OPERATIONS COMMITTEE AGENDA

Operations Committee Meeting
Monday, January 20, 2014
Tom Davies Square

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

APPOINTMENT OF COMMITTEE CHAIR AND VICE-CHAIR

1. Report dated December 27, 2013 from the Executive Director, Administrative Services/City Clerk regarding Appointment of Chair and Vice-Chair - Operations Committee. **6 - 9**
   (RECOMMENDATION PREPARED)

   (Deputy Clerk, Brigitte Sobush will call the meeting to order and preside until the Operations Committee Chair and Vice Chair have been appointed, at which time the newly appointed Chair will preside over the balance of the meeting.)

COMMUNITY DELEGATIONS

2. Downtown Sudbury **10 - 11**
(ELECTRONIC PRESENTATION) (FOR INFORMATION ONLY)

- Cliff Skelliter, Peddler's Pub
- Christopher Gainer, Peddler's Pub

(This presentation will provide Downtown Sudbury the opportunity to share information regarding the proposed 'Pilot Project' for the existing downtown Outdoor Patio program.)

PRESENTATIONS

3. Report dated January 15, 2014 from the General Manager of Infrastructure Services regarding Status Report - 2013 Capital Projects. **12 - 15**
(ELECTRONIC PRESENTATION) (FOR INFORMATION ONLY)

- Peter Chiesa, Manager of Project Engineering
- Lee Laframboise, Manager of Construction Services

(This report provides the status of 2012 carry-over and 2013 capital projects, the stage that they are presently at; and the work to be completed in the following year with an anticipated completion date.)

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.)

ROUTINE MANAGEMENT REPORTS

C-1. Report dated January 13, 2014 from the General Manager of Infrastructure Services regarding Sudbury Wastewater Treatment Plant Headhouse Upgrades - Odour Control System. **16 - 17**
(RECOMMENDATION PREPARED)

(This report seeks approval to single-source the purchase of an odour control technology, photo-ionization, from AMBIO Biofiltration Ltd. for the Sudbury Wastewater Treatment Plant Head House Upgrades Project.)

CORRESPONDENCE FOR INFORMATION ONLY

C-2. Report dated January 13, 2014 from the General Manager of Infrastructure Services regarding Source Control Update. **18 - 30**
(FOR INFORMATION ONLY)

(This report provides information with regards to the Source Control Progarm.)

REGULAR AGENDA

MANAGERS' REPORTS

R-1. Report dated January 8, 2014 from the General Manager of Infrastructure Services regarding Pedestrian Traffic Signals - Barry Downe Road at Woodbine Avenue. **31 - 59**
(RECOMMENDATION PREPARED)

(This report outlines recommendations regarding pedestrian traffic signals at Barry Downe Road and Woodbine Avenue.)

R-2. Report dated January 13, 2014 from the General Manager of Infrastructure Services regarding Residential 40 km/h Speed Limits. **60 - 63**
(RECOMMENDATION PREPARED)

(This report recommends that the City maintain the statutory 50 km/h speed limits on residential roads.)

R-3. Report dated January 8, 2014 from the General Manager of Infrastructure Services regarding Traffic Control - Various New Intersections - (1) Nature's Haven Subdivision, Phase 2 (2) Lofty Pines Subdivision, Phase 3 (3) Marquis Park Subdivision, Phase 4B (4) Scenic View Subdivision (5) Vintage Green Subdivision, Phases 7. **64 - 71**
(RECOMMENDATION PREPARED)

(Five new subdivisions are currently being developed in the City of Greater Sudbury. As part of these developments, the City of Greater Sudbury will assume new public roadways. To provide for a safe and orderly flow of traffic, traffic control signs will be required at newly created intersections. It is recommended that a by-law be passed to amend Traffic and Parking By-Law 2010-1 in the City of Greater Sudbury, to implement the recommended changes.)

R-4. Report dated January 8, 2014 from the General Manager of Infrastructure Services regarding All-Way Stop Control - (1) Whittaker Street at Isabel Street, Sudbury (2) Irving Street at Clemow Avenue, Sudbury (3) Gold Street at Zinc Street, Sudbury (4) Moonrock Avenue at Arnold Street, Sudbury (5) Niemi Road at Sugarbush Drive, Lively (6) Morin Avenue at King Street, Sudbury. **72 - 90**
(RECOMMENDATION PREPARED)

(Staff have received requests to determine if an All-Way Stop control would be warranted at the intersections of Whittaker Street at Isabel Street, Irving Street at Clemow Avenue, Gold Street at Zinc Street and Moonrock Avenue at Arnold Street, Niemi Road at Sugarbush Drive and Morin Avenue at King Street. This report presents staff's findings and provides a recommendation for traffic control at the requested intersections.)

R-5. Report dated January 8, 2014 from the General Manager of Infrastructure Services regarding South Bay Road Speed Limit. **91 - 101**
(RECOMMENDATION PREPARED)

(This report recommends the increase of the speed limit on South Bay Road from Ramsey Lake Road to the Athletic Building Road to 50 km/h.)

MOTIONS

R-6. **All Way Stop Requests in Ward 1**

As presented by Councillor Cimino:

WHEREAS residents in Ward 1 are concerned for the safety of drivers and pedestrians;

AND WHEREAS requests for all way stops have been made by the residents and results of current reviews remain outstanding;

THEREFORE BE IT RESOLVED THAT the City of Greater Sudbury Roads and Transportation staff present reports to the Operations Committee outlining the results of reviews for requests for all way stops at the following intersections by March of 2014:

a) Isabel Street and Whittaker Street;
b) Isabel Street and Albinson Street;
c) Irving Street and Clemow Avenue;
d) Arnold Street and Moonrock Avenue;
e) Gold Street and Zinc Street;
f) Gemini Crescent and Moonrock Avenue (changing yield signs to stop signs);
g) Jupiter Court and Arnold Street (changing yield signs to stop signs).

R-7. **Ward 1 Operations Requests**

As presented by Councillor Cimino:

WHEREAS residents in Ward 1 are concerned for the safety of drivers and pedestrians;

AND WHEREAS Ward 1 Councillor Joe Cimino has received several requests for the following:

a) That a yellow flashing light be installed on the speed reduction sign at the curve on Southview Drive just west of Kelly Lake Road, as such lights exist in other locations in Greater Sudbury. Several accidents have occurred at this location as a result of cars missing the curve and ending up on peoples'

front yards, one taking out a mature tree; b) That the sidewalk on Whittaker Street between MacLeod and Struthers Streets be plowed. The sidewalk along MacLeod and Struthers are already plowed so the machine would only need to make an extra short run; and c) That Jupiter Court be added to the salt route as vehicles cannot safely proceed up and down the hill;

NOW THEREFORE BE IT RESOLVED THAT the City of Greater Sudbury Roads and Transportation staff present reports to the Operations Committee outlining options for the following requests by February of 2014:

a) That a yellow flashing light be installed on the speed reduction sign at the curve on Southview Drive just west of Kelly Lake Road;
b) That the sidewalk on Whittaker Street between MacLeod and Struthers Streets be plowed; and
c) That Jupiter Court be added to the salt route as vehicles cannot safely proceed up and down the hill.

ADDENDUM

CIVIC PETITIONS

QUESTION PERIOD AND ANNOUNCEMENTS

NOTICES OF MOTION

ADJOURNMENT

BRIGITTE SOBUSH, DEPUTY CITY CLERK

Presented To:	Operations Committee
Presented:	Monday, Jan 20, 2014
Report Date	Friday, Dec 27, 2013
Type:	Appointment of Committee Chair and Vice-Chair

Request for Decision

Appointment of Chair and Vice-Chair - Operations Committee

Signed By

Report Prepared By
Brigitte Sobush
Deputy City Clerk
Digitally Signed Dec 27, 13

Recommended by the Department
Caroline Hallsworth
Executive Director, Administrative Services/City Clerk
Digitally Signed Jan 3, 14

Recommended by the C.A.O.
Doug Nadorozny
Chief Administrative Officer
Digitally Signed Jan 3, 14

Recommendation

That the City of Greater Sudbury appoint Councillor _____ as Chair and Councillor _____ as Vice-Chair of the Operations Committee for the term ending November 30, 2014.

Background

This report sets out the procedure for the election by the Committee of the Chair and Vice-Chair of the Operations Committee for the term ending November 30, 2014.

The Procedure By-law provides that a Member of the Committee shall be appointed annually by the Committee to serve as Chair of the Operations Committee. As well, a Vice-Chair is appointed annually.

The above appointments need only be confirmed by resolution.

Remuneration

The Chair of the Operations Committee is paid $1,988.86 per annum.

Selection

The selection of the Chair and Vice-Chair is to be conducted in accordance with Article 45 of the Procedure By-law (copy attached).

Council's procedure requires that in the event more than one (1) candidate is nominated for either the Chair or Vice-Chair's position, a simultaneous recorded vote shall be used to select the Chair and Vice-Chair.

It is always in order for a Member of Council to nominate themselves and to vote for themselves. Under *Robert's Rules of Order* a nomination does not need a second.

Once the successful candidates have been selected, a resolution will be introduced confirming the appointment of the successful candidates.

ARTICLE 45. NOMINATING COMMITTEE

45.01 Mandate

The Nominating Committee shall meet, as needed by Council, for the purpose of considering and recommending to Council citizen appointments to agencies, boards, advisory panels, and other bodies as required.

45.02 Primary Objectives

In making such appointments, the Nominating Committee shall take into consideration a balanced representation from communities of interest so as to be reflective of the geographical and demographic composition of the community.

45.03 Membership

The Nominating Committee shall be composed of all Members of Council and chaired by a Deputy Mayor.

45.04 Term

The term of the Nominating Committee shall coincide with the term of Council.

45.05 Procedure

In making such appointments, the procedure set out in this Article shall apply unless otherwise provided in a shareholders' declaration.

45.06 Number of Applicants Matches Positions - Motion

Where the number of applicants matches the positions to be filled, a motion to appoint the applicant(s) to the position(s) in question shall be presented and voted upon.

45.07 Simultaneous Recorded Vote

A simultaneous recorded vote shall be used to select the applicants to fill each position available, in accordance with Article 33.05, except that:

(1) the Clerk need not read each ballot aloud nor record each individual vote; and

(2) the ballots shall be retained as part of the minutes.

45.08 Number of Applicants Exceeds Positions - Simultaneous Recorded Vote

Where the number of applicants exceeds the number of positions available, a simultaneous recorded vote shall be conducted in accordance with Article 37.09.

45.09 Term of Appointment – Local Boards

The term of office of each citizen appointed to a Local Board shall be set out in the body's terms of reference and shall not exceed the term of Council, unless otherwise specified by statute. However for purposes of continuity, such citizen appointments shall remain in effect following a municipal election until their successors are appointed by the incoming Council.

45.10 Term of Appointment – Staff

Except where prohibited by statute, the Nominating Committee may recommend the appointment of a member of staff to a board or agency within its mandate in the place of a Member when no other Members are available to be appointed.

Presented To:	Operations Committee
Presented:	Monday, Jan 20, 2014
Report Date	Tuesday, Dec 24, 2013
Type:	Community Delegations

For Information Only

Downtown Sudbury

Recommendation

For Information Only

This presentation will provide Downtown Sudbury the opportunity to share information regarding the proposed 'Pilot Project' for the existing downtown Outdoor Patio program.

Signed By

No signatures or approvals were recorded for this report.

DOWNTOWN SUDBURY

LIVE IT · WORK IT · SHOP IT

via email

December 20, 2013

City of Greater Sudbury
City Clerk's Office
200 Brady Street
Sudbury, ON P3A 5P3

ATTENTION: BRIGITTE SOBUSH, Deputy City Clerk

Dear Ms Sobush:

RE: OPERATIONS COMMITTEE – Delegation Request

I would like the opportunity to appear before the Operations Committee at their January meeting to request a By-Law Amendment that would allow a 'Pilot Project' for a change in our existing downtown Outdoor Patio program. This presentation will be done on behalf of – and with – Peddler's Pub. Mr. Cliff Skelliter and Mr. Christopher Gainer will be in attendance representing Peddler's Pub, with Mr. Skelliter speaking on their behalf.

The current patio program allows for limited use of sidewalk space, requiring that pedestrian allowance be maintained. Downtown Barrie operates a very successful program that allows the full sidewalk to be utilized, with the construction of a 'boardwalk' to allow and maintain pedestrian flow.

The request to undertake a 'Pilot Project' similar to that in Barrie ties in to the Downtown Master Plan concepts and is expected to be a downtown attraction – not just for Peddler's Pub – but for the downtown as a whole.

We understand that this project will require an amendment to the by-law to allow complete use of the sidewalk and in order to proceed with plans in preparation for May (if approved), we would request to appear at the January meeting if possible.

Thank you for this opportunity and please do not hesitate to contact me should you require additional information.

Yours truly,

Maureen M. Luoma
Executive Director

cc J. MacIntyre – Chair, Downtown Sudbury
D. Gainer, C. Skelliter – Peddlers Pub

7 Cedar St., Unit 102
Sudbury, ON P3E 1A2
Ph 705.674.5115 … Fax 705.673.7586 … www.downtownsudbury.com

Presented To:	Operations Committee
Presented:	Monday, Jan 20, 2014
Report Date	Wednesday, Jan 15, 2014
Type:	Presentations

For Information Only

Status Report - 2013 Capital Projects

Recommendation

For information only.

Signed By

Report Prepared By
Lee Laframboise
Manager of Construction Services
Digitally Signed Jan 15, 14

Division Review
Kevin Shaw
Director of Engineering Services
Digitally Signed Jan 15, 14

Recommended by the Department
Tony Cecutti
General Manager of Infrastructure Services
Digitally Signed Jan 15, 14

Recommended by the C.A.O.
Doug Nadorozny
Chief Administrative Officer
Digitally Signed Jan 15, 14

Introduction

This report provides an update on the status of the Capital Roads Projects approved in the 2013 Capital Budget including those 2013 Water/Wastewater projects that had a direct impact on the Roads capital program.

Background

This report provides a summary of capital projects managed by the Engineering Services Division. The Engineering Services Division performs engineering design, preparation of tender documents, contract administration, inspections of projects related to road construction, watermain and sewer construction and similar related construction activities.

Capital projects related to water plants, wastewater plants, bridges and other similar projects are not included in this report.

Major Construction Projects

Lasalle Boulevard at Notre Dame Avenue Intersection:

This project commenced in the late spring of 2013 and continued into the late fall. The majority of the work has been completed and the installation of median islands, final restoration, and the final lift of asphalt will be completed in 2014.

Regent Street/Bouchard Street/Southview Drive:

This project commenced in 2013 and Phase I work (Bouchard Street, Southview Drive) was constructed. The outstanding work includes restoration of properties along with the final lift of asphalt. Phase II Regent

Street between Bouchard Street and Walford Road shall commence in the spring of 2014. The work will involve sanitary sewer and watermain improvements along with reconstruction of the existing roadway. Final lift of asphalt will be performed in 2015.

Loach's Road Watermain (Regent Street to Armstrong Street):

Watermain and sanitary sewer work along with road reconstruction has been performed between Regent Street and Lo-Ellen Park Secondary School. Final lift of asphalt and restoration to be completed in 2014. Loach's Road from Lo-Ellen Park Secondary School to Armstrong shall have the watermain and sanitary sewer upgraded along with road reconstruction. This work will commence in the spring of 2014. Final lift of asphalt will be placed in 2015.

Garson-Coniston Road (from Paul Street to O'Neil):

This project included the placement of concrete curb and concrete sidewalk along with the final lift of asphalt. All watermain, sanitary sewer, and storm sewer improvements were completed in 2008.

M.R. 4 Fairbank Lake Road (Highway 17 to C Johnson Road):

The majority of the construction has been completed. The 9 km length of roadway has been paved with the first of two lifts of base asphalt. The majority of the second lift of base asphalt and surface asphalt will be placed in 2014.

Local Roads Resurfaced

There were a total of 21 streets (7.3 km) that were resurfaced under two contracts. The work involved milling the existing asphalt and rehabilitation of the remaining asphalt or resurfacing the roadway. The total value of work completed on the two contracts was $2.4 million.

Surface Treated

A total of 18 streets (22.8 km) were surface treated. The work involved overbuilding the existing granular surface with 300 mm of granular material and the application of two layers of stone and asphalt emulsion. The total value of work completed was $1 million.

Water/Wastewater Improvements

Six projects were tendered and construction started in 2013. Of the six locations, five projects were completed. The remaining contract is Loach's Road from Lo-Ellen Secondary School to Armstrong Street which includes Windle Drive from Loach's Road to Millwood.

2013 Carry-over Projects

Six contracts tendered in 2013 will have construction work completed in the 2014 construction season. These contracts involve the completion of underground work (watermain, sanitary or storm sewer) and/or the placement of the final lift of asphalt. The largest of these projects is Regent Street betweeen Bouchard Street and Walford Road.

Contracts to be Tendered in 2014

Four locations identified in the 2013 budget will be tendered in the spring of 2014. This became necessary to ensure adequate time to obtain additional survey data, to complete underground investigations, and to address conflicts with utilities. These locations will be tendered in the early spring to ensure that construction can be completed in the 2014 season.

Summary

Below is a summary of some of the major accomplishments in 2013:

New/Replacement of Watermains	4,708 metres
New/Replacement of Sanitary Sewers	1,573 metres
Hot Mix Asphalt	51,380 tonnes
New/Replacement of Concrete Curbs	10,416 metres
New/Replacement of Concrete Sidewalk	4,988 square metres
Guide Rails	2,510 metres
Crack Sealing	55 lane kilometres
Surface Treatment	45 lane kilometres

Conclusion

The Engineering Services Division is continually improving its method of project delivery. The following are examples of where delivery, training, and technology improvements have been employed to improve productivity and provide a better product:

- Utility Locates – working with our partners to reduce the time to provide both City and related utility locates to our Contractors
- As-built Drawings – constantly striving to provide more accurate data to eliminate conflicts with underground utilities. This is being achieved through the recording of information in conjunction with Geographical Information Systems (GIS) and the use of Closed Circuit Television (CCTV) for storm and sanitary sewer systems
- Early acquisition of property to provide time to discuss property issues with property owners and avoid potential conflicts
- Improvement of pre-construction consultation with property and business owners
- Updating of various manuals used by staff and consultants. These manuals will continue to standardize the direction and method of service delivery on capital projects
- Development of a contractor performance tool that will assist in monitoring of General Contractors and completing annual prequalifications

- Ongoing training in the following areas:
    - Confined Space
    - Fall Arrest
    - Work Site Safety Awareness
    - Traffic Control
    - CPR/First Aid
    - Training of staff

Presented To:	Operations Committee
Presented:	Monday, Jan 20, 2014
Report Date	Monday, Jan 13, 2014
Type:	Routine Management Reports

Request for Decision

Sudbury Wastewater Treatment Plant Headhouse Upgrades - Odour Control System

Recommendation

THAT the City of Greater Sudbury authorize staff to sole source the purchase of photo-ionization odour control technology with AMBIO Biofiltration Ltd. for the Sudbury Wastewater Treatment Plant Head House Facility and Raw Sewage Lift Station; all in accordance with the report dated January 13, 2014 from the General Manager of Infrastructure Services.

Finance Implications

Funds for the purchase of odour control equipment have been included in existing Wastewater capital budgets.

Signed By

Report Prepared By
Brad Johns
Facilities Engineer
Digitally Signed Jan 13, 14

Division Review
Nick Benkovich
Director of Water/Wastewater Services
Digitally Signed Jan 13, 14

Recommended by the Department
Tony Cecutti
General Manager of Infrastructure Services
Digitally Signed Jan 14, 14

Recommended by the C.A.O.
Doug Nadorozny
Chief Administrative Officer
Digitally Signed Jan 15, 14

Background

One of the major drivers of the City's Biosolids Management Project was the history of odour problems (Copper Cliff and Lively odour events in 2005 and 2007) resulting from the current sludge disposal method. Therefore, it was of utmost importance that the new Biosolids Project at the Sudbury Wastewater Treatment Plant (SWWTP) include odour control technology to reduce odours in and near the Kelly Lake Road site. The Biosolids Facility constructor is responsible for including odour control in the Biosolids Facility and the Sludge Receiving and Sludge Dewatering Facilities, of which the latter two are to be turned over to the City for operation upon completion of the project. Odour generation from the Headhouse Facility and the Raw Sewage Pump Station also needed to be addressed and incorporated into the SWWTP Head House Upgrades Project.

As part of the Biosolids Project, air dispersion modeling to determine the required odour removal levels for the plant's various processes was first completed. As a result, the Biosolids constructor chose Photoionisation technology for odour control in the three facilities. To determine if this technology was the most suitable for the Headhouse Faciltiy and the Raw Sewage Pump Station, the City's consultant, RV Anderson, then completed a technology review to determine what potential technologies might be the most suitable. This resulted in a comprehensive technical memorandum report that evaluated the following three alternatives for a single odour control system for both the Headhouse Facility and the Raw Sewage Pumping Station:

Alternative A Carbon Filter Absorption

Alternative B Biofiltration

Alternative C Photoionisation

RV Anderson's report reviewed, amongst other things: capital cost, operating and maintenance (O&M) costs, O&M cost scope, life cycle cost (NPW), advantages, disadvantages, potential suppliers, and concluded that the photoionisation technology would be the best fit for the Headhouse Facility and the Raw Sewage Pumping Station. References were consulted to understand and confirm the benefits of the technology, including the operability and dependability of the equipment. Since plant staff will be operating and maintaining the odour control systems in the Sludge Receiving and Sludge Dewatering Facilities, there are also operational, maintenance and routine odour sampling synergies created by using the same technology throughout the Plant's facilities.

Currently, there is only one North American vendor for Photoionisation Technology. Therefore, staff is seeking Council's approval to single source the odour control equipment for the Headhouse Facility and Raw Sewage Pump Station from AMBIO Biofiltration Ltd. of Rockland, Ontario. The purchase of the equipment is estimated to cost, in Canadian dollars, approximately $800,000 (subject to the variability of the international currency rates at the time of purchase) and an annual operating cost of approximately $110,000. The existing capital works budget includes the funds for the purchase of odour control equipment. Staff is seeking Council's approval to complete the negotiations and purchase of the required equipment as soon as possible. The delivery time for this equipment ranges from twelve to sixteen weeks. The annual operating costs will need to be incorporated into future annual Operating budgets, beginning in 2015.

Presented To:	Operations Committee
Presented:	Monday, Jan 20, 2014
Report Date	Monday, Jan 13, 2014
Type:	Correspondence for Information Only

For Information Only

Source Control Update

Recommendation

For Information Only

Background

See attached report

Signed By

Report Prepared By
Dave Brouse
Compliance Supervisor
Digitally Signed Jan 13, 14

Division Review
Nick Benkovich
Director of Water/Wastewater Services
Digitally Signed Jan 13, 14

Recommended by the Department
Tony Cecutti
General Manager of Infrastructure Services
Digitally Signed Jan 14, 14

Recommended by the C.A.O.
Doug Nadorozny
Chief Administrative Officer
Digitally Signed Jan 15, 14

FOR INFORMATION ONLY

This information report is an update on the Source Control Program implemented and administered by the Water/Wastewater Services Compliance Section.

KEY FACTS

1) Both the Water Use By-law and Sewer Use By-law have been very successful in reducing negative impacts on CGS infrastructure and the environment;

2) Education and outreach programs initiated by the Compliance Section have been well received by the business owners in Sudbury and a high rate of compliance has been achieved through voluntary compliance;

3) Businesses and individuals who do not comply with our by-laws are being held fully accountable for the damage caused to our infrastructure and the environment, due to their actions / inactions

BACKGROUND

In 2010, the City of Greater Sudbury approved both a Water Use By-law and a Sewer Use By-law. Both By-laws are administered and enforced through the Compliance Section of the Water/Wastewater Services Division. The passing of the two By-laws was intended to send a clear message to the community that the City would protect their water and wastewater infrastructure so no negative health or safety issues would affect the citizens of the CGS or the natural environment.

WATER USE BY-LAW

The City of Greater Sudbury Council approved the Water Use By-law on September 29th, 2010 and it came into effect September 2011. Administration and enforcement of the Water Use By-law, is lead by the Compliance Section. The Water / Wastewater By-law Compliance Officer conducts inspections when complaints are lodged with the City. These complaints are comprised of a variety of issues varying from water meter tampering, water shut off tampering, improper lawn watering (odd/even days), and fire hydrant tampering.

Highlighted Stats

- Over 102 complaints received and inspected
- 2 charges laid
- 19 charges pending

Fire hydrant tampering

Complaints are being received by this office on a weekly basis and investigations continue. The Compliance Section continues to obtain compliance with the By-law through education and voluntary compliance but in some instances, enforcement measures are required when contraventions of the Water Use By-law are discovered.

SEWER USE BY-LAW

The Sewer Use By-law was approved and passed by Council on September 15th, 2010 and came into effect September 2011. There are three key objectives of the Sewer Use By-law:

1) Educate the public (residential, industrial, commercial and institutional) of the By-law, the purpose of the By-law, and how the By-law affects these customers directly.

2) Conduct inspections of residential, industrial, commercial and institutional properties in order to identify what products are entering the sanitary sewer system or storm systems and how to reduce, avoid or eliminate the release of pollutants into the sanitary and storm sewers.

3) Protect the environment and ensure the health and safety of the general public and CGS wastewater staff as well as protect the infrastructure against corrosion, blockages, equipment failure, and other harmful effects related to the presence of contaminants in the wastewater.

Following a one year phase-in period, full implementation came into effect on September 15th, 2011. During the phase-in period efforts were focused on the development and delivery of an education and outreach program to inform the various sectors of their obligations and how to work proactively to achieve objectives.

