street	2002
PS-24	Pim Street	1960 (updated 2007)
NA	Bellevue	2003
PS-22	Clark Creek	1960 (updated 2014)
PS-21	River Road	1989

## LARGE PUMP STATION BUILDING AGE



# Sewage Treatment Plants

- The East End Wastewater Treatment Plant is a biological nutrient removal plant (BNR) with ultraviolet disinfection. It was upgraded in 2006.
- The West End Wastewater Treatment Plant utilizes conventional activated sludge treatment. The plant was constructed in 1984.

# Capital Costs- Next 10 Years

- The following chart depicts the total estimated capital costs for sewage treatment plants over the next 10 years:

LARGE PUMP STATION/TREATMENT PLANT	2015-2024
WEST END PLANT & MPS	\$ 47,985,500
EAST END PLANT	\$ 1,550,000
YOUNG STREET PS	\$ 806,875
JOHN STREET PS	\$ 67,500
PIM STREET PS	\$ 44,375
BELLEVUE PS	\$ 137,750
CLARK STREET PS	\$ 371,250
RIVER ROAD PS	\$ 384,000
SMALL PS	\$ 1,166,000
BIOSOLIDS MGMT FACILITY	\$ 16,800,000
<b>TOTAL</b>	<b>\$ 69,313,250</b>

# Asset Strategy

- The desired performance measures for pumping stations and treatment plants have been identified as follows:
  - Provide reliable service
  - Protect the environment
  - Meet service requirements with economic efficiency
- The asset management strategy is the set of planned actions that will enable the assets to provide the desired levels of service in a sustainable way, while managing risk, and the lowest lifecycle cost. Planned actions include:
  - Non-infrastructure solutions
  - Maintenance activities
  - Renewal/rehabilitation activities
  - Replacement activities
  - Disposal activities

# Financing Strategy

- The wastewater asset management plan is financed from a sewer surcharge levy that is collected on ratepayers' water billings.

# STORMWATER



# Inventory

- The City of Sault Ste. Marie's storm infrastructure consists of five categories:
  - Oil grit separators;
  - Storm water management ponds;
  - Pump station(s);
  - Aqueducts and flood control channels, and;
  - Roadways, storm sewers, catch basins, manholes, and culverts  
(Covered under roads and sewers assets)

# Summary of Stormwater Infrastructure

<b>Oil Grit Separators</b>							
Hudson Street - 4	Carmen's Way - 4	Lang Court – 1	Central Creek – 1	Sherbrook - 1			
<b>Stormwater Pump Station</b>							
Glasgow Avenue							
<b>Stormwater Management Ponds</b>							
Bianchi Estates	Country Estates Phase III	Millcreek Phase II					
Millennium Court	Sherbrook Subdivision	Sunrise Ridge					
Windsor Farms	Hiawatha Estates Phase II	Fox Run Subdivision Phase I					
Castle Heights	Sunset Ridge Phase III						
<b>Aqueducts and Flood Control</b>							
Central Creek	East and West Davignon Creek						
Fort Creek	Clark Creek						

# Replacement Values

- The current replacement value of oil grit separators is approximately \$543,000.
- The current replacement value of stormwater management ponds is \$766,000.

# Aqueducts

- The City has four aqueduct systems: Central Creek, Fort Creek, Clark Creek, and East Davignon Creek (Farwell Terrace).

Central Creek Aqueducts:		
Large aqueduct		
1	From East Davignon Creek (south of Bonney) to Douglas Street	1984
2	East Balfour Street crossing	1984
3	Second Line crossing	1984
Small aqueduct		
1	From East Davignon creek (south of Bonney) to NW of Wallace Terrace	1950-1963
Fort Creek Aqueducts:		
1	Esposito Park and laneways from Queen Street to John Street	1912-1940
2	Wellington from John Street to Carmen's Way	unknown
3	Wellington/Carmen crossing to open channel	2005
4	Conmee crossing	unknown
5	White Oak Drive crossing	unknown
6	Second Line crossing	unknown
Clark Creek Aqueduct:		
1	Easement from north side of Queen Street to outlet at St. Marys River	1969
Farwell Terrace Aqueducts:		
Large aqueduct (east)		
1	Farwell Terrace from Lyon's Ave to McLean	1971 (rehabilitated in 2006)
2	Second Line crossing	1977 (lengthened in 2005)
Small aqueduct (west)		
1	Farwell Terrace from Lyon's Ave to McLean	unknown

# Aqueduct Repair/Replacement Costs

Structure No.	Location	2015-2024
<b>TOTAL</b>		\$ 44,625,000
<b>Central Creek Aqueducts:</b>		
<b>Large aqueduct</b>		\$ -
1	From East Davignon Creek (south of Bonney) to Douglas Street	\$ 1,015,000
2	East Balfour Street crossing	\$ -
3	Second Line crossing	\$ -
<b>Small aqueduct</b>		\$ -
1	From East Davignon creek (south of Bonney) to NW of Wallace Terrace	\$ 5,000,000
<b>Fort Creek Aqueducts:</b>		
<b>All</b>		\$ -
1	Esposito Park and laneways from Queen Street to John Street	\$ 26,510,000
2	Wellington from John Street to Carmen's Way	\$ 8,250,000
3	Wellington/Carmen crossing to open channel	\$ -
4	Conmee crossing	\$ -
5	White Oak Drive crossing	\$ -
6	Second Line crossing	\$ -
<b>Clark Creek Aqueduct:</b>		\$ -
1	Easement from north side of Queen Street to outlet at St. Marys River	\$ 150,000
<b>Farwell Terrace Aqueducts:</b>		
<b>Large aqueduct (east)</b>		\$ -
1	Farwell Terrace from Lyon's Ave to McLean	\$ 100,000
2	Second Line crossing	\$ 100,000
<b>Small aqueduct (west)</b>		\$ -
1	Farwell Terrace from Lyon's Ave to McLean	\$ 3,500,000

# Asset Strategy

- In 2014 the City of Sault Ste. Marie has developed a long-term Stormwater Management Master Plan following Phase 1 and 2 of the Municipal Class Environmental Assessment process.
- The preferred alternative is to implement a City-Wide Stormwater Management Approach, including:
  - improving snow disposal sites;
  - education;
  - implementing a point source monitoring plan;
  - implementing oil grit separators at various locations
  - new Stormwater Management Guidelines.
- The Stormwater Management Master Plan recommends approximately \$40M for stormwater management works.

# Financing Strategy

- The storm water asset management plan must be funded from the urban only tax levy.
- Other sources of funding have been Federal Gas Tax and other federal and provincial infrastructure programs
- Staff will continually monitor the condition of the City's aqueducts and will redirect current budget allocations if circumstances change.
- The aqueduct deficit with the current funding structure is \$31M. If additional grant funding is not received, projects will be postponed until repairs and reconstruction are required.
- The City plans on exploring a storm water surcharge to help reduce the funding deficit.

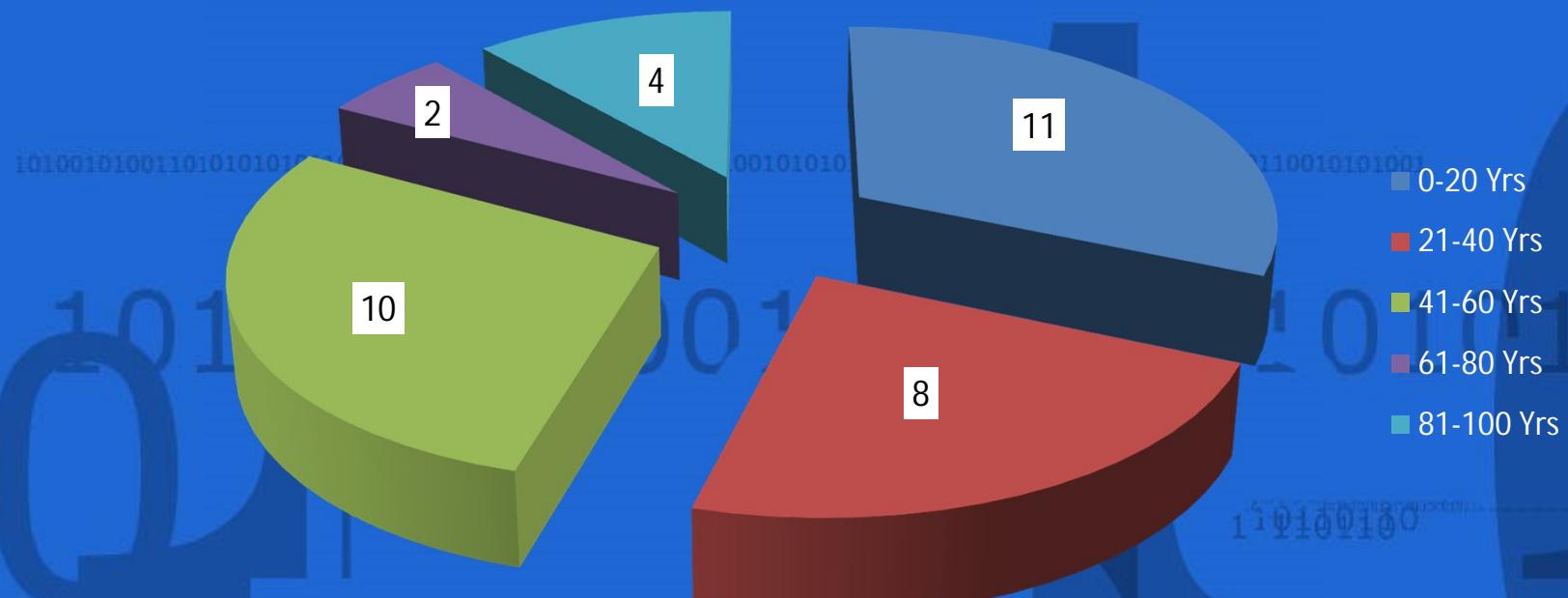
# BRIDGES



# Inventory

- City is responsible for 35 vehicular bridges, and 11 pedestrian bridges.
- Collectively, they are in **good condition**.
- In 2014, the average age of the bridges is approximately 40 years.

# Age of Vehicular Bridges

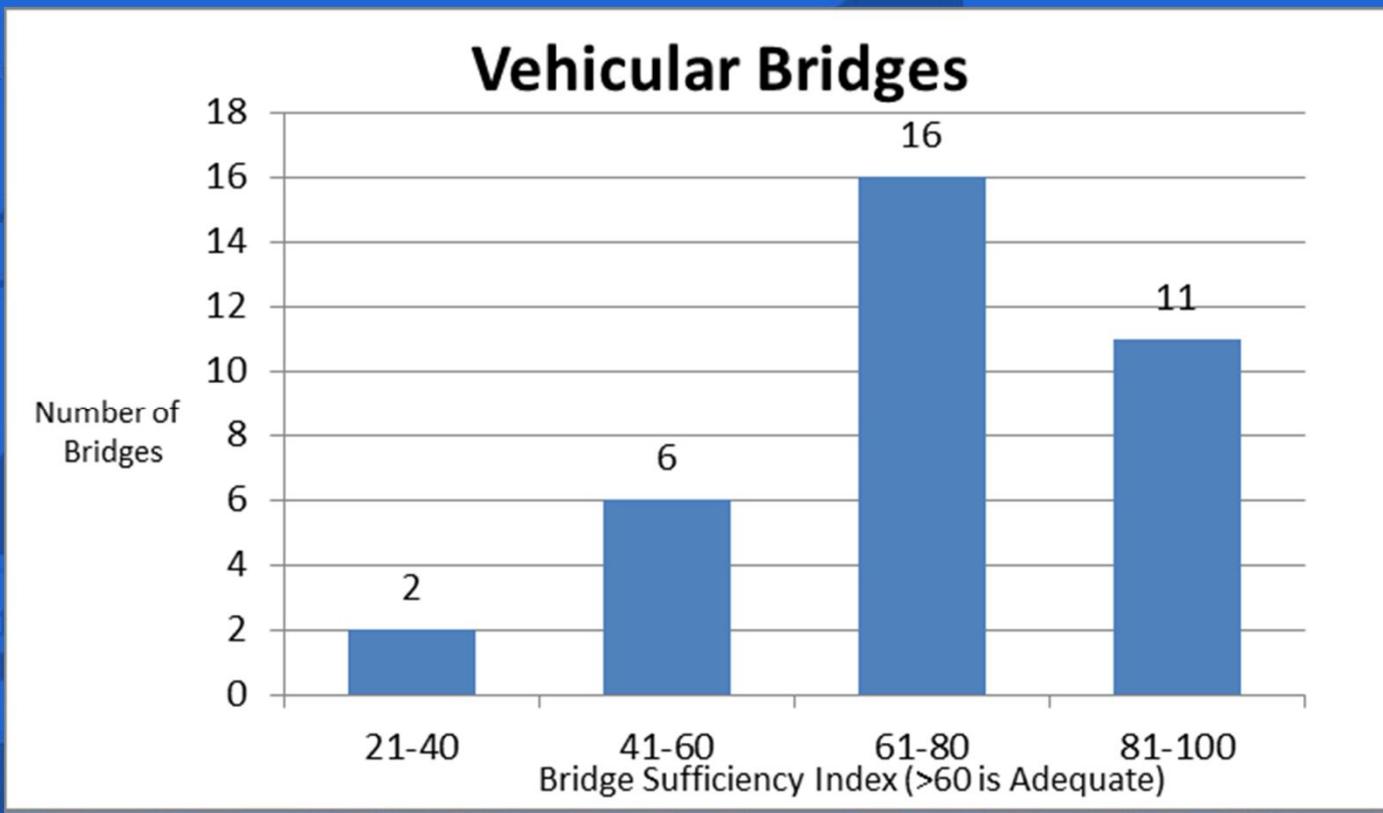


# Condition Assessment

- The Province mandates that municipal bridges be inspected every two years
- Each bridge is inspected and its condition documented by the structural engineer
- A bridge sufficiency index is calculated for each structure
- Two of the four bridges shared with the Township of Prince will be replaced in 2015. The other two were replaced in 2014
- Only one other bridge is forecasted to require major upgrade or replacement within the next ten years.

# Desired Level of Service

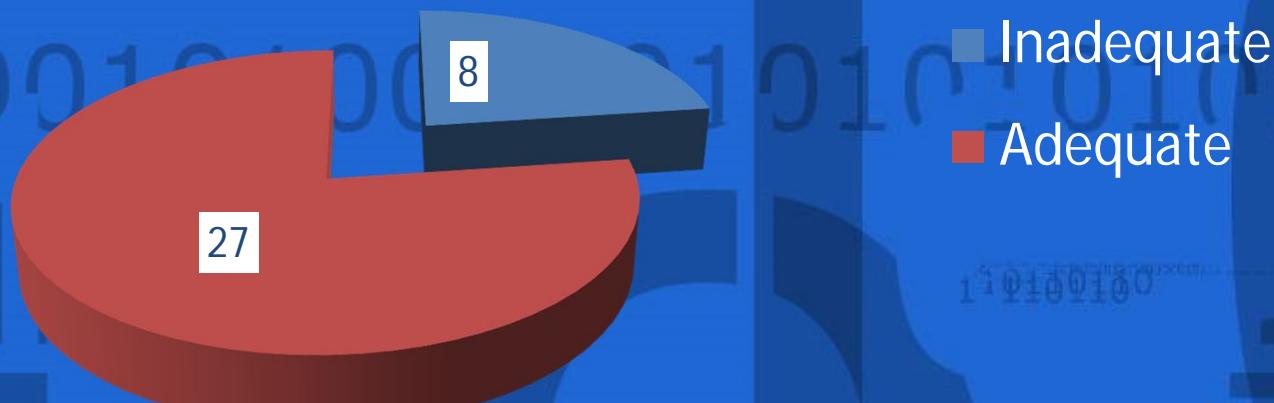
- Bridges are considered to be providing an adequate level of service if the Sufficiency index exceeds 60. The figure below indicates that 27 or 80 percent of municipal bridges are adequate.



# Desired Level of Service Cont'd

- Vehicular Bridge Adequacy (>60 BSI Index is Adequate)

## Adequate vs. Inadequate Bridges



# Pedestrian Bridges

- Pedestrian bridges are also evaluated by the City on a biennial basis.

## Age of Pedestrian Bridges



Of 11 Pedestrian Bridges,  
7 are less than 10 years old.  
The remaining 4 are less  
than 30 years old.

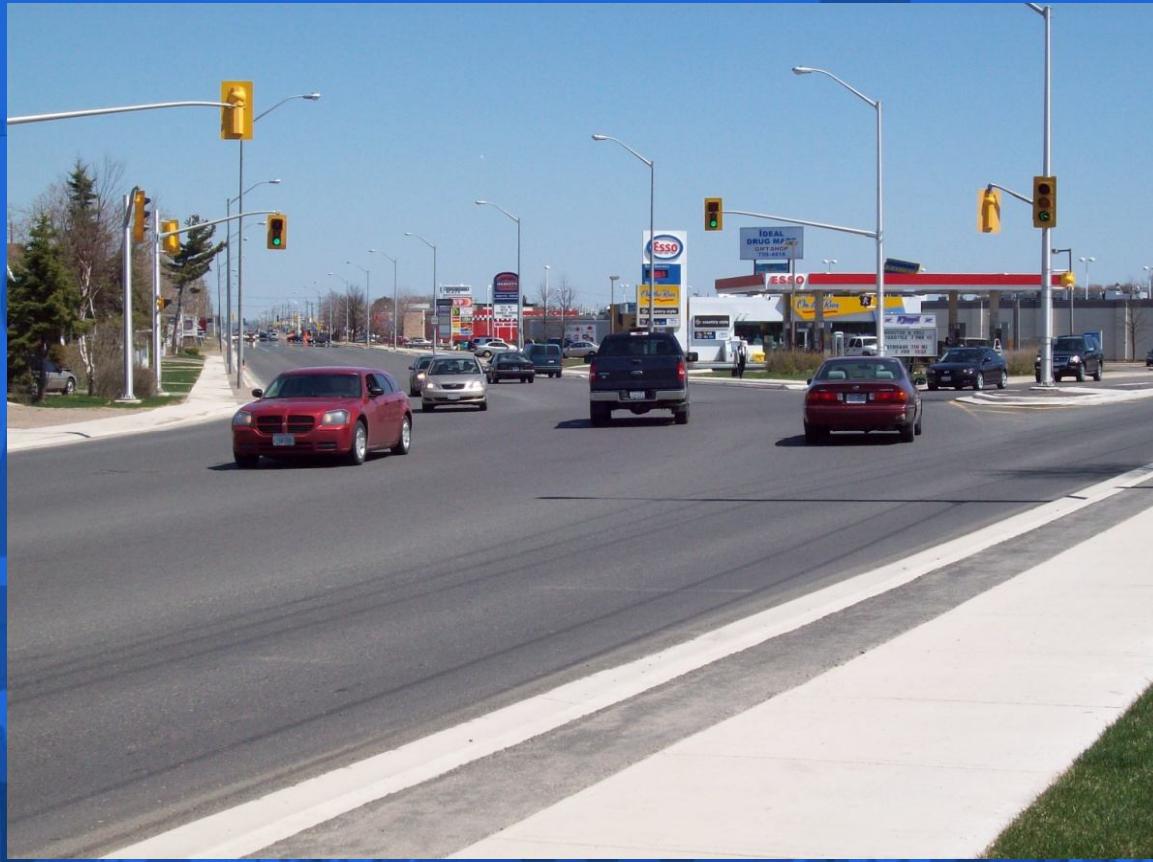
# Asset Strategy

- The asset management strategy for bridges is based on recommendations of the consultant
- Minor repairs and improvements are referred to Public Works and Transportation for action, while major work is blended into existing capital programs
- City's practice to place bridge structural repair as a high priority for capital funds. Several bridge projects over the last 10 years or so have been funded by money diverted from capital road reconstruction.

# Financing Strategy

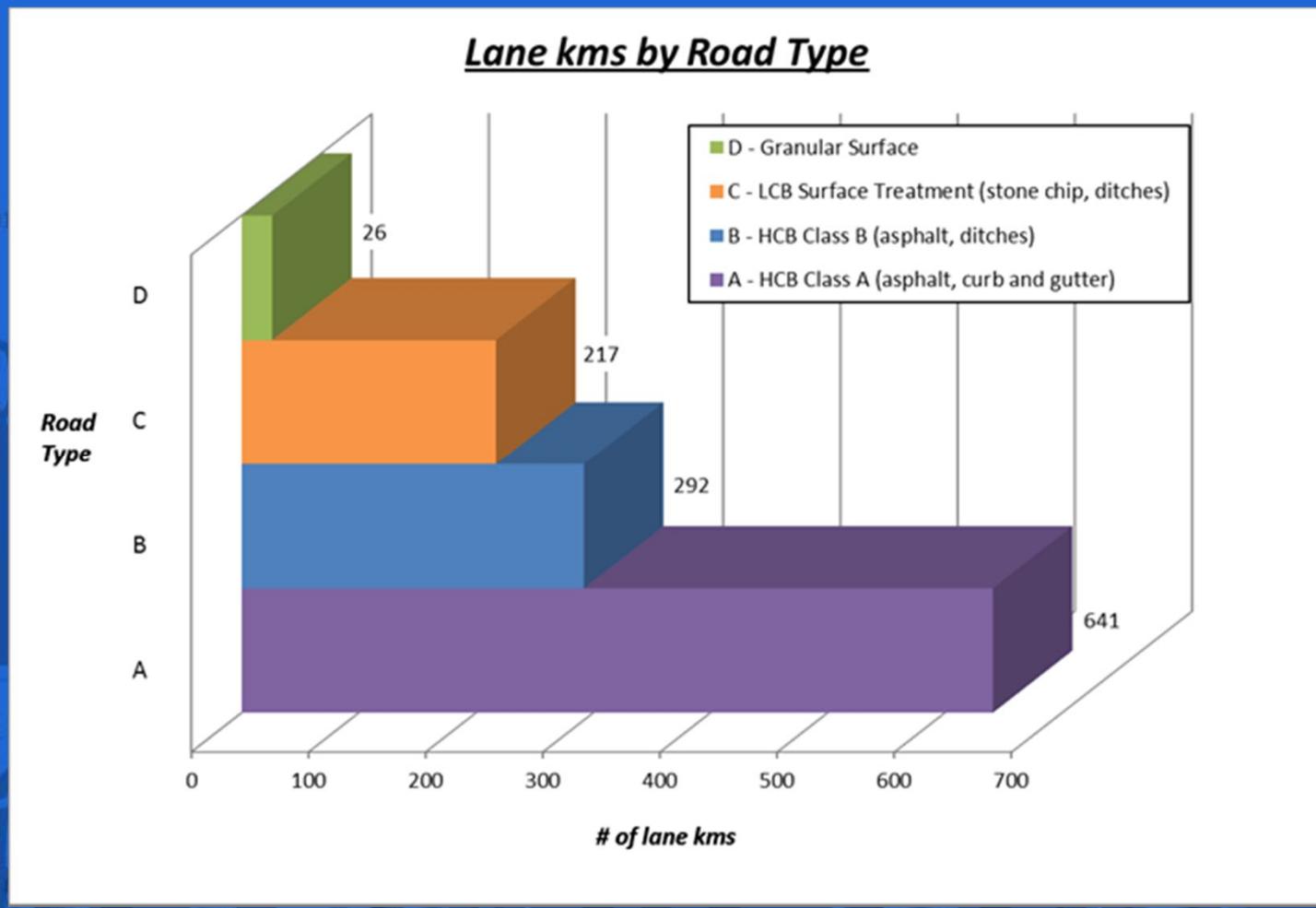
- Only one bridge is forecasted to be replaced within the next ten years. At this time, the plan is to fund the bridge replacement within the roadworks budget.

# ROADS, STORM AND SANITARY SEWERS



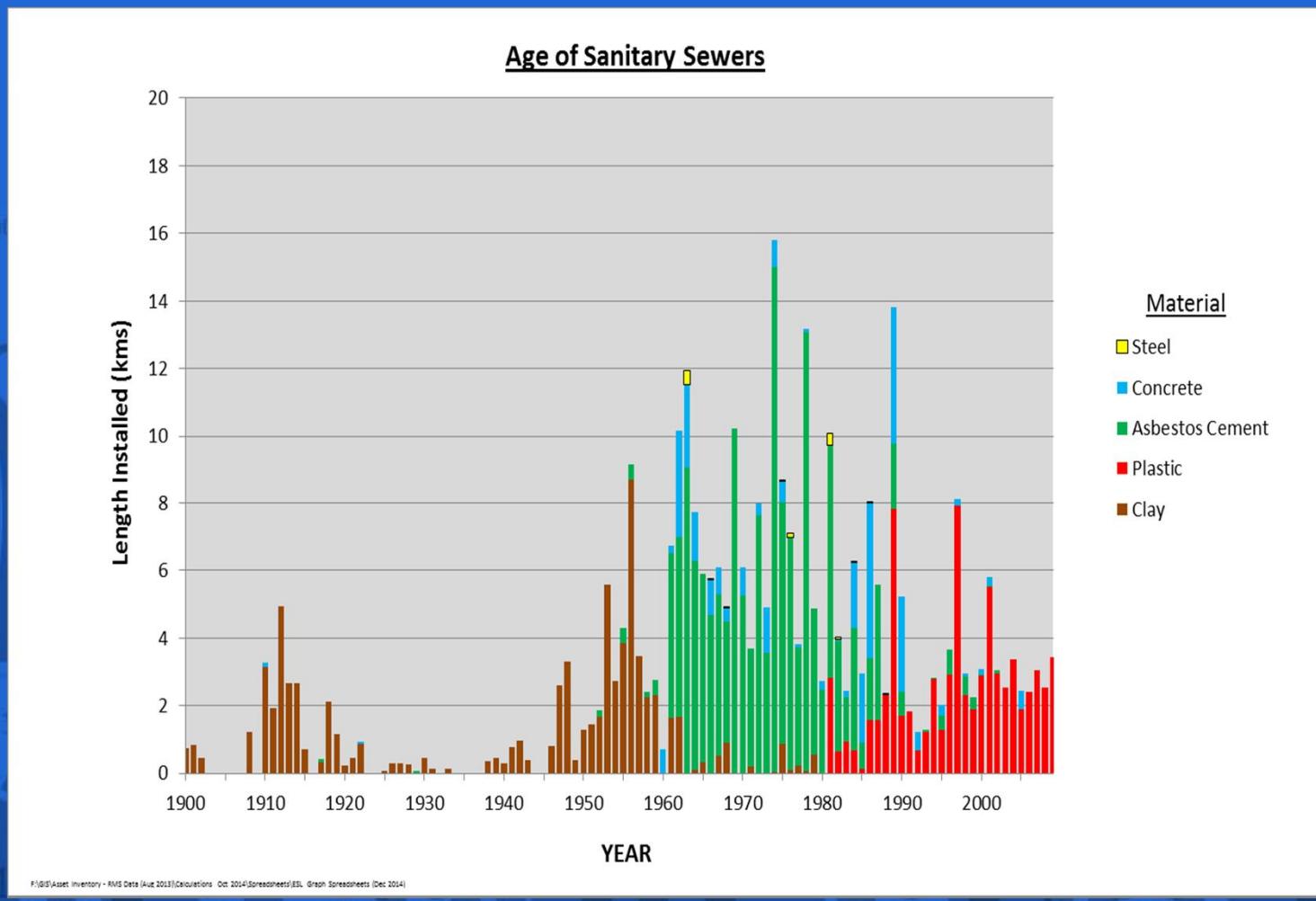
# Inventory

- The City owns and maintains 526 km of roads as measured on the centerline, totaling 1,176 lane kilometers.

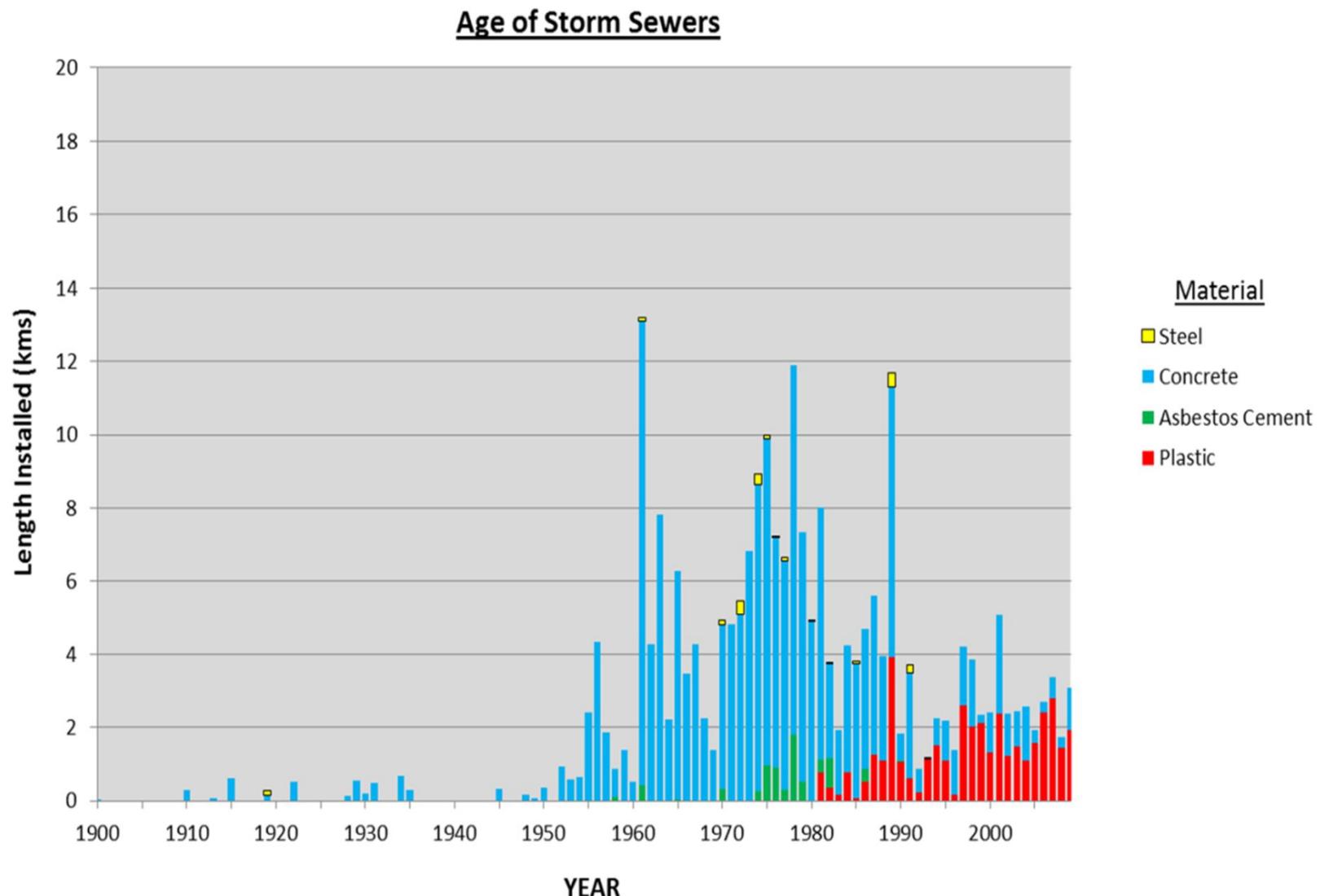


# Inventory Cont'd

- The City owns and maintains 401 km of sanitary sewers and 280 km of storm sewers.



# Inventory Cont'd



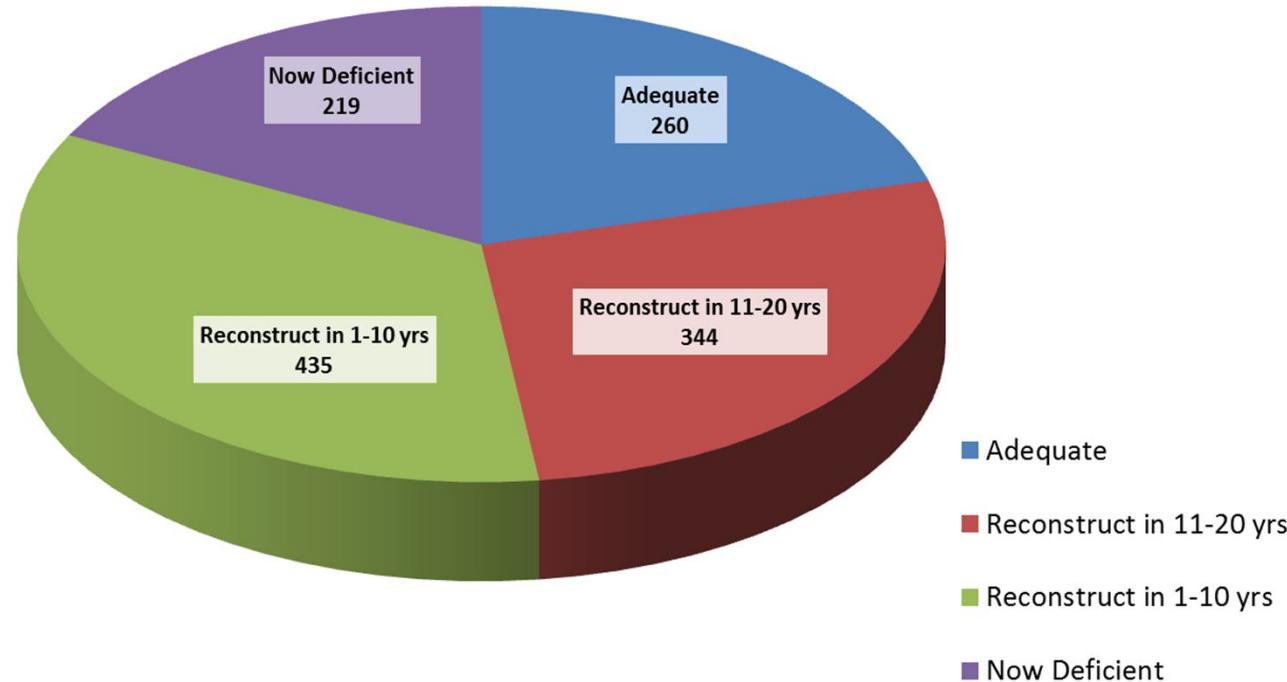
# Asset Condition

- The condition of roads, storm and sanitary sewers is summarized in the City's Road Management System (RMS).
- Ensures a condition assessment is completed biennially of all linear road and sewer assets
- The RMS analyzes every kilometer of road in the City by dividing them into 1,258 road sections.

# Asset Condition

- All 1,258 road sections are evaluated in the field at least once every two years. They are individually scored on the following criteria:
  - Structural adequacy
  - Surface condition
  - Maintenance demand
  - Sanitary sewer condition
  - Drainage – storm sewers or ditch condition
  - Traffic volume
  - Specific uses – bus/truck route
  - Design criteria – allowance for design shortfalls/lack of services

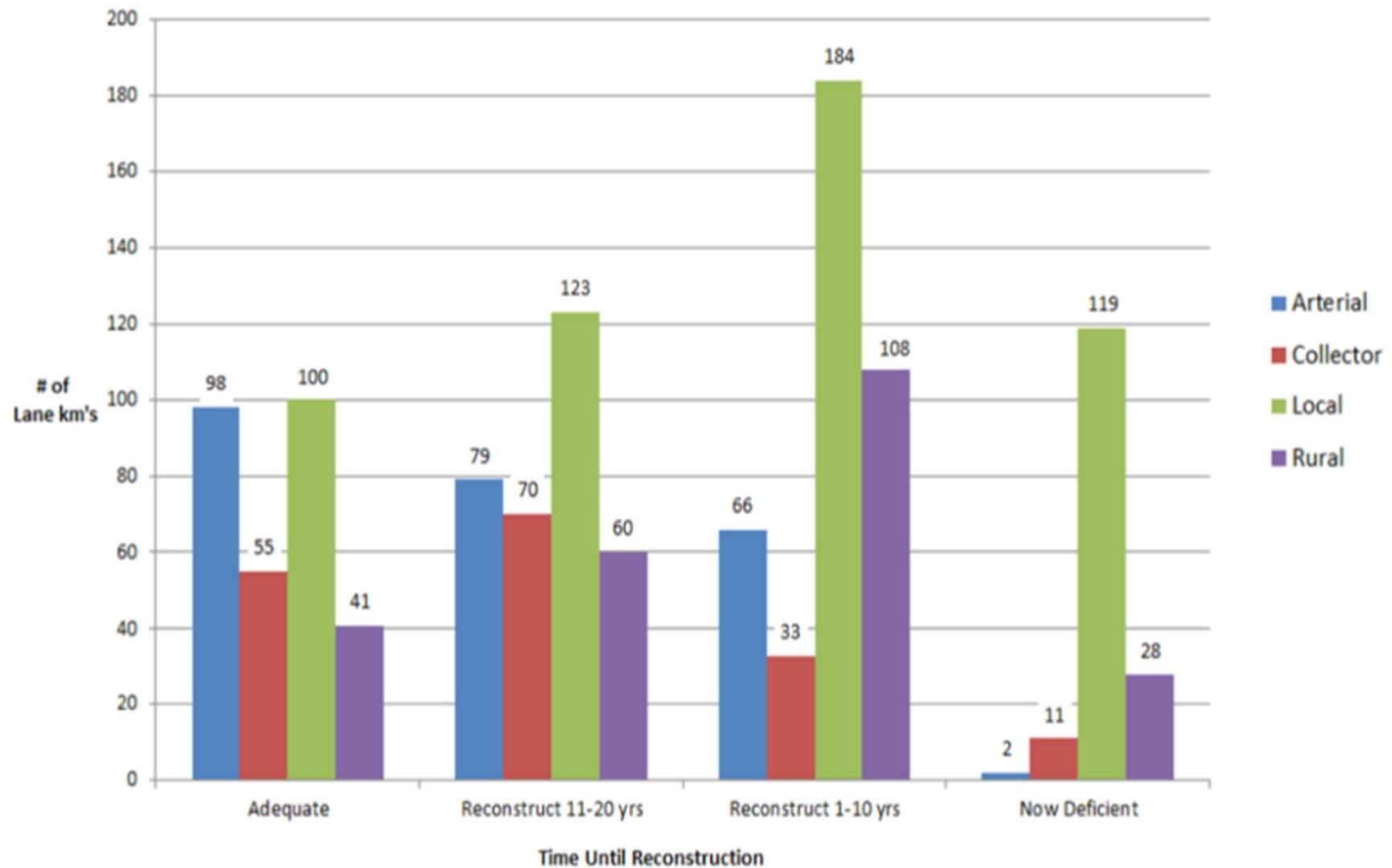
## Number of Road Sections per category



### *Road Design Classification Category Breakdown*

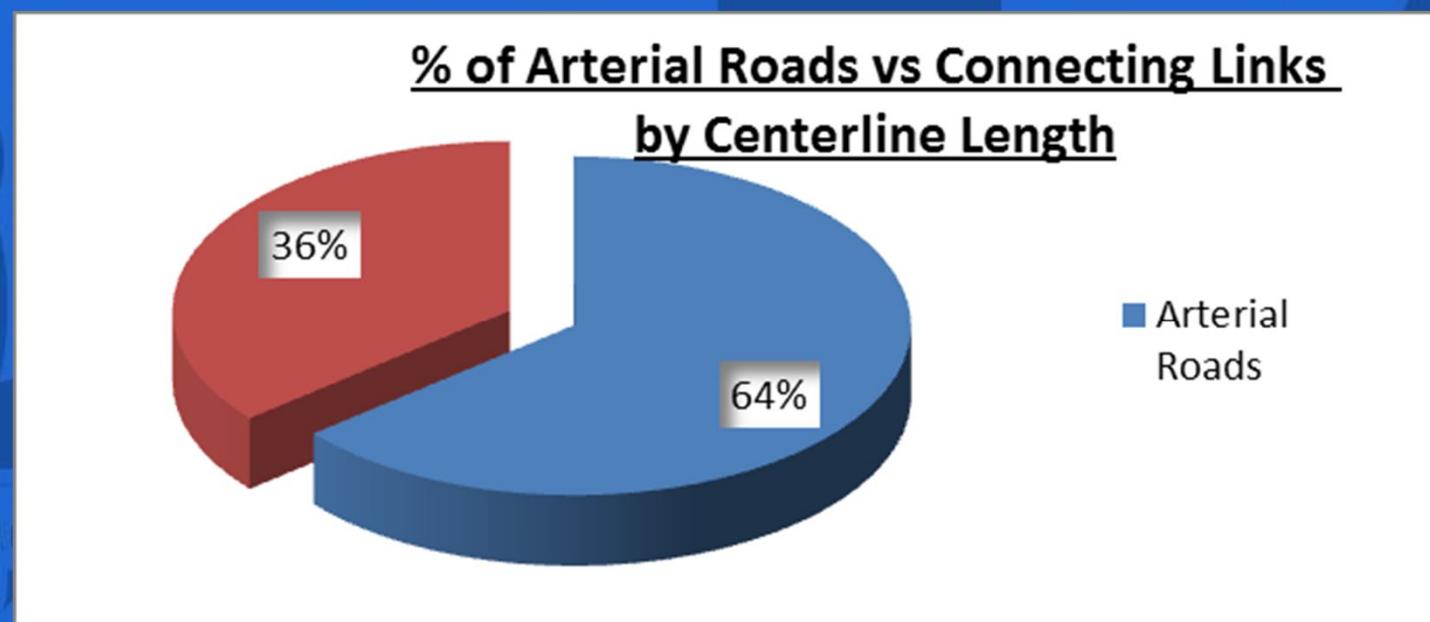
	Lane Kms	% of Total
Arterial	245	21
Collector	169	14
Local	526	45
Rural	237	20
<b>Total</b>	<b>1,177</b>	<b>100%</b>

## RMS Road Conditions



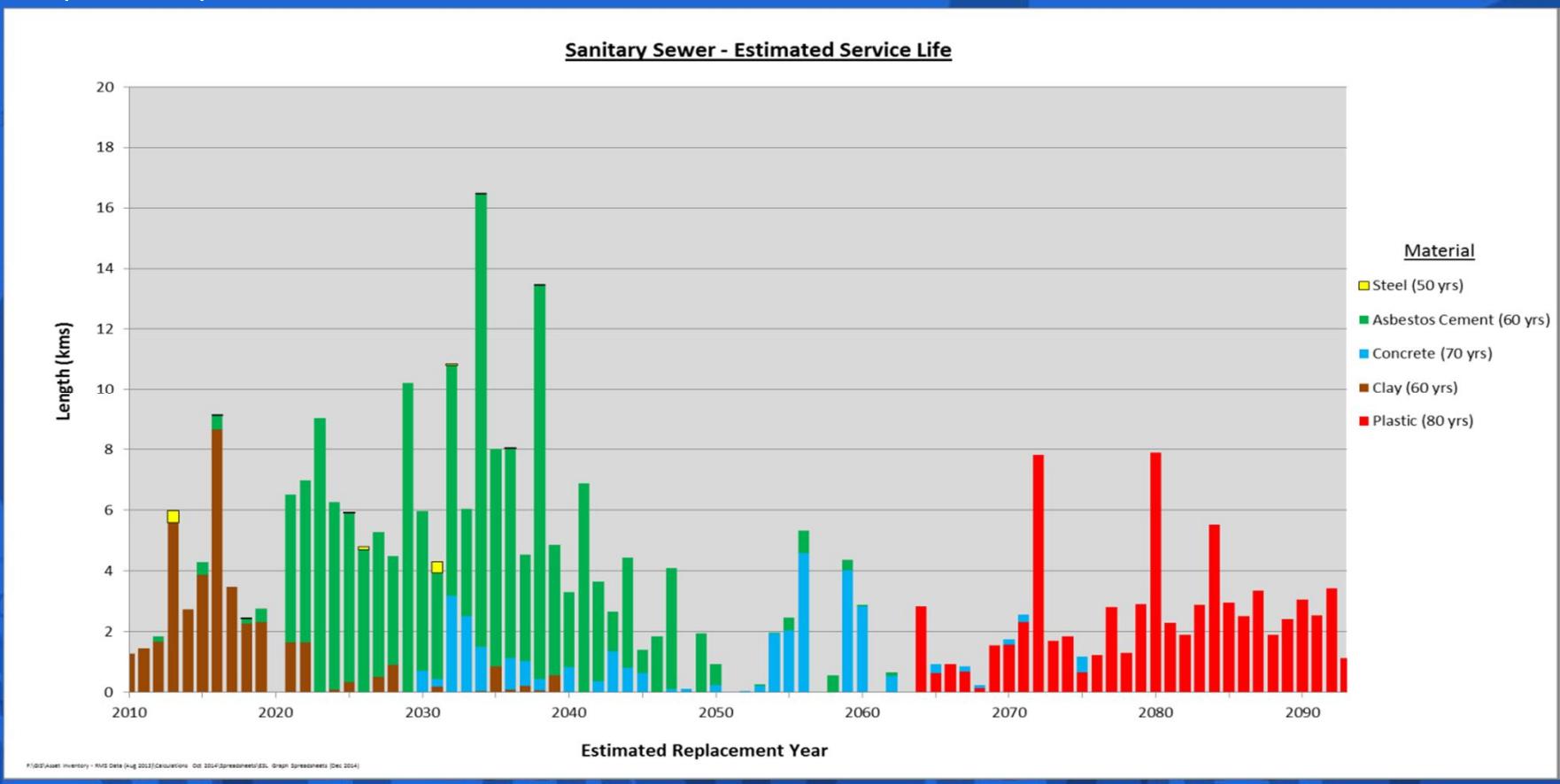
# Connecting Links

- Sault Ste. Marie has a very high percentage of roads that carry Provincial Traffic. Through cancellation of the Connecting Link Program, the Province has made the City fully responsible for the TransCanada Highway through our municipality.

