



OPERATIONS COMMITTEE AGENDA

Operations Committee Meeting
Monday, May 5, 2014
Tom Davies Square

COUNCILLOR JACQUES BARBEAU, CHAIR

Claude Berthiaume, Vice-Chair

6:00 p.m. or 30 minutes
after the conclusion of the
Community Services Meeting,
whichever is earlier.

OPERATIONS COMMITTEE MEETING
COMMITTEE ROOM C-11

Council and Committee Meetings are accessible. For more information regarding accessibility,
please call 3-1-1 or email clerks@greatersudbury.ca.

DECLARATIONS OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF

CONSENT AGENDA

(For the purpose of convenience and for expediting meetings, matters of business of repetitive or routine nature are included in the Consent Agenda, and all such matters of business contained in the Consent Agenda are voted on collectively.

A particular matter of business may be singled out from the Consent Agenda for debate or for a separate vote upon the request of any Councillor. In the case of a separate vote, the excluded matter of business is severed from the Consent Agenda, and only the remaining matters of business contained in the Consent Agenda are voted on collectively.

Each and every matter of business contained in the Consent Agenda is recorded separately in the minutes of the meeting.)

CORRESPONDENCE FOR INFORMATION ONLY

- C-1. Report dated March 31, 2014 from the General Manager of Infrastructure Services regarding Water Wastewater Tactical Plan. **5 - 22**
(FOR INFORMATION ONLY)

(Greater Sudbury Water and Wastewater Services has recently published its Tactical Plan for 2013 – 2015. The Service makes use of the tactical strategic planning process as a management tool to help focus our efforts and energy to meet our organizational performance goals. The Tactical Plan defines a series of practical and achievable steps to progress toward achieving our goals over the next three years. The Key Focus Areas, Goals, and Tactics in the Plan are consistent with the Infrastructure Services Department strategic direction and also align with the CGS corporate strategic priorities.)

- C-2. Report dated March 21, 2014 from the General Manager of Infrastructure Services regarding Winter Control Operations Update - February 2014. **23 - 25**
(FOR INFORMATION ONLY)

(This report provides the projected financial results for winter control operations during the month of February 2014.)

- C-3. Report dated April 24, 2014 from the General Manager of Infrastructure Services regarding Winter Control Operations Update - March 2014. **26 - 28**
(FOR INFORMATION ONLY)

(This report provides the projected financial results for winter control operations during the month of March 2014.)

- C-4. Report dated April 23, 2014 from the General Manager of Infrastructure Services regarding Emergency Forcemain Replacement - Capreol Lagoons. **29 - 29**
(FOR INFORMATION ONLY)

(The forcemain inside the lagoon has ruptured and requires replacement. The phosphorous levels within the lagoon are being impacted as a result of short-circuiting the primary treatment process within the lagoon, requiring that a portion of the forcemain be replaced.)

REGULAR AGENDA

MANAGERS' REPORTS

- R-1. Report dated April 4, 2014 from the General Manager of Infrastructure Services regarding Preventative Plumbing Subsidy Program. **30 - 37**
(RECOMMENDATION PREPARED)
(This report requests the extension of the previously approved Preventative Plumbing Subsidy Program for 2014 and 2015 from existing funding. Funding for this program will come from the previously approved program reserves.)
- R-2. Report dated March 26, 2014 from the General Manager of Infrastructure Services regarding Crosswalk Request - Elgin Street at Shaughnessy Street. **38 - 42**
(RECOMMENDATION PREPARED)
(The City of Greater Sudbury received a petition requesting a crosswalk be provided at the intersection of Elgin Street and Shaughnessy Street. This report presents staff's findings and provides a recommendation for the requested crosswalk.)
- R-3. Report dated March 26, 2014 from the General Manager of Infrastructure Services regarding School Zone Speed Limits. **43 - 45**
(RECOMMENDATION PREPARED)
(At the January 20, 2014 Operations Committee meeting, City staff was directed to implement the remaining school zone speed limits by the end of 2014. This report details the proposed speed limit reductions.)
- R-4. Report dated March 26, 2014 from the General Manager of Infrastructure Services regarding Southview Drive, West of Kelly Lake Road - Curve Warning Flashing Beacons. **46 - 48**
(RECOMMENDATION PREPARED)
(This report is in response to a request from the Ward 1 Councillor to install a yellow flashing light on the speed reduction sign on the curve on Southview Drive, just west of Kelly Lake Road.)
- R-5. Report dated March 26, 2014 from the General Manager of Infrastructure Services regarding Bouchard Street at Marcel Street All-Way Stop. **49 - 85**
(RECOMMENDATION PREPARED)
(This report recommends the removal the all-way stop at the intersection of Bouchard Street and Marcel Street.)

ADDENDUM

CIVIC PETITIONS

QUESTION PERIOD AND ANNOUNCEMENTS

NOTICES OF MOTION

ADJOURNMENT

BRIGITTE SOBUSH, DEPUTY CITY CLERK

For Information Only

Water Wastewater Tactical Plan

Presented To: Operations Committee

Presented: Monday, May 05, 2014

Report Date: Monday, Mar 31, 2014

Type: Correspondence for Information Only

Recommendation

For Information Only

Background

History & Context:

Water & Wastewater Services needs to proactively get ahead of change in a variety of subject areas. Our community relies on our Division to keep pace with our ever changing work environment and always be prepared to consistently deliver our services effectively and efficiently. To be prepared, we need to build plans that articulate priorities, and define a strategic direction of Goals & Tactics that help us get ready for the future, and position our Division to deliver services effectively in an ever-changing environment.

Water & Wastewater Services was established in 2005 during a time of significant change both internally within Greater Sudbury but also across Ontario in the Water & Wastewater Sector. Since that time, we have been required to deal with significant ongoing change and still continue to be influenced heavily by regulatory and economic changes among others.

Early on in the development of Water / Wastewater Services we were confronted with these challenges and soon realized the need to develop a strategically aligned and prioritized strategic tactical plan to help to quickly and meaningfully improve our service in a number of important areas to meet those challenges.

Consequently, we adopted the use of Tactical Strategic Planning to help prioritize and align our efforts and develop a solid foundation of targeted programs and projects based largely on the condition of our assets. Our Leadership team has been active in establishing programs to better align with an asset management approach that will help to meet the challenges involved with operating and renewing aging infrastructure assets while keeping costs in line. Using risk analysis and increased levels of asset condition information are beneficial in demonstrating increased transparency and accountability and connecting needs and expenditures.

Plan Development Process:

In early 2013, Water & Wastewater Services completed a facilitated tactical strategic planning session. The purpose of the session was to re-assess our situation, confirm our direction and define the course for the next three years.

Signed By

Report Prepared By

Nick Benkovich
Director of Water/Wastewater Services
Digitally Signed Mar 31, 14

Division Review

Nick Benkovich
Director of Water/Wastewater Services
Digitally Signed Mar 31, 14

Recommended by the Department

Tony Cecutti
General Manager of Infrastructure Services
Digitally Signed Mar 31, 14

Recommended by the C.A.O.

Doug Nadorozny
Chief Administrative Officer
Digitally Signed Mar 31, 14

From that session, the Water and Wastewater Management Team has prepared this Tactical Strategic Plan to accomplish three key goals:

- To more clearly link the mission of the Division to the important work we all do every day;
- To guide the choices we make and the results we deliver to our Community;
- To deliver on our commitment to our customers of an excellent product and excellent service;

During the planning process the planning group considered a number of internal and external realities such as industry standards and trends, regulatory changes, economic pressures, and increased customer expectations.

Through our efforts we confirmed that our mission was still relevant and sound however our Key Focus Areas, Goals, and Tactics needed updating to reflect recent changes whether from progress, regulatory framework, or technology and economic conditions.

The current version (attached) is the third of those Tactical Plans and the first conducted using an external facilitator. This plan is intended to guide the Service during the period from 2013 – 2015 and to be updated thereafter.

Next Steps – Implementation:

Now that we've identified the Key Focus Areas, Goals, & Tactics that delineate our ideas of a plan for progress, the real work of making things happen has begun. We've already completed some pre-planning and budget allocations and started work in support of priority initiatives to help lay the foundation for transforming ideas into reality.

We've developed an action plan that identifies the project leads, schedule, resources required, and feedback mechanisms for each of the initiatives identified in the Tactical Plan. This is where those who are responsible for implementing the Tactics actually get involved and start the steps to deliver progress.

Monitoring & Communicating Progress:

As time goes on, we plan to monitor and communicate progress to stakeholders on a regular basis through the life of the Plan. As a 'living document', it is possible new priorities emerge or that some lower priority initiatives may be modified or even fall to the wayside as time and resource constraints become evident during the implementation process.

In accomplishing our plan we are also supporting the Infrastructure Services Departmental strategic initiatives and the City's corporate strategic priorities because our plan is aligned with those important documents.

Hopefully taking the time and actions to follow through on the implementation steps will maximize the opportunities to progress toward the Water & Wastewater Services mission:

"The City of Greater Sudbury's Water and Wastewater Services Division is committed to providing its customers with safe, reliable, and environmentally responsible municipal water and wastewater services with a sustainable, cost effective approach".

2013 - 2015

WATER AND WASTEWATER

TACTICAL PLAN

2013 - 2015

WATER AND WASTEWATER

TACTICAL PLAN

OUR MISSION

"The City of Greater Sudbury's Water and Wastewater Services Division is committed to providing its customers with safe, reliable, and environmentally responsible municipal water and wastewater services with a sustainable, cost effective approach".

As we grow older we realize that change is an inevitable reality of life and that it is a fact of everyday life that things will change. In the context of our work world, change has the potential to negatively impact our ability to deliver critical services to the community if we do not effectively manage change.

Water & Wastewater Services needs to work pro-actively to get ahead of change. Our community relies on all of us to keep pace with our ever changing work environment and always be prepared to consistently deliver our services. To be prepared, we need to build plans that articulate priorities, and define a strategic direction of goals & tactics that help us get ready for the future, and position our Division to deliver services effectively in an ever-changing environment.

Greater Sudbury Water and Wastewater Services uses the tactical strategic planning process as a management tool to help focus our efforts and energy to meet our organizational performance goals. The Water and Wastewater Management Team has prepared this Tactical Strategic Plan to accomplish three key goals:

- to more clearly link the mission of the Division, to the important work we all do every day
- to guide the choices we make and the results we deliver to our community
- to deliver on our commitment to our customers an excellent product and excellent service

This plan defines a series of practical and achievable steps to progress toward achieving our goals over the next three years. The Key Focus Areas, Goals, and Tactics in our Plan align with the CGS corporate strategic priorities and are also consistent with the Infrastructure Services Department strategic direction provided by Tony Cecutti, our General Manager.

The plan recognizes a number of internal and external realities such as industry standards and trends, regulatory changes, economic pressures, and increased customer expectations.

Our Leadership Team hopes that the 2013 Tactical Plan will be a valuable tool helping our service to identify and explore opportunities to improve our operational programs to ensure that Greater Sudbury is provided with safe and dependable water supply and wastewater is effectively collected and properly treated in a sustainable cost effective manner.

The Water / Wastewater Services Leadership Team:



Nick Benkovich, Director



Brad Johns, W/WW Facilities Engineer



Wendi Mannerow, W/WW Engineer



Paul Javor, Supervisor III, Distribution & Collection



Gary Comin/Supervisor III Water Treatment



Mike Jensen, Supervisor III, Wastewater Treatment



David Brouse, Compliance & Operational Support Supervisor



Akli Ben-Anteur, W/WW Projects Engineer

2013 - 2015
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LETTER FROM THE GENERAL MANAGER

Dear Customers, Stakeholders, and W/WW Employees,

In early 2013, Water & Wastewater Services completed a facilitated tactical strategic planning session. The purpose of the session was to re-assess our situation, confirm our direction and define our course for the next three years.

Through our efforts we confirmed that our mission was still relevant and sound, however our key focus areas, goals, and tactics needed updating to reflect changes from our progress, regulatory framework, technology and economic conditions.

Progressing toward our goals and continually striving to improve the services we deliver to the community require the best from everyone on the W/WW Services team of competent, dedicated, and responsible employees.

Everyone at Water and Wastewater Services is committed to enhancing the quality of life in Greater Sudbury by providing the strong foundation needed for a healthy and prosperous community and playing a key role in public health and safety and environmental stewardship.

Sincerely,

A handwritten signature in black ink that reads "Tony Cecutti". The signature is fluid and cursive, with a stylized "i" at the end.

Tony Cecutti P. Eng., FEC
General Manager of Infrastructure Services

2013 - 2015 WATER AND WASTEWATER TACTICAL PLAN

HISTORY & CONTEXT

Water & Wastewater Services was established in 2005 during a time of significant change both internally within Greater Sudbury but also across Ontario in the Water & Wastewater Sector. Since that time we have been required to deal with significant ongoing change and still continue to be influenced heavily by regulatory and economic changes among others.

Early on in the development of Water / Wastewater Services we were confronted with these change related challenges and soon realized the need to develop a strategically aligned and prioritized strategic plan to help to quickly and meaningfully improve our service in a number of important areas to meet those challenges.

Consequently we adopted the use of Tactical Strategic Planning to help prioritize and align our efforts and develop a solid foundation of targeted programs and projects based largely on the condition of our assets. Our Leadership team has been active in establishing programs to better align to an asset management approach that will help to meet the challenges involved with operating and renewing aging infrastructure assets while keeping costs in line. Using risk analysis and increased levels of asset condition information are beneficial in demonstrating increased transparency and accountability and strengthening the tie between needs and expenditures.

This is the third of those Tactical plans and our first conducted with an external facilitator. This plan is intended to guide the Service during the 2013 – 2015 period and is intended to be updated thereafter.



2013 - 2015
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TACTICAL PLAN



KEY FOCUS AREAS GOALS AND RELATED TACTICS FOR THE NEXT THREE YEARS (2013-2015)

HEALTH & SAFETY:

Enhance current safety practice to reduce risk for all W/WW employees

- Complete improvements to protocols for illegal entry alarms, confined space entries, traffic control, fall protection, hot work permits and trench rescue
- Improve depot and facility security systems
- Develop field audit procedures to confirm compliance with recommended protocols, documentation and legislated requirements
- Shoring, trench rescue, implement compliance programs for shoring and working alone. Improve near miss and incident reporting and tracking systems

Comply with Health and Safety legislation

- Find a way to provide improved depot facilities for showers and lockers for all required employees
- Assess and prioritize health and safety gaps and outsource resources to develop, implement and train employees for all safety aspects of their work
- Enhance the contractor safety and orientation program for all W/WW contractors
- Integrate a risk management approach for new health and safety program elements

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EMPLOYEE & TEAM DEVELOPMENT:

Develop programs to improve staff accountability and commitment at both management and operational level

- Annual performance reviews of all employees
- Review opportunity for employee incentive programs such as talent management
- Consistently disseminate information from monthly staff meetings to workers

Organizational culture built on pride, ownership and an entrepreneurial attitude

- Follow-through on employee feedback survey priority issues
- Enhance employee input opportunities in capital project development
- Reinforce positive efforts via the employee recognition program (WISE)
- Review potential for Ian Hill's internet training for employees (ISD)
- Arrange presentation and / or information to develop pride in our work

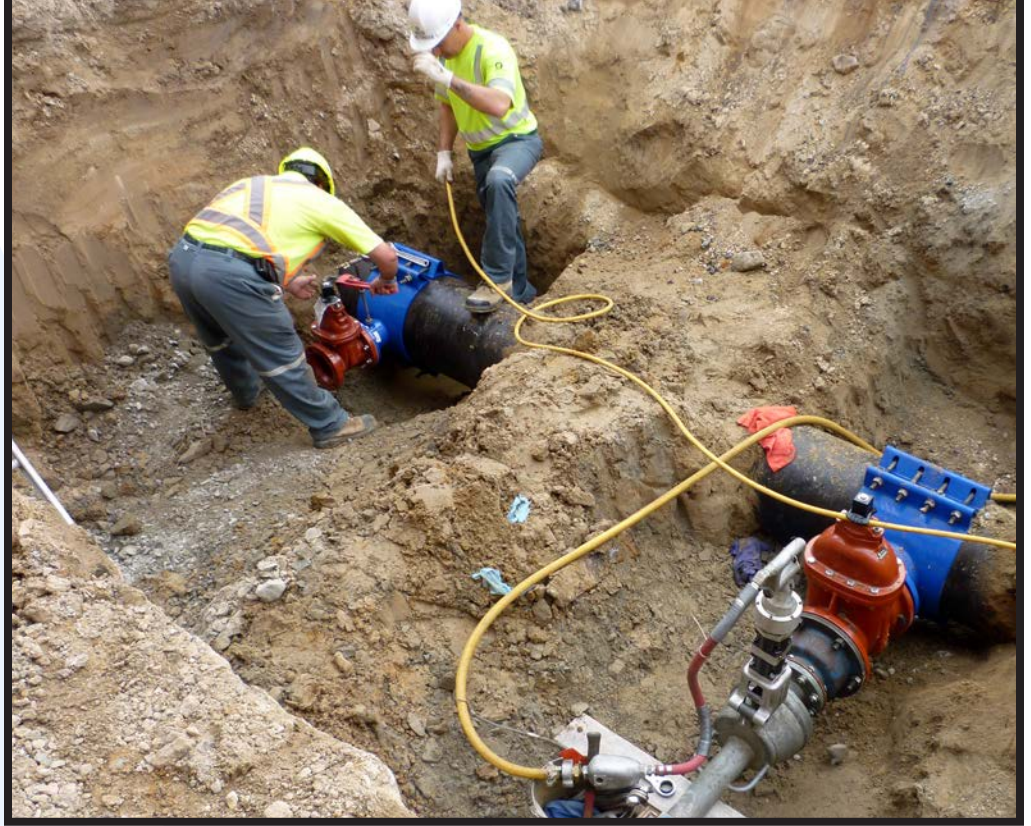
Review Water/Waste Water organization alignment

- Staff to review opportunities to re-tool organization around new programs and technologies
- Review associated job descriptions

Expand staff training programs

- Involve key personnel in conferences and advancement training opportunities (leadership training, conflict resolution training, etc.)
- Encourage participation in talent management program (HR)
- Develop On-the-Job-training program to define and develop plant and role specific competencies

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FINANCIAL SUSTAINABILITY:

Review and enhance asset management program

- Complete the W/WW master plan
- Review options for asset management plan framework (i.e. OWWA recommended) and confirm as CGS W/WW template
- Enhance Risk Based Capital Program prioritization tools
- Integrate condition and replacement programs
- Capital priorities influenced by operational consequence and condition based indicators

Improve financial control for W/WW operational and capital expenses

- Continue process of refining operational accounts and allocations 2014
- Continue to focus efforts on non-revenue water and inflow / infiltration reduction
- Finalize capital project monthly status report format and procedure to provide routine monthly project status reports to General Manager.