To support the Source Control Program, a By-law Compliance Officer was hired in the Water/Wastewater Division in December of 2010. Since then, a variety of businesses were visited representing various sectors and inspections were conducted. At each visit, companies were informed of the new By-law and the direction the CGS was taking to protect the environment and help make our City a healthy and environmentally sustainable community. The Program has been well received in most cases and great progress has been made since the start of this program.

Since the enforcement of the Sewer Use By-law began the City has benefitted from cleaner and more efficient sanitary sewer infrastructure. This also translates to cost containment savings for CGS operations and improved reliability for our customers.

SOURCES OF HARMFUL CONTAMINANTS

INDUSTRIAL / COMMERCIAL / INSTITUTIONAL (ICI) FACILITIES

The City's infrastructure and wastewater treatment plants are constantly affected by contaminants from many sources. Heavy oils, hydrocarbons, sediments and other contaminants (waste by-products) from large industries is one source of concern but Fats, Oils and Grease (FOG) from residential and commercial kitchens is also recognized as a priority problem contaminant for our sanitary sewer systems. More recently flushable non-disposable consumer products, such as personal care wipes, have also caused issues for the city's wastewater systems. These items need to be disposed of through other means and kept out of of CGS wastewater systems.

Highlighted Stats

- Over 531 ICI sites visited and inspected since March 2011
- 74% of ICI sites initial inspection completed
- 81% of inspected ICI sites in full compliance with By-law

FOOD WASTE

Fats, Oils and Grease (FOG) enters City sewers from individual residential homes and apartment complexes, but it has been determined that a large amount of damage done to our sewers is from the larger producers of FOG, such as commercial kitchens in restaurants and food preparation sites. These types of businesses are recognized as potentially high FOG contaminators to our sanitary sewer infrastructure. FOG comprised of wastes from food production and equipment cleaning can cause blockages in City sewers pipes and structures and result in costly repairs and cleanups to both property owners and the CGS.

Upon conducting inspections of the types of businesses throughout the CGS that generate FOG it was found that many restaurants did not have the appropriate grease interceptors in place to prevent the FOG discharging directly into the CGS sewers. Further, many owners were not aware of the issue with FOG and the potential problems

they may cause in the system. Because of the significance of the issue, combating FOG has been an early priority for the source control program.

The By-Law Compliance Officer conducted many inspections of food preparation and commercial restaurants in the CGS since 2011. During the past 3 years 307 FOG producing businesses in the City have been inspected and educated about the By-law. Of these inspections conducted, 65 businesses were found to be non-compliant with the By-law and new grease interceptors were ordered to be installed.

The Source Control Program has achieved voluntary compliance in many instances, the down town core area being a very good example. Many restaurants in that area are located in older buildings that did not have the required grease interceptors but have since voluntary upgraded to meet current standards.

Old grease interceptor requires replacement

New grease interceptor installed

Through the educational visits and inspections, businesses that did not have the required grease interceptors voluntarily installed them as requested and a 100% compliance rate was achieved in the down town area. They are also now following the proper maintenance schedules required to keep FOG from entering into the sanitary sewers. This is a great indicator to staff that there are many responsible business owners in the City of Greater Sudbury who understand the By-law, want to comply with our Sewer Use By-law, and want to help protect CGs sewer infrastructure and the environment.

Although great progress has been made through education, outreach, and voluntary compliance, a small number of business owners have required enhanced enforcement to comply with our By-law through legal means. To date, only three charges have been laid against restaurant business owners in the City due to FOG discharge issues.

We are hopeful that the progress being made with restaurant and food preparation facility owners will translate to reduced numbers of blockages and other unwanted consequences of FOG.

INDUSTRIAL WASTE

Another priority for the Source Control program is controlling industrial contaminants. These contaminants can threaten the health and safety of CGS staff, impair CGS treatment processes, and pass through facilities designed to treat only biological waste, thus damaging the environment.

For example, the Industrial / Commercial (vehicle repair) sector is the second largest potential contributor of dangerous contaminants to the CGS infrastructure and the environment. Approximately 173 site inspections have been conducted in this sector since 2011 by the Compliance Section.

Oil interceptors are an important piece of equipment located in vehicle repair garages and industrial manufacturing shops. They help prevent the escape of hydro carbons, oils, etc. into the sanitary sewer and on into the local environment. CGS inspectors have been reviewing the condition of the oil interceptors and ensuring companies have proper maintenance programs in place to keep the interceptors functioning. Throughout the inspection process over the last 3 years a number of businesses were found to be non-compliant with the Sewer Use By-law (ie damaged / non-functioning / non-existent interceptors). These businesses were educated on the importance of the interceptors and (if necessary) ordered to repair, replace or install the proper equipment to comply with the CGS by-law.

Damaged oil interceptor requiring repair / replacement

Repaired oil interceptor

Highlighted Stats

- 32% of inspections conducted are Industrial / Commercial (vehicle repair) sites
- 97% compliance rate

RESIDENTIAL WASTE

CGS sanitary sewer infrastructure has been designed to properly handle and treat human waste and toilet paper only. Unfortunately, many residential customers have been increasingly adding waste products to our sewer system that are not intended to be handled by the sewage treatment plants. Flushable non-dispersible products include Items such as baby wipes, dental floss, personal hygiene products, and other non-biodegradable materials that are being flushed into our sanitary sewers system and causing numerous negative issues such as sewer pipe and pump blockages. These blockages can be very costly to both the City and the property owner.

The Sewer Use By-law does not permit non-biodegradable materials to enter our sewer system. The Compliance Officers attend sites on many occasions where blockages and sewer backups occur in order to educate the residential owners about the By-law and the consequences of such non-compliant actions. We are continuing to educate the public by adding to our outreach program through brochures, television and newspaper advertisements with the help of CGS partners such as Environmental Planning Initiatives and Corporate Communications.

FUTURE PROJECTS

In 2013 the City of Greater Sudbury had a number of spills in the City which directly contaminated our sanitary and storm sewer systems and the natural environment. Three such spills entered Ramsey Lake and one spill contaminated Junction Creek with potentially negative consequences. In all cases the Compliance Section was notified of the spill and quickly responded to each scene. All spills were investigated, sources of contamination determined, proper mi5tigation and clean up procedures were completed, and where appropriate, charges were laid to foster accountability in the community.

The Sewer Use By-law addresses the issue of environmental spills within CGS boundaries. The purpose of the By-law is to ensure that when a spill occurs on CGS property and enters CGS sanitary or storm sewer systems, or into the natural environment, the City is notified immediately and all reasonable efforts are made to mitigate the spill and clean up any spilled contaminants.

Contaminated water entering the storm sewer system

Contaminated water entering Ramsey Lake via storm sewer system

Each spill scenario has been a large learning curve for CGS staff.. Staff are presently working on an improved CGS spill response framework and examining how the Source Control program can reduce the risks from environmental spills, especially those spills occurring within Drinking Water Source Protection areas. This is a very important aspect for the Compliance Section and it is hoped that the new operating procedures will be ready soon to help protect both our citizens and the environment.

Presented To:	Operations Committee
Presented:	Monday, Jan 20, 2014
Report Date	Wednesday, Jan 08, 2014
Type:	Managers' Reports

Request for Decision

Pedestrian Traffic Signals - Barry Downe Road at Woodbine Avenue

Signed By

Report Prepared By
Dave Kivi
Co-ordinator of Transportation & Traffic Engineering Services
Digitally Signed Jan 8, 14

Division Review
David Shelsted
Director of Roads & Transportation Services
Digitally Signed Jan 8, 14

Recommended by the Department
Tony Cecutti
General Manager of Infrastructure Services
Digitally Signed Jan 8, 14

Recommended by the C.A.O.
Doug Nadorozny
Chief Administrative Officer
Digitally Signed Jan 8, 14

Recommendation

THAT the City of Greater Sudbury approve the installation of a pedestrian refuge island on the north approach of Barry Downe Road at Woodbine Avenue as part of the 2014 Capital Construction Program; and,

THAT the widening of Barry Downe Road provide a continuous two-way centre left turn lane between Sparks Street and Woodbine Avenue be given a high priority; and,

THAT staff continue to monitor pedestrian and vehicle volumes at this intersection to determine if pedestrian signals or full traffic signals should be included as part of any future road widening, all in accordance with the report from the General Manager of Infrastructure Services dated January 8, 2014.

Background

At the July 8, 2013 meeting of the Operations Committee, staff presented a report that reviewed options with cost estimates to improve pedestrian safety at the intersection of Barry Downe Road and Woodbine Avenue (see Exhibit “AA”). The options reviewed by staff included intersection pedestrian signals, full traffic control signals and a pedestrian refuge island. The option of doing nothing was also reviewed.

The report recommended that to improve pedestrian safety, a pedestrian refuge island be installed on the north side of the intersection. It was further recommended that widening Barry Downe Road to provide a continuous two-way centre left turn lane between Sparks Street and Woodbine Avenue be given a high priority. Also, that pedestrian crossing volumes be monitored at this intersection to determine if pedestrian signals or full traffic signals should be included as part of any future road widening.

The Operations Committee deferred a decision on the matter and directed staff to obtain additional consultation and traffic counts (mid-week between 8:00 a.m. and 4:30 p.m.) and return to the Operations Committee with an update.

Staff conducted a seven hour turning movement count at the intersection of Barry Downe Road and Woodbine Avenue on September 17, 2013 under good weather and road conditions. The results show that pedestrian and vehicle volumes were lower than the previous count taken on April 12, 2011. Applying the vehicle and pedestrian volumes to the warrants for traffic signals show that they were 64 percent of the minimum required for full traffic signals. The previous volumes were 79 percent of the warrants.

Applying the pedestrian crossing volumes to the signal warrants indicates that they are 44 percent of the minimum requirement for the installation of pedestrian signals.

As indicated in the previous staff report, full traffic signals and pedestrian signals are not warranted at the intersection of Barry Downe Road and Woodbine Avenue. However, should Council decide to install a protected pedestrian crossing at this location, staff recommends that full traffic signals be used. Full traffic signals will reduce driver confusion for the high traffic volumes existing at Woodbine Avenue. The estimated cost to install traffic signals is approximately $165,000.

A third option to improve pedestrian safety at this location is through the construction of a pedestrian refuge island on the north approach of the intersection at a cost of approximately $30,000 (see Graphic # 3).

As indicated in the City's Pedestrian Policy, "the presence of a pedestrian island simplifies the pedestrian crossing movement by providing a safe refuge in the centre of the road. Refuge islands reduce the distance required to cross and increase the available gaps for pedestrians. They also allow pedestrians to concentrate on crossing one direction at a time".

Pedestrian crossings with refuge islands are considered "unprotected" as pedestrians must yield the right-of-way to vehicle traffic. However, they have been beneficial to pedestrian safety and security when installed on other multi-lane roads in the City. Signs are installed at refuge islands advising pedestrian to yield to traffic.

Although Barry Downe Road has four lanes at Woodbine Avenue, the second southbound through lane begins only 40 metres north of the intersection. By changing the pavement markings, room can be provided to construct a refuge island on the north approach of the intersection. This location would match the pedestrian desire line between Cambrian College and the sidewalk along the north side of Woodbine Avenue. Under this scenario, the start of the second southbound lane would begin immediately south of the intersection.

As a fourth option, staff reviewed the possibility of leaving the intersection as is. As previously discussed, the vehicle and pedestrian volumes do not meet the warrants for a signalized "protected" crossing and there is no minimum warrant for pedestrian refuge islands. While the crossing movement is simplified for pedestrians, the presence of a median island will hamper winter maintenance activities and cost approximately $30,000 to construct. However, given the significant pedestrian crossing volume and high traffic volumes on Barry Downe Road, staff does not recommend this option.

Recommendation

In order to improve pedestrian safety, staff recommends that a pedestrian refuge island be installed on the north side of Barry Downe Road and Woodbine Avenue. Also, that the work be scheduled as part of the 2014 Capital Construction Program and funded by the existing 2014 Capital Budget.
It is also recommended that widening Barry Downe Road to provide a continuous two-way centre left turn lane between Sparks Street and Woodbine Avenue be given a high priority. Also, that pedestrian crossing

volumes be monitored at this intersection to determine if pedestrian signals or full traffic signals should be included as part of any future widening.

Presented To:	Operations Committee
Presented:	Monday, Jul 08, 2013
Report Date	Friday, Jun 28, 2013
Type:	Managers' Reports

Request for Decision

Pedestrian Traffic Signals - Barry Downe Road at Woodbine Avenue

Recommendation

THAT the City of Greater Sudbury approve the installation of a pedestrian refuge island on the north approach of Barry Downe Road at Woodbine Avenue as part of the 2013 Capital Construction Program; and

THAT the widening of Barry Downe Road to provide a continuous two-way centre left turn lane between Sparks Street and Woodbine Avenue be given a high priority; and

THAT Staff continue to monitor pedestrian and vehicle volumes at this intersection to determine if pedestrian signals or full traffic signals should be included as part of any future widening.

Signed By

Report Prepared By
Dave Kivi
Co-ordinator of Transportation & Traffic Engineering Services
Digitally Signed Jun 28, 13

Division Review
David Shelsted
Director of Roads & Transportation Services
Digitally Signed Jun 28, 13

Recommended by the Department
Tony Cecutti
General Manager of Infrastructure Services
Digitally Signed Jun 28, 13

Recommended by the C.A.O.
Doug Nadorozny
Chief Administrative Officer
Digitally Signed Jun 28, 13

Background

At the Operations Committee meeting held on May 6, 2013, Councillor Landry-Altmann submitted a petition signed by 501 citizens requesting a safe crossing system for pedestrians to cross Barry Downe Road at Woodbine Avenue (see Exhibit I). At the same Operations Committee meeting, Councillor Landry-Altmann also presented the following Notice of Motion which was carried by the Committee:

OP2013-29 Landry-Altmann/Berthiaume: WHEREAS on May 23rd of 2007, Council of the City of Greater Sudbury passed Resolution #2007-226 which stated:

"AND BE IT FURTHER RESOLVED that the City of Greater Sudbury accept the challenge to become the most pedestrian friendly city in Ontario by 2015;

AND BE IT FURTHER RESOLVED that the Council of the City of Greater Sudbury consider both the International Charter for Walking and the challenge in future planning, transportation, infrastructure and leisure decisions";

AND WHEREAS the Official Plan adopted in June of 2006 identifies that sidewalks, bike lanes, bike paths and walking trails need to be fully integrated components of the overall transportation system, providing safe access for pedestrians and cyclists supported by good urban design principles, and that opportunities to engage in recreational and leisure activities are also tied to the transportation network;

AND WHEREAS the Sustainable Mobility Plan received by Council in 2010, states as one goal that in order to build a safe, caring and welcoming community, a City must provide affordable access to employment, educational, health, cultural and recreational facilities for everyone including its most vulnerable;

AND WHEREAS between 2004 and 2008 an average of 329 cyclists and 90 pedestrians per year sustained an injury which required a hospital visit; in 2009, 4 pedestrians and 1 cyclist died travelling through the city; and more recently, between 2010 and 2012, the City of Greater Sudbury incurred 4 pedestrian fatalities, 3 on Lasalle Boulevard and 1 in the Valley as well as many cyclist/motorist injuries;

AND WHEREAS the traffic circulation on Barry Downe Road increases by about 5,000 during the school year, particularly during the Cambrian College school term;

AND WHEREAS the residents of New Sudbury, Ward 12, have witnessed and reported many incidences along the Barrydowne Road, Woodbine Avenue to Lillian Boulevard corridor;

AND WHEREAS a petition has been submitted by the Ward 12 New Sudbury Community Action Network from residents of that area, students of Cambrian College and Lasalle Secondary School requesting a pedestrian connection between Woodbine Avenue through Barry Downe Road, east to west via a pedestrian walk light;

AND WHEREAS a sidewalk/bike lane connecting Lillian Boulevard to Woodbine Avenue request has been made, in light of the latest incident involving a wheelchair occupant;

AND WHEREAS residents and students have a long outstanding request (since 2008) for a transit shelter at the corner of Lillian Boulevard and Barry Downe Road;

THEREFORE BE IT RESOLVED THAT City of Greater Sudbury Staff be directed to report to the Operations Committee in July of 2013 regarding Options and costs for:

1. A pedestrian walk light at Woodbine Avenue and Barry Downe Road;

BE IT FURTHER RESOLVED THAT in preparation of the report, historic traffic warrants taken at peak times during the school term, most particularly during Cambrian College's school term, be utilized.

The following Staff Report will analyze recent traffic counts and present four Options and costs to improve pedestrian safety. The Option of doing nothing is also reviewed.

The intersection of Barry Downe Road and Woodbine Avenue is located approximately 600 metres north of LaSalle Boulevard (see Exhibit II). In this area, Barry Downe Road is constructed with four lanes of traffic, has an AADT of 10,500 and a speed limit of 50 km/h. The sidewalk on the west side of Barry Downe Road ends at this intersection and the sidewalk along the east side continues north approximately 30 metres to the southerly entrance to Cambrian College.
In 2007, Staff reviewed the need for pedestrian crossing facilities at all the unsignalized intersections along Barry Downe Road, north of LaSalle Boulevard including Barry Downe Road and Woodbine Avenue. The Staff Report dated July 26, 2007 was presented to City Council on August 8, 2007 (see Exhibit III).

Based on a traffic count conducted in May 2007, the pedestrian volume crossing Barry Downe Road at this intersection was less than 40% of the minimum required to warrant pedestrian traffic signals. The vehicle and pedestrian volumes were 66% of the minimum required for full traffic signals. The traffic count identified that a northbound left turn lane was warranted at the intersection.

The report recommended that pedestrian warning signs be installed on both sides of Barry Downe Road in the study area which was completed at that time. The report also recommended that a continuous two-way centre left turn lane constructed between Sparks Street and Woodbine Avenue and that pedestrian volumes be monitored to determine if pedestrian signals or raised islands should be included as part of any future widening.

At the Council meeting, Staff was requested to complete a second count at the intersection of Barry Downe Road and Woodbine Avenue while regular classes were in session at Cambrian College. As a result, Staff conducted a seven hour manual turning movement count at this location on December 6, 2007. This count showed that pedestrian crossing volumes were higher than previously recorded but still only 47% of the minimum warrants for pedestrian signals. Vehicle volumes were also higher than the previous count but still only 74% of the minimum required to warrant full traffic signals.

The intersection of Barry Downe Road and Woodbine Avenue was most recently counted on April 12, 2011, while regular classes at Cambrian College were ongoing. The pedestrian crossing volumes recorded were higher than the

previous counts with a total of 161 pedestrians. There were no seniors, young children or disabled persons that crossed Barry Downe Road during the count. Applying the pedestrian crossing volumes to the pedestrian signal warrants indicates that they are 59% of the minimum required for the installation of intersection pedestrian signals.

When the vehicle and pedestrian volumes were applied to the warrants for full traffic signals, the results show that they were 79% of the minimum to warrant full traffic signals.

A review of the City's collision information at the intersection for the three year period from 2010 to 2012 inclusive, revealed there were a total of three collisions that may have been preventable if traffic signals were installed. There were no collisions involving pedestrians during the three year period. The warrants for traffic signals based on safety requires there be a minimum of five collisions per year over a three year period.

In March 2012, the City approved a Pedestrian Crossing Policy that recommends that the methodologies and thresholds contained in the Ontario Traffic Manual be used to accommodate protected pedestrian crossings such as traffic control signals, mid-block traffic signals and intersection pedestrian signals. The methodologies and warrants contained in the O.T.M. are the same as used by Staff under previous reviews.

The four Options reviewed by Staff include Intersection Pedestrian Signals, Full Traffic Control Signals and a Pedestrian Refuge Island. The Option of doing nothing is also reviewed.

Option #1 – Intersection Pedestrian Signals

Intersection pedestrian signals provide a protected crossing for pedestrians. With this Option, pedestrians crossing Barry Downe Road are controlled at a crosswalk with pedestrian signal displays on the north approach of the intersection. Traffic on Barry Downe Road is controlled with regular traffic signal displays, where traffic on Woodbine Avenue continues to be controlled with a stop sign (see Graphic #1 attached). The intersection of Paris Street and the entrance to Southwind Retirement Residence is an example of an intersection pedestrian signal. This type of protected crossing is appropriate when traffic volumes on the minor road are very light, but have high pedestrian volumes. The estimated cost to install intersection pedestrian signals is $90,000.00 to $110,000.00.

As previously indicated, the existing vehicle and pedestrian crossing volumes do not meet the minimum requirements for intersection pedestrian signals or full traffic signals. Based on the relatively high traffic volumes on Woodbine Avenue, intersection pedestrian signals are not recommended at this location.

Option #2 – Full Traffic Control Signals

Full traffic control signals provide a protected pedestrian crossing on all approaches of the intersection. This Option provides vehicle and pedestrian displays for all three approaches (see Graphic #2 attached).

The estimated cost to install full traffic signals is $150,000.00 to $175,000.00 A review of the intersection revealed there is a large hydro line running above the boulevard along the east side of Barry Downe Road. The location of the hydro line and lack of City owned land behind the sidewalk will complicate the installation of traffic signals in order to satisfy the electrical code. Resolving this issue may increase the proposed costs provided above.

Although not warranted at this time, should Council decide to install a protected pedestrian crossing at this location, Staff recommends that a full set of traffic signals be installed. If this Option is chosen, a detailed design and cost estimate will need to be undertaken.

Option #3 – Pedestrian Refuge Island

A third Option to improve pedestrian crossing safety at the intersection is through the construction of a pedestrian refuge island on the north approach of the intersection (see Graphic #3 attached. As indicated in the City's Pedestrian Crossing Policy, "the presence of a pedestrian island simplifies the pedestrian crossing movement by providing a safe refuge in the centre of the road. Refuge islands reduce the distance required to cross and increase the available laps for pedestrians. They allow pedestrians to concentrate on crossing one direction at a time."

Pedestrian crossings with refuge islands are considered "unprotected" as pedestrians must yield right-of-way to vehicle traffic. However, they have been beneficial to pedestrian safety and security when installed on other multi-lane roads in the City. Signs are installed at refuge islands advising pedestrians to yield to traffic.

Although Barry Downe Road has four lanes at Woodbine Avenue, the second southbound through lane begins only 40 metres north of the intersection. As indicated above, by changing the pavement markings, room can be provided to construct a refuge island on the north approach of the intersection. This location would match the pedestrian desire line between Cambrian College and the sidewalk along the north side of Woodbine Avenue. Under this scenario, the start

of the second southbound lane would begin immediately south of the intersection.

The estimated cost of constructing the refuge island is approximately $30,000.00.

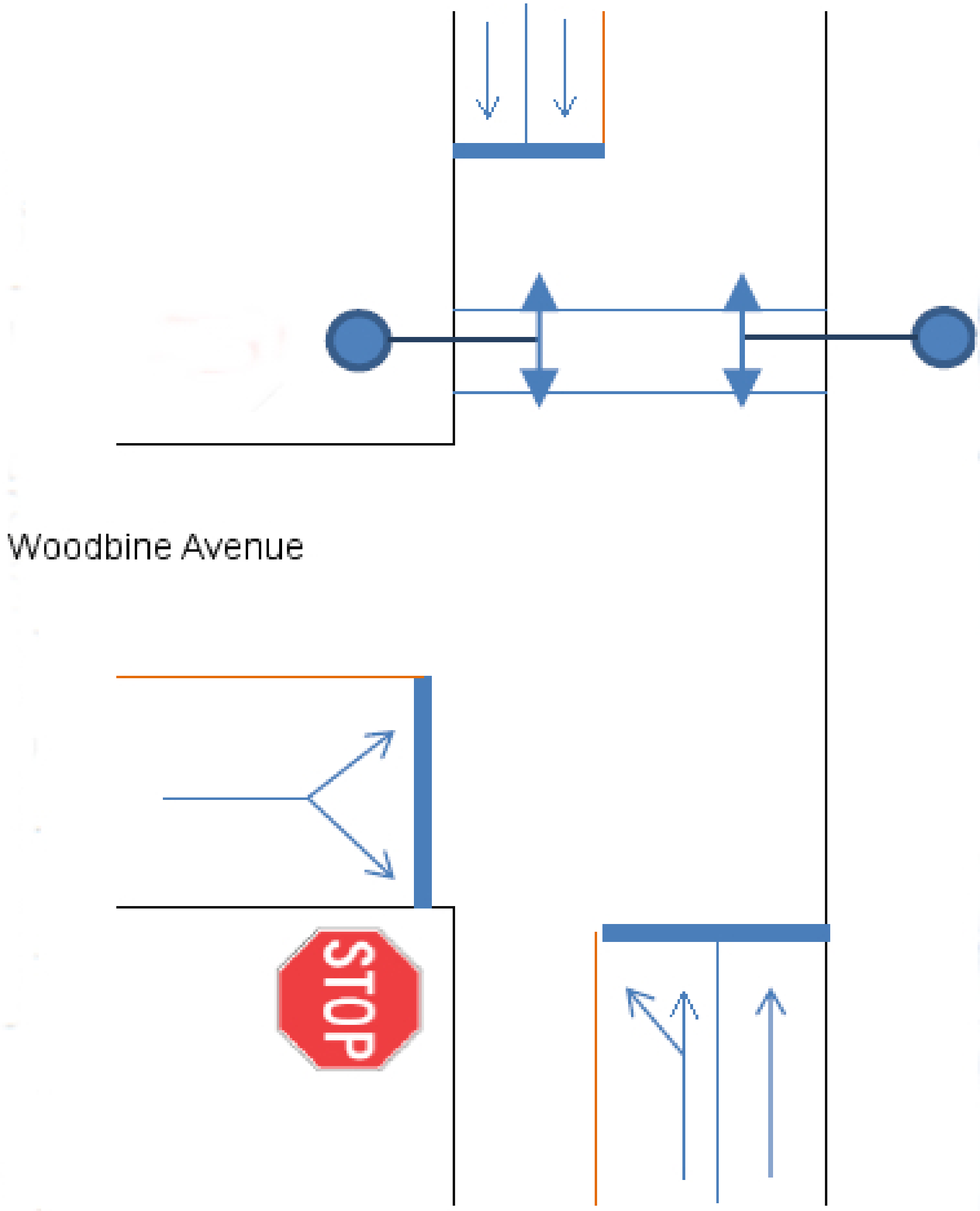
Option #4 – Do Nothing

As a forth Option, Staff reviewed the possibility of leaving the intersection as is. As previously discussed, the vehicle and pedestrian volumes do not meet the warrants for a signalized “protected” crossing and there is not a minimum warrant for pedestrian refuge islands. While the crossing movement is simplified for pedestrians, the presence of a median island will hamper winter maintenance activities and costs approximately $30,000.00 to construct. However, given the significant pedestrian crossing volume and high traffic volumes on Barry Downe Road, Staff does not recommend this Option.