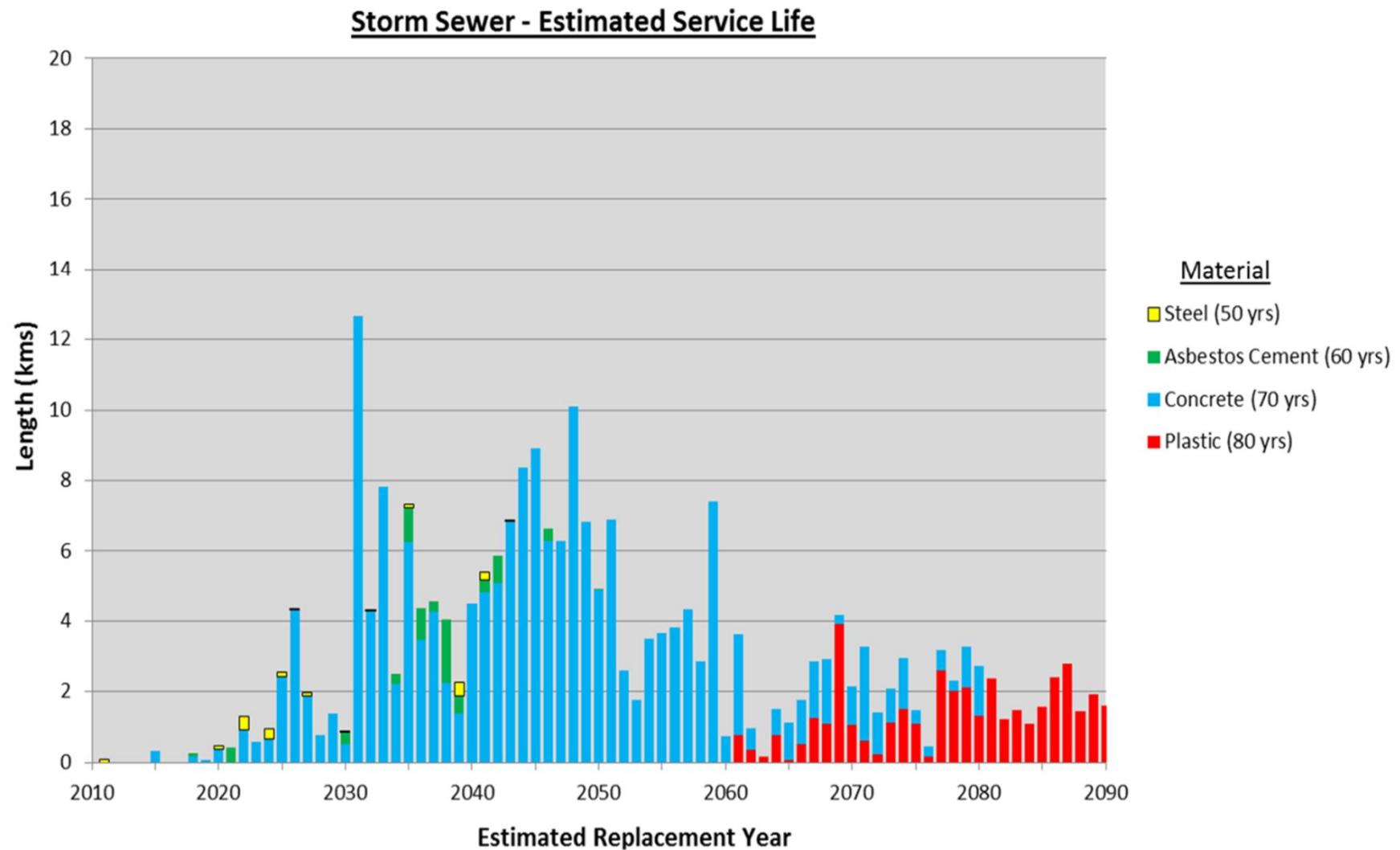


# Sanitary and Storm Sewers

- Sanitary and storm sewers are shown concurrently with road conditions in the Road Management System (RMS). The score is determined through a combination of pipe age, pipe material, maintenance/flooding/blockage history, and closed circuit television (CCTV) evaluation.



# Sanitary and Storm Sewers

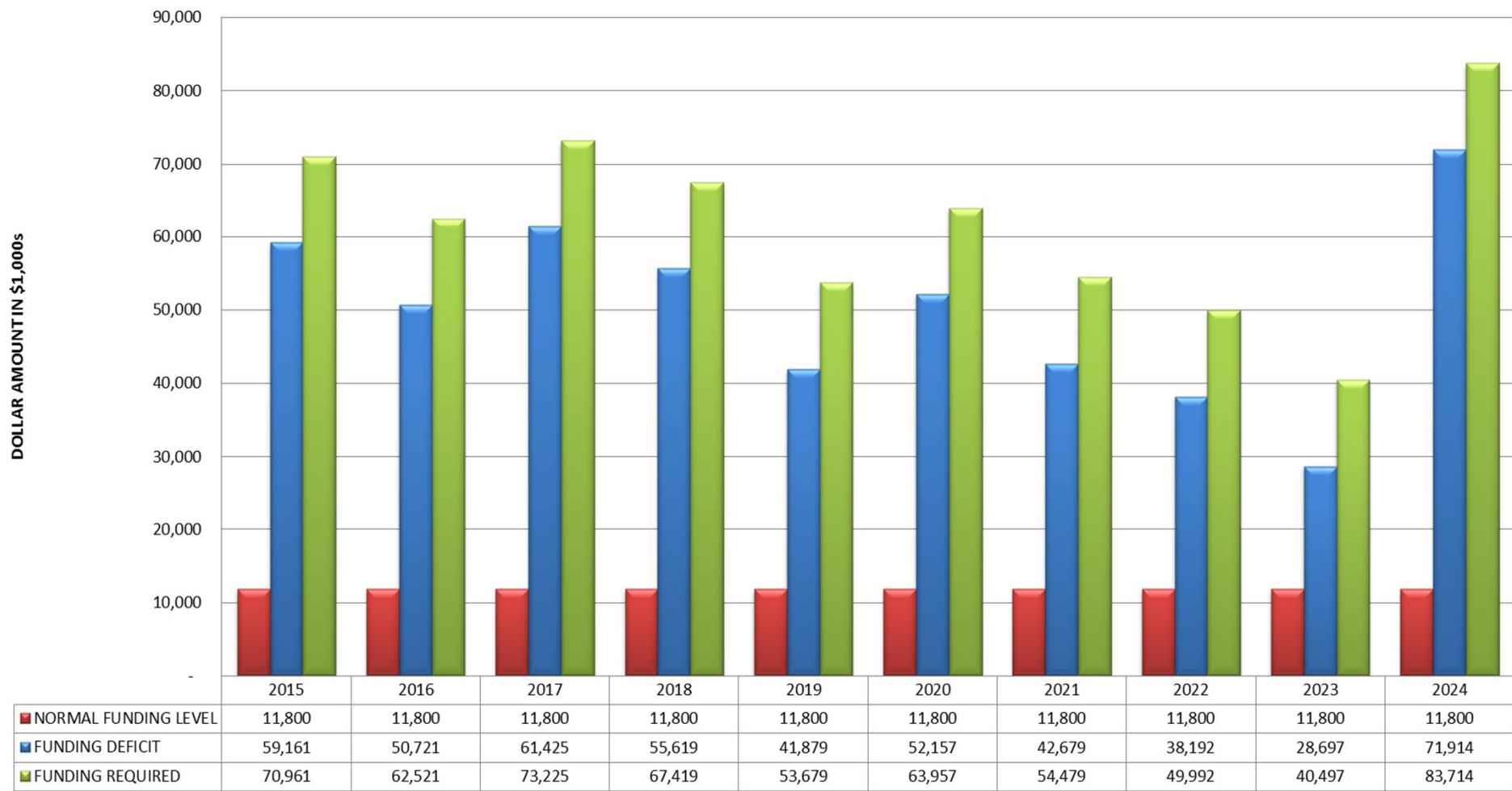


# Financing Strategy

- As shown in the chart on the following slide, there exists a significant backlog of roadwork within the City. The City has \$207M worth of roads ranked in the “Now Deficient” category, with a further \$414M listed in the “Reconstruct in 1-10 years” category. Note that these figures include all facets of a roadway, including the road surface, sidewalks, curbs, storm sewers, and sanitary sewers.

# Roadwork Deficit

CAPITAL ROADWORK FUNDING DEFICIT



# Financing Strategy

- The cumulative infrastructure deficit over the next 10 years totals \$544M
- Our plan is to request additional budget allocations for both overall and urban only capital funds, and to explore a storm water surcharge
- Sanitary sewers are funded through the sanitary sewer surcharge

February 23, 2015

# [CITY OF SAULT STE. MARIE ASSET MANAGEMENT PLAN]

# City of Sault Ste. Marie Asset Management Plan

---

## TABLE OF CONTENTS

INTRODUCTION.....	2
BUILDINGS.....	7
1.1 STATE OF INFRASTRUCTURE - BUILDINGS .....	7
1.2 DESIRED LEVEL OF SERIVCE- BUILDINGS.....	18
1.3 ASSET MANAGEMENT STRATEGY- BUILDINGS .....	19
1.4 FINANCING STRATEGY- BUILDINGS.....	25
WASTEWATER.....	29
2.1 STATE OF LOCAL INFRASTRUCUTRE- SEWAGE TREATMENT PLANTS, PUMPING STATIONS, AND FORCemain.....	30
2.2 DESIRED LEVELS OF SERVICE- SEWAGE TREATMENT PLANTS AND PUMPING STATIONS .....	42
2.3 ASSET MANAGEMENT STRATEGY- SEWAGE TREATMENT PLANTS AND PUMPING STATIONS ..	45
2.4 FINANCING STRATEGY- SEWAGE TREATMENT PLANTS AND PUMPING STATIONS.....	48
STORM WATER MANAGEMENT.....	50
3.1 STATE OF INFRASTRUCTURE – STORM WATER MANAGEMENT.....	50
3.2 DESIRED LEVEL OF SERVICE – STORM WATER MANAGEMENT .....	58
3.3 ASSET MANAGEMENT STRATEGY – STORM WATER MANAGEMENT .....	61
3.4 FINANCING STRATEGY – STORM WATER MANAGEMENT .....	64
ROADS, STORM AND SANITARY SEWERS.....	65
4.1 STATE OF INFRASTRUCTURE – ROADS, STORM AND SANITARY SEWERS.....	65
4.2 DESIRED LEVEL OF SERVICE – ROADS, STORM AND SANITARY SEWERS .....	72
4.3 ASSET MANAGEMENT STRATEGY – ROADS, STORM AND SANITARY SEWERS.....	76
4.4 FINANCING STRATEGY – ROADS, STORM AND SANITARY SEWERS .....	79
BRIDGES .....	82
5.1 STATE OF INFRASTRUCTURE – BRIDGES .....	82
5.2 DESIRED LEVEL OF SERVICE – BRIDGES.....	84
5.3 ASSET MANAGEMENT STRATEGY – BRIDGES .....	86
5.4 FINANCING STRATEGY – BRIDGES.....	87



# City of Sault Ste. Marie Asset Management Plan

---

## INTRODUCTION

### BACKGROUND

---

The Province of Ontario requires municipalities to have long term detailed asset management plans in place in order to be eligible to obtain any future capital funding. The Province has stated that an asset management plan will help needs to be prioritized over wants, and the right investments to be made at the right time.

The City had completed a full asset inventory as required under the financial reporting requirement of PSAB (Public Sector Accounting Board) 3150, mandatory for all Ontario municipalities. During the process, staff established historical costs for the inventoried capital assets. The City of Sault Ste. Marie manages assets with a total historical value of about \$550 million. The assets include, but are not limited to, roads, sidewalks, bridges, watermains, sewers, pumping stations, treatment plants, waste management facilities, landfill, vehicle and equipment fleets, buildings, and parks. These assets exist to support the delivery of services to the City's population of over 75,000 people and are expected to function efficiently and effectively for many years.

It is of our opinion that the City is able to provide excellent service with the assets that Council has invested in. All of these assets have a defined service life. As these assets age and deteriorate the City must manage them in such a way that ensures that the full service life is reached.

## DEFINITION

---

Asset management is defined as the process of making the best possible decisions regarding the building, operating, maintaining, renewing, replacing and disposing of assets. It is an integrated business approach involving planning, finance, engineering, maintenance and operations geared towards effectively managing existing and new assets to maximize benefits, manage risk and provide safe and reliable levels of service to the public in a sustainable manner. The plan describes the characteristics and condition of assets, the levels of service expected from them, planned actions to ensure the assets are providing the expected level of service, and financing strategies to implement the planned actions.



# City of Sault Ste. Marie Asset Management Plan

---

## GOALS

---

The plan has been established with the following goals in mind:

- Provides consistent levels of service in accordance with the public's expectations, while mitigating costs.
- To provide a planning and management tool that allows for better decision making regarding resource allocation.
- To provide an asset management process that is effective, achievable and efficient.
- Achieve cost savings by identifying efficiencies and deficiencies early on and then take appropriate action to rehabilitate or renew the assets.
- To plan for and provide stable long term funding to replace and/or renew and/or decommission assets.
- Provide guidance for infrastructure investment decisions.
- To consider and incorporate asset management in the City's other corporate plans including the Official Plan and the Strategic Plan.
- To consider environmental and social impacts.
- To demonstrate that a full range of available financing and revenue generation tools have been explored as a condition of future provincial funding for infrastructure projects.
- Demonstrate that projects seeking provincial infrastructure funding were reviewed and included in the asset management plan.

## HOW THE PLAN WAS DEVELOPED

---

The plan was developed under the direction of Mr. Jacob Bruzas, Manager of Capital Planning and Audit along with other senior City staff.

For certain parts of the plan, the City engaged third party consultants to assist with the valuation and assessment of asset condition.



# City of Sault Ste. Marie Asset Management Plan

---

## LENGTH OF PLAN

---

The asset management plan will include financial projections for a minimum of 10 years. The plan should be updated regularly and we plan a review every three years.

Certain assets, like our facilities assessment, reviewed properties over a 25 year period.

## SCOPE

---

Municipalities have a wide range of physical assets to manage, all of which age at different rates, have differing impacts on the community and have varied levels of visibility to the public, Council and staff. The list below provides examples of the diversity of assets owned and operated by the municipality:

- Surface assets: roads, sidewalks, trails, parking lots
- Above ground assets: buildings, bridges, pumping stations, treatment plants
- Below ground assets: sanitary and storm sewers, culverts
- Fleet and equipment: cars, trucks, trailers, specialized equipment vehicles, maintenance equipment

The Asset Management Plan applies to all physical assets of the City, under the following categories:

- Buildings
- Sewage Treatment Plants and Pumping Stations
- Stormwater Management
- Bridges
- Roads, Storm and Sanitary Sewers
- Fleet and Equipment



# City of Sault Ste. Marie Asset Management Plan

---

## FORMAT OF THE PLAN

---

The City's Asset Management Plan describes:

- What the City owns (Inventory);
- What it's worth (Valuation--- Historical/Replacement/Repair Cost);
- The level of operation (Desired Levels of Service);
- The condition of the assets (State of Local Infrastructure),
- What needs to be done (Asset Management Strategy); and
- How much it will cost and how it will be funded? (Financing Strategy).

For each asset category, the plan will be described under the following headings:

- State of Local Infrastructure;
- Desired Level of Service;
- Asset Management Strategy; and
- Financing Strategy.



# City of Sault Ste. Marie Asset Management Plan

---

## EXECUTIVE SUMMARY

---

This is a working document that will be updated periodically and as the City makes changes to its asset management strategy and updates its strategic plan.

This document was prepared based on the model provided by the Ministry of Infrastructure entitled Building Together-Guide for Municipal Asset Management Plans. The financial component is subject to annual review and approvals through the budget process.

The Asset Management Plan is expected to help Council in making service level decisions and approving financial budgets, as well as guide City Staff with the planning, operating and managing of assets.

### *IMPACT ON BUDGET*

The Asset Management Plan is directly linked to the budget. The Plan requires the financial support of the budget to turn planning into spending. The Plan enables the City to look at the 10 year capital expenditure forecast required and budget for those expenses today.

There is increased pressure on the budget with aging infrastructure, funding cuts, and rising costs. However, Council cannot forget about the backlog of infrastructure deficiencies and the negative effect that further funding deficits will have on existing infrastructure and future budgets.



# City of Sault Ste. Marie Asset Management Plan

---

## BUILDINGS

### 1.1 STATE OF INFRASTRUCTURE - BUILDINGS

#### 1.1a BACKGROUND

The City of Sault Ste. Marie owns and operates a variety of buildings providing various services to the residents; ranging from emergency services and public works buildings to libraries and seniors' centres.

In 2009, the City established a capital asset policy in compliance with Public Sector Accounting Board (PSAB) Section 3150 entitled Tangible Capital Assets. The PSAB 3150 was established in 2009 to report on the historical costs for the capital assets and the amortization pertaining to these assets based on their life expectancy. This exercise was a starting point to establish the inventory of our existing assets, including the historical cost, the amortization, and the expected useful life of the capital assets.

The City's capital asset policy defines a building as "permanent, temporary or portable building structures, such as offices, garages, warehouses, and recreation facilities intended to shelter persons and/or goods, machinery, equipment and working space." The policy sets a capitalization threshold of \$100,000, meaning that any building acquired for less than \$100,000 is not included in the City's financial statements as a capital asset, and thus, in general, will not be included as part of the Asset Management Plan. These items under \$100,000 will be treated in a similar fashion as other significant operating expenditures.

As of December 31, 2013, the City owned and operated 36 buildings that met the criteria of a capital asset. The historical cost of these 36 buildings as included in the 2013 Audited Financial Statements and summarized below in Figure 1.1 totals over \$81,000,000.



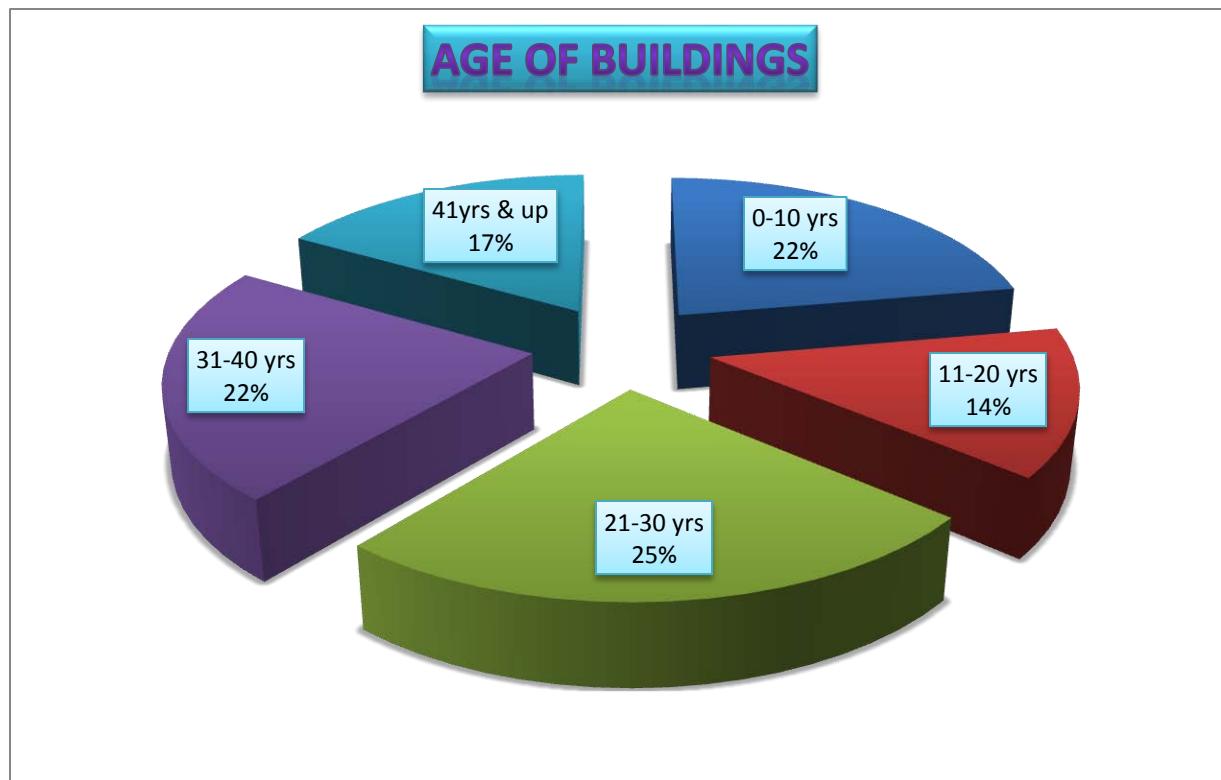
# City of Sault Ste. Marie Asset Management Plan

**Figure 1.1: Buildings Historical Cost as Presented in Financial Statements**

Asset	Historical Cost	Accumulated Amortization	Net Book Value, Dec 31, 2013
<b>Buildings</b>	\$ 81,280,848	\$ (25,901,501)	\$ 55,379,348

The ages of the buildings range from less than one year old to over 200 years old. The majority of the buildings, 9 of the 36; or 25%, fall within the 21 to 30 year old range. See Figure 1.2 for summary.

**Figure 1.2: Age of Buildings**



# City of Sault Ste. Marie Asset Management Plan

---

Age of Building	Building Description
<b>0-10 yrs</b>  (8)	PWT Equipment Storage Facility (Pre Fab) * Northern Community Centre CCTV Building: Laboratory Building (Test ) Fire Hall #4 / EMS Complex Scale House * Salt Storage * James Elliot Park Building * Sault Event Centre (Essar Centre) Building
<b>11-20 yrs</b>  (5)	Household Special Waste Depot (F) * Ontario Works Office Building John Rhodes Pool Building John Rhodes Arena Building Roberta Bondar Park
<b>21-30 yrs</b>  (9)	Fire Station #2 Fire Station #3 Laboratory Building; Public Works (H) Police Headquarters Equipment Storage Garage Building; Public Works (G) Public Works Administration Building Central Fire Station #1 Transit Centre, Bus Depot Transit Terminal Building
<b>31-40 yrs</b>  (8)	Fish Hatchery * Police Storage Building * Jesse Irving Children's Centre Public Works Garage, Building A Carpentry Shop Building 'B' Concrete Plant (J) * Civic Centre Senior Citizens Drop-in Centre
<b>41 &amp; older</b>  (6)	Steelton Senior Citizens Centre Ermatinger Old Stone House SSM Museum Cemetery Chapel & Office Building McMeeken Arena * Main Branch Library Building

Note: Those buildings above marked with a “\*\*” were not included as part of Morrison Hershfield’s assessment.



# City of Sault Ste. Marie Asset Management Plan

---

## *1.1b ASSET CONDITION/ CAPITAL COST REQUIREMENTS*

In 2013, the City engaged a consultant, Morrison Hershfield Ltd., to conduct Building Condition Assessments of 27 buildings located on 22 different City sites<sup>1</sup>. The thorough evaluation focused on the structure, building envelope, fire safety, mechanical systems, plumbing, electrical systems, elevators, ground & site, and energy efficiency suggestions for projects with 5 year or less financial payback.

For each major building component and system, the consultant documented description, age and history and identified condition, typical life expectancy, estimated remaining useful life and recommendation for capital repairs and replacements over 25 years.

Every major component and/or system of each individual building was given the following ratings:

Excellent	Functioning as intended; as new condition.
Very Good	Functioning as intended; near new condition.
Good	Functioning as intended; limited (if any) deterioration observed.
Fair	Function and operation exhibiting wear or minor deterioration, normal maintenance frequency.
Poor	Function and operation failing; significant deterioration and distress observed; increased maintenance attention has been required.

---

<sup>1</sup> A full copy of the Morrison Hershfield Ltd. report is available for viewing at the City Finance Department



# City of Sault Ste. Marie Asset Management Plan

Morrison Hershfield Ltd. also assessed the lifecycle costing of each building asset and individual building component. The lifecycle data analyzed included the following:

Lifecycle Data	Description
<b>Age</b>	The age at the time of the assessment (Year 2013). Where the exact age is unknown, MH provides an estimate based on observed condition.
<b>Typical Lifecycle or Repair Cycle</b>	Industry standard lifespan, assuming normal maintenance. A piece of equipment may have a typical lifespan for complete replacement, as well as a typical lifespan for a recommended repair with a much shorter frequency.
<b>Remaining Life / Time to Major Repairs</b>	Remaining life of component and/or time to the next major repairs. Based on Age subtracted from Typical Lifespan, but confirmed and adjusted as needed depending on observed condition. A negative value is used to show phased projects already partially complete.
<b>Years Over Which Project is Phased</b>	Larger projects may be shown phased over more than one year.

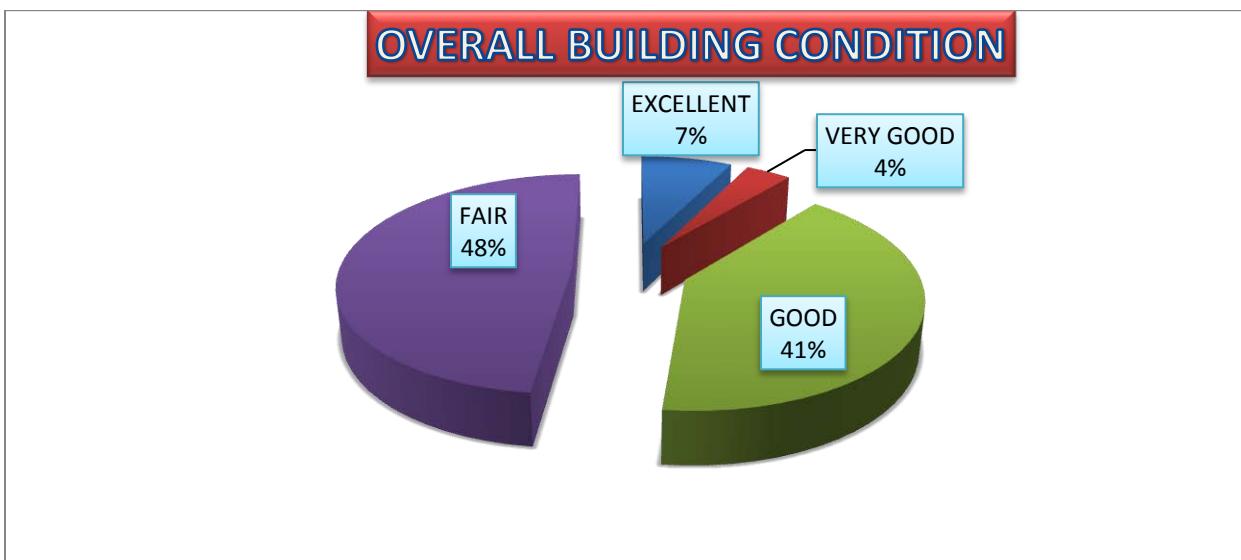
As was expected, the consultant Morrison Hershfield Ltd. identified several areas where significant building improvements are needed, the majority of those focused on the older building stock.

Of the 27 buildings evaluated, 89% of them were in the fair to good range. See figure 1.3 for complete breakdown.



# City of Sault Ste. Marie Asset Management Plan

Figure 1.3: Overall Building Condition



<b>Excellent</b> (2)	Northern Community Centre, 556 Goulais Avenue CCTV Building, Public Works Yard, 128 Sackville Road
<b>Very Good</b> (1)	Sault Event Centre (Essar Centre), 269 Queen Street East
<b>Good</b>	Main Branch Public Library, 50 East Street Steelton Senior Citizens Centre, 235 Wellington Street West Senior Citizens Drop-in Centre, 619 Bay Street
(11)	Roberta Bondar Park, 65 Foster Drive Lab Building, Public Works Yard, 128 Sackville Road Fire Station #2, 363 Second Line West Fire Station #3, 100 Bennett Blvd. Fire Hall #4 / EMS Complex, 65 Old Garden River Road John Rhodes Community Centre, 280 Elizabeth Street Ermatinger Old Stone House, 831 Queen Street East SSM Museum, 690 Queen Street East
<b>Fair</b>	Jesse Irving Children's Centre, 84 Ruth Street Maycourt Children's Centre, 13 Salisbury Avenue Civic Centre, 99 Foster Drive Public Works Administration Building, 128 Sackville Road Public Works Garage, Building A, 128 Sackville Road Carpentry Shop Building 'B', 128 Sackville Road Central Fire Station #1, 72 Tancred Street Transit Bus Depot, 111 Huron Street Transit Terminal Building, 160 Queen Street East Police Headquarters, 580 Second Line Ontario Works Building, 540 Albert Street East Cemetery Chapel & Office Building, 27 Fourth Line East Equipment Storage Garage, Public Works Yard, 128 Sackville Rd
(13)	



## City of Sault Ste. Marie Asset Management Plan

---

The top priority building identified in terms of significant capital outlays required in the next 10 years was the Civic Centre, a building that is 40 years old (note that the McMeeken Arena was not included as part of the Morrison Hershfield Ltd. assessment as it is known that the building has almost reached the end of its useful life, and such assessment would not have provided any added value to the City).

Morrison Hershfield developed a ten-year capital expenditure plan with recommended plans for all City properties. See Figure 1.4.



# City of Sault Ste. Marie Asset Management Plan

---

**Figure 1.4: Ten-Year Recommended Plan (By Facility)**

Building Name & Address	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
Civic Centre 99 Foster Drive	788,700	2,223,200	2,029,700	83,200	100,200	0	423,000	88,000	0	28,000	<b>5,764,000</b>
CCTV Building, Public Works Yard, 128 Sackville Road	0	0	0	0	0	0	0	0	0	0	<b>0</b>
Lab Building, Public Works Yard, 128 Sackville Road	0	0	0	0	17,000	0	0	0	0	0	<b>17,000</b>
Fire Station #2, 363 Second Line West	22,000	0	0	0	0	0	0	0	0	37,000	<b>59,000</b>
Northern Community Centre, 556 Goulais Avenue	85,000	0	0	0	0	0	0	0	0	0	<b>85,000</b>
Carpentry Shop Building 'B', 128 Sackville Road	21,000	54,000	0	0	0	0	0	12,000	0	0	<b>87,000</b>
Fire Station #3, 100 Bennett Blvd.	16,000	0	0	0	0	71,000	6,000	0	0	0	<b>93,000</b>
Cemetery Chapel & Office , 27 Fourth Line East	12,000	0	0	0	0	0	31,000	0	0	134,000	<b>177,000</b>
Jesse Irving Children's Centre, 84 Ruth Street	0	94,000	0	24,000	38,500	35,500	0	12,000	0	0	<b>204,000</b>
Maycourt Children's Centre, 13 Salisbury Avenue	47,000	127,000	0	9,000	0	0	0	0	7,000	29,000	<b>219,000</b>
Senior Citizens Drop-in Centre, 619 Bay Street	105,000	0	130,000	0	0	0	0	0	0	0	<b>235,000</b>
Transit Terminal Building, 160 Queen Street East	68,000	0	0	0	6,000	8,000	15,000	175,000	0	0	<b>272,000</b>
Ermatinger Old Stone House, 831 Queen Street East	123,000	19,000	31,000	17,000	0	8,000	0	17,000	37,000	5,000	<b>257,000</b>



# City of Sault Ste. Marie Asset Management Plan

**Figure 1.4 Cont'd: Ten-Year Recommended Plan (By Facility)**

<b>Building Name &amp; Address</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>Total</b>
Equipment Storage Garage, Public Works, 128 Sackville	458,000	7,000	28,000	0	0	0	0	0	0	0	<b>493,000</b>
Steelton Senior Citizens Centre, 235 Wellington Street West	255,000	0	16,000	0	0	141,000	0	0	11,000	0	<b>423,000</b>
SSM Museum, 690 Queen Street East	232,000	30,000	199,000	0	80,000	0	56,000	0	0	0	<b>597,000</b>
Public Works Admin Bldg, 128 Sackville Road	151,000	322,000	0	0	24,000	0	132,000	0	0	0	<b>629,000</b>
Roberta Bondar Park, 65 Foster Drive	84,000	156,000	7,000	26,000	50,000	56,000	138,000	0	11,000	124,000	<b>652,000</b>
Central Fire Station #1, 72 Tancred Street	408,000	15,000	15,000	44,000	10,000	296,000	44,000	0	0	0	<b>832,000</b>
Main Branch Public Library, 50 East Street	387,000	69,000	0	498,000	70,000	0	12,000	0	22,000	57,000	<b>1,115,000</b>
Ontario Works Building, 540 Albert Street East	452,000	133,000	243,000	17,000	0	0	0	597,000	0	0	<b>1,442,000</b>
Transit Bus Depot, 111 Huron Street	564,667	336,667	331,667	212,000	0	0	40,000	88,000	0	0	<b>1,573,000</b>
Police Headquarters, 580 Second Line	491,000	331,000	289,000	0	106,000	0	0	117,000	178,000	138,500	<b>1,650,500</b>
Fire Hall #4 / EMS Complex, 65 Old Garden River Road	959,500	476,500	0	12,000	0	0	134,000	0	40,000	31,000	<b>1,653,000</b>
Essar Centre, 269 Queen Street East	31,000	0	6,000	0	0	0	0	2,225,000	0	0	<b>2,262,000</b>
Public Works Garage, Bldg A, 128 Sackville Road	384,000	418,000	8,000	17,000	34,000	21,000	222,000	1,354,000	0	0	<b>2,458,000</b>
John Rhodes Community Centre, 280 Elizabeth Street	35,000	140,000	0	0	67,000	1,932,000	1,124,000	0	0	172,000	<b>3,470,000</b>
<b>Total</b>	<b>6,179,867</b>	<b>4,951,367</b>	<b>3,333,367</b>	<b>959,200</b>	<b>602,700</b>	<b>2,568,500</b>	<b>2,377,000</b>	<b>4,685,000</b>	<b>306,000</b>	<b>755,500</b>	<b>26,718,500</b>



# City of Sault Ste. Marie Asset Management Plan

---

As shown in the following chart, over the next 20 years, approximately \$44M is recommended by Morrison Hershfield for the capital repair and maintenance of the City's facilities.

**Figure 1.5: Twenty Year Capital Plan- Facilities**

ESTIMATED REQUIRED CAPITAL OUTLAY BY YEAR				
	2015 to 2024	2025 TO 2029	2030 TO 2035	<b>TOTAL</b>
Main Branch Public Library, 50 East Street	1,115,000	554,000	294,000	<b>1,963,000</b>
Steelton Senior Citizens Centre, 235 Wellington Street West	423,000	247,000	610,000	<b>1,280,000</b>
Senior Citizens Drop-in Centre, 619 Bay Street	235,000	210,000	324,000	<b>769,000</b>
Jesse Irving Children's Centre, 84 Ruth Street	204,000	140,000	150,000	<b>494,000</b>
Maycourt Children's Centre, 13 Salisbury Avenue	219,000	164,000	58,000	<b>441,000</b>
Roberta Bondar Park, 65 Foster Drive	652,000	185,000	1,755,000	<b>2,592,000</b>
Civic Centre, 99 Foster Drive	5,764,000	377,000	1,635,200	<b>7,776,200</b>
Public Works Administration Building, 128 Sackville Road	629,000	8,000	63,000	<b>700,000</b>
Public Works Garage, Building A, 128 Sackville Road	2,458,000	60,000	128,000	<b>2,646,000</b>
Carpentry Shop Building 'B', 128 Sackville Road	87,000	-	-	<b>87,000</b>
Lab Building, Public Works Yard, 128 Sackville Road	17,000	8,000	-	<b>25,000</b>
Central Fire Station #1, 72 Tancred Street	832,000	175,000	346,000	<b>1,353,000</b>
Fire Station #2, 363 Second Line West	59,000	84,000	59,000	<b>202,000</b>
Fire Station #3, 100 Bennett Blvd.	93,000	74,000	48,000	<b>215,000</b>
Fire Hall #4 / EMS Complex, 65 Old Garden River Road	1,653,000	978,000	522,000	<b>3,153,000</b>
Transit Bus Depot, 111 Huron Street	1,573,000	189,000	376,667	<b>2,138,667</b>
Transit Terminal Building, 160 Queen Street East	272,000	-	60,000	<b>332,000</b>
Police Headquarters, 580 Second Line	1,650,500	85,500	703,000	<b>2,439,000</b>
Ontario Works Building, 540 Albert Street East	1,442,000	148,000	321,000	<b>1,911,000</b>
Sault Event Centre (Essar Centre), 269 Queen Street East	2,262,000	263,000	988,000	<b>3,513,000</b>
John Rhodes Community Centre, 280 Elizabeth Street	3,470,000	1,751,000	878,000	<b>6,099,000</b>
Northern Community Centre, 556 Goulais Avenue	85,000	4,000	1,631,000	<b>1,720,000</b>
Ermatinger Old Stone House, 831 Queen Street East	257,000	82,000	112,000	<b>451,000</b>
SSM Museum, 690 Queen Street East	597,000	49,000	37,000	<b>683,000</b>
Cemetery Chapel & Office Building, 27 Fourth Line East	177,000	10,000	12,000	<b>199,000</b>
CCTV Building, Public Works Yard, 128 Sackville Road	-	-	8,000	<b>8,000</b>
Equipment Storage Garage, Public Works Yard, 128 Sackville Rd	493,000	12,000	163,000	<b>668,000</b>
<b>TOTAL</b>	<b>26,718,500</b>	<b>5,857,500</b>	<b>11,281,867</b>	<b>43,857,867</b>



# City of Sault Ste. Marie Asset Management Plan

---

## *1.1c CONDITION ASSESSMENT POLICY*

Staff recommends creating a Facilities Asset Management Staff Committee (FAMSC) that will report to the Senior Management Team on building conditions. The Committee will be chaired by Mr. Jacob Bruzas, Manager of Audits and Capital Planning, and will consist of senior personnel (department heads with responsibility for facilities) and other senior support staff as required. The primary objective of the Committee will be to re-assess the buildings capital work plan annually to decide which projects to recommend to Council for approval. Those with the highest ranked priority (i.e. those which pose potential health and safety risks) and/or where further deferral will increase the risk of damage to other building components will be recommended for funding, as outlined in the Morrison Hershfield reports. The Committee will take into consideration concerns brought forth to the Corporation through the City's various Joint Health and Safety committees. See Asset Management Strategy section for further discussion on the Facilities Asset Management Staff Committee.

A tentative agreement is in place with Morrison Hershfield Ltd. to update their full condition assessment every five years. In the meantime, routine maintenance and reporting of new building deficiencies is expected of those staff responsible for the day-to-day operations of the facilities.



# City of Sault Ste. Marie Asset Management Plan

---

## *1.2 DESIRED LEVEL OF SERVICE- BUILDINGS*

The primary service objective for all City facilities is to ensure that the buildings fall within code, meet accessibility requirements, and are safe for public use.

It is essential that regular maintenance is performed on all City facilities to ensure that they are able to fulfill their duty of aiding in the delivery of services to the public. In order to ensure that the buildings meet the desired service levels, the facilities require regular inspection and routine maintenance.

To maintain desired level of services, those City staff responsible for building management and maintenance will provide regular information on the facilities' condition. This information is taken into consideration during maintenance routines. Examples of such "evaluations of performance" of the facilities are monthly health and safety inspections by Joint Health and Safety Committee members and citizen complaints.

Any facility condition issue that is brought forth to those responsible for building management that poses a health and safety risk is given the highest priority level when it comes to funding.

Currently, there are no known service level deficiencies with respect to buildings.



# City of Sault Ste. Marie Asset Management Plan

---

## 1.3 ASSET MANAGEMENT STRATEGY- BUILDINGS

The City feels that its current strategy with respect to routine maintenance of building assets has been successful in maintaining optimal service levels and allowing for successful day-to-day operations of the facilities. Because of this, the City intends on not making any major changes to its maintenance and operations strategy for buildings. However, we must ensure that sufficient resources (funding and personnel) continue to be allocated to the maintenance of these buildings. Changes may be required if new regulations come in effect (i.e. Building code; accessibility) or the citizens of Sault Ste. Marie desire a need for a different service/level of service.

That being said, the Morrison Hershfield facilities condition assessment report outlined a backlog of deficiencies that require significant attention over the next 25 years.<sup>2</sup>

As mentioned previously in the Plan, the consultant grouped the required capital outlays into various categories to aid the City in its strategy of clearing up the existing building deficiencies.

The categories/priorities set are as follows:

- |                            |   |
|----------------------------|---|
| 1 - Immediate              | Items that require immediate repair or replacement because of either a code deficiency or a safety concern  |
| 2 - Restore                | Items that currently show signs of failure, requiring functionality repair or replacement to restore functionality in the near future.  |
| 2b - Exceeded Service Life | Items that are functioning, but past their expected service life, and could fail at any time.   |
| 3 - Future Renewal         | Items that will require future repair or replacement to maintain functionality (life cycle replacement).  |
| 4 - Discretionary          | Items where the timing and scope of work is at the owner's discretion <ul style="list-style-type: none"><li>• aesthetics/comfort</li><li>• energy upgrade projects that are expected to pay back within 5 years</li></ul> |

---

<sup>2</sup> A full copy of the Morrison Hershfield Ltd. report is available for viewing at the City Finance Department



# City of Sault Ste. Marie Asset Management Plan

---

Figures 1.6 & 1.7 summarize the recommended ten-year capital plan for the City's facilities, sorted by priority.

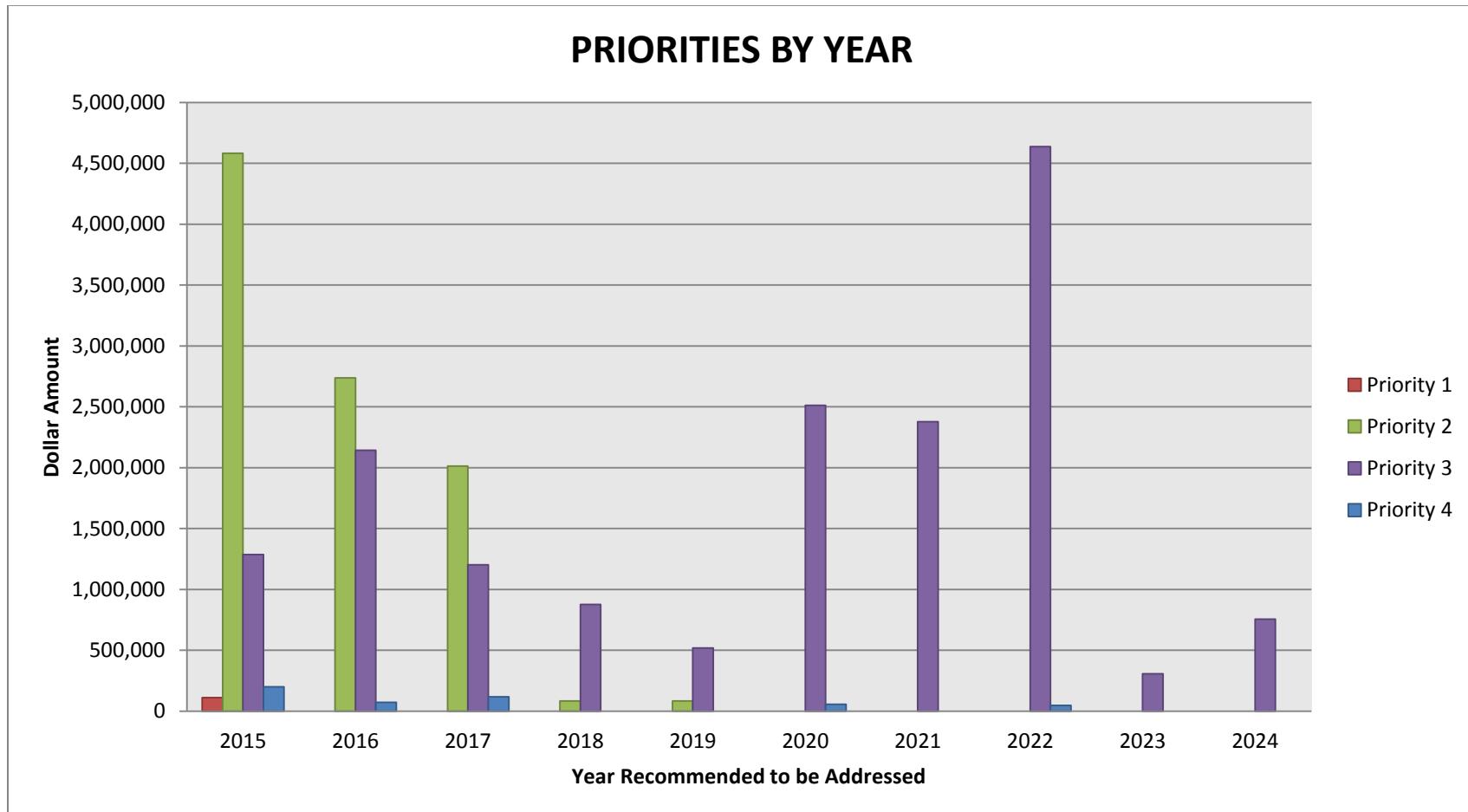
**Figure 1.6: Ten-Year Recommended Plan (All Facilities) (By Priority)**

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
1 - Immediate: items that require immediate repair or replacement because of either a code deficiency or a safety concern	111,000										111,000
2 - Restore Functionality: items that currently show signs of failure, requiring repair or replacement to restore functionality in the near future.	3,136,000	2,138,500	1,728,500								7,003,000
2b - Exceeded Service Life: items that are functioning, but past their expected service life, and could fail at any time.	1,447,200	598,200	284,200	83,200	83,200						2,496,000
3 - Future Renewal: items that will require future repair or replacement to maintain functionality (life cycle replacement).	1,286,167	2,142,167	1,201,667	876,000	519,500	2,512,500	2,377,000	4,637,000	306,000	755,500	16,613,500
4a - Discretionary Renewal (Efficiency): energy upgrade projects that are expected to pay back within 5 years.	141,000										141,000
4b - Discretionary Renewal (Aesthetic/Comfort): items where the timing and scope of work is at the owner's discretion.	58,500	72,500	119,000			56,000		48,000			354,000
<b>Total</b>	<b>6,179,867</b>	<b>4,951,367</b>	<b>3,333,367</b>	<b>959,200</b>	<b>602,700</b>	<b>2,568,500</b>	<b>2,377,000</b>	<b>4,685,000</b>	<b>306,000</b>	<b>755,500</b>	<b>26,718,500</b>



# City of Sault Ste. Marie Asset Management Plan

Figure 1.7: Morrison Hershfield Priorities by year



# City of Sault Ste. Marie Asset Management Plan

---

## *1.3a FACILITIES ASSESSMENT MANAGEMENT COMMITTEE*

Because the work that Morrison Hershfield has ranked as Priority 1 (Immediate) relates to safety, these deficiencies are to be addressed by the City immediately. As of the writing of this plan (current draft December 2014), the majority of the Priority 1's have been rectified.