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BUSINESS STRATEGIES:

Complete capital project management methodology (e.g. training, processes, tools, software)

- Document present and new capital project design and delivery using objective logic- involving internal stakeholders (i.e. finance, W/WW, R/T, engineering) to develop consistent project delivery methodology
- Develop a consultants procedural manual for CGS projects
- Produce monthly project key performance indicators using dashboard format to track project progress
- Obtain software to enable consistent use of methodology for project delivery

Identify opportunities to develop and/or improve divisional, departmental and inter-departmental business processes

- Develop a “Management of Change” business process and policy
- List and prioritize business processes with greatest potential cost-benefit or risk reduction benefits
- Participate in the National Water & Waste Water Benchmarking Initiative

Review and update bylaws

- Inventory W/WW bylaws and prioritize list for review based on risk reduction benefits
- Complete updates and approvals for amended bylaws

Expand quality management systems (e.g. ISO, DWQMS)

- Migrate QMS focus to wastewater treatment and collection areas
- Migrate QMS for general ISD usage across the department

Improve productivity and efficiencies from technological investments

- Leverage SCADA system capability to generate new process and operational efficiencies

2013 - 2015 WATER AND WASTEWATER TACTICAL PLAN



INFRASTRUCTURE STABILITY:

Define and document service levels

- Develop list of activities and programs that require defined service levels, and include resourcing plan (i.e. staff, budget)
- Measure ability to comply with service levels
- Develop and recommend Council endorsement for service levels

Enhance prevention programs to comply with environmental legislation

- Enhance the source control program:
 - a) Septage receiving
 - b) Hauled liquid waste
 - c) Staffing (succession & populating)
- Develop and implement a W/WW efficiency plan

Build operational resiliency (e.g. capital priorities)

- Operational expenses: review I/I in downtown sanitary sewer system as part of sewer use bylaw review
- Emergency management plans (support, practice, inter-departmental)
- Complete the As-Built project
- Develop fleet renewal strategy

Support operations work programs via necessary enabling business applications

- Maintenance / Work Management: Implement CityWorks phases 1,2 and 3
- Supplier / Contractor Performance: Review Contractor & Supplier Management solutions
- Project Coordination: Envista
- SCADA: Development of SCADA master plan
- Leverage “mobile” applications to generate efficiencies

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COMMUNICATIONS AND MARKETING:

Market and promote W/WW Services

- Develop brand strategy (e.g. new mediums)
 - create promotional graphics on key messages
 - add messaging to mobile equipment/fleet (i.e. vector)
 - retain marketing consultant to develop comprehensive report and plan

Improve Internal Communication Processs (e.g. Council)

- Highlight good news and project updates
- Offer to hold annual open house for SMT and Council

2013 - 2015 WATER AND WASTEWATER TACTICAL PLAN

NEXT STEPS

Now that we've identified our Key Focus Areas, Goals, & Tactics that delineate our ideas of a plan for progress, the real work of making things happen begins. We've already completed some pre-planning and budget allocations in support of priority initiatives to help lay the foundation for transforming ideas into reality.

We've also developed an action plan that identifies the project leads, schedule, resources required, and feedback mechanisms for each of the initiatives identified in the Tactical Plan. This is where those who will be responsible for implementing the Tactics actually get involved and start the steps to deliver progress.

As time goes on, we plan to monitor and communicate progress on a regular basis through the life of the Plan. During the implementation process some lower priority initiatives may be modified or even fall to the wayside as time and resource constraints become evident.

In accomplishing our plan we are also supporting the Infrastructure Services Departmental strategic initiatives and the city's corporate strategic priorities because our plan is aligned with those important documents.

Hopefully taking the time and actions to follow through on the implementation steps will maximize the opportunities to progress toward the Water & Wastewater Services mission.



Key Focus Area # 1- Health & Safety

Tactic Number	Tactic	Action Steps	Accountability		Resources		Target Completion Date
			Project Manager	Others	Funding	Time	

Goal 1.1- Enhance current safety practice to reduce risk for all W/WW employees

1.1.1	Complete illegal entry alarm, confined space, traffic control, fall protection, hot work permits and trench rescue	New protocols in place	GC	CB			2 nd quarter 2014
1.1.2	Improve depot and facility security systems	New systems in place	BJ	BA			2 nd quarter 2014
1.1.3	Develop field audit procedures to audit compliance with recommended protocols, documentation and legislated requirements	Audit results	CS	NB			2 nd quarter 2014
1.1.4	Shoring, trench rescue, implement compliance programs for shoring and working alone. Improve near miss and incident reporting and tracking systems	New protocols in place	GC	CB			

Goal 1.2- Comply to Health and Safety Legislation

1.2.1	Assess and prioritize health and safety gaps and outsource resources to develop, implement and train employees	Improved Program in place	Section Heads				2014
1.2.2	Develop a mandatory contractor safety and orientation program for all W/WW contractors	New Program in place	Section Heads				2015
1.2.3	Use a risk management approach to prioritize health and safety program development	Safety Risk assessments in place	Section Heads				2014
1.2.4	Provide improved depot facilities for showers and lockers for all required employees	Centralized depot system in place with improved occupational health facilities	CB	NB			2014

Key Focus Area #2 - Financial Sustainability

Goal 2.1- Review and enhance asset management program

2.1.1	Complete the W/WW Master Plan	Completed W/WW Master Plan document	AB				31-Dec-14
2.1.2	Integrate condition and replacement programs into 2014 Capital Budget	2014 Capital Program	PJ				30-Sep-13
2.1.3	Review options for detailed asset management plan framework and confirm as CGS W/WW template	Complete detailed Asset Management Plan	BJ	NB			Oct-14
2.1.4	Enhance and use capital prioritization tool	Risk assessment based prioritization tool	NB	Staff Engineers			Aug-13
2.1.5	Capital priorities influenced by operational consequence/condition based indicators	Prioritized Capital list linked to Key Performance Indicators	NB	Staff Engineers			2017

Goal 2.2- Improve financial control for W/WW operational and capital expenses

2.2.1	Complete refinement of all operational accounts for the 2014 budget cycle	All accounts done	DD				30-Sep-13
2.2.2	Continue to focus efforts on non-revenue water reduction	5% reduction from April 2013	PJ	DB			31-Dec-14
2.2.3	Finalize capital project monthly status report format and procedure. Provide monthly status reports to General Manager.	Produce Monthly status reports to GM	NB	AB			Jan-14

Key Focus Area # 3- Infrastructure stability

Tactic Number	Tactic	Action Steps	Accountability		Resources		Target Completion Date
			Project Manager	Others	Funding	Time	

Goal 3.1- Define and document service levels

3.1.1	List of activities and define service levels, including resourcing plan (i.e. staff, budget)	List & plan for Distribution & Collection activities with achievable goals	CB	PJ			2014
3.1.2	Get council endorsement for service levels	achieve Council endorsement	CB	PJ			2014
3.1.3	Measure ability to comply with service levels	KPI's showing compliance with service levels	CB	PJ			2015

Goal 3.2- Enhance prevention programs to comply with environmental legislation

3.2.1	Enhance the source control program: a) Septage Receiving b) Hauled Liquid Waste c) Backflow / Cross Connection d) Staffing (succession & populating)	a) Ability to receive b) Ability to receive c) Amend Bylaw & develop program d) Redundancy/replacement ability	DB DB DB DB	MJ NB NB NB			2015 Dependent on biosolids
3.2.2	Develop and implement a W/WW efficiency plan	Reduction in water and waste water volumes	PJ				2015

Goal 3.3- Build operational resiliency (e.g. capital priorities)

3.3.1	Operational expenses: review I/I in downtown sanitary sewer system as part of sewer use bylaw review	I/I study included in 2014 capital budget review	PJ	DB			2014 capital budget
3.3.2	Continuously improve emergency management preparations (support, practice, inter-departmental)	Mitigate negative impacts to environment, citizens and infrastructure at conclusion of emergency	NB	JD			ongoing
3.3.3	Complete the As-Built project	Usable, accurate As-builts	WM				2015
3.3.4	Develop fleet renewal strategy	Report complete					2014

Goal 3.4- Support operations work programs via necessary enabling business applications

3.4.1	Complete Implement of CityWorks CMMS	Replacement of ANTERO	MJ				2014-18
3.4.2	Select & Implement Contractor & Supplier Management solution	Output Reports of Contractor / Supplier compliance	NB				2014
3.4.3	Development of SCADA master plan	Project Report	BJ				2015
3.4.4	Envista	Monitoring projects in right of way	TC	PC			2015
3.4.5	Locates Software (mobile)	System configured, installed, & active	PJ	NB			
3.4.6	Automated Vehicle Locating	All W/WW vehicles equipped	NB	Section Heads			2nd quarter 2014

Key Focus Area # 4- Communications and Marketing

Tactic Number	Tactic	Action Steps	Accountability		Resources		Target Completion Date
			Project Manager	Others	Funding	Time	
Goal 4.1- Market and promote W/WW Services							
4.1.1	Develop brand strategy (e.g. new mediums); create promotional graphics on key messages; add messaging on mobile equipment / fleet (vector); retain marketing consultant to develop comprehensive report & plan.	1 video annually	CB, DB	NB, Corp Comm & Earthcare			2015
Goal 4.2- Improve internal communication processes (e.g. Council)							
4.2.1	Share good news and project updates	Media / communication bulletins	NB	Staff Engs, Section Heads			Ongoing
4.2.2	Offer to Hold W/WW Services annual open house for public, SMT, and Council	Participation rate	NB, Corp Comm & Earthcare	Staff Engs, Section Heads			2014 Ongoing
Goal 4.3- Community education and outreach							
4.3.1	Improve information availability on City website	# of site visits	CB	JD			2015
4.3.2	Develop 5 education and outreach tools each year	# of new tools developed	DB, Corp Comm & Earthcare	NB / JB			2016
4.3.3	Improve Education & Outreach initiatives	Attend 3 promotional events	DB, Corp Comm & Earthcare	NB / JB			2014 -15
4.3.3	Enhance information available at 3-1-1	# of business process questions added	JD	PJ			2014
4.3.4	Develop recruitment strategy in cooperation with colleges/schools including local schools	# of recruits from colleges	CB	NB			2015

Key Focus Area # 5- Employee & Team Development

Tactic Number	Tactic	Action Steps	Accountability		Resources		Target Completion Date
			Project Manager	Others	Funding	Time	

Goal 5.1- Develop programs to improve staff accountability and commitment at both management and operational level

5.1.1	Annual reviews of all employees	Annual reviews completed for 100% of employees	Section Heads	Supervisors			Annually
5.1.2	Review opportunity for employee incentive program	Incentive program initiative reviewed	TC				Jan 2015
5.1.3	Disseminate information from monthly staff meetings to workers	Minutes of safety minutes	Section Heads	Supervisors			Monthly

Goal 5.2- Organizational culture built on pride, ownership and an entrepreneurial attitude

5.2.1	Follow-up on employee feedback survey	Follow up and implement recommendations of results	NB	Section Heads, Supervisors			Jan-14
5.2.2	Presentation/information re pride in Your Work	Leadership in Changing Times (Ian Hill) presentation - offsite management and presentations to all	WM				Fall 2013
5.2.3	Involve staff in capital project development	Meet with staff onsite and involve in design and onsite meetings	Staff Engineers				Ongoing
5.2.4	Employee recognition program (WISE)	Recognize outstanding staff with WISE awards	ALL				Ongoing
5.2.5	Review potential for Ian Hill's internet training for employees	Discuss with directors and make go/no go decision.	WM	GM, ISD Directors			Fall 2013

Goal 5.3- Review Water/Waste Water organization alignment

5.3.1	Supervisors to review opportunities for job efficiencies within section	Review done, plan developed, submit to GM/SMT for approval	Section Heads	NB			Dec-13
5.3.2	Review associated job descriptions	Review done, plan developed, submit to GM/SMT for approval	Section Heads	NB			Dec-13
5.3.2	Expand shift presence in key areas	Additional shiftwork implemented	NB	Section Heads, Supervisors			Jan-14

Goal 5.4- Expand staff training programs

5.4.1	Involve key personnel in conferences and advancement training opportunities (leadership training, conflict resolution training, etc)	additional staff & employees trained	NB				Dec-14
5.4.2	Encourage participation in talent management program (HR)	Program begins implementation (HR)	NB	HR			Dec-14
5.4.3	Expand & formalize On-the-Job-training programs	Program developed	MJ	Section Heads, NB			Dec-17

Key Focus Area # 6- Business Strategies

Tactic Number	Tactic	Action Steps	Accountability		Resources		Target Completion Date
			Project Manager	Others	Funding	Time	

Goal 6.1- Complete capital project management methodology (e.g. training, tools, software, process)

6.1.1	Document, present new capital project design and delivery using objective logic- involving stakeholders i.e. finance, W/WW, R/T, engineering (Aim- develop consistent project delivery methodology)	# of process reviews completed	BJ	Staff Engineers, NB			Schedule sessions late 2013 or 2014
6.1.2	Produce monthly project key performance indicators using dashboard format to track project progress	Review of monthly KPI delivery	AB	Staff Engineers, NB			2 nd quarter 2013
6.1.3	Obtain software to enable consistent use of methodology for project delivery		AB	BJ			After 6.1.1 & 6.1.2 are complete
6.1.4	Develop a consultants procedural manual for CGS projects	Complete manual for review and implementation	BJ	Staff Engineers			2015

Goal 6.2- Identify opportunities to develop and/or improve divisional, departmental and inter-departmental business processes

6.2.1	Develop a "Management of Change" business process and policy	Implement Change control processes	NB	JD			2014
6.2.2	Identify and prioritize business processes with greatest potential (ROI) or risk reduction benefit	Develop list for improvement	NB	Section Heads			4 th quarter 2013
6.2.3	Participate in the National Water & Wastewater Benchmarking Initiative	Active membership in program: attendance at seminars and forum	NB	Section Heads & Staff Engineers			2013-14 data cycle

Goal 6.3- Review and update bylaws

6.3.1	Inventory W/WW bylaws and prioritize list for review - identify & assign primary or lead on review	Completed, prioritized list	DB	AB			By Q1 2014
6.3.2	Complete updates and approvals for amended bylaws	Revised bylaws	DB	AB			By 2014

Goal 6.4- Expand quality management systems (e.g. ISO, DWQMS)

6.4.1	Migrate QMS focus to CGS WW and Distribution / Collection areas	New / additional elements and system in place	DB	JD			Start during 2014
6.4.2	Migrate QMS for ISD usage across the department		TC	NB, DB, JD			Start During 2014

Goal 6.5- Improve productivity and efficiencies from technological investments

6.5.1	Leverage SCADA system capability to generate process and operational efficiencies	Savings- by comparison to baseline monitoring	CS	BJ			Start During 2014
6.5.2	Leverage "mobile" applications to generate efficiencies & Prioritize implementation projects	Increased value for money	CB	PJ			Start During 2014

For Information Only

Winter Control Operations Update - February 2014

Presented To: Operations Committee

Presented: Monday, May 05, 2014

Report Date: Friday, Mar 21, 2014

Type: Correspondence for
Information Only

Recommendation

For Information Only

Background

This report provides the financial results of the 2014 winter roads operations up to and including the month of February 2014. As depicted in Table 1 below, the result for the month of February is a \$126,000 under expenditure. As well, for the first two months of 2014 winter maintenance activities are approximately \$900,000 over budget. Certain estimates were necessary to account for outstanding invoices.

Signed By

Report Prepared By

Shawn Turner
Manager of Financial & Support
Services

Digitally Signed Mar 21, 14

Division Review

David Shelsted
Director of Roads & Transportation
Services

Digitally Signed Mar 21, 14

Recommended by the Department

Tony Cecutti
General Manager of Infrastructure
Services

Digitally Signed Mar 21, 14

Recommended by the C.A.O.

Doug Nadorozny
Chief Administrative Officer
Digitally Signed Mar 24, 14

**Table 1
2014 Winter Control Summary**

28-Feb-14							
	Annual Budget	February			2014 YTD		
		Budget	Actual	Variance	Budget	Actual	Variance
Administration & Supervision	2,242,597	364,162	360,365	3,797	743,113	738,914	4,199
Sanding/Salting/Plowing	6,599,616	1,249,657	1,228,585	21,072	2,741,271	3,750,923	(1,009,652)
Snow Removal	670,513	209,498	399,777	(190,279)	388,301	690,320	(302,019)
Sidewalk Maintenance	858,493	214,624	121,403	93,221	386,320	331,617	54,703
Winter Ditching/Spring Cleanup	1,456,862	179,854	116,855	62,999	234,780	162,395	72,385
Miscellaneous Winter Roads	4,092,874	615,740	480,189	135,551	1,168,932	917,322	251,610
TOTAL	15,920,955	2,833,535	2,707,173	126,362	5,662,717	6,591,491	(928,774)

February Winter Control Activities

As shown in Table 2 below, the City received approximately 22 centimetres or 42 percent of the average February snowfall. In addition, the City received 3.6 millimetres of rain. On 15 of the 28 days in February, the mean temperature was below -15 C, requiring crews to apply sand frequently to combat the icy conditions. There was 1 general callout (city crews and contractors) spanning two days during the month of February, in addition to some partial callouts.

The large volumes of January snow put further pressure on snow removal and snow plowing budgets in February. Snow removal was over budget by approximately \$190,000 as crews continued to remove snow to improve site lines and improve road width where warranted. Savings in sanding/salting/plowing as a result of the lower than average February snowfall were mitigated as large scale road grading was required to remove unsafe rutting on many local streets. Favourable budget variances were incurred in sidewalk maintenance, winter ditching/spring cleanup and the miscellaneous winter roads category. Overall, February winter control maintenance resulted in a \$126,000 under expenditure.

**TABLE 2
2014 Snowfall**

	Jan.	Feb.	Mar.	Apr.	Nov.	Dec.	Total
Normal 30 year avg. (cm)	60	52	35	17	30	63	257
2014 Actual (cm)	92	22					
% of Actual to Normal	153	42					

Summary

In summary, winter roads operations for February 2014 resulted in an under expenditure of approximately \$126,000. For the first two months of 2014, winter roads operations are approximately \$900,000 over budget. As per the Reserve and Reserve Fund policy, any annual over expenditure in winter roads operations may be funded from the Roads Winter Control Reserve Fund.

Request for Decision

Winter Control Operations Update - March 2014

Presented To: Operations Committee

Presented: Monday, May 05, 2014

Report Date Thursday, Apr 24, 2014

Type: Correspondence for
Information Only

Recommendation

For Information Only

Background

Please see attached report.

Signed By

Report Prepared By

Shawn Turner
Manager of Financial & Support
Services

Digitally Signed Apr 24, 14

Division Review

David Shelsted
Director of Roads & Transportation
Services

Digitally Signed Apr 24, 14

Recommended by the Department

Tony Cecutti
General Manager of Infrastructure
Services

Digitally Signed Apr 29, 14

Recommended by the C.A.O.

Doug Nadorozny
Chief Administrative Officer

Digitally Signed Apr 29, 14

BACKGROUND

This report provides the financial results of the 2014 winter roads operations up to and including the month of March 2014. As depicted in Table 1 below, the result for the month of March is a \$577,000 over expenditure. As well, for the first three months of 2014 winter maintenance activities are approximately \$1,505,000 over budget. Certain estimates were necessary to account for outstanding invoices.