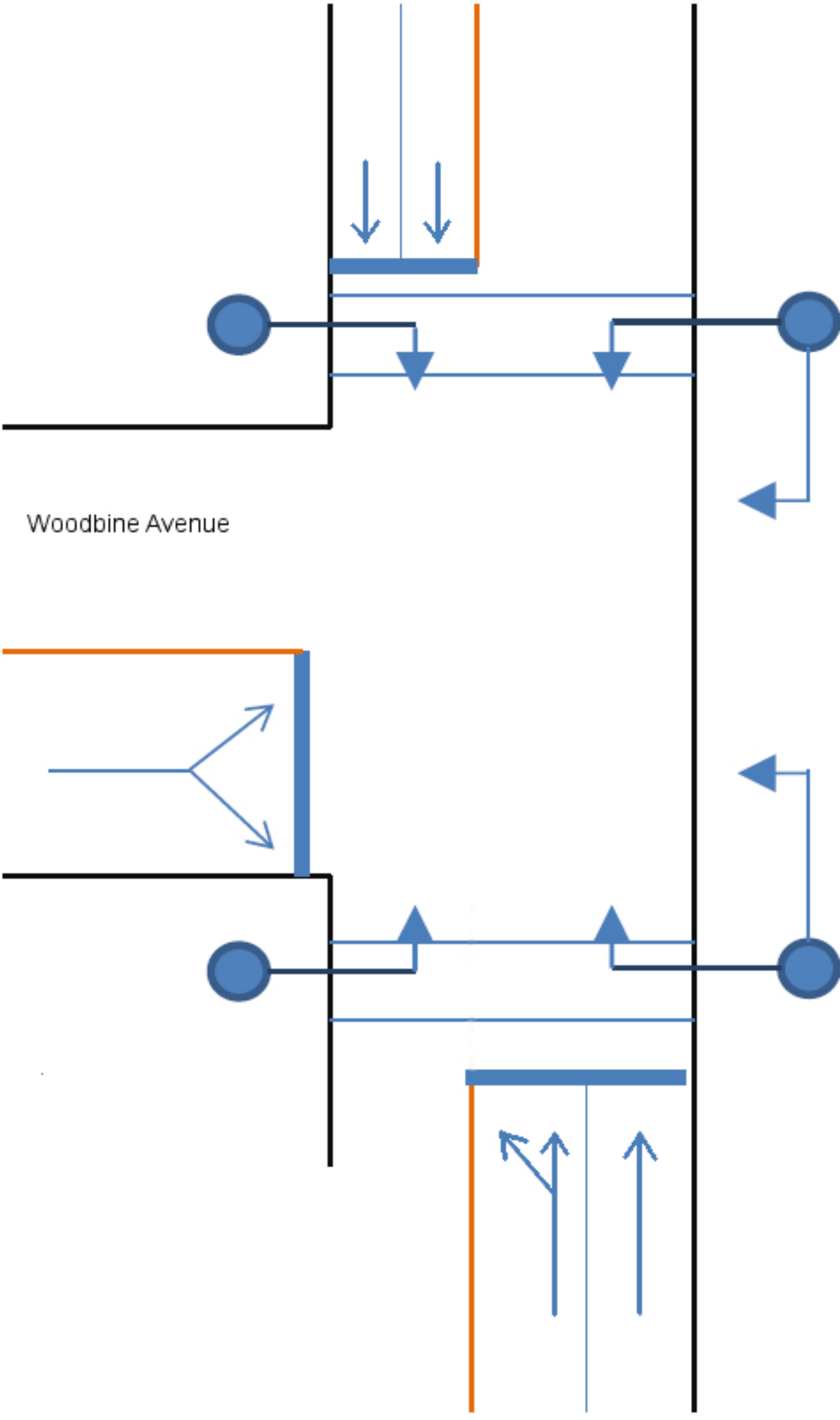
RECOMMENDATION

In order to improve pedestrian safety, Staff recommends that a pedestrian refuge island be installed on the north side of Barry Downe Road at Woodbine Avenue. Also, that the work be included as part of this year’s Capital Construction Program and funded by the existing 2013 Capital Budget.

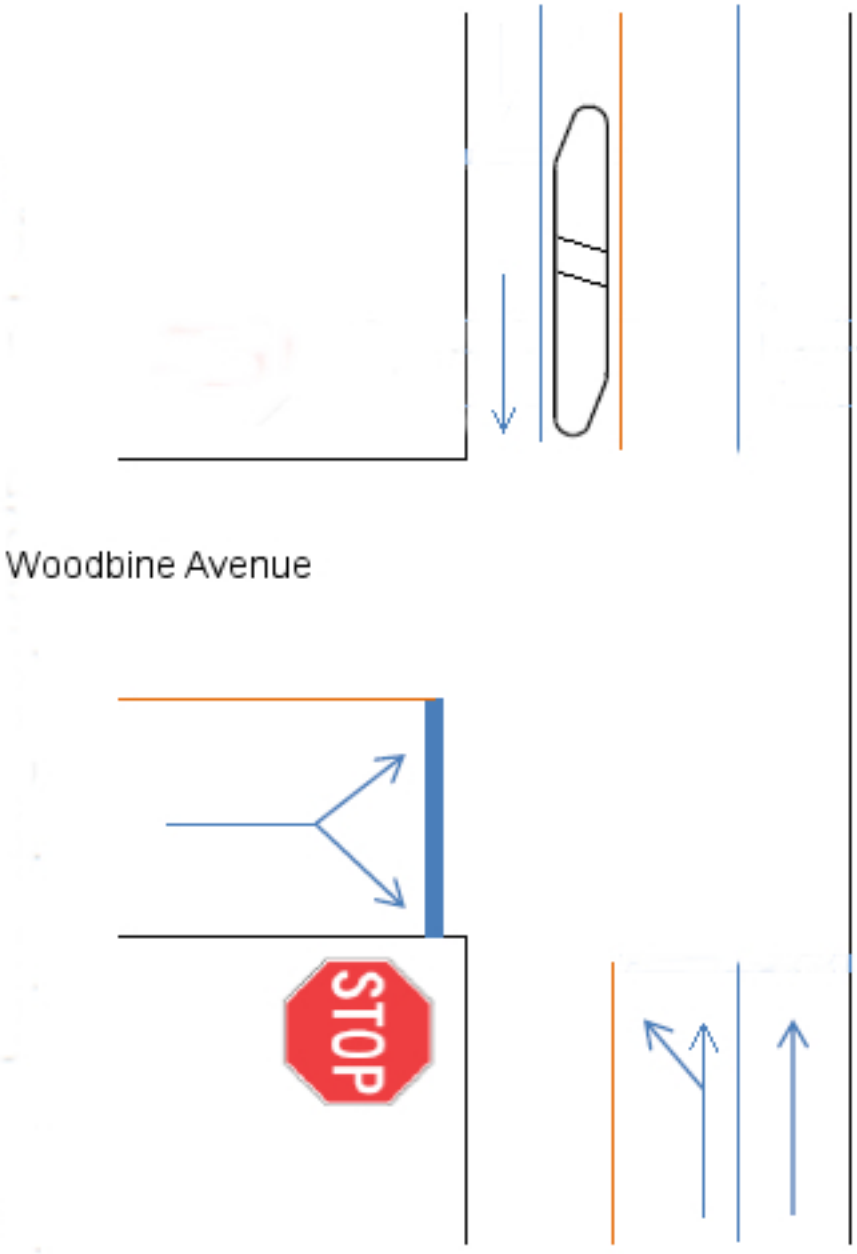
It is also recommended that widening Barry Downe Road to provide a continuous two-way centre left turn lane between Sparks Street and Woodbine Avenue be given a high priority. Also, that pedestrian crossing volumes be monitored at this intersection to determine if pedestrian signals or full traffic signals should be included as part of any future widening.



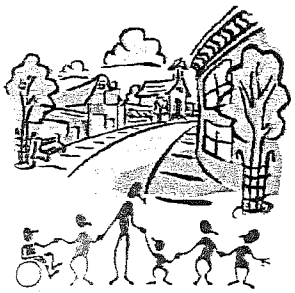
Intersection Pedestrian Signals



Full Traffic Control Signals



Pedestrian Refuge Island



WARD 12 - QUARTIER 12
NEW SUDBURY COMMUNITY ACTION NETWORK (NSCAN12)
RÉSEAU D'ACTION COMMUNAUTAIRE DU NOUVEAU- SUDBURY (RACNS12)
www.newsudbury.ca www.nouveausudbury.ca

The residents of New Sudbury Ward 12 have requested many times for a safe crossing system to cross Barrydowne Road at Woodbine Avenue. Long distance spans between lights at Lillian and Lasalle Blvds. A combination of speeding vehicles and heavy traffic flow increases with each year and students of Cambrian College and Lasalle Secondary and area residents can no longer wait for the reconstruction of Barrydowne Road and therefore URGENTLY request the Traffic and Transportation Department to find a way to install a pedestrian traffic light system that will ensure the safety of all.

NAME	ADDRESS	POSTAL CODE

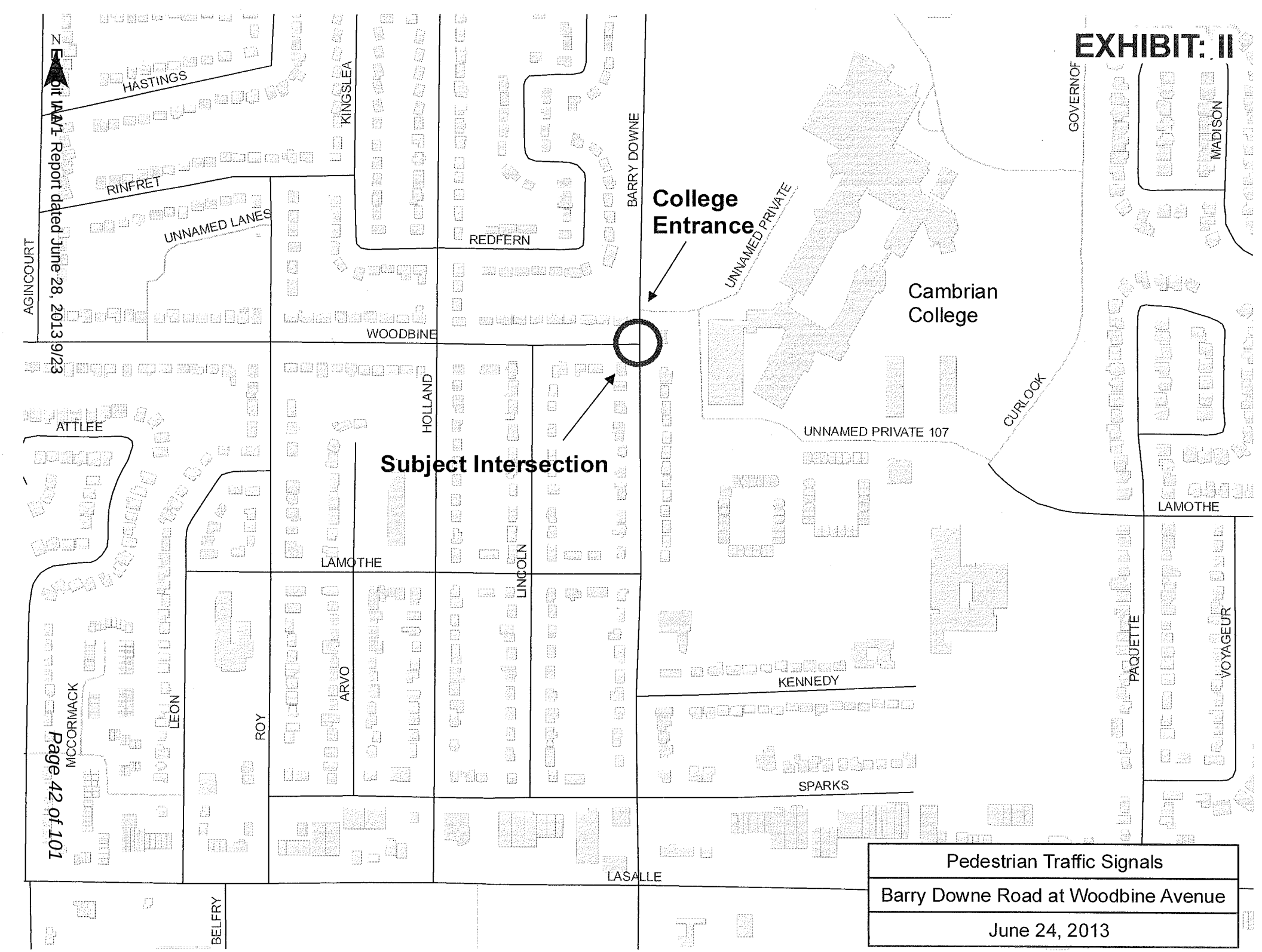


EXHIBIT: II
Exhibit IA/1 Report dated June 28, 2013 9/23
College Entrance
Subject Intersection
Cambrian College
HASTINGS
RINFRET
KINGSLEA
REDFERN
BARRY DOWNE
UNNAMED PRIVATE
GOVERNOR
MADISON
AGINCOURT
UNNAMED LANES
WOODBINE
HOLLAND
ATTLEE
CURLOOK
UNNAMED PRIVATE 107
LAMOTHE
LINCOLN
ARVO
ROY
LEON
MCCORMACK
KENNEDY
SPARKS
PAQUETTE
VOYAGEUR
LASALLE
BELFRY
Pedestrian Traffic Signals
Barry Downe Road at Woodbine Avenue
June 24, 2013

Request for Decision
City Council

Greater | Grand Sudbury
www.greatersudbury.ca

Type of Decision

Meeting Date	August 8, 2007				Report Date	July 26, 2007		
Decision Requested	X	Yes		No	Priority	X	High		Low
	Direction Only				Type of Meeting	X	Open		Closed

Report Title

Request for Pedestrian Signals
(1) Barry Downe Road at Sparks Street
(2) Barry Downe Road at Kennedy Street
(3) Barry Downe Road at Lamothe Street
(4) Barry Downe Road at Woodbine Avenue

Budget Impact / Policy Implication

	This report has been reviewed by the Finance Division and the funding source has been identified.

X	Background Attached

Recommendation

To improve pedestrian safety, staff recommend that the following improvements be made; all in accordance with the report from the General Manager of Infrastructure Services dated July 26, 2007:

1) That pedestrian warning signs be installed along both sides of Barry Downe Road in the study area.

2) That widening Barry Downe Road to provide a continuous two-way centre left turn lane between Sparks Street and Woodbine Avenue be given a high priority to improve pedestrian safety.

3) That the pedestrian crossing volumes be monitored along Barry Downe Road to determine if pedestrian signals or raised islands should be included as part of any future widening.

	Recommendation Continued

Recommended by the Department

Greg Clausen, P. Eng.
General Manager of Infrastructure Services

Recommended by the C.A.O.

Mark Mieto
Chief Administrative Officer

Report Prepared By	Division Review
Dave Kivi, Co-ordinator of Transportation and Traffic Engineering Services	Robert M. Falcioni, P.Eng. Director of Roads and Transportation

Background:

At the City Council meeting on February 14, 2007, Councillor Landry-Altmann submitted a petition requesting the installation of pedestrian signals at the intersection of Barry Downe Road and Lamothe Street (see Exhibit "A"). The petition indicated that the signals would improve safety for people crossing Barry Downe Road as well as slow traffic down.

Forms of Pedestrian Crossings

The Highway Traffic Act indicates that there are fundamentally two different forms of pedestrian crossings. The crossings may be either:

- A protected crossing where vehicles must yield to pedestrians, or
- An unprotected crossing where pedestrians must yield to vehicles.

Protected crossings include those locations where there is traffic control that requires a vehicle to yield or stop, such as a traffic control signal, an intersection pedestrian signal, a pedestrian crossover with flashing lights, a stop sign, or a crossing guard.

An unprotected crossing may or may not have warning signage and in some jurisdictions, crosswalk pavement markings. An unprotected crossing may also have no designation or traffic control measures but is a location where there is measurable pedestrian crossing activity. Safety at unprotected crossings can also be improved with the addition of warning signs or the construction of refuge islands or centre medians.

Either form of crossing may be appropriate given a range of pedestrian demand. There is generally a higher degree of concern for pedestrian safety at unprotected crossing points. However, both forms of crossings must be designed to maximize safety.

Some types of protected crossings that may be appropriate for Barry Downe Road are traffic control signals, intersection pedestrian signals, or mid-block pedestrian signals.

The City of Greater Sudbury follows the Ontario Ministry of Transportation's warrants for the installation of the various pedestrian signal control devices. The warrants are based on the number of pedestrians crossing the road, traffic volumes and geometric considerations such as: number of lanes; speed limits; and proximity of existing signal devices. The estimated cost to install intersection or mid-block pedestrian signals is $80,000. The cost of full traffic control signals can be as high as $170,000.

To determine the type and location of pedestrian facilities that may be required for Barry Downe Road, seven (7) hour turning movement counts and pedestrian crossing counts were conducted at the following locations, which are shown on Exhibit "B":

(1) Barry Downe Road at Sparks Street
(2) Barry Downe Road at Kennedy Street
(3) Barry Downe Road at Lamothe Street
(4) Barry Downe Road at Woodbine Avenue

To incorporate the special needs of seniors, young children, and disabled persons, the total number of crossings were increased by twenty (20) percent before being applied to the warrants. All counts were conducted in May 2007 while elementary schools and Lasalle Secondary School were in session. Pedestrians that crossed Barry Downe Road mid-block were assigned to the nearest intersection.

1) Barry Downe Road at Sparks Street

The intersection of Barry Downe Road and Sparks Street is located approximately 90 metres north of a signalized intersection at Lasalle Boulevard. This section of Barry Downe Road is constructed with four (4) lanes of traffic, and a sidewalk along both sides. It carries an average annual daily traffic volume (AADT) of 13,000 vehicles and has a posted speed limit of 50 km/h.

A summary of the pedestrian and vehicle counts is contained in Exhibit "C". The pedestrian and vehicle volumes were applied to the warrants for both pedestrian signals and full traffic signals and the results show that signals are not justified. The factored pedestrian volume is 67 where 260 would be required. Also, the intersection is too close to the existing traffic signals at Lasalle Boulevard to install a new set of signals. A minimum spacing of 215 metres is recommended between traffic signals as recommended by the Ontario Traffic Manual.

The turning movement count data does indicate that left turn lanes are warranted on Barry Downe Road in both directions of travel.

2) Barry Downe Road at Kennedy Street

The intersection of Barry Downe Road and Kennedy Street is located approximately 210 metres north of Lasalle Boulevard. This section of Barry Downe Road is constructed with four (4) lanes of traffic and sidewalks along both sides. It carries an AADT of 11,000 vehicles north of Kennedy Street and has a posted speed limit of 50 km/h. Lasalle Secondary School is located at the east end of Kennedy Street.

A summary of the pedestrian and vehicle count data is contained in Exhibit "D". The pedestrian and vehicle volumes were compared to the warrants for both pedestrian signals and full signals, and the results show that neither are required at this time. The factored pedestrian crossing volume is 115 where 250 would be required to satisfy the minimum requirements for pedestrian signals. The vehicle and pedestrian volumes are only 17 percent of the minimum required to warrant full traffic signals.

The turning movement count data does indicate that a southbound left turn lane is warranted on Barry Downe Road at Kennedy Street.

3) Barry Downe Road at Lamothe Street

The intersection of Barry Downe Road and Lamothe Street is located approximately 330 metres north of Lasalle Boulevard. The entrance to St. Andrew The Apostle Church is located opposite Lamothe Street forming a four (4) way intersection. This section of Barry Downe Road also has four (4) lanes of traffic and a sidewalk along both sides. It carries an AADT of 11,000 vehicles and has a posted speed limit of 50 km/h.

In response to concerns about parishioners crossing Barry Downe Road to attend the church services, a special count was conducted on Sunday, June 3, 2007, from 8:30 a.m. to 12:30 p.m. A summary of the weekday pedestrian and vehicle counts and the special Sunday pedestrian count can be found in Exhibit, "E" & "F". The results of the count data show that pedestrian signals and full traffic control signals are not warranted at this time. The adjusted pedestrian volume for weekdays is 63 where a minimum volume of two hundred and seventy five (275) crossings is required to satisfy the warrants for pedestrian signals. The Sunday pedestrian crossing count indicated a total of sixty eight (68) pedestrians crossed the road during the four (4) hour period. The majority of crossings were to and from the church which has Sunday morning services. While an (eight) 8 hour pedestrian crossing volume is not known, it would be much less than 325 crossing required for the installation of pedestrian signals. The turning movement count data does indicate that a north bound left turn lane is warranted at this intersection.

4) Barry Downe Road at Woodbine Avenue

The intersection of Barry Downe Road and Woodbine Avenue is located approximately 480 metres south of the signalized intersection of Barry Downe Road and Lillian Boulevard (see Exhibit "B"). In this area, Barry Downe Road is constructed with four (4) lanes of traffic, has an AADT of 10,500 and a speed limit of 50 km/h. The sidewalk on the west side of Barry Downe Road ends at this intersection, and the sidewalk along the east side continues north approximately 30 metres to the entrance to Cambrian College.

A summary of the pedestrian and vehicle count data is contained in Exhibit "G". The pedestrian and vehicle volumes were compared to the warrants for both pedestrian signals and full traffic signals, and the results show that neither are warranted at this time. The factored pedestrian volume is 114 where 300 is required for signals. The vehicle and pedestrian volumes are 66% of the minimum required for full traffic signals.

A review of the City's collision information from 2003 to 2005 inclusive showed that two (2) collisions occurred at the intersection involving three (3) pedestrians being struck by vehicles. A detailed review revealed that two (2) of the pedestrians were hit while crossing Woodbine Avenue and not Barry Downe Road.

The turning movement count data indicated that a northbound left turn lane is warranted at this intersection.

Summary of Findings

The above analysis indicates that while signals are not currently warranted at any single location, there is a significant number of pedestrians who currently cross this busy arterial roadway between Lasalle Boulevard and Woodbine Avenue. The traffic count information also indicated that left turn

lanes on Barry Downe Road are warranted at each intersection within the study area.

To improve pedestrian safety, staff recommend that the following improvements be made:

1) That pedestrian warning signs be installed along both sides of Barry Downe Road in the study area.

2) That widening Barry Downe Road to provide a continuous two-way centre left turn lane between Sparks Street and Woodbine Avenue be given high priority to improve pedestrian safety. A centre left turn lane provides a refuge area for pedestrians, allowing them to cross against one direction of traffic at a time. It may also be possible to further protect pedestrians with the construction of raised islands in the centre of the road at some locations.

3) That the pedestrian crossing volumes be monitored along Barry Downe Road to determine if pedestrian signals should be included as part of any future widening.

Should Council decide to install pedestrian signals at one or more locations, staff recommend that Woodbine Avenue and Kennedy Street be given priority as Lasalle Secondary School and Cambrian College appear to be the largest pedestrian generators in the area. If has been found that pedestrians will not walk out of their way to use a protected crossing. This is evident at Sparks Street where 67 pedestrians crossed Barry Downe Road this unprotected location, even though it is located only 90 metres north of the traffic signals at Lasalle Boulevard.

As previously mentioned, the cost of pedestrian signals is approximately $80,000. If pedestrian signals are approved, the Capital Budget for traffic signals would need to be increased accordingly, or an intersection that meets the warrants for traffic signals would need to be deferred until funding is available.

EXHIBIT: A

Greater|Grand Sudbury
www.greatersudbury.ca

INTEROFFICE MEMO

February 20, 2007

TO: G. Clausen, Acting General Manager of Infrastructure
B. Falcioni, Director of Roads & Transportation

FROM: CJ Caporale, Council Secretary

RE: **Petition - Pedestrian Lights at Lamothe Street & Barrydowne Road**

At the City Council meeting of February 14, 2007, Councillor Landry-Altmann submitted a petition to the City Clerk regarding the installation of pedestrian lights at the corner of Lamothe Street and Barrydowne Road, Sudbury.

A copy of the first page of the petition is attached for your review.

The complete petition (approximately ninety signatures) is available in the Clerk's Department if you wish to review it.

For your information.

CJ Caporale

cc: Councillor Landry-Altmann

EXHIBIT: A

PETITION

Whereas there is no safe place to cross Barrydowne at Lamothe due to heavy traffic and whereas Cambrian College, Lasalle Secondary, parishioners of St. Andrew the Apostle Church, students from St Andrew separate school, Carl Nesbitt public school; residents of the neighbourhood take their live's in their own hands trying to cross. We petition the City of Greater Sudbury to install walking lights at Lamothe Street and Barrydowne Road. The space between the lights at Lilian Street and the lights at Lasalle is far too great a distance. Lights would help slow down the traffic. This light could be activated by the pedestrian.