The Priority 2's (Restore/Exceed Useful Life) should be attended to once the Priority 1's are cleared up, as deferral of these deficiencies increases the risk of damage to other building components, which in turn leads to further costs.

Once the City is at the stage where there are no longer any Priority 1's and it has the necessary funding strategy put in place, the Facilities Asset Management Staff Committee (FAMC) will meet as required to review and recommend spending priorities.

The FAMSC will use Morrison Hershfield's recommendations to help determine the best allocation of the available funding in clearing off the Priority 2's. This process will continue as further funding is made available, until such time that the City is satisfied the consultant's recommendations have been satisfied and the desired level of services have been provided to the citizens of Sault Ste. Marie.

In order to prioritize the remainder of the consultant's recommendations; the FAMSC will take into consideration, at a minimum, the following:

- The consequence of the building/ building component failing (i.e. impact on ratepayers, increase in future repair costs, health and safety),
- The age of the building relative to its anticipated remaining useful life,
- The maintenance and operating costs of the building/building component,
- Changes in service level requirements, and
- Changes in building conditions since the Morrison Hershfield inspections.

The FAMSC will take its recommendations to the City's Senior Management Team and provide a recommendation to City Council, who will make the ultimate decision on how the available funding is to be allocated to the prioritized building deficiencies.



# City of Sault Ste. Marie Asset Management Plan

---

The FAMSC will make its recommendations based on available funding for the program approved in the annual budget process.

## *1.3b ASSET RENEWAL/REPLACEMENT*

Priorities 3 and 4 identified by Morrison Hershfield are items that require future repair, replacement or maintenance.

Once the time for replacement, repair or maintenance on these items is reached, the City will plan and schedule capital renewal and replacement projects to deliver the defined level of service in the most efficient manner, while optimizing available funding.

Wherever possible, the City will investigate the possibility of the use of low cost renewal methods, including those that incorporate energy saving opportunities, with the cost of renewal generally being less than the cost of replacement. At all times during the strategy, the City must bear in mind that its directive is to obtain the best value for resources used.

## *1.3c CREATION/ACQUISITION/UPGRADE*

New works are those works that create a new asset that did not previously exist, or works which upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs.

New facilities and upgrade/expansion of existing facilities are identified from various sources such as Council or community requests, strategic plans or partnerships with other organizations. The demands for new facilities need to be taken into consideration when prioritizing the repair and maintenance of the City's existing building inventory.

The City has identified the option of a new arena at the Northern Community Centre at a cost of \$15M in this asset management plan as an upgrade/new asset.

# City of Sault Ste. Marie Asset Management Plan

---

The City is also considering a relocation of the main Transit building from its current downtown location to a location on or near the Public Works site. This is in the very preliminary stages with no cost estimates currently available.

Other than the aforementioned two projects, there are no other new facilities/significant upgrades being considered.

## *1.3d BUILDING DISPOSAL*

When a building has reached the end of its useful life the City must determine if the asset is still efficiently and effectively providing valued service to the citizens of Sault Ste. Marie. If the City determines that this is not the case, the City shall pursue various options for the asset's disposal, taking into consideration the future impact of the building asset on the community (i.e. What it will be used for) while obtaining the largest financial return possible, or in the case of demolition, at the lowest cost possible.

When selling a building asset, the City shall ensure the Purchasing Policy is followed and the process is competitive.

## *1.3e RISKS OF ASSET MANAGEMENT STRATEGY*

There are risks associated with not properly implementing our Asset Management Strategy for Buildings. Operations and maintenance activities and capital projects that may not be undertaken may create consequences for users. These include:

- Building conditions will deteriorate as buildings age and are not renewed, creating an increase in maintenance expenditures and sometimes temporary building closures,
- Increase in mechanical and electrical systems failures could cause sudden service interruptions,
- The safety of users may be at risk if the City allows building infrastructure conditions to drastically deteriorate, and
- If critical buildings are not replaced/renewed as useful lives expire, there is an increased risk of inability to deliver essential services such as fire, EMS and policing services.



# City of Sault Ste. Marie Asset Management Plan

---

## 1.4 FINANCING STRATEGY- BUILDINGS

### 1.4a BUILDINGS CAPITAL REPAIR AND MAINTENANCE

The financial strategy of the City of Sault Ste. Marie with respect to the repair and maintenance of buildings is to fund the expenditures via existing tax revenue sources, with no issuance of debt.

The following chart summarizes the building repair and maintenance operating expenditures for the past 3 years.

*Figure 1.8: Past 3 Years Operating Expenditures*

Facilities Maintenance Operating Costs				
Cost Centre	2011	2012	2013	3 Year AVG
<b>Maintenance &amp; Alterations***</b>	\$ 1,061,058	\$ 1,138,042	\$ 1,226,841	\$ 1,141,980

\*\*\*Note: The City does not currently have departmental accounts set up that track operating expenditures related to buildings only. The cost category "Maintenance and Alterations" contains expenditures that do not necessarily relate to the operations of the City's buildings. That being said, it can be reasonably estimated that approximately 80% of these costs relate directly to the maintenance of the City's buildings. Thus, the above-noted figures are stated at 80% of the total costs in the "Maintenance and Alterations" cost category. In the future, the City will work on setting up departmental accounts that are specific to building maintenance only.\*\*\*



# City of Sault Ste. Marie Asset Management Plan

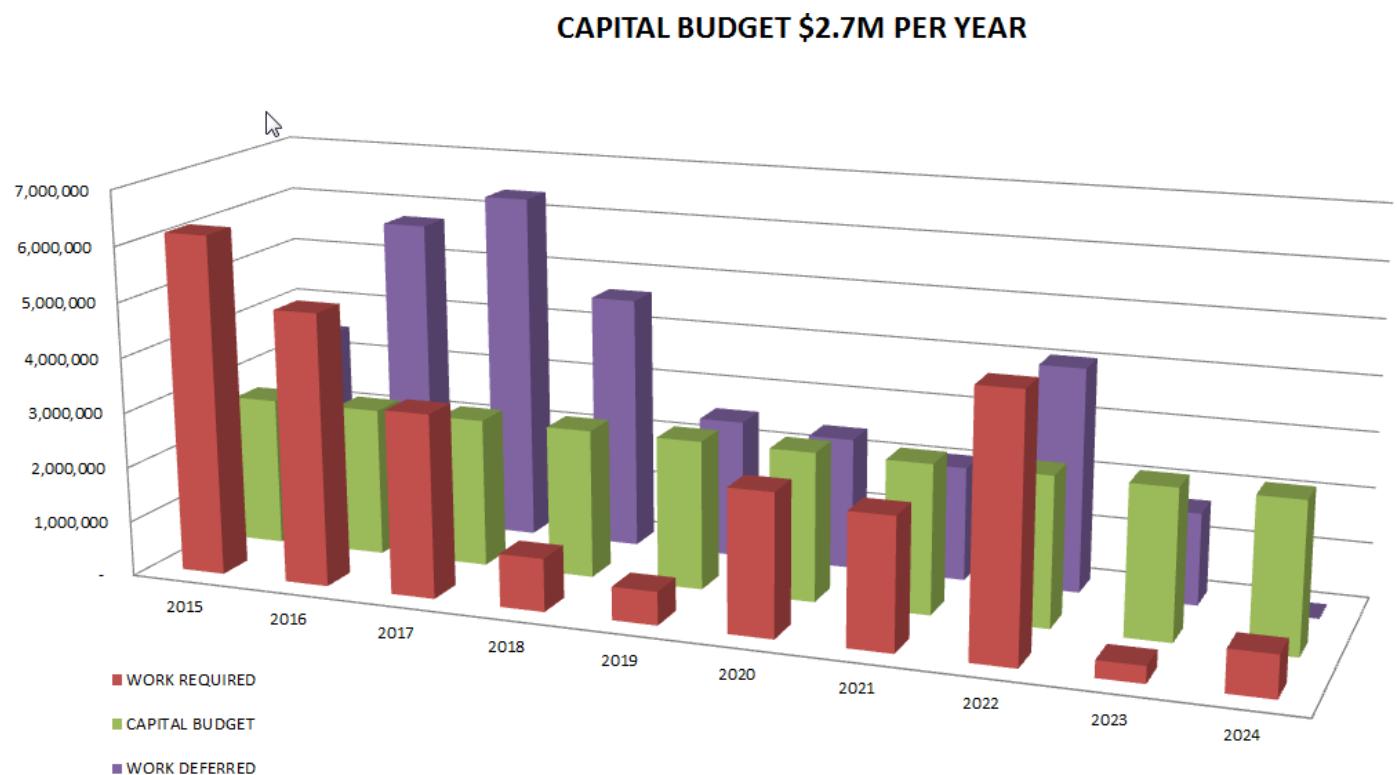
---

As Morrison Hershfield identified in their report, there is a significant backlog of deficiencies in the City's facilities. This deferral of work increases the risk of damage to other building components, safety hazards, equipment failures, business/service interruption, temporary closures and increased costs.

As stated in the report, work cannot be delayed much longer. The building funding gap needs to be addressed as soon as possible.

In order to eliminate this infrastructure gap within 10 years, the annual funding allocation to capital repair and maintenance of facilities needs to be increased to at least \$2.7M per year. See Figure 1.9. Any allocation less than this will lead to deferral of work and thus increase the risks associated with projects deferred, as previously described.

*Figure 1.9: Capital Budget \$2.7M per year*



# City of Sault Ste. Marie Asset Management Plan

---

It is the Finance Department's opinion that the increase of capital funding for City buildings to \$2.7M can be accommodated within the existing budget.

Beginning in 2015, it is proposed that the \$2.7M in required funding will come from tax revenues previously allocated to the following:

• Retired debenture debt charges -	\$1,167,630
• Retired Sault Area Hospital levy -	\$693,000
• Continued allocation of Casino revenue (2014 budget) –	\$431,580
• Additional budget allocation of tax levy -	<u>\$407,790</u>
	\$2,700,000

## *1.4b CREATION/ACQUISITION/UPGRADE*

Although the financial strategy of the City of Sault Ste. Marie with respect to the capital repair and maintenance of buildings is to fund the expenditures via existing budget sources, this is not possible when it comes to new facilities and upgrade/expansion of existing facilities. In these instances, funding must be obtained from other sources (i.e. private partnerships, upper levels of government, etc.) and/or the issuance of debt by the City. This has typically been the City's method of financing new buildings in the past, most recently seen with the funding of the Ermatinger Visitors' Centre.

## NORTHERN COMMUNITY CENTRE

---

The City has included the proposal of a new arena at the Northern Community Centre to be completed in 2018 at a cost of \$15M in this asset management plan as an upgrade/new asset. In order for the City to proceed with this development, funding of at least 2/3rds needs to be obtained from other sources. The City will consider funding the remaining 1/3<sup>rd</sup> primarily through issuance of debt, so as not to take away funding from the strategy for the capital repair and maintenance of the existing facilities. As with previously issued City debt, the servicing of this debt will be added to the tax levy.

# City of Sault Ste. Marie Asset Management Plan

THE CORPORATION OF THE CITY OF SAULT STE MARIE

CAPITAL BUDGET SUMMARY: BUILDINGS

YEARS: 2015 TO 2024

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
Projects completed in 2014	111,000										111,000
Infrastructure Funding Required	6,068,867	4,951,367	3,333,367	959,200	602,700	2,568,500	2,377,000	4,685,002	306,000	755,500	26,607,503
<b>Total Infrastructure Funding Required</b>	<b>6,179,867</b>	<b>4,951,367</b>	<b>3,333,367</b>	<b>959,200</b>	<b>602,700</b>	<b>2,568,500</b>	<b>2,377,000</b>	<b>4,685,002</b>	<b>306,000</b>	<b>755,500</b>	<b>26,718,503</b>
<b>Infrastructure Funding Available from Existing Budget Allocations</b>											
Casino Revenue	431,580	431,580	431,580	431,580	431,580	431,580	431,580	431,580	431,580	431,580	4,315,800
LTD-debt reduction	1,167,630	1,167,630	1,167,630	1,167,630	1,167,630	1,167,630	1,167,630	1,167,630	1,167,630	1,167,630	11,676,300
SAH levy	693,000	693,000	693,000	693,000	693,000	693,000	693,000	693,000	693,000	693,000	6,930,000
Projects funded in 2014	111,000										
<b>Available funding</b>	<b>2,403,210</b>	<b>2,292,210</b>	<b>2,292,210</b>	<b>2,292,210</b>	<b>2,292,210</b>	<b>2,292,210</b>	<b>2,292,210</b>	<b>2,292,210</b>	<b>2,292,210</b>	<b>2,292,210</b>	<b>22,922,100</b>
<b>Infrastructure Deficit - Buildings</b>	<b>3,776,657</b>	<b>2,659,157</b>	<b>1,041,157</b>	<b>(1,333,010)</b>	<b>(1,689,510)</b>	<b>276,290</b>	<b>84,790</b>	<b>2,392,792</b>	<b>(1,986,210)</b>	<b>(1,536,710)</b>	<b>3,796,403</b>
<b>Recommendation:</b>											
Additional budget allocation for 2015	407,790	407,790	407,790	407,790	407,790	407,790	407,790	407,790	407,790	407,790	4,077,900
<b>Revised Infrastructure Deficit - Buildings</b>	<b>3,368,867</b>	<b>2,251,367</b>	<b>633,367</b>	<b>(1,740,800)</b>	<b>(2,097,300)</b>	<b>(131,500)</b>	<b>(323,000)</b>	<b>1,985,002</b>	<b>(2,394,000)</b>	<b>(1,944,500)</b>	<b>(392,497)</b>
<b>Revised Infrastructure Deficit - Buildings Cumulative</b>	<b>3,368,867</b>	<b>5,620,234</b>	<b>6,253,601</b>	<b>4,512,801</b>	<b>2,415,501</b>	<b>2,284,001</b>	<b>1,961,001</b>	<b>3,946,003</b>	<b>1,552,003</b>	<b>(392,497)</b>	
<b>Summary - Current Budget Allocation</b>											
Casino Revenue	431,580										
Reduction in Long Term Debt	1,167,630										
SAH levy reduction	693,000										
<b>Recommended Budget Increase</b>	<b>2,292,210</b>										
<b>Revised annual allocation for buildings</b>	<b>407,790</b>										



## WASTEWATER

### *WASTEWATER FACILITY ASSETS*

Wastewater assets for the City of Sault Ste. Marie include eighteen small sanitary pump stations, seven large sanitary pump stations, associated forcemains, and the east and west end sewage treatment plants. The PUC currently operates the large assets and treatment plants, whereas the City of Sault Ste. Marie operates the small pump stations. All systems are connected to the City Wide Area Network (WAN) distributed SCADA system.

The City is undertaking a Class Environmental Assessment to identify the preferred approach to managing the biosolids generated at the two waste water treatment plants. Approximately 10,000 tonnes of biosolids have been disposed of in the City's landfill each year. The diversion from disposal/beneficial use of biosolids would enhance the projected longevity of the existing landfill. The Class Environmental Assessment is nearing completion with results expected in early 2015.

*Table 2.1 Summary of Sanitary Pump Stations, Treatment Plants, and Forcemain*

Asset	Number
Small Pumping Stations (sanitary)	18
Large Pump Stations (sanitary)	7
Sewage Treatment Plants	2
• East End Sewage Treatment Plant	
• West End Sewage Treatment Plant	
Sanitary forcemains	22

# City of Sault Ste. Marie Asset Management Plan

---

## *2.1 STATE OF LOCAL INFRASTRUCTURE- SEWAGE TREATMENT PLANTS, PUMPING STATIONS, AND FORCEMAIN*

### *2.1a SMALL PUMP STATIONS*

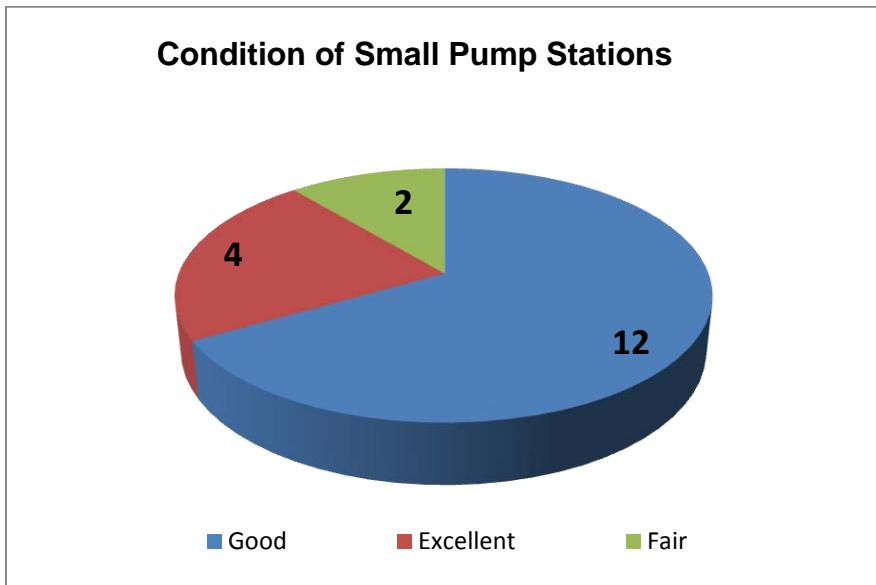
The City owns and operates eighteen small sanitary pump stations. The rating criteria of excellent, good, fair, and poor were used to rate each of these sites. Each of the small eighteen pump stations are small subsurface structures. The assessments are intended to assist with capital budgeting however; a more detailed engineering assessment is completed prior to upgrades to more accurately estimate the capital requirements and associated costs.

*Table 2.2 Summary of Small Pump Stations*

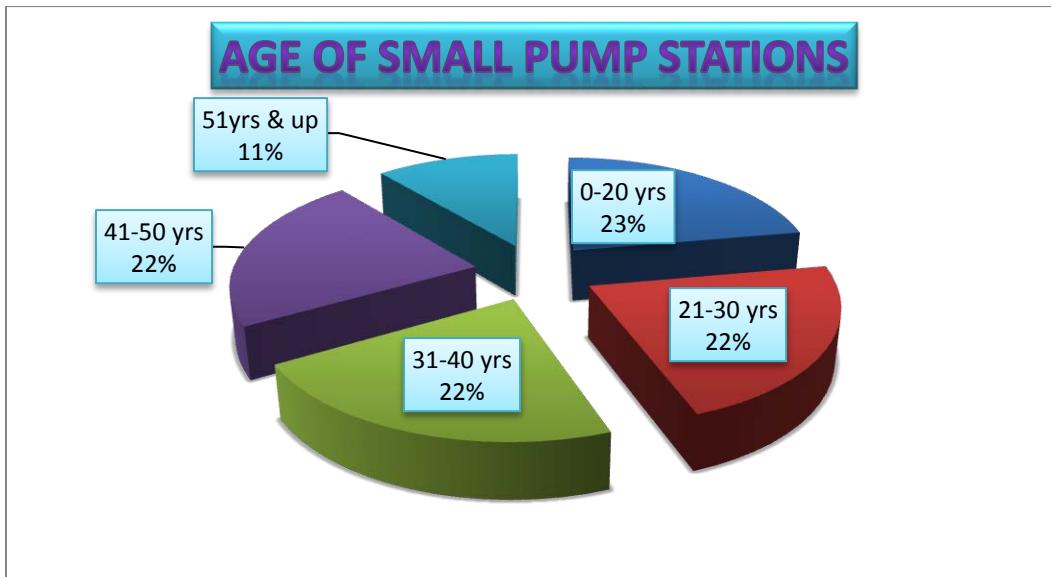
<b>Number</b>	<b>Pump Station</b>	<b>Date of Last Major Upgrade</b>	<b>Original Date of Construction</b>
1	Gore Street	1995	1995
2	Bonney Street	2007	2007
3	Muriel Drive	2014	1979
4	Huron Street	1962	1962
5	Lower Lake Street	2011	1964
6	Pine Street	2014	1964
7	McGregor Avenue	2011	1963
9	Norgoma Marine Park (Bondar Pavilion)	1991	1991
10	Landfill Site	1992	1992
11	Varsity Avenue	2005	1966
12	Fort Creek	2014	1972
13	Tallack Boulevard	2014	1974
14	Mary Avenue	1979	1979
16	Industrial Park B	1980	1980
17	Lake Street (Upper)	1990	1990
19	Millwood Avenue	1988	1988
20	Frontenac Street	1997	1994
21	Fox Run	2013	2013



*Figure 2.1 Condition of Small Pump Stations*



*Figure 2.2 Age of Small Pump Stations*



# City of Sault Ste. Marie Asset Management Plan

---

*Table 2.3 Summary of Small Pump Station Estimated Future Capital Costs*

<b>Small Pump Station</b>	<b>2014-2038</b>
01 Gore Street	\$ 94,000
02 Bonney Street	\$ 95,000
03 Muriel Drive	\$ 75,500
04 Huron Street	\$ 337,000
05 Lower Lake Street	\$ -
06 Pine Street	\$ 1,000
07 McGregor Avenue	\$ -
9 Norgoma Marine Park (Bondar Pavilion)	\$ 91,000
10 Landfill Site	\$ 91,000
11 Varsity Avenue	\$ 91,000
12 Fort Creek	\$ 209,000
13 Tallack Boulevard	\$ 77,500
14 Mary Avenue	\$ 226,000
16 Industrial Park B	\$ 515,000
17 Lake Street (Upper)	\$ 91,000
19 Millwood Avenue	\$ 149,000
20 Frontenac Street	\$ 91,000
21 Fox Run	\$ -



# City of Sault Ste. Marie Asset Management Plan

---

## 2.1b LARGE PUMP STATIONS

The asset condition assessment for large pump stations and treatment plants was provided by AECOM Consulting Engineers. For each major building component and system, the consultant documented the description, age, typical life cycle or repair cycle, and remaining life/time to major repairs over twenty years. The evaluation focused on process, electrical, mechanical, structural, and instrumentation and control. The assessments are intended to assist with capital budgeting only and are not intended to be a repair/replacement schedule. Further detailed investigation is required for these purposes. This information is anticipated to be updated in five years.

The City owns seven large sanitary sewer pump stations as follows:

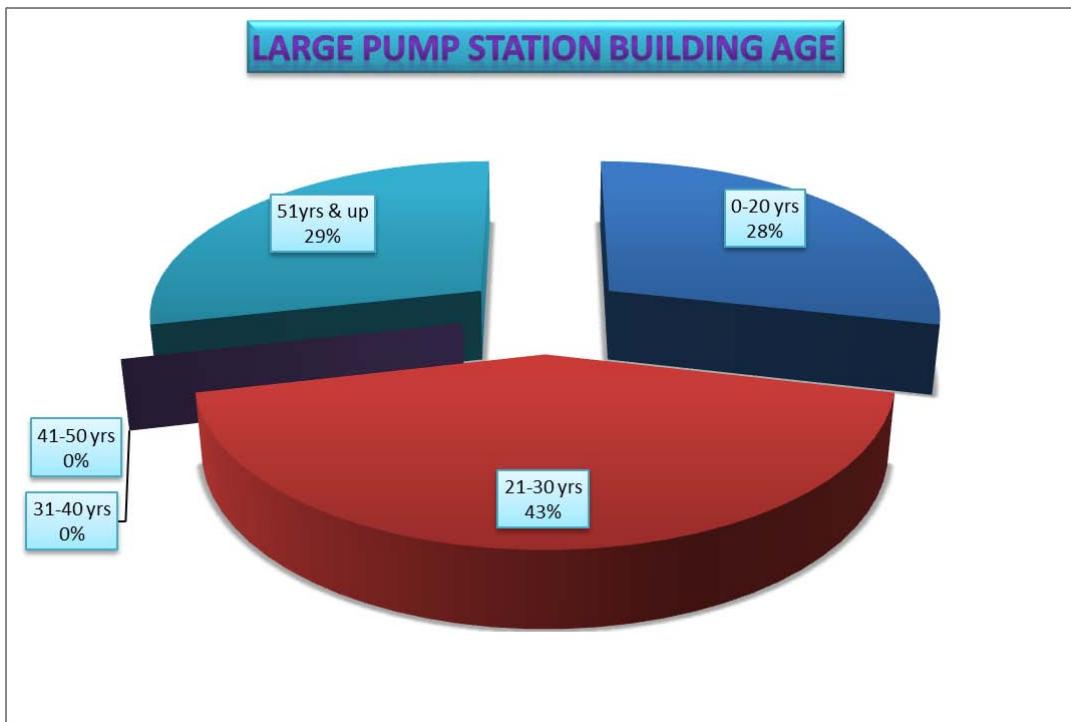
*Table 2.4 Summary of Large Pump Stations*

Number	Location	Estimated Date of Acquisition
NA	Main	1984
PS-ASC	Young Street	1984
PS-23	John Street	2002
PS-24	Pim Street	1960 (updated 2007)
NA	Bellevue	2003
PS-22	Clark Creek	1960 (updated 2014)
PS-21	River Road	1989

# City of Sault Ste. Marie Asset Management Plan

---

*Figure 2.3 Age of Large Pump Stations*



The expected service life of each component varies. Every major component and/or system of the treatment plants and large pump stations was given the following ratings:

- Excellent – Functioning as intended; as new condition;
- Good – Functioning as intended; limited (if any) deterioration observed;
- Fair – Function and operation exhibiting wear or minor deterioration, normal maintenance frequency.
- Poor – Function and operation failing; significant deterioration and distress observed; increased maintenance attention has been required.

The Pim Street PS was upgraded in 2007, and in 2014 upgrades to the Clark Creek pump station will be complete. For purposes of capital budgeting, the Main Pump Station is included with the West End Treatment Plant.

# City of Sault Ste. Marie Asset Management Plan

---

## 2.1c SEWAGE TREATMENT PLANTS

The East End Sewage Treatment Plant is a biological nutrient removal plant (BNR) with ultraviolet disinfection. The initial primary treatment plant was constructed in two stages, in 1959 and 1972. In 1987 a sludge dewatering facility was added. In 2007 the plant was upgraded to BNR with the addition of an inlet building with step screens and grit tanks, three rectangular primary clarifiers, a primary sludge fermenter, two bioreactors, three circular secondary clarifiers, UV, two dissolved air floatation units, two centrifuges, an electrical building, SCADA, an administration building, a biofilter, and a new outfall. A further capital investment was made for the biofilter in 2013 which included replacement of the media, and installation of a humidification tower.

The West End Sewage Treatment Plant utilizes conventional activated sludge treatment. The plant was built in approximately 1984, and includes screening, grit removal, primary clarification, aeration, phosphorous removal, secondary clarification, and seasonal (May 1 to October 31) chlorination and dechlorination. A condition and capacity assessment was completed for the West End Sewage Treatment Plant in 2014. Based on the results of the study, the capital investment for this site will be implemented in the forthcoming years as the next major priority project.

*Table 2.5 Summary of Large Pump Station and Treatment Plant Capital Costs*

LARGE PUMP STATION/TREATMENT PLANT	2015-2034
WEST END PLANT & MPS	\$ 51,003,750
EAST END PLANT	\$ 6,112,500
YOUNG STREET PS	\$ 863,125
JOHN STREET PS	\$ 979,375
PIM STREET PS	\$ 345,000
BELLEVUE PS	\$ 703,375
CLARK STREET PS	\$ 692,500
RIVER ROAD PS	\$ 1,044,000
BIOSOLIDS MGMT FACILITY	\$ 16,800,000
<b>TOTAL</b>	<b>\$ 78,543,625</b>

# City of Sault Ste. Marie Asset Management Plan

---

## *2.1d SCADA*

In 2007 a SCADA upgrade project commenced for a value of approximately \$3.68 million. The project is still ongoing although is substantially complete. The project includes all 18 small pump stations, 7 large pump stations, two treatment plants, and 5 overflow manholes.

## *2.1e FORCEMAINS*

The City has approximately 22 forcemains of varying sizes. The most notable forcemains due to size and length are the following:

- Pim Street Pump Station (816 Bay Street) to Pine Street – approximately 1,412 m of 750 mm diameter prestressed concrete cylinder, and;
- Clark Creek Pump Station (1677 Queen Street East) to the east end sewage treatment plant – approximately 2164 m of 900 mm diameter prestressed concrete cylinder

The following figures display length of forcemain installed by year, and categorized by material type of steel, asbestos cement, concrete, and plastic, and estimated replacement year. In the absence of a physical assessment of each pipe, estimated service life was utilized to estimate physical condition based on age.

# City of Sault Ste. Marie Asset Management Plan

Figure 2.4 Length of Forcemain Installed by Year

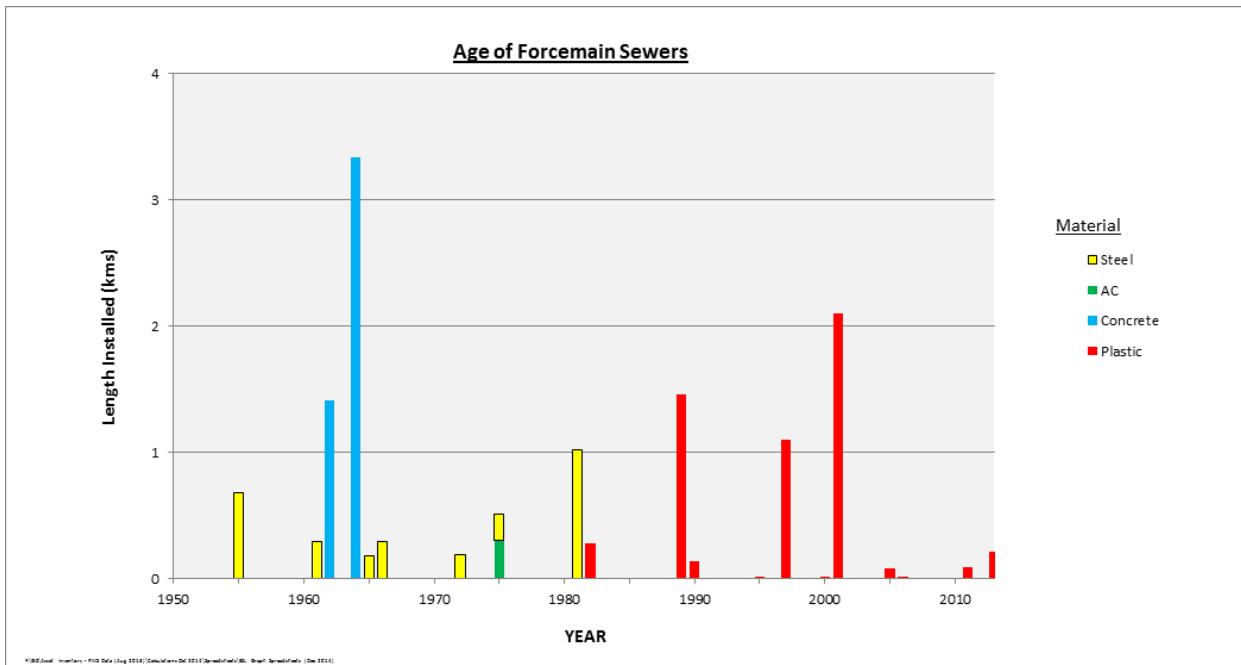
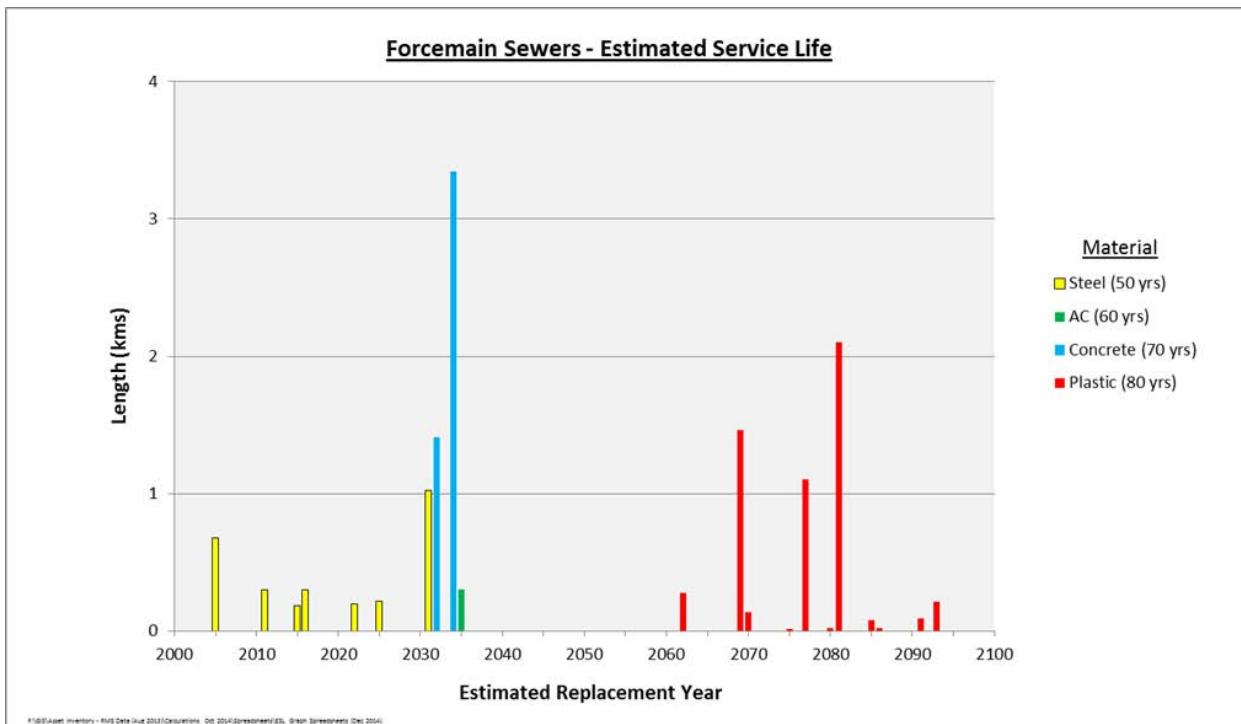


Figure 2.5 Estimated Replacement Year of Sanitary Forcemain



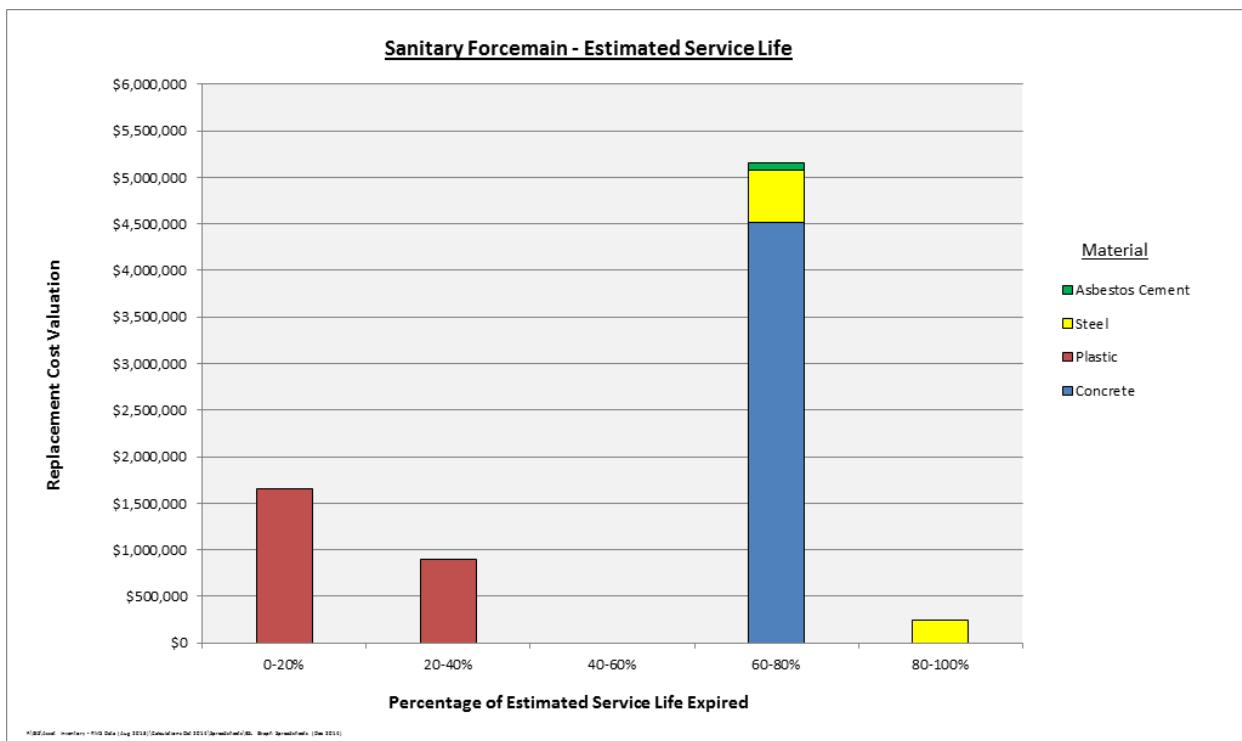
# City of Sault Ste. Marie Asset Management Plan

A review of the forcemains was completed using estimated service life. The expected levels of service for forcemains are generally determined by the age and pipe type. The following values were used for expected life:

- Cast and ductile iron – 50 years;
- Plastic (polyvinylchloride or high density polyethylene) – 80 years;
- Concrete – 70 years;
- Asbestos Cement – 60 years.

The estimated service life for the existing forcemains are presented in the following figure.

**Figure 2.6 Estimated Service Life Expired**



Some of the cast iron pipes due to the limited expected service life may require replacement in the coming years. These forcemains may be reviewed in conjunction with the capital works projects for replacement. Although some records dating back to the 1960's are not complete, cast iron is anticipated at Bonney Street, Huron Street, Lower Lake, Pine Street, and Varsity Avenue. Ductile iron is located at Industrial Park B pump station, and Muriel Drive pump station.



## City of Sault Ste. Marie Asset Management Plan

---

Two of the more notable forcemains, namely the Clark Creek and Pim Street forcemains, are prestressed concrete cylinder constructed in the early 1960's. An inspection was conducted on approximately 1,935 metres of forcemain, and identified two air pockets in the Clark Creek forcemain. Modelling was undertaken to determine the location of the proposed air release/vacuum valves, which were installed in 2014 under the Queen Street road construction project.

In 2014 a condition assessment was commenced for the River Road forcemain. Based on the records the pipe would be classified as a concrete bar-wrapped cylinder pipe. The assessment consisted of a compilation of existing records and risk factors, and a test pit program. This data will be used to assess the physical condition of the pipe, and rationalize its current risk. The final report is pending at the time of writing of this report; however, initial results are positive.

One asbestos cement forcemain is located at Tallack Boulevard pump station whereas the remaining locations have been identified as PVC, HDPE, or PE. It should be noted that some locations have a combination of pipe types. The above noted information is intended to provide a general overview only.

***Table 2.6 Summary of Force main Diameter and Assumed Unit Cost***

Diameter	Assumed Unit Cost
75	\$182.00
100	\$182.00
150	\$250.00
200	\$320.00
250	\$340.00
450	\$550.00
500	\$680.00
550	\$750.00
575	\$760.00
750	\$900.00
900	\$1,200.00

# City of Sault Ste. Marie Asset Management Plan

---

*Table 2.7 Summary of Forcemain Replacement Cost by Type*

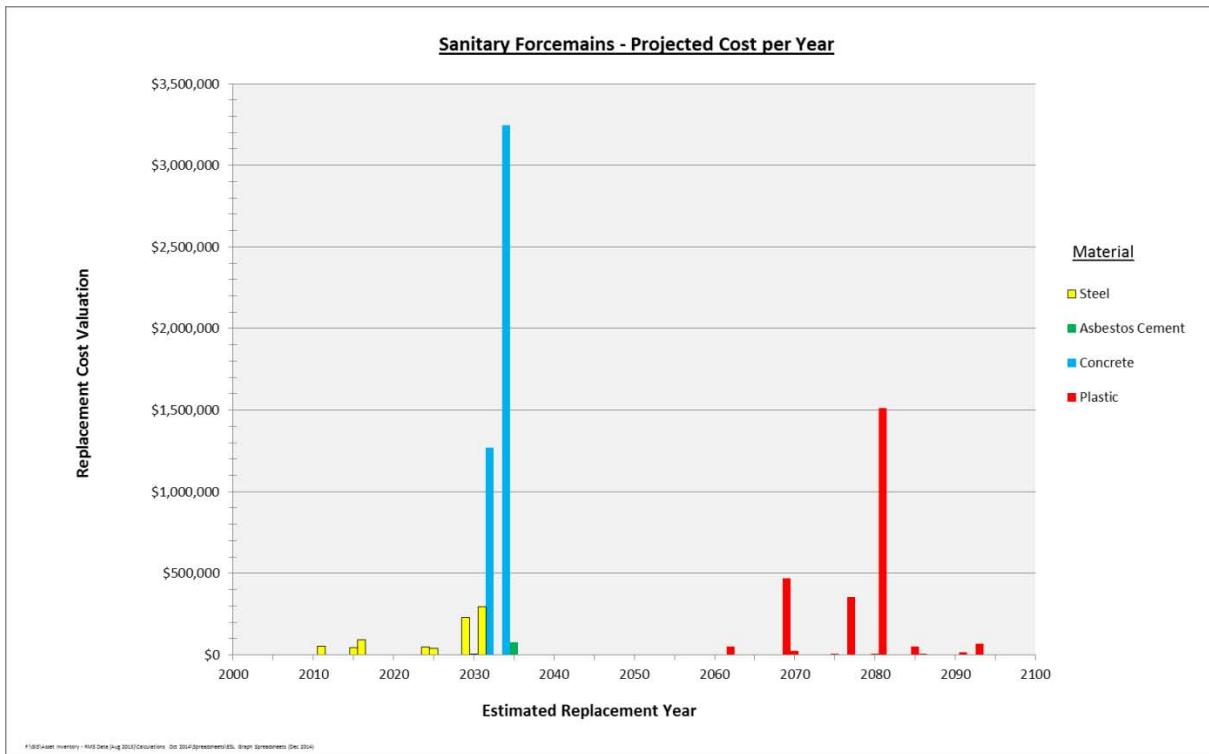
Sanitary Forcemain Replacement Cost Valuation		
Pipe Material	Total Length (m)	2014 Replacement Cost Estimate
Steel	2885	\$805,623
Plastic	5513	\$2,559,696
Concrete	4755	\$4,516,050
Asbestos Cement	302	\$75,600

*Table 2.8 Summary of Sanitary Forcemain Unit Costs*

Sanitary Forcemain Unit Replacement Cost Estimates	
Diameter (mm)	2014 Estimated Unit Replacement Cost
75	\$16,453
100	\$195,177
150	\$290,775
200	\$1,170,048
250	\$230,860
450	\$648,450
500	\$52,836
550	\$475,500
575	\$1,009,280
750	\$1,270,800
900	\$2,596,800

# City of Sault Ste. Marie Asset Management Plan

Figure 2.7 Sanitary Service Capital Outlay by Year



## 2.1f BIOSOLIDS

A biosolids Public Information Centre was completed in late 2014, with lime stabilization and composting presented as the preferred alternatives. The next step includes consideration of public comment, followed by issuance of a Notice of Completion. Once all comments have been considered and incorporated where applicable, the intent would ultimately be to proceed with a Request for Proposal. The RFP would be contingent upon Council approval. Estimates for capital costs have been established, however, true capital costs are best established through a request for proposal process.