Table 1
2014 Winter Control Summary
31-Mar-14

	Annual Budget	March			2014 YTD		
		Budget	Actual	Variance	Budget	Actual	Variance
Administration & Supervision	2,242,597	378,950	407,059	(28,109)	1,122,063	1,145,973	(23,910)
Sanding/Salting/Plowing	6,599,616	1,071,648	1,618,211	(546,563)	3,812,919	5,369,134	(1,556,215)
Snow Removal	670,513	146,019	136,692	9,327	534,320	827,012	(292,692)
Sidewalk Maintenance	858,493	137,359	203,935	(66,576)	523,679	535,552	(11,873)
Winter Ditching/Spring Cleanup	1,456,862	410,727	458,005	(47,278)	645,507	620,400	25,107
Miscellaneous Winter Roads	4,092,874	668,632	566,132	102,500	1,837,562	1,483,454	354,108
TOTAL	15,920,955	2,813,335	3,390,034	(576,699)	8,476,050	9,981,525	(1,505,475)

March Winter Control Activities

As shown in Table 2 below, the City received approximately 60 centimetres or 171 percent of the average March snowfall. There were 3 general callouts (city crews and contractors) during the month of March, in addition to some partial callouts.

The significant snow fall in March led to an over expenditure in sanding/salting/plowing of approximately \$550,000. As well, sidewalk maintenance incurred a \$67,000 over expenditure. The large volumes of snow in 2014 put further pressure on winter ditching and spring clean up in order to prepare for the spring thaw. These over expenditures were partially offset by an under expenditure in the miscellaneous winter roads categories.

<p>TABLE 2 2014 Snowfall</p>							
	Jan.	Feb.	Mar.	Apr.	Nov.	Dec.	Total
Normal 30 year avg. (cm)	60	52	35	17	30	63	257
2014 Actual (cm)	92	22	60				
% of Actual to Normal	153	42	171				

Summary

In summary, winter roads operations for March 2014 resulted in an over expenditure of approximately \$577,000. For the first three months of 2014, winter roads operations are approximately \$1,505,000 over budget. As per the Reserve and Reserve Fund policy, any annual over expenditure in winter roads operations may be funded from the Roads Winter Control Reserve Fund.

For Information Only

Emergency Forcemain Replacement - Capreol Lagoons

Presented To: Operations Committee

Presented: Monday, May 05, 2014

Report Date: Wednesday, Apr 23, 2014

Type: Correspondence for Information Only

Recommendation

For information only

Finance Implications

The construction costs (R.M. Belanger Ltd.): \$240,900.

The engineering costs (RV Anderson Limited): \$ 56,520.

The total costs, excluding HST: \$296,420.

The funds were allocated from the 2012 Lift Stations Upgrades capital account.

Background

The Capreol Lagoons were constructed in 1964 to service the community of Capreol. During the winter of 2013, Wastewater staff observed that the submerged raw sewage discharge pipe had ruptured. The rupture short-circuited the intended raw sewage discharge location, resulting in the inefficient operation of the lagoons' treatment process.

Staff proceeded with the emergency repair of the forcemain and retained. RV Anderson Limited, who was the most knowledgeable consultant for this facility, to complete the design, contract administration and inspection. The tender to complete the repair to the forcemain and associated works was awarded to R. M. Belanger Ltd. (contract No. ENG13-42) through the tendering process. The work has been completed and the associated costs have been identified. As per the CGS Purchasing By-law 2006-270, Section 22-(2), this report is written to inform Council of staff's actions. There is some minor work to be completed once the conditions are suitable and are included in the overall costs listed under "Financial Implications".

Signed By

Report Prepared By

Brad Johns
Facilities Engineer
Digitally Signed Apr 23, 14

Division Review

Nick Benkovich
Director of Water/Wastewater Services
Digitally Signed Apr 23, 14

Recommended by the Department

Tony Cecutti
General Manager of Infrastructure Services
Digitally Signed Apr 29, 14

Recommended by the C.A.O.

Doug Nadorozny
Chief Administrative Officer
Digitally Signed Apr 29, 14

Presented To:	Operations Committee
Presented:	Monday, May 05, 2014
Report Date	Friday, Apr 04, 2014
Type:	Managers' Reports

Request for Decision

Preventative Plumbing Subsidy Program

Recommendation

THAT the City of Greater Sudbury support and approve the 2014 -2015 extension of the Preventative Plumbing Subsidy Program as outlined in this report and that the previously allocated funding be approved for the years 2014 & 2015 from the Capital Financing Reserve Fund - Wastewater.

Financial Implications

If approved, there are no budget implications as funding for the 2014 and 2015 program will be provided for from the Capital Financing Reserve Fund - Wastewater. Remaining funds from the previous subsidy program allocations were placed in reserves at the end of the original program. Staff will review the community participation rate of the Program and provide a recommendation to Council for future funding allocations.

Signed By

Report Prepared By

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Digitally Signed Apr 4, 14

Division Review

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Recommended by the Department

Tony Cecutti
General Manager of Infrastructure
Services
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Recommended by the C.A.O.

Doug Nadorozny
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Background

At the Policy Committee Meeting of February 24, 2010 Council passed Resolution 2010-87 directing staff “to more fully develop a Preventative Plumbing Subsidy Program which, if approved and funded, would be effective retroactively to July 25th, 2009 for those who experienced flooding due to the July 26, 2009 storm and subsequently to residents in flood regions, as identified in the policy; and to identify a potential funding source for the program, and present the draft policy to Council at its April 21, 2010 Policy Committee meeting”.

At the July 14th, 2010 Policy Committee meeting, Staff provided a status update on the progress of the development of the Preventative Plumbing Subsidy Program and approval was given to utilize \$700,000 (\$350,000 per year) for this program. In 2010 through 2012 approximately \$55,000 of the approved funding was utilized towards communication and subsidy payments. The unspent funds were credited back to the reserve fund.

Staff believes that there are a number of residents who did not qualify for the previously approved subsidy. These applicants are waiting for approval of this report which proposes to change the application process and allow **all existing** residential property owners a chance to participate in the program.

This report satisfies Council's request for an update on the subsidy program and explains the staff recommendations to the program for future applications.

Key Improvements

- **To re-establish** the Preventive Plumbing Subsidy Program using the funds from the Capital Financing Reserve Fund - Wastewater;
- **To extend the eligibility requirements to all existing residential** property owners in the CGS;
- To streamline the application approval process in order to **encourage** wider participation
- To continue with the City's initiative in **reducing inflow and infiltration**

OBJECTIVES OF PROGRAM

The objective of the proposed program is to broaden the financial assistance available to **all residential** property owners in the City of Greater Sudbury that have experienced or could potentially experience flooding of their basements as a result of sewer system backups during wet weather events. The proposed financial assistance would assist those property owners in the cost of disconnecting their weeping tile system / rain gutters from the sanitary sewer system and install a sump pit/pump that would discharge the collected ground water to the outside area of their property and/or install a backwater valve in their sanitary sewer discharge line to help minimize the risk of a potential sewer backup into their residence. This initiative will also help reduce the inflow and infiltration of storm water into the sanitary sewer system.

ELIGIBILITY CRITERIA (amended)

The proposed program will be available to **all existing residential** property owners whose properties are located in the City of Greater Sudbury and connected to the CGS sanitary sewer system.

The application for assistance will be approved on a first-come, first-served basis and will continue until all approved annual funding has been exhausted. Once the approved funding levels have been spent, any future applications will be placed on the next year's list on a similar first-come, first-served priority basis.

As a condition of approval for financial assistance from the City, property owners must provide a disclaimer absolving the City of Greater Sudbury from any responsibility as a result of the property owner installing any protective devices and/or discharged water adversely impacting on any abutting property either private or public (municipal sidewalks, laneways, roadways, sewers). The waiver will be registered on the title of each property.

FINANCIAL CONTRIBUTION

It is recommended that the City follow the same funding formula previously approved by Council in 2010. A total contribution of \$300,000 would be appropriate for 2014 and 2015. If successful, staff will recommend that funding for the program in 2016 and the future funding would be included in future operating budget proposals.

IMPLEMENTATION AND ADMINISTRATION

Residents interested in applying for the subsidy would contact either Water/Wastewater staff at Frobisher St., or any Community Service Centre to receive an information package and application form or simply download the same information and application from the City's website.

The property owner would obtain three quotes from licensed plumbing contractors. The property owner will be permitted to hire any of the three contractors but the subsidy amount will be based on the lowest quote. A confirmation letter will then be issued to the property owner/applicant, indicating the amount of the **pre-approved subsidy**.

Subsidy values will remain as previously approved by Council at 50% of the total cost for installation as follows:

- a maximum of \$1,000 for installation of a backwater valve;
- a maximum of \$1,250 for the installation of a sump pit/pump;
- and a maximum of \$2,250 for the installation of the combination installation of a backwater and sump pit/pump.

Upon receiving the letter of approval from the City, the owner/applicant will then have up to and including six (6) months from the date of the letter to obtain a plumbing permit and complete the work and submit all the required documentation. If the required information is not received by the City within the allotted six (6) months the property owner will be required to re-apply for the subsidy program. Upon successful completion of the work and it has been confirmed complete according to all relevant codes (Building Code) the subsidy payment will be made to the property owner.

It is anticipated that the program can be implemented upon approval from Council. Regular information and update reports will be provided to Council during the implementation period.

CONCLUSION

That the City of Greater Sudbury support and approve the extension of the Preventative Plumbing Subsidy Program as outlined in this report and that it be funded from the Capital Financing Reserve Fund - Wastewater.

Request for Decision

Preventative Plumbing Subsidy Program

Presented To: Policy Committee

Presented: Wednesday, Jul 14, 2010

Report Date Thursday, Jul 08, 2010

Type: Presentations

Recommendation

That Council support and approve the Preventative Plumbing Subsidy Program as outlined in this report and that funding Option 2(a) be approved from the 2010 and 2011 Wastewater Capital Annual Rehabilitation Program.

Finance Implications

If approved, the funding for 2010 and 2011 will come from the Wastewater Capital Sewer Annual Rehabilitation Program. For 2012 and future years, staff will review the success of the Program and provide a recommendation to Council to possibly fund the Program in future years from an increase in the wastewater operating budgets. This will allow the entire approved Capital Budget to be used for necessary wastewater capital programs.

BACKGROUND

At the Policy Committee Meeting of February 24, 2010, Council passed Resolution 2010-87 directing Staff "to more fully develop a Preventative Plumbing Subsidy Program which, if approved and funded, would be effective retroactive to July 25th, 2009 for those who experienced flooding due to the July 26, 2009 storm and subsequently to residents residing in flood regions, as identified in the draft policy; and to identify a potential funding source for the program, and present the draft policy to Council at its April 21, 2010 Policy Committee meeting".

At the April 21, 2010 Policy Committee meeting, Staff provided a status/update on the progress of the development of the Preventative Plumbing Subsidy Program.

Following the Policy Committee meeting of February 24, 2010, Staff worked diligently in reviewing the best practices and similar experiences of other Canadian cities that have developed similar Flood Prevention Assistance Programs (FPAP). Table 1 (attached) summarizes the similar programs provided in five (5) Canadian municipalities including St. Catharines, Ottawa, Peterborough, Edmonton and Toronto.

INTRODUCTION

Signed By

Report Prepared By

Akli Ben-Anteur, P.Eng.

Project Engineer

Digitally Signed Jul 8, 10

Division Review

Nick Benkovich

Director of Water/Wastewater Services

Digitally Signed Jul 8, 10

Recommended by the Department

Greg Clausen, P.Eng.

General Manager of Infrastructure Services

Digitally Signed Jul 8, 10

Recommended by the C.A.O.

Doug Nadorozny

Chief Administrative Officer

Digitally Signed Jul 8, 10

This report provides a description of the key elements of the proposed program which are as follows:

- Objectives of the program
- Eligibility criteria
- Financing
- Implementation schedule and administration of program

OBJECTIVES OF PROGRAM

The objective of the program is to provide financial assistance to property owners that have either experienced or could potentially experience flooding of their basements as a result of sewer system backups during times of heavy precipitation. The financial assistance would be to assist the property owners in the cost of disconnecting their weeping tile system from the sanitary sewer system and installing a sump pump that would discharge rain water outside the property and/or installing a backwater valve in the sanitary discharge line to minimize the potential for the municipal sewer from backing up into their residence.

ELIGIBILITY CRITERIA

This program will be available to all property owners whose properties are located in low-lying areas that have either experienced or could potentially experience flooding of their basements as a result of a municipal sewer system backup.

The priority for financial assistance will be to property owners that have experienced flooding in 2009 followed by those that experienced flooding earlier and then those that could potentially experience flooding.

The application for assistance will be approved on a first come-first served basis and will continue until all approved annual funding has been exhausted. Once the approved funding levels have been spent, any future applications will be placed on the next year's list on a similar first come-first served priority basis. It is envisaged that there will be a large number of applications in the first several years of the program and that the numbers of applications will decrease with time.

As a condition of approval for financial assistance the property homeowner, as part of the application, must provide a disclaimer absolving the City of any responsibility as a result of the property owner installing any protective devices and/or discharged water adversely impacting on any abutting property either private and/or municipal infrastructure including sidewalks, laneways and roadways. The waiver will be registered on the title of each property.

FINANCIAL CONTRIBUTION

It is recommended that the City follow a funding formula consistent with the other municipalities with similar programs.

It is proposed that funding be provided for property owners wishing to install protective devices such as either sump pump and/or backwater valve. A condition for receiving funding assistance is that the property owners would have to comply with the program requirements as outlined in **Appendix A** attached.

Table 2 (attached) outlines several funding options including annual percentage of contribution and contributions from the Wastewater Annual Capital Rehabilitation Program Budget for 2010 and 2011 Council's consideration.

Option 1 does not suggest financial assistance but only an education program to educate residents on how to protect their basement from flooding. Options 2(a), 2(b), 3(a) and 3(b) indicate either 50 or 75 percent contributions and an annual program contribution of either \$175,000 or \$350,000 with the number of property owners who could benefit from each option and funding level.

Based on similar other municipal cost sharing initiatives, as shown in Table 2, an annual contribution of \$350,000

would be appropriate for 2010 and 2011.

As Council is well aware, the City has an increasing "gap" in necessary infrastructure funding for all municipal infrastructure. Therefore, staff propose to report back to Council in 2012 on the success of this program including anticipated funding requirements to maintain the program in future years. It is anticipated that if the program is very successful, that staff will recommend that funding for the program in 2012 and beyond come from an increase in the Wastewater Operating Budget.

IMPLEMENTATION AND ADMINISTRATION

As outlined in **Appendix A** attached, it is proposed that residents wishing to apply for financial assistance would contact either Engineering Services Staff at Tom Davies Square or any Community Centres to receive an information package and application form. They can also download the information from the City's website. The homeowner would then obtain a Plumbing Permit from the Building Services Division. Upon successful completion of the works and submission of completed backup documentation, the City will pay the property owner in accordance with the approved subsidy and funding availability.

It is proposed that the program will be administered by existing Engineering and Water/Wastewater staff located at Tom Davies Square. Staffing requirements will be monitored and expanded as necessary based on the success of the program. We will come back to Council for approval for any additional staffing.

It is anticipated that the program can be implemented by August 1, 2010.

Regular information and update reports will be provided to Council during the implementation period.

RECOMMENDATION

That Council support and approve the Preventative Plumbing Subsidy Program as outlined in this report and that funding Option 2(a) be approved from the 2010 and 2011 Wastewater Capital Annual Rehabilitation Program .

Proposed Preventative Plumbing Subsidy Program

Table 1: Sample of Preventative Plumbing Programs

	St Catharines	Ottawa	Peterborough	Edmonton	Toronto
Program Name and starting date	-Flood Alleviation Program (FLAP) - Started in 1998 and still ongoing	Grants for Protective Plumbing Devices 2005 and ongoing	Sanitary Backflow Prevention Subsidy Program. 2005 and ongoing	Flood Prevention Program, 2006 and ongoing	Basement Flooding Protection Subsidy Program. 2006, ongoing
Protective devices included	- Backwater valve - Sump pump - Downspout disconnections	Inspector determines the required work (backwater valve, sump pump)	- backwater valve - Sump pump	Backwater valve	-Backwater valve - Sump pump - Pipe severance and capping
Subsidy	Max \$3000	-100% of the work up to max \$4000 (if experienced backup due to surcharging of City Sewers) - 50% and up to 2500 (didn't have a backup but located in areas with history of blockage or surcharging of City sewers)	- 100% up to \$800 max for backwater valve - 100% up to \$800 max for sump pump - 100% for both up to \$1800	-Max 1200 for backwater valve	-80% up to \$1250 for backwater valve - 80% up to \$1750 for sump pump
Responsible department/	Environmental Services	Environmental Services	Building Services	Drainage Services Branch	Toronto Water
City's role	-Pre -inspection -Recommend required work	-Pre-inspection -Provide info for protective plumbing requirements - Final inspection of work performed	-Building permit -Application review	Information & communication Application review	-Building permit -Application review

Proposed Preventative Plumbing Subsidy Program

TABLE 2: FINANCING OPTIONS

	Option 1 Status Quo	Option 2(a) 50% Subsidy to max of	Option 2(b) 75% Subsidy to max of	Option 3(a) 50% Subsidy to max of	Option 3(b) 75% Subsidy to max of
Backwater/Back-up Valve	N/A	\$1,000	\$1600	\$1,000	\$1,600
Sump Pump	N/A	\$1,250	\$2,000	\$1,250	\$2,000
Combined (BWV+ SP)	N/A	\$2,250	\$3,600	\$2,250 \$2,250	\$3,600
Annual Contribution from Wastewater Capital Budget	\$10,000 ¹	\$350,000	\$350,000	\$175,000	\$175,000
Number of properties who could benefit from each option at maximum funding on an annual basis.					
Backwater valve	N/A	350	219	175	109
Sump pump	N/A	280	175	140	88
Combined (BWV+ SP)	N/A	156	97	78	49

¹ Cost for communication and education plan.

Request for Decision

Crosswalk Request - Elgin Street at Shaughnessy Street

Presented To: Operations Committee

Presented: Monday, May 05, 2014

Report Date: Wednesday, Mar 26, 2014

Type: Managers' Reports

Recommendation

THAT the City of Greater Sudbury install pedestrian warning signs for the unprotected crossing at the intersection of Elgin Street and Shaughnessy Street;

AND THAT the City of Greater Sudbury continue to monitor pedestrian and vehicle volumes at this intersection to determine if pedestrian signals, full traffic signals or an all-way stop become warranted;

AND THAT the City of Greater Sudbury review this location for the installation of a new type of pedestrian crossing facility currently being reviewed by the Province of Ontario, if it is approved.

Background

At the City Council meeting of August 13, 2013, a petition was submitted requesting a crosswalk be provided at the intersection of Elgin Street and Shaughnessy Street to allow people from the Samaritan Centre to cross Elgin Street to access the bus stop on the south side of the roadway (see Exhibit 'A').

The intersection of Elgin Street and Shaughnessy Street is currently controlled with a stop sign facing only southbound traffic on Shaughnessy Street (see Exhibit 'B'). Since traffic on Elgin Street is not required to stop at this intersection, the requested crosswalk would be considered an unprotected crossing.

City Council adopted a pedestrian crossing policy in March 2012. In terms of unprotected pedestrian crosswalks, the approved policy states the following:

With the exception of crosswalks for school crossing guards, marked unprotected crosswalks should be generally discouraged. However, the specific characteristics and needs of each location should be carefully considered and appropriate treatments applied to maximize safety.