David Chisholm — DAVID CHISHOLM
Monique Fournier — Monique Fournier
Ginette Dupuis — Ginette Dupuis
Linda DeBuono — Linda DeBuono
Robert Guerin
Juliette Guerin
[illegible]
Rita Decker
[illegible]
John Bewley
[illegible] SMITH
[illegible]
Paul [illegible] BENOIT
[illegible] Netzke
Roger Guimault
DAN CAKIPEAU
RAEANN YLINEN
[illegible] Marcarello
[illegible] Labelle
GEORGE MACKAY
Ron Lamontagne
[illegible]

EXHIBIT: A

Greater Grand Sudbury

February 20, 2007

Mr. David Chisholm

PO BOX 5000 STN A
200 BRADY STREET
SUDBURY ON P3A 5P3

CP 5000 SUCC A
200 RUE BRADY
SUDBURY ON P3A 5P3

705.671.2489

www.
city.greater.sudbury
.on.ca

Dear Mr. Chisholm:

Re: Petition - Pedestrian Lights at Lamothe Street & Barrydowne Road

At the City Council meeting of February 14, 2007, Councillor Landry-Altmann submitted a petition to the City Clerk regarding the installation of pedestrian lights at the corner of Lamothe Street and Barrydowne Road, Sudbury.

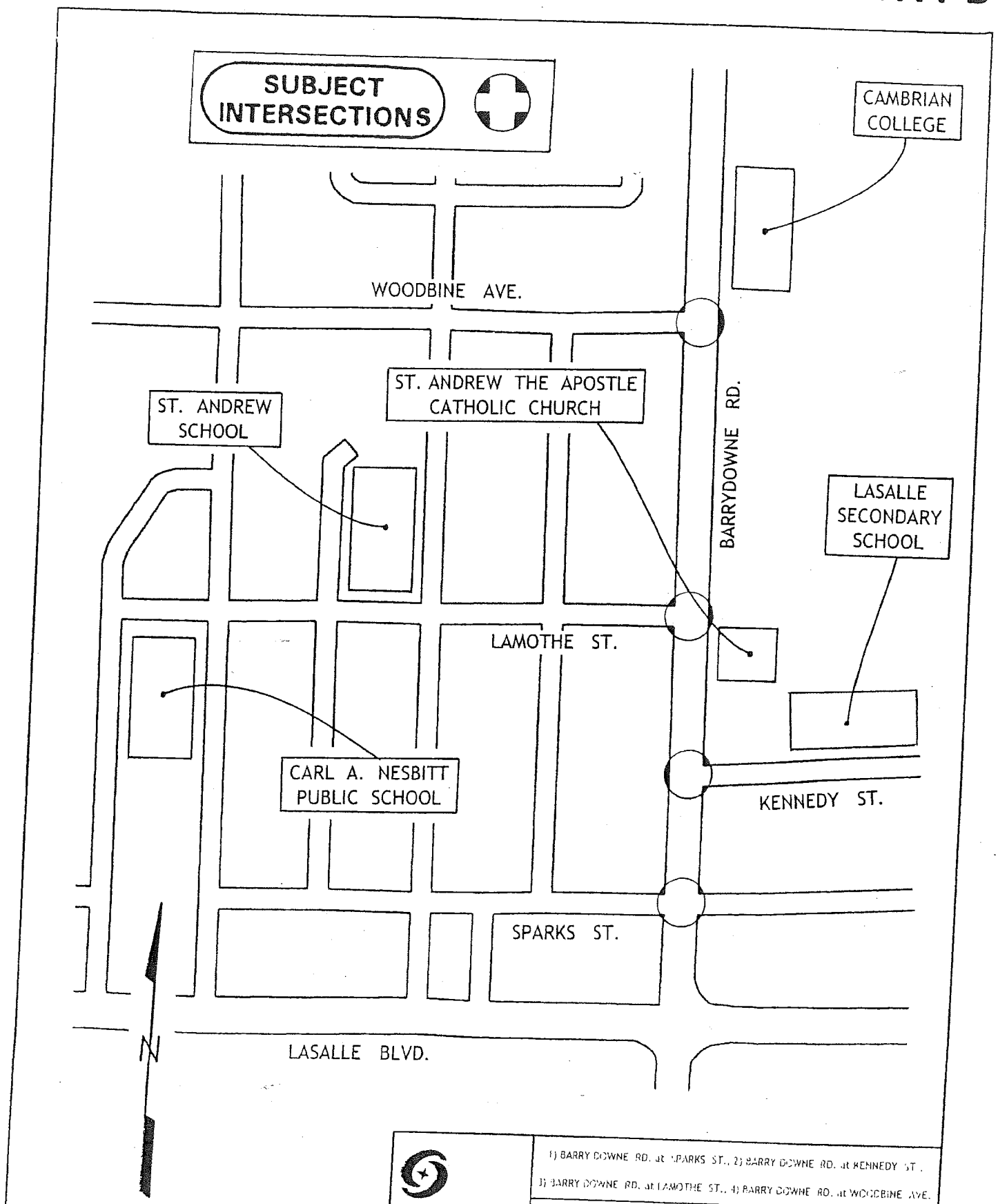
This petition was forwarded to the Acting General Manager of Infrastructure and the Director of Roads & Transportation, for their review.

Yours truly,

Corrie-Jo Caporale
Council Secretary

cc: Councillor Landry-Altmann
G. Clausen, Acting General Manager of Infrastructure
B. Falcioni, Director of Roads & Transportation

EXHIBIT: B


SUBJECT INTERSECTIONS
CAMBRIAN COLLEGE
WOODBINE AVE.
ST. ANDREW THE APOSTLE CATHOLIC CHURCH
ST. ANDREW SCHOOL
BARRYDOWNE RD.
LASALLE SECONDARY SCHOOL
LAMOTHE ST.
CARL A. NESBITT PUBLIC SCHOOL
KENNEDY ST.
SPARKS ST.
LASALLE BLVD.
N
1) BARRY DOWNE RD. at SPARKS ST., 2) BARRY DOWNE RD. at KENNEDY ST.,
3) BARRY DOWNE RD. at LAMOTHE ST., 4) BARRY DOWNE RD. at WOODBINE AVE.
REQUEST FOR PEDESTRIAN SIGNALS
N.T.S.

Pedestrian Count Volume Summary

Location: Barry Downe Road @ Sparks Street
Date of Count: 5/14/2007

Time	Unassisted Pedestrians	20% Assisted Pedestrians
8:30	7	2
9:30	6	2
11:30	4	1
12:30	3	1
13:30	5	1
16:00	6	1
17:00	10	2
18:00	4	1
Total	**45**	**11**

Factored 8 hour Ped Volume	67
8 hour Vehicle Volume on Street	7100

* Assisted Pedestrian = (Seniors, children under 12 and disabled pedestrians)
Factored Ped volume = total unassisted volume + 2x total assisted volume

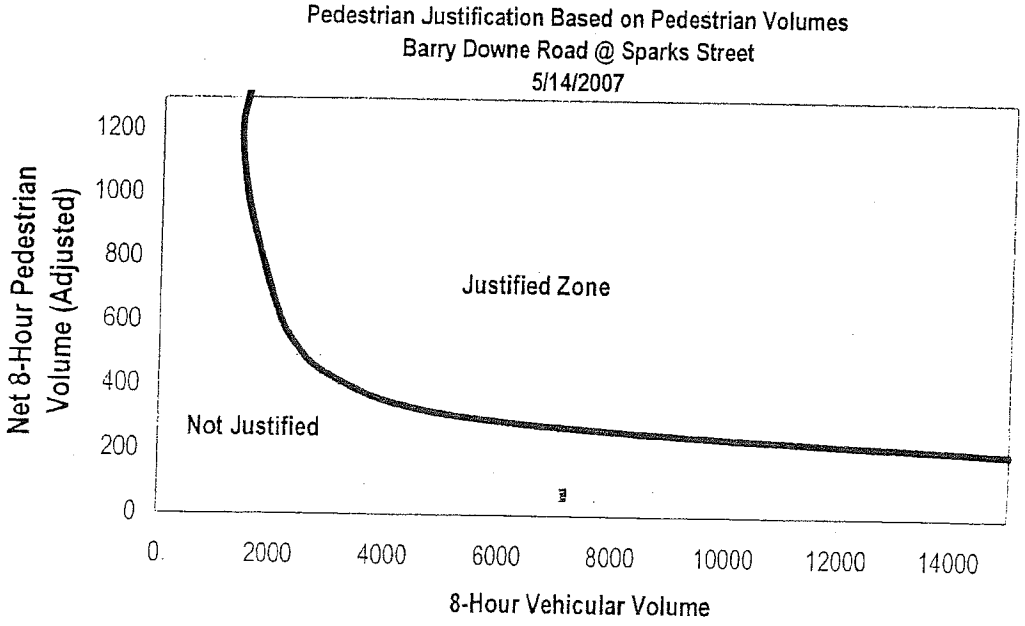


EXHIBIT: D

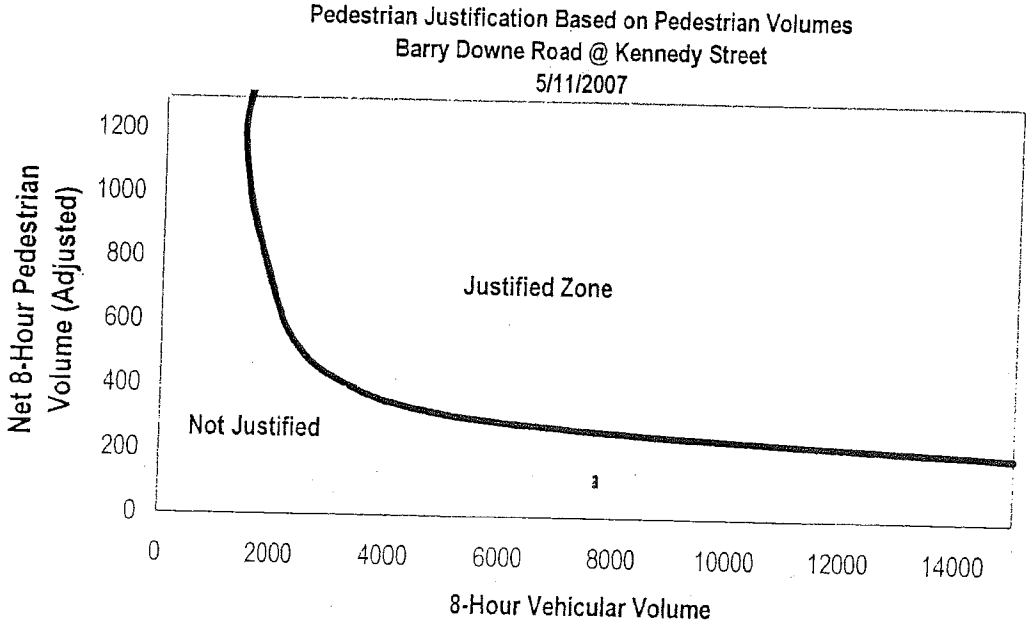
Pedestrian Count Volume Summary

Location: Barry Downe Road @ Kennedy Street
Date of Count: 5/11/2007

Time	Unassisted Pedestrians	20% Assisted Pedestrians
8:30	13	3
9:30	12	3
11:30	12	3
12:30	12	3
13:30	8	2
16:00	7	2
17:00	4	1
18:00	10	2
Total	**78**	**19**

Factored 8 hour Ped Volume	115
8 hour Vehicle Volume on Street	7600

* Assisted Pedestrian = (Seniors, children under 12 and disabled pedestrians)
Factored Ped volume = total unassisted volume + 2x total assisted volume



Pedestrian Count Volume Summary

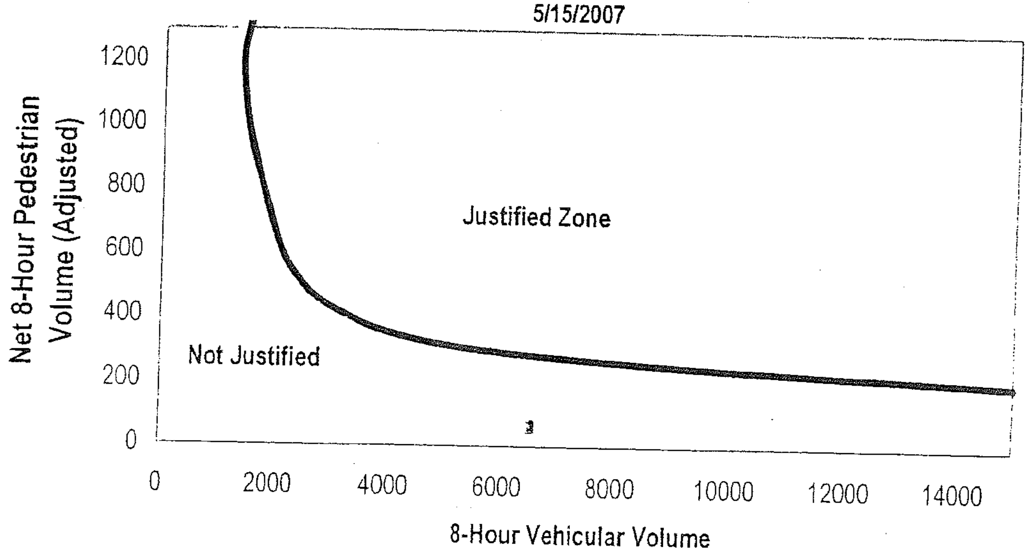
Location: Barry Downe Road @ Lamothe Street
Date of Count: 5/15/2007

Time	Unassisted Pedestrians	20% Assisted Pedestrians
8:30	10	3
9:30	2	0
11:30	5	1
12:30	2	1
13:30	5	1
16:00	6	1
17:00	4	1
18:00	9	2
Total	**43**	**10**

Factored 8 hour Ped Volume	63
8 hour Vehicle Volume on Street	6500

* Assisted Pedestrian = (Seniors, children under 12 and disabled pedestrians)
Factored Ped volume = total unassisted volume + 2x total assisted volume

Pedestrian Justification Based on Pedestrian Volumes
Barry Downe Road @ Lamothe Street
5/15/2007



Pedestrian Count Volume Summary

Location: Barry Downe Road @ Lamothe Street (St. Andrew The Apostle Church)
Date of Count: Sunday, June 3, 2007

Time	Unassisted Pedestrians	20% Assisted Pedestrians
8:30	11	3
9:30	8	2
10:30	13	3
12:30	14	3
Total	**46**	**11**

Factored 4 hour Ped Volume	68
8-Hour Vehicle Volume on Stree	4800

* Assisted Pedestrian = (Seniors, children under 12 and disabled pedestrians)
Factored Ped volume = total unassisted volume + 2x total assisted volume

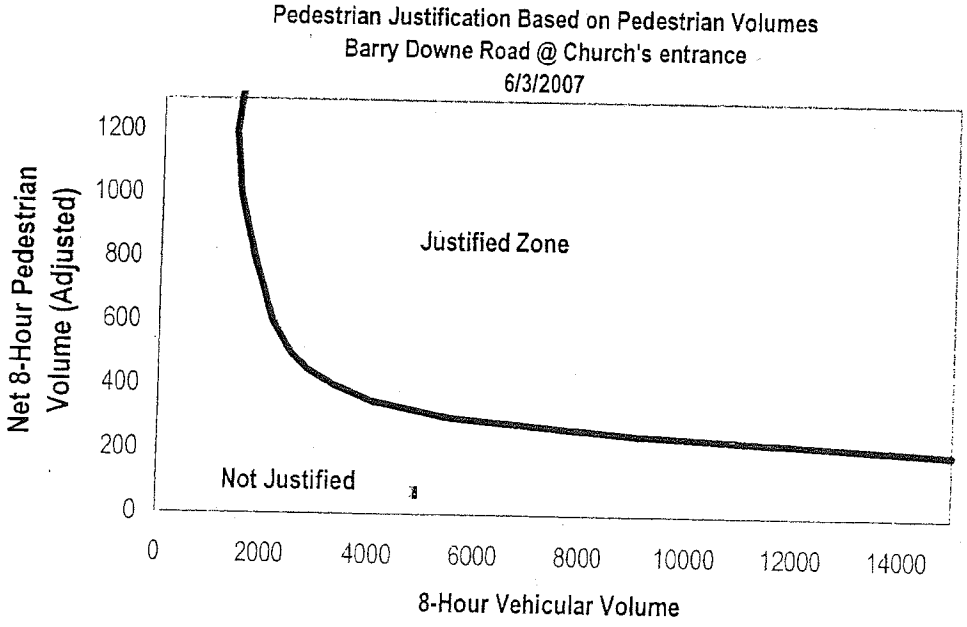


EXHIBIT: G

Pedestrian Count Volume Summary

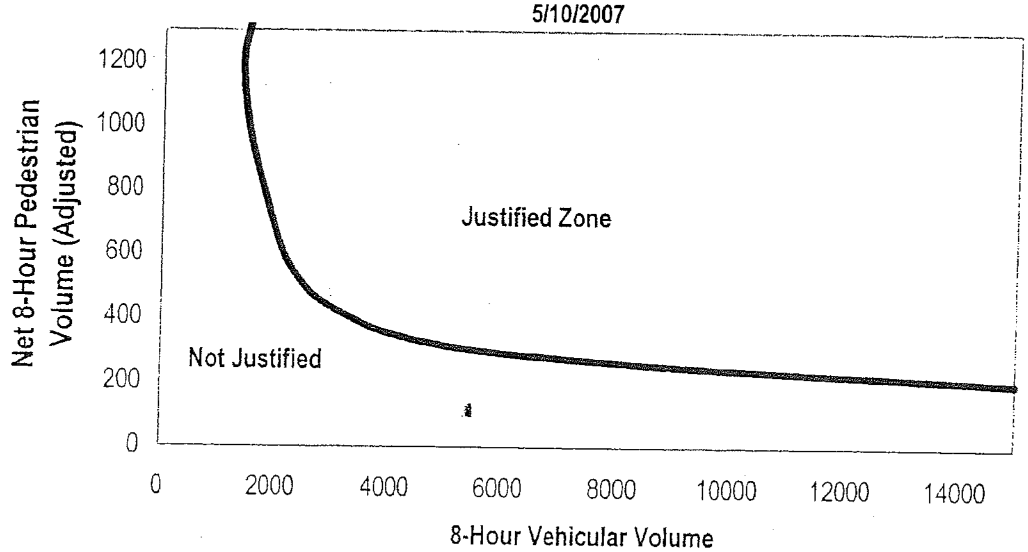
Location: Barry Downe Road @ Woodbine Avenue
Date of Count: 5/10/2007

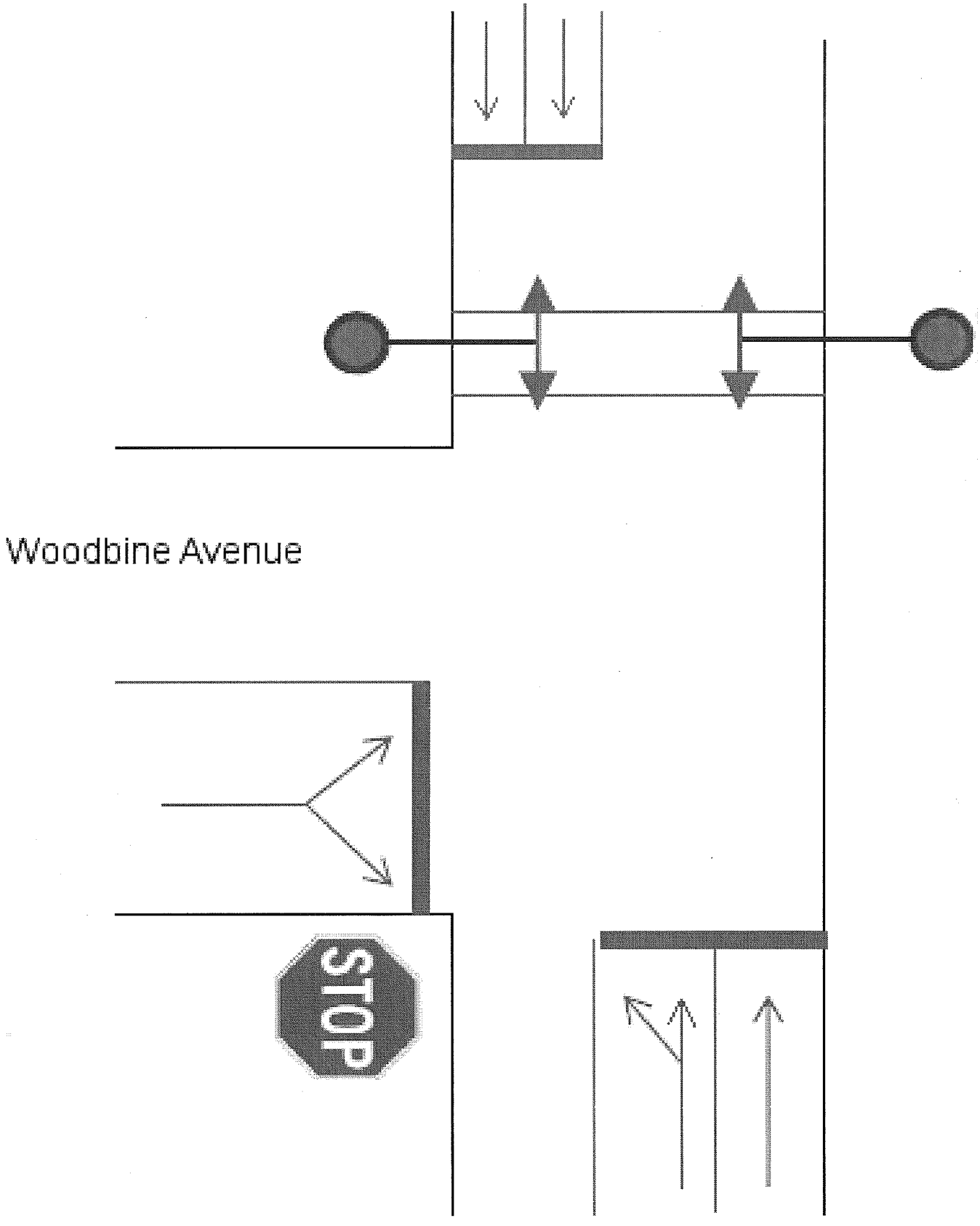
Time	Unassisted Pedestrians	20% Assisted Pedestrians
8:30	14	4
9:30	11	3
11:30	9	2
12:30	8	2
13:30	10	2
16:00	11	3
17:00	11	3
18:00	2	0
Total	**76**	**19**

Factored 8 hour Ped Volume	114
8 hour Vehicle Volume on Street	5400

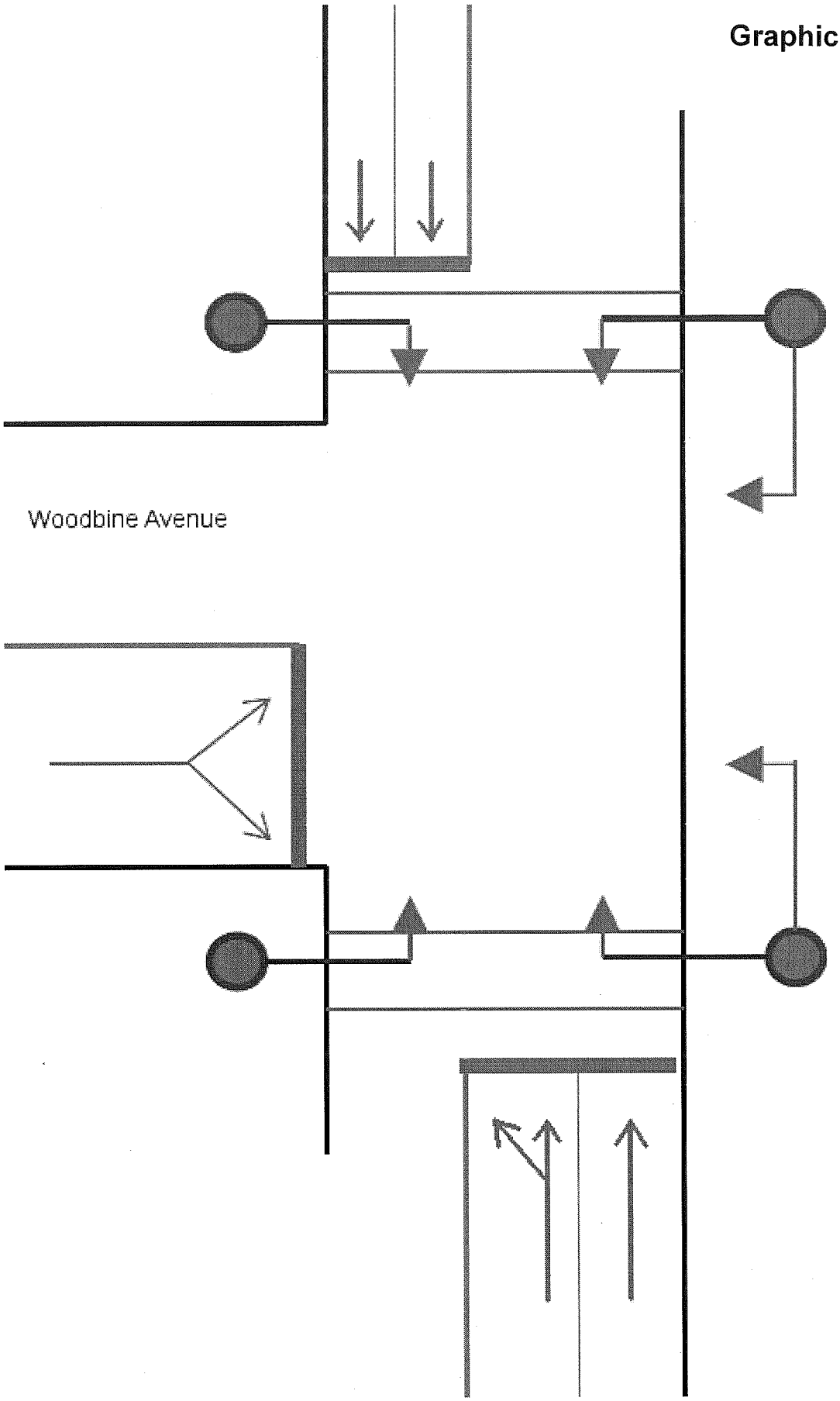
* Assisted Pedestrian = (Seniors, children under 12 and disabled pedestrians)
Factored Ped volume = total unassisted volume + 2x total assisted volume