# City of Sault Ste. Marie Asset Management Plan

---

## *2.2 DESIRED LEVELS OF SERVICE- SEWAGE TREATMENT PLANTS AND PUMPING STATIONS*

The desired performance measures for pumping stations and treatment plants have been identified as follows:

- **Provide reliable service:** The number of pump station failures reported to a regulatory body to a mechanical fault rather than capacity or design issue will be utilized for the purposes of evaluating service. The value is zero for the past three years of study;
- **Protect the environment:**
  - Percentage of wastewater estimated to have bypassed treatment will be utilized for purposes of evaluating protection to the environment. The value is estimated at between 0.198% and 2.95% for 2011 through 2013. Due to the extreme rainfall events experienced in 2013, higher bypass volumes were experienced than previous years.
  - Phosphorus loading values in comparison to the Environmental Compliance Requirements (ECA) will also be utilized for evaluating protection to the environment. The ECA requires less than 1 mg/L as a monthly average, whereas the values ranged between 0.18 mg/L and 0.30 mg/L between 2011 and 2013.
- **Meet service requirements with economic efficiency:**
  - Operating costs for the collection, treatment and disposal of wastewater per Megalitre has been identified between \$402 and \$547 for the years 2011 to 2013.
  - Operating costs for the treatment and disposal of wastewater per Megalitre has been identified between \$205 and \$207 for the years 2011 to 2013.

# City of Sault Ste. Marie Asset Management Plan

---

<b>Level of Service Goals</b>	<b>Customer Expectations for Level of Service</b>	<b>Level of Service Key Performance Indicators</b>	<b>Numerator</b>	<b>Denominator</b>	<b>Source</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>Level of Service Target</b>
Provide Service Reliability	Sewage pumping and treatment available 24/7	Number of Pump Station Failures/ # of Pump Stations	# of pump station failures reported to a regulatory body due to a mechanical fault rather than capacity or design issues	The number of pump sanitary pump stations, not including influent pump stations within the treatment plants.	Reports	0	0	0	0.5
Protect the Environment	Sewage is treated according to Regulations.	Percentage of Wastewater Estimated to have bypassed treatment	Estimated megalitres of untreated wastewater. Wastewater that bypasses all forms of treatment.	Total Megalitres of treated water plus estimated megalitres of untreated wastewater.	Existing MPMP Performance Measure	2.95%	0.198%	0.590%	
		Phosphorus Loading West Plant	Total of 12 monthly averages	12		0.29	0.24	0.25	ECA requires less than 1 mg/L monthly average
		Phosphorus Loading East Plant	Total of 12 monthly averages	12		0.25	0.3	0.18	ECA requires less than 1 mg/L monthly average
Meet Service Requirements with Economic Efficiency	Customers are charged sewer rates for services.	Operating Costs for the Collection, treatment and disposal of wastewater per Megalitre			Existing MPMP Performance Measure	\$402.00	\$547.00	\$447.00	
		Operating Costs for the Treatment and Disposal of Wastewater per Megalitre			Existing MPMP Performance Measure	\$205.00	\$207.00	\$207.00	



# City of Sault Ste. Marie Asset Management Plan

---

## *2.3a TRENDS IMPACTING EXPECTED LEVELS OF SERVICE*

The following trends or issues that may affect expected levels of service or the municipality's ability to meet them:

- **Changing Regulations** – Most recently Environment Canada has implemented the Wastewater Systems Effluent Regulations (WSER) requiring specific reporting and testing which started in 2013. This has a minor effect on budget due to increased testing and reporting requirements. The City routinely monitors for any changing regulations, and the financial impacts to the City.
- **Rainfall amounts** – Rainfall amounts vary from year to year, which has a direct impact on the bypass volumes. Future rainfall trends are being assessed by various industry and government bodies. The City is monitoring this research, and any changing regulations and standards that may be impacted.

In 2014 the City implemented an updated IDF curve. This will be updated on a more regular basis; however, it is contingent on updates from Environment Canada.

- **Climate change impacts** -In addition to the above, the City has implemented a number of projects and procedures that will help mitigate the potential impacts of climate change related to the sanitary system, as follows:
  - Implementation of flow monitoring of priority sewers to enhance resiliency of the sewer system and improve assessment of flooding risk;
  - Completion of the Bellevue SSO tank to mitigate stormwater infiltration impacts and loading to the East End Sewage Treatment Plant;
  - Completion of improvements to the SCADA system to more accurately track sanitary sewer overflows, and;
  - Implementation of stormwater management to mitigate the impact of stormwater runoff;
  - Completion of a Stormwater Management Master Plan and Policy;
  - Implementation of Sustainable Site Plan Guidelines;
  - Implementation of an updated sewer use by-law in 2009 with more stringent requirements for quantity and quality.



# City of Sault Ste. Marie Asset Management Plan

---

## 2.3 ASSET MANAGEMENT STRATEGY- SEWAGE TREATMENT PLANTS AND PUMPING STATIONS

The asset management strategy is the set of planned actions that will enable the assets to provide the desired levels of service in a sustainable way, while managing risk, and the lowest lifecycle cost. Planned actions include:

- **Non-infrastructure solutions** – In 2014 the City of Sault Ste. Marie began implementation of a three year pilot study involving a network of seven rain gauges across the City, connected to telemetry that would transmit data wirelessly to a central location for analysis. The data would be available in real-time, and the system would have the capability of sending out alarms via email or phone to City staff based on any exceedances of a selected pre-set storm event. The intent is to utilize the rain gauge data initially in the framework of a sanitary flow monitoring project in the Dell Avenue and Drake Street area. Monitoring and tracking inflow and infiltration will facilitate identification of future remedial actions, as may be required. Reducing infiltration and inflow volume will mitigate overflows and by-passes during periods of intense rainfall. If successful, the system will be utilized elsewhere in the City.
- **Maintenance activities** – Approximately \$1,000,000 is budgeted annually for capital repairs and maintenance required on the major pump stations and treatment plants. The PUC operates the large facilities, and performs regularly scheduled inspections and maintenance. This budget also includes an allocation for unexpected events.

SCADA upkeep will also be accounted for in maintenance activities. Acknowledging that components such as routers and PLC's will require ongoing upgrades, as well as programming changes, annual budgets will require inclusion of this asset moving forward. Consideration is currently also being given to upgrading the large pump stations to a fibre optic connection which is anticipated to provide a more reliable service.

The small pump station maintenance is carried out by PWT, who budgets annually for maintenance activities.



# City of Sault Ste. Marie Asset Management Plan

---

- **Renewal/rehabilitation activities**
  - **Treatment Plants:** The east end sewage treatment plant was upgraded in 2006, and in 2013 a study was completed in relation to the west end plant to outline required upgrades for future implementation. The west end treatment plant upgrade is a major renewal project with an anticipated capital investment of up to approximately \$52 million. The design portion of the project is slated to begin in 2015-2016.
  - **Small Pump Stations:** The small pump stations are re-assessed annually in terms of priorities for renewal/rehabilitation. A significant portion of the older pump stations have been upgraded to date. Muriel Drive, Pine Street, Fort Creek, and Tallack Boulevard were upgraded in 2014. The remaining pump stations anticipated to be upgraded within the planning period are as follows:
    1. Mary Avenue;
    2. Huron Street;
    3. Millwood Avenue;
    4. Lake Street (Upper);
    5. Norgoma Marine Park;
    6. Gore Street;
    7. Frontenac Street;
    8. Industrial Park B, and;
    9. Landfill Site.
  - **Large Pump Stations:** The large pump stations operated by the PUC are upgraded based on needs. The Clark Creek pump station was upgraded in 2014, and the Young Street and John Street pump stations are the next large pump stations identified to require upgrades in the assessed period. All of the remaining large pump stations including Pim Street, Bellevue, Clark Creek, and River Road will require some form of upgrade within the planning period.
  - **Force mains:** The asset management plan has identified several locations with cast iron pipe. Locations with pipe nearing the end of their service life may be assessed for replacement under the capital works program.

# City of Sault Ste. Marie Asset Management Plan

---

- **Designated Substances:** A designated substance survey on the pump stations and treatment plants will be completed in 2015, subject to Council approval. A value of approximately \$150,000 has been allocated however this value is contingent on the necessary samples required to meet regulatory requirements which will not be known until completion of the inspections. Further remediation work may be required dependent on results.
- **Replacement activities** –Pump station replacements are included in our annual re-assessment of small pump station priorities. The large pump stations are not anticipated to be replaced in the 20 year assessment period.
- **Disposal activities** – No disposal activities are anticipated within the planning period.

## *2.4 FINANCING STRATEGY- SEWAGE TREATMENT PLANTS AND PUMPING STATIONS*

The wastewater asset management plan is financed from a sewer surcharge levy that is collected on ratepayers' water billings.

As shown in the exhibit "Capital Budget Summary: Wastewater" located on the following page, the current funding structure enables sufficient funding to finance the future infrastructure investments required as outlined in this plan.

In the next two years, the City will revise estimates for the costs of the West End Sewage Treatment Plant redevelopment project, as well as the Biosolids Management Facility. Once the revised estimates are received, City staff will update the Asset Management Plan accordingly. This may result in the adjustment of sewer surcharge rates, depending on changes in the road construction program.

# City of Sault Ste. Marie Asset Management Plan

---

THE CORPORATION OF THE CITY OF SAULT STE MARIE  
 CAPITAL BUDGET SUMMARY: WASTEWATER  
 YEARS: 2015 TO 2024

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
West End Plant and MPS	71,375	1,666,875	12,180,000	10,946,250	2,455,000	14,204,250	5,438,000	1,000,000	23,750	-	47,985,500
East End Plant	-	-	-	-	-	-	-	1,550,000	-	-	1,550,000
Pumping Stations	334,750	32,000	583,000	278,875	275,000	1,076,000	91,000	-	78,125	229,000	2,977,750
Biosolids Management Facility	-	-	800,000	8,000,000	8,000,000	-	-	-	-	-	16,800,000
	<u>406,125</u>	<u>1,698,875</u>	<u>13,563,000</u>	<u>19,225,125</u>	<u>10,730,000</u>	<u>15,280,250</u>	<u>5,529,000</u>	<u>2,550,000</u>	<u>101,875</u>	<u>229,000</u>	<u>69,313,250</u>
Available Funding											
Sewer Surcharge	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	50,000,000
Sewer Surcharge funds available from prior years	22,000,000										22,000,000
	<u>27,000,000</u>	<u>5,000,000</u>	<u>5,000,000</u>	<u>5,000,000</u>	<u>5,000,000</u>	<u>5,000,000</u>	<u>5,000,000</u>	<u>5,000,000</u>	<u>5,000,000</u>	<u>5,000,000</u>	<u>72,000,000</u>
Unfinanced/(Excess Funds)	(26,593,875)	(3,301,125)	8,563,000	14,225,125	5,730,000	10,280,250	529,000	(2,450,000)	(4,898,125)	(4,771,000)	(2,686,750)
Accumulated Unfinanced/(Excess Funds)											
	<u>(29,895,000)</u>	<u>(21,332,000)</u>	<u>(7,106,875)</u>	<u>(1,376,875)</u>	<u>8,903,375</u>	<u>9,432,375</u>	<u>6,982,375</u>	<u>2,084,250</u>	<u>(2,686,750)</u>		



## STORM WATER MANAGEMENT

### 3.1 STATE OF INFRASTRUCTURE – STORM WATER MANAGEMENT

The City of Sault Ste. Maries storm infrastructure consists of five categories as follows:

1. Oil grit separators;
2. Storm water management ponds;
3. Pump station(s);
4. Aqueducts and flood control, and;
5. Roads (storm sewer, catch basins, manholes, and culverts) as discussed in an alternate section.

The following table summarizes infrastructure referenced in items one through four.

*Table 3.1 Summary of Storm Water Infrastructure*

Oil Grit Separators						
Hudson Street - 4	Carmen's Way - 4	Lang Court – 1	Central Creek – 1	Sherbrook - 1		
Stormwater Pump Station						
Glasgow Avenue						
Stormwater Management Ponds						
Bianchi Estates	Country Estates Phase III		Millcreek Phase II			
Millennium Court	Sherbrook Subdivision		Sunrise Ridge			
Windsor Farms	Hiawatha Estates Phase II		Fox Run Subdivision Phase I			
Castle Heights	Sunset Ridge Phase III					
Aqueducts and Flood Control						
Central Creek		East and West Davignon Creek				
Fort Creek		Clark Creek				

# City of Sault Ste. Marie Asset Management Plan

---

## 3.1a OIL GRIT SEPARATORS

The City of Sault Ste. Marie operates eleven oil grit separators (OGS), eight of which are currently owned with the remaining three to be assumed in the near future. All of the installations were completed within the last ten years. Although physical condition assessments were not completed, an assumption of **excellent condition** has been made based on the age of the asset. The following table outlines the installation date of each of the OGS.

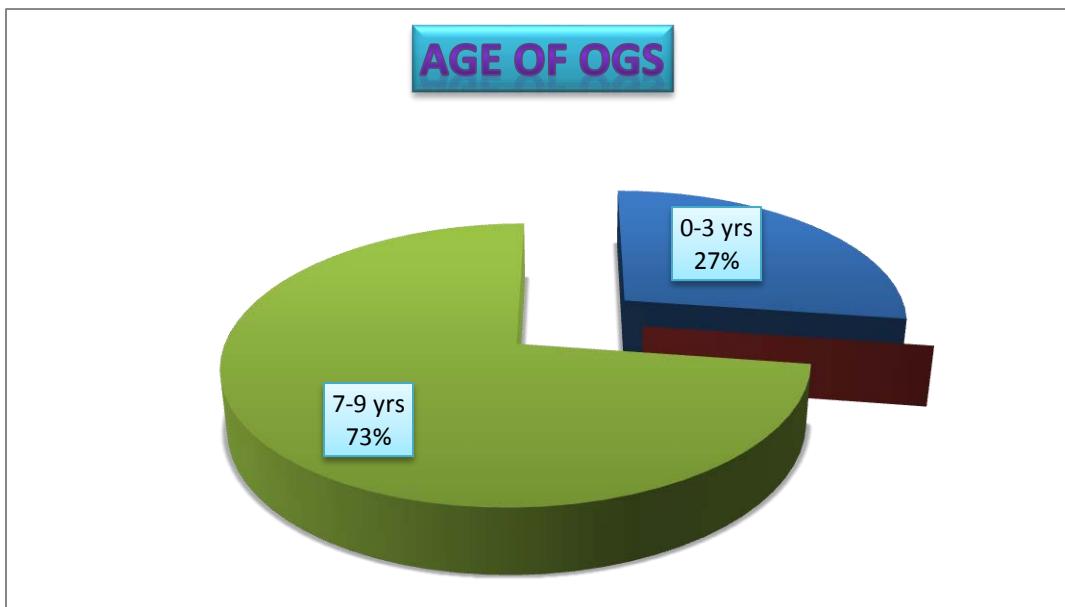
*Table 3.2 Summary of Oil Grit Separators*

Number	Location	Installation Date
1	Northeast Corner of George Street and Queen Street	2005
2	Albert Street, 40 m east of Lower Hudson Street	2005
3	Cathcart Street, 61 m east of Lower Hudson Street	2005
4	Northeast corner of St. George Street and Hudson Street	2005
5	Carmen's Way & Bloor Street (STC 1)	2005
6	Carmen's Way & Conmee Avenue (STC 2)	2005
7	Carmen's Way, 190m north of Conmee Avenue (STC3)	2005
8	Carmen's Way, 220m North of Conmee Avenue (STC4)	2005
9	71m north of intersection of North Street and Westridge Road	2012
10	129 m west of Central Creek Drive and Cooper Street intersection	2013
11	Sherbrook Drive, 170m southeast of Peoples Road	2013

# City of Sault Ste. Marie Asset Management Plan

The age of the OGS infrastructure is summarized in the following figure.

*Figure 3.1 Age of Oil Grit Separators*



The following tables outline the replacement cost valuation for the existing oil grit separators.

These values provide an overview of existing infrastructure value. The current value of oil grit separators is approximately \$543,000.

*Table 3.3 Historic and Replacement Cost Valuation – Oil Grit Separators*

Number	Location	Historic Cost	Replacement Cost
1	Northeast Corner of George Street and Queen Street	\$ 50,000.00	\$60,000.00
2	Albert Street, 40 m east of Lower Hudson Street	\$ 50,000.00	\$60,000.00
3	Cathcart Street, 61 m east of Lower Hudson Street	\$ 50,000.00	\$60,000.00
4	Northeast corner of St. George Street and Hudson Street	\$ 50,000.00	\$60,000.00
5	Carmen's Way & Bloor Street (STC 1)	\$ 55,000.00	\$66,000.00
6	Carmen's Way & Conmee Avenue (STC 2)	\$ 55,000.00	\$66,000.00
7	Carmen's Way, 190m north of Conmee Avenue (STC3)	\$ 40,000.00	\$48,000.00
8	Carmen's Way, 220m North of Conmee Avenue (STC4)	\$ 55,000.00	\$66,000.00
9	71m north of intersection of North Street and Westridge Road	\$ 35,500.00	\$37,000.00
10	129 m west of Central Creek Drive and Cooper Street intersection	\$ 10,000.00	\$10,000.00
11	Sherbrook Drive, 170m southeast of Peoples Road	\$ 10,000.00	\$10,000.00
<b>TOTAL</b>		<b>\$ 460,500.00</b>	<b>\$543,000.00</b>

# City of Sault Ste. Marie Asset Management Plan

---

## 3.1b STORMWATER MANAGEMENT PONDS

There are currently eleven existing or proposed municipal stormwater management ponds in Sault Ste. Marie in various stages of approval, construction, and maintenance. The City currently owns six stormwater management ponds. The first pond installation dates back to 1991, whereas the most recent installation took place in 2012. Three additional ponds were installed which have not yet been assumed, whereas two remaining ponds have been approved and are yet to be constructed as of 2014.

The expected useful life of the ponds has been assumed at 50 years. No major replacements are anticipated within the 25-year planning cycle. The Public Works and Transportation department completes periodic maintenance as required, which involves sediment removal from the base of the stormwater management pond. To date, these types of remedial activities have been absorbed in the Public Works and Transportation operational costs. Should sediment build-up require engineered remedial works in the future, capital costs may be necessary.

*Table 3.4 Summary of Stormwater Management Ponds*

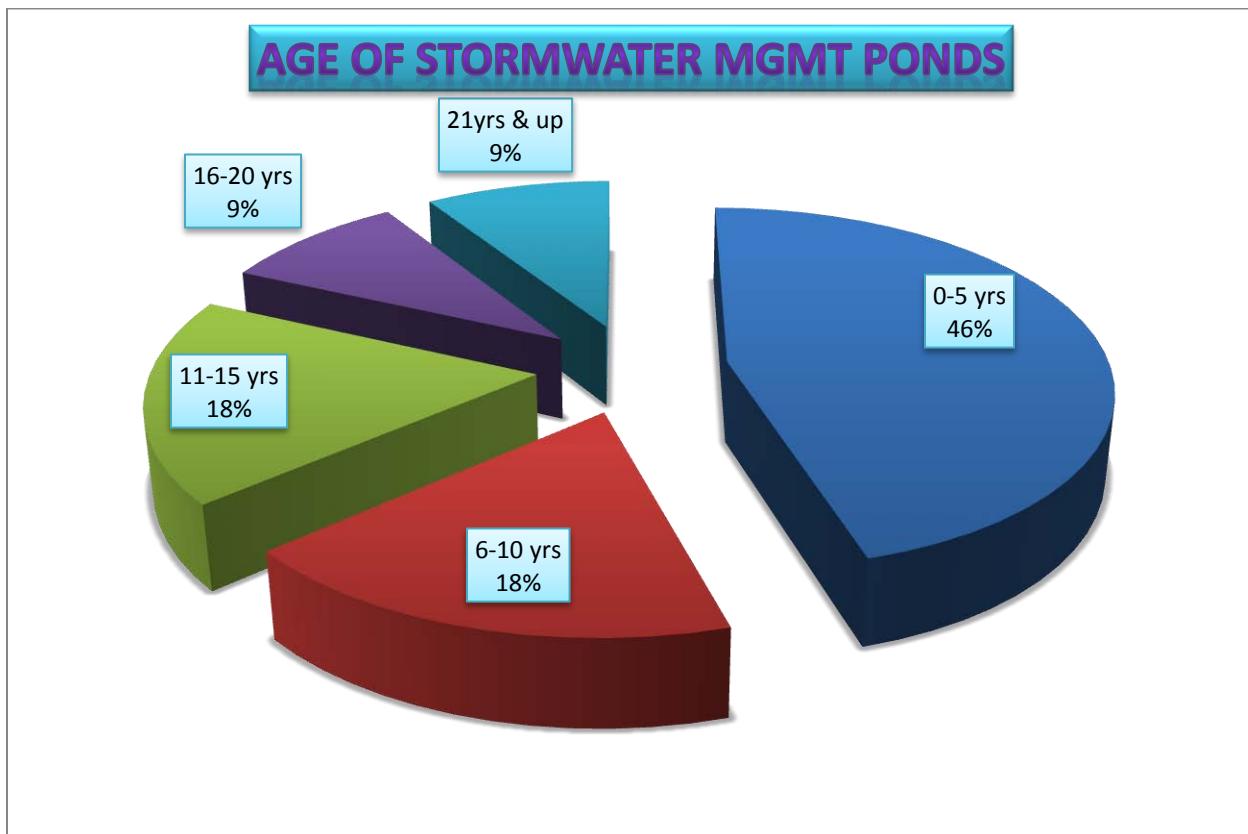
Number	Location	Date of Construction	Status
1	Bianchi Estates	1991	Assumed
2	Country Estates Phase III	2008	Assumed
3	Millcreek Phase II	2000	Assumed
4	Millennium Court	1999	Assumed
5	Sunrise Ridge	1995	Assumed
6	Hiawatha Estates Phase II	2012	Assumed
7	Sherbrook Subdivision	2013	Not Assumed
8	Windsor Farms	2007	Not Assumed
9	Fox Run	2013	Not Assumed
10	Sunset Ridge Phase III	Approved - Not yet constructed	NA
11	Castle Heights	Approved - Not yet constructed	NA

# City of Sault Ste. Marie Asset Management Plan

---

The following figure outlines the age distribution of stormwater management ponds in Sault Ste. Marie.

*Figure 3.2 – Age of Stormwater Management Ponds*



The following table outlines the replacement cost valuation for the stormwater management ponds. These values provide an overview of existing infrastructure value. The current value of assumed ponds is approximately \$401,000.

Repair costs will vary significantly from replacement values. However, as the value of infrastructure expands due to new subdivisions over time, the maintenance costs will rise accordingly.

# City of Sault Ste. Marie Asset Management Plan

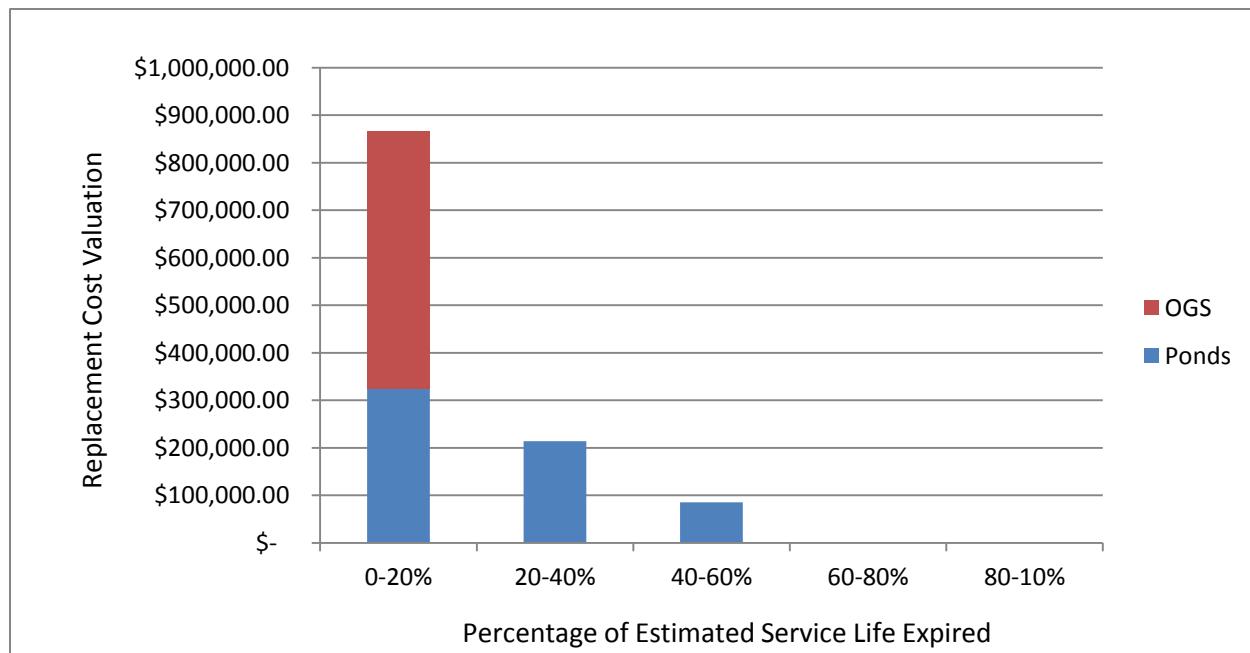
---

**Table 3.5 Historic and Replacement Cost Valuation – Stormwater Management Ponds**

Number	Location	Date of Construction	Status	Historic Cost	Replacement Cost
1	Bianchi Estates	1991	Assumed	\$ 54,000.00	\$ 85,000.00
2	Country Estates Phase III	2008	Assumed	\$ 27,500.00	\$ 31,000.00
3	Millcreek Phase II	2000	Assumed	\$ 55,000.00	\$ 72,000.00
4	Millennium Court	1999	Assumed	\$ 46,000.00	\$ 62,000.00
5	Sunrise Ridge	1995	Assumed	\$ 55,000.00	\$ 80,000.00
6	Hiawatha Estates Phase II	2012	Assumed	\$ 68,000.00	\$ 71,000.00
<b>Subtotal</b>				<b>\$ 305,500.00</b>	<b>\$ 401,000.00</b>
7	Sherbrook Subdivision	2013	Not Assumed	\$ 109,000.00	\$ 111,000.00
8	Windsor Farms	2007	Not Assumed	\$ 54,000.00	\$ 62,000.00
9	Fox Run	2013	Not Assumed	\$ 48,000.00	\$ 49,000.00
10	Sunset Ridge Phase III	Approved - Not yet constructed	NA	\$ 81,000.00	\$ 81,000.00
11	Castle Heights	Approved - Not yet constructed	NA	\$ 62,000.00	\$ 62,000.00
<b>Subtotal</b>				<b>\$ 354,000.00</b>	<b>\$ 365,000.00</b>
<b>TOTAL</b>				<b>\$ 659,500.00</b>	<b>\$ 766,000.00</b>

Percentage of estimated service life expired was used to represent asset condition, in the absence of a physical condition assessments of each structure. The following figure outlines the replacement value of oil grit separators and ponds in Sault Ste. Marie, compared to the remaining estimated service life for the asset. The majority of replacement costs are within the 0 to 20% range, whereas the remainder is within the 20 to 60% range.

**Figure 3.3 – Distribution of ESL Expired**



# City of Sault Ste. Marie Asset Management Plan

---

## 3.1c PUMP STATION

There is one stormwater pump station. Approximately \$285,000 has been allocated in the asset management plan for upgrades however, a detailed engineering assessment is required to ascertain the specific requirements at this station and related budget requirements.

*Table 3.6 Storm Pump Station Summary*

Identification	Pump Station Location	Installation Date
PS 18	0 Glasgow Avenue	1980

## 3.1d AQUEDUCTS

The following table summarizes the aqueducts in Sault Ste. Marie, including Central Creek, Fort Creek, Clark Creek, and East Davignon Creek (Farwell Terrace).

*Table 3.7 Summary of Aqueducts*

Central Creek Aqueducts:		
<b>Large aqueduct</b>		
1	From East Davignon Creek (south of Bonney) to Douglas Street	1984
2	East Balfour Street crossing	1984
3	Second Line crossing	1984
<b>Small aqueduct</b>		
1	From East Davignon creek (south of Bonney) to NW of Wallace Terrace	1950-1963
Fort Creek Aqueducts:		
1	Esposito Park and laneways from Queen Street to John Street	1912-1940
2	Wellington from John Street to Carmen's Way	unknown
3	Wellington/Carmen crossing to open channel	2005
4	Conmee crossing	unknown
5	White Oak Drive crossing	unknown
6	Second Line crossing	unknown
Clark Creek Aqueduct:		
1	Easement from north side of Queen Street to outlet at St. Marys River	1969
Farwell Terrace Aqueducts:		
<b>Large aqueduct (east)</b>		
1	Farwell Terrace from Lyon's Ave to McLean	1971 (rehabilitated in 2006)
2	Second Line crossing	1977 (lengthened in 2005)
<b>Small aqueduct (west)</b>		
1	Farwell Terrace from Lyon's Ave to McLean	unknown

The East Davignon Creek aqueduct on Farewell Terrace required major rehabilitation, and the Fort Creek aqueduct work is the next priority. This aqueduct is located in the heart of the

# City of Sault Ste. Marie Asset Management Plan

---

developed downtown core. It has outlived its useful service life and its declining structural integrity manifests itself in the form of sudden small failures in the roof slab which require emergency repair. The capacity of the aqueduct needs to be increased to accommodate today's design flow standards. Further there is an apparent increase in high intensity precipitation events over the last few years, causing area flooding which could be greatly mitigated by the replacement of this system.

The following table outlines the anticipated aqueduct repair/replacement costs over the next ten years.

*Table 3.8 Summary of Aqueduct Repair/Replacement Costs*

Structure No.	Location	2015-2024
<b>TOTAL</b>		\$ 44,625,000
<b>Central Creek Aqueducts:</b>		\$ -
<b>Large aqueduct</b>		\$ -
1	From East Davignon Creek (south of Bonney) to Douglas Street	\$ 1,015,000
2	East Balfour Street crossing	\$ -
3	Second Line crossing	\$ -
<b>Small aqueduct</b>		\$ -
1	From East Davignon creek (south of Bonney) to NW of Wallace Terrace	\$ 5,000,000
<b>Fort Creek Aqueducts:</b>		\$ -
All		\$ -
1	Esposito Park and laneways from Queen Street to John Street	\$ 26,510,000
2	Wellington from John Street to Carmen's Way	\$ 8,250,000
3	Wellington/Carmen crossing to open channel	\$ -
4	Conmee crossing	\$ -
5	White Oak Drive crossing	\$ -
6	Second Line crossing	\$ -
<b>Clark Creek Aqueduct:</b>		\$ -
1	Easement from north side of Queen Street to outlet at St. Marys River	\$ 150,000
<b>Farwell Terrace Aqueducts:</b>		\$ -
<b>Large aqueduct (east)</b>		\$ -
1	Farwell Terrace from Lyon's Ave to McLean	\$ 100,000
2	Second Line crossing	\$ 100,000
<b>Small aqueduct (west)</b>		\$ -
1	Farwell Terrace from Lyon's Ave to McLean	\$ 3,500,000

# City of Sault Ste. Marie Asset Management Plan

---

## 3.2 DESIRED LEVEL OF SERVICE – STORM WATER MANAGEMENT

The level of service goals for stormwater infrastructure is outlined in the following table.

Level of Service Goals	Customer Expectation for Level of Service	Key Performance Indicator	Numerator	Denominator	2013	2012	2011	Target
Provide Service Reliability	storm pumping available 24/7	Number of Pump Station Failures/# of Pump Stations	# of pump station failures reported to a regulatory body due to a mechanical fault rather than capacity or design issues	The number of storm pump stations.	0	0	0	0
Economic Efficiency	urban only fee on tax bills	Operating Costs for Urban Stormwater management (collection, treatment, and disposal) per kilometre of drainage system	Operating Costs	Kilometre of Drainage System	\$6,016	\$8,340	\$4,495	NA
Protect the Environment	Stormwater management facilities shall protect the environment	Number of oil grit separators cleaned	Number of OGS where sediment was removed annually	Number of OGS	100%			100%
		Number of stormwater pond inspections	Number of annual Inspections of stormwater management facilities	Number of stormwater management facilities	100%	100%	100%	100%
Protect Health & Safety	Ensure public safety of existing structures	Number of aqueducts inspected biennially	Number of biennial inspections	Number of aqueducts	100%	NA	100%	100%

## City of Sault Ste. Marie Asset Management Plan

---

In 2014 the City of Sault Ste. Marie has developed a long-term Stormwater Management Master Plan following Phase 1 and 2 of the Municipal Class Environmental Assessment process.

The preferred alternative is to implement a City-Wide Stormwater Management Approach. This approach will include:

- improving snow disposal sites;
- education;
- implementing a point source monitoring plan;
- implementing oil grit separators at various locations throughout the City prior to discharge to the natural environment, improving storm water conveyance at known problem areas and the retrofitting of existing stormwater management facilities for quality control.
- In addition, the City has developed new Stormwater Management Guidelines.

The new policy and Master Plan sets a framework for consistent stormwater management practices across the City.



# City of Sault Ste. Marie Asset Management Plan

---

The following trends or issues that may affect expected levels of service or the municipality's ability to meet them:

- **Changing Regulations** –The Ontario Water Resources Act (OWRA) and the Environmental Protection Act (EPA) provide broad authority over stormwater management. The Ministry of Environment and Climate Change 2003 Stormwater Management Manual assists with the planning, design and operations of facilities, and functions as a guide. The Ministry has indicated that this manual is being updated; however the release date is yet to be determined. The City routinely monitors for any changing regulations and guidelines, and impacts to the City.
- **Rainfall amounts** –In 2014 the City implemented an updated IDF curve. This will be updated on a more regular basis; however, it is contingent on updates from Environment Canada.
- **Climate change impacts** -In addition to the above, the City has implemented a number of projects and procedures that will help mitigate the potential impacts of climate change related to the storm system, as follows:
  - Implementation of stormwater management to mitigate the impact of stormwater runoff;
  - Completion of a Stormwater Management Master Plan and Policy;
  - Implementation of Sustainable Site Plan Guidelines;
  - Implementation of an updated sewer use by-law in 2009 with more stringent requirements for quantity and quality.



# City of Sault Ste. Marie Asset Management Plan

---

## *3.3 ASSET MANAGEMENT STRATEGY – STORM WATER MANAGEMENT*

The asset management strategy is the set of planned actions that will enable the assets to provide the desired levels of service in a sustainable way, while managing risk, and the lowest lifecycle cost. Planned actions include:

- **Non-infrastructure solutions** – In 2014 the City of Sault Ste. Marie began implementation of a three year pilot study involving a network of seven rain gauges across the City, connected to telemetry that would transmit data wirelessly to a central location for analysis. The data would be available in real-time, and the system would have the capability of sending out alarms via email or phone to City staff based on any exceedence of a selected pre-set storm event. This system will assist in tracking rainfall across the City.
- **Maintenance activities** – Regular maintenance inspections are conducted on oil grit separators, and stormwater management ponds. Cleaning activities are planned accordingly.
- **Renewal/rehabilitation activities** –Bianchi Estates was cleaned in 2013, and Sunrise Ridge pond was cleaned in 2014. Millennium Court was upgraded in 2012 and 2013. Activities are planned based on the results of the annual inspections.
- **Replacement activities** –The Fort Creek Aqueduct requires replacement as a priority project. This project has an estimated replacement cost of approximately \$31,260,000.

# City of Sault Ste. Marie Asset Management Plan

---

A summary of the capital cost requirements for the major stormwater management categories is as follows:

1. **Oil grit separators and Ponds:** It is anticipated that no oil grit separators or ponds will require replacement within the twenty five year planning period. PWT completes periodic maintenance tasks which are currently funded through operations where feasible. Any large scale pond clean-outs may require assessment through alternate funding mechanisms in the future. As additional subdivisions are developed with the associated oil grit separators, and stormwater management ponds, maintenance costs will increase.
2. **Stormwater Pump Station:** It is anticipated that one storm pump station will require upgrades in the twenty five year planning period. Approximately \$285,000 has been allocated in the asset management plan for upgrades; however, a detailed engineering assessment is required to ascertain the specific requirements at this station, and a detailed engineering assessment.
3. **Aqueducts:** The estimated repair cost for aqueducts over a ten year planning period is \$44,625,000. The Fort Creek aqueduct is the next priority project included in this figure with a replacement cost of approximately \$31,260,000.



# City of Sault Ste. Marie Asset Management Plan

---

4. **Storm sewer, catch basins, and manholes:** The value required for storm sewer, catchbasin, and manhole replacements is discussed in the road asset management section.
  
5. **Stormwater Master Plan:** The total estimate for proposed works included a study undertaken by a City-engaged consultant is approximately \$40,220,000, which does not include maintenance costs. It is important to note that the City is not being mandated at this point in time to implement the works within the plan. If these works become mandated by the province, a funding mechanism will be required. The City may be required to implement a user-fee program in order to complete many of the projects outlined in the Master Plan. However, there is currently no funding mechanism in place for significant stormwater related projects.

# City of Sault Ste. Marie Asset Management Plan

---

## *3.4 FINANCING STRATEGY – STORM WATER MANAGEMENT*

The storm water asset management plan must be funded from the urban only tax levy. Other sources of funding have been Federal Gas Tax and other federal and provincial infrastructure programs. For the City to proceed with the current storm water management program as detailed in this plan, additional funding programs from senior levels of government are necessary.

Staff will continually monitor the condition of the City's aqueducts and will relocate current budget allocations if circumstances change.

As shown in the exhibit "Capital Budget Summary: Roads/Aqueducts" located in the Roads section of this document, the aqueduct deficit with the current funding structure is \$31M. If additional grant funding is not received, projects will be postponed until repairs and reconstruction are required.

The City plans on exploring a storm water surcharge to help reduce the funding deficit.



## ROADS, STORM AND SANITARY SEWERS

### 4.1 STATE OF INFRASTRUCTURE – ROADS, STORM AND SANITARY SEWERS

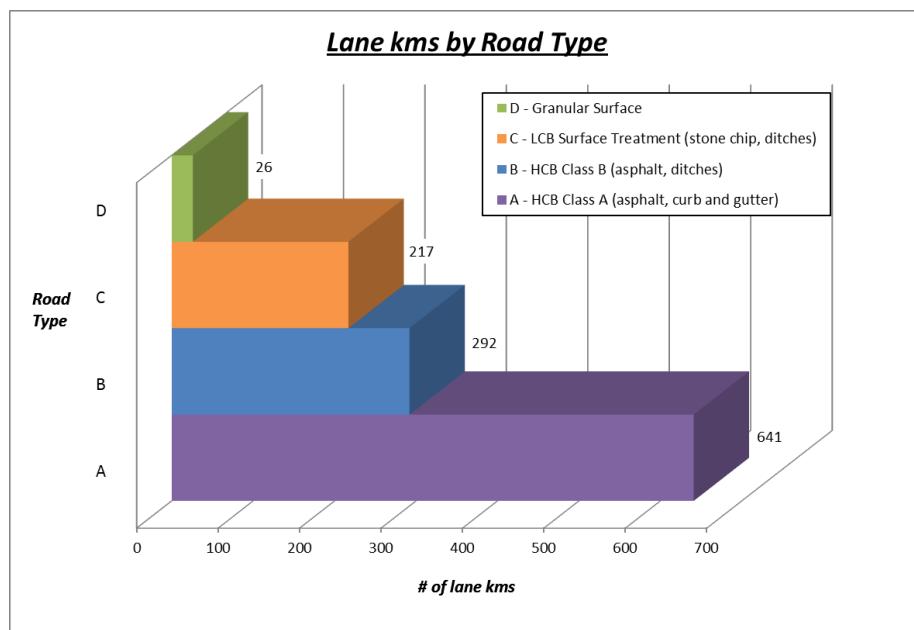
#### 4.1a DESCRIPTION AND QUANTITY OF ASSET

The City owns and maintains 526 km of roads as measured on the centerline, totaling 1,176 lane kilometers. They are physically categorized primarily by surface type and drainage facilities as follows:

- Class A, (high class bituminous asphalt surface, curb and gutters/storm sewer drainage): 641 lane kilometers
- Class B, (high class bituminous asphalt surface, road side ditch drainage): 292 lane kilometers
- Class C, (low class bituminous stone chip surface treatment with roadside ditch drainage): 217 lane kilometers
- Class D, (granular surface): 26 lane kilometers

The distribution of road classes is depicted in Figure 4.1 below.

**Figure 4.1: Road Classification by Surface Type and Capital Drainage Features**



# City of Sault Ste. Marie Asset Management Plan

The City owns and maintains 401 km of sanitary sewers and 280 km of storm sewers. They range in size, shape, age, material and condition. Figures 4.2 and 4.3 depict existing sewers by installation date and material type. Most class A roads have both sanitary and storm sewers. Storm sewers are almost exclusively associated with class A roads, with a few exceptions. There are many class B urban roads with sanitary sewers.

**Figure 4.2: Sanitary Sewer – Length, Material Types and Installation Year**

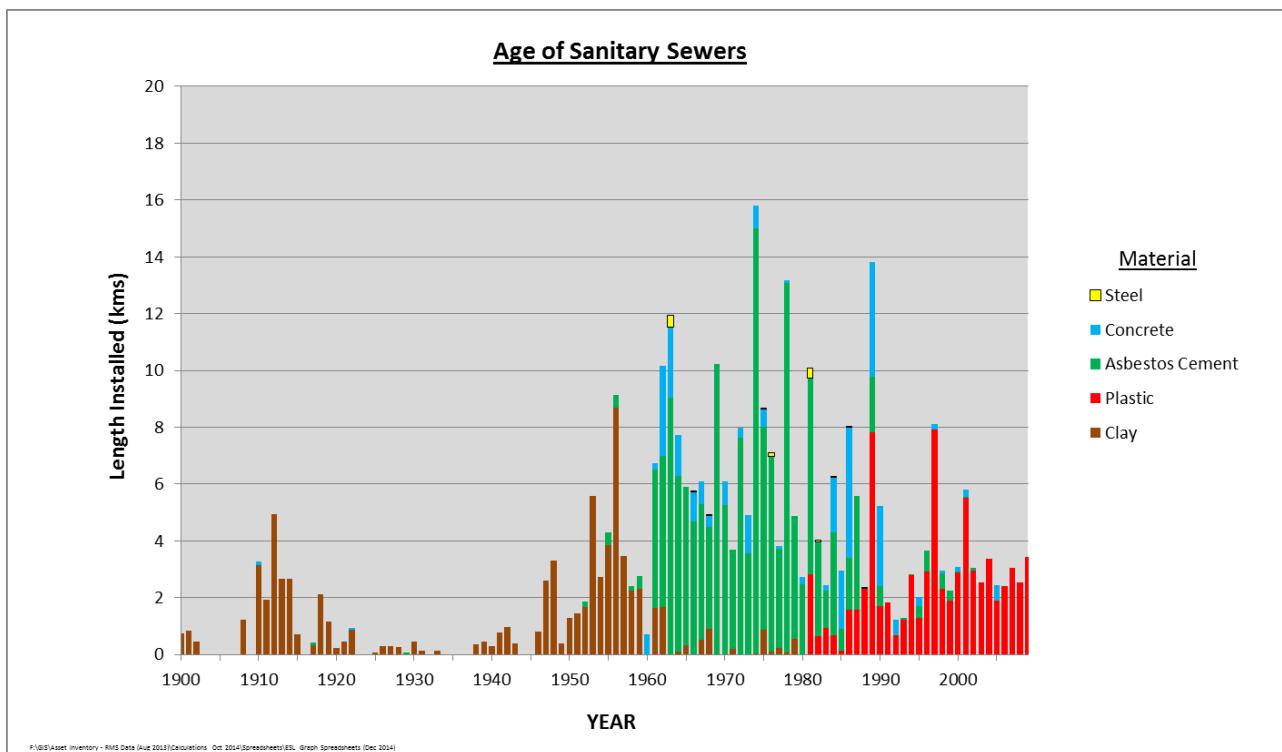
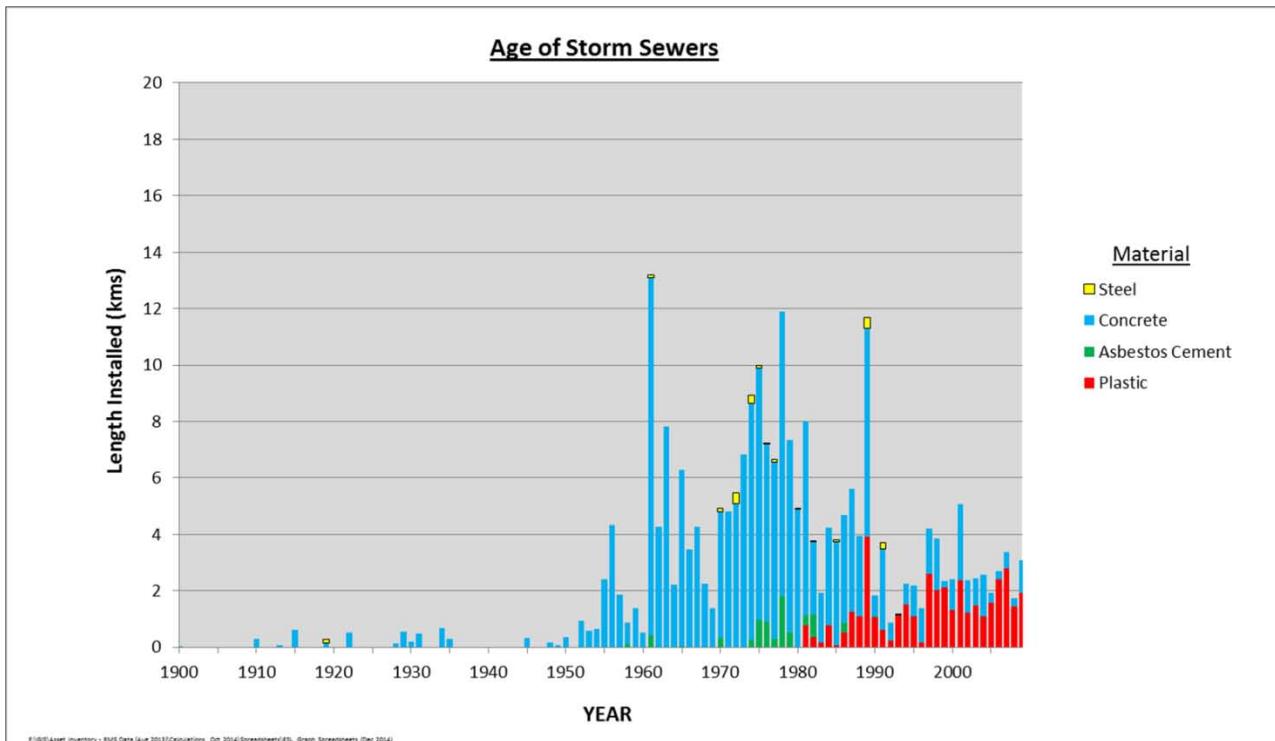


Figure 4.2 confirms that up until 1960, sanitary sewers were made of vitrified clay tile (VCT), followed by asbestos cement (AC or ‘transite’) in the 60’s and 70’s. In the 1980’s, the material of choice became polyvinylchloride (PVC) plastic and remains so today. There are a few large diameter concrete mains and one large diameter Polyethylene (PE) plastic sanitary sewer pipe.