At locations where unprotected crosswalks are maintained on two lane, low speed roads (i.e. 50 km/h

Signed By

Report Prepared By

Dave Kivi
Co-ordinator of Transportation & Traffic
Engineering Services
Digitally Signed Mar 26, 14

Division Review

David Shelsted
Director of Roads & Transportation
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Recommended by the Department

Tony Cecutti
General Manager of Infrastructure
Services
Digitally Signed Mar 26, 14

Recommended by the C.A.O.

Doug Nadorozny
Chief Administrative Officer
Digitally Signed Mar 27, 14

or less), it is recommended a pedestrian warning sign (Wc-7) be posted in advance of the crossing and that two back to back Wc-7 signs be mounted on each side of the road in the immediate vicinity of the crossing. **Additionally, no pavement markings shall be used to denote the crossing on the roadway and existing pavement markings shall be removed.**

City staff completed a traffic count on September 23, 2013 to determine how many pedestrians are crossing Elgin Street in the area of Shaughnessy Street and if an all-way stop or traffic signals would be appropriate in order to provide a protected crosswalk across Elgin Street. During the 7 peak hours that traffic was counted, a total of 312 pedestrians crossed Elgin Street.

Applying the data from the turning movement count to the City's all-way stop warrants indicates that the minimum vehicle volume warrant meets only 42% of the requirements.

Applying the same data to the Ontario Traffic Manual warrant for the installation of traffic signals indicates that vehicle volumes meet only 49% of the minimum requirements. However, the pedestrian crossing volumes is 92% of the minimum requirements for pedestrian signals to be installed.

A review of the City's collision information from 2011 to 2013 revealed that there were no collisions that involved pedestrians or that may be susceptible to relief through an all-way stop or traffic signal.

Recommendation

Based on the traffic volumes, pedestrian volume and collision history, it is not recommend that an all-way stop, pedestrian signals or full traffic signals be installed at the intersection of Elgin Street and Shaughnessy Street at this time.

It is recommended that pedestrian warning signs (Exhibit 'C') be posted in advance of the unprotected crossing and that two back to back pedestrian warning signs be mounted on each side of the road in the vicinity of the crossing.

The Elgin Greenway project is also scheduled to begin in the near future. Part of the project will include redevelopment of the CP Rail parking lot. This redevelopment may change the pedestrian desire lines. It is recommended that pedestrian crossing volumes be monitored after the Elgin Greenway project is completed to determine if pedestrian signals, full traffic signals or an all-way stop become warranted.

Also, the Ministry of Transportation of Ontario is currently in the process of developing new protected pedestrian crossing facilities and legislation which will apply to situations where pedestrian and vehicle volumes do not meet the requirements for traffic signals. However, it is unknown when the new crossing devices will be approved for use in the province. It is recommended that this location be reviewed if and when municipalities are permitted to install the new types of pedestrian crossing facilities.

5
Total

PETITION

We, the

People needing access

Identify, in general terms, who the petitioners are: for example: residents of Ward, Residents of Street, Residents of Community of, citizens of the City of Greater Sudbury.

Briefly state the matter or argument in support of your petition.

This is to be included on each signature page.

CROSSWALK - Samareten Center to bus stop at Shingway

State the specific request for action you wish Council to undertake.

This is to be included on each signature page.

PAINT LINES - has curb cut out + used by staff (city)

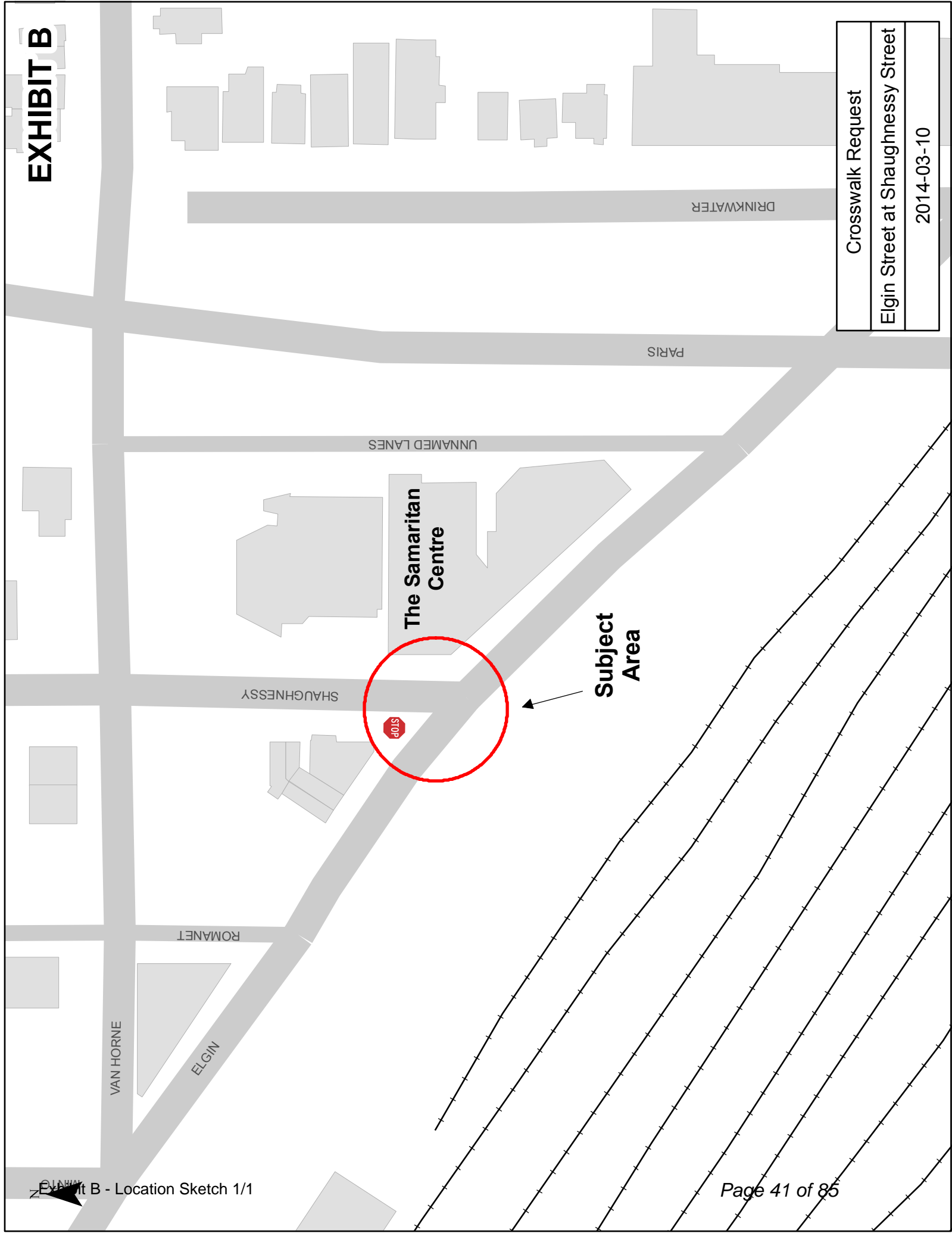
NAME, ADDRESS AND TELEPHONE NUMBER
OF THE SPOKESPERSON OR PRINCIPLE PETITIONER:

[Redacted Name and Address]

Here follows the Signatures

Signatures (only original signatures are permitted-if signing on behalf of a business or organization you should indicate if you are the owner, president, secretary, treasurer, etc.)	Addresses (your residential address in the City of Greater Sudbury)
1. [Redacted Signature]	[Redacted Address]
2. [Redacted Signature]	[Redacted Address]
3. [Redacted Signature]	[Redacted Address]

Once submitted to Council, this petition becomes a public document and is available for viewing. The information provided on a petition is not considered to be confidential information and may be seen by anyone requesting to see copies of the petition. This information will not be used by the City for any purpose other than to ensure it meets Council's requirements for a valid petition and ensure to contact with spokesperson or principal petitioner.



Crosswalk Request
Elgin Street at Shaughnessy Street
2014-03-10

EXHIBIT 'C'

Pedestrians Ahead

Wc-7



Request for Decision

School Zone Speed Limits

Presented To: Operations Committee

Presented: Monday, May 05, 2014

Report Date Wednesday, Mar 26, 2014

Type: Managers' Reports

Recommendation

THAT the City of Greater Sudbury reduce the speed limit to 40 km/h on the roadways listed in Exhibit 'A' due to the presence of schools with primary grade aged students;

AND THAT a by-law be presented to amend Traffic and Parking By-law 2010-1 in the City of Greater Sudbury to implement the recommended changes in accordance with the report from the General Manager of Infrastructure Services dated March 26, 2014 regarding School Zone Speed Limits.

Finance Implications

If approved, the \$19,000 cost for signage will be funded from the 2014 Traffic calming budget.

Background

At the January 20, 2014 Operations Committee meeting, a recommendation was passed "That the City of Greater Sudbury direct staff to fund the change in school speed limits by the 2014 Traffic Calming Budget and complete the changes by the end of 2014."

To deal with numerous requests to reduce the speed limit near schools, City Council adopted a School Zone Speed Reduction Policy in 2001 and further revised the policy in 2009. The approved policy states the following:

That staff be directed to bring to the attention of City Council requests for speed reduction zones adjacent to schools based on the following considerations:

- That a school speed zone be installed at schools with primary grade aged students.
- That the school speed zone be limited to residential streets or residential collector streets.

Signed By

Report Prepared By

Dave Kivi
Co-ordinator of Transportation & Traffic
Engineering Services
Digitally Signed Mar 26, 14

Division Review

David Shelsted
Director of Roads & Transportation
Services
Digitally Signed Mar 26, 14

Recommended by the Department

Tony Cecutti
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Recommended by the C.A.O.

Doug Nadorozny
Chief Administrative Officer
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- That the maximum speed of the roadways considered for school speed zones be 50 km/h.
- That if schools are closed, the speed limit will revert back to 50 km/h.
- That only those requests that meet the above four criteria be brought forward by staff to City Council for consideration.

City staff have reviewed the speed limits of roadways at the remaining 19 schools which qualify under the approved policy and recommend that speed limits be reduced as outlined in Exhibit 'A'. The limits for School Zone Speed limits are generally within 150 metres of the school or the nearest stop controlled intersection. It is estimated that the cost for the installation of the 59 signs required to implement the recommended speed limit reductions will be \$19,000. This will be funded from the 2014 Traffic Calming budget.

Two of the elementary schools within the City of Greater Sudbury do not qualify for school zone speed limits:

1. Larchwood Public School – This school is situated on Highway 144 in Dowling. Highway 144 is under the jurisdiction of the Province of Ontario.
2. École Jean-Paul II – This school is situated on Main Street (M.R. 15) in Val Caron. M.R. 15 is classified as a primary arterial roadway and does not qualify under the approved policy.

At the March 17, 2014 Operations Committee meeting, staff was directed to investigate reducing speed limits in the areas of secondary schools. This will be discussed in a future report to the Operations Committee.

EXHIBIT: A

Recommended School Zone Speed Reductions (Sorted by Ward)

Name	Ward	Roadway	From	To
École publique Helene-Gravel	1	Stephen Street	Southview Drive	Robinson Drive
St. Francis School	1	Lilac Street	McLeod Street	South End
		St. Clair Street	Lawson Street	McLeod Street
R.H. Murray Public School	2	Henry Street	Bay Street	Anne Street
		Anne Street	Henry Street	Elizabeth Street
		Elizabeth Street	Anne Street	West End
Alliance St-Joseph	3	Errington Avenue	Main Street	Sauve Avenue
École St-Etienne	3	Houle Avenue	Arlington Drive	95 metres south of Riverside Drive
Levack Public School	3	High Street	Larch Street	620 metres north of M.R. 8
Landsdowne Public School	4	Baker Street	College Street	Frood Road
		Frood Road	College Street	Ghandi Lane
		Lansdowne Street	Frood Road	Ghandi Lane
St. David School	4	Jean Street	Frood Road	Monck Street
		Dupont Street	Frood Road	Monck Street
Northeastern Elementary School	7	Spruce Street	Falconbridge Highway	Church Street
St. John School	7	William Avenue	Birch Street	245 metres north of Falconbridge Highway
Churchill Public School	8	Fielding Street	Auger Avenue	Deleware Avenue
École publique Jean-Ethier-Blais	8	Sylvio Street	Lasalle Boulevard	North End
École St-Dominique	8	Montfort Street	Gary Avenue	East End
École Notre-Dame de la Merci and St. Paul School	9	Edward Avenue	Concession Street	North End
Ruth MacMillan Centre	10	Kirkwood Drive	Ramsey Lake Road	320 metres north of Ramsey Lake Road
École Felix-Ricard	12	Starlight Street	Lasalle Boulevard	South End
École St Joseph	12	Bruyere Street	Morin Avenue	East End
St. Andrew School	12	Holland Road	Woodbine Avenue	Sparks Street
		Arvo Avenue	Sparks Street	North End
		Lamothe Street	Leon Avenue	Barry Downe Road

Request for Decision

Southview Drive, West of Kelly Lake Road - Curve Warning Flashing Beacons

Presented To: Operations Committee

Presented: Monday, May 05, 2014

Report Date: Wednesday, Mar 26, 2014

Type: Managers' Reports

Recommendation

THAT the City of Greater Sudbury maintain the existing curve warning signs on Southview Drive, west of Kelly Lake Road.

Background

At the Operations Committee meeting held on January 20, 2014, the Committee approved a request from the Ward 1 Councillor to direct staff to prepare a report "That a yellow flashing light be installed on the speed reduction sign on the curve on Southview Drive, just west of Kelly Lake Road".

In this area, Southview Drive is constructed to an urban standard with an asphalt width of 10 metres and a sidewalk along the south side. A sharp horizontal curve is located approximately 75 metres west of Kelly Lake Road (see Exhibit 'A'). The intersection of Southview Drive and Kelly Lake Road is controlled with an all-way stop. A median island is also constructed 165 metres west of the curve to calm traffic entering the built up area of Southview Drive.

Signed By

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Division Review

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Recommended by the Department

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Recommended by the C.A.O.

Doug Nadorozny
Chief Administrative Officer
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In 2012, the Ward 1 Councillor forwarded a request from area residents to improve safety on the subject curve. As a result, Staff completed a Ball Bank Study to determine whether an advisory speed was appropriate for this curve. Ball Bank studies provide a combined measure of the centrifugal force, vehicle roll and superelevation of the road. These studies are conservative and are a measure of rider comfort rather than safety. The study showed that a speed of 30 km/h is appropriate for the curve. Therefore Staff arranged to install "sharp curve" warning signs with a "30 km/h" advisory speed tabs in advance of the curve facing both directions of travel.

Based on the latest request, staff reviewed the City's collision data from 2008 to December 2013. In the 5 year period from 2009 to 2013 inclusive, there were no collisions reported on the curve. In 2008 there was a collision on the curve where a parked car was struck. That year there was also a collision at the intersection of Southview Drive and Bigwood Drive. No collisions have occurred since the sharp curve warning signs with advisory speed tabs were installed.

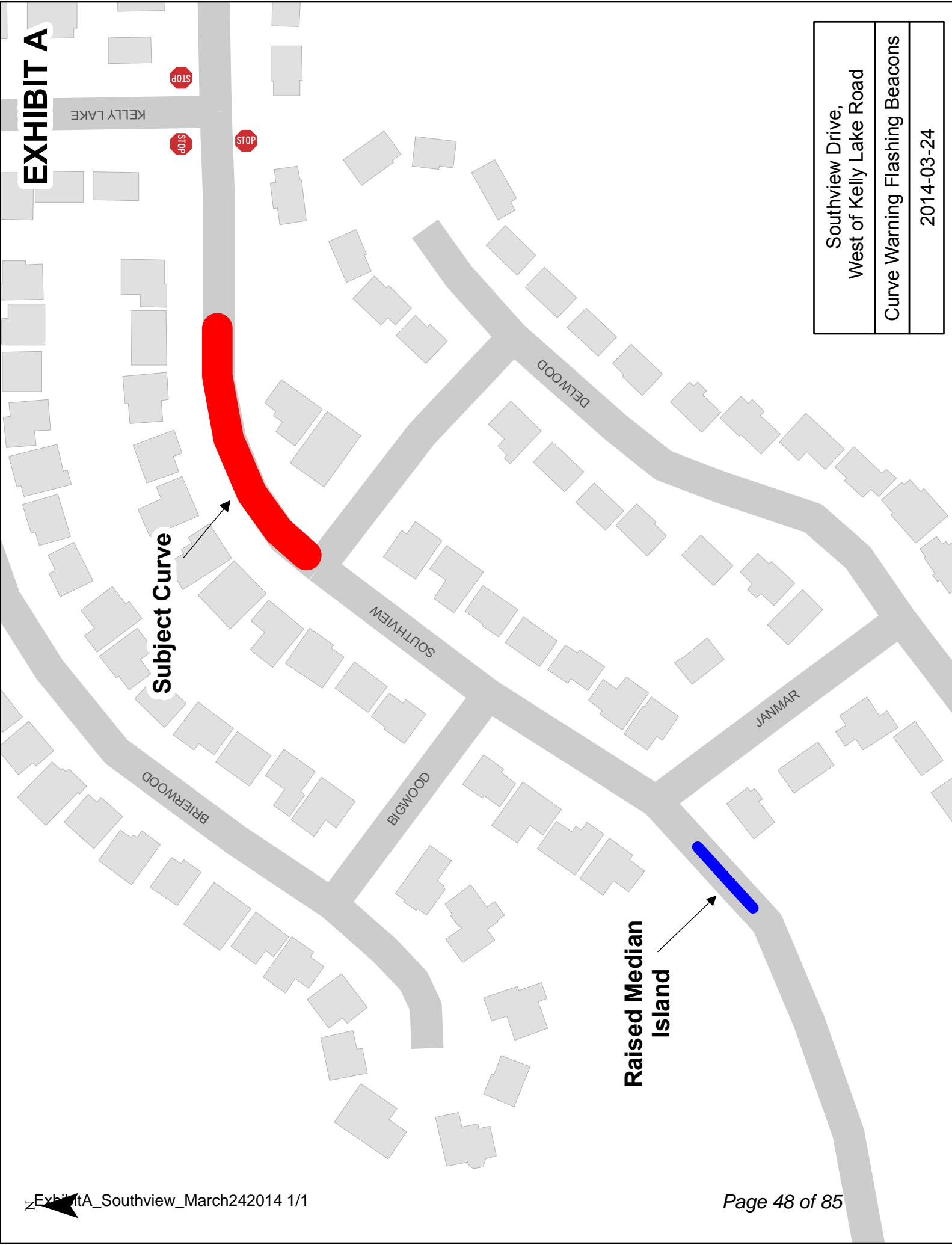
Typically supplementary flashing beacons are used to reinforce warning signs when unusual circumstances are presented that requires greater emphasis. They are often used to improve safety at collision prone locations where less costly counter measures have not been effective. Also, as indicated in the Ontario Traffic Manual, the use of beacons should be restricted to critical situations only in order to ensure that their impact is not lost due to overuse.