Pedestrian Justification Based on Pedestrian Volumes
Barry Downe Road @ Woodbine Avenue
5/10/2007

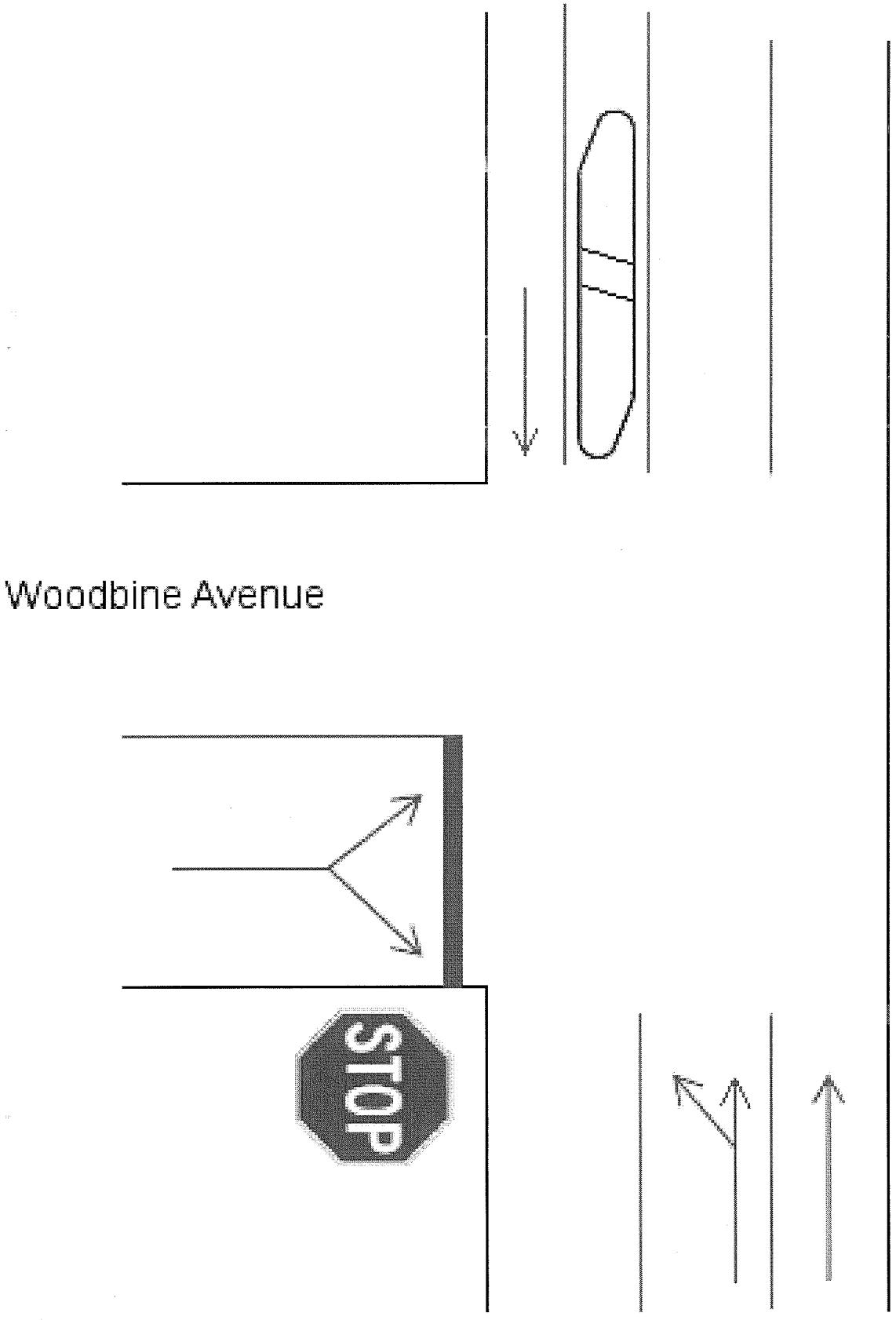




Intersection Pedestrian Signals



Full Traffic Control Signals



Pedestrian Refuge Island

Presented To:	Operations Committee
Presented:	Monday, Jan 20, 2014
Report Date	Monday, Jan 13, 2014
Type:	Managers' Reports

Request for Decision

Residential 40 km/h Speed Limits

Recommendation

THAT the City of Greater Sudbury maintain the statutory 50 km/h speed limits on residential roads, all in accordance with the report from the General Manager of Infrastructure Services dated January 13, 2014.

Signed By

Report Prepared By
Dave Kivi
Co-ordinator of Transportation & Traffic Engineering Services
Digitally Signed Jan 13, 14

Division Review
David Shelsted
Director of Roads & Transportation Services
Digitally Signed Jan 13, 14

Recommended by the Department
Tony Cecutti
General Manager of Infrastructure Services
Digitally Signed Jan 13, 14

Recommended by the C.A.O.
Doug Nadorozny
Chief Administrative Officer
Digitally Signed Jan 13, 14

Background

At the Operations Committee meeting held on September 16, 2013, the following recommendation was approved:

OP2013-43 Caldarelli/Berthiaume: WHEREAS at its May 23, 2007 meeting, Greater Sudbury City Council unanimously passed the following resolution: “AND BE IT FURTHER RESOLVED that the City of Greater Sudbury accept the challenge to become the most pedestrian friendly City in Ontario by 2015”;

AND WHEREAS the City of Greater Sudbury cannot afford to provide the pedestrian and cycling infrastructure necessary to encourage more people to use active transportation to get safely to their destinations;

AND WHEREAS there is clear evidence that physical activity from active transportation generates important health benefits;

AND WHEREAS at page 37 of the Ontario Chief Coroner’s Report into Pedestrian Deaths, it is recommended that the Ministry of Transportation amend the “Highway Traffic Act, to allow local municipalities to set the unsigned default speed limit at 40 kilometres an hour on residential streets, a decrease from the current 50 kilometres an hour;

AND WHEREAS slower streets make for more livable and safer neighbourhoods;

AND WHEREAS an increase in speed is directly related both to the likelihood of a crash occurring and to the severity of the crash consequences;

AND WHEREAS the Sustainable Mobility Panel recommended that the City of Greater Sudbury be bold and modify its Traffic and Parking By-Law 2010-1 to reduce speed limits on all residential streets to 40 kilometres per hour unless otherwise posted, rather than the current 50 kilometres per hour;

AND WHEREAS the City of North Bay has instituted a by-law establishing 40 kilometre per hour speed limits on residential streets and the City of Ottawa has established a method where by means of petition, residents can request a reduction in the speed limit to 40 kilometres per hour on local residential streets provided there is a consensus of 66 percent of the residents on the entire street;

THEREFORE BE RESOLVED that the City of Greater Sudbury direct staff to investigate options to amend the Traffic and Parking By-Law 2010-1 to reduce speed limits on residential streets to 40 kilometres per hour unless otherwise posted, rather than the current 50 kilometres per hour and that those options be presented to the Operations Committee at it January 2014 meeting.

Statutory Speed Limit

Section 128 (1) of the Ontario Highway Traffic Act states that “no person shall drive a motor vehicle at a rate of speed greater than 50 kilometres per hour (km/h) on a highway within a local municipality or within a built-up area”. This speed limit is commonly referred to the Statutory Speed Limit. The City of Greater Sudbury has signs posted at the provincial highway entry points into the City indicating that the speed limit is “50 km/h unless otherwise posted”. The Ontario Traffic Manual (OTM) indicates that “maximum speed” signs are required when the speed limit is different than the statutory speeds. They may also be used to supplement the statutory speed limit. Based on the Highway Traffic Act and OTM requirements, it is the City’s practice to install 50 km/h maximum speed limit signs only when there is a change from a higher or lower maximum speed limit.

Speed and Driver Behavior

A report prepared for the British Columbia Ministry of Transportation titled Review and Analysis of Posted Speed Limits and Speed Limit Setting Practices in British Columbia states the following:

“Based on years of experience and observation, the following fundamental concepts have been used to establish realistic speed zones.

The majority of motorists drive at a speed they consider reasonable, and safe for road, traffic, and environmental conditions. Posted limits which are set higher or lower than dictated by roadway and traffic conditions are ignored by the majority of motorists.

The normally careful and competent actions of a reasonable person should be considered legal.

A speed limit should be set so that the majority of motorists observe it voluntarily and enforcement can be directed to the minority of offenders.

A driver’s choice of speed can impose risks on other road users. Crash severity increases with increasing speeds because in a collision, the amount of kinetic energy dissipated is proportional to the square of the velocity. Crashes, however, appear to depend less on speed and more on the variation in speeds. The likelihood of a crash occurring is significantly greater for motorists traveling at speed slower and faster than the mean speed of traffic.

Maximum speed limits are set for ideal road, traffic, and environmental conditions.

The Coroner's report recognized this and stated "although supportive of changes to lower the speed limit for local municipalities, there was a strong view that in the absence of enforcement, drivers will drive the speed at which they are comfortable, irrespective of the posted speed, unless speed reduction is accompanied by engineering changes to the road to encourage adoption of slower speeds."

Effectiveness of 40 km/h Speed Limits

It is the City's current policy to reduce the speed limit to 40 km/h on local and collector roadways adjacent to elementary schools. However, there are some streets with 40 km/h limits that are not adjacent to elementary schools.

As part of the Traffic Calming Program, City staff has undertaken many spot speed studies on residential roads with both 40 and 50 km/h speed limits. The following table provides a summary of the speed study results from 2009 to 2012 inclusive.

Speed Study Summary

Speed Limit (km/h)	Number of Studies	Weighted Average Speed (km/h)
40	33	46.3
50	292	48.8

While the studies do not represent actual before versus after data, they do provide some insight into the effectiveness and acceptance of 40 km/h speed zones. As indicated, a 10 km/h reduction in the speed limit has yielded a 2.5 km/h reduction in average operating speed. Also, while the majority of drivers obey 50 km/h speed limits, only a small minority are currently obeying 40 km/h speed limits.

The Coroner's report also recognized this, stating "when the City of Ottawa reduced speed from 50 km/h to 40 km/h, studies which followed indicated that there was no substantial change in speed which motorists travelled the roads."

40 km/h Speed Limit on All Residential Roadways

In order for a 40 km/h speed limit to be enforced under the Highway Traffic Act, maximum speed limit signs will be required on every roadway affected. It is difficult to determine the exact number of speed limit signs that would be required to lower the speed limit on all residential roadways. However, the OTM recommends that the signs be spaced at 300 metres, and/or after each major intersection. There are more than 1,800 local and collector roads in the city totaling more than 2,900 lane kilometres. Installing speed limit signs every 300 metres will result in the need for more than 9,600 signs at a total cost of approximately $2.5 million.

In order to maintain such a large inventory of new signs, the sign maintenance budget would need to be increased by $125,000 annually based on a 20 year life expectancy.

The Coroner's recommendation to the Ministry of Transportation (MTO) is to amend the *Highway Traffic Act* to allow local municipalities to lower the unsigned default speed limit to 40 km/h. This amendment would

significantly reduce the costs associated in reducing the speed limit on residential roadways.

Many studies have shown that majority of pedestrian fatalities have been on arterial streets, which are wide roads (multiple lanes) and higher volumes. During the review period of the Coroner's report, 75 % of pedestrian fatalities occurred on arterial roads. The City has similar distribution of pedestrian collisions between arterial and local roads. Therefore, the proposed change in speed limit will affect a minority of pedestrian collisions.

40 km/h Speed Limits On All New Residential Roadways

It is possible to implement 40km/h speed limits on all newly assumed residential roadways without significantly impacting current sign maintenance budgets. As part of the subdivision approval process, the developer is responsible for the cost of any traffic control signs that are required. Therefore, the cost of installing 40 km/h signs on newly assumed roads can be passed on to the developer.

Implementing 40km/h speed limits on new roads, and maintaining 50km/h on existing roads will create a double standard, which is not recommended by staff. Also, often times newer streets are built to a higher standard than older streets with respect to the provision of curbs, sidewalks and illumination.

40 km/h Speed Limits Adjacent To Public Playgrounds

It is currently the City's policy to bring forward requests to lower the speed limit to 40 km/h on local and collector roads adjacent to elementary schools. In the last six years, the City has implemented school zone speed limits at many locations. However, there are still twenty schools that qualify for a reduced limit, but have not yet been completed. Based on the current budget, it will take approximately four years to have the speed limit reduced at all the elementary schools that qualify.

School zone speed limits have been implemented by Council due to the high concentration of young children in these areas. Once the elementary school areas are completed, Council may consider implementing 40 km/h speed limits adjacent to public playgrounds on local and collector roadways. Playgrounds represent another area where high numbers of young children can be found near to the road.

There are nearly 200 playgrounds in the city. Should Council decide to reduce the speed limit near playgrounds, it would cost approximately $300,000 to supply and install the required signs. Council may consider a budget option of $30,000 per year as part of the 2015 budget process to complete the school zone speed limits in 2015 and all playgrounds by 2025.

Presented To:	Operations Committee
Presented:	Monday, Jan 20, 2014
Report Date	Wednesday, Jan 08, 2014
Type:	Managers' Reports

Request for Decision

Traffic Control - Various New Intersections - (1) Nature's Haven Subdivision, Phase 2 (2) Lofty Pines Subdivision, Phase 3 (3) Marquis Park Subdivision, Phase 4B (4) Scenic View Subdivision (5) Vintage Green Subdivision, Phases 7

Recommendation

THAT the City of Greater Sudbury control traffic at the intersection of St. Michel Street and Timberglade Court with a yield sign facing westbound traffic on Timberglade Court;

THAT the City of Greater Sudbury control traffic at the intersection of Oak Street and Cedro Court with a yield sign facing northbound traffic on Cedro Court;

THAT traffic at both intersections of Laura Drive and Emerald Crescent with a Yield signs facing westbound traffic on Emerald Crescent;

THAT the City of Greater Sudbury control traffic at the intersection of Birmingham Drive and Dorsett Drive with a yield sign facing westbound traffic on Dorsett Drive;

THAT the City of Greater Sudbury control traffic at the intersection of Tuscany Trail and Cabernet Court with a stop sign facing northbound traffic on Cabernet Court;

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 all in accordance with the report from the General Manager of Infrastructure Services dated January 8, 2014.

Signed By

Report Prepared By
Dave Kivi
Co-ordinator of Transportation & Traffic Engineering Services
Digitally Signed Jan 8, 14

Division Review
David Shelsted
Director of Roads & Transportation Services
Digitally Signed Jan 8, 14

Recommended by the Department
Tony Cecutti
General Manager of Infrastructure Services
Digitally Signed Jan 8, 14

Recommended by the C.A.O.
Doug Nadorozny
Chief Administrative Officer
Digitally Signed Jan 8, 14

Background

There are currently five new subdivisions being developed in the City of Greater Sudbury. The following report recommends the appropriate traffic control at newly assumed intersections.

1. Nature's Haven Subdivision, Phase 2

Nature's Haven Subdivision, Phase 2 is currently being developed in Valley East (see Exhibit ‘A’). The City of Greater Sudbury will assume the extension of St Michel Street and Timberglade Court as public roads.

Timberglade Court intersects with St. Michel Street and forms a T intersection. A “Yield” sign is appropriate when the traffic volume is low, sight lines are good and stopping is not always required. Therefore, it is recommended that traffic at this intersection be controlled with a yield sign facing westbound traffic on Timberglade Court.

2. Lofty Pines Subdivision, Phase 3

Lofty Pines Subdivision, Phase 3 is currently being developed in Capreol (see Exhibit ‘B’). The City of Greater Sudbury will assume the extension of Oak Street and Cedro Court as public roads.

Cedro Court intersects with Oak Street and forms a T intersection. A “Yield” sign is appropriate when the traffic volume is low, sight lines are good and stopping is not always required. Therefore, it is recommended that traffic at this intersection be controlled with a yield sign facing northbound traffic on Cedro Court.

3. Marquis Park Subdivision, Phase 4B

Marquis Park Subdivision, Phase 4B is currently being developed in Rayside Balfour (see Exhibit ‘C’). The City of Greater Sudbury will assume the extension of Laura Drive and Emerald Crescent as public roads.

As shown in Exhibit 'C', Laura Drive and Emerald Crescent intersect with each other twice and both form a T intersection. It is recommended that traffic at both intersections be controlled with yield signs facing westbound traffic on Emerald Crescent.

4. Scenic View Subdivision

Scenic View Subdivision is currently being developed in Sudbury (see Exhibit ‘D’). The City of Greater Sudbury will assume the extension of Birmingham Drive as a public road.

Dorsett Drive intersects with Birmingham Drive and currently forms a T intersection. Dorsett Drive will be extended further west in a future phase. A “Yield” sign is appropriate when the traffic volume is low, sight lines are good and stopping is not always required. Therefore, it is recommended that traffic at this intersection be controlled with a yield sign facing westbound traffic on Dorsett Drive.

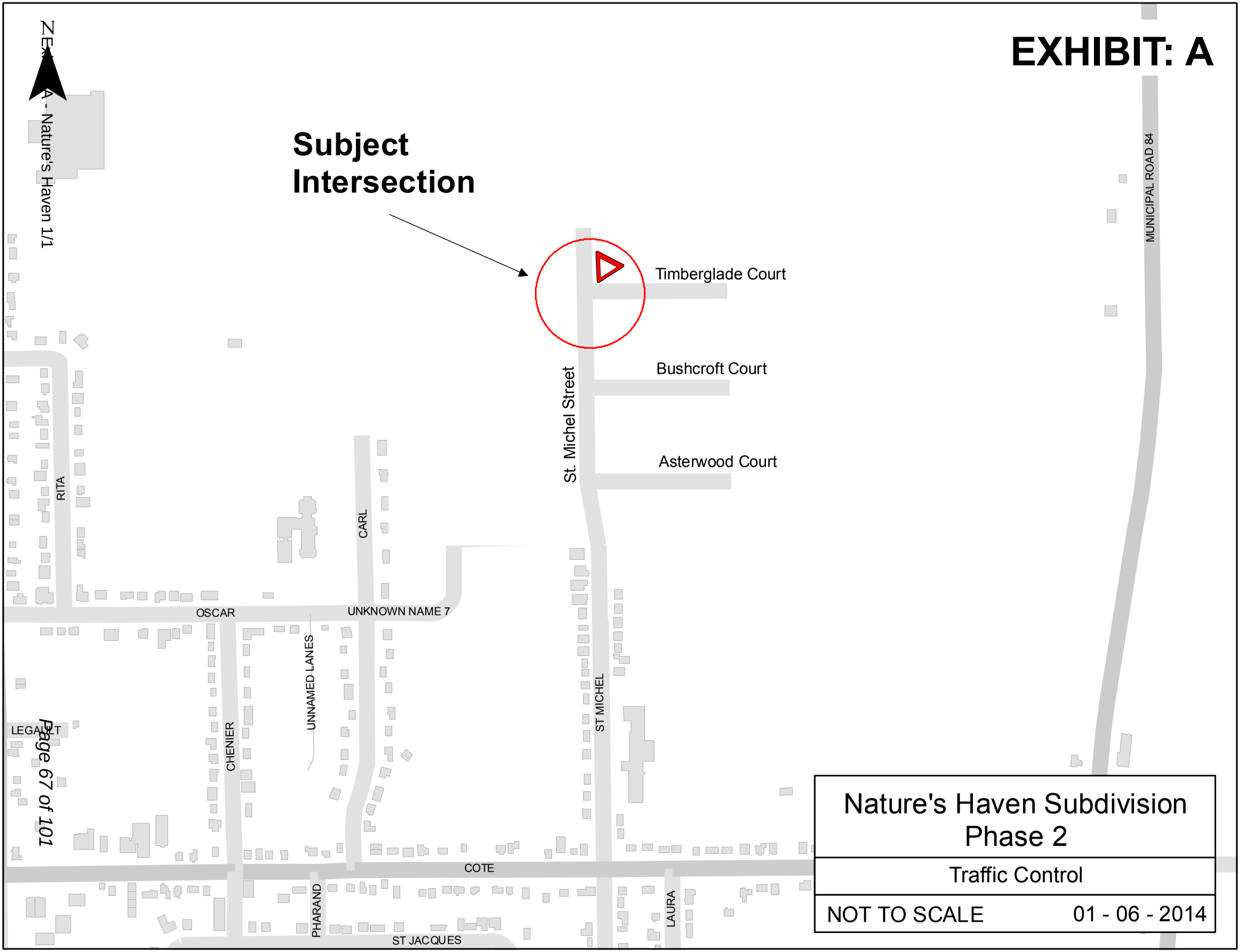
5. Vintage Green Subdivision, Phase 7

Vintage Green Subdivision, Phase 7 is currently being developed in the City's south end (see Exhibit ‘E’). The City of Greater Sudbury will assume the extension of Tuscany Trail and Cabernet Court as public roads.

Cabernet Court intersects with Tuscany Trail and forms a T intersection. A “Yield” sign is appropriate when the traffic volume is low, sight lines are good and stopping is not always required. Therefore, it is recommended that traffic at this intersection be controlled with a yield sign facing northbound traffic on Cabernet Court.

It is recommended that a By-law be passed to amend Traffic and Parking By-law 2010-1 in the City of Greater Sudbury, to implement the above recommended changes.