# City of Sault Ste. Marie Asset Management Plan

Figure 4.3: Storm Sewer – Length, Material Types and Installation Year



Storm sewers are typically larger in diameter than sanitary. Very few storm sewers were constructed prior to 1950, and all sanitary sewers flowed directly into the St. Marys River. With the introduction of the wastewater treatment plant in the early 60's and the interceptor sewer along the waterfront to divert the flow to treatment, there came the practice of constructing separate storm sewers to collect surface runoff and building foundation drainage. Most storm sewers were concrete up until the 1980's when small to medium diameter PVC storm sewers became the norm. The figure indicates that the City still utilizes concrete today, particularly for larger diameter installations.



# City of Sault Ste. Marie Asset Management Plan

---

## *4.1b ASSET CONDITION*

A summary of the condition of roads, storm and sanitary sewers is provided in the City's Road Management System (RMS). It is an ongoing activity that ensures a condition assessment is completed biennially of all linear road and sewer assets in a consistent form, and sets out when and how asset information will be gathered in the field to assess the condition of the assets.

## *4.1c ROADS*

The City utilizes the RMS to evaluate and score roads, sanitary and storm sewers. It was initially established as the Road Inventory Management System (RIMS) many years ago. In 1999 it was determined that it was not going to be compatible with the year 2000, and through consultation with the City IT Division, a software programming company was retained to convert the RIMS system into Microsoft Access format. This system is still in use, but it is greatly enhanced by the Geographical Information System (GIS) developed and maintained by the Geomatics team in the Sault Ste. Marie Innovation Center. Common attributes in the RMS and the GIS ensure ease of use of both of them to answer most, if not all queries.

The RMS analyzes every kilometer of road in the City by dividing them into 1,258 road sections. These sections are delineated between intersections (i.e. Great Northern Road from Second to Third Line). Lengths are identified by center line kilometer or lane kilometer. Center line kilometer is the lineal distance of the road section measured at the center of the road. Lane kilometers are used to analyze each driven lane individually (i.e. 1km of 4-lane road = 4 lane kms).



# City of Sault Ste. Marie Asset Management Plan

---

All 1,258 road sections are evaluated in the field at least once every two years. They are individually scored on the following criteria:

- Structural adequacy
- Surface condition
- Maintenance demand
- Sanitary sewer condition
- Drainage – storm sewers or ditch condition
- Traffic volume
- Specific uses – bus/truck route
- Design criteria – allowance for design shortfalls/lack of services

Each individual road section receives a score out of 100 based on a scoring guide for the above criteria. Depending on the score, roads are grouped into four categories:

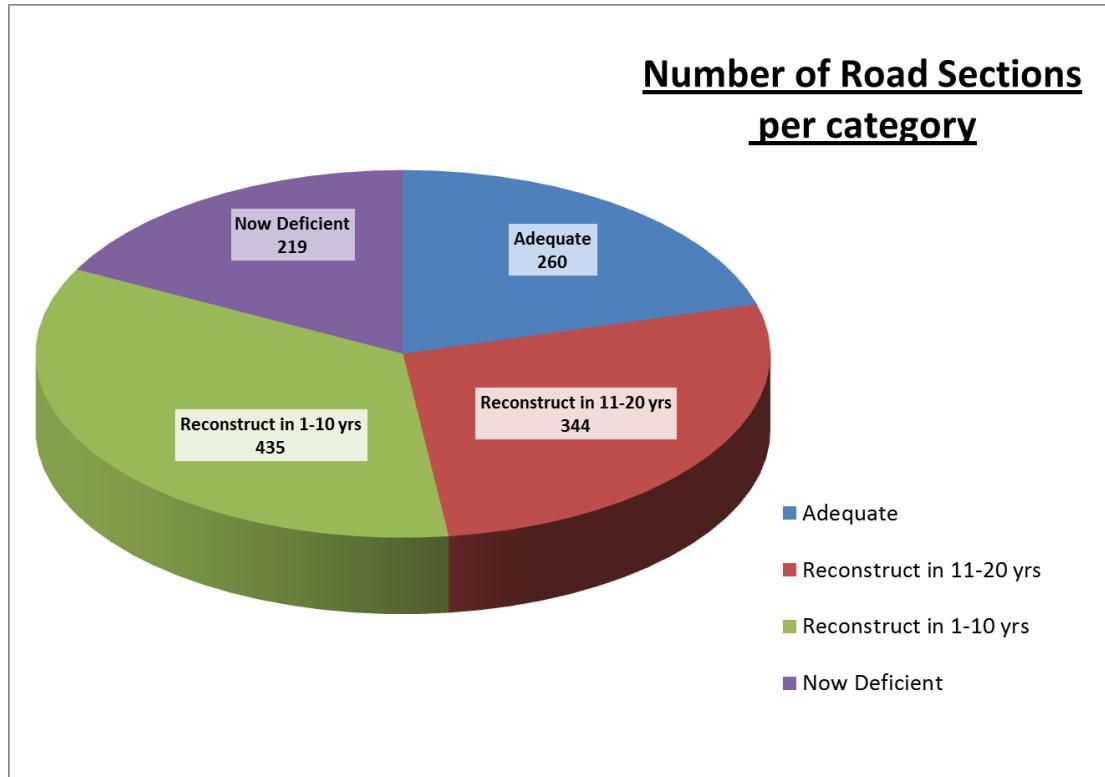
<u>Reconstruction Time</u>	<u># of sections</u>	<u>% of Total</u>
1. Adequate	260	21
2. Reconstruct in 11-20 yrs	344	27
3. Reconstruct in 1-10 yrs	435	35
4. Now Deficient	219	17
Total	1,258	100%

Figure 4.4 indicates the present number of road sections in each scoring category.



# City of Sault Ste. Marie Asset Management Plan

Figure 4.4: Road Sections by Category as Scored in Road Management System (RMS)



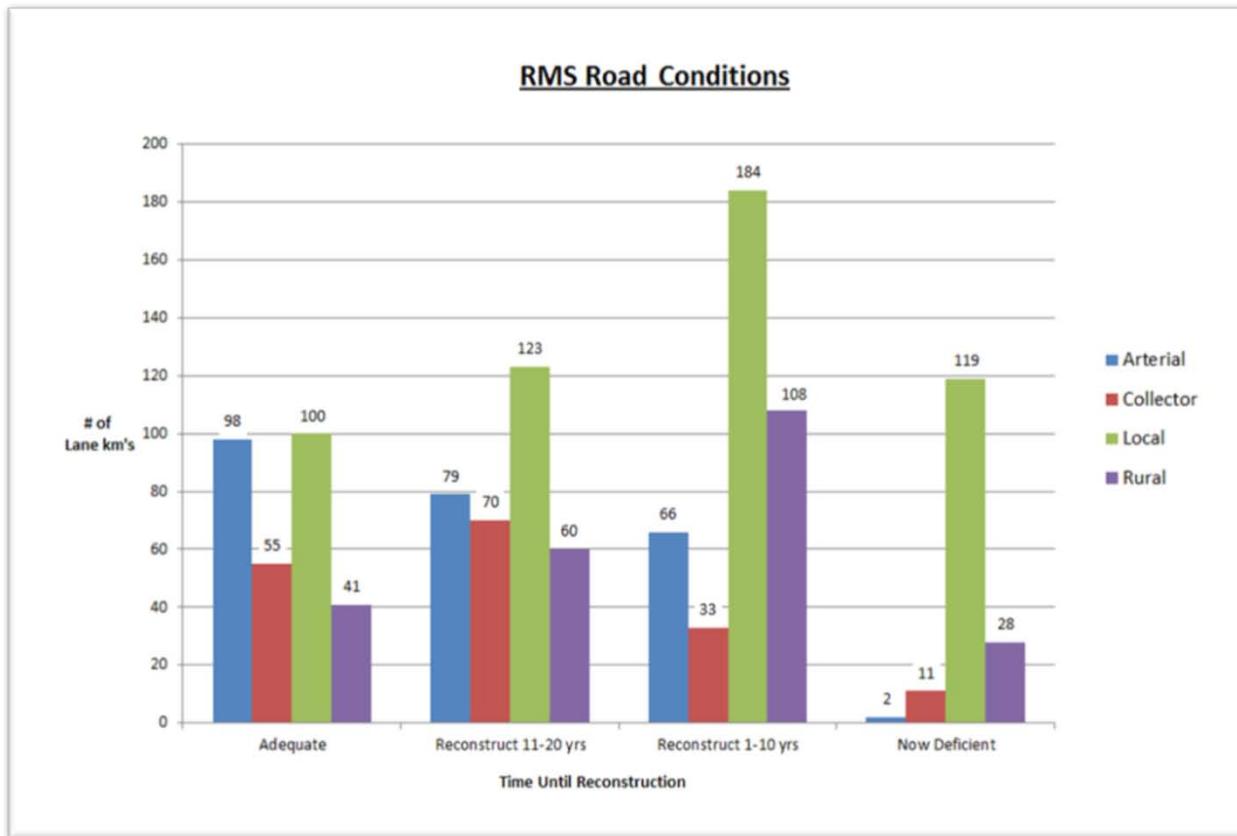
The appendix to this document includes a summary list of all road sections by assessed category. A total of 219 road sections, or a full 17 percent of road sections fall into the now-deficient category. Each category can be broken down into road design classification categories as shown in Figure 4.5; namely arterial, collector and local. Figure 4.6 shows that the bulk of the road section considered deficient are low volume local roads. Considerable effort and funds are dedicated to maintaining arteries given the volume of traffic involved, so very few arteries fall into the now-deficient category.

Figure 4.5: Road Design Classification Category Breakdown

	Lane Kms	% of Total
Arterial	245	21
Collector	169	14
Local	526	45
Rural	237	20
<b>Total</b>	<b>1,177</b>	<b>100%</b>

# City of Sault Ste. Marie Asset Management Plan

Figure 4.6: Road Condition as scored in RMS – By Design Classification



## 4.1d SANITARY AND STORM SEWERS

Both sanitary and storm sewers are shown concurrently with road conditions in the Road Management System (RMS). The score is determined through a combination of pipe age, pipe material, maintenance/flooding/blockage history, and closed circuit television (CCTV) evaluation.

# City of Sault Ste. Marie Asset Management Plan

---

## 4.2 DESIRED LEVEL OF SERVICE – ROADS, STORM AND SANITARY SEWERS

It would be a lofty but unrealistic goal to provide all roads in the adequate category. A more realistic goal is to eliminate the bulk of roads in the now-deficient category. A balance needs to be achieved among the following:

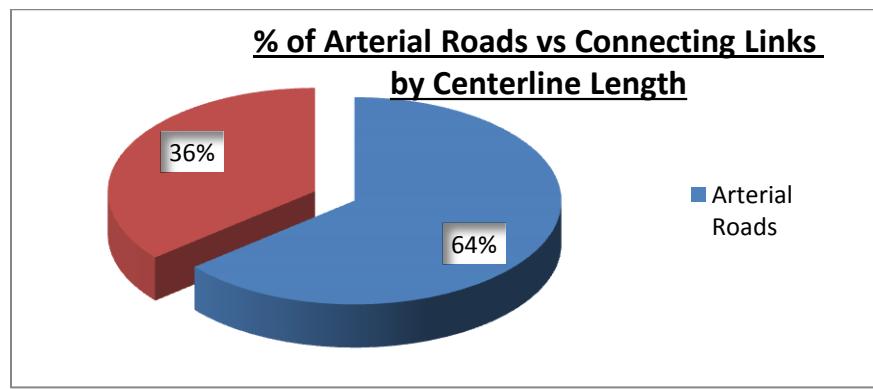
- Arterial/connecting link reconstruction and resurfacing
- Collector reconstruction and resurfacing
- Local reconstruction and resurfacing

There are many factors that may change the expected level of service that a road achieves. Changes in demographics such as moving of schools and hospitals can have a detrimental effect on road surface condition as traffic patterns change.

### 4.2a PROVINCIAL CONNECTING LINKS

The following chart shows the proportion of arterial roads that are designated as Ministry of Transportation link roads. There is no by-pass around the City, connecting Highway 17 North with 17 East, and there exists a connection to the US Interstate System at the International Bridge to Michigan in the downtown core. Historically, the Province has contributed to the maintenance and reconstruction cost of these roads as they move all provincial traffic through the City. In 2011 the Province announced that it was no longer providing this assistance, and the Connecting Link Program was cancelled. Figure 4.7 indicates a full 36% (25 kms) of arterial road centerline kilometers are Provincial Connecting Links. The City continues to advocate with the Province for reinstatement of some form of annual funding to assist with the cost of the moving provincial traffic within the municipal boundaries.

**Figure 4.7: Proportion of Arterial Roads - Provincial Connecting Links**



# City of Sault Ste. Marie Asset Management Plan

---

## 4.2b SANITARY AND STORM SEWERS

The City considers both sanitary and storm sewer asset management to be almost inseparably linked to road asset management given that in order to reconstruct a sanitary sewer, in most cases the entire road will be lost and replaced during construction. This is a result of the sanitary sewer alignment being in the center of the road, and its significant depth below the surface. This also applies, but to a lesser degree to storm sewers which are aligned a few meters to either side of the sanitary sewer.

Occasionally, a sanitary or storm sewer will require replacement even though the road surface has not deteriorated to the deficient status. Engineering and Public Works staff are in regular communication about problem areas. If a sewer is in dire need of replacement, a special project is initiated and priority is given to the replacement the sewer.

In an attempt to meet expected levels of service, the City completed a sanitary sewer investigative study in 2000, and the City has just completed a stormwater investigative study in 2014. The sanitary investigative study resulted in a \$77M upgrade to various major components of the infrastructure, but it did little in addressing replacement of old clay tile sanitary sewers. The storm investigative study, among other things, established design guidelines for storm sewers in light of any changing trends in intensity, frequency and duration of storm events. The City is attempting to maintain expected levels of service for sanitary and storm sewers through the annual capital road reconstruction program, in addition to specific problem sewer replacement projects.

# City of Sault Ste. Marie Asset Management Plan

---

## 4.2c REPLACEMENT COST VALUATION

The per metre replacement cost valuation is broadly estimated as follows for each asset:

- Arterial Roads: \$ 4,330
- Collector: \$ 3,950
- Local: \$ 2,880
- Storm Sewers: \$ 650
- Sanitary Sewers: \$ 500

\*The above values were estimated using 2014 construction costs.

## 4.2d ASSET AGE DISTRIBUTION/ ASSET AGE AS PROPORTION OF EXPECTED USEFUL LIFE

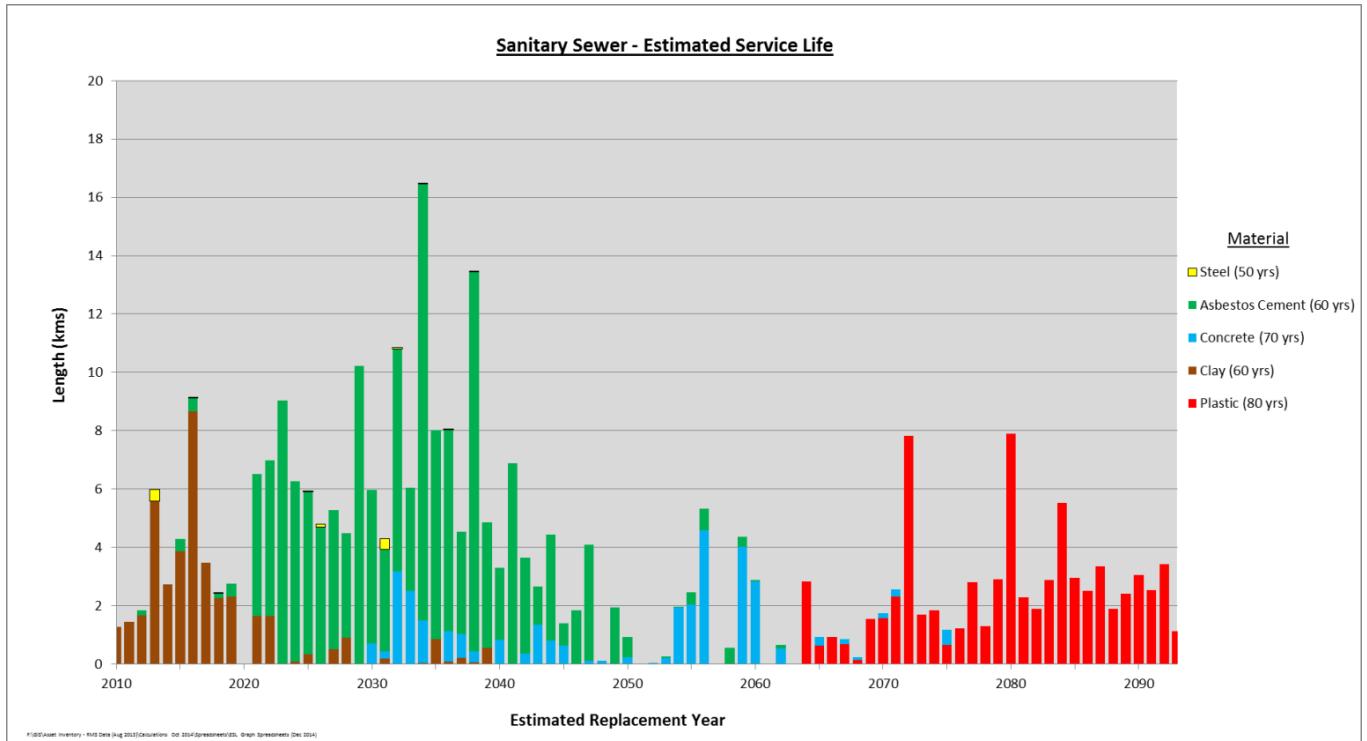
An acceptable level of service should be generally expected based on the age of the storm or sanitary sewer. For the purposes of estimating and displaying the service life of existing sewers, life expectancies were applied based on pipe material. The numbers were not based on original design life, but rather on current experience given the ages and observed condition and performance of pipes being replaced under capital projects.

- Steel pipe: 50 years
- Vitrified clay tile: 60 years
- Plastic (Polyvinylchloride PVC or polyethylene PE): 80 years
- Asbestos Cement (AC, or ‘transite’) 60 years
- Concrete 70 years

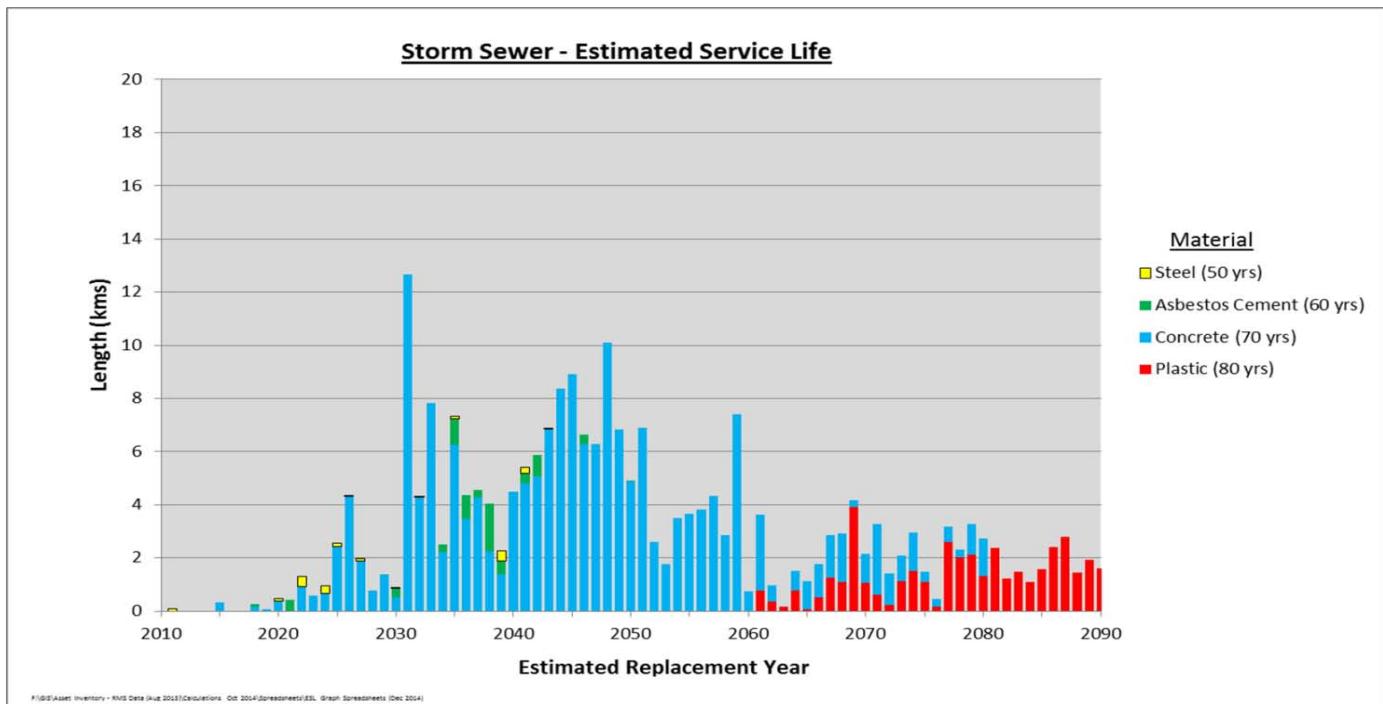
The estimated number of kilometers of sewer replacement for sanitary and storm sewers are depicted in figures 4.8 and 4.9. The immediate need is the replacement of vitrified clay tile sanitary sewers, followed by a looming need to replace asbestos cement mains. Replacement of storm sewers is not as urgent, but will become increasingly so within ten years.

# City of Sault Ste. Marie Asset Management Plan

**Figure 4.8: Estimated Service Life for Sanitary Sewers, shown as expected replacement qty by year**



**Figure 4.9: Estimated Service Life for Storm Sewers, shown as expected replacement qty by year**



## City of Sault Ste. Marie Asset Management Plan

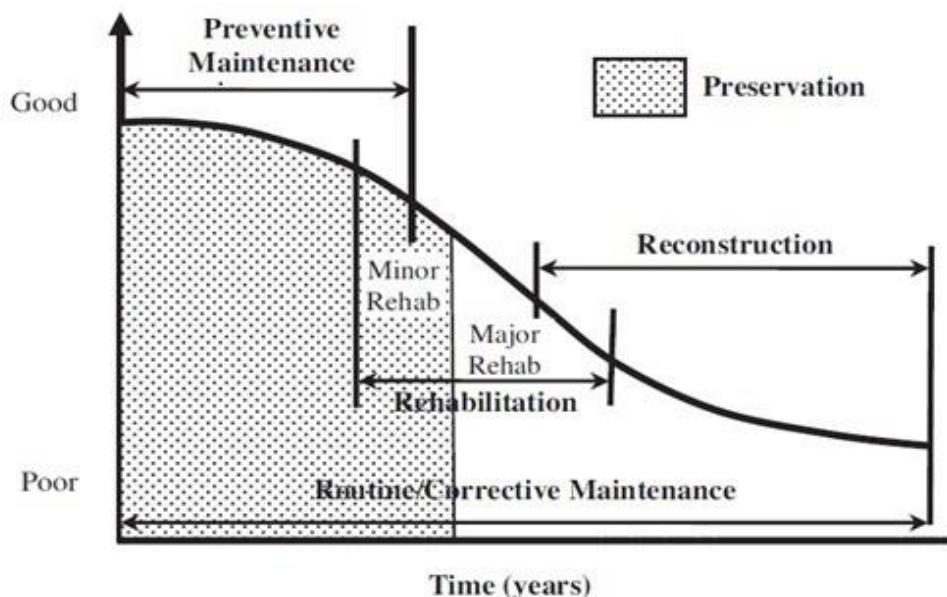
---

### 4.3 ASSET MANAGEMENT STRATEGY – ROADS, STORM AND SANITARY SEWERS

The primary use of the City's Road Management System (RMS) is to track and plan for the various costs of road maintenance, rehabilitation and construction over the various life cycle stages of the City's road network. This strategy forms in part the basis for the City's road asset management plan.

Figure 4.10 shows a typical Road Deterioration Curve which compares stages of life cycle of a road section relative to age versus condition. Early in the life of the road, preventive maintenance such as crack filling and pothole repair would be the recommended procedure to protect the road from early deterioration. In the middle section of the curve there comes a stage that would see the road rehabilitated in an attempt to prolong its useful life. This may include resurfacing or partial reconstruction. Finally, as the road ages further, there comes a point where less investment is put into the asset as reconstruction becomes the only practical solution.

**Figure 4.10: Road Deterioration Curve**



Source: Adapted from Peshkin et al. 2007.

# City of Sault Ste. Marie Asset Management Plan

---

## 4.3a PLANNING

Currently the City plans reconstruction of arterial, collector, local and rural roads through the Five Year Capital plan approved by Council. Currently the City allocates 10 to 13 million dollars per year for full reconstruction projects which includes sewers and approximately 1 million dollars per year for resurfacing of existing arteries and collector streets. Capital road reconstruction programs are sometimes enhanced by grants from more senior levels of government.

## 4.3b COST ESTIMATES

By looking at life-cycle costs, the City is better able to stretch funds to ensure the useful life of a road is prolonged while providing an adequate level of service. The Road Management Strategy outlines maintenance and rehabilitation options that will enhance level of service and prolong life with availability of funding outside of the Asset Management Plan.

Some of the procedures used in this strategy include:

- 1) Annual maintenance such as pothole filling and patching
- 2) Surface treatment of low volume roads
- 3) Resurfacing of major arterial roads that still have adequate base
- 4) Reconstruction of roads that have experienced a full structural base failure.

The risks associated with postponement of local road reconstruction are not considered high with respect to catastrophic failure. The complete failure of a local sewer may cause major inconvenience but for a few localized properties. The risk of not reconstructing failed local road structures is that the residents must endure chronic poor road surface, which increases maintenance and therefore lifecycle costs.

# City of Sault Ste. Marie Asset Management Plan

---

## 4.3c LIFE CYCLE COST ANALYSIS

Ideally the City would like to invest money in prolonging the life of its roads and for major arteries, it does. For some major arterial roads, complete reconstruction including everything from the sewers up to the surface is included. Five years later, an investment would be made to route and seal cracks in the surface. Fifteen to twenty years after reconstruction a major rehab such as asphalt resurfacing would occur. Thirty to forty years post construction a reconstruction of the road base, curbs and pavement would be necessary. Finally, after seventy five to one hundred years, we would be back to complete reconstruction again.

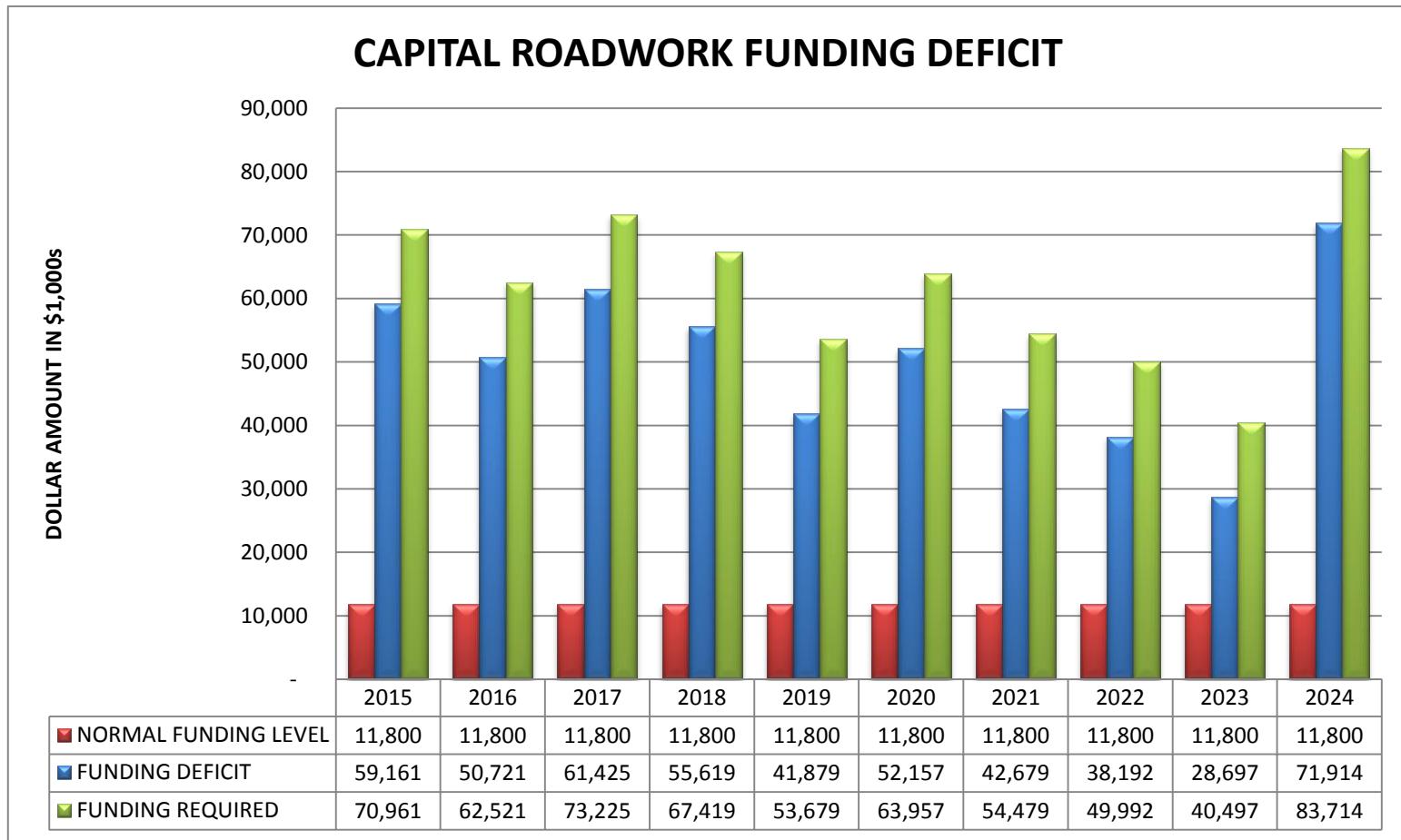


# City of Sault Ste. Marie Asset Management Plan

## 4.4 FINANCING STRATEGY – ROADS, STORM AND SANITARY SEWERS

As shown in Figure 4.11, there exists a significant backlog of roadwork within the City. The City has \$207M worth of roads ranked in the “Now Deficient” category, with a further \$414M listed in the “Reconstruct in 1-10 years” category. Note that these figures include all facets of a roadway, including the road surface, sidewalks, curbs, storm sewers, and sanitary sewers.

Figure 4.11: CAPITAL ROADWORK FUNDING DEFICIT



## City of Sault Ste. Marie Asset Management Plan

---

The cumulative infrastructure deficit over the next 10 years totals \$544M. See “Capital Budget Summary: Roads” on the following page for further breakdown of this figure.

Staff is of the opinion that there are construction capacity issues in the City that limit our ability to significantly reduce the infrastructure deficit. Our plan is to request additional budget allocations for both overall and urban only capital funds, and to explore a storm water surcharge.



# City of Sault Ste. Marie Asset Management Plan

THE CORPORATION OF THE CITY OF SAULT STE MARIE  
 CAPITAL BUDGET SUMMARY: ROADS/AQUEDUCTS  
 YEARS: 2015 TO 2024

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
<b>Roads</b>											
Funding Required - Roads											
Capital Levy Overall	47,370,050	41,055,480	48,310,699	44,482,793	35,263,528	40,980,687	34,797,126	31,521,956	24,034,323	55,639,793	403,456,435
Capital Levy Urban Only	10,785,319	7,799,558	9,522,040	7,348,959	5,063,102	3,895,374	3,941,382	4,369,563	3,040,879	4,786,780	60,552,956
Sewer Surcharge	9,054,018	9,696,991	11,423,189	11,400,997	9,165,763	14,894,459	11,554,118	9,313,400	8,635,135	18,500,852	113,638,922
Federal Gas Tax	3,751,475	3,969,050	3,969,050	4,186,625	4,186,625	4,186,625	4,186,625	4,786,625	4,786,625	4,786,625	42,795,950
<b>Funding Required - Roads</b>	<b>70,960,862</b>	<b>62,521,079</b>	<b>73,224,978</b>	<b>67,419,374</b>	<b>53,679,018</b>	<b>63,957,145</b>	<b>54,479,251</b>	<b>49,991,544</b>	<b>40,496,962</b>	<b>83,714,050</b>	<b>620,444,263</b>
Available Funding - Roads											
Capital Levy Overall	4,500,000	4,500,000	4,500,000	4,500,000	4,500,000	4,500,000	4,500,000	4,500,000	4,500,000	4,500,000	45,000,000
Capital Levy Urban Only	300,000	300,000	300,000	300,000	300,000	300,000	300,000	1,700,000	1,700,000	1,700,000	7,200,000
Sewer Surcharge	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	12,500,000
Federal Gas Tax	3,751,475	3,969,050	3,969,050	4,186,625	4,186,625	4,186,625	4,186,625	4,786,625	4,786,625	4,786,625	42,795,950
<b>Current Funding</b>	<b>9,801,475</b>	<b>10,019,050</b>	<b>10,019,050</b>	<b>10,236,625</b>	<b>10,236,625</b>	<b>10,236,625</b>	<b>10,236,625</b>	<b>12,236,625</b>	<b>12,236,625</b>	<b>12,236,625</b>	<b>107,495,950</b>
Note 1											
Unfinanced/(Excess Funds)											
Capital Levy Overall	42,870,050	36,555,480	43,810,699	39,982,793	30,763,528	36,480,687	30,297,126	27,021,956	19,534,323	51,139,793	358,456,435
Capital Levy Urban Only	10,485,319	7,499,558	9,222,040	7,048,959	4,763,102	3,595,374	3,641,382	2,669,563	1,340,879	3,086,780	53,352,956
Sewer Surcharge	7,804,018	8,446,991	10,173,189	10,150,997	7,915,763	13,644,459	10,304,118	8,063,400	7,385,135	17,250,852	101,138,922
<b>Infrastructure Deficit - Roads</b>	<b>61,159,387</b>	<b>52,502,029</b>	<b>63,205,928</b>	<b>57,182,749</b>	<b>43,442,393</b>	<b>53,720,520</b>	<b>44,242,626</b>	<b>37,754,919</b>	<b>28,260,337</b>	<b>71,477,425</b>	<b>512,948,313</b>
<b>Storm Water</b>											
Storm Water Pumps		285,000								285,000	
Aqueducts	3,500,000	6,445,000	6,535,000	7,585,000	8,610,000	2,250,000	6,200,000	-	3,500,000	-	44,625,000
<b>Funding Required - Storm Water</b>	<b>3,500,000</b>	<b>6,730,000</b>	<b>6,535,000</b>	<b>7,585,000</b>	<b>8,610,000</b>	<b>2,250,000</b>	<b>6,200,000</b>	<b>-</b>	<b>3,500,000</b>	<b>-</b>	<b>44,910,000</b>
Available Funding-Aqueducts											
Capital Levy Urban Only	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000	-	-	-	9,800,000
Federal Gas Tax	600,000	600,000	600,000	600,000	600,000	600,000	600,000	-	-	-	4,200,000
<b>Current Funding</b>	<b>2,000,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>14,000,000</b>						
<b>Infrastructure Deficit - Storm Water</b>	<b>1,500,000</b>	<b>4,730,000</b>	<b>4,535,000</b>	<b>5,585,000</b>	<b>6,610,000</b>	<b>250,000</b>	<b>4,200,000</b>	<b>-</b>	<b>3,500,000</b>	<b>-</b>	<b>30,910,000</b>
Grant application submitted											
Build Canada Fund (2/3) Potential grant for infrastructure program	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	-	-	-	-	-	20,000,000
<b>Combined Infrastructure Deficit - Roads and Storm Sewer</b>	<b>62,659,387</b>	<b>57,232,029</b>	<b>67,740,928</b>	<b>62,767,749</b>	<b>50,052,393</b>	<b>53,970,520</b>	<b>48,442,626</b>	<b>37,754,919</b>	<b>31,760,337</b>	<b>71,477,425</b>	<b>543,858,313</b>
Note 1: Current funding for capital is total of roads and aqueduct	Note 1	11,801,475									



## BRIDGES

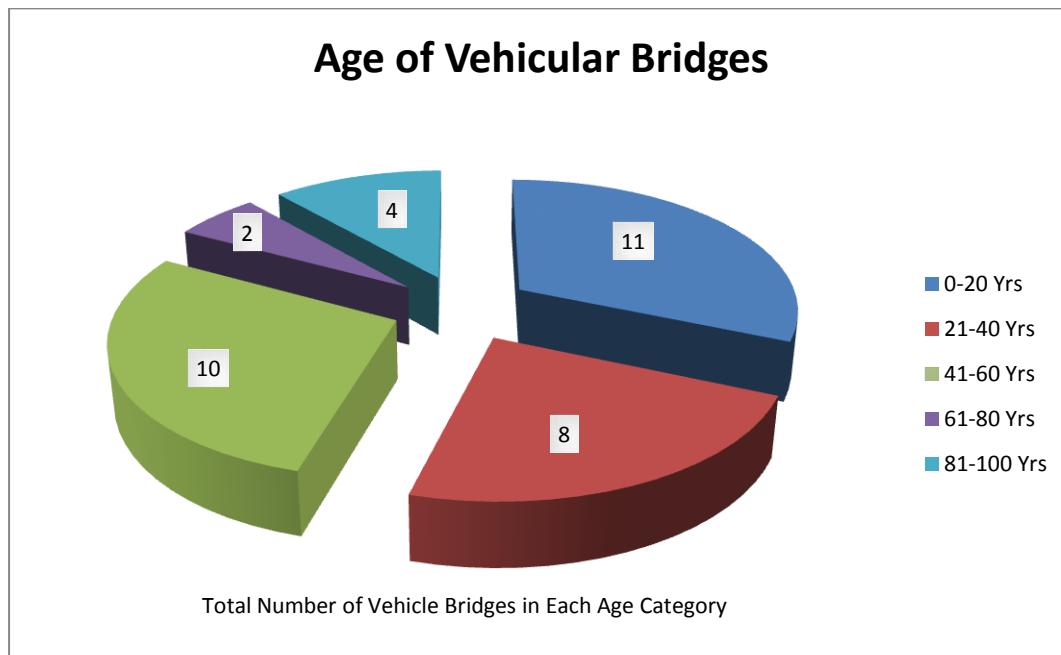
### 5.1 STATE OF INFRASTRUCTURE – BRIDGES

#### 5.1a DESCRIPTION AND QUANTITY OF ASSET

The City of Sault Ste. Marie is responsible for 35 vehicular bridges, and 11 pedestrian bridges. Four of the vehicular bridges are on municipal boundary roads and shared equally with the Township of Prince. Two bridges are shared with CN Rail; one equally, and the other is such that the City is responsible for the abutments, and CN is responsible for the superstructure. Municipal bridges vary considerably in design, span and width. Collectively, they are in **good condition**, as considerable money had been invested in bridges over the last ten years. In 2014, the average age of the bridges is approximately 40 years.

Figure 5.1 below shows the City owned bridges by age. This illustration shows that approximately half of the bridges in the City are at or older than their 50 year useful life prediction.

*Figure 5.1: Age of Bridges*



# City of Sault Ste. Marie Asset Management Plan

---

## *5.1b CONDITION ASSESSMENT*

The Province mandates that municipal bridges be inspected every two years. For many years, Sault Ste. Marie has retained a structural consulting engineer to complete biennial inspections of bridges in even numbered years, and stormwater aqueducts in odd numbered years. Under the biennial bridge inspection, the structural consultant also inspects roadway overhead signs and sports field high-mast lighting.

Each vehicular and pedestrian bridge is inspected and its condition documented by the structural consultant using the Ontario Municipal Structure Inspection (OSIM) form. It includes an inventory of data associated with each structure, historical data, field inspection information and recommendations for further investigation if required. A full member by member inspection is conducted, and required repairs are noted, as well as recommendations for future rehabilitation. A bridge sufficiency index is calculated for each structure.

A ten year asset management plan for bridges can be found in the appendix to this document. Two of the four bridges shared with the Township of Prince will be replaced in 2015. The other two were replaced in 2014. Only one other bridge is forecasted to require major upgrade or replacement within the next ten years.



# City of Sault Ste. Marie Asset Management Plan

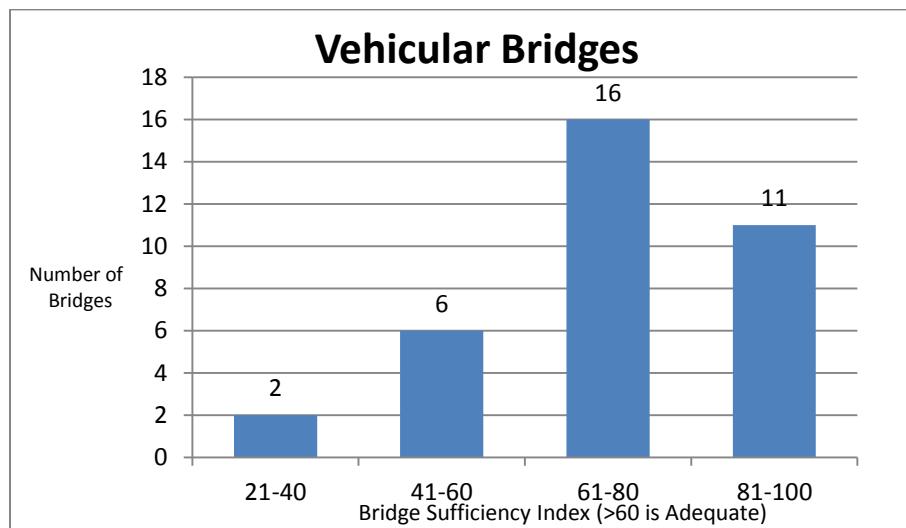
---

## 5.2 DESIRED LEVEL OF SERVICE – BRIDGES

### 5.2a VEHICULAR BRIDGES

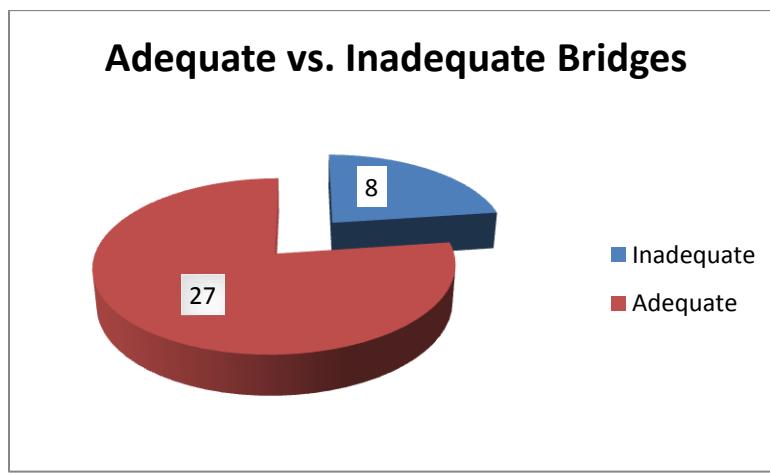
Bridges are considered to be providing an adequate level of service if the Sufficiency index exceeds 60. Figure 5.2 indicates that 27 or 80 percent of municipal bridges are adequate.