There are many horizontal curves in the City that have advisory speed signs similar to Southview Drive. The curve is located in an urban area with illumination making the alignment of the road apparent to approaching drivers. The sharp curve warning signs provide advance warning of the curve ahead. The relative safety of the curve is supported by the absence of collisions over the last 5 years.

Based on the above information, the existing advance warning signs for the subject curve are appropriate and installation of flashing amber beacons are not recommended.

EXHIBIT A

Southview Drive, West of Kelly Lake Road
Curve Warning Flashing Beacons
2014-03-24



Request for Decision

Bouchard Street at Marcel Street All-Way Stop

Presented To:	Operations Committee
Presented:	Monday, May 05, 2014
Report Date	Wednesday, Mar 26, 2014
Type:	Managers' Reports

Recommendation

THAT the City of Greater Sudbury remove the all-way stop at the intersection of Bouchard Street and Marcel Street following the construction of a raised intersection in the Summer of 2014.

AND THAT a by-law be presented to amend Traffic and Parking By-Law 2010-01 in the City of Greater Sudbury to implement the recommended changes in accordance with the report from the General Manager of Infrastructure Services dated March 26, 2014 regarding the Bouchard Street at Marcel Street All-Way Stop.

Background

All-Way Stops were installed at five intersections in the City including Bouchard Street and Marcel Street, in the Spring of 2012. The Operations Committee requested "that the controls be reviewed after a period of one year after installation".

At the Operations Committee meeting held on October 21, 2013, Staff presented a report dated August 1, 2013, providing the results of follow up studies at all five of the intersections (see Exhibit 'A').

In order to determine the impact and effectiveness of the all-way stops, Staff reviewed a number of factors including:

- Delay and Queue Lengths
- Stop Sign Compliance
- Fuel Consumption
- Environmental Impacts
- Speed
- Traffic Volumes
- Safety

Signed By

Report Prepared By

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Division Review

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Recommended by the C.A.O.

Doug Nadorozny
Chief Administrative Officer
Digitally Signed Mar 26, 14

Public Feedback

Based on the follow up review, Staff recommended that the all-way stops be removed at all five intersections. However, the Operations Committee recommended that removal of the all-way stop at Bouchard Street and Marcel Street be deferred until the traffic calming results have been received.

As a result of an infrastructure improvement and resurfacing project on Southview Drive/Bouchard Street in 2013, the traffic calming devices were removed between Marcel Street and the east leg of Cranbrook Crescent. Removal of the devices presented the opportunity to poll the affected residents of the street to determine what, if any, traffic calming devices should be replaced. In December 2013, surveys were sent out requesting that residents vote for one of the following three options:

Option 1 – Restore previous traffic calming features.

Option 2 – Install speed humps and raised intersection.

Option 3 – Do not replace traffic calming features.

Based on the responses received from the residents, the majority preferred Option 2, to install speed humps and a raised intersection at Bouchard and Marcel Streets (see Exhibit 'B').

A raised intersection (including crosswalks) is an intersection constructed at a higher elevation than the adjacent roadways leading to and from the intersection. A raised intersection helps reduce vehicle speeds, better defines crosswalk areas and helps to reduce pedestrian-vehicle conflicts. Similar to a speed hump, a raised intersection will rise 80 mm (3 inches), remain flat for the length of intersection and then drop back down to match adjacent road elevation. The reduced speed will assist pedestrians crossing Bouchard at Marcel Street more safely.

The 4 temporary speed humps will be installed this Summer and removed in the Fall, but the raised intersection will remain for the duration of the winter. During the Winter of 2014/2015, residents will be consulted again whether to reinstate the speed humps permanently and keep the raised intersection, or to remove all the traffic calming features.

Staff recommends that the all-way stop at the intersection of Bouchard Street and Marcel Street be removed following the construction of the raised intersection. Removing the unwarranted all-way stop will allow the proper evaluation of the raised intersection.

Request for Decision

**All-Way Stop Control - One Year Review (1)
Bouchard Street at Marcel Street, Sudbury (2)
Lansing Avenue at Melbourne Street, Sudbury (3)
Hawthorne Drive at Westmount Avenue, Sudbury
(4) Madeleine Avenue at Main Street, Sudbury (5)
Madeleine Avenue at Alexander Street, Sudbury**

Presented To: Operations Committee
Presented: Monday, Aug 12, 2013
Report Date Thursday, Aug 01, 2013
Type: Managers' Reports

Recommendation

THAT all-way stops be removed at the following locations:

1. Bouchard Street at Marcel Street
2. Lansing Avenue at Melbourne Street
3. Hawthorne Drive at Westmount Avenue
4. Madeleine Avenue at Main Street
5. Madeleine Avenue at Alexander Street, and;

THAT the procedure to remove the all-way stop signs as outlined in the report be followed with a communications plan.

Background

At the Operations Committee meeting held on January 9, 2012, the Committee approved the installation of all-way stops at the following intersections:

1. Bouchard Street at Marcel Street
2. Lansing Avenue at Melbourne Street
3. Hawthorne Drive at Westmount Avenue
4. Madeleine Avenue at Main Street
5. Madeleine Avenue at Alexander Street

The Committee also requested "that the controls be reviewed after a period of one year after installation".

Exhibit 'I' contains the staff report dated December 23, 2011 that presents the all-way stop analysis for each of the above intersections. None of the intersections reviewed satisfied the minimum vehicle volumes, pedestrian volumes and collision experience required to warrant the installation of an all-way stop under the City's All-Way Stop Control Policy.

Signed By

Report Prepared By

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Recommended by the Department

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Recommended by the C.A.O.

Doug Nadorozny
Chief Administrative Officer
Digitally Signed Aug 2, 13

The signs and pavement markings required to implement all-way stops at the subject intersections were installed in May and June last year. As directed by City Council, staff has conducted a number of follow-up studies to determine the impact the installation of unwarranted all-way stops has had on traffic operations in the area. Information related to delay, compliance, fuel consumption, environmental impacts, speed, traffic volume, safety and public feedback are presented below.

Delay and Queue Length Studies

One way to measure the impact of installing an all-way stop is to undertake delay and queue length studies on the approaches where the new stop signs were installed. A concern with the installation of all-way stops at intersections where the traffic volume split heavily favors the main street, is the delay that may be introduced to residents who legitimately use the roadway.

A review of the all-way stop warrants shows that less than 10 percent of vehicles entering the intersections of Bouchard Street at Marcel Street and Lansing Avenue at Melbourne Street are coming from the side street. Both Bouchard Street and Lansing Avenue serve as major collector roadways for their areas and are used by residents to access their residential neighbourhoods.

City staff conducted site visits at the intersections of Bouchard Street at Marcel Street and Lansing Avenue at Melbourne Street to record the time it took to clear the intersection from the end of the queue. At the intersection of Bouchard Street and Marcel Street, a total of 23 vehicle runs were completed between 4:00 P.M. and 5:30 P.M., while at the intersection of Lansing Avenue and Melbourne Street, a total of 13 runs were completed between 4:30 P.M. and 5:45 P.M. A summary of the results can be found in the following table:

Intersection	Approach	Average Delay (seconds)	Maximum Observed Delay (seconds)
Bouchard Street at Marcel Street	Eastbound	96	225
	Westbound	23	44
Lansing Avenue at Melbourne Street	Northbound	20	27
	Southbound	13	17

The results from the runs were as expected. On Bouchard Street, where traffic volumes during the afternoon peak hours exceed 1,000 vehicles per hour, significant delays were introduced, particularly in the eastbound direction. On Lansing Avenue, where volume exceeds 500 vehicles per hour, the delay introduced was much less. The increased delay to drivers can also be represented as an annual dollar value by using the following formula:

$$\text{Total Annual Cost} = \text{OCC} * \text{W} * \text{D} * \text{SV} * \text{AVD} / 3600 * \text{Average Canadian Wage}$$

OCC = average person occupancy rate = 1.2

W = weeks in a year = 52

D = number of weekdays in a week = 5

SV = study volume = varies per intersection and approach

AVD = average delay= varies per intersection and approach

Average Canadian Wage (June 2013 - from Statistics Canada) = \$24.01

The total annual costs for the study times observed are summarized in the following table:

Intersection	Approach	Average Delay (seconds)	Study Volume	Total Annual Cost
Bouchard Street at Marcel Street	Eastbound	96	814	\$162,607.24
	Westbound	23	776	\$37,139.81
Lansing Avenue at Melbourne Street	Northbound	20	299	\$12,443.58
	Southbound	13	533	\$14,418.33

The above dollar figures represent only the annual cost associated with the delay introduced during the period of times studied (4 PM to 5:30 PM on Bouchard Street and 4:30 P.M. to 5:45 P.M. on Lansing Avenue). All delay experienced outside of the study times would add additional dollars to those figures.

While staff was on site at each intersection, the length of the queue of vehicles they observed was also recorded. The observed results are summarized in the table below:

Intersection	Approach	Average Queue Length (metres)	Maximum Observed Queue Length (metres)
Bouchard Street at Marcel Street	Eastbound	174	345
	Westbound	23	66
Lansing Avenue at Melbourne Street	Northbound	31	42
	Southbound	15	21

From the table it is apparent that a significant number of vehicles were queued at the intersection of Bouchard Street and Marcel Street. Within a typical queue, each car takes approximately seven metres of space. For eastbound vehicles on Bouchard Street, the average queue length represents almost 25 vehicles while the maximum observed queue was approximately 50 vehicles long. Additionally, the observed eastbound queue lengths on Bouchard Street were often extended beyond the Bouchard Street at Southview Drive intersection, which in turn created additional delays while left turning vehicles waited for vehicles in the queue to allow them to turn in front of them.

Stop Sign Compliance

One of the ways to measure the effectiveness of a stop sign is to measure the number of drivers that actually come to a complete stop as required by the Highway Traffic Act. Staff conducted compliance studies at all of the five newly created all-way stop intersections as well as two control intersections where all-way stops are warranted. The results are presented below.

Intersection	Stop	Rolling Stop	No Stop	Total Hourly Volume
Bouchard Street at Marcel Street	23%	74%	3%	930
Lansing Avenue at Melbourne Street	31%	66%	3%	509
Westmount Avenue at Hawthorne Drive	35%	64%	1%	411
Madeleine Avenue at Main Street	28%	65%	7%	90
Madeleine Avenue at Alexander Street	20%	50%	30%	53
Average	27.4%	63.8%	8.8%	

Intersection	Stop	Rolling Stop	No Stop	Total Hourly Volume
Regent Street at Douglas Street	71%	28%	1%	1,004
Mackenzie Street at Baker Street	50%	48%	2%	391
Average	60.5%	38%	1.5%	

The compliance studies were completed by setting up a video camera system at the intersection that records all movements of traffic over the four to seven peak hours of the day, depending if the intersection is on a major or minor collector roadway. The videos were then reviewed by staff who recorded whether each vehicle came to a full stop, a rolling stop or did not attempt to stop.

As shown in the chart below, only about 27 percent of drivers came to a full stop at the unwarranted all-way stop intersections compared to 60 percent at the warranted intersections. Approximately 73 percent of drivers at the unwarranted intersections either made a rolling stop or made no attempt to stop at all. At the intersection of Madeleine Avenue and Alexander Street, a full 30 percent of drivers did not attempt to stop. This intersection has the lowest total traffic volume with only 53 vehicles per hour. With such low conflicting traffic, some drivers see no reason to stop.

The high incidence of non-compliance at the unwarranted stop locations is not unexpected. Drivers and pedestrians become less vigilant when there is onus on the other drivers to stop. This behavior can decrease safety at the intersections, especially for young children who expect adults to obey the law. This bad behavior can also spread to other locations where an all-way stop is warranted.

Fuel Consumption

It is estimated that the additional gasoline that is consumed by the installation of an all-way stop on a typical

collector roadway is 125 litres per day or 45,600 litres per year. Expanding this figure for the five intersections, results in a total of 228,000 litres of gas. At a cost of \$1.30 per litre, the subject intersections consume an extra **\$296,000** worth of fuel each year.

Environmental Impacts

As reported by the Ministry of Municipal Affairs and Housing, at a typical all-way stop location, the following vehicle emissions are released each year:

- 657 kg of hydro carbons
- 8,760 kg of carbon monoxide
- 675 kg of nitrogen oxide
- 65,700 kg of carbon dioxide

Expanding these figures for the five all-way stop locations under review results in the following harmful gas emissions:

- 3,300 kg of hydro carbons
- 43,800 kg of carbon monoxide
- 3,300 kg of nitrogen oxide
- 328,500 kg of carbon dioxide

Besides increasing harmful greenhouse gas emissions, all-way stops also increase the level of noise pollution near the intersections due to the constant braking and acceleration that occurs.

Speed

Often times, all-way stops are requested by residents to try and slow traffic down. Unfortunately, all-way stops are not effective as speed control devices except within close proximity to the sign. To determine if the all-way stops were effective in reducing speed, staff conducted 24 hour speed studies on Southview Drive, Lansing Avenue and Hawthorne Drive. Southview Drive and Hawthorne Drive had speed studies that were taken before the all-way stops were installed that can be used for comparison purposes. The results are indicated below.

Speed Study Results

Location	Direction	Before		After		Difference	
		Average Speed (km/h)	85th Percentile Speed (km/h)	Average Speed (km/h)	85th Percentile Speed (km/h)	Average Speed (km/h)	85th Percentile Speed (km/h)
Southview Drive – 125 Metres West of Bouchard Street	Eastbound	52.1	56.3	47.8	53.1	-4.3	-3.2
	Westbound	53.9	59.5	51.9	56.3	-2.0	-3.2
Lansing Avenue – North of Lamothe Street	Northbound	n/a	n/a	48.7	56.3	n/a	n/a
	Southbound	n/a	n/a	43.4	56.3	n/a	n/a
Lansing Avenue – South of Kelvin Street	Northbound	n/a	n/a	47.3	54.7	n/a	n/a
	Southbound	n/a	n/a	50.9	57.9	n/a	n/a
Hawthorne Drive – East of Sharon Avenue	Eastbound	52.9	59.5	51.0	57.9	-1.9	-1.6
	Westbound	53.2	61.2	58.6	67.6	5.4	6.4

The results of the speed studies show that speeding is still a problem in close proximity to the stop signs. While speeds are lower on Southview Drive, west of Bouchard Street, the difference may be attributed to vehicles slowing as they approach the back of the long queue of vehicles. The studies show that speeding is still a problem on Lansing Avenue, north of Lamothe Street despite there being all-way stops at the adjacent intersections to the north and south.

The largest change in speed occurred on Hawthorne Drive, where the 85th percentile speed for westbound traffic has increased by more than 6 km/h. This may be due to drivers increasing their speed to make up for lost time which is commonly reported at all-way stops.

Traffic Volumes

A common misconception about all-way stops is they will help lower traffic volumes on adjacent roadways by discouraging cut-through traffic. As part of the follow-up review, staff completed new turning movement counts at all five subject intersections. A review of traffic volumes at the intersections before and after the all-way stops were installed revealed that overall traffic volumes did not change significantly. A review of the all-way stop warrants indicates that none of the five intersections currently warrants the installation of an all-way stop.

A closer review of the turning movement count at Bouchard Street and Marcel Street indicates that traffic patterns are changing during the peak hours of the day. The number of left turning vehicles from Marcel Street has increased by 23 percent from the south leg of the intersection and 17 percent from the north leg of the intersection. As previously discussed, a significant delay has been introduced at this intersection since the installation of the all-way stop and queue lengths in the eastbound direction often block the intersection of Bouchard Street and Southview Drive. It is suspected that the increase in traffic on Marcel Street is a result of these vehicles attempting to avoid the long queues and delays on Bouchard Street. The counts show that traffic volumes on Bouchard Street have increased by 6% from the count taken in 2011. It should also be noted that the number of pedestrians that crossed Bouchard Street at Marcel Street has not changed from 2011 to 2013.

Safety

It is difficult to assess the impact that the all-way stops had on safety during the year they have been installed. When reviewing safety at an intersection, it is recommended that a minimum of three years of collision history be reviewed. This wider range of view helps identify if there is a correctable pattern to the collisions or if a rash of collisions may be due to seasonal factors (ie. icy roads).

Typically, the installation of an all-way stop will help reduce the number of angle type collisions at an intersection if they are prevalent. However, the installation of an all-way stop may also increase the frequency of rear end collisions.

The collision history from 2008 to 2012 (pre all-way stop installed) and from 2012 (post all-way stop installed) to June 30, 2013 has been summarized in the table below:

Intersection	Average Number of Collisions per Year		Difference
	Before	After	
Bouchard Street at Marcel Street	0.75	1	+0.25
Lansing Avenue at Melbourne Street	0.5	1	+0.5
Hawthorne Drive at Westmount Avenue	2.25	1	-1.25
Madeleine Avenue at Main Street	0	0	0
Madeleine Avenue at Alexander Street	0	0	0

While Hawthorne Drive at Westmount Avenue has the highest average number of collisions before the all-way stop was installed, a large number of the collisions occurred in 2010. In 2010, three angle type collisions and two rear end collisions were reported. All three angle type collisions involved a northbound vehicle on Westmount Avenue failing to stop and striking a vehicle within the intersection. In 2011, a crosswalk and stop bar were painted on the south leg of Westmount Avenue and a stop bar was painted on the north leg of Westmount Avenue. No additional angle type collisions have occurred since these measures were implemented.

The table shows that none of the intersections were collision prone before the installation of the all-way stops and the collision data does not show a significant change in the past year. In total, three collisions were reported for all five intersections since the all-way stops were installed and all three collisions were rear end type collisions. Additionally, no collisions involving pedestrians have been reported since 2008 at any of the five intersections.

Public Feedback

One of the ways to measure the impact of a change to traffic control is by tracking positive and negative comments that come into the City via email or through 3-1-1. Overall, the City did not receive a significant volume of public feedback. The intersection of Bouchard Street and Marcel Street received the most attention with a total of six complaints and no positive feedback. However, the Ward Councillor has indicated that he has received positive comments from area residents.

The all-way stop at Lansing Avenue and Melbourne Street received one negative comment and the all-way stop at Hawthorne Drive and Westmount Avenue received a single positive comment.

Recommendation

All-way stops are often requested by residents in response to concerns on their street such as vehicle speeding, traffic volume, and safety for pedestrians, children, and cyclists. Road authorities take guidance from the Ontario Traffic Manual when determining when and where to install stop signs. "The purpose of the Ontario Traffic Manual (OTM) is to provide information and guidance for transportation practitioners and to promote uniformity of treatment in the design, application and operation of traffic control devices and systems across Ontario. The objective is safe driving behaviour, achieved by a predictable roadway environment through the consistent, appropriate application of traffic control devices. Further purposes of the OTM are to provide a set of guidelines consistent with the intent of the Highway Traffic Act and to provide a basis for road authorities to generate or update their own guidelines and standards."

The City has adopted a revised warrant for the installation of all-way stop signs, which reduces the thresholds required to meet the requirements for all-way stop approval. The reduced warrant does not change the purpose of a stop sign. "The purpose of the stop sign is to clearly assign right-of-way between vehicles approaching an intersection from different directions when traffic signals are not warranted or not yet installed and it has been determined that a yield sign is inadequate."

In general, "all-way stops should only be considered at the intersection of two relatively equal roadways having similar traffic volume demand and operating characteristics".