EXHIBIT: A

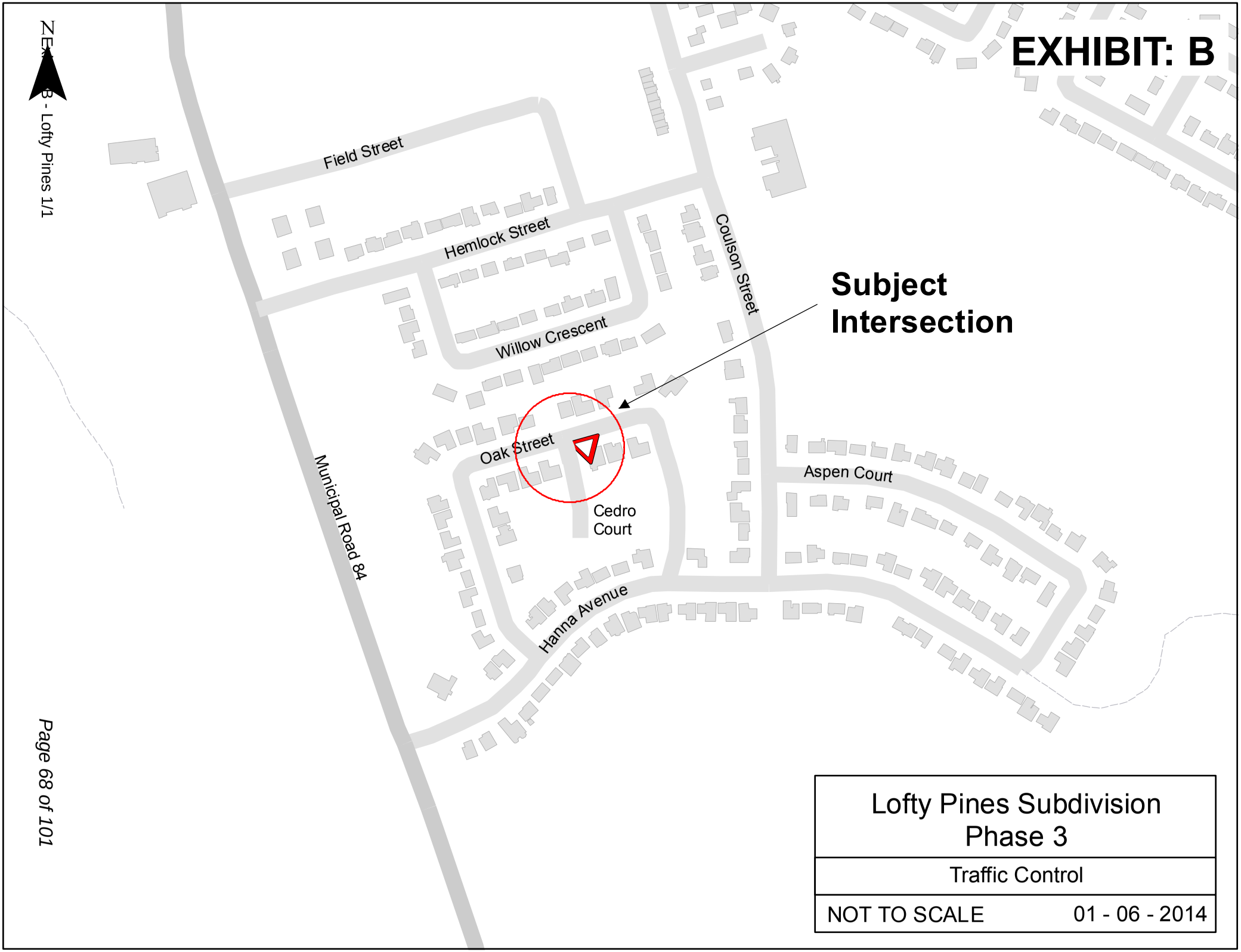


Nature's Haven Subdivision
Phase 2

Traffic Control

NOT TO SCALE 01 - 06 - 2014

EXHIBIT: B



Lofty Pines Subdivision Phase 3	
Traffic Control	
NOT TO SCALE	01 - 06 - 2014

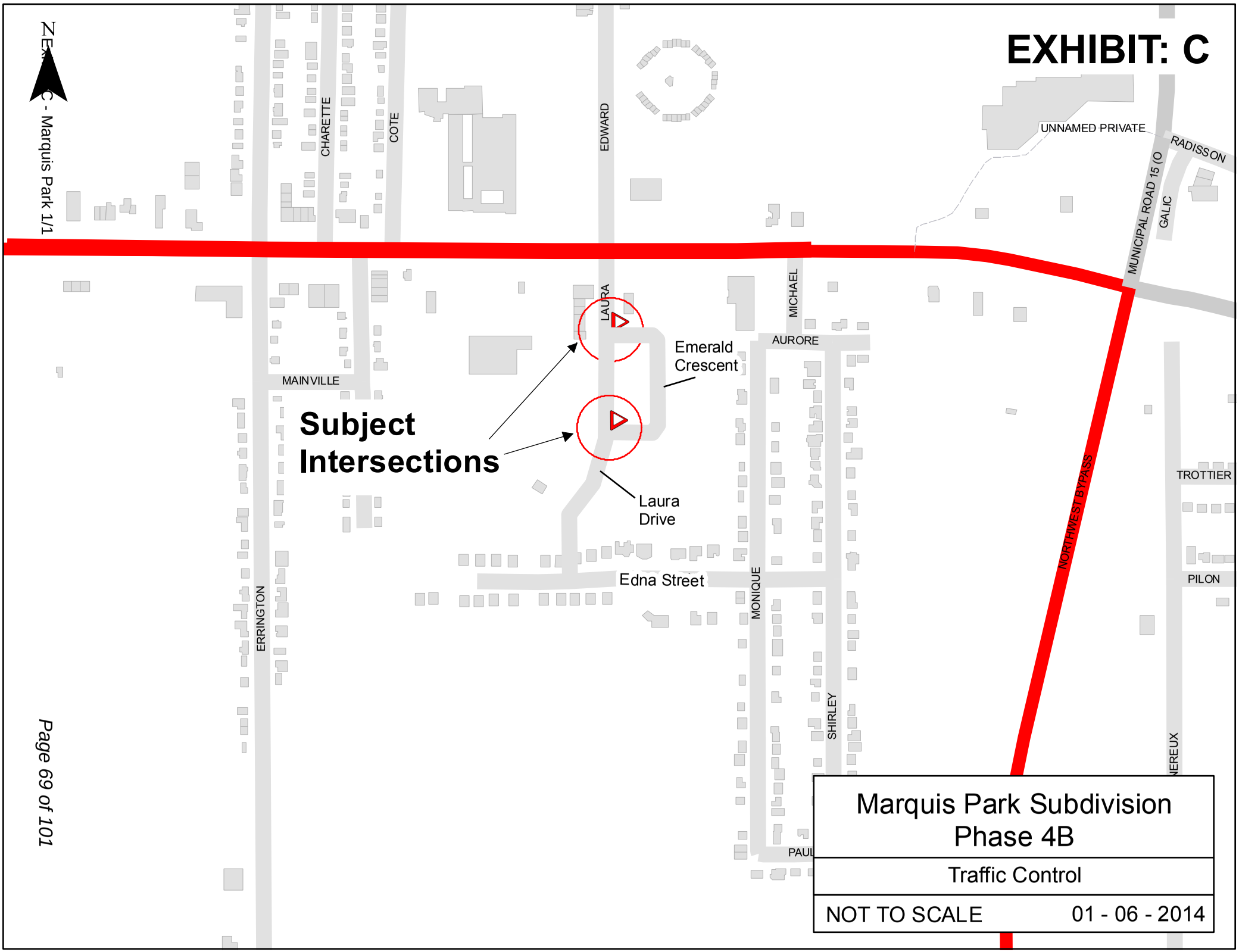
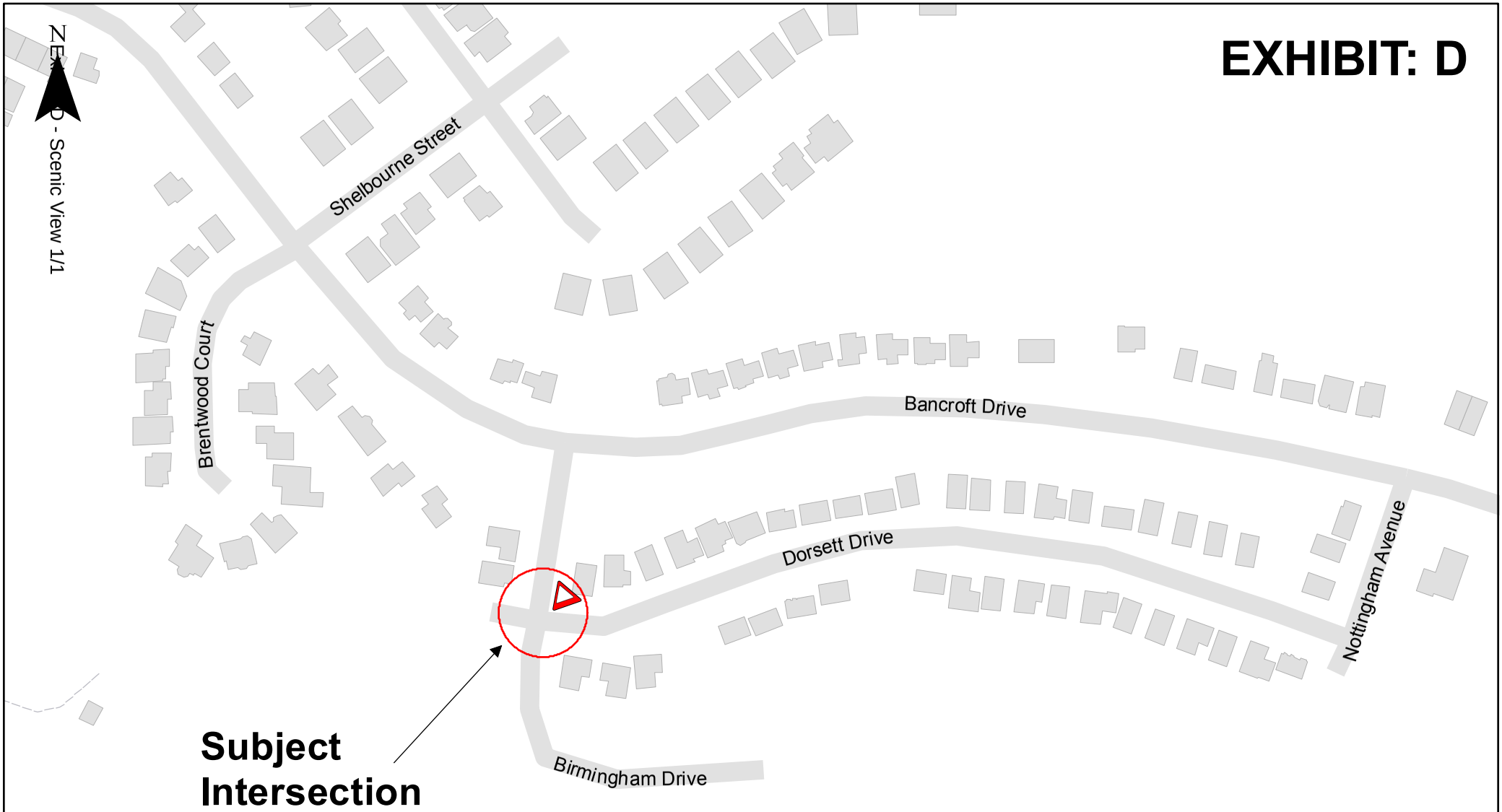


EXHIBIT: C
N
Ex C - Marquis Park 1/1
CHARETTE
COTE
EDWARD
UNNAMED PRIVATE
RADISSON
MUNICIPAL ROAD 15 (O
GALIC
LAURA
MICHAEL
AURORE
Emerald Crescent
MAINVILLE
Subject Intersections
Laura Drive
Edna Street
ERRINGTON
MONIQUE
SHIRLEY
NORTHWEST BYPASS
TROTTIER
PILON
Marquis Park Subdivision
Phase 4B
Traffic Control
NOT TO SCALE
01 - 06 - 2014

EXHIBIT: D



Scenic View Subdivision	
Traffic Control	
NOT TO SCALE	01 - 06 - 2014

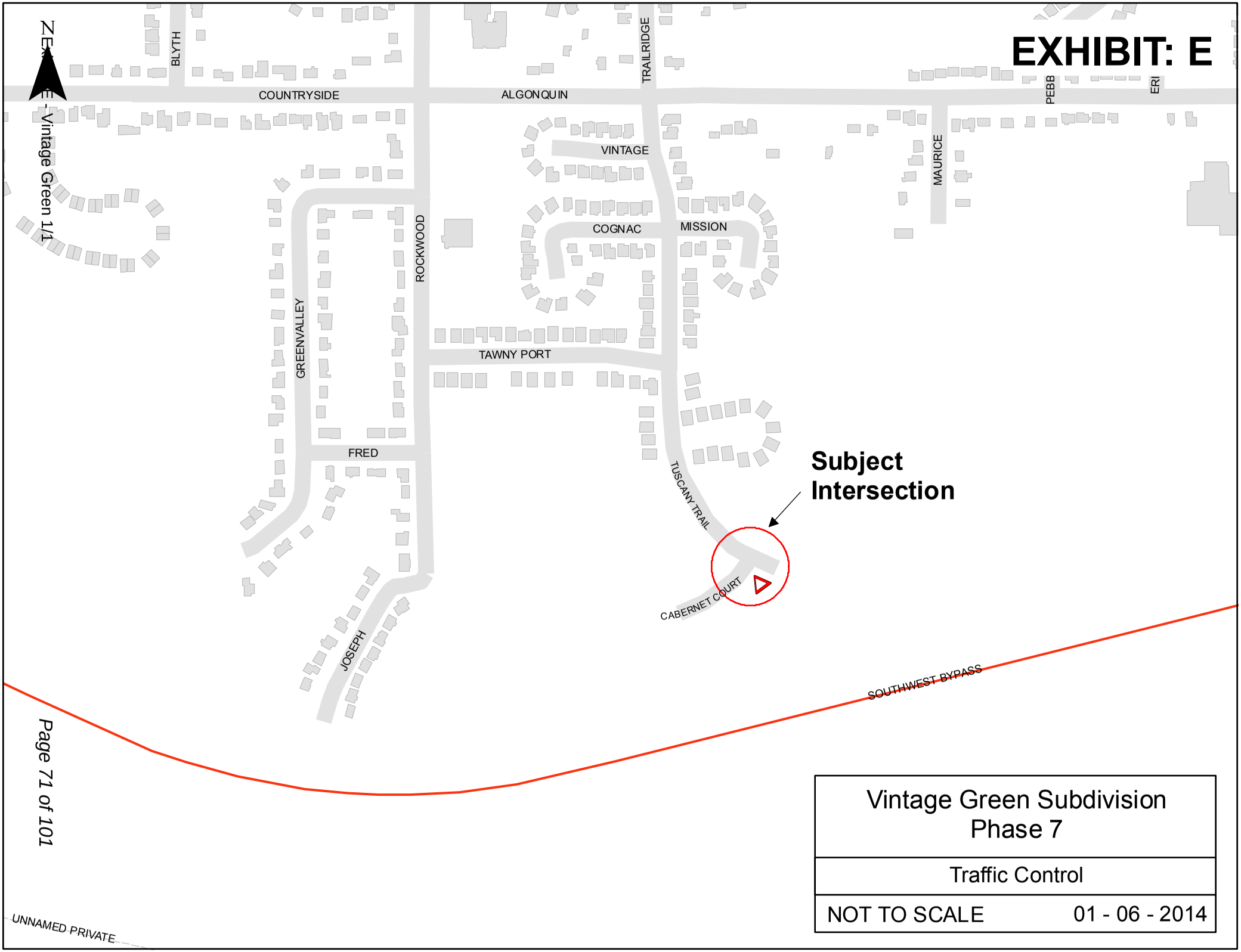


EXHIBIT: E
N
Exhibit E - Vintage Green 1/1
BLYTH
COUNTRYSIDE
ALGONQUIN
TRAILRIDGE
PEBB
ERI
MAURICE
VINTAGE
COGNAC
MISSION
ROCKWOOD
GREENVALLEY
TAWNY PORT
FRED
JOSEPH
TUSCANY TRAIL
CABERNET COURT
Subject Intersection
SOUTHWEST BYPASS
UNNAMED PRIVATE
Vintage Green Subdivision
Phase 7
Traffic Control
NOT TO SCALE
01 - 06 - 2014

Presented To:	Operations Committee
Presented:	Monday, Jan 20, 2014
Report Date	Wednesday, Jan 08, 2014
Type:	Managers' Reports

Request for Decision

All-Way Stop Control - (1) Whittaker Street at Isabel Street, Sudbury (2) Irving Street at Clemow Avenue, Sudbury (3) Gold Street at Zinc Street, Sudbury (4) Moonrock Avenue at Arnold Street, Sudbury (5) Niemi Road at Sugarbush Drive, Lively (6) Morin Avenue at King Street, Sudbury

Recommendation

THAT the City of Greater Sudbury maintain the current traffic control at the intersections of Whittaker Street at Isabel Street, Irving Street at Clemow Avenue, Gold Street at Zinc Street, Moonrock Avenue at Arnold Street, Niemi Road at Sugarbush Drive and Morin Avenue at King Street, all in accordance with the report from the General Manager of Infrastructure Services, dated January 8, 2014.

Signed By

Report Prepared By
Dave Kivi
Co-ordinator of Transportation & Traffic Engineering Services
Digitally Signed Jan 8, 14

Division Review
David Shelsted
Director of Roads & Transportation Services
Digitally Signed Jan 8, 14

Recommended by the Department
Tony Cecutti
General Manager of Infrastructure Services
Digitally Signed Jan 8, 14

Recommended by the C.A.O.
Doug Nadorozny
Chief Administrative Officer
Digitally Signed Jan 8, 14

Background

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 determing 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 the 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". All-way stops

should only be installed at busy intersections of two relatively equal roadways having similar traffic volumes. The unwarranted installation of an all-way stop will increase fuel consumption, vehicle emissions and noise.

As approved for study by the Operations Committee, staff has reviewed the need for all-way stops at the following intersections:

(1) Whittaker Street at Isabel Street, Sudbury

City staff was directed at the May 2013 Operations Committee meeting “to investigate the intersection of Isabel and Whittaker Streets for a possible four-way stop”.

Whittaker Street at Isabel Street is a cross intersection located west of Regent Street within Ward 1 (see Exhibit ‘A’). Currently this intersection is controlled with “Stop” signs facing eastbound and westbound traffic on Isabel Street. Whittaker Street is designated as a local road.

Applying the data from the turning movement count that was conducted on September 17, 2013, to the City’s new Minimum Volume Warrant indicates that the total vehicle volume meets only 33 percent of the minimum volume requirements (see Exhibit ‘B’). There were a total of 44 pedestrians who crossed Whittaker Street during the four peak hours.

A review of the City’s collision information from October 2010 to October 2013 revealed that there was one collision that may be susceptible to relief through an all-way stop during this three year period. For a Local roadway, the Collision Warrant requires a minimum of two collisions per year over a three year period.

In addition, the southbound grade on Whittaker Street is relatively steep at 6 percent. The installation of an all-way stop may create a hazard and operational issues. Stop bars were painted at the existing stop signs on Isabel Street to highlight the need to stop.

Based on the traffic volumes, pedestrian volume, southbound grade on Whittaker Street and collision history, staff does not recommend installing an all-way stop at the intersection of Whittaker Street at Isabel Street.

(2) Irving Street at Clemow Street, Sudbury

The Operations Committee requested that City staff review whether an all-way stop was warranted at the intersection of Irving Street and Clemow Street to address safety concerns raised by an area resident.

Irving Street at Clemow Street is a cross intersection located north of Lorne Street in the community of Gatchell within Ward 1 (see Exhibit ‘C’). Currently this intersection is controlled with “Stop” signs facing northbound and southbound traffic from Clemow Avenue. Irving Street is designated as local road.

Applying the data from the turning movement count that was conducted on October 1, 2013 to the City’s new Minimum Volume Warrant indicates that the total vehicle volume from all approaches meets only 39 percent of the minimum volume requirements (see Exhibit ‘D’). There were a total of 20 pedestrians who crossed Irving Street during the four peak hours.

A review of the City’s collision information from October 2010 to October 2013 revealed that there were two collisions that may be susceptible to relief through an all-way stop during this three year period. For a Local roadway, the Collision Warrant requires a minimum of two collisions per year over a three year period. An analysis of the collision information revealed that in both collisions, vehicles travelling in both directions of

Clemow Avenue failed to stop at the stop sign and struck a vehicle already within the intersection. Staff issued a work order to have stop bars painted and stop ahead signs installed in both directions. These measures should help make drivers aware of an upcoming stop sign and should help reduce the frequency of drivers failing to stop at the stop signs.

Based on the traffic volumes, pedestrian volume and collision history, staff does not recommend installing an all-way stop at the intersection of Irving Street at Clemow Avenue.

(3) Gold Street at Zinc Street, Sudbury

The Operations Committee has requested that City staff review whether an all-way stop was warranted at the intersection of Gold Street at Zinc Street to address safety concerns raised by an area resident.

Gold Street at Zinc Street is a “T” intersection located east of Copper Street within Ward 1 (see Exhibit ‘E’). Currently this intersection is controlled with a “stop” sign facing eastbound traffic on Zinc Street.

Applying the data from the turning movement count that was conducted on October 1, 2013 to the City’s new Minimum Volume Warrant indicates that the total vehicle volume from all approaches meets only 34 percent of the volume requirements (see Exhibit ‘F’). There were a total of eight pedestrians who crossed Gold Street and ten who crossed Zinc Street during the four peak hours.

A review of the City’s collision data from October 2010 to October 2013 revealed there were no collisions in the three year period. For a Local roadway, the Collision Warrant requires a minimum of two collisions per year over a three year period.

The area resident expressed concerns with northbound vehicles on Gold Street making left hand turns into the oncoming lane of traffic on Zinc Street. An all-way stop is not recommended to try and correct this common type of poor driving behavior. Instead, staff recommends having a white stop bar and a yellow center line painted on the Zinc Street approach to define the centre of the road.

Based on the traffic volumes, pedestrian volume and collision history, staff does not recommend installing an all-way stop at the intersection of Gold Street and Zinc Street.

(4) Moonrock Avenue at Arnold Street, Sudbury

The Operations Committee has requested that City staff review whether an all-way stop was warranted at the intersection of Moonrock Avenue at Arnold Street.

Moonrock Avenue at Arnold Street is a cross intersection located one block west of Telstar Avenue within Ward 1 (see Exhibit ‘G’). Currently this intersection is controlled with a “stop” sign facing eastbound and westbound traffic on Moonrock Avenue.

Applying the data from the turning movement count that was conducted on October 2, 2013 to the City’s new Minimum Volume Warrant indicates that the total vehicle volume from all approaches meets only 25 percent of the volume requirements (see Exhibit ‘H’). There were a total of 22 pedestrians who crossed Arnold Street during the four peak hours. This intersection was also reviewed for an all-way stop in March 2011. At the time, the total vehicle volume from all approaches met only 16 percent of the volume requirements.

A review of the City's collision data from October 2010 to October 2013 revealed there were no collisions in the three year period. For a Local roadway, the Collision Warrant requires a minimum of two collisions per year over a three year period.

Based on the traffic volumes, pedestrian volume and collision history, staff does not recommend installing an all-way stop at the intersection of Moonrock Avenue at Arnold Street.

(5) Niemi Road at Sugarbush Drive, Lively

The City received a petition from residents of Niemi Road and Sugarbush Drive requesting an all-way stop be installed at the intersection of Niemi Road and Sugarbush Drive as an additional measure for traffic calming (see Exhibit "I").

Niemi Road at Sugarbush Drive is a "T" intersection located west of Municipal Road 24 within Ward 2 (see Exhibit 'J'). Currently this intersection is controlled with a "Stop" sign facing southbound traffic on Sugarbush Drive. Also, as part of the reconstruction of Niemi Road, traffic calming features were installed. These include, edge lines, a raised median island and two radar speed signs.

Applying the data from the turning movement count that was conducted on August 15, 2013 to the City's new Minimum Volume Warrant indicates that the total vehicle volume from all approaches meets only 25 percent of the volume required for an all-way stop. The vehicle and pedestrian volume from Sugarbush Drive is only 13 percent of the minimum requirements (see Exhibit 'K'). Also, there was only one pedestrian who crossed Niemi Road during the four peak hours.

A review of the City's collision data from October 2010 to October 2013 revealed there were no collisions in the three year period. For a Minor Collector roadway, the Collision Warrant requires a minimum of three collisions per year over a three year period.

Based on the traffic volumes, pedestrian volume and collision history, staff does not recommend installing an all-way stop at the intersection of Niemi Road and Sugarbush Drive.

(6) Morin Avenue at King Street, Sudbury

The City received a letter from Sudbury Better Beginnings Better Futures requesting an all-way stop be installed at the intersection of Morin Avenue and King Street as a method to slow down traffic on Morin Avenue (see Exhibit "L").

Morin Avenue at King Street is a "T" intersection located west of Notre Dame Avenue within Ward 12 (see Exhibit 'M'). Currently this intersection is controlled with a "Stop" sign facing westbound traffic on King Street. Morin Avenue is designated as a minor collector road for the purpose of the all-way stop warrant.

Applying the data from the turning movement count that was conducted on June 29, 2011 to the City's new Minimum Volume Warrant indicates that the total vehicle volume from all approaches meets only 62 percent of the volume requirements and while the vehicle and pedestrian volume from King Street meets only 26 percent of the volume requirements (see Exhibit 'N'). There were a total of 12 pedestrian who crossed Morin Avenue during the four peak hours.

A review of the City's collision data from October 2010 to October 2013 revealed there was one collision that may be susceptible to relief through an all-way stop during this three year period. For a Minor Collector

roadway, the Collision Warrant requires a minimum of three collisions per year over a three year period.

Based on the traffic volumes, pedestrian volume and collision history, staff does not recommend installing an all-way stop at the intersection of Morin Avenue and King Street.

Morin Avenue was also reviewed under the City's Traffic Calming Policy in 2011. It has qualified for traffic calming and currently ranks 13th on priority list.