**Figure 5.2: Bridge Sufficiency Indexes- Vehicular Bridges**



Level of service can be affected by neglect, long term deterioration, lack of maintenance, vehicle impact, and high intensity water flow events. If the intensity of stormwater and river runoff flows is increasing, bridge foundation structures could be adversely affected.

**Figure 5.3: Vehicular Bridge Adequacy (>60 BSI Index is Adequate)**



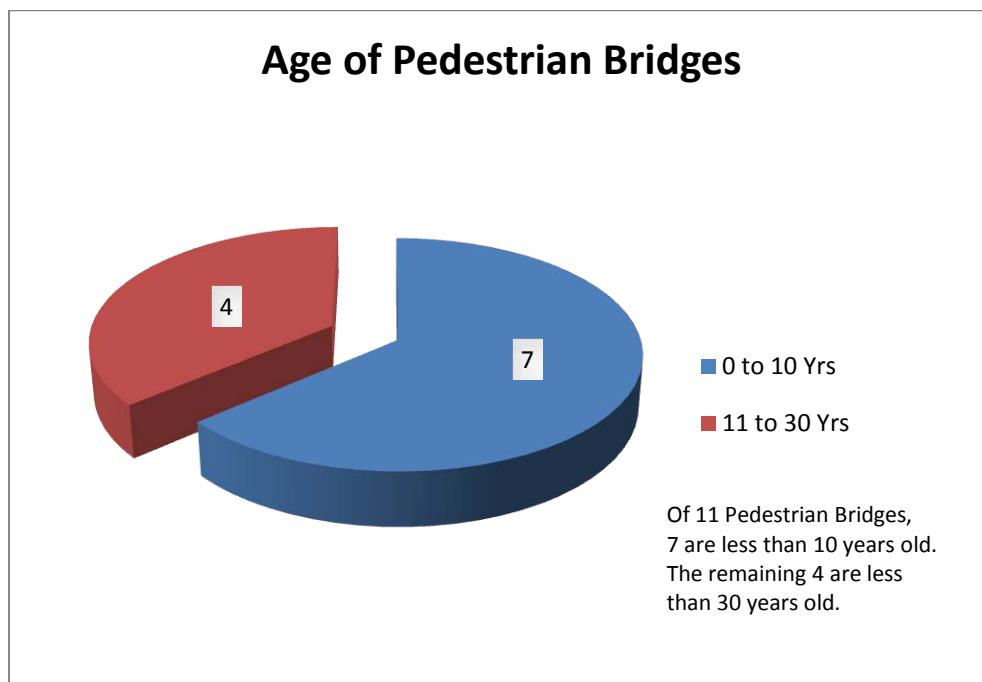
## City of Sault Ste. Marie Asset Management Plan

---

### 5.2b PEDESTRIAN BRIDGES

Pedestrian bridges are also evaluated by the City on a biennial basis. Figure 5.4 shows the number of pedestrian bridges with their ages. Considerable effort and expense has been expended over the last decade or so replacing pedestrian bridges.

*Figure 5.4: Age of Pedestrian Bridges*



# City of Sault Ste. Marie Asset Management Plan

---

## 5.3 ASSET MANAGEMENT STRATEGY – BRIDGES

The asset management strategy for bridges is based on recommendations of the consultant in the biennial inspections. Minor repairs and improvements are referred to Public Works and Transportation for action, while major capital upgrades, rehabilitation or replacement is blended into existing capital programs. The consultant scope of work includes a ten year capital forecast for mid to long range capital planning.

Strategy includes ongoing annual maintenance identified by City patrols, and biennial maintenance recommended by the consultant. When the structure is due for major rehabilitation or replacement, part of the City's strategy includes the commencement of pre-engineering study well in advance of any major capital expense. If a bridge is to be replaced within the next few years, engineering staff seeks Council approval to complete the appropriate environmental assessment, and all pre-engineering for geotechnical and structural design. Since these components of the design process can be lengthy, it is considered wise strategy to complete this work in advance. Once completed, the project can be blended in to a near term capital program, or if appropriate, it can be a candidate for a capital funding program intake offered by senior levels of government.

Risk of member failure is mitigated by the biennial inspections. Qualified structural expertise is employed for these inspections, and recommendations are closely followed, especially if load restrictions are recommended. It is the City's past practice to place bridge structural repair as a high priority for capital funds. Several bridge projects over the last 10 years or so have been funded by money diverted from capital road reconstruction.

The safety and integrity of municipal bridges is deemed to be a very high priority. The ongoing biennial inspections and maintenance greatly reduce the risk of catastrophic failure. Inspection patrols are more frequent during high flow events and bridges are sometimes closed as a precaution in some circumstances.

# City of Sault Ste. Marie Asset Management Plan

---

## *5.4 FINANCING STRATEGY – BRIDGES*

Only one bridge is forecasted to be replaced within the next ten years. At this time, the plan is to fund the bridge replacement within the roadworks budget.



## COUNCIL REPORT

February 23, 2015

**TO:** Mayor Christian Provenzano and Members of City Council  
**AUTHOR:** Don Elliott, Director of Engineering Services  
**DEPARTMENT:** Engineering and Planning Department  
**RE:** Transportation Master Plan – Notice of Completion

---

### PURPOSE

The purpose of this report is to obtain Council approval to publicly advertise the Notice of Completion for the update to the Transportation Master Plan.

### BACKGROUND

Approximately every ten years, the City retains a traffic/transportation specialist to provide an updated Transportation Master Plan. It is important to regularly evaluate and consider several broad areas related to transportation and traffic in the City. At the 2012 06 25 meeting, Council approved retaining the firm of HDR Corporation to complete an update to the City's Transportation Master Plan (TMP).

The previous TMP was completed in 2002, and resulted in the construction of the Transportation Corridor, Carmen's Way in 2006. It was the culmination of the City's need to address the problems associated with provincial heavy commercial traffic in the downtown core.

This update to the TMP was not required in order to address any major transportation initiative. Instead, it addresses a list of several potential items the City may face in the future. The intention was to update traffic volume forecasts, and provide general policy documents for future growth, comment on traffic congestion in areas of increased development, and on multi-modal transportation.

### ANALYSIS

The TMP followed the first two phases of the Environmental Assessment process, including public contact points in the form of an on-line survey and two

public open houses. The document is lengthy, and provides considerable comment of the following areas of interest, among others:

- Public Consultation
- Public Survey Report
- Pedestrian Crossing Policy Standards
- Cycling Working Paper
- A policy on Implementation of Roundabouts
- Working Paper on Road Diets (ie. Possible conversion of four to three lanes)
- Traffic Calming Policy review
- Road Classification (ie designation of arteries/collectors and local roads)
- Software for Managing Traffic Data
- Travel Demand Forecasting (Future Traffic volume forecasts)
- Highway 17 By-Pass and Connecting Links

Alternative strategies were developed to satisfy the environmental assessment process. In the end, the alternative that proposed a balanced approach was selected as preferred. It was selected because it benefits all transportation users in the City. It identified four key strategies:

1. Build multimodal networks
2. Maximize operational efficiency of existing roads and intersections
3. Provide safe and accessible network for all users
4. Promote environmental sustainability and community health

It is important to note that Council is not being asked to approve any specific project at this time. This TMP is essentially a document that will be utilized by staff and consultants as a reference in the preparation of future transportation initiatives. All capital projects will require individual approval by Council, and many will be subject to further study and public consultation under the class environmental assessment process.

If this report receives Council approval this evening, a Notice of Completion will be published and a period of 30 days will be provided during which a member of the public can request a Part II Order from the Minister of the Environment. If there are no requests, the TMP will become a planning and design reference for the next ten years or so. If there is a request, the Minister will rule on whether or not additional study is required.

A representative from the firm of HDR Corporation is in attendance this evening to present the executive summary, and answer any questions of Council. The executive summary is attached to this report, along with the consultant's presentation slides. The full report with appendices is available for review at <http://www.cityssm-tmp.ca>.

Report to Council – Transportation Master Plan – Notice of Completion

2015 02 23

Page 3.

**IMPACT**

The fees for this study were approved under previous capital works programs. No additional costs are anticipated, unless there is a lengthy effort required to address a Part II Order.

**STRATEGIC PLAN**

Updating the Transportation Master Plan is related to Objective 1B, Transportation Network Improvements under the Developing Solid Infrastructure strategic direction.

**RECOMMENDATION**

It is therefore recommended that Council take the following action:

Resolved that the report of the Director of Engineering Services dated 2015 02 23 concerning the Transportation Master Plan – Notice of Completion be received, and that the notice be published for the requisite 30 day public comment period in order to finalize the document.

Respectfully submitted,



Don Elliott, P. Eng.  
Director of Engineering Services

Recommended for approval



Jerry Dolcetti, R.P.P.  
Commissioner  
Engineering and Planning

/bb

Attach.



## Transportation Master Plan

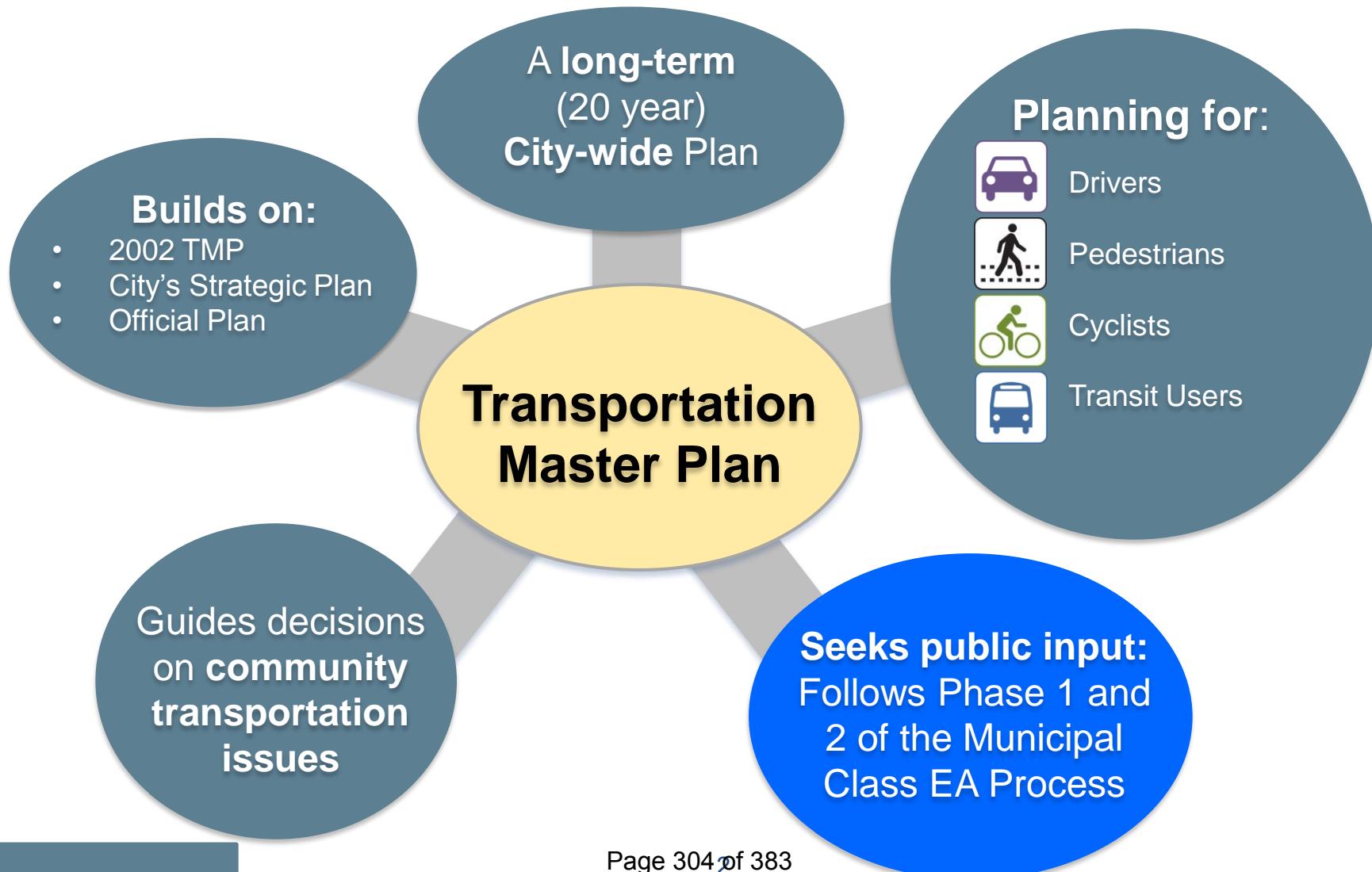
HDR

# **City of Sault Ste. Marie Transportation Master Plan Study**

# **Presentation to Council**

**February 23, 2015**

# What is a Transportation Master Plan (TMP)?

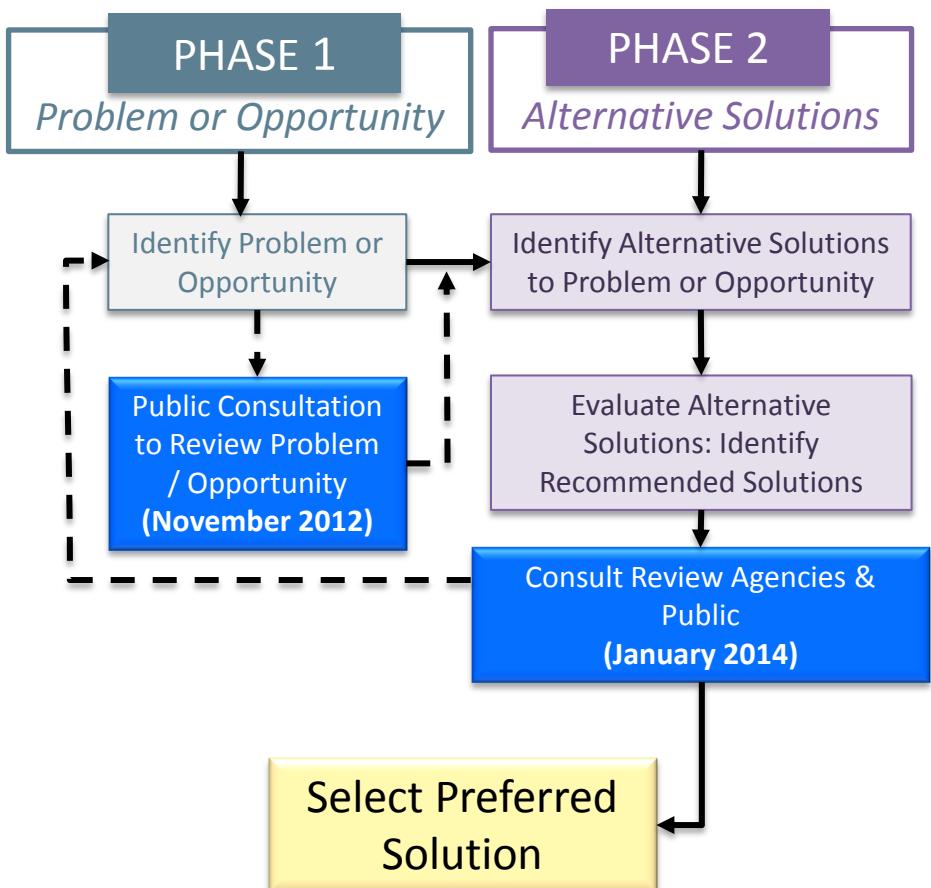


# Public Consultation & The TMP Planning Process

## An Open Public Process:

- October 2012
  - Notice of Commencement published on the City's website
  - Study website launched ([www.CitySSM-TMP.ca](http://www.CitySSM-TMP.ca))
  - Online public opinion survey
- November 2012
  - Public Open House #1
- January 2014
  - Public Open House #2
- February 2015
  - Today's Presentation

## TMP planning process



## Problem Statement

### Background

The City of Sault Ste. Marie can expect:

- Limited population growth over the next 20 years
- Limited traffic volume increases
- Changing travel patterns

### Problem Statement

The City will need to address changing travel patterns and ensure road infrastructure continues to operate at a good level of service.

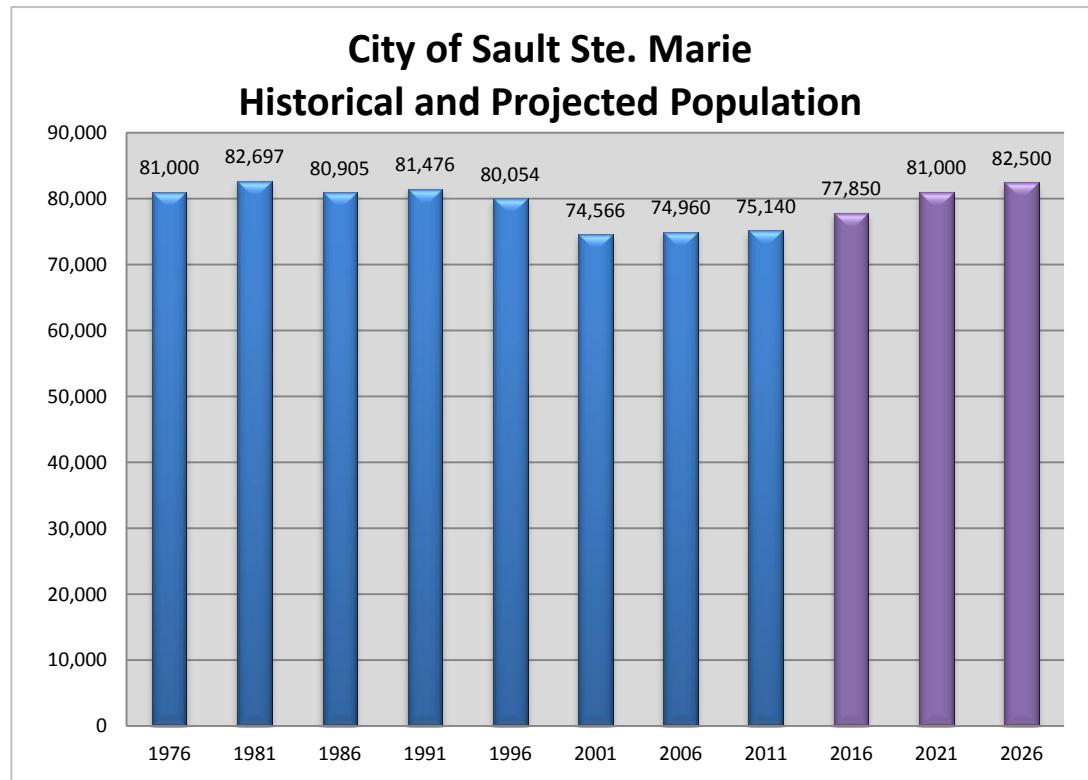
In the coming years, there is a need to maximize the use of existing infrastructure while encouraging an appropriate mix of transportation mode usage.

## Future Growth

In the future, the City of Sault Ste. Marie can expect:

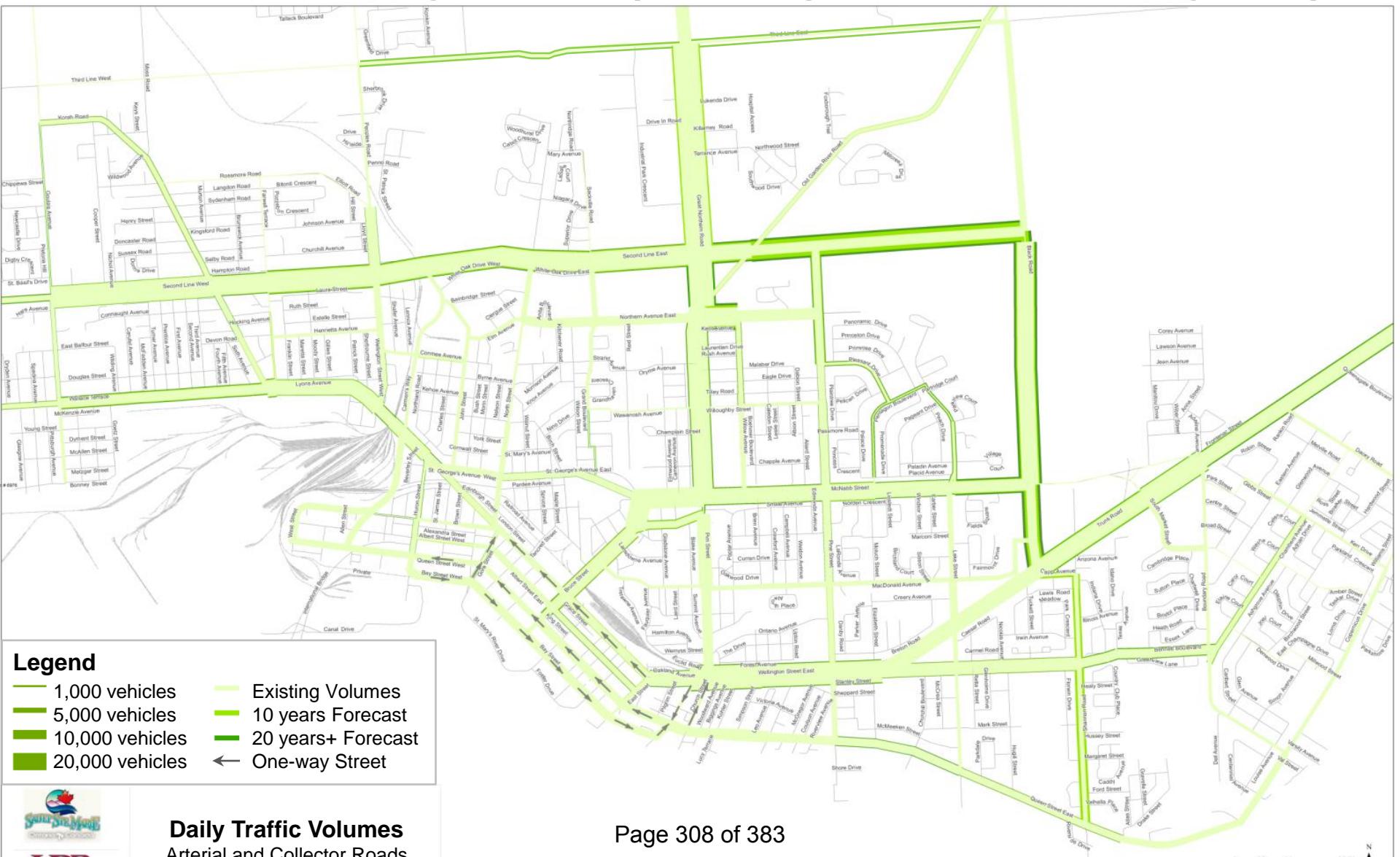
- Stable population level
- Aging population
- Diminishing employed labour force

Future growth is dependent on the City's ability to retain residents and attract new migrants



Source: Official Plan Review Population and Household Projections Presentation of Council, September 22, 2008

## Anticipated Daily Traffic (Existing and Future 20+ years)



# Planning Alternatives & Evaluation

## Planning Alternatives

Planning Alternative	Investment Priorities
<b>Alternative 1 – Do Nothing</b> <ul style="list-style-type: none"> <li>• No roadway (including highway) or active transportation improvements</li> <li>• No improvements to transit service</li> </ul>	
<b>Alternative 2 – Implement Active Transportation Plan &amp; Improved Transit Services (no major road improvements)</b> <ul style="list-style-type: none"> <li>• Includes the Hub Trail and a series of on and off-road trails throughout the City</li> <li>• New transit services, potential new transit transfer station in the north end of the City</li> </ul>	  
<b>Alternative 3 – Alternative 2, Plus Road Improvements as Planned</b> <ul style="list-style-type: none"> <li>• Sackville Road extension to Third Line</li> <li>• Black Road improvements from McNabb Street to Second Line</li> </ul>	   

## Evaluation Criteria

	<b>Transportation Service</b> Is the alternative sustainable? Multi-modal?
	<b>Natural Environment</b> Are impacts on natural environment minimized?
	<b>Policy Environment</b> Does it support the City's and Provincial policy goals?
	<b>Economic Environment</b> Does it support the existing and future business community?
	<b>Cost</b> Are the solutions cost-effective?

# Evaluation Results

Criterion	Alternative 1	Alternative 2	Alternative 3
Transportation Service	1 star	2 stars	3 stars
Natural Environment	3 stars	2 stars	1 star
Policy Environment	1 star	2 stars	3 stars
Economic and Community	1 star	2 stars	3 stars
Cost	3 stars	2 stars	1 star
Findings:	Not Recommended	Not Recommended	Preferred

## Transportation Strategy 1: Build Multimodal Networks



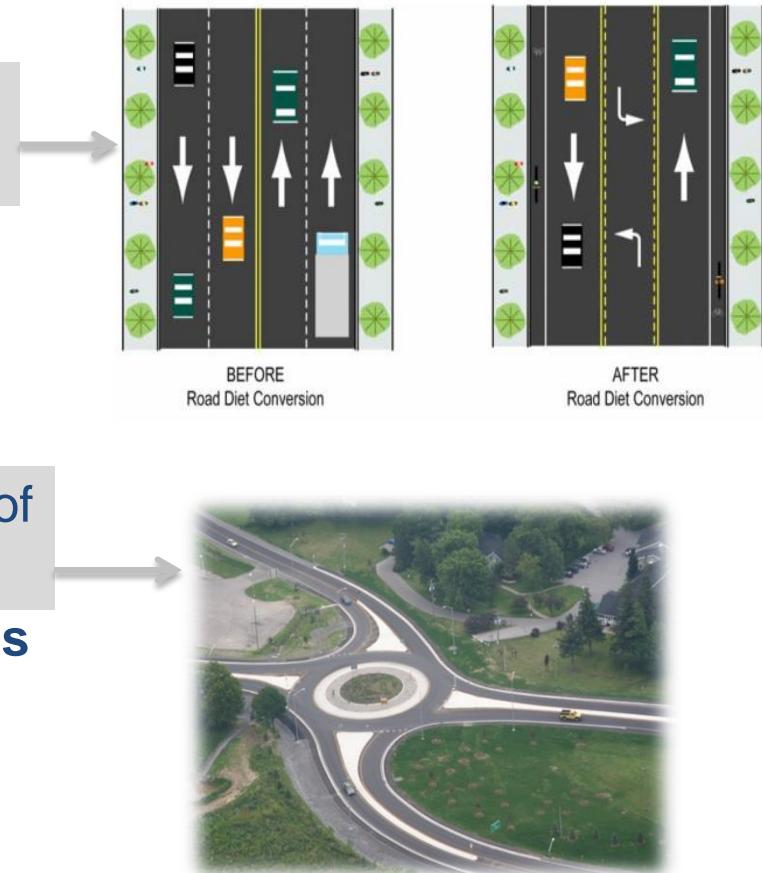
### ***Recommendations:***

- Provide needed **capacity improvements** - Black Road, Third Line, Second Line widenings
- Invest in **active transportation**; continue with the implementation of the Cycling Master Plan and extension of the Hub Trail
- Build **complete streets** to meet the needs of all modes
- Consider a **new transit transfer station** in the north end of the City
- Support for **commercial vehicles**; maintain network in conformance with MTO's Freight-Supportive Guidelines

## Transportation Strategy 2: Maximize Operational Efficiency of Roads and Intersections

### Recommendations:

- Consider “**road diets**” to meet complete streets objectives
- Monitor changes in **traffic patterns and intersection operations**
- Implement **data collection and traffic monitoring system**
- Consider building **roundabouts** instead of stops or traffic signals at intersections
- Consider **conversion of one-way streets** to two-way streets
- Develop consolidated **driveway and access control guidelines**



## Transportation Strategy 3: Provide a Safe and Accessible Network for All Travelers

- Provide a **safe pedestrian environment**
- Establish **minimum pedestrian crossing standards** for the Hub Trail and high demand pedestrian corridors
- Maintain existing **railway** crossings
- Continue implementing **traffic calming** measures
- Continue implementing **Hub Trail and Spokes**
- Review City's **design guidelines** to ensure roads, cycling facilities and sidewalks are built for all users including people with disabilities



## Transportation Strategy 4: Promote Environmental Sustainability and Community Health

- Promote **active transportation & transit use**
- Actively promote reduced usage of **SOVs** (single occupant vehicles)
- Manage travel demand by providing and supporting non-auto travel choices (**invest in transit and cycling**)
- Increase density and **promote mixed-use developments** in downtown and along key arterial roads
- Support **public realm and streetscape improvements**

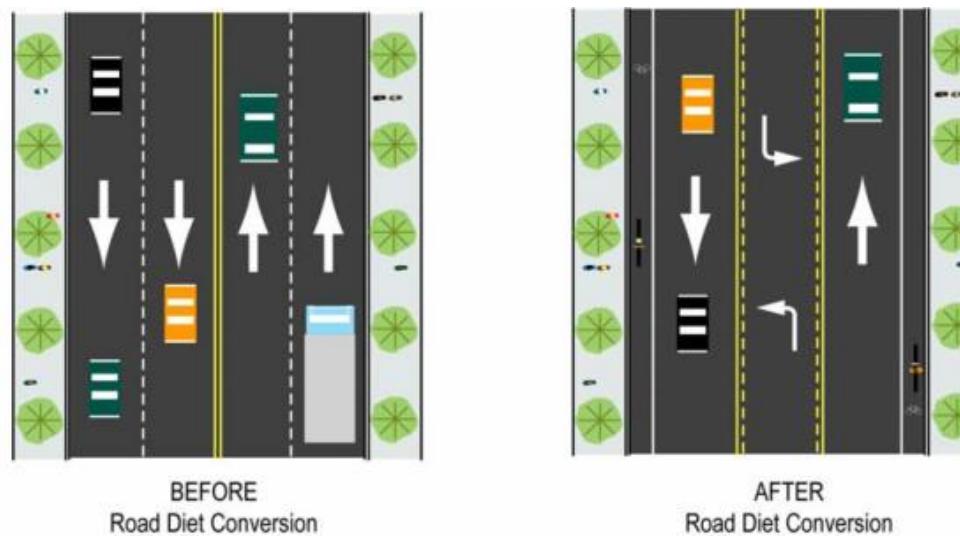


Source: Downtown Community Improvement Plan

## Towards Complete Streets



- Balance roadway **capacity** with travel **choices**
- Design roads which define space for cycling, walking and transit to encourage traffic **calming**
- Providing efficient **connections** will maintain healthy transportation systems and **communities**



Consider **Road Diets** to re-allocate vehicular lanes to cycling lanes, larger sidewalks, etc.

## Recommendation Highlights

### Short term (5 years)

- Strengthen decision making toolbox
  - Traffic Impact Study (TIS) policy guidelines
  - Arterial Roads Access Management Policy
  - Seasonal usage of on-street cycling lanes
  - Establish pedestrian crossing policy guidelines
  - Review road design guidelines to incorporate complete street and accessibility requirements
- Identify locations for conversion to complete streets/road diets; start necessary EA process (Schedule B)
- Actively monitor and solve traffic operations issues
- Actively lobby for Highway 17 Bypass with MTO (North Ontario Transportation Strategy)

## Recommendation Highlights

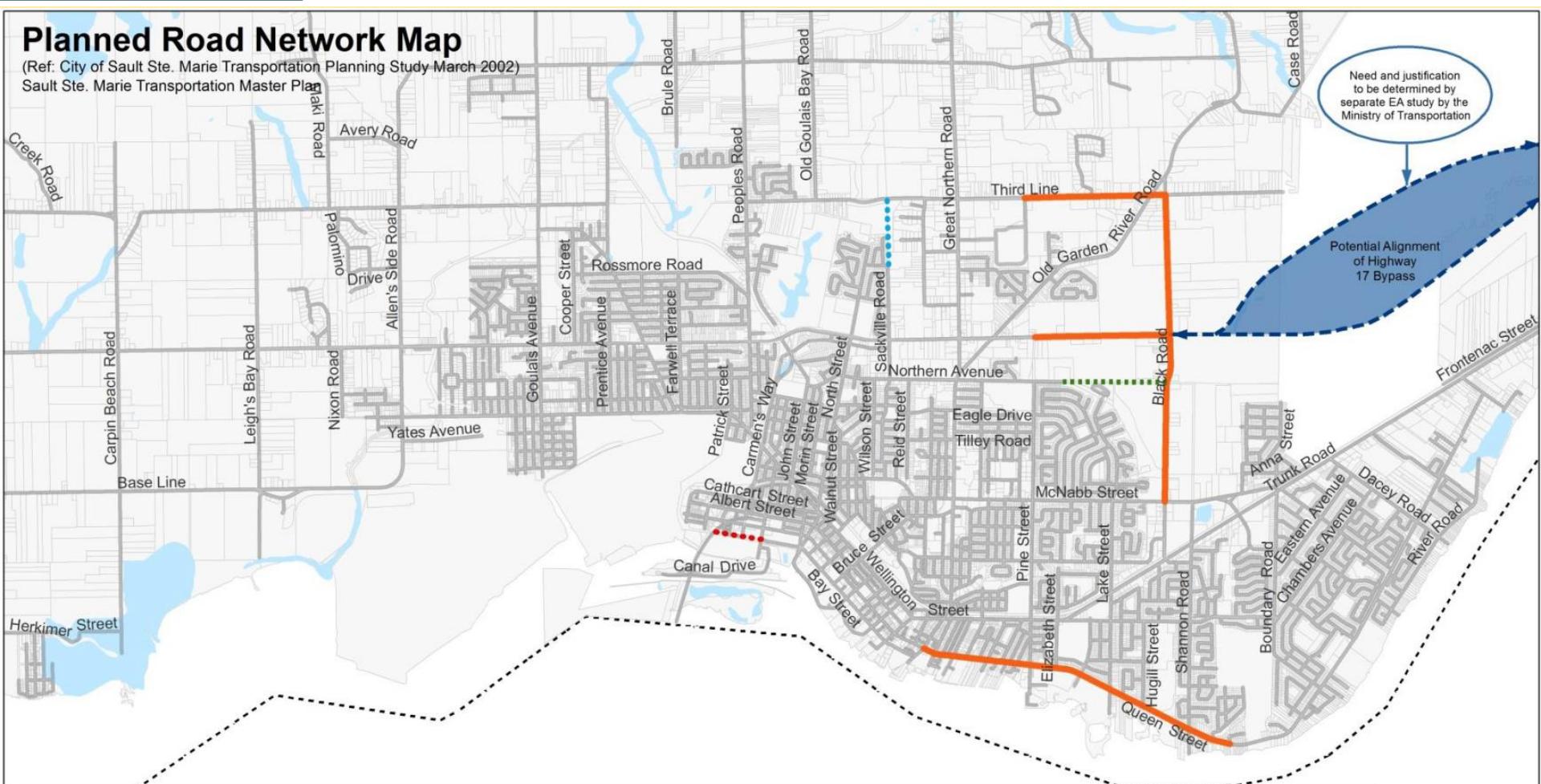
### Long-term Recommendations (10 years plus)

- Increase density and promote mixed-use developments in downtown and along key arterial roads
- Investigate feasibility of new transit transfer station in the north end of the City
- Initiate EA/construction of road network improvements

## Planned Road Network Map

(Ref: City of Sault Ste. Marie Transportation Planning Study March 2002)

Sault Ste. Marie Transportation Master Plan



### Legend

Existing Roads

Approved / Planned Future Roads

Possible Future Connections

Other

Major

Minor

Minor

Subject to EA Planning Study

Potential Extension



Scale: 1:42,000

## Conclusions

The Sault Ste. Marie Transportation Master Plan recommends a balanced strategy that:

- Strengthens the City's decision making toolbox to address transportation issues
- Continues to invest in road improvements
- Continues to support active transportation investments
- Recommends to maximize the use of existing infrastructure
- Promotes safety and accessibility for all travelers
- Promotes environmental sustainability and community health

# Questions?



**City of Sault Ste. Marie**

**January 2015**

# **Transportation Master Plan**

*Final Report Executive Summary*

**Submitted by:**  
HDR Corporation  
255 Adelaide Street West  
Toronto, ON M5H 1X9

**[www.hdrinc.com](http://www.hdrinc.com)**



## **EXECUTIVE SUMMARY**

### **A. Introduction and Study Purpose**

The City of Sault Ste. Marie's previous 2002 Transportation Master Plan (TMP) developed a plan for an integrated and balanced transportation system and identified priority improvements. It focused on enhancing accessibility for residents and workers, improving connectivity, and ensuring a healthy and active community in Sault Ste. Marie. It included key recommendations such as the construction of Carmen's Way in 2005 and the creation of a cycling network in the City known as the Hub Trail. The purpose of this study is to provide an update to the previous TMP in order to advance the implementation of the various transportation improvements while considering the current and future conditions of the community.

### **B. Study Approach and Consultation**

This TMP study has been carried out through an open public process under the Municipal Class Environmental Assessment Guidelines. The following summarizes the public announcements and opportunities for public and agency input and participation in this study:

- The TMP study was initiated in **October 2012** through a Notice of Commencement published on the City's website.
- A study website, [www.CitySSM-TMP.ca](http://www.CitySSM-TMP.ca), was also created to enable the project team to provide information about upcoming public events, access to display materials for public meetings, council presentations, meeting minutes, comment forms and the submission of feedback.
- An online public opinion survey was also administered to provide another opportunity for the public to be engaged and for the project team to obtain the latest public views of the transportation system and travel choices within Sault Ste. Marie.
- Two rounds of public consultation in the form of open houses were held:
  - Public Open House #1 was held in November 2012 which introduced the problem and opportunity to the public
  - Public Open House #2 was held in January 2014 which presented preliminary recommendations

### **C. Problem and Opportunity**

The City of Sault Ste. Marie is unlikely to experience significant population growth over the next 20 years and as a result significant traffic volume increases are unlikely. However, with the relocation of the hospital and the amalgamation of four secondary schools into two new schools, as well as ongoing commercial development, travel patterns are changing, particularly with increased pressures for travel to and from the northern part of the City. Furthermore, communities

throughout Canada are increasingly focused on enhancing their ability to accommodate all travel modes to promote sustainable transportation systems.

The City will need to address changing travel patterns in the City and ensure road infrastructure continues to operate at a good level of service. In the coming years, the use of existing infrastructure needs to be maximized while encouraging an appropriate mix of transportation mode usage.

## **D. Planning Alternatives**

Alternative planning strategies were developed to address the Problem Statement and to satisfy Phase 2 the Environmental Assessment process.

Three planning alternatives were identified:

1. **Do-Nothing** – do not build any improvements
2. **A Sustainable Approach** – assumes no capital improvements on the existing road network, but implementation of active transportation and transit network improvements
3. **A Balanced Approach** – invest in capital road improvements plus the implementation of active transportation and transit network improvements

Alternative 3 was selected because it benefits all transportation users in the City. Road network improvements throughout the City are still needed especially given harsh winter climate.

## **E. Recommended Strategies**

To supplement the preferred “Balanced Approach” planning alternative, four key transportation strategies are identified which shall guide the City’s decision making on transportation investments:

- *Strategy 1: Build multimodal networks*
- *Strategy 2: Maximize operational efficiency of existing roads and intersections*
- *Strategy 3: Provide safe and accessible network for all travelers*
- *Strategy 4: Promote environmental sustainability and community health*

## **Strategy 1: Build Multimodal Networks - Recommendations**

**Priorities:**

- Provide needed capacity improvements; complete Black Road, Third Line, Second Line widening, and Sackville Road extension
- Invest in active transportation; continue with the implementation of the Cycling Master Plan and extension of the Hub Trail including proposed “Spoke” routes
- Build complete streets and consider “road diets” to meet the needs of all modes
- Consider a new transit transfer station in the north end of the City.
- Support for commercial vehicles; maintain network in conformance with MTO’s Freight-Supportive Guidelines
- Support further study of a Highway 17 Bypass to be undertaken by the Ministry of Transportation as a separate EA study

## **Strategy 2: Maximize Operational Efficiency - Recommendations**

**Priorities:**

- Monitor changes in traffic patterns and intersection operations; implement data collection and traffic monitoring system
- Consider building roundabouts instead of signalized intersections
- Consider conversion of one-way streets to two-way streets
- Consider road diets where provided capacity exceeds traffic levels
- Develop consolidated driveway and access control guidelines

## **Strategy 3: Provide Safe and Accessible Network - Recommendations**

**Priorities:**

- Provide a safe pedestrian environment
- Establish minimum pedestrian crossing standards along the hub trail and high demand pedestrian corridors
- Maintain existing railway crossings
- Continue with the implementation of traffic calming measures
- Continue with the completion of the Hub Trail and spokes to provide cyclists with their own travel space
- Review the City’s design guidelines to ensure roads, cycling facilities and sidewalks are built for all users including persons with disabilities

## **Strategy 4: Promote Environmental Sustainability - Recommendations**

### **Priorities:**

- Promote active transportation & transit use
- Actively promote the reduction in usage of single occupant vehicles
- Manage travel demand by providing and supporting non-auto travel choices (investing in transit and cycling)
- Increase density and promote mixed-use developments in downtown and along key arterial roads

## **F. Towards Complete Streets**

An important recommendation of this report is the introduction of the Complete Street road design standards to accommodate multiple modes and to recognize the various functions of the street right-of-way. This approach seeks to maximize the use of the right-of-way. Private automobiles should continue to be provided with the necessary capacity for reasonable mobility, while at the same time allowing the street to be used for other purposes and transportation modes.

The premise of Complete Streets is “**Creating Places Where People Want to Be**”. This philosophy is supported by five themes (the “Five Cs”) to ensure that mobility goals are balanced with the goals for building community and protecting the environment.

- **Community** – No plan or project can truly be successful without engaging the community and supporting community goals.
- **Choices** – Communities realize that cycling, walking and transit are critical components of the transportation system.
- **Capacity** – Capacity for private automobiles and trucks must continue to be addressed, balancing roadway capacity with mobility needs across modes.
- **Calming** – Planning and design of streets will encourage appropriate driving behaviours and speeds.
- **Connection** – Providing connections between sites, neighbourhoods, modes, and jurisdictions is crucial to maintaining healthy transportation systems and communities.



## Proposed Road Classification System

To facilitate varying needs for different types of arterial streets, the City should consider further dividing its current arterial road class into subclasses with distinct design standards for arterials with differing characteristics. The following table summarizes proposed road classes for the City.

Road Classification	Road Sub-class	Typical Adjacent Land Use Types							Examples
		Residential		Commercial		Industrial		Institutional	Rural Area
		Low Density	Medium -High Density	Large Format Retail	Local Commercial	Business Park	Heavy Industrial		
Urban Arterial	Major Arterial		x	x		x	x	x	Wellington Street, Great Northern Road, Second Line, Carmen's Way, Trunk Road
	Urban Boulevard	x	x	x	x	x	x	x	Bay Street, Queen Street, Wallace Terrace, MacDonald Ave
Urban Collector	N/A	x	x	x	x	x		x	Northern Ave, North Street, Goulais Ave, Sackville Road
Urban Local	Residential Street	x	x		x				Elizabeth St, Lake St, Prentice Ave
	Industrial Street			x		x	x	x	Industrial Park Crescent, Yates Ave
Rural Arterial	N/A	x			x		x	x	Second Line west of Leigh's Bay Road
Rural Collector	N/A	x			x			x	Fourth Line, Old Garden River Road, Allen's Side Road
Rural Local	N/A	x			x			x	Base Line, Old Goulais Bay Road



## Complete Streets Policies

Recommended policies for specific Complete Streets treatments and priorities by road class and by mode are summarized in the following tables.