As indicated above, the new traffic counts indicate that all-way stops are still not warranted at any of the above intersections. The follow up studies also indicate that there have not been significant changes in any of the concerns that are typically raised by residents, such as speed, volume, and safety. They also result in a significant additional cost to the public in the form of additional delay and fuel consumption. Therefore, Staff recommends that all of the all-way stops be removed.

While Staff are recommending removal of the all-way stop signs, it is recognized that these all-way stop signs were requested for a reason, to address neighbourhood traffic concerns. In May 2010, Council approved the City's Traffic Calming Policy. Traffic calming represents a component of traffic management techniques to reduce the impacts of traffic on neighbourhood communities. Communities throughout North America have experienced significant growth in traffic due to automobile dependence and urban sprawl. These trends in automobile travel have placed considerable strains on the road network and the ability to safely (e.g., perceived or real collision potential) accommodate all road users within the public right-of-way. In many cases, the lack of arterial road capacity has resulted in motorists choosing to use collector and residential roadways to circumvent a congested turning movement, intersection or corridor.

One response to these problems is the self-enforcing option of traffic calming devices. These devices are physical modifications to the road to address the specific issue of concern. Staff recommends that these areas be considered for the Traffic Calming program, if they have not already been considered.

All-Way Stop Removal Procedure

The following process should be followed as prescribed by the Ontario Traffic Manual to remove any of the all-way stops:

- 1) Install large warning signs stating "Crossing Traffic Does Not Stop" on the approaches where the stop control is to remain. The sign is to be installed at least 15 days before the removal of control.

Install a "New" sign above this sign as well as a sign below indicating "After" stating the month and day when the control on the crossing roadway will be removed.

- 2) On the appointed date, remove the "Stop Ahead" signs and "Stop" signs on the crossing roadway. Crosswalk lines and stop bars must also be removed on these approaches. The "After" sign with the starting date must also be removed at this time.

- 3) After an additional period of at least 15 days, the "New" sign and "Crossing Traffic Does Not Stop" warning sign can also be removed.

A communication plan should also be developed to advertise the change in traffic control. Police, Fire and EMS are also to be advised of the change.



Request for Decision

All-Way Stop Control - Various Intersections

Presented To: Operations Committee

Presented: Monday, Jan 09, 2012

Report Date Friday, Dec 23, 2011

Type: Managers' Reports

Recommendation

That the current traffic control at the intersections of Bouchard Street at Marcel Street, Lansing Avenue at Melbourne Street, Hawthorne Drive at Westmount Avenue, Madeleine Avenue at Main Street and Madeleine Avenue at Alexander Street be maintained.

Background

1. Bouchard Street at Marcel Street, Sudbury

At the March 21, 2011 Traffic Committee meeting, Staff presented a report regarding all-way stop control at the intersection of Bouchard Street and Marcel Street (**see Exhibit A2**). At the time, Staff reported higher than normal traffic volumes may have been a result of the ongoing construction on Regent Street. A decision to install all-way stop at this intersection was deferred until construction on Regent Street was completed and traffic volumes could be recounted. Subsequently, traffic volumes were recounted on October 4th, 2011.

Bouchard Street at Marcel Street is a cross intersection located west of Regent Street (**see Exhibit B2**). Currently this intersection is controlled with "Stop" signs facing northbound and southbound traffic on Marcel Street. This portion of Bouchard Street was also part of the Traffic Calming Pilot Project and had a median island installed on the east leg of this intersection.

Applying the data from the October 4th, 2011 turning movement count to the City's new Minimum Volume Warrant indicates that the vehicle and pedestrian volume from the side street meets approximately 43 percent of the volume requirements. The traffic volume split is 91percent on Bouchard Street and 9 percent on Marcel Street. This is outside the ratio of 70/30 warrant for an all-way stop (**see Exhibit C2**).

Comparing the 2011 turning movement counts to the previous counts from 2010 and 2007, indicates that while volumes on Marcel Street at this intersection have increased from the 2007 volumes, they have

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significantly decreased from the 2010 levels. The volumes are summarized below:

	2007	2010	2011
Southbound Traffic on Marcel Street	222	282	261
Northbound Traffic on Marcel Street	363	738	399

A review of the City's collision information from July 2008 to July 2011 revealed that there were two collisions that may be susceptible to relief through an all-way stop during this three year period. While all collisions are undesirable, the collision experience would not be considered high, and does not show a pattern that could be corrected with an all-way stop. For a major collector roadway, the Collision Warrant requires a minimum of four collisions per year over a three year period.

Councillor Cimino has also expressed concerns about the safety of pedestrians crossing Bouchard Street at this intersection to access Marcel Park. The existing median island on the east leg of this intersection was recommended by IBI Group during the Traffic Calming Pilot Project to "provide a pedestrian refuge that supports a two-stage crossing when traffic volumes make crossing difficult." During the count, we recorded 21 pedestrians crossing Bouchard Street (18 crossing the east leg and 3 crossing the west leg).

Based on the traffic volumes, pedestrian volume and collision history, installing an all-way stop at the intersection of Bouchard Street and Marcel Street is not warranted.

2. Lansing Avenue at Melbourne Street, Sudbury

Councillor Belli requested that a peak hour traffic count be conducted to determine if an all-way stop is warranted at the intersection of Lansing Avenue at Melbourne Street. The Traffic Committee approved the request for a study at its meeting on June 17, 2011.

Lansing Avenue at Melbourne Street is a cross intersection located two blocks north of Lasalle Boulevard in Ward 8 (see **Exhibit D2**). The east and west approaches of Melbourne Street intersect Lansing Avenue on a skew angle of approximately 60 degrees. Currently this intersection is controlled with "Stop" signs facing eastbound and westbound traffic on Melbourne Street.

Applying the data from the turning movement count that was conducted on September 28th, 2011 to the City's new Minimum Volume Warrant indicates that the vehicle and pedestrian volume from Melbourne Street meets only 20 percent of the requirements. The traffic volume split is 92 percent on Lansing Avenue and 8 percent on Melbourne Street. This is also outside the ratio of 70/30 needed to warrant an all-way stop (see **Exhibit E2**). During the count, we recorded 10 pedestrians crossing Lansing Avenue at Melbourne Street.

A review of collision information showed this intersection has had two reported collisions in the last 3 years that may be susceptible to relief through an all-way stop. The all-way stop warrant for a major collector road (Lansing Avenue) requires there be a minimum of 4 collisions per year over a 3 year period. While the collision history does not warrant an all-way stop, review indicated that both collisions involved vehicles from the east leg of Melbourne Street not yielding to southbound traffic on Lansing Avenue. There is a private large bush in the northeast corner of the intersection which may be restricting visibility at the intersection. Staff have asked the By-law Department to review and have it trimmed if possible. A crosswalk and stop bar will be painted on the east leg of Melbourne Avenue. These measures will help improve safety at the intersection by highlighting the requirement to stop.

Based on the traffic volumes, pedestrian volume and collision history, installing an all-way stop at the intersection of Lansing Avenue and Melbourne Street is not warranted.

3. Hawthorne Drive at Westmount Avenue, Sudbury

Councillor Belli requested that a peak hour traffic count be conducted to determine if an all-way stop is warranted at the intersection of Hawthorne Drive and Westmount Avenue.

Hawthorne Drive at Westmount Avenue is a cross intersection located between Barry Downe Road and Auger Avenue in Ward 8 (see **Exhibit F2**). Currently this intersection is controlled with "Stop" signs facing northbound and southbound traffic on Westmount Avenue.

Applying the data from the turning movement count that was conducted on June 16th, 2011 to the City's new Minimum Volume Warrant indicates that the vehicle and pedestrian volume from Westmount Avenue meets only 25 percent of the requirements. The traffic volume split is 88 percent on Hawthorne Drive and 12 percent on Westmount Avenue. This is also outside the ratio of 70/30 needed to warrant an all-way stop (see **Exhibit G2**). During the count, we recorded 17 pedestrians crossing Hawthorne Drive at Westmount Avenue.

A review of our collision information showed this intersection has had three collisions in the last three years that may be susceptible to relief through an all-way stop. The all-way stop warrant for a major collector road (Hawthorne Avenue) requires there be a minimum of 4 collisions per year over a 3 year period. While the collision history does not warrant an all-way stop, our review indicated that the collisions involved vehicles from Westmount Avenue not yielding to traffic on Hawthorne Drive. A crosswalk and stop bar has been painted on the south leg of Westmount Avenue and a stop bar was also painted on the north leg of Westmount Avenue. These measures will help improve safety at the intersection by highlighting the requirement to stop.

Based on the traffic volumes, pedestrian volume and collision history, installing an all-way stop at the intersection of Hawthorne Drive at Westmount Avenue is not recommended.

4. Madeleine Avenue at Main Street and Madeleine Avenue at Alexander Street, Sudbury

Councillor Landry-Altmann forwarded a petition dated February 16, 2011 from area residents requesting that All-Way Stops be installed at the intersections of Madeleine Avenue at Main Street and Madeleine Avenue at Alexander Street (see **Exhibit H2**) to slow traffic down.

These intersections are both T intersections located south of Lasalle Boulevard in Ward 12 (see **Exhibit I2**). Currently, both intersections are controlled with a stop sign facing eastbound traffic on Main Street and Alexander Street. Also, Ecole Felix-Ricard has a pedestrian access to its school yard on the east side of the Madeleine Avenue at Main Street entrance. Due to the proximity of the school, turning movement counts were conducted during the school year.

Applying the data from the turning movement count conducted at the Madeleine Avenue at Main Street intersection on June 27, 2011, to the City's new Minimum Vehicle Volume warrant indicates that the vehicle and pedestrian volume from the side street meets only 15 percent of the volume requirements. The traffic volume split is 76 percent on Madeleine Avenue and 24% on Main Street. This is outside the ratio of 70/30 needed to warrant an all-way stop (see **Exhibit J2**). During this count, we recorded 11 pedestrians crossing Madeleine Avenue at Main Street.

Applying the data from the turning movement count conducted at the Madeleine Avenue at Alexander Street intersection on June 28, 2011, to the City's new Minimum Vehicle Volume warrant indicates that the vehicle and pedestrian volume from the side street meets only 12 percent of the volume requirements. The traffic volume split is 68 percent on Madeleine Avenue and 32 percent on Main Street. This is within the ratio of 70/30 needed to warrant an all-way stop (see Exhibit K2). During this count, we recorded 4 pedestrians crossing Madeleine Avenue.

A review of collision information showed that both intersections had no reported collisions in the last three years. The all-way stop warrant for a minor collector road requires there be a minimum of 3 collisions per year over a 3 year period.

Based on the traffic volumes, pedestrian volume and collision history, installing an all-way stop at the intersection of Madeleine Avenue at Main Street or Madeleine Avenue at Alexander Street is not warranted.

EXHIBIT: A2



Request for Decision

All Way Stop Control - 1) Bouchard Street at Marcel Street, Sudbury and 2) Balsam Street at Garrow Road and Power Street, Copper Cliff

Presented To: Traffic Committee

Presented: Monday, Mar 21, 2011

Report Date Thursday, Mar 10, 2011

Type: Managers' Reports

Recommendation

That the intersection of Balsam Street at Garrow Road at Power Street be controlled by an all-way-stop, and;

That a by-law be passed by City Council to amend Traffic and Parking By-Law 2010-1 in the City of Greater Sudbury to implement the recommended change all in accordance with the report from the General Manager of Infrastructure Services dated March 10, 2011.

Background

1) Bouchard Street at Marcel Street

On August 4th, 2010, Councillor Cimino requested that a turning movement count be conducted to determine if an all-way stop would be warranted at the intersection of Bouchard Street and Marcel Street.

Bouchard Street at Marcel Street is a cross intersection located west of Regent Street (see Exhibit "A"). There is also a playground located in the southeast corner of the intersection. Currently this intersection is controlled with "stop" signs facing northbound and southbound traffic on Marcel Street. This portion of Bouchard Street was also part of the Traffic Calming Pilot Project, and had a median island installed on the east leg of this intersection.

Applying the data from the turning movement count that was conducted on August 25th, 2010 to the City's new Minimum Volume Warrant indicates that the vehicle and pedestrian volume from the side street meets approximately 75 percent of the volume requirements. The traffic volume split is 80 percent on Bouchard Street and 20 percent on Marcel Street. This is outside the ratio of 70/30 needed to warrant an "all-way" stop (see Exhibit "B").

Comparing the 2010 turning movement count to a previous count conduct in 2007, indicates that volumes at this intersection may be artificially high due to the ongoing construction on Regent Street. Southbound traffic

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Division Review

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from Marcel Street has increased by 27 percent (222 in 2007 vs. 282 in 2010) while northbound traffic from Marcel Street has more than doubled (363 in 2007 vs. 738 in 2010).

A review of the City's collision information from 2008 to 2010 revealed that there were no collisions that may be susceptible to relief through an all-way stop during this three (3) year period. For a Major Collector roadway, the Collision Warrant requires a minimum of four (4) collisions per year over a three (3) year period.

Councillor Cimino also expressed concerns about the safety of pedestrians while crossing Bouchard Street at this intersection. The existing median island on the east leg of this intersection was recommended by the IBI Group as part of the Traffic Calming Pilot Project in order to "provide a pedestrian refuge that supports a two-stage crossing for times when traffic volumes make crossing difficult". During the seven (7) hour count, we recorded a total of five (5) pedestrians crossing Bouchard Street at this intersection (four (4) crossing the east leg and one (1) crossing the west leg).

Based on the traffic volumes, pedestrian volume and collision history, staff does not recommend installing an all-way stop at the intersection of Bouchard Street and Marcel Street. Staff will arrange to recount this intersection once construction is completed on Regent Street to ensure that traffic volumes on Marcel Street do not remain high.

2) Balsam Street at Garrow Road at Power Street

Councillor Barbeau requested that a turning movement count be conducted to determine if an all-way stop is warranted at the intersection of Balsam Street at Garrow Road/Power Street.

Balsam Street at Garrow Road/Power Street is a cross intersection located in Copper Cliff (see **Exhibit "C"**). The Copper Cliff Library is located on the northwest corner of the intersection and the McClelland Arena and R.G. Dow Pool are located northeast of the intersection. Currently this intersection is controlled with "stop" signs facing northeast bound traffic on Power Street and southwest bound traffic on Garrow Road.

Applying the data from the turning movement count that was conducted on May 25th, 2010 to the City's new Minimum Volume Warrant indicates that the traffic volume at this intersection meets the minimum vehicle volume requirements (see **Exhibit "D"**). A review of the City's collision information from 2008 to 2010 revealed that there were three (3) collisions that may be susceptible to relief through an all-way stop during this three (3) year period. For a Minor Collector roadway, the Collision Warrant requires a minimum of three (3) collisions per year over a three (3) year period.

Since the traffic volume meets the minimum vehicle volume warrant, staff recommends installing an all-way stop at the intersection of Balsam Street at Garrow Road/Power Street. Also, staff recommends that physical changes be made to the intersection to better define the approaches and to improve safety for pedestrians. These changes will be funded from the 2011 Capital Roads budget.

EXHIBIT: A

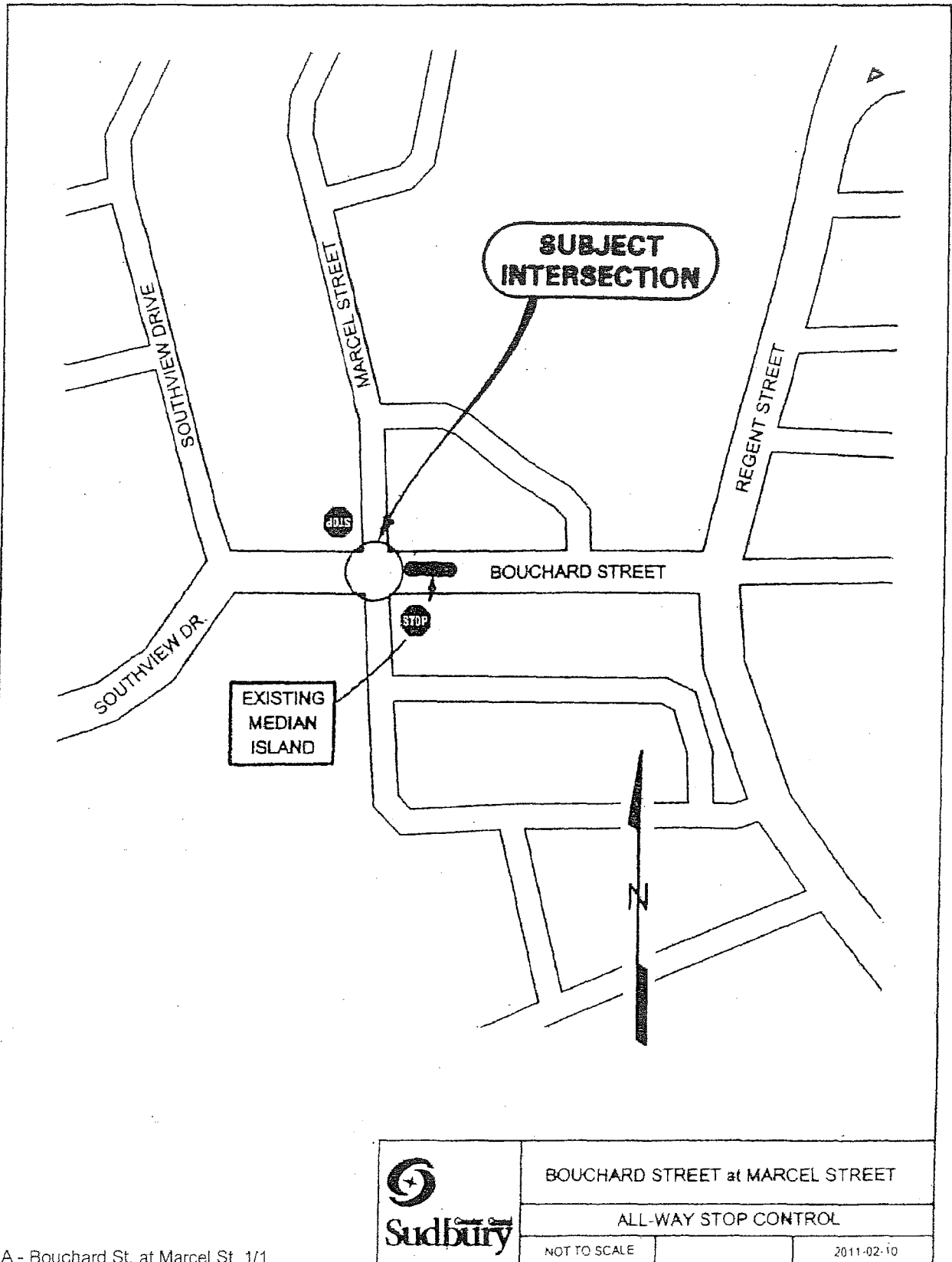


Exhibit A - Bouchard St. at Marcel St. 1/1

Exhibit A2 - Traffic Committee Report Dated March 21, 2011 3/6

EXHIBIT 'I' - All-Way Stop Control Report 7/25

EXHIBIT A_Bouchard St 16/34

EXHIBIT: B



CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

Location:	Bouchard Street at Marcel Street	Date:	March 3, 2011
Date of TM Count:	August 25, 2010	Analyst:	JR
Type of Intersection:	Cross		
Roadway Type	Arterial/Major Collector		
AADT of Main Road:	10500		

All-Way Stop Warrant Summary

Warrant #1	Minimum Vehicle Volume	63.3	%
Warrant #2	Collision History	0.0	%
Warrant #3	Traffic Control Signals	No	Y/N

All-Way Stop Warranted? No Y/N

Warrant #1 - Minimum Vehicle Volume					
Roadway Type	Arterial/Major Collector	Minor Collector	Local	Vehicles per hour	Percent Compliance
AADT	> 5000	1000 - 5000	< 1000		
Count Period	7 hours	4 peak hours	4 peak hours		
Total vehicle volume from all approaches is ≥	500/hr	350/hr	250/hr	780	100.0%
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	N/A	146	73.2%
Traffic Split	70/30	70/30	70/30	81 / 19	63.3%

Warrant #2 - Collision History					
Roadway Type	Arterial/Major Collector	Minor Collector	Local	Number of Collisions per year	Percent Compliance
Collisions per Year over 3 year period	4*	3*	2*	0	0.0%
Warrant #3 Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures.				No	Y/N

* Only those collisions susceptible to relief through multi-way stop control must be consider (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.