EXHIBIT A

All-way Stop Control
Whittaker Street at Isabel Street
2013-12-19

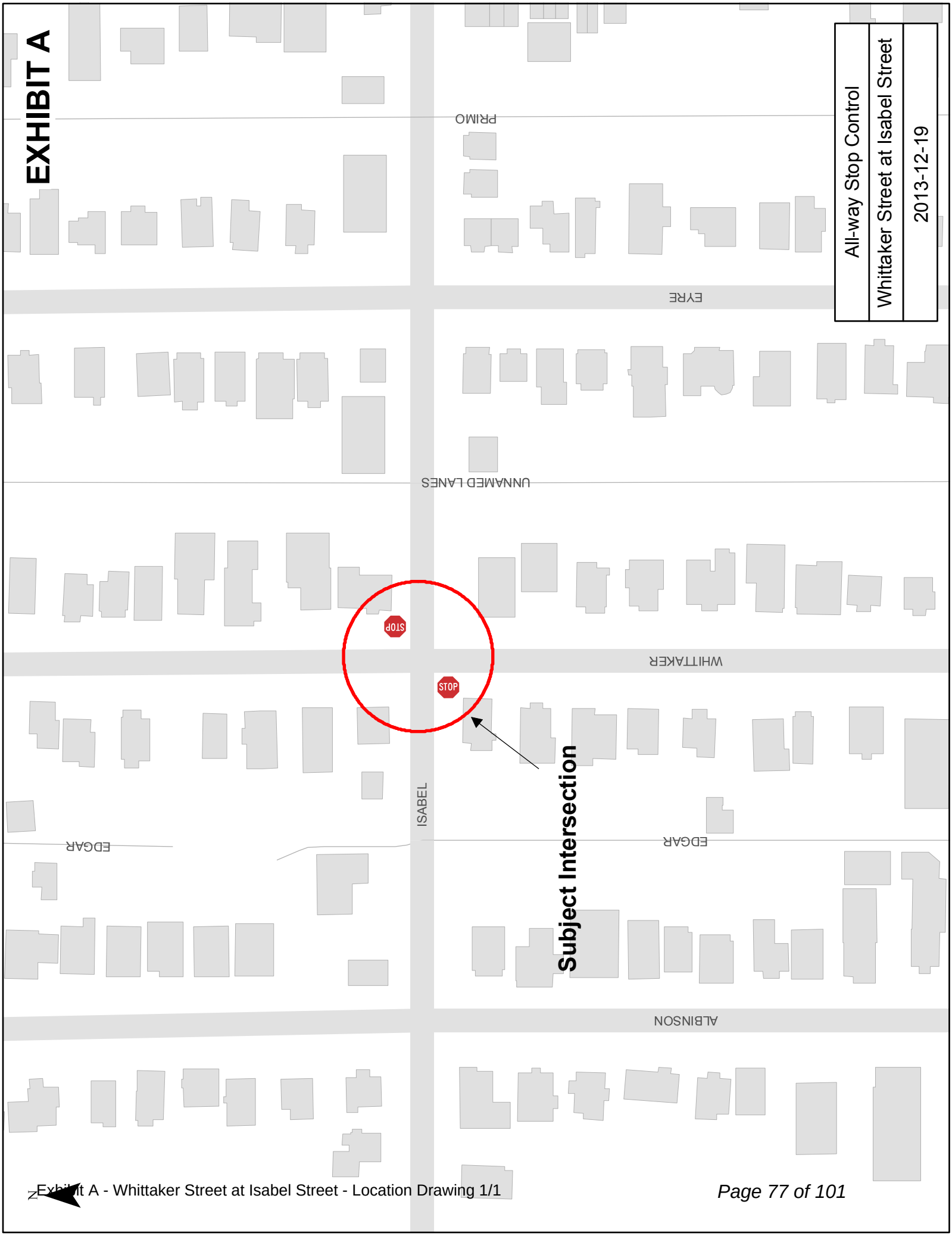


EXHIBIT: B

CITY OF GREATER SUDBURY
ALL-WAY STOP WARRANTS

Location:	Whittaker Street at Isabel Street	Date:	December 4, 2013
Date of TM Count:	September 17, 2013	Analyst:	JR
Type of Intersection:	Cross		
Roadway Type	Local		
AADT of Main Road:	500		

All-Way Stop Warrant Summary

Warrant #1	Minimum Vehicle Volume	33	%
Warrant #2	Collision History	17	%
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**	**83**	**33%**
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	**N/A**	**N/A**	**N/A**
Traffic Split	70/30	70/30	**70/30**	**64/36**	**100%**

Warrant #2 - Collision History

Roadway Type	Arterial/Major Collector	Minor Collector	**Local**	Total Number of Collisions	Percent Compliance
Total Collisions over a 3 year period	12*	9*	**6***	**1**	**17%**

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

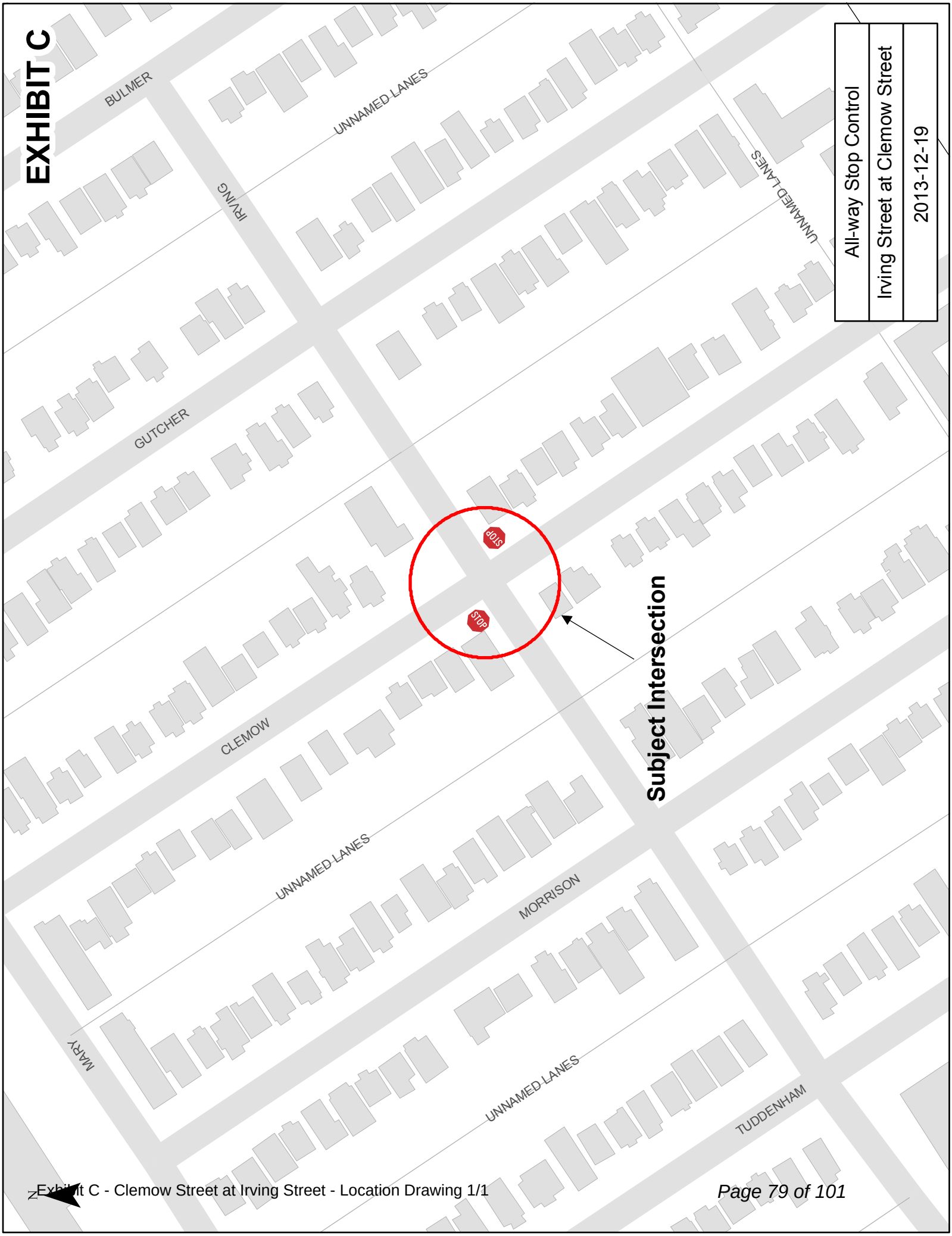

All-way Stop Control
Irving Street at Clemow Street
2013-12-19
BULMER
UNNAMED LANES
IRVING
UNNAMED LANES
GUTCHER
STOP
STOP
Subject Intersection
CLEMOW
UNNAMED LANES
MORRISON
MARY
UNNAMED LANES
TUDDENHAM

EXHIBIT: D

CITY OF GREATER SUDBURY
ALL-WAY STOP WARRANTS

Location:	Irving Street at Clemow Avenue	Date:	December 4, 2013
Date of TM Count:	October 1, 2013	Analyst:	RP
Type of Intersection:	Cross		
Roadway Type	Local		
AADT of Main Road:	500		

All-Way Stop Warrant Summary

Warrant #1	Minimum Vehicle Volume	39	%
Warrant #2	Collision History	33	%
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**	**97**	**39%**
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	**N/A**	**42**	**N/A**
Traffic Split	70/30	70/30	**70/30**	**60/40**	**100%**

Warrant #2 - Collision History

Roadway Type	Arterial/Major Collector	Minor Collector	**Local**	Total Number of Collisions	Percent Compliance
Total Collisions over a 3 year period	12*	9*	**6***	**2**	**33%**

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 E

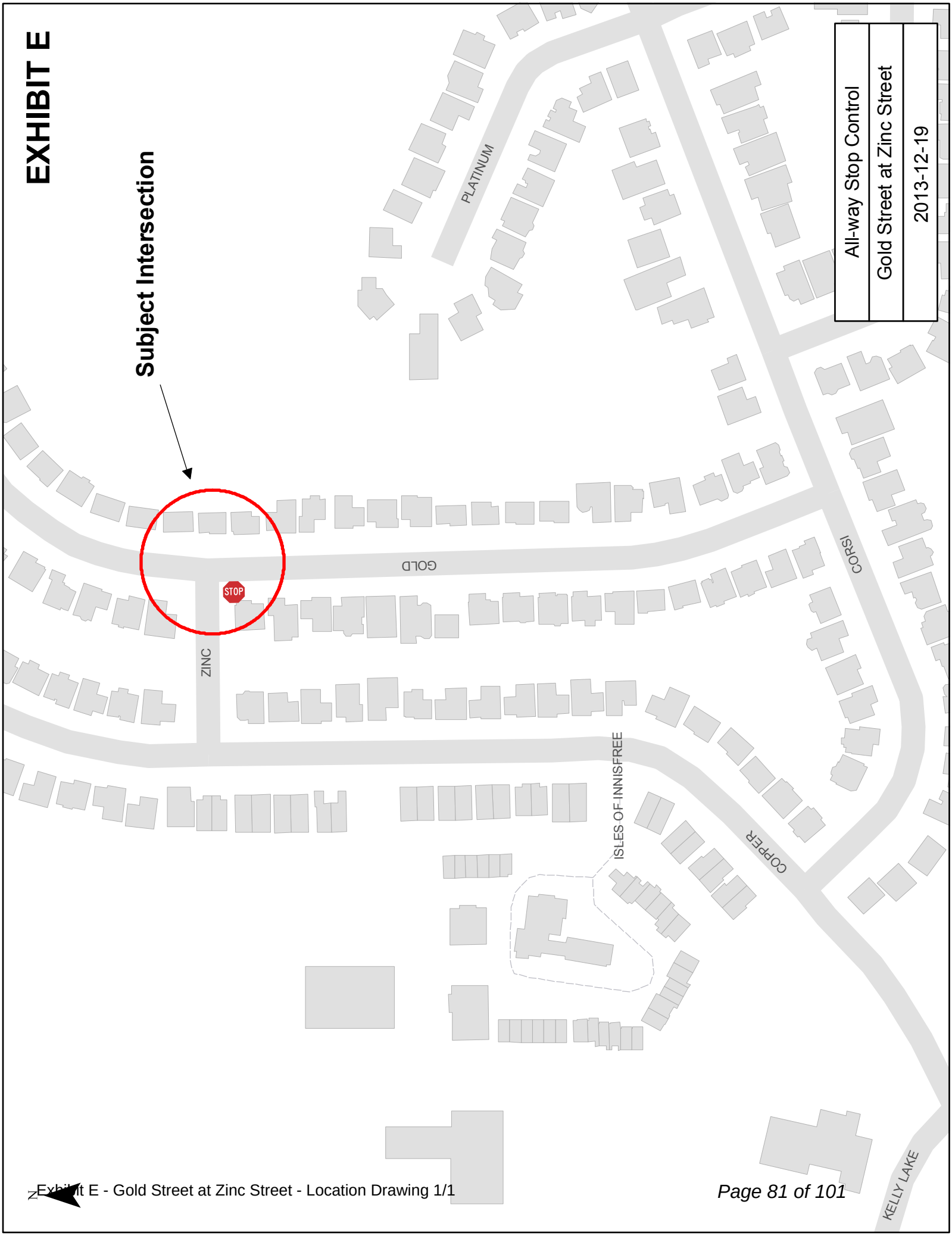

Subject Intersection
All-way Stop Control
Gold Street at Zinc Street
2013-12-19
PLATINUM
GOLD
STOP
ZINC
CORSI
ISLES OF INNISFREE
COPPER
KELLY LAKE

EXHIBIT: F

CITY OF GREATER SUDBURY
ALL-WAY STOP WARRANTS

Location:	Gold Street at Zinc Street	Date:	December 4, 2013
Date of TM Count:	October 1, 2013	Analyst:	RP
Type of Intersection:	T Intersection		
Roadway Type	Local		
AADT of Main Road:	500		

All-Way Stop Warrant Summary

Warrant #1	Minimum Vehicle Volume	34	%
Warrant #2	Collision History	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**	**85**	**34%**
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	**N/A**	**39**	**N/A**
Traffic Split	70/30	70/30	**70/30**	**58/42**	**100%**

Warrant #2 - Collision History

Roadway Type	Arterial/Major Collector	Minor Collector	**Local**	Total Number of Collisions	Percent Compliance
Total Collisions over a 3 year period	12*	9*	**6***	**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.

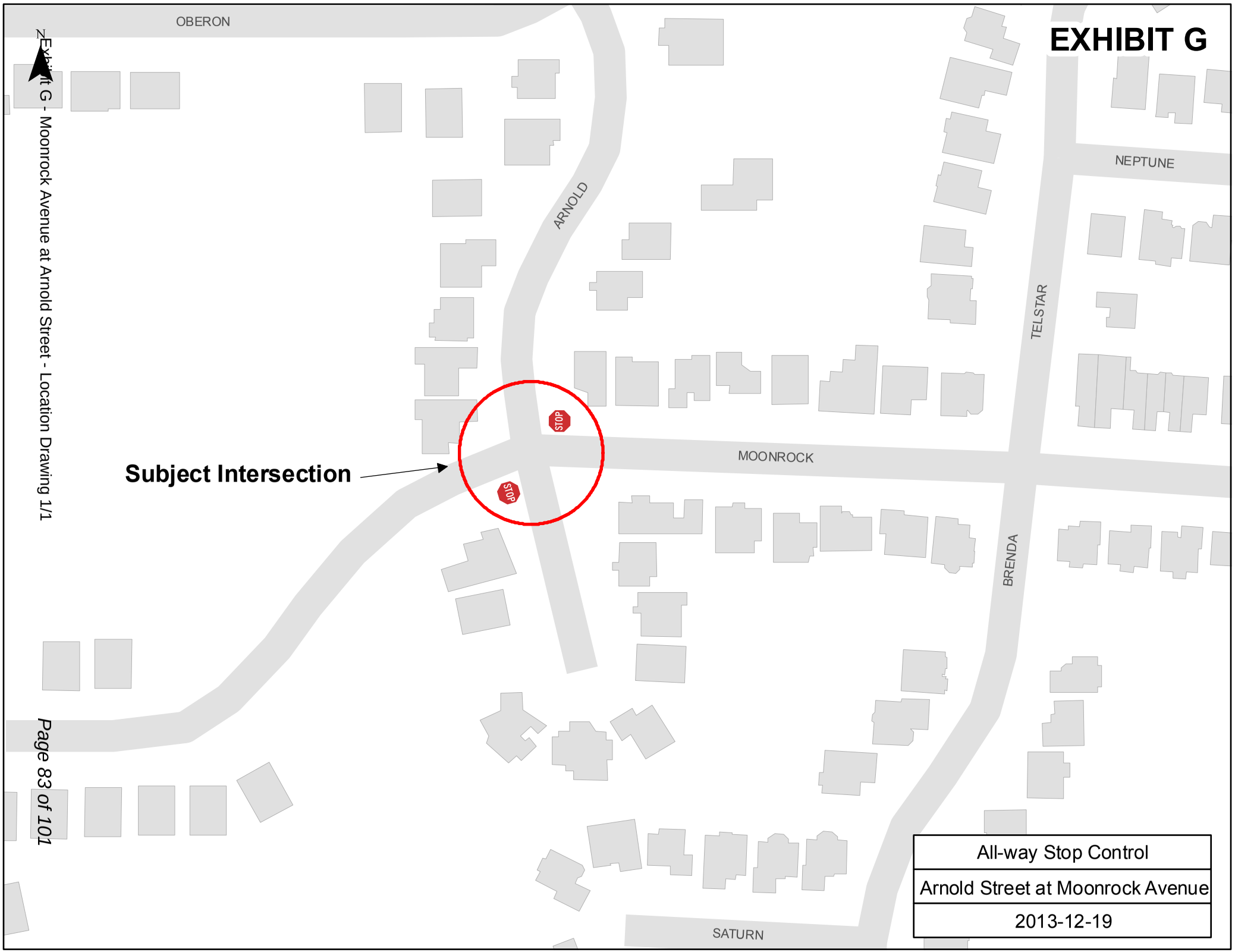


EXHIBIT G
Exhibit G - Moonrock Avenue at Arnold Street - Location Drawing 1/1
OBERON
ARNOLD
NEPTUNE
TELSTAR
MOONROCK
BRENDA
SATURN
STOP
STOP
Subject Intersection
All-way Stop Control
Arnold Street at Moonrock Avenue
2013-12-19

EXHIBIT: H

CITY OF GREATER SUDBURY
ALL-WAY STOP WARRANTS

Location:	Moonrock Avenue at Arnold Street	Date:	December 4, 2013
Date of TM Count:	October 2, 2013	Analyst:	RP
Type of Intersection:	Cross		
Roadway Type	Minor Collector		
AADT of Main Road:	1000		

All-Way Stop Warrant Summary

Warrant #1	Minimum Vehicle Volume	25	%
Warrant #2	Collision History	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	**88**	**25%**
Veh + Pedestrian volume from side street is ≥	200/hr	**140/hr**	N/A	**41**	**29.3%**
Traffic Split	70/30	**70/30**	70/30	**63/37**	**100%**

Warrant #2 - Collision History

Roadway Type	Arterial/Major Collector	**Minor Collector**	Local	Total Number of Collisions	Percent Compliance
Total Collisions over a 3 year period	12*	**9***	6*	**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: I

On December 17, 2012 David Kalviainen, Roads Engineer of the City of Greater Sudbury and Jacques Barbeau, Councillor Ward 2, mailed a notice to residents of Niemi Road in Lively of potential traffic calming options including a median, 2 radar speed display signs, bike lanes/route over the new box culvert between house# 249-425. **We, the undersigned, subscribe to the opinion that additional traffic calming measures are required at the intersection of Niemi Road and Sugarbush Drive. With this in mind, we believe that an all-way stop sign must be posted at the above mentioned intersection (Niemi Road and Sugarbush Drive).** Although some might argue that all-way stops are not effective speed control devices distal to the signs, studies have shown that speed of motorists IS REDUCED within a close proximity to the signs. We argue that this section of Niemi Road is dangerous for the residents of this area and we contend that a 3-way stop sign is essential to slow traffic for the following 5 reasons: 1) this section of Niemi Road holds the only bus stop for elementary and secondary school children in the area, 2) there is reduced visibility when exiting Sugarbush Drive due to large cedar hedges adjacent to the road, 3) this area is densely inhabited with young families, 4) there has been numerous anecdotal accounts of motorists using excessive speed as they travel on this section of Niemi Road, and 5) a 3-way stop sign is feasible.

THE ORIGINAL PETITION WAS SIGNED BY FIVE (5) RESIDENTS.

EXHIBIT J

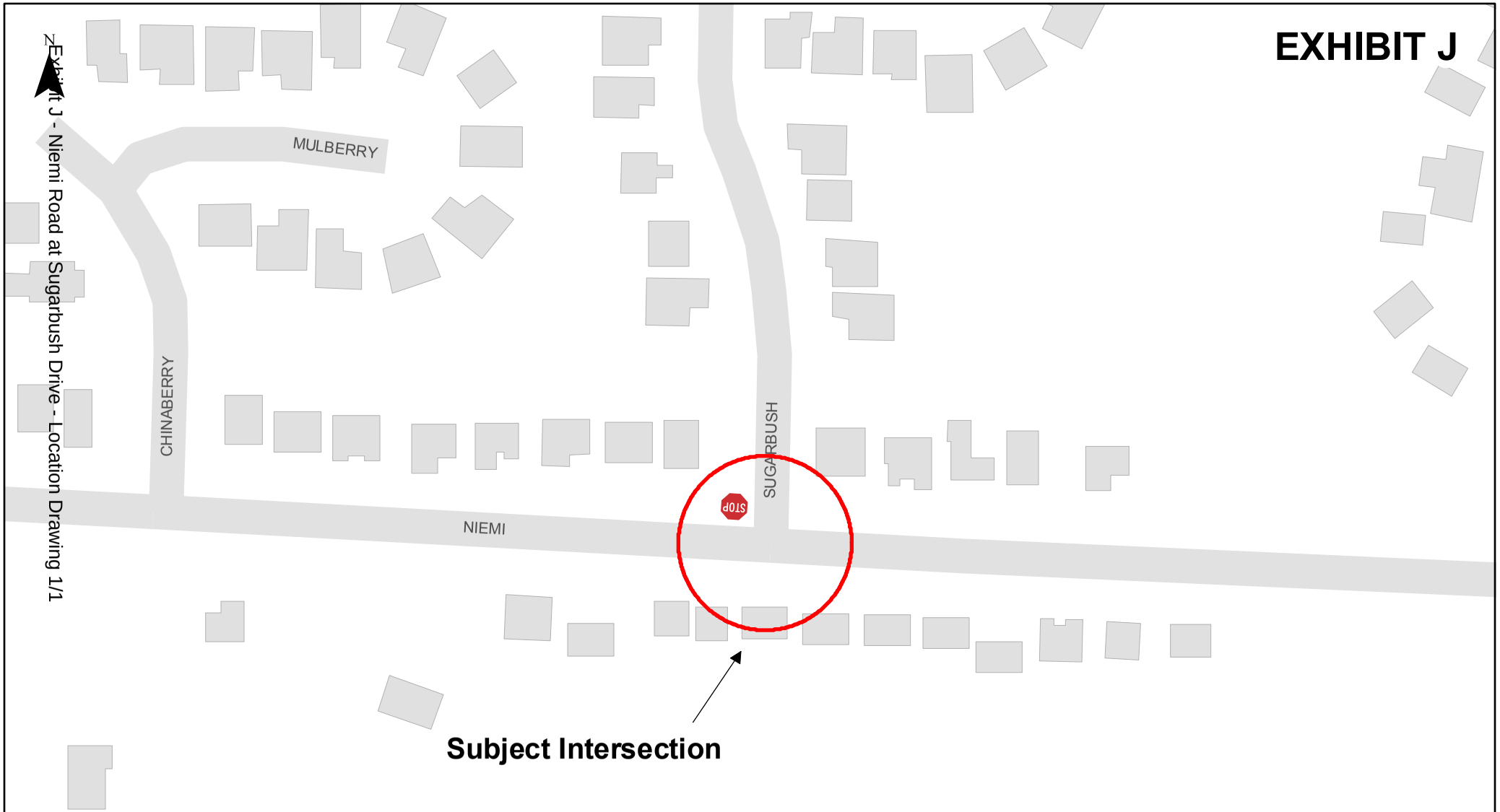


Exhibit J - Niemi Road at Sugarbush Drive - Location Drawing 1/1

All-way Stop Control
Niemi Road at Sugarbush Drive
2013-12-19

EXHIBIT: K

CITY OF GREATER SUDBURY
ALL-WAY STOP WARRANTS

Location:	Niemi Road at Sugarbush Drive	Date:	December 04, 2013
Date of TM Count:	August 15, 2013	Analyst:	JR
Type of Intersection:	T		
Roadway Type	Minor Collector		
AADT of Main Road:	1000		

All-Way Stop Warrant Summary

Warrant #1	Minimum Vehicle Volume	13	%
Warrant #2	Collision History	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	**87**	**25%**
Veh + Pedestrian volume from side street is ≥	200/hr	**140/hr**	N/A	**18**	**13%**
Traffic Split	70/30	**70/30**	70/30	**80/20**	**67%**

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.

SUDBURY BETTER BEGINNINGS BETTER FUTURES

PARTIR D'UN BON PAS POUR UN AVENIR MEILLEUR

NISHIN AAGI MAAGITANG WII NIIGAN BEMAADIZIDWIINA

Dave Kivi
Coordinator of Transportation and Traffic Engineering Services
City of Greater Sudbury
1800 Frobisher Street
PO Box 5000, Stn A
Sudbury, ON P3A 5P3

May 12th, 2011

Dear Dave Kivi,

I would like to address the dangers that have been arising near the Better Beginnings Better Futures Community Centre by irresponsible drivers that drive along Morin Avenue, especially the corner of King Street and Morin Avenue. Within our immediate area, we have St-Joseph School, a Day Care within this school, Better Beginnings Better Futures Community Centre in which we have a wide variety of children's programs, O'Connor Park which accommodates an Afterschool Program and families who use the park recreationally.

To help you understand the traffic on these two streets, there is the to and from of speeding vehicles, despite the signage of 40km/hr, in which overgrown trees cover this sign, vehicles failing to stop despite buses upper red lights flashing and, the pedestrian traffic of children, families and employees that use these various establishments in our immediate neighbourhood. We also have buses that come from other schools to our centre to drop off other children from other neighbourhoods, either in front of our building or at the corner of King Street and Morin Avenue. Also, Morin Avenue is utilized as a short cut that links the West End to Notre-Dame Avenue which increases traffic.

This creates an increased risk to our children who live, learn and play in our neighbourhood and there have been many near misses, especially when children are being dropped off from buses despite their upper red flashing signals or when crossing the street. We are responsible for our children's health and safety and we would like your support where it concerns traffic calming measures to take place on these specific city streets. We would like to have a three way stop imposed at these specific streets preferable with a flashing red light. This may slow down traffic. I ask that you consider these solutions that would calm traffic in our neighbourhood. Thank you for your prompt attention in this matter.