### Pedestrian Component

Complete Streets Components Summary		Urban Arterial		Urban Collector	Urban Local		Legend: ● Required ■ High Priority (Include if conditions permit) □ Low Priority (should be considered) ○ Appropriate in Limited Circumstances ◆ Not Recommended
		Major Arterial (10,000 – 40,000 veh/day)	Urban Boulevard (5,000 – 20,000 veh/day)	Collector (<10,000 veh/day)	Industrial Street <th>Residential Street (100 – 2,000 veh/day)</th> <th data-kind="ghost"></th>	Residential Street (100 – 2,000 veh/day)	
	Sidewalk/Pathway Width (m)	≥3.0	≥3.0	≥1.5	≥1.5	≥1.5	<p>The pedestrian mode is the only mode that everyone uses. The pedestrian mode predominantly refers to walking, but also considers people requiring mobility assistance such as wheelchairs and mobility scooters. Most trips involve a pedestrian component, even if the trip is between parking a car and walking to the door of the destination. Pedestrian facilities need to connect people with key activity centres. Activity centres are destinations and as such, should be considered “pedestrian-first” zones. The pedestrian connections to important destinations should exist, and be of good quality. This not only includes providing adequate design, but also placing priority on pedestrian facility maintenance and educating the public about the importance the pedestrian mode.</p>
	Separated Sidewalks	●	■	●	■	□	
	Curb Letdowns	●	●	●	●	●	
	Pedestrian Priority Street	◆	◆	◆	◆	□	
	Curbless Street	◆	◆	◆	◆	□	
	Signaled Mid-Block Crossings	■	■	□	○	□	
	Marked Mid-Block Crossings	○	■	■	□	■	



## Cycling Component

Complete Streets Components Summary		Urban Arterial (10,000 – 40,000 veh/day)		Urban Collector	Urban Local		Legend:
		Urban Boulevard (5,000 – 20,000 veh/day)	Collector (<10,000 veh/day)	Industrial Street (<10,000 veh/day)	Residential Street (100– 2,000 veh/day)		
	Conventional Bike Lane	●	○	■	■	□	Like walking, cycling can be most easily encouraged within a compact, mixed use urban form, and requires good public education and facility maintenance. It is important to understand that not all cyclists can be treated in the same way. Highly experienced and confident cyclists move at much higher speeds and require different facilities than novice and recreational cyclists. Complete streets should accommodate varying levels of experience and confidence, and provide facilities that allow individual cyclists to evolve. The City has already taken steps towards encouraging active transportation with the Hub Trail, and is encouraged to continue that progress with the proposed spoke routes.
	Shared Pathway (off-street, i.e. Hub Trail)	●	●	□	○	○	
	Bicycle Friendly Street	◆	◆	○	◆	■	
	Green Lanes (protected bike lanes via landscaped barrier, curbs, etc., typically on-street)	○	○	■	■	□	
	Cycle Tracks (protected two-way bike lanes, on or off-street)	◆	○	□	◆	○	
	Marked Wide Curb Lanes	○	○	■	■	□	



Transit Component

Complete Streets Components Summary		Urban Arterial (10,000 – 40,000 veh/day)	Urban Boulevard (5,000 – 20,000 veh/day)	Urban Collector <10,000 veh/day)	Urban Local (<10,000 veh/day)	Residential Street (100–2,000 veh/day)	Legend:
	Local Bus Route	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	In order to encourage transit use and allow for efficient and reliable transit operation, streets need to be designed with transit service in mind. Land use is always a factor in transit use. Higher density development, with good pedestrian connection to transit routes is critical to successful transit operation. Key transit destinations need to be located on transit corridors and site layouts should seek to minimize the walking distances between transit stops and building entrances. Proximity of employment to transit is of particular importance in encouraging transit use. Employment nodes should be located so they can be easily served by transit.
	High Frequency Bus Route	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Bus Stop Pull Outs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Bus Priority	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



Private Automobile Component

Complete Streets Components Summary		Urban Arterial (10,000 – 40,000 veh/day)		Urban Collector	Urban Local		Legend:
		Urban Boulevard (5,000 – 20,000 veh/day)	Collector (<10,000 veh/day)	Industrial Street (<10,000 veh/day)	Residential Street (100– 2,000 veh/day)		
	Posted Speed (km/h)	60	50	40	40	40	<p>Complete Streets should not be mistaken as an approach to discourage automobile use. The necessary roadway capacity needs to be provided, but it should be provided in a manner that is sensitive to the surrounding environment and consistent with the multiple functions of the street. This may mean some slowing of travel speeds in areas of high pedestrian and other street activity. The complete streets approach also acknowledges that capacity can be provided in many ways. Mobility continues to be the priority function on arterial streets; other activities will be accommodated within the large rights-of-way provide for arterial streets. On local streets, particularly in residential areas, cars are expected to share the street space with other users, and as a result, streets are designed for slower travel speeds.</p>
	Traffic Calming	♦	□	□	□	■	
	Commercial Access	○	□	□	●	□	
	Residential Driveways	♦	□	□	○	●	
	Median	●	●	□	○	♦	
	Two-way Left Turn Lanes	♦	♦	□	○	○	



## Goods Movement Component

Complete Streets Components Summary		Urban Arterial (10,000 – 40,000 veh/day)	Urban Boulevard (5,000 – 20,000 veh/day)	Urban Collector	Urban Local	Legend:
	Truck Route	●	□	○	■	♦
	Loading Zones	♦	♦	♦	□	♦
	Minimum Curb Lane Width (m)	3.5	3.5	3.4	4.5	3.5

- Required
- High Priority (Include if conditions permit)
- Low Priority (should be considered)
- Appropriate in Limited Circumstances
  - ♦ Not Recommended

## **G. Summary of Recommendations**

**Table G-1** summarizes all recommended activities and infrastructure improvements identified through the Transportation Master Plan process report, and categorizes each into short term, medium term and long-term priorities.

**Table G-1: Summary of Recommendations and Timing**

<b>Item #</b>	<b>Recommendation Item:</b>
	Short Term (up to 5 years by 2020)
1	Council adoption of the 2014 Transportation Master Plan
2	Cycling Master Plan Update
3	Traffic Impact Study (TIS) policy guidelines
4	Arterial Roads Access Management Policy
5	Adoption of seasonal usage by-law for on-street cycling lanes
6	Pursue reinstatement of the MTO Connecting Link Program
7	Continue with the implementation of the Cycling Master Plan and extension of the Hub Trail including proposed "Spoke" routes
8	Change Korah Road truck route classification from Class A to Class B
9	Monitor changes in traffic patterns and intersection operations; implement data collection and traffic monitoring system.
10	Transfer the City's transportation data to the TES software
11	Consider building roundabouts instead of intersections where new intersections are built or reconstructed
12	Further gauge public interest in conversion of one-way streets to two-way streets, and undertake feasibility study if sufficient public interest.
13	<p>Undertake further location screening and environmental assessment process for the implementation of road diets at the following locations:</p> <ol style="list-style-type: none"> <li>1. Wellington Street East (Trunk Rd to Texas Ave)</li> <li>2. Bennett Boulevard (Texas Ave to Boundary Rd)</li> <li>3. Northern Avenue East (North St to Pine St)</li> <li>4. Wallace Terrace (Korah Rd to Brookfield Ave)</li> <li>5. Goulais Avenue (Second Line W to Korah Rd)</li> <li>6. Bay Street (Andrew St to Pim St)</li> <li>7. Queen Street (Pim St to Gravelle St)</li> <li>8. McNabb Street from Great Northern Road to Black Road</li> </ol> <p>Identify and screen other potential road diet locations.</p>
14	<p>At the Great Northern and Second Line intersection:</p> <ul style="list-style-type: none"> <li>▪ Protect for double left-turn lanes southbound, eastbound, and northbound</li> <li>▪ Protect for right-turn lanes for all approaches</li> </ul>

<b>Item #</b>	<b>Recommendation Item:</b>
15	<p>Short-term pedestrian priorities for implementation:</p> <ul style="list-style-type: none"> <li>▪ Establish minimum pedestrian crossing standards along the hub trail and high demand pedestrian corridors</li> <li>▪ Establish pedestrian crossing guideline policy recommendations as per Error! Reference source not found.</li> <li>▪ Provide Zebra stripes along the Hub trail and major intersections</li> <li>▪ Install pedestrian countdown signals</li> </ul> <p>Retain all existing railway crossings</p>
16	Continue with the implementation of traffic calming measures
17	Review the City's design guidelines to ensure roads, cycling facilities and sidewalks are built for all users including persons with disabilities
18	Actively promote the reduction in usage of single occupant vehicles, and active transportation and transit usage
19	Implement updated road classifications and complete street road design standards
20	Review traffic operations issues as identified by the public during the various consultation events (as summarized in Appendix A).
21	Lobby for Highway 17 Bypass with MTO
22	Update Official Plan Schedule D
Mid Term (up to 10 Years or by 2025)	
23	Update Transportation Master Plan
24	Build complete streets and consider "road diets" to meet the needs of all modes
25	Increase density and promote mixed-use developments in downtown and along key arterial roads (on-going)
26	Consider a new transit transfer station in the north end of the City, and other transit service improvements to meet shifts in demand
27	<p>Complete Environmental Assessment studies and construct the following road improvements:</p> <ul style="list-style-type: none"> <li>▪ Black Road from McNabb Street to Second Line (EA currently underway)</li> <li>▪ Third Line from the Sault Area hospital to Black Road (EA currently underway)</li> <li>▪ Second Line widening from 2 to 5 lanes from Pine Street to west of Black Road (EA is complete and widening is underway)</li> <li>▪ Northern Avenue Extension to Black Road</li> <li>▪ Sackville Road Extension to Third Line (EA is complete and work is scheduled in the five-year plan for 2017)</li> <li>▪ Bay Street Extension under the Sault Ste. Marie International Bridge</li> <li>▪ Queen Street East of Pim Street Road Diet (road diet is underway , scheduled to open in the fall of 2014)</li> </ul>
28	<p>Undertake planning and EA studies to identify need and justification for:</p> <ol style="list-style-type: none"> <li>1. Reid Street extension to St. Georges from Second Line and removing the light at St. Georges and McNabb and to the new intersection with Reid Street</li> </ol>

<b>Item #</b>	<b>Recommendation Item:</b>
	2. Four-laning of Second Line from Black Road to the new section on top of Second Line hill would make the route (a truck route) less congested and safer, especially during peak periods.
	Long Term ( 10 to 20 years or by 2030/2035)
29	Consider a new transit transfer hub/ station in the north end of the City, and other transit service improvements

## Report to City Council

### February 23, 2015

Recruitment Update		
April 1, 2014 - February 6, 2015		
Service	Practice Location	Practice Start Date
GP/Anaesthesia	SAH	March 2014
Family Medicine	OTH	June 2014
Anaesthesia	SAH	September 2014
Family Medicine	GHC	January 2015
GP/Emergency	SAH	July 2015
Family Medicine	GHC	March 2014
Orthopedics	OTH	July 2014
Family Medicine	GHC	August 2015
Family Medicine	GHC	September 2015
Family Medicine	GHC	January 2016
Family Medicine	GHC	September 2016

### Recruitment Activities

We have hosted a number of physicians in Sault Ste. Marie over the past year. Among this group there have been specialists in Pathology, Critical Care and Anaesthesia. We continue to have interest from a variety of residents and physicians and are currently working with them to arrange site visits in the very near future.

A list of recruitment events attended is attached for information.

## **Retention Events**

The Annual Physician Family Ski Day will be held on Sunday, February 22<sup>nd</sup>, 2015 at Searchmont Resort. We have a large number of physicians and their families expected to participate again this year. Everyone will enjoy a full day of both, downhill and cross-country skiing as well as a guided snowshoe trek for all who are interested.

The Mayor's Reception was held on Monday, December 29<sup>th</sup>, 2014. Along with all local physicians, the medical students and residents originally from Sault Ste. Marie were invited to attend. It was a very busy and successful event.

In partnership with Algoma West Academy of Medicine, the Annual Physician Golf Day took place on September 3<sup>rd</sup> at the Sault Ste. Marie Golf Club. This year more than 110 people attended dinner and nearly 55 people enjoyed a beautiful fall afternoon of golfing. Retiring physicians Dr. John Pearson and Dr. Gordon Macmichael were each honoured for their dedication to providing quality healthcare to patients in Sault Ste. Marie.

## **Facebook Group**

Our Facebook group continues to grow with the addition of many "friends" not only from Sault Ste. Marie, but also other medical students and residents who have completed some of their training here.

Recently we polled a group of medical students in Sault Ste. Marie and found that overwhelmingly, Facebook was their preferred method of communication. We regularly post congratulations notes, electives updates and invitations to events taking place in Sault Ste. Marie.

A recent update of our records indicates that we have contact with over 100 medical students and residents in our database of Saultites currently studying medicine globally. This is an all-time high.

## **SaultMed website**

The SaultMed website has been refreshed with more photos and detailed information about life and practice in Sault Ste. Marie. The SaultMed website is [www.saultmed.ca](http://www.saultmed.ca).

## **Medical Learners**

During this past year, almost 60 medical students and residents have spent time in our community being trained by our experienced local family physicians and specialist physicians. Many of the learners are from the Northern Ontario School of Medicine however there have been learners from the University of Toronto, McMaster University, the University of Western Ontario, the University of Ottawa as well as learners from out of country.

## Summer Studentship Program (SSP)

Planning is already underway for the SSP 2015. We have applications from 9 medical students from Sault Ste. Marie for this one month paid placement in June. The students will learn the basics of suturing and casting and have opportunities with both family physicians as well as the many medical specialties we have in Sault Ste. Marie. This program is available to all medical students from Sault Ste. Marie currently enrolled in a medical school in Canada and is run in partnership with NOSM.

## Northern Ontario School of Medicine (NOSM)

In November of 2014, NOSM held interviews in Sault Ste. Marie for the Family Medicine third year training in Anaesthesia. Twelve candidates applied and interviewed for the two spots available in the NOSM program. This specialty has one dedicated Anaesthesia resident in Sault Ste. Marie for the one year training.

Eight Comprehensive Community Clerkship (CCC) students have been in Sault Ste. Marie since August completing their eight month training. These NOSM students will primarily be with Family Medicine receptors but will also have many opportunities to learn with specialists as well as community healthcare partners. Six of the eight students are originally from Sault Ste. Marie.

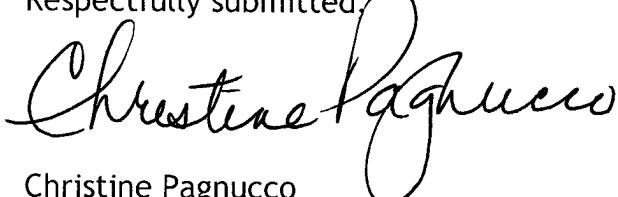
Canadian Residency Matching Service (CaRMS) - Sault Ste. Marie trains Family Medicine physicians for their two year residency program through the Family Medicine Program at NOSM. We attended the interviews held in Thunder Bay and Sudbury early in the year. Although we have four designated spots each year for this training, we have had the good fortune to be able to train five residents each of the past two years.

General Internal Medicine has long been a recruitment priority for Sault Ste. Marie. Recently with the help of one of our local cardiologists, NOSM has made it mandatory for all of its first year internal medicine residents to complete a one month cardiology rotation in Sault Ste. Marie. With this initiative, along with electives for General Internal Medicine residents from the University of Toronto and Queen's University, we continue to be able to provide good learning opportunities which we hope will lead to recruitment for our hospital and community.

## Recruitment Statistics

Statistical information for the Recruitment & Retention Program is included in the package for your information. One hundred and eight full-time physicians have been recruited since the inception of the Program in 2002.

Respectfully submitted,



Christine Pagnucco

## **RECRUITMENT & RETENTION EVENTS**

**2014/2015**

<b>DATES</b>	<b>LOCATION</b>	<b>EVENT</b>	<b>TARGET GROUP</b>
October 2014	Calgary	Canadian Society of Internal Medicine	Practising Physicians & Residents
January 2015	Thunder Bay	CaRMS Interviews	Residents - Family Medicine and Specialty & NOSM Medical Students
February 2015	Sudbury	CaRMS Interviews	Residents - Family Medicine and Specialty & NOSM Medical Students
February 2015	Toronto	Internal Medicine Review Course	Specialty Residents
February 2015	Montreal	Federation of Medical Residents of Quebec	Family Medicine & Specialty Residents
March 2015	Hamilton	Internal Medicine Review	Practising Physicians & Residents

### **Retention Initiatives**

Birthday Recognition for Physicians & Locums

Christmas Cards for Local Physicians and Locums

Physician Appreciation Golf Day - September (shared cost with AWAM)

Mayor's Reception - December

Physician Family Ski Day - February (shared cost with AWAM)

**Summary of Cost Centres - Physician Recruitment & Retention**  
**at February 6, 2015**  
**for the fiscal reporting period April 1, 2014 - March 31, 2015**

			2014/2015 Expenditures	Year to Date Expenditures	
35010	3501000	Salaries and Benefits	\$ 135,000.00	\$ 108,591.37	\$ 26,408.63
49500	4950010	Office Supplies	\$ 3,500.00	\$ 2,294.92	\$ 1,205.08
61030	6103000	Professional Conferences	\$ 2,500.00	\$ 1,076.42	\$ 1,423.58
65050	6505000	Professional Services - Recruitment	\$ 1,500.00	\$ 1,753.20	-\$ 253.20
65090	6509000	Professional Fees	\$ 125.00	\$ 125.00	\$ -
67000	6700000	Advertising/Journals & Website Management	\$ 5,000.00	\$ 2,458.85	\$ 2,541.15
67012	6959901	Recruitment support	\$ 80,000.00	\$ 7,811.30	\$ 72,188.70
67011	6959902	Learners Conference and Activities	\$ 5,000.00	\$ 6,931.57	-\$ 1,931.57
67013	6959903	Showcasing SSM/Site Visits	\$ 17,875.00	\$ 5,849.65	\$ 12,025.35
67016	6959905	Retention Activities/Initiatives	\$ 17,000.00	\$ 10,394.23	\$ 6,605.77
67018	6959906	Participation in Recruitment Events	\$ 20,000.00	\$ 13,784.01	\$ 6,215.99
67017	6959907	Summer Studentship Program	\$ 7,000.00	\$ 6,233.35	\$ 766.65
67020	6700010	Display & Promotional Materials	\$ 3,500.00	\$ 3,246.25	\$ 253.75
76500	7650000	Minor Equipment Purchases (Furniture & Office Equip)	\$ 2,000.00	\$ 1,436.45	\$ 563.55
		<b>TOTAL</b>	<b>\$ 300,000.00</b>	<b>\$ 171,986.57</b>	<b>\$ 128,013.43</b>
		Sault Area Hospital Contribution	\$ 100,000.00		
		Group Health Centre Contribution	\$ 100,000.00		
		City of Sault Ste. Marie Contribution	\$ 100,000.00		
		<b>TOTAL</b>	<b>\$ 300,000.00</b>		

## Proposed Budget - Physician Recruitment & Retention 2015-2016

		<b>2015-2016</b>
3501000	Salaries and Benefits	\$ 135,000.00
4950010	Office Supplies	\$ 3,000.00
6103000	Professional Conferences	\$ 2,500.00
6505000	Professional Services - Recruitment	\$ 3,000.00
6509000	Professional Fees	\$ 125.00
6700000	Advertising/Journals & Website Management	\$ 5,000.00
6959901	Recruitment support	\$ 80,000.00
6959902	Learners Conference and Activities	\$ 7,000.00
6959903	Showcasing SSM/Site Visits	\$ 16,875.00
6959905	Retention Activities/Initiatives	\$ 17,000.00
6959906	Participation in Recruitment Events	\$ 17,000.00
6959907	Summer Studentship Program	\$ 8,000.00
6700010	Display & Promotional Materials	\$ 3,500.00
7650000	Minor Equipment Purchases (Furniture & Office Equip)	\$ 2,000.00
	<b>TOTAL</b>	<b>\$ 300,000.00</b>
	Group Health Centre Contribution 2015-2016	\$ 100,000.00
	Sault Area Hospital Contribution 2015-2016	\$ 100,000.00
	City of Sault Ste. Marie Contribution 2015-2016 (pending approval)	\$ 100,000.00
	<b>TOTAL</b>	<b>\$ 300,000.00</b>

**Summary of Physicians Recruited & Departed from the Community  
2002 to February 6, 2015**

<b>Year</b>	<b>#</b>	<b>PHYSICIANS RECRUITED</b>	<b>PRACTICE LOCATION</b>	<b>#</b>	<b>PHYSICIANS DEPARTED</b>
2002/03	4	Medical Oncology Family Medicine Emergency Medicine (2)	SAH 3 GHC 1	2	Emergency Medicine Family Medicine
2003/04	5	Family Medicine Emergency Medicine (2) Anaesthesiology Psychiatry	SAH 4 GHC 1	4	Family Medicine Radiology (2) Internal Medicine
2004/05	5	Nephrology Psychiatry GP-Anesthesia/Emerg Family Medicine (2)	SAH 4 GHC 1	7	Family Medicine Internal Medicine Anesthesiology (2) Obstetrics/Gynecology General Surgery Pediatrics
2005/06	5	Medical Oncology GP Hospitalist Anaesthesiology General Surgery GP Anesthesia/Emerg	SAH 4 GHC 1	3	Family Medicine (3)
2006/07	4	Radiology Anaesthesiology Orthopedics Family Medicine	SAH 2 GHC 1 UNK 1	9	Family Medicine (2) Emergency Medicine (2) Pediatrics Orthopedics (2) Medical Oncology* Anaesthesiology
2007/08	8	Bariatric Medicine Emergency Medicine (2) Anaesthesiology Child Psychiatry Family Medicine (2) Nephrology	SAH 7 OTH 1		
2008/09	10	Orthopedics Family Medicine (3) Emergency Medicine (2) Obstetrics/Gynecology Psychiatry Hospitalist Medicine (2)	SAH 4 GHC 4 OTH 1 UNK 1	7	Family Medicine (5) Psychiatry Nephrology

**Summary of Physicians Recruited & Departed from the Community**  
**2002 to February 6, 2015**

Year	#	PHYSICIANS RECRUITED	PRACTICE LOCATION	#	PHYSICIANS DEPARTED
2009/10	12	Medical Oncology Diagnostic Radiology Otolaryngology Urology (2) Family Medicine (2) Ophthalmology Pediatrics Obstetrics/Gynecology Cardiology GP Anaesthesia/Emerg	SAH 3 GHC 5 OTH 4	3	Family Medicine Diagnostic Radiology* Obstetrics/Gynecology
2010/11	14	Family Medicine (10) Anesthesiology Orthopedics GP Anesthesia/ER Diagnostic Radiology	SAH 6 GHC 4 OTH 4	7	Family Medicine Pediatrics Orthopedics Child Psychiatry* GP/Psychiatry Medical Oncology
2011/12	5	Family Medicine Emergency Medicine Diagnostic Radiology Critical Care Pediatrics	SAH 3 GHC 2	3	Emergency Medicine* Internal Medicine Family Medicine
2012/13	12	Family Medicine (5) Emergency Medicine (2) Hematology/Oncology Pathology Obstetrics/Gynecology (2) Psychiatry	SAH 5 GHC 1 OTH 2 UNK 4	4	Medical Oncology* Cardiology (2) Pediatrics

**Summary of Physicians Recruited & Departed from the Community  
2002 to February 6, 2015**

Year	#	PHYSICIANS RECRUITED	PRACTICE LOCATION	#	PHYSICIANS DEPARTED
2013/14	13	Psychiatry (3) Neurology Gastroenterology Medical Oncology (2) Ophthalmology Family Medicine Hospitalist (2) Otolaryngology GP/Emergency Medicine	SAH 8 GHC 2 OTH 2 UNK 1	3	Emergency Medicine Ophthalmology Endocrinology
2014/15	11	GP/Anesthesia Family Medicine (7) GP/Emergency Medicine Anaesthesia Orthopedic Surgery	SAH 3 GHC 6 OTH 2	9	Family Medicine (3) GP/Emergency Medicine (3) Internal Medicine Ob/Gyn Hospitalist
	108			61	
		<b>Summary</b>			
		Number of physicians recruited	108		
		Number of physicians departed	61		
		* 12 physicians departed prior to the completion of the re			
		<b>Reasons for departure</b>			
		Deceased (D)	4		
		Retired (R)	26		
		Practice elsewhere (PE)	26		
		Other (O)	5		
			<b>61</b>		
		<b>Recruited to:</b>			
		Sault Area Hospital (SAH)	56		
		Group Health Centre (GHC)	29		
		Other (OTH)	16		
		Unknown (UNK)	7		
			<b>108</b>		

Pagnucco, Christine

---

From: \_\_\_\_\_  
Sent: Monday, July 14, 2014 12:53 PM  
To: Pagnucco, Christine  
Subject: RE: Dr.

Hi Christine,

Thank you so kindly for the thoughtful birthday card. I shall use the gift card to buy some kind of sports equipment in hopes it will motivate me to exercise and live right! Anyway, thanks for all of your help as well, regarding the grant application.

All the best,  
Mark

Jones, Carrie

---

From: \_\_\_\_\_  
Sent: Thursday, August 07, 2014 7:51 AM  
To: Jones, Carrie; Pagnucco, Christine

Thanks for the birthday card & cineplex card!

Jones, Carrie

---

From: \_\_\_\_\_  
Sent: Tuesday, June 24, 2014 7:01 PM  
To: Jones, Carrie  
Subject: Re: Physician Pick up - to airport

Thanks, Carrie!

And thanks again for your help with everything this past month. It's been a great experience, and I owe all of that to your tireless efforts!

Keep in touch,

Mike

**Jones, Carrie**

---

**From:** \_\_\_\_\_  
**Sent:** Tuesday, August 26, 2014 6:31 PM  
**To:** Jones, Carrie; Pagnucco, Christine  
**Subject:** Naturally Superior

Hey!!

Thanks so much for organizing Rock Island again. We had a fabulous time, it was an absolutely perfect couple of days and great to hang out.

Marissa was the official photographer for the trip since she had a waterproof camera and Marianne took some pictures with her camera as well. They both said they will send along the pictures to you guys.

Thanks again :)  
Lisa

**Pagnucco, Christine**

---

**From:** \_\_\_\_\_  
**Sent:** Monday, June 30, 2014 8:13 AM  
**To:** Jones, Carrie; Pagnucco, Christine  
**Subject:** Thanks !

From my 1st On-call (OB) to my last one yesterday afternoon (End of life care at the Hospice) and everything in between, I loved it....

Thanks for this opportunity.....

Regards,

Ben

**From:** [redacted]  
**Sent:** Tuesday, August 12, 2014 12:17 AM  
**To:** Jones, Carrie  
**Subject:** Re: Pancake Bay Lookout Trail Hike

Dear Carrie,

Thank you so much for the photo. Also thank you for organizing the hike and for assisting us with our visit. It was a successful and a pleasant visit to your community. Also please thank Christine, Heather, Akin, Niki, and Victor on our behalf.

Yours very truly,  
Abdel

---

### **Jones, Carrie**

---

**From:** [redacted]  
**Sent:** Saturday, August 09, 2014 10:46 PM  
**To:** Jones, Carrie  
**Subject:** Pancake Trip photos

Hi Carrie,

Thank you again for organizing this trip, and taking us along!

Here are some pictures I've taken =)

Please let me know after you have downloaded the pictures, so I can take them off the internet!

---

### **Pagnucco, Christine**

---

**From:** [redacted]  
**Sent:** Wednesday, September 03, 2014 10:26 PM  
**To:** Pagnucco, Christine  
**Subject:** Re: Golf Day and Dinner reminder

Thank you for putting together such a nice evening.

Nadia

---

### **Pagnucco, Christine**

---

**From:** [redacted]  
**Sent:** Friday, September 05, 2014 10:58 AM  
**To:** Algoma West Academy of Medicine; Pagnucco, Christine; Jones, Carrie  
**Subject:** RE: 2014 Golf Day

Ladies: My sincere thanks to all of you for putting together yet another tremendously successful Golf Day.

Even though it is physician appreciation week, I want you all to know that we physicians really appreciate you too.

Jones, Carrie

**From:** [REDACTED]  
**Sent:** Thursday, August 28, 2014 9:06 PM  
**To:** Jones, Carrie  
**Subject:** Thank yous and thanksgiving weekend details

Hi Carrie!

I hope you had as lovely a time as I did today. It was a great day. Thank you for setting that up!

I was also wondering whether or not I would be working on Thanksgiving weekend or if I could run back to Sudbury that weekend. I remember that you said you try not to put us on for holidays and I was just hoping you could let me know so I can plan.

Thank you so much for a wonderful orientation, Carrie! I feel very welcomed in Sault Ste. Marie.

Sincerely,

Jones, Carrie

**From:** Thursday, August 28, 2014 8:55 PM  
**Sent:**  
**To:** Jones, Carrie  
**Subject:** Thank you

Dear Carrie,

Thank you for organizing such a wonderful orientation week for us. Today was so much fun, and such a great way for us all to get to know each other better!

Thanks again!

Sincerely,

Dear Christine & Carrie

Thank you so much for helping to arrange this elective and for covering the cost of the beautiful apartment.

Thank you, also, for going out of your way to make my stay great! I really enjoyed my time here. I hope to be back! ~Laura,

To Carrie,

Thank you for helping to organize a great elective experience. I really appreciated your efforts, including letting me borrow some equipment!

Thanks again,  
-Kayla

To Camie

Here's a bouquet of thoughts  
meant especially for you  
And a bouquet of thanks  
for the nice things you do!

Your time + extra effort  
in all the things you do for  
us as residents doesn't go  
unnoticed.

Thank you is not nearly  
enough.

Residents of 2014

Christine,

May 2014

It was so wonderful to have  
the opportunity to do my electives  
at SAH. I look forward to working  
with you during my CCC.

Best wishes for a safe and happy  
summer!

Sincerely,

Dear Carrie,

May 2014

Thank you for all of your help!  
I really enjoyed my electives at SAH,  
and I look forward to CCC. I hope  
you enjoy the summer!

Sincerely,

**Pagnucco, Christine**

---

**From:**   
**Sent:** Thursday, May 22, 2014 11:39 PM  
**To:** Jones, Carrie; Pagnucco, Christine  
**Subject:** thank you

Hi ladies,

Just want to thank you for the birthday card and gift this month. I'll enjoy spending it on... Evan!

**Jones, Carrie**

---

**From:**   
**Sent:** Wednesday, May 14, 2014 7:14 AM  
**To:** Jones, Carrie; Pagnucco, Christine  
**Subject:** Birthday (thank you)

Dear Carrie and Christine,  
Thank you very much for the lovely birthday card and gift.  
Regards

**Jones, Carrie**

---

**From:**   
**Sent:** Friday, May 09, 2014 3:47 PM  
**To:** Pagnucco, Christine; Jones, Carrie  
**Subject:** Thank you

Christine and Carrie,

Thank you so very much for the birthday card and gift card. It was very thoughtful.

----- Forwarded message -----

Date: Thu, May 8, 2014 at 10:30 AM

Subject: Thank you

To: Carrie Jones

Hi Carrie,

Thank you for the birthday card and gift card.

**Jones, Carrie**

---

From: ..  
Sent: Thursday, May 08, 2014 8:57 PM  
To: Jones, Carrie; Paonucco, Christine  
Cc:  
Subject: thank you

Dear Christine and Carrie, thank you for the kind and considerate gift for our baby boy  
I look forward to seeing you soon.

Cheers,

from MoiPhone

Christine + Carrie,

Thank you so much for the  
amazing fruit arrangement. we  
thoroughly enjoyed it! Norca + I will  
stop by to visit next time we are  
at the hospital.

Thanks again!

Dear Cam & Christine,

I had a great time  
re-learning to downhil  
ski. It was a blast!

Thanks for organizing the  
Ski Day.

Michele C

Feb 20

## Jones, Carrie

**From:** \_\_\_\_\_  
**Sent:** Friday, October 25, 2013 1:49 PM  
**To:** Jones, Carrie; Pagnucco, Christine  
**Subject:** Gift

Hello,  
Thanks so much for the wonderful gift. Really appreciated.  
Hope to see u soon.  
Thanks  
Cheers

## Jones, Carrie

**From:** \_\_\_\_\_  
**Sent:** Tuesday, December 17, 2013 7:02 AM  
**To:** Jones, Carrie  
**Subject:** Re: THANKS!

Hi Carrie,

You are welcome. I must add that my family and I really appreciate all your support and kind gestures towards us . You and Christine have played a great role in helping us settle in the Soo. Therefore, we should be the ones to say thanks to you.

We had a safe trip and there was never a dull moment

My regards to your family and Merry Christmas greetings from all of us here!!

## Pagnucco, Christine

**From:** \_\_\_\_\_  
**Sent:** Monday, October 28, 2013 3:14 PM  
**To:** Jones, Carrie; Pagnucco, Christine  
**Subject:** RE: Thank you

Dear Christine and Carrie

Just a short note from the Dean and I to thank you for all of your efforts which made the NOSM meetings and your tours a success.

I heard the tours were amazing and was so sorry to have missed them.

It was great to meet you Carrie and to see you again Christine.

Next time you visit Sudbury please stop in to say hello.

## Nicole

Nicole Lauzon, Senior Executive Assistant, Office of the Dean  
Northern Ontario School of Medicine | 935 Ramsey Lake Road,  
Sudbury, ON P3E 2C6 705.671.3874 | 705.671.3830 (fax) | 705.677-7436 (mobile)  
[nicole.lauzon@nosm.ca](mailto:nicole.lauzon@nosm.ca); [www.nosm.ca](http://www.nosm.ca)

**Jones, Carrie**

---

**From:** Saturday, December 28, 2013 11:58 AM  
**Sent:** Jones, Carrie; Pagnucco, Christine  
**To:**  
**Subject:** Thank you

Dear Christine and Carrie,

Thank you very much for hosting a lovely gathering last night. It was great to see you both.

I wish you a very happy new year.

Take good care,

--

**Pagnucco, Christine**

---

**From:** Tuesday, December 10, 2013 10:37 PM  
**Sent:** Pagnucco, Christine; Jones, Carrie  
**To:**  
**Subject:** birthday

Hi,

Thank you very much for the birthday gift card. I very much look forward to using it. I wish you both a happy holiday and new year.

Best wishes,

**Jones, Carrie**

---

**From:** Thursday, November 07, 2013 10:31 AM  
**Sent:** Jones, Carrie; Pagnucco, Christine  
**To:**  
**Subject:** Thank you!

Dear Carrie and Christine,

Hope you are both keeping well! I can't believe that we have been in the Sault for a year now! Crazy.

Just wanted to say thank you for the card and the voucher - that was very thoughtful!

We are doing well here....getting used to the cold again! Brr. Oliver loves it. Loves winter, can't wait for it apparently. Good thing. :)

See you guys soon!

CARRIE,

THANKS FOR EVERYTHING

HERE IN THE SEA! YOU  
GUYS PUT ON A GREAT  
ROTATION. MUCH APPRECIATED.

CHEERS,

HEATHER SMITH :)

**Jones, Carrie**

---

**From:** \_\_\_\_\_  
**Sent:** Friday, May 30, 2014 7:48 PM  
**To:** Jones, Carrie  
**Subject:** Thank you!

Dear Carric,

Thank you very much for all of your help with my electives. I am glad that I got to see you today and I am sorry for not having the chance to come by to say thank you in person.

I learned so much during the past month, and I feel so fortunate for the opportunity to be at SAH, and at home in SSM. I look forward to working with you and Christine during CCC.

I hope that it is ok that I left a few cards on your desk for some of the preceptors that I had the pleasure to work with during my electives. I would greatly appreciate it if you could place them in their mailboxes for me.

Thank you again, and best wishes for a safe and happy summer.

Sincerely,

**Jones, Carrie**

---

**From:** \_\_\_\_\_  
**Sent:** Monday, June 02, 2014 10:28 PM  
**To:** Jones, Carrie  
**Subject:** Thank you

Hi Carric,

I'm so sorry that I didn't get a chance to see you before I left. I really wanted to thank you for making my elective wonderful. I appreciated the hospital tour and introductions on the first day. And I also felt really supported while I was there.

I wish that I was home for CCC - the staff is amazing.

I placed some thank you cards under your door and I'm sure you stumbled across them already. Would you mind ensuring that they get to the right people. No one was around for me to do so.

Thanks so very much!

Sincerely,

**Jones, Carrie**

---

**From:** \_\_\_\_\_  
**Sent:** Monday, February 24, 2014 2:06 PM  
**To:** Pagnucco, Christine; Jones, Carrie  
**Subject:** Thank you

Hi ladies, just a little note to let you know how much fun we had yesterday. You did an awesome job as usual. Also a special thank you to you both for encouraging me to take a ski lesson which was the best thing I could have done! Have a wonderful week!

Hugs,  
V

**Jones, Carrie**

---

**From:** \_\_\_\_\_  
**Sent:** Wednesday, February 26, 2014 7:36 AM  
**To:** Jones, Carrie  
**Subject:** RE: Family Physician Ski Day - Details for February 23, 2014

Thank you for organizing a terrific day. It was great to meet and recreate with colleagues and old friends. The whole family had a great time. Mike

**Jones, Carrie**

---

**From:** \_\_\_\_\_  
**Sent:** Monday, February 24, 2014 8:02 PM  
**To:** \_\_\_\_\_  
**Cc:** \_\_\_\_\_  
**Subject:** Thank you.

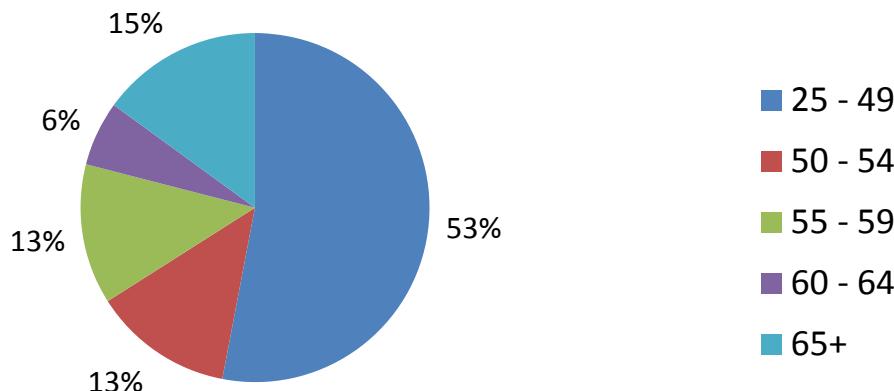
Thank you for the opportunity to visit with you and tour your hospital. Our discussions and the tour were most enlightening and exciting.

I was very impressed with your hospital and the various state of the art medical equipment. Everyone I met were all extremely kind and helpful and I truly felt welcomed. The hospital, schools, housing and facilities in the city were brilliantly well organized and constructed to the highest standard. I am very enthused about the possible career opportunity that Sault Area hospital offers and easily see my family and I living happily in Sault Ste. Marie.

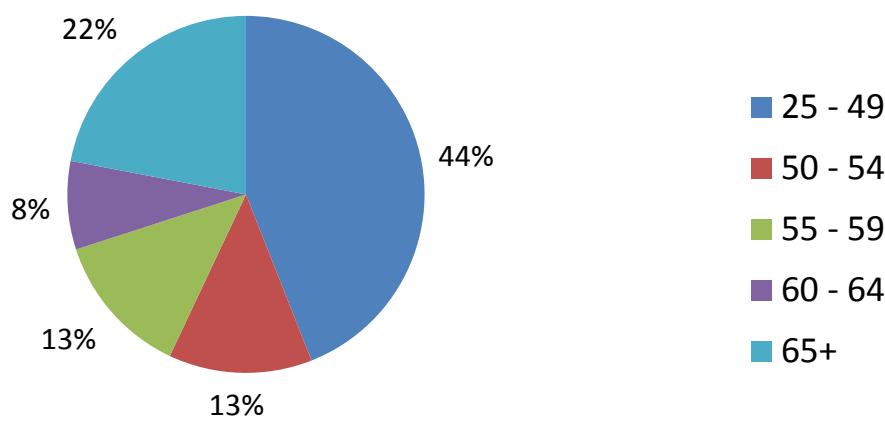
Once again, thank you for your hospitality during my time in Sault Ste Marie. My profound gratitude goes to all who took time to arrange my visit especially Ms. Pagnucco, the members of faculty and laboratory management -Dr. D'Agostino, Ms. Lemieux, Mr. Bowman and Ms. Jones, Mr. Ross and Ms. Fairley who picked me up from the airport and kindly drove me around the city in their cars. I look forward to a chance to work with you all in the near future.

Sincerely,

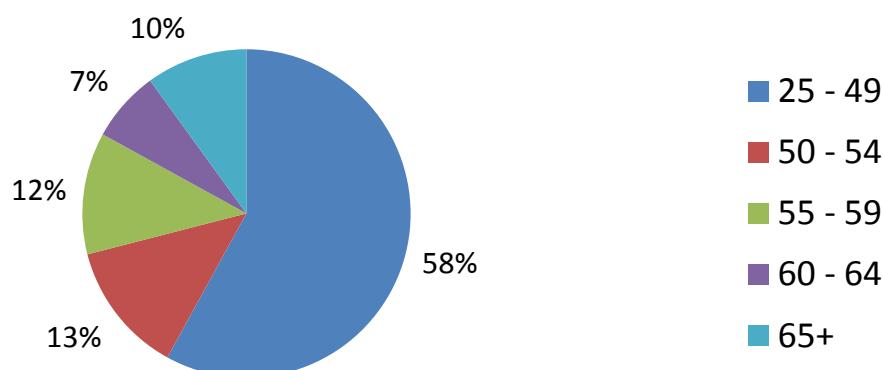
## All Physician Age Statistics - December 2014



## Family Medicine Age Statistics - December 2014 (includes Hospitalists)



## Specialty Medicine Age Statistics - December 2014 (includes GP - EM & GP-Anaesthesia)



## Appendix D

**THE CORPORATION OF THE CITY OF SAULT STE MARIE  
RESERVES, RESERVE FUNDS AND TRUST FUND BALANCES  
AS OF DECEMBER 31, 2013**

	2013	2012	2014		
			Commitments	Reserve Balance	Recommended
<b>RESERVES:</b>					
WORKING FUND	(1,081,007)	(1,081,007)			(1,081,007)
COUNCIL COMMUNICATION	(31,717)	(31,717)			(31,717)
CLERKS HANDBOOKS	(50,209)	(50,209)			(50,209)
EXPERIENCE REFUND	(146,323)	(146,323)			(146,323)
OMERS PREM REDUCTION	(1,754,638)	(1,754,638)			(1,754,638)
CONTINGENCY	(13,337)	(13,337)			(13,337)
ELECTRONIC OFFICE EQUIP	-	(35,000)			-
COMPUTER SOFTWARE	-	(120,000)			-
ELECTION EXPENSE	(180,000)	(120,000)	180,000		(1,143)
H R TRAINING	(1,143)	(1,143)			(76,862)
ASBESTOS ABATEMENT	(101,862)	(64,033)	25,000		(290,985)
FACILITIES MAINTENANCE	(435,678)	(582,619)	144,693		38,000 Asbestos abatement program
ARENAS IMPROVEMENT	(5,428)	(5,428)	5,428		181,820 Various capital from current projects
ARENA EQUIPMENT	(2,100)	(2,100)	2,100		-
JOHN RHODES CENTRE	-	(8,840)			-
ESSAR CEN CAPITAL	(82,305)	(76,162)	69,181		(13,124)
MARINA RESERVE	(252)	(252)			(252)
BONDAR PARK EQUIPMENT	(56,072)	(56,072)			(56,072)
BONDAR PARK IMPROVEMENT	(9,390)	(14,694)			(9,390)
PARKS & RECREATION	(29,172)	(262,793)	107,120		(183,052)
COMMUNITIES IN BLOOM	(4,378)	(4,378)			(4,378)
SKATEBOARD PARK	(12,828)	(12,828)			(12,828)
HISTORIC SITES	7,428	(51)			-
HERITAGE PROPERTY GRNT	(36,550)	(37,550)	(7,428)		(36,550)
HERITAGE DISCOVERY CENTRE	(88,487)	(88,487)	88,487		-
WALK OF FAME	(1,823)	(1,712)			(1,823)
ENGINEERING EQUIPMENT	(368,539)	(356,456)			(368,539)
CIVIC CENTRE EQUIPMENT	(5,884)	(45,884)			(5,884)
CONNECTING LINKS	(242,999)	(242,999)			(242,999)
SEWER/BRIDGE INSPECT	-	(81,248)			-
DRYDEN BRIDGE	-	(10,336)			-
PWT EQUIPMENT	(1,799,069)	(1,768,354)	965,000		(824,069)
WASTE DISPOSAL SITE	(11,728,238)	(10,976,964)	408,527		(11,319,710)
HAZARDOUS WASTE DEPOT	-				-
WINTER CONTROL	(900,000)	(900,000)			(900,000)
TRANSIT GARAGE	(1,917)	(41,512)			(1,917)
TRANSIT EQUIPMENT	(605,761)	(178,538)			(605,761)
PARKING WORKING FUND	(3,614)	(3,614)			(3,614)
FIRE CAPITAL EQUIP	(1,244,728)	(998,386)	830,000		(414,728)
FIRE SPECIAL TRAINING	(19,352)	(17,084)			(19,352)
POLICE CAPITAL	(615,259)	(450,259)			(615,259)
POLICE TRAFFIC SCHOOL	(22,047)	(22,047)			(22,047)
BARRIER REMOVAL	(34,416)	(63,679)	34,400		(16,659)
DAYCARE GRANTS	(16,658)	(12,587)	16,659		0

	2013	2012	Available Commitments Reserve Balance	2014 (37,460)	Recommended
LIBRARY EXPANSION	(377,460)	(302,955)			
EDUCATION DONATION	(500,000)	(500,000)	500,000		
EDUCATIONAL DEVELOPMENT FUNDS	(1,665,304)	(1,379,568)	1,375,404	(289,900)	
SERVICED INDUSTRIAL LAND	(492,908)	(492,908)		(492,908)	
LEIGHS BAY RAIL	(64,900)	(64,900)		(64,900)	
HUB TRAIL	(61,961)	(74,041)	31,539	(30,423)	10,000 Cycling trail signage
MISC CONSTRUCT CARRYOVER	(64,144)	(131,411)		(64,144)	
SEAWALL STUDY	-	(15,000)			
EA NORTH/SACKVILLE/GNR	-	(25,000)			
GREEN COMMITTEE	(117,525)	(117,302)	50,000	(67,526)	
COUNCIL TRAVEL	(10,832)	(10,832)		(10,832)	
COMMUNITY DEVELOP FUND	(20,000)	(20,000)	20,000		
CIP ELECTRICAL	-	(59,383)	51,063	51,063	
CONFERENCES/SPEC EVENT	(22,500)	(22,500)		(22,500)	
BEST FOR KIDS COMMITTEE/CSD	(23,010)	(23,010)		(23,010)	
CELEBRATE 100	(17,160)	(17,160)		(17,160)	
	<u>(25,424,455)</u>	<u>(23,854,297)</u>	<u>4,897,173</u>	<u>(20,527,283)</u>	<u>744,320</u>
RESERVE FUNDS:					
* denotes obligatory reserve funds					
* 5% SUBDIVIDERS	(504,038)	(429,617)		(504,038)	
CEMETERY	(1,269,445)	(939,532)		(1,269,445)	
INDUSTRIAL PARK	(45,238)	(44,748)		(45,238)	
HOSPITAL	(54,376)	(1,126,905)		(544,376)	
* DEVELOPMENT CHARGES	(364,534)	(357,702)		(364,534)	
PROPERTY PURCHASE	(1,243,115)	(1,268,378)		(1,243,115)	
POLICE OWNERS	(10,258)	(10,147)		(10,258)	
SEWAGE PLANTS	(497,484)	(483,821)		(497,484)	
CONNECTING LINK	(94,601)	(93,577)		(94,601)	
PROVINCIAL GAS TAX	(112,942)	(61,183)		(112,942)	
* FEDERAL GAS TAX	(572,990)	(1,436,590)		(572,990)	
WEB PORTAL	(48,234)	(75,094)		(48,234)	
* BLDG PERMIT	(1,174,239)	(1,211,720)		(1,174,239)	
	<u>(6,484,496)</u>	<u>(7,539,026)</u>	<u>(6,481,496)</u>	<u>(6,481,496)</u>	<u>(6,481,496)</u>
TRUST FUNDS:					
CARE & MAINTENANCE	(4,972,901)	(4,828,055)		(4,972,901)	
PRENEED ASSURANCE	(2,202,200)	(2,142,592)		(2,202,200)	
TRANSIT PENSION	(73,375)	(72,575)		(73,375)	
POA TRUST	(2)	(2)		(2)	
HISTORIC SITES	(9,229)	(111,445)		(9,229)	
HERITAGE SSM	(25,056)	(58,270)		(25,056)	
OHRM HOMEOWNER PROGRAM	(19,174)	(20,934)		(19,174)	
CULTURAL ENDOWMENT	(12,661)	(10,000)		(12,661)	
	<u>(7,314,598)</u>	<u>(7,243,873)</u>	<u>(7,314,598)</u>	<u>(7,314,598)</u>	<u>(7,314,598)</u>

**THE CORPORATION OF THE CITY OF SAULT STE. MARIE**  
**BY-LAW 2015-33**

**AGREEMENT:** (I1.1) A by-law to authorize the execution of an Agreement between the City and Jardine Lloyd Thompson Canada Inc. for the renewal of the City's insurance program for a period of three (3) years commencing February 28, 2015 to February 28, 2018.

**THE COUNCIL** of The Corporation of the City of Sault Ste. Marie, pursuant to section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, **ENACTS** as follows:

**1. EXECUTION OF DOCUMENT**

The Mayor and the City Clerk are hereby authorized for and in the name of the Corporation to execute and affix the seal of the Corporation to an Agreement in the form of Schedule "A" attached hereto, dated February 23, 2015 and made between the City and Jardine Lloyd Thompson Canada Inc. for the renewal of the City's insurance program for a period of three (3) years commencing February 28, 2015 to February 28, 2018.

**2. SCHEDULE "A"**

Schedule "A" forms part of this by-law.

**3. EFFECTIVE DATE**

This by-law takes effect on the day of its final passing.

**PASSED** in open Council this 23<sup>rd</sup> day of February, 2015.

---

**MAYOR – CHRISTIAN PROVENZANO**

---

**CITY CLERK – MALCOLM WHITE**

# Schedule "A"



Jardine Lloyd Thompson Canada Inc.

## Municipal Insurance Program Quotation

This summary page and attached pages outlining the coverage, terms and conditions constitute your quotation for insurance coverage. This quotation is based on the risk information submitted by you, the Broker, on behalf of your client, the Named Insured. The terms and conditions quoted may not be exactly as requested in your submission or application and should be reviewed carefully.

JLT Canada Inc. is not responsible for the collection and payment of any applicable taxes that are not specified in this quotation nor for the filing of any regulatory forms or documents. These functions are solely the responsibility of the Broker.

<b>BROKER:</b>	Algoma Insurance Brokers
<b>NAMED INSURED:</b>	Corporation of the City of Sault Ste Marie
<b>POLICY PERIOD:</b>	February 28, 2015 to February 28, 2016 12:01 a.m. Standard Time at the Mailing and/or Notification Address of the Named Insured
<b>TOTAL PREMIUM FOR QUOTATION:</b>	\$1,250,258
<b>COMMISSION PAYABLE TO BROKER:</b>	As per agreement with JLT at reduced Commission of 1.8% on Municipal Liability
<b>PAYMENT TERMS:</b>	Premiums are due and payable to JLT Canada in full within 30 days of binding or the effective date of cover, whichever is later

**THIS QUOTATION IS ONLY VALID UNTIL FEBRUARY 28, 2015**

Date of Issue: February 12, 2015 Revised

Contact Person: Judy Daniels  
Direct phone line: 416-644-2139  
E-mail address: jdaniels@jltcanada.com

Certain portions of this quotation of cover have been provided by JLT acting in an underwriting capacity on behalf of the Insurer who, under a binding authority agreement, has given us authority to quote and confirm insuring terms, conditions and premiums. JLT Canada is not acting as an insurance broker in this instance and is not providing alternative terms or markets for the cover other than as quoted. For covers where JLT does not act in an underwriting capacity nor has a binding authority agreement with the Insurer, coverage cannot be bound with those Insurers unless a request is made to the Insurer and confirmation of coverage is subsequently received by JLT Canada from the Insurer.

**This quotation confers no rights upon the Broker to bind coverage as quoted. Coverage is not bound and in effect until written confirmation of binding is received from JLT Canada Inc.**

## ACCEPTANCE OF MUNICIPAL INSURANCE PROGRAM PROPOSAL

**To:** Jardine Lloyd Thompson Canada  
Public Sector Division  
Suite 800, 55 University Avenue  
Toronto, Ontario M5J 2H7  
Telephone: 416-941-9551 or Toll Free 1-800-268-9189  
Fax: 416-941-9323

**Policy Term**  
**(mm/dd/yy):** February 28, 2015 to February 28, 2016

We agree with the underwriting and claims information submitted and to the terms quoted in the Municipal Insurance Program proposal. This is your authority to proceed with binding cover(s) as outlined in the Municipal Insurance Proposal effective the date(s) noted above. We have also noted below our choice of any optional items in the Insurance Proposal as well as any specific instructions.

Indicated below are our instructions regarding any optional coverages shown in the insurance proposal.

Optional Coverages / Specific Instructions:

Signed on Behalf of Corporation of the City of Sault Ste Marie

**FEB 23 2015**

---

Authorized Signature

---

Date

**Mayor - Christian Provenzano**

---

Please print the name of the person signing above

**FEB 23 2015**

---

Authorized Signature

---

Date

**City Clerk - Malcolm White**

**THE CORPORATION OF THE CITY OF SAULT STE. MARIE**  
**BY-LAW 2015-39**

**AGREEMENT:** (AG19) A by-law to authorize the execution of an agreement between the City and The Lions Club of Sault Ste. Marie, Ontario for the operation and maintenance of Pointe Des Chenes campground for a period of five (5) years.

**THE COUNCIL** of The Corporation of the City of Sault Ste. Marie, pursuant to section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, **ENACTS** as follows:

**1. EXECUTION OF DOCUMENT**

The Mayor and City Clerk are hereby authorized for and in the name of the Corporation to execute and affix the seal of the Corporation to an agreement between the City and The Lions Club of Sault Ste. Marie, Ontario, a copy of which is attached as Schedule "A" hereto. This agreement is for the operation and maintenance of Pointe Des Chenes campground by The Lions Club of Sault Ste. Marie, Ontario for a period of five (5) years.

**2. SCHEDULE "A"**

Schedule "A" forms part of this by-law.

**3. EFFECTIVE DATE**

This by-law takes effect on the day of its final passing.

**PASSED** in open Council this 23<sup>rd</sup> day of February, 2015.

---

**MAYOR – CHRISTIAN PROVENZANO**

---

**CITY CLERK - MALCOLM WHITE**

**Pointe Des Chenes Family RV Park and Campground**

Between      **The Corporation of the City of Sault Ste. Marie**

Hereinafter called the "City"

OF THE FIRST PART

And

**The Lions Club of Sault Ste. Marie, Ontario**

Hereinafter called the "Club"

OF THE SECOND PART

WHEREAS the Club has operated Pointe Des Chenes Family RV Park & Campground for the past 28 years,

NOW THEREFORE this agreement witnesseth that in consideration of the mutual covenants and agreements herein contained and subject to the terms and conditions hereinafter set out the parties agree as follows:

**1. TERM OF THE AGREEMENT**

The term of the agreement shall be for five (5) years commencing March 1, 2015 and terminating March 1, 2020.

**2. SPECIFICATION FOR OPERATION AND MAINTENANCE**

The park and park assets, as listed in #16, remain the property of the City and pertinent legislation and park policies will apply in the maintenance and operation of the park.

**3. CAMPING**

There are approximately 105 campsites (tent/trailer) situated on a 10 acre area. The campground is serviced by the two comfort stations. Each campsite includes a picnic table and fire ring. Electrical hookups are available at approximately 101 of these sites. Twenty Two (22) campsites have 30 amp service, (79) have 15 amp. Service and (4) are tent only.

**4. PICNIC AREA**

There is a day use picnic area abutting the campground, however the operation of this area is not part of this contract. The day use area will continue to be operated by the City's Parks Division staff.

**5. STORE**

The Club may operate a confectionery/snack bar within the park to provide visitors with convenience foods and basic grocery items. The Club may move a portable building (i.e. Chip stand or trailer) into the park, to a location approved by the City's Area Coordinator of Parks.

**6. FIREWOOD**

Firewood is located in the wood yard and available for campers to purchase through the office/store. The Club is required to have firewood available for sale to park customers during the operating season of the agreement.

## **7. OPERATING DATES**

The minimum operating dates of the park will be from mid-May until mid-September annually. Extended operating dates are encouraged.

## **8. REVENUE**

The Club will retain all net profit generated through the operation of Pointe Des Chenes Park including the sale of park permits, firewood, ice, groceries, and sundries.

## **9. INSURANCE AND COLLATERAL AGREEMENTS**

### a) Buildings & Property

The City will maintain insurance coverage on buildings and property under the City's policy. The City will be responsible for the deductible amount under its policy. The Club will be required to provide contents insurance for the office and residence for any contents owned by the club.

### b) Comprehensive General Liability

The Club will be required to provide at its own expense a general liability policy of not less than \$2,000,000.00 inclusive per occurrence for bodily injury, death and damage to property including loss thereof. Such policy of insurance shall include, or have endorsed thereon, a cross liability clause in accordance with the following wordings: "This policy shall name The Corporation of the City of Sault Ste. Marie as an additional insured hereunder in the same manner and to the same extent as if a separate policy had been issued to The Corporation of the City of Sault Ste. Marie but the inclusion herein of more than one insured shall not operate to increase the limits of the insurance company's liability."

## **10. AUDITS OF PERFORMANCE**

Audits of performance will be carried out monthly by the Club. All audits will be recorded and maintained by the Club in order that efficiency and desirable operation of the park are promoted.

Records may be inspected by the City at any time. The Club will be required to provide the City with statistical information on occupancy, campground revenue, firewood sales, concession operations and capital expenditures on an annual basis.

## **11. ADMINISTRATION OF THE CONTRACT**

The City's Area Coordinator of Parks is appointed as administrator of the contract. The person holding this position will be the City contact person with the Club.

## **12. EXPANSION OF FACILITY**

The City is under no obligation to provide for the addition or deletion of facilities in the park. If City funding is required, budget approval is required by City Council.

## **13. WATER TREATMENT PLANT**

Beginning in 2014, the Club is and will continue to absorb a larger percentage of the annual cost for the water treatment maintenance that currently services the day park & campground.

	Lions	City
2014	56%	44%
2015	60%	40%
2016	65%	35%
2017	70%	30%
2018	80%	20%
2019	90%	10%

#### **14. ELECTRICAL UTILITY COST**

The Club is responsible for payment of electrical utility costs for the campground which includes a shared cost of electricity to operate water treatment plant and sentinel lights. The Club requests monthly copies of PUC Invoices be sent to them.

#### **15. REPAIRS & MAINTENANCE OF ELECTRICAL, MECHANICAL & PLUMBING**

The Club will be pay the first \$500.00 for repairs and maintenance of electrical, mechanical and plumbing. Costs over \$500.00 will be shared with the City on a 60/40 basis up to a maximum of \$5,000.00. Any repair or maintenance of electrical, mechanical or plumbing in which the Lions club and the City's equal share would amount to \$5,000 or more will first require approval by the Lions Club Board of Directors to ensure funding is available and that the project will not place the club in a negative financial operating position.

#### **16. BUILDINGS AND EQUIPMENT**

The following buildings and equipment are part of the campground and available for use of the Club. Prior to the opening of the park the Lions Club Campground Committee Chair or designate along with the City shall inspect all buildings and equipment and record an agreement on the condition of such. A copy of this agreement shall be provided to the Lions Club Campground Committee Chair.

At the completion of the contract, the City will expect to receive all items in at least as good condition as when turned over to the Club, reasonable wear and tear excepted. Whenever possible, City Staff should notify the Club of any proposed visits to the park by City Staff so that a Club designate may participate in the said visit.

City assets:

Park Office and Residence, 3 bay garage, Cold Storage Building, South Comfort Stations c/w 4 showers, 4 urinals and 13 flush toilets and 12 washbasins, North Comfort Station c/w 2 urinals, 9 flush toilets, 2 showers and 8 wash basins, Trailer sanitation station, Former pump house building

Club provided assets:

#### **17. ACCOMMODATION**

The Club may occupy the residence commencing two weeks prior to opening each year until two weeks after closing date during the currency of this agreement. It is understood that the office and the attached apartment are not being used by the Club as "residential unit" as defined in the provisions of the *Residential Tenancies Act, 2006*.

#### **18. OPERATION & MAINTENANCE**

a) Buildings - General Maintenance

All buildings must be maintained in a clean safe and sanitary condition at all times to the satisfaction of the City. Repairs must be made immediately. Adequate supplies must be provided in all toilets.

b) Roads, Campsites & Beaches

For the utmost safety, hazardous trees and limbs located in the campground area shall be reported to the City as soon as possible. The City will conduct an annual review of park trees and will mark and remove hazardous trees as soon as possible. The Club will

notify the City of any hazardous trees or limbs that become evident throughout the season. Potholes in roads are to be kept repaired and dust control measures taken as necessary. All litter, debris and hazardous materials must be removed from the shoreline and campground daily.

c) Garbage Pickup & Disposal

The Club hereby agrees to pick up and dispose of all garbage as required. Daily pickup is required. The City will be responsible for disposal arrangements. The Club will reimburse the City for this use of the dumpster on a 50/50 basis. The Club will pick up all litter within the campground.

(d) Signs

Park signs in the campground and on the highway shall be paid by the Club; however the City will supply the signs to ensure compliance with any by-laws or other legal requirements concerning sign use. The signs will either have an opening and closing date of the park on them or covers supplied to go over the signs at season's end to indicate the park is closed for the season. The size of the signs are approximately 18" by 30" with the exception of four larger ones which are approximately 2 feet x 6 feet.

## **19. SAVE HARMLESS**

It is understood and agreed by the parties that no liability shall be incurred by the City or its respective agents or employees for any personal injury to any person attending or camping within the Pointe Des Chenes and that between the City and the Club, the Club must assume full responsibility for any such liability or potential liability that might arise.

## **20. CANCELLATION**

Either party hereto may terminate this contract by providing not less than 6 months written notice of its intention to terminate. It is acknowledged by the parties hereto that the said 6 month notice period must be provided prior to June 30 in any year in which the said party intends to terminate the said contract. Failure to provide proper notice of intent to terminate shall require each party hereto to continue with its performance obligations as set out herein.

In the event that the City exercises its right to early termination as set out in this clause the City shall reimburse the Club for any capital expenditures the Club may have incurred during the term of this contract. Such reimbursement shall be paid upon termination of this contract.

## **21. BREACH OF CONDITIONS**

Any breach of the terms and conditions of this agreement by the Club will constitute an automatic cancellation of this agreement, unless the Club, within 30 days of being notified in writing by the City of the breach, rectifies the breach to the satisfaction of the City, which rectification or cancellation will then be confirmed in writing by the City. This clause is included for the benefit of the City and may be waived at its discretion. Unless waiver is given in writing by the City to the Club, the City will not be deemed to have waived any breach by the Club or any of the terms or conditions of this agreement and a waiver relates only to the specific breach to which it refers and in no way affects or limits the rights of the City with respect to any breach to which it does not refer.

This agreement shall be binding upon the parties hereto, their heirs, administrators, successors and assigns.

IN WITNESS WHEREOF the parties hereto have hereunder caused to be affixed their respective corporate seals attested by the hands of their proper officers.

SIGNED, SEALED AND DELIVERED this 23rd day of February, 2015.

**THE LIONS CLUB OF SAULT STE. MARIE, ONTARIO**

---

PRESIDENT – Lion Carol Russell

---

CO-CHAIRPERSON – Lion Robert Gawne

**THE CORPORATION OF THE CITY OF SAULT STE. MARIE**

---

MAYOR – CHRISTIAN PROVENZANO

---

CITY CLERK – MALCOLM WHITE

**THE CORPORATION OF THE CITY OF SAULT STE. MARIE**  
**BY-LAW 2015-40**

**AGREEMENT:** (E2.1) A by-law to authorize the execution of an Amendment to the contribution agreement between the City and Environment Canada to amend the existing Great Lakes Sustainability Fund contribution agreement for “Urban Stormwater Control and Monitoring”.

**THE COUNCIL** of The Corporation of the City of Sault Ste. Marie, pursuant to section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, **ENACTS** as follows:

**1. EXECUTION OF DOCUMENT**

The Mayor and City Clerk are hereby authorized for and in the name of the Corporation to execute and affix the seal of the Corporation to an Amendment to the contribution agreement dated February 23, 2015 between the City and Environment Canada, a copy of which is attached as Schedule “A” hereto. This agreement is to amend the existing Great Lakes Sustainability Fund contribution agreement for “Urban Stormwater Control and Monitoring”.

**2. SCHEDULE "A"**

Schedule "A" forms part of this by-law.

**3. EFFECTIVE DATE**

This by-law takes effect on the day of its final passing.

**PASSED** in open Council this 23<sup>rd</sup> day of February, 2015.

---

**MAYOR – CHRISTIAN PROVENZANO**

---

**CITY CLERK - MALCOLM WHITE**

## Schedule "A"



Environment  
Canada      Environnement  
Canada

January 19, 2015

Finance ID # 1205286

Amendment # 1

The Corporation of the City of Sault Ste. Marie  
99 Foster Dr., Box 580  
Sault Ste. Marie  
Ontario  
P6A 5X6

Dear Ms. Catherine Taddo:

We wish to inform you that Environment Canada (EC) intends to approve an amendment to the above noted Agreement. Your concurrence, by signing below and returning a copy of this letter to EC within 10 business days, is required for EC to finalize and implement this amendment.

I concur with this Amendment to the contribution agreement with Environment Canada, and represent and warrant that I am duly authorized to approve this amendment on behalf of \_\_\_\_\_

\_\_\_\_\_  
The Corporation of the City of Sault Ste. Marie  
(insert name of organization)

\_\_\_\_\_  
Christian Provenzano, Mayor                          February 23, 2015

\_\_\_\_\_  
Malcolm White, City Clerk                          February 23, 2015  
Name & Title    Signature  
    Date

Should you have any questions about this amendment or require additional information, please contact Mark Chambers (416-739-4791).

Sincerely,

Jon Gee  
Manager, Great Lakes Areas of Concern

FOR EC USE ONLY

Amendment approved and completed:

\_\_\_\_\_  
Name & Title

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Agreement Amendment

This amendment revises the following section(s) of the Agreement:

Change to Section 1 ("Stormwater Outfalls") in Appendix E of the Agreement:

FROM:

- Conduct a review of potential spill response measures for each outfall in year two and three, including:
  - Recommendations for spill response equipment to be used, including any capital upgrades that may be necessary at the outfalls, including safety and cleanup equipment.

TO:

- Conduct a review of potential spill response measures for each outfall in year two and three, including:
  - Recommendations for spill response equipment to be used, including any capital upgrades that may be necessary at the outfalls, including safety and cleanup equipment; and
  - Measures that are proactive and pre-emptive in avoiding spills, including community outreach and education efforts and associated expenses.

ADD:

Change within Appendix B ("Project Cashflow and Environment Canada Funding") to expand "Management and professional service costs" to allow purchase of materials for fostering community outreach/education

**APPENDIX B**  
**Project Cashflow and Environment Canada Funding.**

**2012-2013**

**Project Cashflow**

**Project Funding**

Contributor	Contributor Type	TOTAL		
		Cash	In-Kind	All Funding
Great Lakes Sustainability Fund	Environment Canada	560		560
City of Sault Ste Marie	Municipal Government	1,040	2,000	3,040
Total Project Funding		1,600	2,000	3,600

**Project Costs**

Cost Detail	Cost Category	TOTAL		
		Cash	In-Kind	All Funding
Sample collections and analysis, review and meetings	Management and professional service expenditures	1,600	2,000	3,600
Total Project Funding		1,600	2,000	3,600

**EC Funding**

**Expenditure Detail**

Expenditure Detail	Expenditure Category	TOTAL		
		Cash	In-Kind	All Funding
Sample collections and analysis, review and meetings	Management and professional service expenditures			
Total Expenditures		0	0	560

**2013-2014**

**Project Cashflow**

**Project Funding**

Contributor	Contributor Type	TOTAL		
		Cash	In-Kind	All Funding
Great Lakes Sustainability Fund	Environment Canada	22,287		22,287
City of Sault Ste Marie	Municipal Government	38,818	2,000	40,818
Total Project Funding		61,105	2,000	63,105

**Project Costs**

Cost Detail	Cost Category	TOTAL		
		Cash	In-Kind	All Funding
Sample collections and analysis, review and meetings	Management and professional service expenditures	18,000	2,000	20,000
Sample collection and analysis, operations review and reporting	Contractors	42,574		42,574
Contingency for equipment needs and community outreach/education	Material and supplies expenditures	531		531
Total Project Funding		61,105	2,000	63,105

**EC Funding**

**Expenditure Detail**

Expenditure Detail	Expenditure Category	TOTAL		
		Cash	In-Kind	All Funding
Sample collections and analysis, review and meetings	Management and professional service expenditures	6,300		6,300
Sample collection and analysis, operations review and reporting	Contractors	15,987		15,987
Total Expenditures		22,287	0	22,287

**2014-2015**

**Project Cashflow**

**Project Funding**

Contributor	Contributor Type	TOTAL		
		Cash	In-Kind	All Funding
Great Lakes Sustainability Fund	Environment Canada	24,287		24,287
City of Sault Ste Marie	Municipal Government	40,407	2,000	42,407
Total Project Funding		64,694	2,000	66,694

**Project Costs**

Cost Detail	Cost Category	TOTAL		
		Cash	In-Kind	All Funding
Sample collections and analysis, review and meetings	Management and professional service expenditures	19,200	2,000	21,200
Sample collection and analysis, operations review and reporting	Contractors	41,800		41,800
Contingency for equipment needs and community outreach/education	Material and supplies expenditures	3,694		3,694
Total Project Funding		64,694	2,000	66,694

**EC Funding**

**Expenditure Detail**

Expenditure Detail	Expenditure Category	TOTAL		
		Cash	In-Kind	All Funding
Sample collections and analysis, review and meetings	Management and professional service expenditures	6,720		6,720
sample collection and analysis, operations review and reporting	Contractors	14,067		14,067
Contingency for equipment needs and community outreach/education	Material and supplies expenditures	3,500		3,500
Total Expenditures		24,287	0	24,287

**Grand Total**

**Project Cashflow**

**Project Funding**

Contributor	Contributor Type	Cash	In-Kind	All Funding
Great Lakes Sustainability Fund	Environment Canada	47,134		47,134
City of Sault Ste Marie	Municipal Government	80,265	6,000	86,265
Total Project Funding		127,399	6,000	133,399

**Project Costs**

Cost Detail	Cost Category	Cash	In-Kind	Total
Sample collections and analysis, review and meetings	Management and professional service expenditures	38,800	6,000	44,800
Sample collection and analysis, operations review and reporting	Contractors	84,374		84,374
Contingency for equipment needs and community outreach/education	Material and supplies expenditures	4,225		4,225
Total Project Funding		127,399	6,000	133,399

**EC Funding**

Expenditure Detail	Expenditure Category	Cash	In-Kind	Total
Sample collections and analysis, review and meetings	Management and professional service expenditures	13,580		13,580
Sample collection and analysis, operations review and reporting	Contractors	30,054		30,054
Contingency for equipment needs and community outreach/education	Material and supplies expenditures	3,500		3,500
Total Expenditures		47,134	0	47,134

## **Appendix E**

### **Workplan**

The project will determine what actions should be taken in relation to three distinct areas:

1. ten storm specified sewer outfalls, (see Figure 1 appendix F)
2. the Bellevue Park pond, and
3. the East End Snow Dump

#### **1. Stormwater Outfalls**

This project will conduct monitoring at each of nine outfalls by a recent Stormwater Management Study for the City of Sault Ste. Marie (Figure 1, Appendix F), and determine the current baseline water quality data for possible installation of potential oil/grit separators. One outfall with an existing oil/grit separator will also be monitored as a comparator. Follow-up monitoring is also proposed at the outfall(s) affected by the installation(s) in a complementary project that is outside the scope of work for this agreement.

The specific activities to be undertaken in year 2 and 3 of this project include the following:

- Monitoring program for ten (10) outfalls for eight (8) events per year (June and July) over two years for a total of 16 events at each outfall to include the following, relating to nine (9) potential oil/grit separators, and one (1) existing oil/grit separator:
  - E. Coli once per week
  - Total Suspended Solids (TSS) once per week
  - Total Phosphorus (TP) once every two weeks
  - Total Oil and Grease (O&GT) once per month
  - Biochemical Oxygen Demand (BOD) once per month
  - Total Kjeldahl Nitrogen (TKN) once per month
  - pH once per month
  - Total phenols once per month
  - Particle size distribution
- Collect additional samples during the first flush when possible, which is within one half hour of a rainstorm. It is the intent to collect four (4) first flush events per year.
- Conduct a review potential spill response measures for each outfall in year two and three, including:
  - Recommendations for spill response equipment to be used, including any capital upgrades that may be necessary at the outfalls, including cleanup equipment.
  - Measures that are proactive and pre-emptive in avoiding spills, including community outreach and education efforts and associated expenses.
- On an annual basis, the data will be compiled and an Annual Report prepared and submitted summarizing the test results.

## **2. East End Snow Dump**

This project will conduct monitoring at East End Snow Dump to assess potential impacts to the St Marys River and provide baseline data for a preliminary feasibility study of alternative measures available to mitigate the identified impacts. The specific activities to be undertaken at this site in years 2 and 3 of the project will quantify the potential impacts and provide baseline data for future remedial works, as follows:

- Review operations on site with the City's Department of Public Works and Traffic including a review of geotechnical report(s) for neighbouring property (year two).
- Install 3 groundwater monitoring wells (year two) on site to document groundwater flow patterns and allow sampling of near-surface groundwater quality. Groundwater will be sampled three times per year (spring, summer and fall) for a duration of two years. This will lead to an assessment of potential groundwater discharges to the river and potential impacts from this source.
- Install flow control sampling stations for assessment of snow melt run-off (year two). Snow-melt run-off will be sampled twice per year at two sampling locations each event for a duration of two years. Samples of snow-melt run-off will be obtained and tested at an accredited laboratory for parameters of concern relating to potential impacts to the St. Marys River. Parameters to be tested will include total suspended solids, metals, sodium, chlorides, and oil/grease. Sample waters will also be subjected to a particle size distribution analysis for possible future use in the design of any solids removal remedial works.
- Sample and analyse sediments remaining on site following snow-melt. This will provide baseline information for potential contaminants in run-off to the St. Marys River. Soils will be sampled once per year following snow-melt at three sample locations per year for a period of two years.
- Compile all the above data to quantify and assess the impacts to the river from this site (year three).
- Provide an assessment of remedial measures to mitigate identified impacts to the river and report (year three).

### **Bellevue Park Pond**

The Bellevue Park pond has been identified as a source of contaminants to the St. Marys River, particularly in relation to bacteriological inputs. This project will obtain baseline monitoring data to quantify the potential impairment and provide information to assess potential mitigating actions.

The specific activities to be undertaken as part of this project include the following:

- Review of available information and meetings with regulatory agencies (year two);
- Detailed site survey and Base Plan preparation to analyze the hydraulics of the pond and document the findings. (year two);
- Sampling and analysis of inlet, pond and outlet waters for parameters of concern including total coliforms, e-coli, total solids, nutrients, metals, and oil/grease (year two). Sampling will include four sampling events with four samples per event, all in one year for a total of 16 samples.
- This will provide baseline information for the assessment of any remedial activities (year three) and to measure the performance of any implemented works (future project);
- Assessment of remedial actions to improve water quality and level of water within the pond. An assessment of potential remedial actions to address water quality, water level and aesthetic issues associated with the site will be conducted (year three).

**THE CORPORATION OF THE CITY OF SAULT STE. MARIE**

**BY-LAW 2015-41**

**PARKING:** (P3.9(3)) A by-law to appoint Municipal Law Enforcement Officers to enforce the by-laws on various private properties and to amend Schedule "A" to By-law 90-305.

**THE COUNCIL** of the Corporation of the City of Sault Ste. Marie pursuant to Section 15 of the *Police Services Act*, R.S.O. 1990, chapter P.15 and amendments thereto, **ENACTS** as follows:

**1. SCHEDULE "A" TO BY-LAW 90-305 AMENDED**

Schedule "A" to By-law 90-305 is hereby repealed and replaced with Schedule "A" attached to this by-law.

**2. EFFECTIVE DATE**

This by-law takes effect on the day of its final passing.

**PASSED** in open Council this 23<sup>rd</sup> day of February, 2015.

---

**MAYOR – CHRISTIAN PROVENZANO**

---

**CITY CLERK – MALCOLM WHITE**

## SCHEDULE "A"

<u>BADGE</u>	<u>SPECIAL CONSTABLE</u>	<u>EMPLOYER</u>	<u>PROPERTY LOCATION</u>
26	MCLEOD,ROD	FLEMING & SMITH	378 QUEEN ST E.& APARTMENTS & 27 KING ST.
30	RENDELL,VERN	ALGOMA CENTRAL PROP	STATION MALL/STATION 49/STATION TOWER
109	SEBECIC,JOHN,LUDVIC	DENTAL BUILDING	946 &216 QUEEN ST E
138	CAIN,JOSEPH	CITY OF SAULT STE MARIE BELLUVUE MARINA & BONDAR MARINE & PARK	
151	PARR,DEREK,RAYMOND	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
153	TASSONE,VITO	TASSONE CHIROPRACTIC	673 QUEEN ST E
163	BUMBACCO,PHILIP	ALGOMA CENTRAL PROP	STATION MALL/STATION 49/STATION TOWER
178	D'AGOSTINI,ROSEMARY	DR. RAYMOND CHO	71 & 131 EAST ST / 129 SECOND LINE W
191	BROWN,STEVEN	SEP.SCHOOL BOARD	SEPARTE SCHOOL BOARD PROPERTIES
196	MCGRAYNE, LAURA LEE	ALGOMA CENTRAL PROP	STATION MALL/STATION 49/STATION TOWER
241	COGHILL,ROBIN	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST. MARY'S PAPTER/ELGIN TOWER/APH/556 QUEEN ST
248	CHAN,GILBERT	DR. RAYMOND CHO	71 & 131 EAST ST / 129 SECOND LINE W
249	CHO,LINDA	DR. RAYMOND CHO	71 & 131 EAST ST / 129 SECOND LINE W
253	TRAVSON,TERRANCE (TERRY)	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
267	CORBIERE,JOHN (TED)	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
276	SMITH,DENNIS,ROBERT	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
314	AASEN,PAULINE	STANDARD PARKING	ONTARIO REALITY CORP/ ROBERTA BONDAR PLACE / 426 QUEEN ST E
321	LORENZO,COREY	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
334	MILLER,BRADLEY	CITY OF SAULT STE MARIE TRANSIT SERVICE AREAS	
335	GROSSO,DONALD	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
344	HARPE,KEN	HOLIDAY INN.	HOLIDAY INN (BAY ST. )
346	HAZLETON,MARGARET	CITY OF SAULT STE MARIE BELLUVUE MARINA & BONDAR MARINE & PARK	
366	TROINOW,VICTORIA	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
369	CARMICHAEL,MARY	ON.FINNISH HOME. ASS.	FINNISH REST HOME
370	HANSEN,LOUIS	ON.FINNISH HOME. ASS.	FINNISH REST HOME
372	BENOIT,ALAIN	ON.FINNISH HOME. ASS.	FINNISH REST HOME
374	TAAVEL,ANDRE	CITY OF SAULT STE MARIE TRANSIT SERVICE AREAS	
376	FINN,ROBERT	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
391	MCLEOD,HEATHER,	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
397	LAFRAMBOISE,YVON	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
400	JOHNSON,MICHAEL	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
406	LEBLANC,SERGE	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH
410	POYNER,HAROLD	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
411	MOORE,ROBERT	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
420	FABIANO,ANTONIO	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
430	RUSCIO,DOMINIC	MAJOR CONTR.	DAY'S INN HOTEL
431	DICKSON,SHANE	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
435	TRAMBLE,GEORGE	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
439	LAMBERT,JOSEPH	STANDARD PARKING	ONTARIO REALITY CORP/ ROBERTA BONDAR PLACE / 426 QUEEN ST E
441	WILSON,DAVID	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
442	MACLENNAN,MATTHEW	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
443	MARCIL,MARK	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
446	HALLIDAY,DANA	SAULT COLLEGE	SAULT COLLEGE
450	CHAPMAN,DANIEL	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
456	CONEYBEARE,KEVIN	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
459	SLEEMAN,RAY	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
460	BOUGIE,DAN	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
463	MORIN ALEX	CORPS OF COMM.	
464	DITOMMASO,RYAN	2220917 ONT. INC.	489 BAY ST / 535 QUEEN ST E
465	DELAVALLE,DON	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
468	AGNEW,BRENDAN	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
470	WOOLEY,NATHANIEL	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
474	MANCUSO,ANTHONY	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
480	TELFORD,JASON	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
481	FORD,BRIAN	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
484	MCLEOD,VIRGINIA	CITY OF SAULT STE MARIE BELLUVUE MARINA & BONDAR MARINE & PARK	
485	ARMSTRONG,KENNETH	CITY OF SAULT STE MARIE BELLUVUE MARINA & BONDAR MARINE & PARK	
486	LONGO,NADIA	GT.NORTHERN RETIREME!	760 GREAT NORTHERN RD.
487	ROUGEAU,MARISA	GT.NORTHERN RETIREME!	760 GREAT NORTHERN RD.
488	LEFLEUR,MARILYN	GT.NORTHERN RETIREME!	760 GREAT NORTHERN RD.
489	MCQUEEN,WANDA	GT.NORTHERN RETIREME!	760 GREAT NORTHERN RD.
490	LUXTON,JEFF	GT.NORTHERN RETIREME!	760 GREAT NORTHERN RD.
492	PARKER,MICHAEL	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
493	BROWN,FRASER	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
501	QUARRELL,ROBERT	PANORMIC PROPERTIES	621,627,631 MACDONALD AVE
502	HAMEL,CHRIS	PANORMIC PROPERTIES	621,627,631 MACDONALD AVE

503	HAMEL,MELANIE	PANORMIC PROPERTIES	621,627,631 MACDONALD AVE
512	DIMMA,JUSTIN	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
516	GAY,JAMES	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
517	ROY,BRENDA	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
522	MCNAMA,STEVEN	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
523	MCBRIDE,GUY	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH
524	DUNLOP,DAVID	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
526	JOHNSTON,CORY	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
537	GRAWBARGER,KYLE	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
541	DIMMA, WILLIAM	ALGOMA CENTRAL PROP	STATION MALL/STATION 49/STATION TOWER
542	RALPH,NANCY	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
543	HAYNES,MICHAEL	ALGOMA CENTRAL PROP	STATION MALL/STATION 49/STATION TOWER
547	LIEPA,MATTHEW	ALGOMA CENTRAL PROP	STATION MALL/STATION 49/STATION TOWER
548	CARON,ROGER	CITY OF SAULT STE MARIE 99 FOSTER DR. (CIVIC CENTRE)	
549	WICKSTROM,IZAAK	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
552	SENEGAL,DANIEL	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
556	ARCAND,SCOTT	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
562	DEARING,DEVIN	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
565	LISCUMB,GERALD	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
566	SWEET,WILLARD	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
568	PICK,DENNY	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
569	ZEPPA,JACOB	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
571	BRESNAHAN,JAMES	SSM.AIRPORT CORP.	AIRPORT - SUPERVISOR OF BUSINESS OPERATIONS
573	RHODES,LILIAN	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
574	BOUCHARD,DARYL	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
575	LALODE,DANIEL	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
576	HULL,BRADLEY	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
580	CHARETTE,ROBERT	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
581	PAVONI,JORDAN	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
582	MAITLAND,DARLA	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
583	MADIGAN,LORRI-ANNE	PANORMIC PROPERTIES	621,627,631 MACDONALD AVE
587	GIULETTI,MATTHEW	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
589	TWENTYMAN,DANIEL	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
590	WARMINGTON,KAYLA	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
594	PELOSO,MATT	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
596	WAGNER,TODD	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
598	COULL,ROBIN	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
599	BUMBACCO,CARL	CB HOME INSTALLATIONS	321 JOHN ST./342 346 ST GEORGE'S AVE
601	HART,JASON	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
602	GREENWOOD,LESLIE	GREENWOODS HARDWAR	41 ALBERT ST W
603	LAMMING,DAVE	CITY OF SAULT STE MARIE TRANSIT SERVICE AREAS	
604	WAGNER,MATTHEW	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
606	SHEWLFELT,CHERYL	PANORMIC PROPERTIES	621,627,631 MACDONALD AVE
607	FROST,CHRISTIAN	CITY OF SAULT STE MARIE TRANSIT SERVICE AREAS	
608	ALISAT,THOMAS	ALISATS RUST PROOFING	24 QUEEN ST W
609	ROBINSON,SHAWN	ALISATS RUST PROOFING	24 QUEEN ST W
610	GREGANITI,BARETT	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
611	MIZZI,PRESTON	WENDY'S	1 QUEEN ST W
612	HURLEY,BRITTNEY	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
613	SULLIVAN,SHAWN	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
614	AGBONIFO,OSAMUDIAMEN	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
616	LUCIER,RUSSELL	NORPROP SECURITY	REGENT PRO./DAVEY HOME/GHC/QUEENSCENTRE/ST MARY'S PAPER/ELGIN TOWER/APH/556 QUEEN ST
617	SAVAGE,SAMUEL	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
618	DEWING,SANDRA	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
619	BERTO,DEBORAH	GATEVIEW REALTY INC.	304 -310 ALBERT ST E/420 A & B MCNABB /47 PRINCESS
620	FERA,NORMAN	CITY OF SAULT STE MARIE JOHN RHODES/ESSAR CENTRE/MCMEEKEN CENTRE/NORTHERN COMMUNITY CENTRE	
621	MARINELLI,CATHERINE	CITY OF SAULT STE MARIE JOHN RHODES/ESSAR CENTRE/MCMEEKEN CENTRE/NORTHERN COMMUNITY CENTRE	
622	PROULX,PATRICK	CITY OF SAULT STE MARIE JOHN RHODES/ESSAR CENTRE/MCMEEKEN CENTRE/NORTHERN COMMUNITY CENTRE	
623	AYTON,BENJAMIN	CITY OF SAULT STE MARIE JOHN RHODES/ESSAR CENTRE/MCMEEKEN CENTRE/NORTHERN COMMUNITY CENTRE	
624	MIHAILIU,JASON	CITY OF SAULT STE MARIE JOHN RHODES/ESSAR CENTRE/MCMEEKEN CENTRE/NORTHERN COMMUNITY CENTRE	
625	ENGLISH,DANIEL	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
626	CHARRON,ROBERT	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
627	BARKER,WMILLIAM	STANDARD PARKING	ONTARIO REALITY CORP/ ROBERTA BONDAR PLACE / 426 QUEEN ST E
628	DEWAR,JEFFREY	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
629	COMPEAU,SYDNEY	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
630	LAFRAMBOISE,CORY	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
631	MACMILLAN,TYLER	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
632	SAVAGE,MATT	G4S SECURE SOLUTIONS	SAULT AIRPORT / HOSPITAL
633	HILL,MICHAEL	NORTH EAST SECURITY	S.COLLEGE/A.UNIVERSITY & RES./ESSAR CENTRE/GHC/CAMBRIAN MALL/TENARIS
634	TIBBLES,COLLEEN	STANDARD PARKING	ONTARIO REALITY CORP/ ROBERTA BONDAR PLACE / 426 QUEEN ST E

**THE CORPORATION OF THE CITY OF SAULT STE. MARIE**  
**BY-LAW 2015-42**

**TRAFFIC:** (P3.3) A by-law to amend Schedules “A and D” of Traffic By-law 77-200.

**THE COUNCIL** of The Corporation of the City of Sault Ste. Marie, pursuant to the provisions of section 10 of the *Municipal Act, 2001*, S.O., 2001 c.25 and amendments thereto, **ENACTS** as follows:

**1. SCHEDULE “A” OF BY-LAW 77-200 AMENDED**

Schedule “A” of By-law 77-200 is amended by adding the following:

<b><u>STREET</u></b>	<b><u>SIDE</u></b>	<b><u>FROM</u></b>	<b><u>TO</u></b>	<b><u>PROHIBITED TIMES OR DAYS</u></b>
“Doncaster Road	north	Prentice Avenue	196m west of Prentice Ave.	0830 hrs. to 0930 hrs. 1500 hrs. to 1600 hrs. Monday to Friday September 1 <sup>st</sup> to June 30 <sup>th</sup> holidays exempt”.

**2. SCHEDULE “D” OF BY-LAW 77-200 AMENDED**

Schedule “D” of By-law 77-200 is amended by adding the following:

<b><u>STREET</u></b>	<b><u>SIDE</u></b>	<b><u>BETWEEN</u></b>	<b><u>PROHIBITED TIMES OR DAYS</u></b>
“Doncaster Road	north	Prentice Ave. and 196m west of Prentice Ave.	0830 hrs. to 0930 hrs. 1500 hrs. to 1600 hrs. Monday to Friday September 1 <sup>st</sup> to June 30 <sup>th</sup> holidays exempt”.

3. This by-law takes effect on the day of its final passing.

**PASSED** in open Council this 23<sup>rd</sup> day of February, 2015.

---

**MAYOR – CHRISTIAN PROVENZANO**

---

**CITY CLERK – MALCOLM WHITE**

da LEGAL\STAFF\LEGAL\PUBLIC WORKS & TRANSPORTATION\P3.3 TRAFFIC\BY-LAWS\2015\2015-42 AMEND SCHEDULE A and D.DOC