EXHIBIT: C

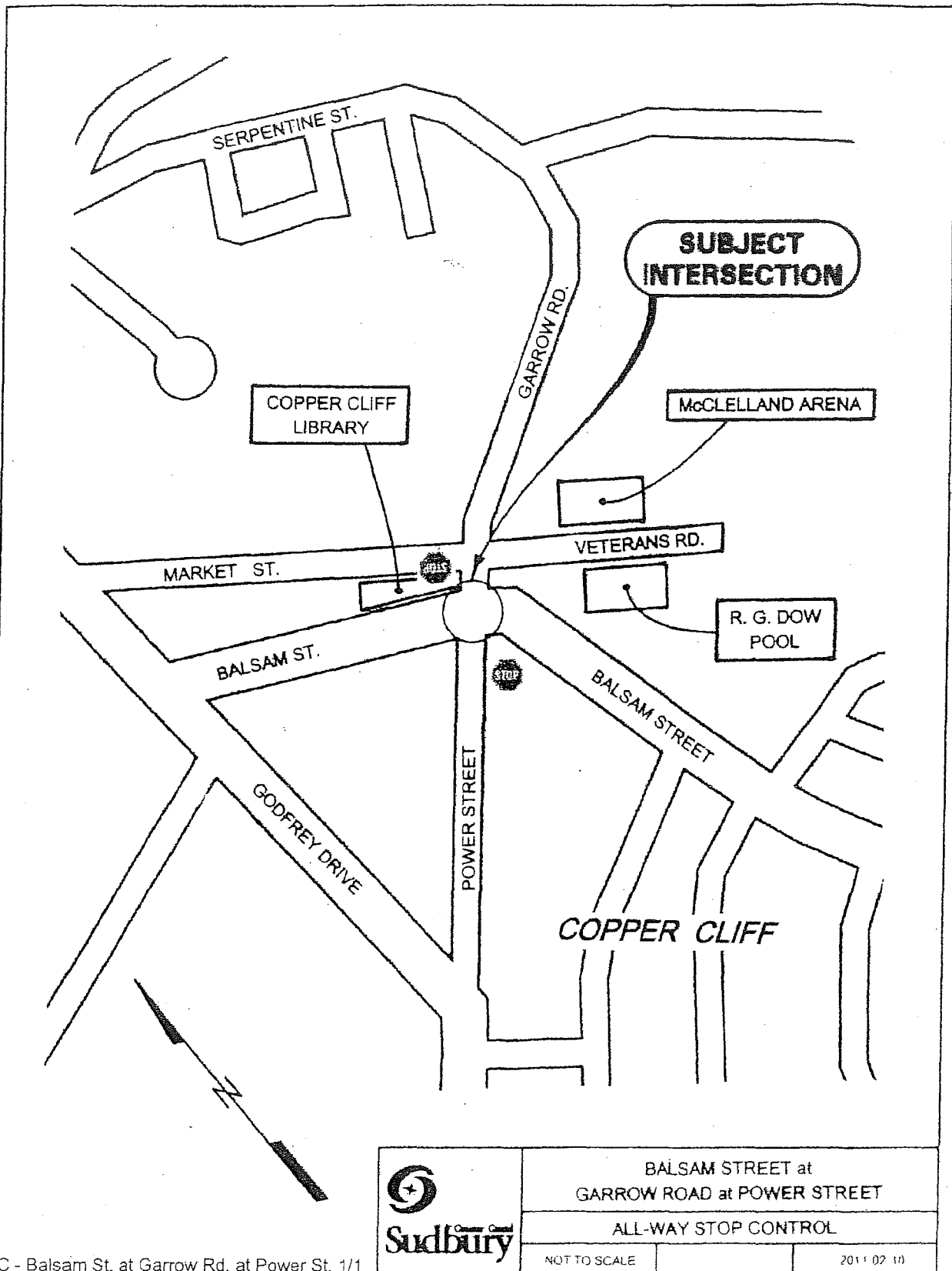


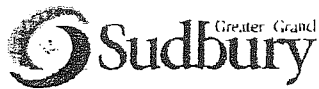
Exhibit C - Balsam St. at Garrow Rd. at Power St. 1/1

Exhibit A2 - Traffic Committee Report Dated March 21, 2011 5/6

EXHIBIT 'I' - All-Way Stop Control Report 9/25

EXHIBIT A_Bouchard St 18/34

EXHIBIT: D



CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

Location: Balsam Street at Power Street Date: March 3, 2011
Date of TM Count: May 25, 2010 Analyst: JR
Type of Intersection: Cross
Roadway Type: Minor Collector
AADT of Main Road: 3998

All-Way Stop Warrant Summary

Warrant #1 Minimum Vehicle Volume %
Warrant #2 Collision History %
Warrant #3 Traffic Control Signals Y/N

All-Way Stop Warranted? Y/N

Warrant #1 - Minimum Vehicle Volume					
Roadway Type	Arterial/Major Collector	Minor Collector	Local	Vehicles per hour	Percent Compliance
AADT	> 5000	1000 - 5000	< 1000		
Count Period	7 hours	4 peak hours	4 peak hours		
Total vehicle volume from all approaches is ≥	500/hr	350/hr	250/hr	461	100.0%
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	N/A	185	100.0%
Traffic Split	70/30	70/30	70/30	62 / 38	100.0%

Warrant #2 - Collision History					
Roadway Type	Arterial/Major Collector	Minor Collector	Local	Number of Collisions per year	Percent Compliance
Collisions per Year over 3 year period	4*	3*	2*	1	33.3%
Warrant #3 Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures.				<input type="text" value="No"/>	Y/N

* Only those collisions susceptible to relief through multi-way stop control must be consider (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.

EXHIBIT: B2

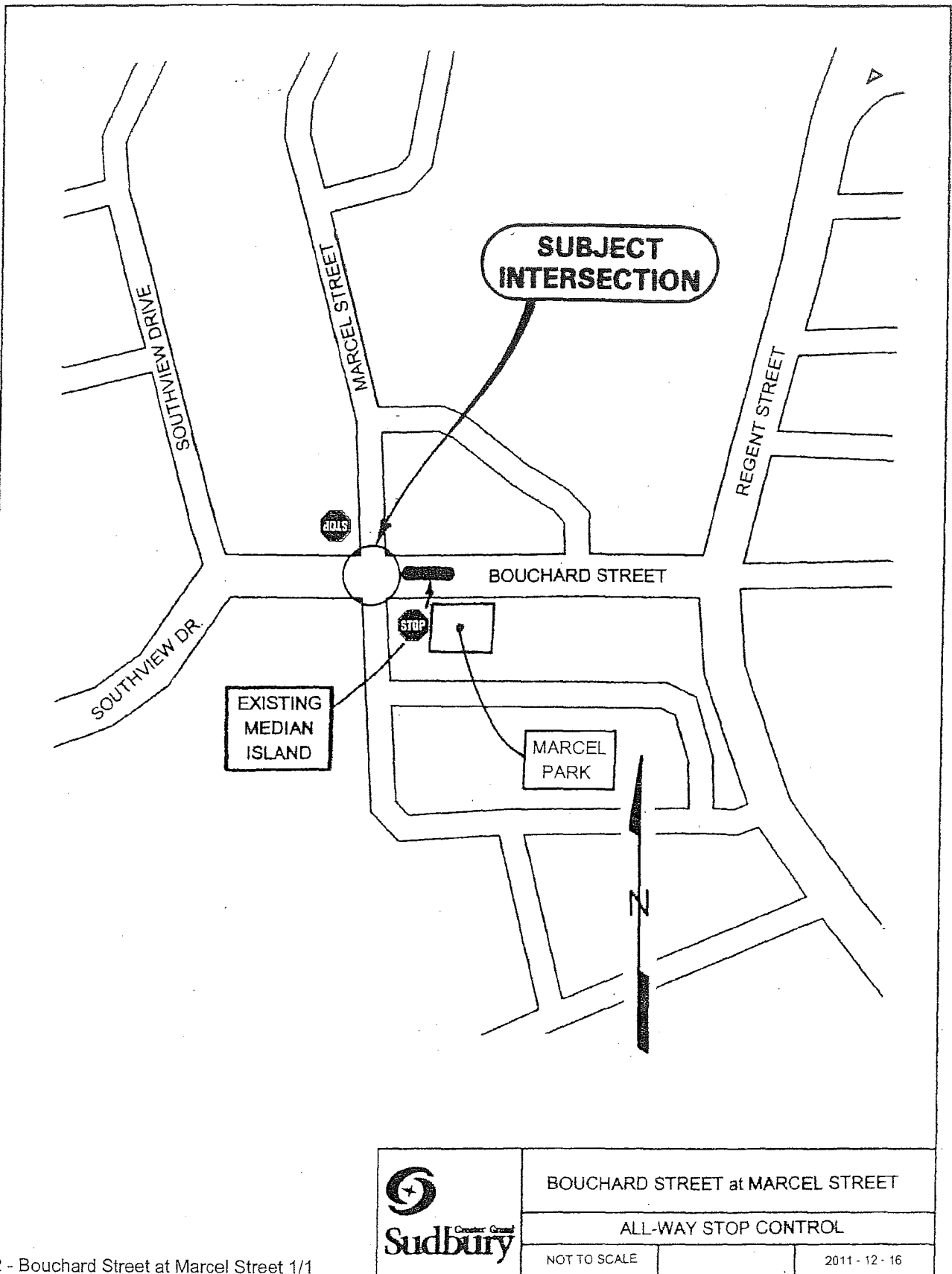


Exhibit B2 - Bouchard Street at Marcel Street 1/1

EXHIBIT 'I' - All-Way Stop Control Report 11/25

EXHIBIT A_Bouchard St 20/34

EXHIBIT: C2



CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

Location: Bouchard Street at Marcel Street Date: October 25, 2011
 Date of TM Count: 10/04/2011 Analyst: JR
 Type of Intersection: Cross
 Roadway Type: Arterial/Major Collector
 AADT of Main Road: 10000

All-Way Stop Warrant Summary

Warrant #1	Minimum Vehicle Volume	<u>30.0</u>	%
Warrant #2	Collision History	<u>16.7</u>	%
Warrant #3	Traffic Control Signals	<u>No</u>	Y/N

All-Way Stop Warranted? No Y/N

Warrant #1 - Minimum Vehicle Volume

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Vehicles per hour	Percent Compliance
AADT	> 5000	1000 - 5000	< 1000		
Count Period	7 hours	4 peak hours	4 peak hours		
Total vehicle volume from all approaches is ≥	500/hr	350/hr	250/hr	930	100.0%
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	N/A	87	43.4%
Traffic Split	70/30	70/30	70/30	91 / 9	30.0%

Warrant #2 - Collision History

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Number of Collisions per year	Percent Compliance
Collisions per Year over 3 year period	4*	3*	2*	2/3	16.7%

Warrant #3 Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures. No Y/N

* Only those collisions susceptible to relief through multi-way stop control must be considered (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.

EXHIBIT: D2

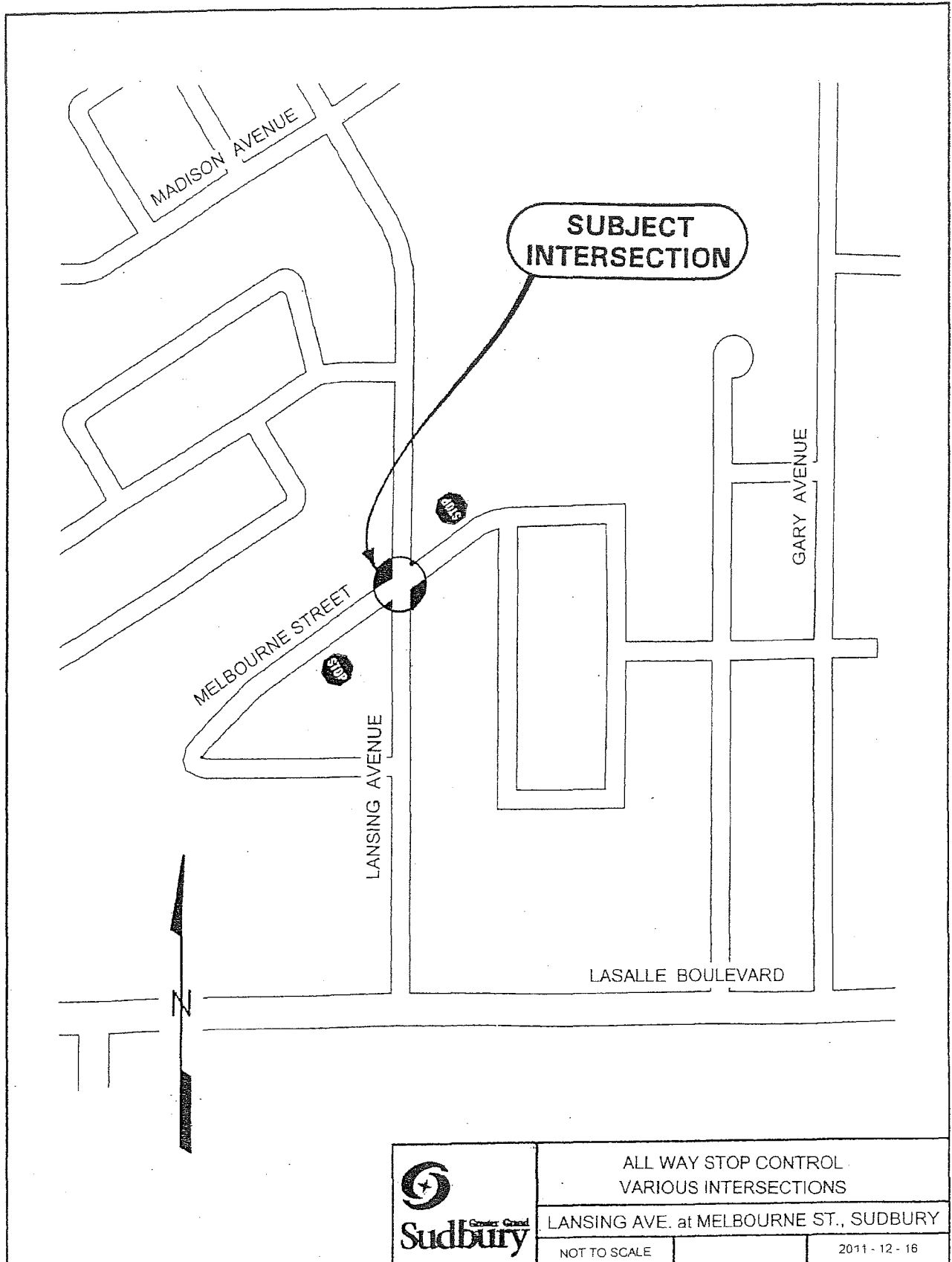
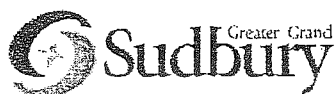


Exhibit D2 - Lansing Avenue at Melbourne Street 1/1

EXHIBIT 'I' - All-Way Stop Control Report 13/25

EXHIBIT A_Bouchard St 22/34

EXHIBIT: E2



CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

Location: Lansing Avenue at Melbourne Street Date: October 4, 2011
 Date of TM Count: 09/28/2011 Analyst: JR
 Type of Intersection: Cross
 Roadway Type: Arterial/Major Collector
 AADT of Main Road: 7300

All-Way Stop Warrant Summary

Warrant #1 Minimum Vehicle Volume 19.6 %
 Warrant #2 Collision History 16.7 %
 Warrant #3 Traffic Control Signals No Y/N

All-Way Stop Warranted? No Y/N

Warrant #1 - Minimum Vehicle Volume

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Vehicles per hour	Percent Compliance
AADT	> 5000	1000 - 5000	< 1000		
Count Period	7 hours	4 peak hours	4 peak hours		
Total vehicle volume from all approaches is ≥	500/hr	350/hr	250/hr	509	100.0%
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	N/A	39	19.6%
Traffic Split	70/30	70/30	70/30	92 / 8	26.7%

Warrant #2 - Collision History

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Number of Collisions per year	Percent Compliance
Collisions per Year over 3 year period	4*	3*	2*	2/3	16.7%

Warrant #3 Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures. No Y/N

* Only those collisions susceptible to relief through multi-way stop control must be considered (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.

EXHIBIT: F2

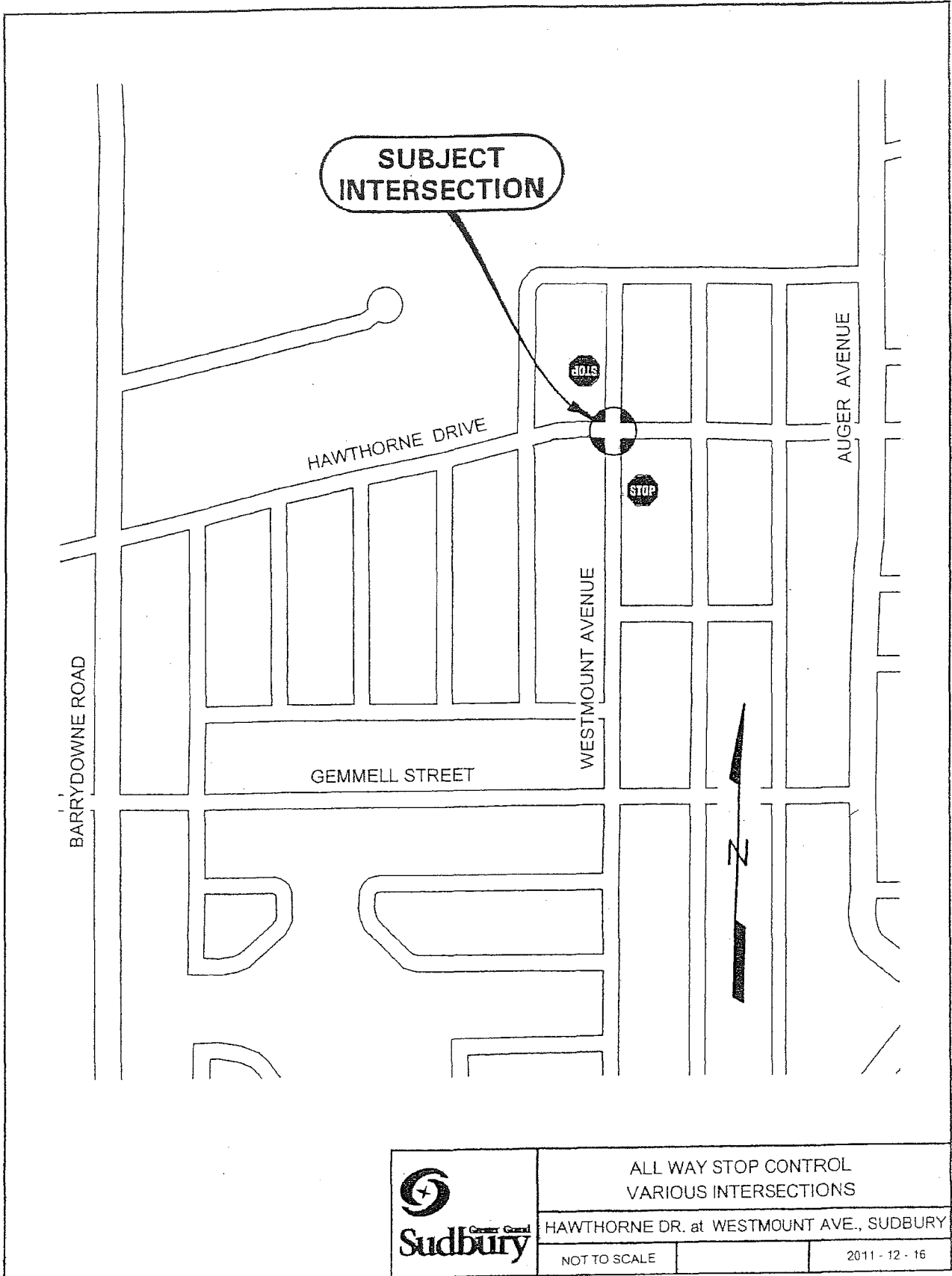
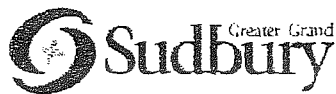


Exhibit F2 - Hawthorne Drive at Westmount Avenue 1/1

EXHIBIT 'I' - All-Way Stop Control Report 15/25

EXHIBIT A_Bouchard St 24/34

EXHIBIT: G2



CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

Location: Westmount Avenue at Hawthorne Drive
 Date of TM Count: 06/16/2011
 Type of Intersection: Cross
 Roadway Type: Arterial/Major Collector
 AADT of Main Road: 5600

Date: August 9, 2011
 Analyst: JR

All-Way Stop Warrant Summary

Warrant #1 Minimum Vehicle Volume 25.1 %
 Warrant #2 Collision History 25.0 %
 Warrant #3 Traffic Control Signals No Y/N

All-Way Stop Warranted?

No Y/N

Warrant #1 - Minimum Vehicle Volume

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Vehicles per hour	Percent Compliance
AADT	> 5000	1000 - 5000	< 1000		
Count Period	7 hours	4 peak hours	4 peak hours		
Total vehicle volume from all approaches is ≥	500/hr	350/hr	250/hr	411	82.3%
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	N/A	50	25.1%
Traffic Split	70/30	70/30	70/30	88 / 12	40.0%

Warrant #2 - Collision History

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Number of Collisions per year	Percent Compliance
Collisions per Year over 3 year period	4*	3*	2*	1	25.0%

Warrant #3 Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures.

No Y/N

* Only those collisions susceptible to relief through multi-way stop control must be consider (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.

EXHIBIT: H2

FEBRUARY 16, 2011

We, the residents of Madeleine, Martin, Main & Alexander Streets are requesting a 3-way Stop Sign at the corner of Madeleine & Main & Madeleine & Alexander Streets. We have serious speeding issues. Local children access the school entrance off of Madeleine and parents also drop off their children at this entrance to avoid congestion on Starlight Ave and turning challenges onto Lasalle Blvd

NAME	ADDRESS	TELEPHONE
Robert Mack	[REDACTED] Madeleine	[REDACTED]
Alphonse LaRose	[REDACTED] Madeleine	[REDACTED]
BARB INGRAM	[REDACTED] madeleine	[REDACTED]
Jack Ingram	[REDACTED] "	[REDACTED]
M. Quenneville	[REDACTED] Madeleine	[REDACTED]
Maxine Quenneville	[REDACTED] Madeleine	[REDACTED]
Lynn Jackson	[REDACTED] Madeleine	[REDACTED]
P. Jackson	[REDACTED] "	[REDACTED]
Jennifer Whiting	[REDACTED] Madeleine	[REDACTED]
Doug Hodgins	[REDACTED] Madeleine	[REDACTED]
CHRISTOS KITSOS	[REDACTED] MADELEINE AVE	[REDACTED]
Tina Kitsos	[REDACTED] Madeleine Ave	[REDACTED]
Chrysoula Kitsos	[REDACTED] Madeleine ave	[REDACTED]
Konstantine Kitsos	[REDACTED] madeleine	[REDACTED]
Robert [REDACTED]	[REDACTED] Madeleine	[REDACTED]
Jim [REDACTED]	[REDACTED] Madeleine Ave	[REDACTED]
[REDACTED]	[REDACTED] Madeleine Ave	[REDACTED]
[REDACTED]	[REDACTED] MADELEINE AVE	[REDACTED]

Exhibit H2 - Resident Petition dated February 16, 2011 No

EXHIBIT 'I' - All-Way Stop Control Report 17/25

EXHIBIT A_Bouchard St 26/34

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FEBRUARY 16, 2011

We, the residents of Madeleine, Martin, Main & Alexander Streets are requesting a 3-way Stop Sign at the corner of Madeleine & Main & Madeleine & Alexander Streets. We have serious speeding issues. Local children access the school entrance off of Madeleine and parents also drop off their children at this entrance to avoid congestion on Starlight Ave and turning challenges onto Lasalle Blvd

NAME	ADDRESS	TELEPHONE
MIKE LANDRY	MARTIN AVE Sudbury Cnt	[REDACTED]
SUZANNE LANDRY	MARTIN AVE Sudbury Cnt	[REDACTED]
ROBERT G. ROE	MADELEINE AVE	[REDACTED]
Julie Valade	MADELEINE AVE	[REDACTED]
Jean Valade	Sagebrush Pl	[REDACTED]
Jamie Valade	MADELEINE AVE	[REDACTED]
R. VALADE	SAGEBRUSH PL	[REDACTED]
Henri Desjardins	MADELEINE AVE	[REDACTED]
NORM AUBIN	MADELEINE ST	[REDACTED]
LEE H. BISSON	MADELEINE AVE	[REDACTED]
Diane BISSON	MADELEINE AVE	[REDACTED]
MALENA AUDETTE	MADELEINE AVE	[REDACTED]
Richard Audette	MADELEINE AVE	[REDACTED]
LAURENCE BISSON	MADELEINE AVE	[REDACTED]
Roy O'Brien	MADELEINE AVE	[REDACTED]
Judy G. G. G.	MADELEINE AVE	[REDACTED]
Claudia Macki	MADELEINE AVE	[REDACTED]
Nancy + Jim Howard	MADELEINE AVE	[REDACTED]

Exhibit H2 - Resident Petition dated February 16, 2011 2/6

EXHIBIT 'I' - All-Way Stop Control Report 18/25

EXHIBIT A_Bouchard St 27/34

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FEBRUARY 16, 2011

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NAME	ADDRESS	TELEPHONE
Ethel Campbell	Madeleine St.	
Wendy Hastings	Madeleine St.	
Renee Hastings	Madeleine St.	
Andre Lefebvre	Madeleine	
Josine Lefebvre	Madeleine	
Angeline Belon	Madeleine	
Roger Belon	Madeleine	
Rachel Scott	Madeleine	
Therese Jessel	Madeleine	
Brigitte Quesset	Madeleine	
O. Carlson	Madeleine	
Lauren	Madeleine	
J. NAGANISHI	A. Hart	
A. Hart		
GARY KOIVU	MADELEINE AVE.	
E. Knopf	Madeleine Ave	
C. Haynes	Madeleine Ave	
Paula Rogers	Madeleine Ave	
S. Mantoan	Madeleine Ave	
L. Mantoan	Madeleine Ave	

FEBRUARY 16, 2011

We, the residents of Madeleine, Martin, Main & Alexander Streets are requesting a 3-way Stop Sign at the corner of Madeleine & Main & Madeleine & Alexander Streets. We have serious speeding issues. Local children access the school entrance off of Madeleine and parents also drop off their children at this entrance to avoid congestion on Starlight Ave and turning challenges onto Lasalle Blvd

NAME	ADDRESS	TELEPHONE
Cécile Duchaine Blackburn Road Raymond P. H. H. H. H.	Madeleine ave Madeleine Ave Madeleine Alexander St	[REDACTED]
K. McNeill Joe Shields Brown Way	MADELEINE ST Madeleine AV Madeleine Ave	[REDACTED]
GARRY HOOGE	MADELEINE	[REDACTED]
Kevin Roy	[REDACTED]	[REDACTED]
James + Kathy + Dominic	Alexander St [REDACTED] ALEXANDER ST	[REDACTED]
Matthew Landry [REDACTED] [REDACTED]	Martin Ave [REDACTED]	[REDACTED]

FEBRUARY 16, 2011

We, the residents of Madeleine, Martin, Main & Alexander Streets are requesting a 3-way Stop Sign at the corner of Madeleine & Main & Madeleine & Alexander Streets. We have serious speeding issues. Local children access the school entrance off of Madeleine and parents also drop off their children at this entrance to avoid congestion on Starlight Ave and turning challenges onto Lasalle Blvd

NAME	ADDRESS	TELEPHONE
Michel Guerin	Martin St	
Carole Guerin	Martin St	
SERIE PELLETIER	MARTIN AVE	
Joseph Bane	MARTIN	
Chris McLaughlin	Martin Ave	
Duckie Scott	Martin St.	
Shirley Agnew	Martin	
Yvonne Stm	Martin	
J. Spitzke	Martin Ave	
Jeannette Noel	Martin St	
Matthew Roach	Martin Ave	
Lindsay Roach	Martin Ave	
Jeannine Maibe	MADELEINE ST	
Peter Maibe	Madeleine Ave	
	MARTIN ST	
	Martin Ave	
Laurence Edwards	Martin Ave	
Joe King	Martin Ave	
M. Smith	MARTIN AVE.	
Paul Lemoine	MARTIN AVE (UPPER)	
ANNA LEMOINE	Martin Ave	
Y. P. Smith	Martin Ave	

Exhibit H2 - Resident Petition dated February 16, 2011 5/6

EXHIBIT 'I' - All-Way Stop Control Report 21/25

FEBRUARY 16, 2011

We, the residents of Madeleine, Martin, Main & Alexander Streets are requesting a 3-way Stop Sign at the corner of Madeleine & Main & Madeleine & Alexander Streets. We have serious speeding issues. Local children access the school entrance off of Madeleine and parents also drop off their children at this entrance to avoid congestion on Starlight Ave and turning challenges onto Lasalle Blvd

NAME	ADDRESS	TELEPHONE
Maxine Lemieux	[REDACTED] Martin Ave	[REDACTED]
Paulette Bonin	[REDACTED] Martin	[REDACTED]
Jacques Bonin	[REDACTED] Madeleine	[REDACTED]
Pierre G Bonin	[REDACTED] Martin	[REDACTED]
Stienne Desrochers	[REDACTED] Martin Ave	[REDACTED]
Lin P. Bouchard	[REDACTED] Martin Ave	[REDACTED]
Lise & Rob St. Germain	[REDACTED] Martin Ave	[REDACTED]
Robert M. [unclear]	[REDACTED] Martin Ave	[REDACTED]
André Bouchard	[REDACTED] Martin Ave	[REDACTED]
[unclear]	[REDACTED] Martin Ave	[REDACTED]
[unclear]	[REDACTED] Martin Ave	[REDACTED]
Robert Bouchard	[REDACTED] Martin Ave	[REDACTED]
Line Lapierre	[REDACTED] Martin Ave	[REDACTED]
Stienne Lapierre	[REDACTED] Martin Ave	[REDACTED]
Pat Lapierre	[REDACTED] Martin Ave	[REDACTED]
Liliane Potvin	[REDACTED] Main St	[REDACTED]
Stienne Lapierre	[REDACTED] MAIN ST	[REDACTED]

Exhibit H2 - Resident Petition dated February 16, 2011

EXHIBIT 'I' - All-Way Stop Control Report 22/25

EXHIBIT: I2

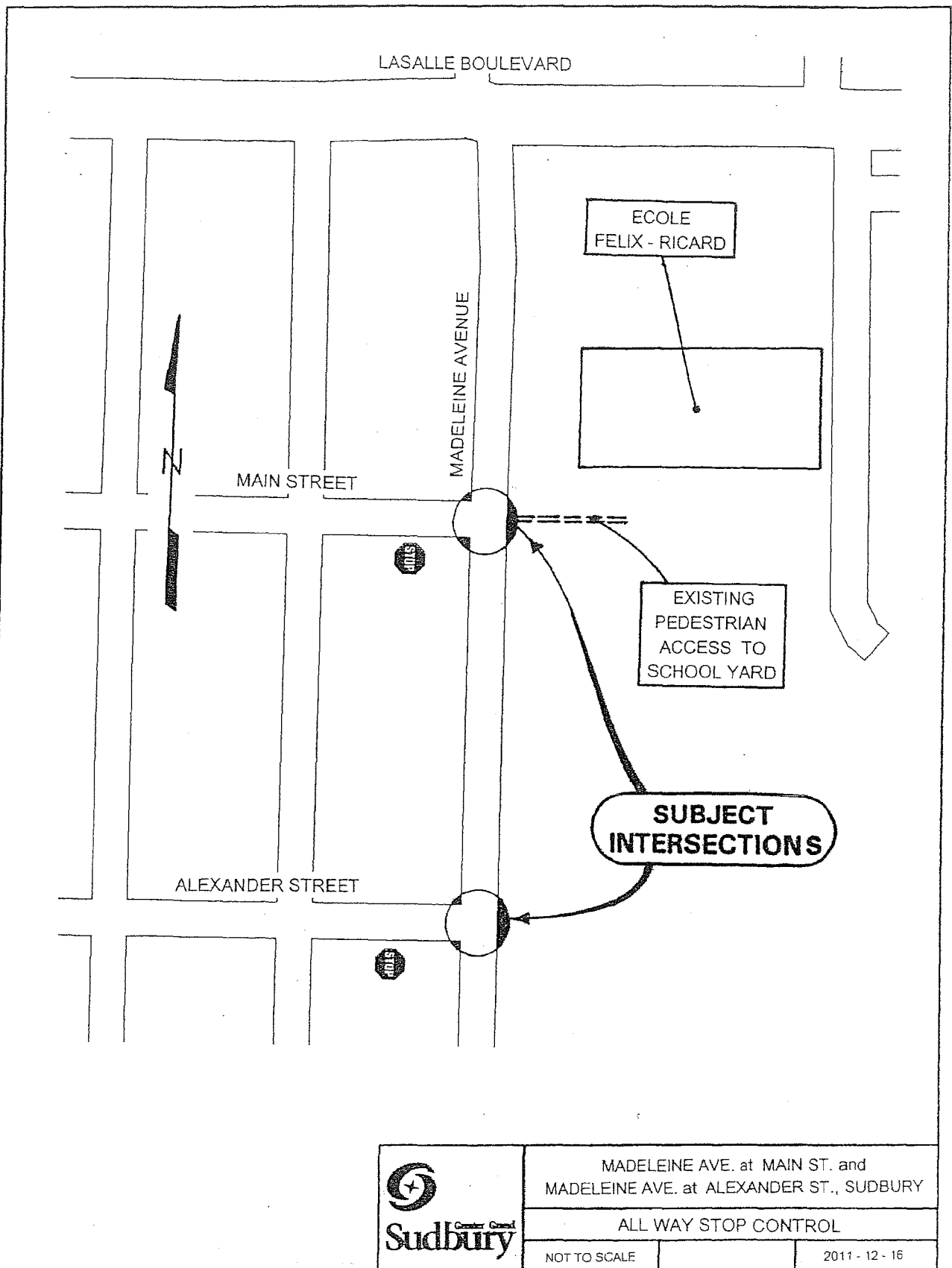


Exhibit I2 - T Intersections Located South of Lasalle Boulevard 1/1

EXHIBIT 'I' - All-Way Stop Control Report 23/25

EXHIBIT A_Bouchard St 32/34

EXHIBIT: J2



CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

Location: Madeleine Avenue at Main Street Date: October 3, 2011
 Date of TM Count: 06/27/2011 Analyst: JR
 Type of Intersection: T
 Roadway Type: Minor Collector
 AADT of Main Road: 1500

All-Way Stop Warrant Summary

Warrant #1	Minimum Vehicle Volume	<u>15.4</u>	%
Warrant #2	Collision History	<u>0.0</u>	%
Warrant #3	Traffic Control Signals	<u>No</u>	Y/N

All-Way Stop Warranted?

No Y/N

Warrant #1 - Minimum Vehicle Volume

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Vehicles per hour	Percent Compliance
AADT	> 5000	1000 - 5000	< 1000		
Count Period	7 hours	4 peak hours	4 peak hours		
Total vehicle volume from all approaches is ≥	500/hr	350/hr	250/hr	90	25.6%
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	N/A	22	15.4%
Traffic Split	70/30	70/30	70/30	76 / 24	80.0%

Warrant #2 - Collision History

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Number of Collisions per year	Percent Compliance
Collisions per Year over 3 year period	4*	3*	2*	0	0.0%

Warrant #3	Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures.	<u>No</u>	Y/N
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* Only those collisions susceptible to relief through multi-way stop control must be consider (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.

EXHIBIT: K2



CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

Location:	Madeleine Ave at Alexander St	Date:	October 3, 2011
Date of TM Count:	June 28, 2011	Analyst:	JR
Type of Intersection:	T		
Roadway Type	Local		
AADT of Main Road:	500		

All-Way Stop Warrant Summary

Warrant #1	Minimum Vehicle Volume	12.1	%
Warrant #2	Collision History	0.0	%
Warrant #3	Traffic Control Signals	No	Y/N

All-Way Stop Warranted? No Y/N

Warrant #1 - Minimum Vehicle Volume

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Vehicles per hour	Percent Compliance
AADT	> 5000	1000 - 5000	< 1000		
Count Period	7 hours	4 peak hours	4 peak hours		
Total vehicle volume from all approaches is ≥	500/hr	350/hr	250/hr	53	15.1%
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	N/A	17	12.1%
Traffic Split	70/30	70/30	70/30	68/32	100.0%

Warrant #2 - Collision History

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Number of Collisions per year	Percent Compliance
Collisions per Year over 3 year period	4*	3*	2*	0	0.0%

Warrant #3 Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures. No Y/N

* Only those collisions susceptible to relief through multi-way stop control must be consider (i.e. right angle and turning types).

- If the intersection meets warrant #1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.