I remain,
Johanne Thompson

Johanne Thompson
Program Manager
Better Beginnings Better Futures

450 Morin Street, Sudbury, Ontario, P3C 5H6
Tel: (705) 671-1941 Fax: (705) 671 1782
e-mail: betterb@isys.ca

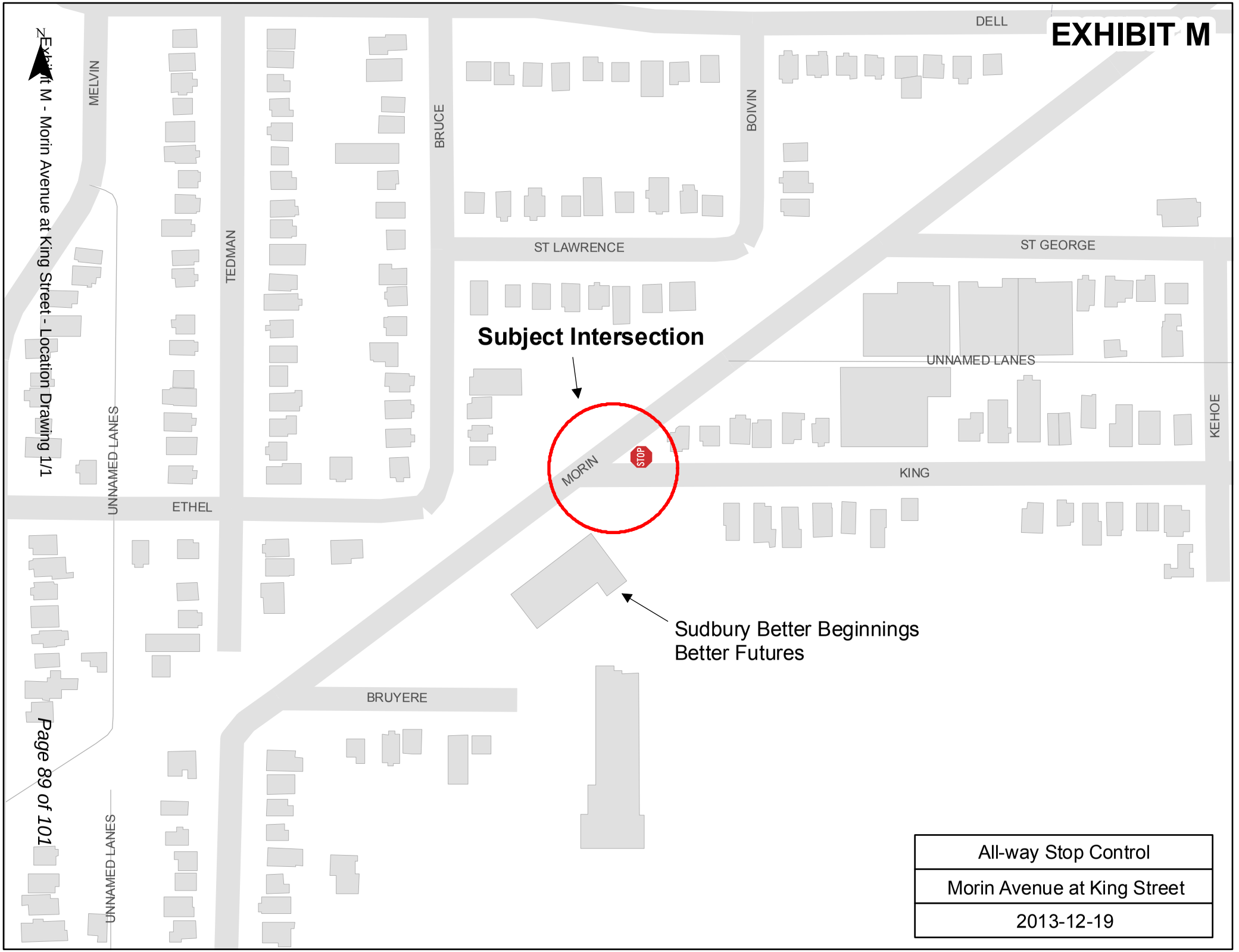


EXHIBIT M
Exhibit M - Morin Avenue at King Street - Location Drawing 1/1
N
MELVIN
TEDMAN
BRUCE
BOIVIN
DELL
ST LAWRENCE
ST GEORGE
UNNAMED LANES
KEHOE
Subject Intersection
MORIN
STOP
KING
ETHEL
UNNAMED LANES
Sudbury Better Beginnings
Better Futures
BRUYERE
UNNAMED LANES
All-way Stop Control
Morin Avenue at King Street
2013-12-19

EXHIBIT: N

CITY OF GREATER SUDBURY
ALL-WAY STOP WARRANTS

Location:	Morin Avenue at King Street	Date:	September 12, 2011
Date of TM Count:	Wednesday, June 29, 2011	Analyst:	JR
Type of Intersection:	T		
Roadway Type	Minor Collector		
AADT of Main Road:	2700		

All-Way Stop Warrant Summary

Warrant #1	Minimum Vehicle Volume	26	%
Warrant #2	Collision History	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	**215**	**61%**
Veh + Pedestrian volume from side street is ≥	200/hr	**140/hr**	N/A	**36**	**26%**
Traffic Split	70/30	**70/30**	70/30	**83/17**	**57%**

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%**

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.

Presented To:	Operations Committee
Presented:	Monday, Jan 20, 2014
Report Date	Wednesday, Jan 08, 2014
Type:	Managers' Reports

Request for Decision

South Bay Road Speed Limit

Recommendation

THAT the City of Greater Sudbury increase the speed limit on South Bay Road from Ramsey Lake Road to the Athletic Building Road to 50 km/h, and;

THAT staff forward the results of the speed studies to the Greater Sudbury Police Services and request that they increase the level of enforcement in the area, all in accordance with the report from the General Manager of Infrastructure Services dated January 8, 2014.

Signed By

Report Prepared By
Dave Kivi
Co-ordinator of Transportation & Traffic Engineering Services
Digitally Signed Jan 8, 14

Division Review
David Shelsted
Director of Roads & Transportation Services
Digitally Signed Jan 8, 14

Recommended by the Department
Tony Cecutti
General Manager of Infrastructure Services
Digitally Signed Jan 8, 14

Recommended by the C.A.O.
Doug Nadorozny
Chief Administrative Officer
Digitally Signed Jan 8, 14

Background

The City received a petition signed by 145 area residents and students and faculty of Laurentian University to increase the speed limit on South Bay Road from Ramsey Lake Road to the Athletic Building Road back to 50 km/h (see Exhibit 'AA').

At the Traffic Committee meeting held on June 17, 2011, staff presented a report dated May 27, 2011 that reviewed the appropriate speed limit for South Bay Road (see Exhibit 'BB'). The report was prepared in response to a request from St. Joseph's Health Centre and the Maison Vale Inco Hospice to lower the maximum limit to 40 km/h.

Using the Transportation Association of Canada (TAC) guidelines for establishing posted speed limits, staff found that the recommended speed limit for South Bay Road from Ramsey Lake Road to Arlington Boulevard was 70 km/h. The TAC guidelines were adopted by City Council for use on arterial and major collector roadways. The guidelines assess appropriate speed limits based primarily on the classification, function and physical characteristics of a roadway.

A speed study conducted in March 2011, south of Ramsey Lake Road showed that the average speed was 63 km/h and the 85th percentile speed was 71 km/h. The 85 percentile speed is the speed at or below which 85 percent of drivers are travelling and is generally accepted as a good indicator of an appropriate speed limit.

Although the TAC guidelines and 85th percentile speed supported an increase in the speed limit, staff recommended that it remain at 50 km/h. Subsequently, Council approved a reduction in the speed limit to 40 km/h from Ramsey Lake Road to Laurentian University's Athletic Building Road.

In order to review the impact of reducing the speed limit to 40 km/h, staff completed a follow up speed study on South Bay Road on September 17, 2013. Vehicle speeds were recorded 250 metres south of Ramsey Lake Road, which is the same location as the previous study. A summary of the results is presented in the table below.

South Bay Road Speed Study Summary

Date	Speed Limit	Average Speed	85th Percentile Speed
March 1, 2011	50 km/h	63 km/h	71 km/h
September 17, 2013	40 km/h	57 km/h	64 km/h

The speed drivers choose to travel is influenced by the design of the road, adjacent level of development and prevailing road and weather conditions. The majority of motorists drive at a speed that they consider reasonable and safe for road, traffic and environmental conditions.

The results of the speed study shows that a 10 km/h reduction in the speed limit has resulted in a 6 to 7 km/h reduction in operating speed. This reduction is greater than would normally be expected. It appears that when drivers experience a speed limit that is much lower than their expectations, they choose speeds that will lessen the risk of getting a ticket and minimize the amount of the fines and demerit points. When the speed limit was reduced to 40 km/h, 30 percent of drivers travelled at 20 km/h or more over the limit and 6 percent were going 30 km/h or more over the limit.

A review of the collision history on South Bay Road indicates the speed limit reduction has not had an effect on safety. Since the implementation of the 40 km/h speed limit 2.5 years ago, there has been three collisions which may be related to speeding. In the three years prior to the speed limit reduction there were three collisions which may have been related to speed. An analysis of the collisions shows that four of the six collisions occurred when road conditions were less than ideal. This type of collision pattern is typical in areas where younger and less experienced drivers are the predominate driver type.

Establishing safe and realistic speed limits is important because it invites public compliance by conforming to the behavior of the majority of motorists and provides a clear reminder to violators. Based on the results of the initial speed limit review, staff recommends that the speed limit be increased on South Bay Road to 50 km/h, from Ramsey Lake Road to the Athletic Building Road. The Operations Committee may also consider increasing the limit of this section of South Bay Road to 60 km/h, which is still less than the 70 km/h limit recommended using the TAC guidelines.

It is also recommended that staff forward the results of the speed study to the Greater Sudbury Police Services and request additional enforcement in the area. The previous speed studies show that whether the maximum speed limit is 40 or 50 km/h speeding will still be a concern.

EXHIBIT: AA

PETITION: REINSTATEMENT OF 50 km/h SPEED LIMIT ON SOUTH BAY ROAD

August 2011

In a report to the Traffic Committee of the City of Greater Sudbury on June 17, 2011, the General Manager of Infrastructure Services recommended that the speed limit on South Bay Road from Ramsey Lake Road to the east end remain at 50 km/h.

The Traffic Committee disregarded this recommendation and reduced the speed limit on the portion of South Bay Road from Ramsey Lake Road to Athletic Building Road to 40 km/h, without consultation with the residents of the area.

We, the residents of the area, request that the Traffic Committee/Council accept the recommendation of the report of the General Manager of Infrastructure Services, and return the speed limit on South Bay Road to 50 km/h. We request the opportunity to speak to the Traffic Committee on this issue.

THE ORIGINAL PETITION WAS SIGNED BY SEVENTEEN (17) RESIDENTS OF SOUTH BAY ROAD.

EXHIBIT: BB

Presented To:	Traffic Committee
Presented:	Friday, Jun 17, 2011
Report Date	Friday, May 27, 2011
Type:	Managers' Reports

Request for Decision

Maximum Speed Limit - South Bay Road, Sudbury

Recommendation

That the speed limit on South Bay Road from Ramsey Lake Road to the east end remain at 50 km/h, and;

That staff forward the results of the speed studies to the Greater Sudbury Police Service, and request that they increase the level of enforcement in the area all in accordance with the report from the General Manager of Infrastructure Services dated May 27, 2011.

Signed By

Report Prepared By
Dave Kivi
Co-ordinator of Transportation & Traffic Engineering Services
Digitally Signed May 27, 11

Division Review
Robert Falcioni, P.Eng.
Director of Roads and Transportation Services
Digitally Signed May 27, 11

Recommended by the Department
Greg Clausen, P.Eng.
General Manager of Infrastructure Services
Digitally Signed May 30, 11

Recommended by the C.A.O.
Doug Nadorozny
Chief Administrative Officer
Digitally Signed May 30, 11

Background:

The City's Traffic and Transportation staff received a request from Ward 10 Councillor, Frances Caldarelli, Jo-Anne Palkovits, President and CEO of the St. Joseph's Health Centre and Leo Therrien, Executive Director of the Maison Vale Inco Hospice, to reduce the speed limit on South Bay Road from Ramsey Lake Road to the east end from 50 km/h to 40 km/h (**see Exhibit 'A'**).

At the October 13, 2010 meeting, City Council adopted the use of the Canadian Guidelines for Establishing Posted Speed Limits, published by the Transportation Association of Canada (TAC), for evaluating posted speeds on arterial and major collector roadways. These guidelines assess appropriate posted speed limits based primarily on the classification, function and physical characteristics of a roadway.

South Bay Road is a collector roadway located in Sudbury and provides a connection between Ramsey Lake Road and the Lake Laurentian Conservation Area. South Bay Road also provides access to Laurentian University, St. Joseph's Villa, Maison Vale INCO Hospice and St. Joseph's Health Centre (**see Exhibit 'B'**).

South Bay Road is constructed to a rural standard with asphalt shoulders, from Ramsey Lake Road to the Athletic Building Road. It has gravel shoulders from the Athletic Building Road to the east end.

Due to the physical characteristics of the roadway, staff evaluated South Bay Road in three segments:

1. Ramsey Lake Road to Athletic Building Road
2. Athletic Building Road to Arlington Boulevard
3. Arlington Boulevard to the East End

Applying the physical characteristics of each segment to the new Canadian Guidelines and using a functional classification of a “two lane rural undivided major collector” yields the total risk scores and recommended speed limits detailed in **Exhibits ‘C’, ‘D’ and ‘E’** and summarized in the table below:

	Segment	Total Risk Score	Recommended Posted Speed Limit (km/h)
1.	Ramsey Lake Road to Athletic Building Road	25	70
2.	Athletic Building Road to Arlington Boulevard	28	70
3.	Arlington Boulevard to East End	40	60

Staff also completed speed studies on South Bay Road, south of Ramsey Lake Road and west of Arlington Boulevard, on March 1, 2011. The study south of Ramsey Lake Road was conducted just south of the entrance to the Maison Vale INCO Hospice and recorded the speeds of over 6,750 vehicles. The average speed recorded was 63 km/h while the 85 th percentile speed was 71 km/h. The 85th percentile speed is the speed at or below which 85 percent of drivers are travelling and is generally accepted as a good indicator of an appropriate speed limit. The study west of Arlington Boulevard was conducted just east of house # 1452 South Bay Road and recorded the speeds of just over 1,000 vehicles. The average recorded speed was 54 km/h while the 85th percentile speed was 64 km/h.

Although the results of the TAC Guidelines, and speed studies, indicates that the speed limit could be increased, staff recommends that the existing speed limit on South Bay Road remain at 50 km/h. Further, staff recommends that the results of the speed studies be forwarded to the Greater Sudbury Police Service with a request for increased enforcement on South Bay Road.

Additionally, City staff conducted ball bank studies to measure the “comfortable” speed of the horizontal curves along South Bay Road. The horizontal curves from Ramsey Lake Road to Arlington Boulevard had measured “comfortable” speeds of greater than or equal to 50 km/h. Most of the curves east of Arlington Boulevard had “comfortable” speeds of less than 50 km/h. City staff will arrange to have appropriate curve warning signs installed on this section of South Bay Road to further enhance safety.

Caring - beyond the moment
Au-delà des soins présents

August 6, 2010

Mr. Bill Lautenbach, General Manager
Growth and Development
City of Greater Sudbury
PO Box 5000, Station A
200 Brady Street
Sudbury, Ontario P3A 5P3

Dear Mr. Lautenbach,

RE: Bylaw to 40 km/hour speed limit on South Bay Road

We are writing to request your assistance in reducing the speed limit on a portion of South Bay Road to 40 km/hour.

Important health care facilities are located on this stretch of road; that is St. Joseph's Villa, a 128-bed long-term care home, St. Joseph's Continuing Care Centre, a chronic hospital named under the Public Hospitals Act and the Maison Vale Inco Hospice. Residents, patients, families, visitors, volunteers and staff travelling to our facilities use the road to walk and / or ambulate by wheelchair on the roadside. Safety is a concern as drivers currently exceed the posted limit of 50 km/hour. As protectors of our community's most vulnerable, we trust that the City will support our request to reduce the speed limit.

We see the need for this reduced speed limit from the intersection of Ramsey Lake Road/South Bay Road to the intersection of South Bay Road/Athletic Building Road on the University property. We have attached a map indicating this zone.

We understand that a new bylaw can be passed at City Council to post a 40km/hour speed limit. Through this letter, we are formally applying for this change. We would like to work with you, at your earliest convenience to spearhead this initiative.

Thank you for your continued support of our organizations.

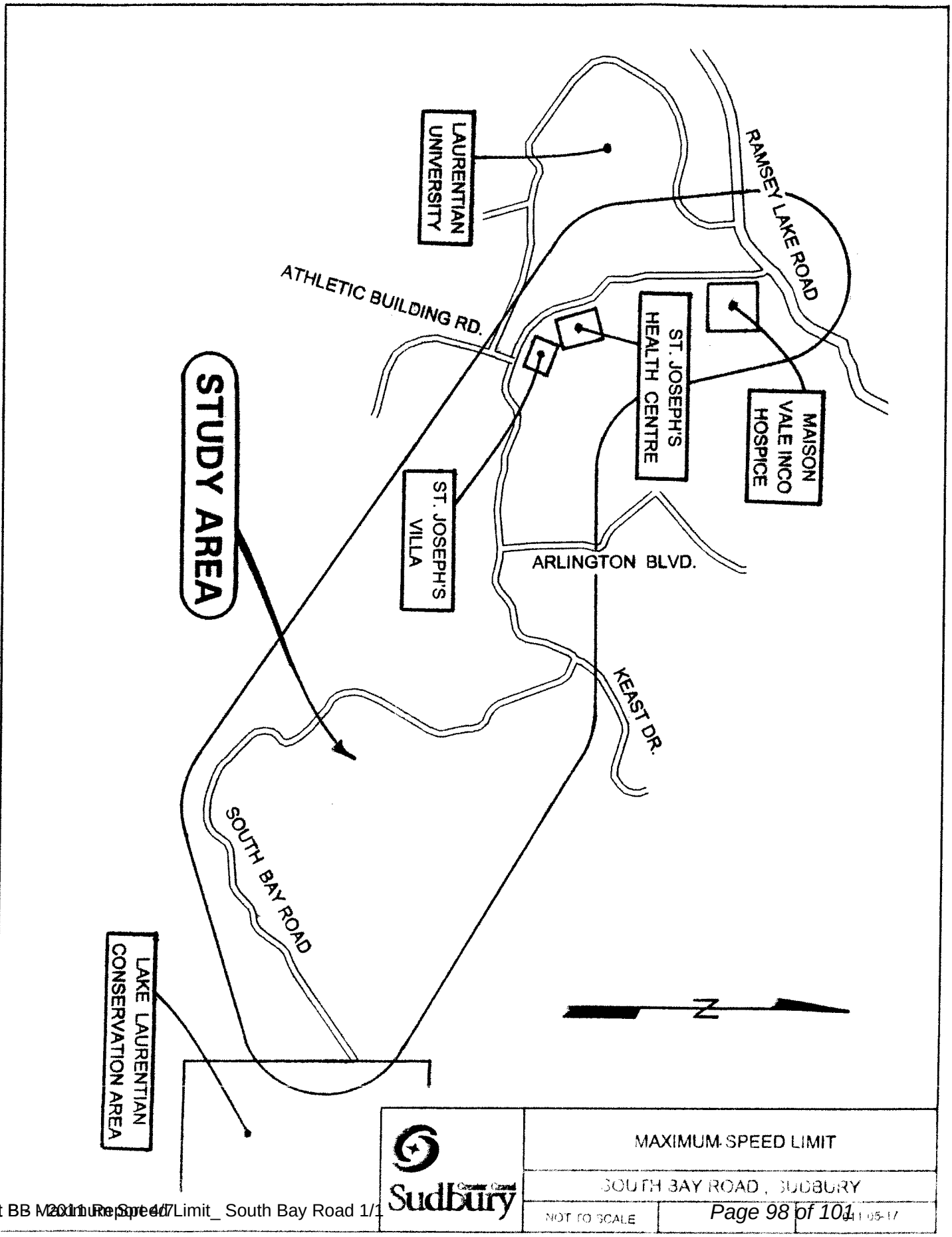
Yours truly,

Jo-Anne Palkovits
President & CEO
St. Joseph's Health Centre

Leo Therrien
Executive Director
Maison Vale Inco Hospice

cc. Frances Calderilli, Councillor, Ward 10

EXHIBIT: BB
EXHIBIT: B



Automated Speed Limit Guidelines

FORM A - Automated Speed Limit Guidelines Spreadsheet

Version: 10-Apr-09

Name of Corridor:	South Bay Road		
Segment Evaluated:	Ramsey Lake Road	to	Athletic Building Road
Geographic Region:	Sudbury		
Road Agency:	City of Greater Sudbury		

Road Classification:	Collector	Length of Corridor:	850	m
Urban / Rural:	Rural	Design Speed: (Required for Freeway, Expressway, Highway)		km/h
Divided / Undivided:	Undivided	Current Posted Speed: (For information only)	50	km/h
Major / Minor:	Major	Prevailing Speed: (85th Percentile - for information only)	70.8	km/h
# Through Lanes Per Direction:	1 lane	Policy: (Maximum Posted Speed)		

			RISK	Score
A1	GEOMETRY (Horizontal)		Medium	4
A2	GEOMETRY (Vertical)		Lower	2
A3	AVERAGE LANE WIDTH		Lower	1
B	ROADSIDE HAZARDS		Medium	6
C1	PEDESTRIAN EXPOSURE		Medium	2
C2	CYCLIST EXPOSURE		Medium	2
D	PAVEMENT SURFACE		Lower	3
E1	NUMBER OF INTERSECTIONS WITH PUBLIC ROADS	*Number of Occurrences*		0
	STOP controlled intersection	0		
	Signalized intersection	0		
	Roundabout or traffic circle	0		
	Crosswalk	0		
	Active, at-grade railroad crossing	0		
	Sidestreet STOP-controlled or lane	0		
E2	NUMBER OF INTERSECTIONS WITH PRIVATE ACCESS DRIVEWAYS	*Number of Occurrences*		4
	Left turn movements permitted	6		
	Right-in / Right-out only	0		
E3	NUMBER OF INTERCHANGES	*Number of Occurrences*		0
	Number of interchanges along corridor	0		
F	ON-STREET PARKING		N/A	0

Total Risk Score: 24

Recommended Posted Speed Limit (km/h):

As determined by road characteristics: 70

As determined by policy:

The recommended posted speed limit may be checked against the prevailing speeds of the roadway and the road's safety performance.

Comments:

Automated Speed Limit Guidelines

FORM A - Automated Speed Limit Guidelines Spreadsheet

Version: 10-Apr-09

Name of Corridor:	South Bay Road		
Segment Evaluated:	Athletic Building Road	to	Arlington Boulevard
Geographic Region:	Sudbury		
Road Agency:	City of Greater Sudbury		

Road Classification:	Collector	Length of Corridor:	600	m
Urban / Rural:	Rural	Design Speed: (Required for Freeway, Expressway, Highway)		km/h
Divided / Undivided:	Undivided	Current Posted Speed: (For information only)	50	km/h
Major / Minor:	Major	Prevailing Speed: (85th Percentile - for information only)	64.4	km/h
# Through Lanes Per Direction:	1 lane	Policy: (Maximum Posted Speed)		

		RISK	Score
A1	GEOMETRY (Horizontal)	Medium	4
A2	GEOMETRY (Vertical)	Lower	2
A3	AVERAGE LANE WIDTH	Medium	2
B	ROADSIDE HAZARDS	Lower	3
C1	PEDESTRIAN EXPOSURE	Higher	3
C2	CYCLIST EXPOSURE	Higher	3
D	PAVEMENT SURFACE	Lower	3
E1	NUMBER OF INTERSECTIONS WITH PUBLIC ROADS	*Number of Occurrences*	1
	STOP controlled intersection	0	
	Signalized intersection	0	
	Roundabout or traffic circle	0	
	Crosswalk	0	
	Active, at-grade railroad crossing	0	
	Sidestreet STOP-controlled or lane	1	
E2	NUMBER OF INTERSECTIONS WITH PRIVATE ACCESS DRIVEWAYS	*Number of Occurrences*	6
	Left turn movements permitted	7	
	Right-in / Right-out only	0	
E3	NUMBER OF INTERCHANGES	*Number of Occurrences*	0
	Number of interchanges along corridor	0	
F	ON-STREET PARKING	Lower	1

Total Risk Score:

28

Recommended Posted Speed Limit (km/h):

As determined by road characteristics

70

As determined by policy

The recommended posted speed limit may be checked against the prevailing speeds of the roadway and the road's safety performance.

Comments:

Automated Speed Limit Guidelines

FORM A - Automated Speed Limit Guidelines Spreadsheet

Version: 10-Apr-09

Name of Corridor:	South Bay Road				
Segment Evaluated:	Arlington Boulevard	to	East End		
Geographic Region:	Sudbury				
Road Agency:	City of Greater Sudbury				
Road Classification:	Collector	Length of Corridor:	2,500	m	
Urban / Rural:	Rural	Design Speed: (Required for Freeway, Expressway, Highway)		km/h	
Divided / Undivided:	Undivided	Current Posted Speed: (For information only)	50	km/h	
Major / Minor:	Major	Prevailing Speed: (85th Percentile - for information only)		km/h	
# Through Lanes Per Direction:	1 lane	Policy: (Maximum Posted Speed)			

		RISK	Score
A1	GEOMETRY (Horizontal)	Higher	6
A2	GEOMETRY (Vertical)	Medium	4
A3	AVERAGE LANE WIDTH	Medium	2
B	ROADSIDE HAZARDS	Medium	6
C1	PEDESTRIAN EXPOSURE	Higher	3
C2	CYCLIST EXPOSURE	Higher	3
D	PAVEMENT SURFACE	Lower	3
E1	NUMBER OF INTERSECTIONS WITH PUBLIC ROADS	*Number of Occurrences*	2
	STOP controlled intersection	1	
	Signalized intersection	0	
	Roundabout or traffic circle	0	
	Crosswalk	0	
	Active, at-grade railroad crossing	0	
	Sidestreet STOP-controlled or lane	1	
E2	NUMBER OF INTERSECTIONS WITH PRIVATE ACCESS DRIVEWAYS	*Number of Occurrences*	8
	Left turn movements permitted	41	
	Right-in / Right-out only	0	
E3	NUMBER OF INTERCHANGES	*Number of Occurrences*	0
	Number of interchanges along corridor	0	
F	ON-STREET PARKING	Higher	3

Total Risk Score:

40

Recommended Posted Speed Limit (km/h):

As determined by road characteristics

60

As determined by policy

The recommended posted speed limit may be checked against the prevailing speeds of the roadway and the road's safety performance.

Comments: